



# Water Resources Data Maryland and Delaware Water Year 1984



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-84-1  
Prepared in cooperation with the States of Maryland and Delaware  
and with other agencies

# CALENDAR FOR WATER YEAR 1984

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1983

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OCTOBER							NOVEMBER							DECEMBER						
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1984

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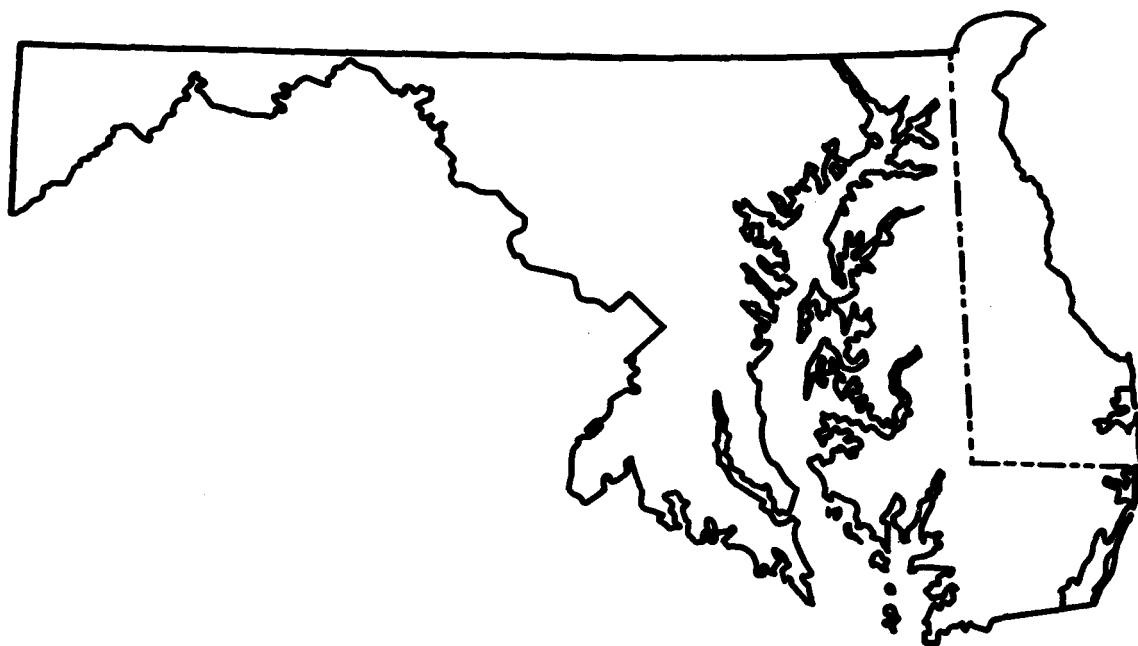
  

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# Water Resources Data Maryland and Delaware Water Year 1984

by Robert W. James, Jr., Robert H. Simmons, and Bernard F. Strain



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-84-1  
Prepared in cooperation with the States of Maryland and Delaware  
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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U.S. Geological Survey  
208 Carroll Building  
8600 La Salle Road  
Towson, Maryland 21204

1985



## PREFACE

This volume of the annual hydrologic data report of Maryland and Delaware is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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# WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1984

## INTRODUCTION

Water resources data for the 1984 water year for Maryland and Delaware consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 104 gaging stations; stage and contents at 1 reservoir; water quality at 17 gaging stations and 97 wells; and water levels at 24 observation wells. Also included are data for 12 crest-stage, and 4 tidal crest-stage partial-record stations. Locations of these sites are shown on figures 3, 4, and 5. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Maryland and Delaware.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report MD-DE-84-1." These water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (301) 828-1535.

## COOPERATION

The U.S. Geological Survey and organizations of the State of Maryland have had cooperative agreements for the systematic collection of streamflow records from 1896 to 1909 and since 1924, for ground-water levels since 1943, and for water-quality records since 1958. Similar agreements between the Survey and organizations of the State of Delaware began in 1943 for streamflow records and in 1949 for water-quality records. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

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

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

Maryland State Highway Administration, M. S. Caltrider, administrator.

Maryland Department of Health and Mental Hygiene, Environmental Health Administration, William Eichbaum, assistant secretary.

District of Columbia Department of Environmental Services, William B. Johnson, director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, for 20 gaging stations, and by the National Park Service, U.S. Department of the Interior, for 1 gaging station.

The following organizations aided in collecting records:

Delaware: State Department of Natural Resources and Environmental Control, and New Castle County.

Maryland: Maryland Water Resources Administration, Washington Suburban Sanitary Commission, Upper Potomac River Commission, Baltimore and Howard Counties.

Organizations that supplied data are acknowledged in station descriptions.

#### SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow at the start of the 1984 water year was in the normal range throughout the bistate area. During November and December, rainfall averaged 2 to 5 inches above normal and brought flows into the excessive range (upper 25 percent of record). In January, rainfall averaged 2 inches below normal and flows returned to the normal range. Flows returned to the excessive range in February following an intense rainstorm which brought total monthly rainfall to 2 inches above normal. Flows remained excessive until June when flows again returned to the normal range throughout most of the bistate area following below-average rainfall. In the Potomac River basin, flows dropped into the deficient range (lower 25 percent of record). Rainfall averaging 3 inches above normal in July brought flows in the Potomac River basin back into the excessive range, where they remained until September when flows returned to the normal range. Flows throughout the bistate area at the end of the water year were in the normal range.

During the 1984 water year, all four index stations--Potomac River near Washington, D.C., in central Maryland, North Branch Potomac River at Paw Paw, W. Va., in western Maryland, Seneca Creek at Dawsonville in central Maryland, and Choptank River at Greensboro on the Eastern Shore--had excessive runoff for the year (167, 139, 183, and 154 percent respectively, of normal; reference period 1951-80). At the Potomac River near Washington, D.C., index site, a record monthly mean and a maximum daily discharge for the month of February were recorded. Both records were the result of low atmospheric pressure that developed during passage of a slow-moving cold front. Total rainfall for the 3-day storm was as much as 5 inches and caused damages totaling over 1 million dollars. The resulting maximum daily discharge is second only to that produced by Tropical Storm "Agnes" in 1972.

Monthly and annual mean discharge are compared with the long-term averages (reference period 1951-80) for two representative gaging stations in figure 1. Data for the station, Potomac River at Point of Rocks in central Maryland, reflects runoff conditions in the Potomac River basin, excluding the Coastal Plain. Data for the station, Choptank River at Greensboro on the eastern shore of Maryland, reflects runoff from a 113 mi<sup>2</sup> area, of which 21.6 mi<sup>2</sup> is in Delaware in the central part of the Delmarva peninsula.

Average freshwater inflow to the Chesapeake Bay was estimated to be 108,000 ft<sup>3</sup>/s, based on flows of the James, Potomac, and Susquehanna Rivers. This is 140 percent of the long-term average during the reference period 1951-84. Inflow to the Bay during February set a new record high for the reference period. Heavy areawide rains were the major factor contributing to the new high.

The combined storage in the three major water-supply reservoirs in the Baltimore City Municipal System, with a combined usable capacity of 85,340,000,000 gal, increased from 91 percent of capacity in September 1983, to 96 percent of capacity at the end of September 1984.

Water levels throughout Maryland and Delaware at the beginning of the 1984 water year were at or just above normal as reflected by the States' network of observation wells. With heavy rains in March and April, 16 record high water levels were recorded, with 12 in the Coastal Plain and 4 in the Great Valley of the Appalachian physiographic province. During the closing months of the water year and summer, the precipitation was slightly below normal, and areas with increased pumpage in the Coastal Plain recorded record low water levels (three wells in the Lexington Park area and two wells in the Ocean City area). Water levels throughout the bistate area, in general, were at normal levels at the end of the water year.

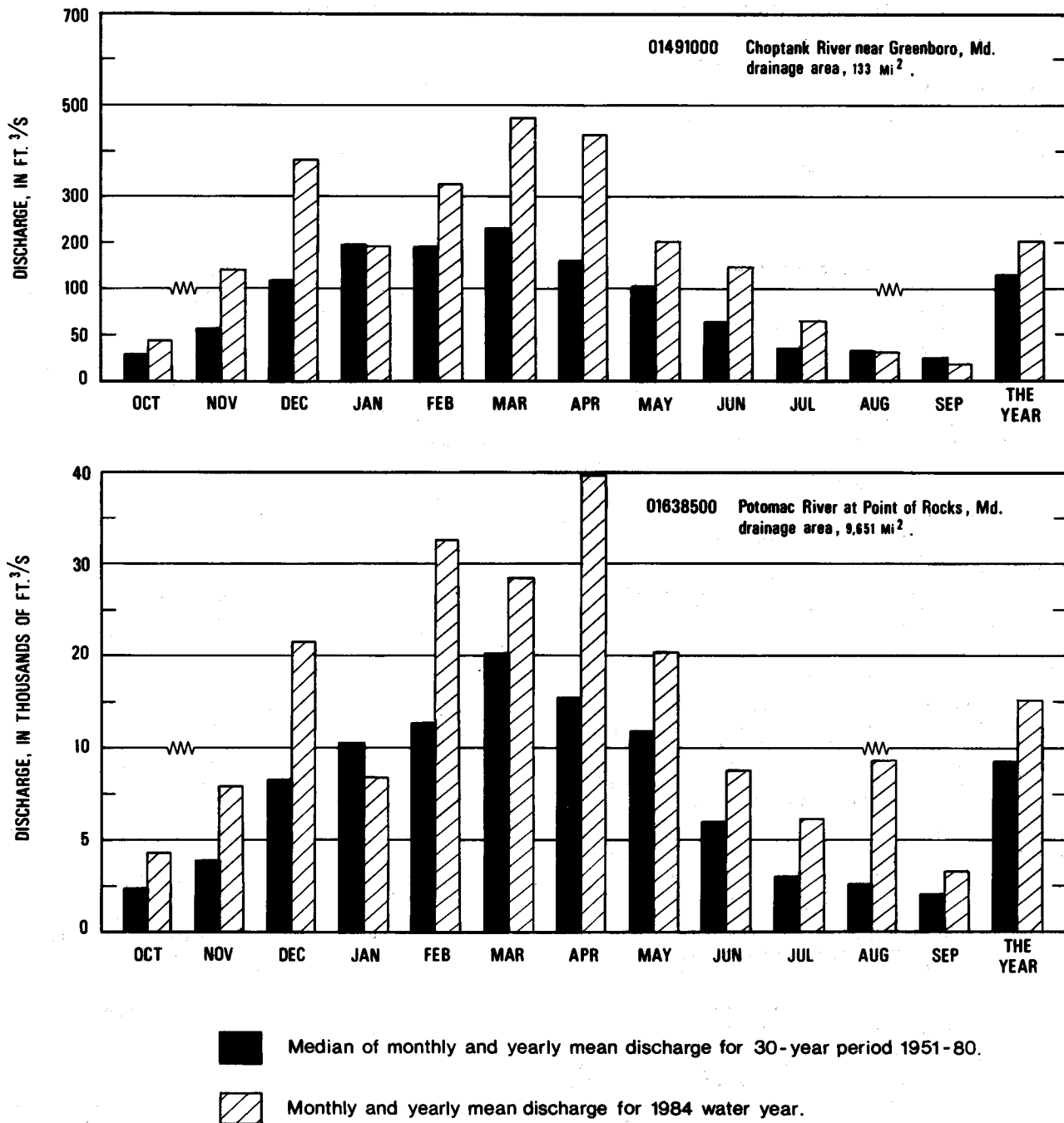


FIGURE 1. COMPARISON OF DISCHARGE AT TWO LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1984 WATER YEAR WITH MEDIAN DISCHARGE FOR INDICATED PERIOD.

## DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of Units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is the primary energy donor in cellular life process. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m<sup>3</sup>), and periphyton and benthic organisms in grams per square meter (g/m<sup>2</sup>).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

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

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

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

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

Cubic foot per second (FT<sup>3</sup>/S, ft<sup>3</sup>/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved constitutes that material in a representative water sample which passes through a 0.45 µm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where  $n_i$  is the number of individuals per taxon,  $n$  is the total number of individuals, and  $s$  is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

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

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.



Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ( $\text{CaCO}_3$ ).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Land-surface datum is a datum plane that is approximately at the land surface at the well.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram ( $\mu\text{g/g}$ ) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter ( $\mu\text{g/L}$ ,  $\mu\text{g/L}$ ) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter ( $\text{MG/L}$ ,  $\text{mg/L}$ ) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in  $\text{mg/L}$ , and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters ( $\text{m}^2$ ), acres, or hectares. Periphyton benthic organisms and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

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

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity, represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells/mL of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [ $\text{mg C}/(\text{m}^2 \cdot \text{time})$  for periphyton and macrophytes and  $\text{mg C}/(\text{m}^3 \cdot \text{time})$  for phytoplankton] are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon-14 method is of greater sensitivity than the oxygen light-and-dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [ $\text{mg O}_2/(\text{m}^2 \cdot \text{time})$  for periphyton and macrophytes and  $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$  for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light-and-dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion are likely to produce different analytical results.

Runoff in inches (IN, 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.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge in  $\text{ft}^3/\text{s}$  times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45 micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45  $\mu\text{m}$  membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45  $\mu$ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....Animal  
Phylum.....Arthropoda  
Class.....Insecta  
Order.....Ephemeroptera  
Family.....Ephemeridae  
Genus.....Hexagenia  
Species.....Hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge in  $\text{ft}^3/\text{s}$ , times the  $\text{mg/L}$  of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

WDR is used as an abbreviation for "Water Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

## DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 01477800, which appears just to the left of the station name, includes the 2-digit part number "01" plus the 6-digit downstream order number "477800."

## NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 2 below.

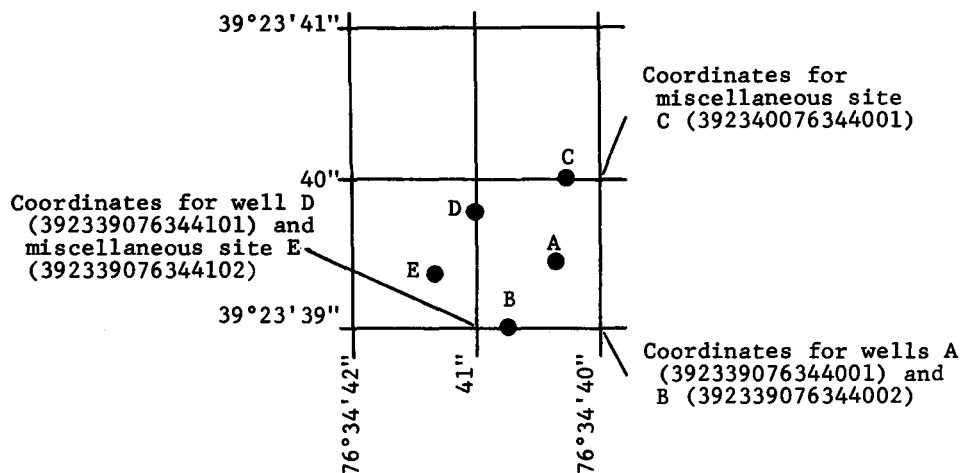


Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude)

A second well-numbering system used in Maryland utilizes the county prefix and a 5-minute grid. The first 2 letters of the identification number are the county prefix; for example, for Charles County the prefix is CH. Each county is divided by 5-minute quadrangles of latitude and longitude. Each quadrangle is identified by 2 uppercase letters; the first designates north to south and the second, west to east. The wells are numbered serially within each quadrangle. A similar system used in Delaware divides the state, rather than the counties, by 5-minute quadrangles of latitude and longitude which are designated as explained above. Each 5-minute quadrangle is further subdivided by 1-minute quadrangles. Each of the 1-minute quadrangles from north to south is designated by a number from 1 to 5, and west to east by a number from 1 to 5. Thus ID 55-1 is the first well inventoried in the southeast 1-minute quad of the ID 5-minute quadrangle of Delaware.



## SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data-collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

## EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; then the monthly and yearly mean discharge are computed from the daily figures. 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 computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

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

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations, there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals, a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs, a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 6.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations, information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations, peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. If the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs, the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs, a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge 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. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. 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 also given in special tables following the tables of partial-record stations.

#### 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 interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good," within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft<sup>3</sup>/s; to tenths between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures above 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

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

#### Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22902, maintains an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records available at specific sites can be obtained upon request.

## EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

#### Revisions

If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

### EXPLANATION OF GROUND-WATER LEVEL RECORDS

#### Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 2.

Measurements are made in many types of wells under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will insure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or land-surface datum (lsd). National Geodetic Vertical Datum of 1929 (NGVD) is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above NGVD is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and at the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

#### ACCESS TO WATSTORE DATA

The National Water Data Storage and Retrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's district offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist  
U.S. Geological Survey  
437 National Center  
Reston, Virginia 22092



## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehle, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

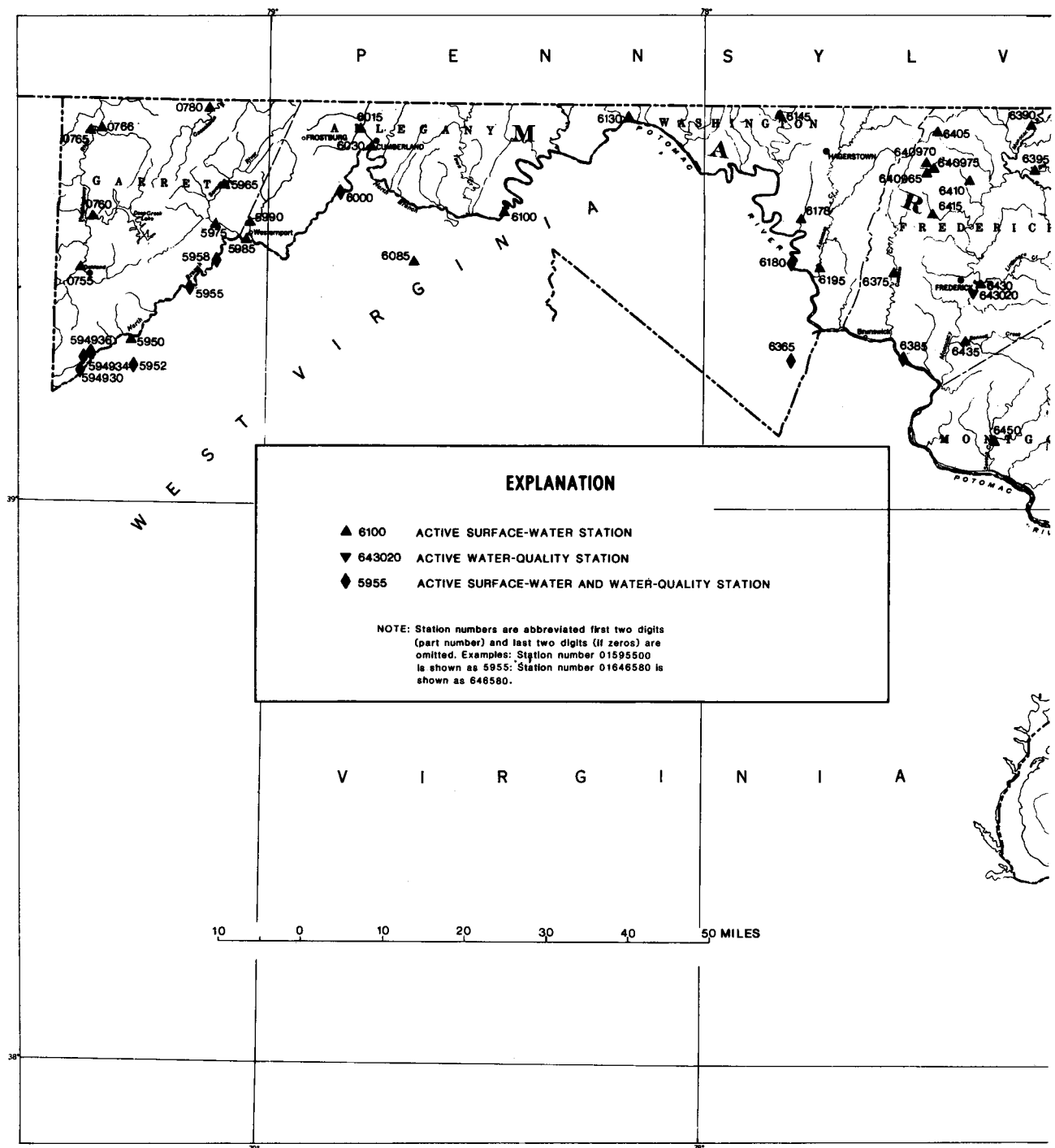
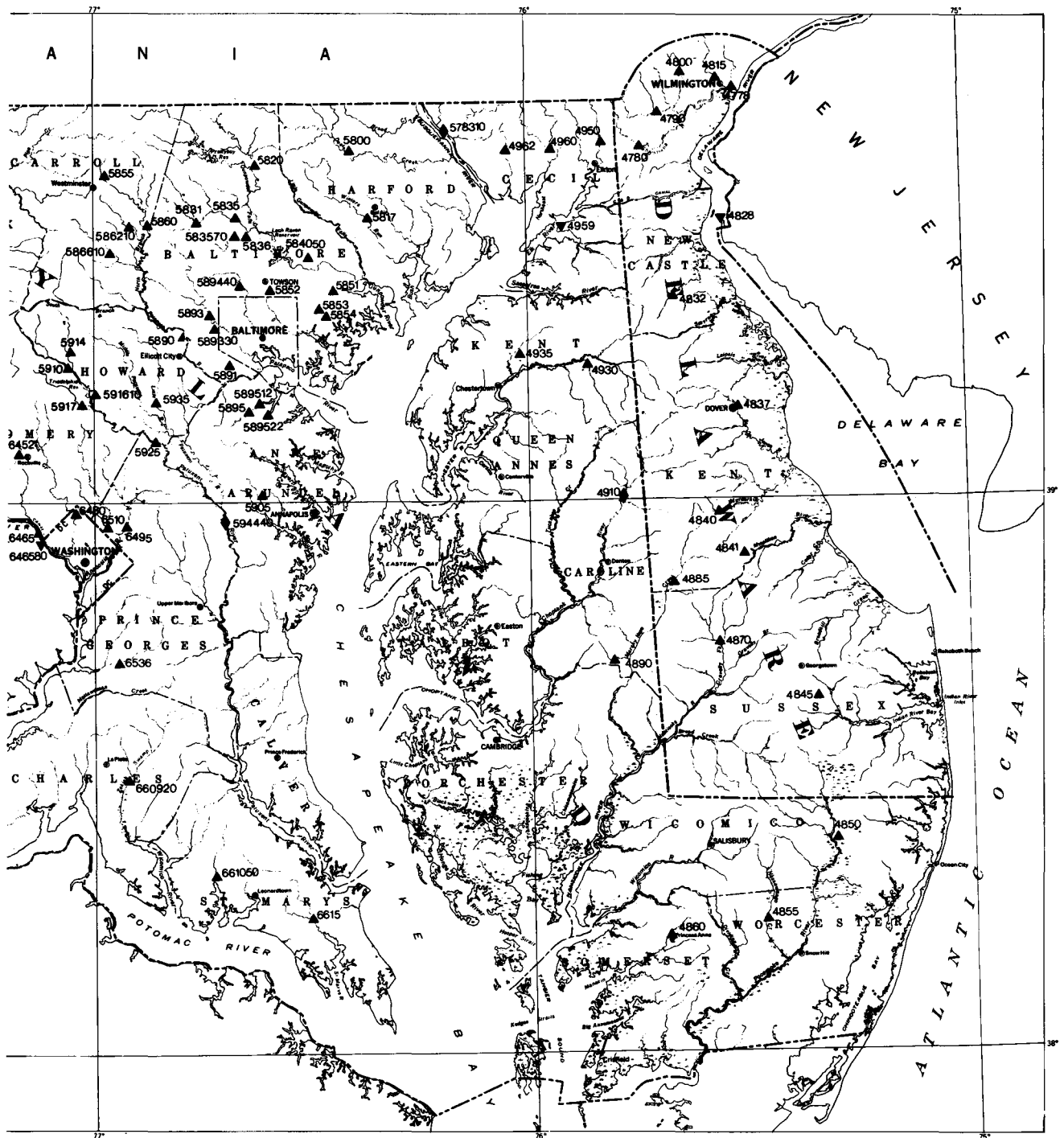


Figure 3. Location of surface-water and water-quality stations in Maryland and Delaware.



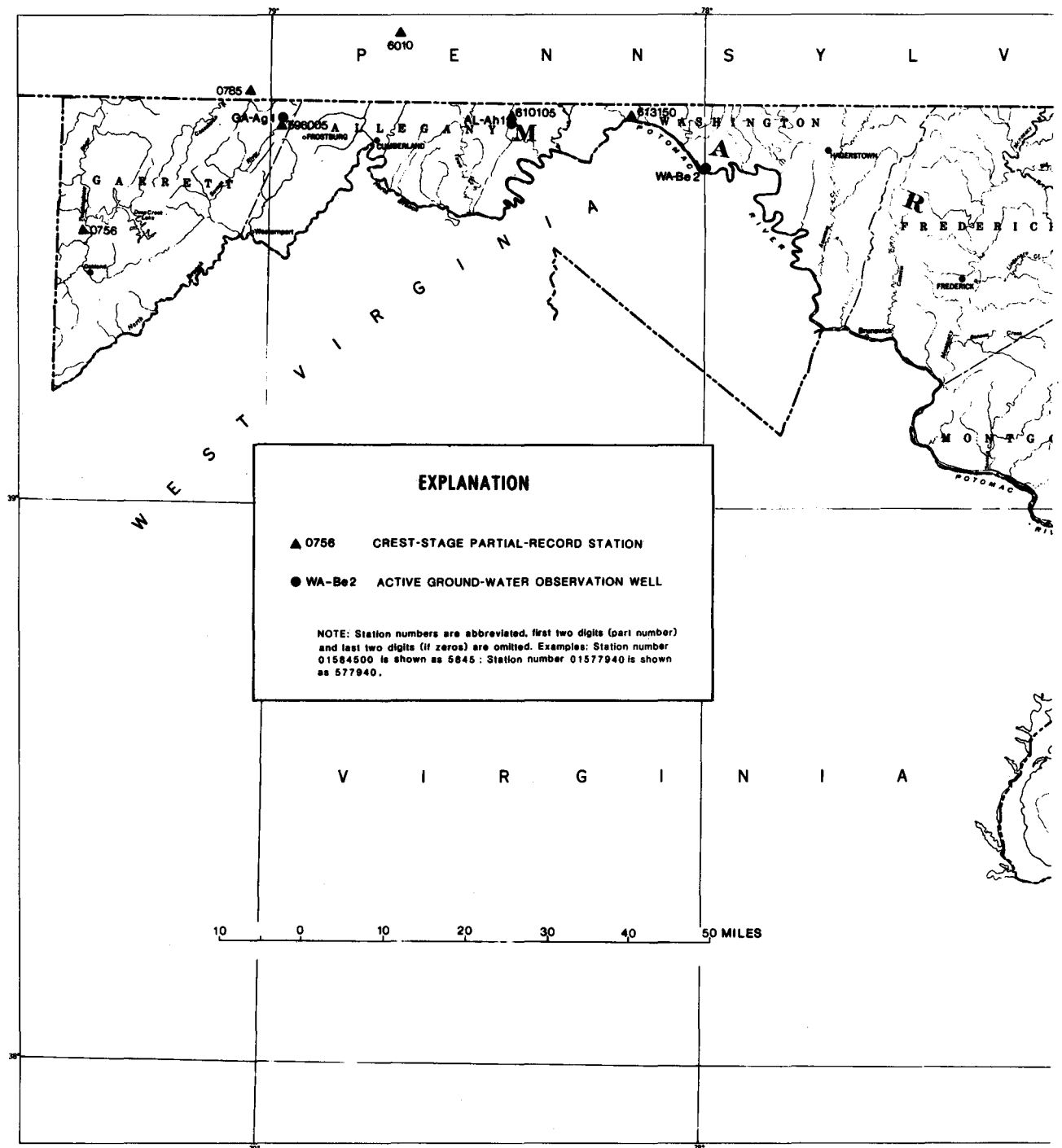
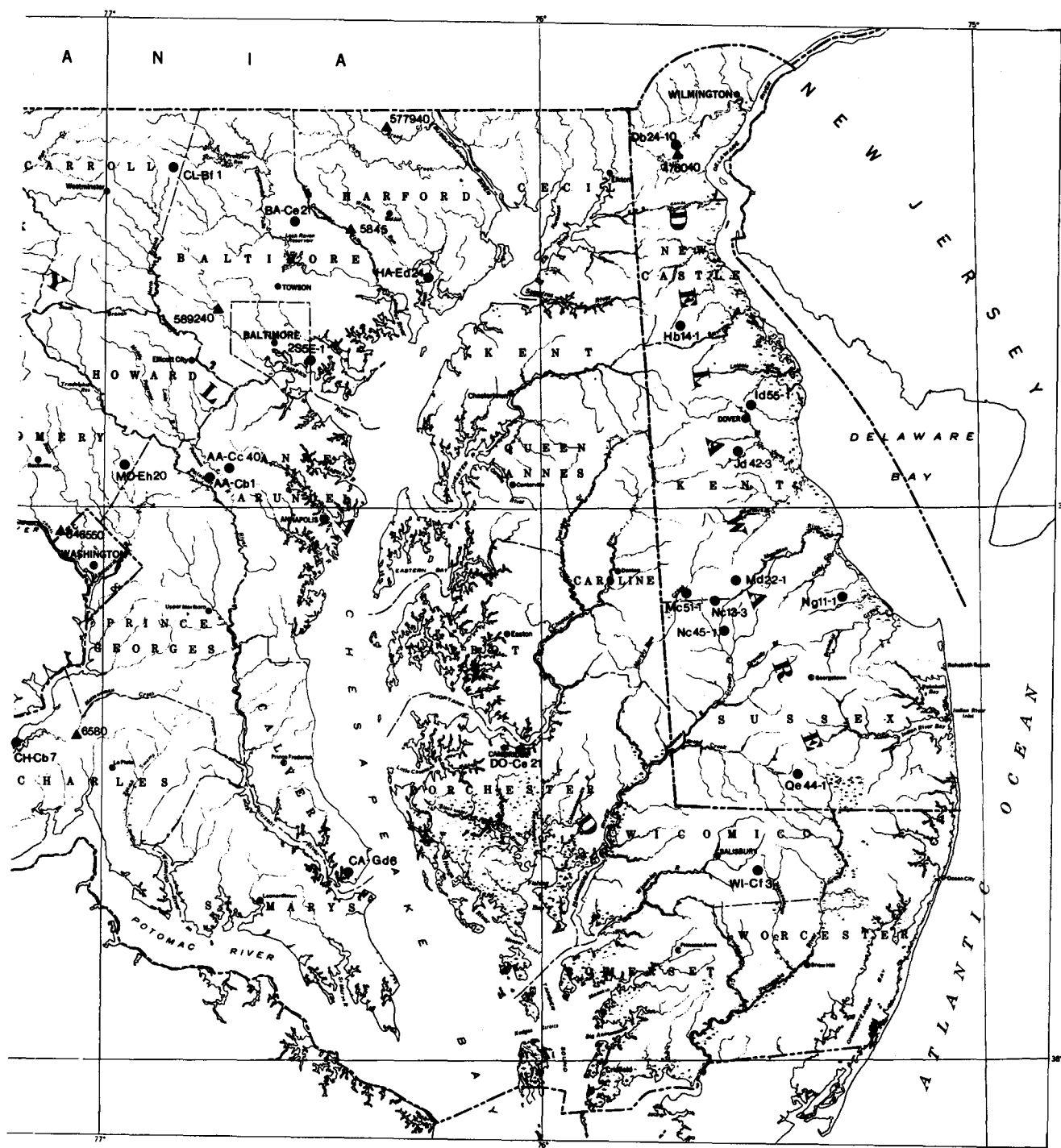


Figure 4. Location of crest-gage partial-record stations and ground-water observation wells  
In Maryland and Delaware.



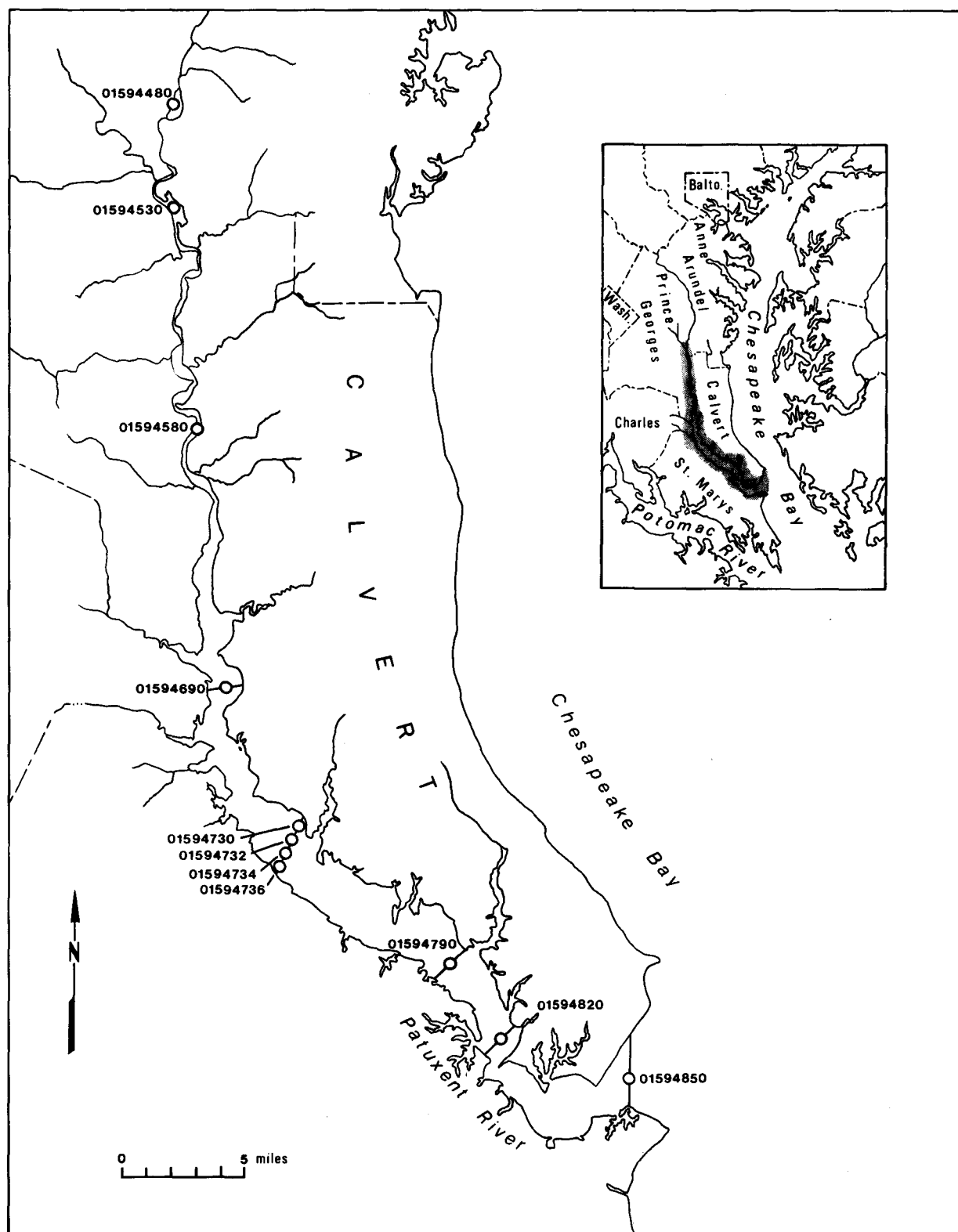


Figure 5. Location of water-quality partial-record stations in tidal portion of the Patuxent River, Maryland.

## HYDROLOGIC-DATA STATION RECORDS

## NORTH ATLANTIC SLOPE BASINS

## DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°45'39", long 75°31'10", New Castle County, Hydrologic Unit 02040205, on right bank 100 ft east of intersection of 44th and Pine Streets in Clifton Park, 700 ft downstream from bridge on North Market Street in Wilmington, 0.2 mi downstream from Matson Run, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--7.46 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1382: 1948(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 15.16 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Occasional regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years (water years 1947-84, 9.73 ft<sup>3</sup>/s, 17.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,850 ft<sup>3</sup>/s Sept. 13, 1971, gage height, 11.91 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of culvert and flow-over-road measurements at gage heights 9.10 ft and 11.91 ft; minimum daily discharge, 0.09 ft<sup>3</sup>/s Oct. 2, 4, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1940, that of Sept. 13, 1971. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 550 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 24	0430	621	3.73	May 8	1850	718	3.89
Nov. 15	2025	581	3.66	May 29	1440	1070	4.54
Dec. 4	0855	656	3.79	July 1	0945	934	4.29
Dec. 12	1245	987	4.39	July 5	2330	763	3.96
Dec. 12	2055	1510	5.29	July 7	0715	*2040	6.05
Dec. 22	0955	750	3.94	July 16	2325	1350	5.03
Feb. 23	2250	1240	4.85	July 21	0755	873	4.17
Mar. 29	0705	603	3.70	July 27	0830	718	3.89
Apr. 5	0530	1180	4.74				

Minimum discharge, 0.33 ft<sup>3</sup>/s Oct. 11, gage height, 1.41 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.81	2.8	3.0	2.8	4.7	6.8	4.5	4.9	53	2.3	1.2
2	2.3	.94	2.8	2.8	2.3	4.0	5.7	3.5	3.5	3.2	2.2	1.1
3	.76	1.0	7.3	2.8	9.6	3.6	5.6	8.3	4.1	2.1	3.5	8.6
4	.51	5.8	117	3.0	34	3.2	32	35	2.8	1.9	2.4	13
5	.57	1.0	9.9	3.0	9.4	20	294	7.3	2.4	31	2.0	1.7
6	.60	.94	19	2.9	5.4	16	20	5.6	4.2	28	1.9	1.2
7	.51	1.0	12	2.7	3.7	5.9	11	4.7	3.6	217	1.8	.95
8	.43	1.0	4.4	2.3	2.5	4.4	7.6	72	3.0	4.7	1.9	.91
9	.40	1.0	3.4	2.2	2.3	3.7	6.4	15	2.8	2.8	2.0	.90
10	.36	38	3.0	5.5	2.5	3.4	6.0	5.1	2.6	2.3	8.4	1.1
11	.35	11	2.6	6.9	4.0	3.0	4.7	3.9	2.8	26	4.8	1.6
12	17	3.2	254	2.8	4.1	3.4	4.0	3.8	3.0	5.8	9.6	1.1
13	5.5	1.9	168	2.3	3.9	82	3.9	3.2	6.9	2.4	2.4	1.0
14	18	1.7	28	3.3	8.5	80	3.7	2.9	8.3	2.0	1.8	2.6
15	1.1	154	9.1	2.7	138	22	7.1	2.6	1.9	1.9	1.6	4.3
16	.65	39	5.5	2.2	20	12	33	2.5	1.6	53	1.5	1.4
17	.60	4.4	4.2	2.2	8.2	7.5	13	2.4	4.6	45	1.4	1.0
18	.55	2.6	3.5	2.1	7.1	5.7	5.8	2.3	57	11	1.4	.91
19	7.2	2.2	3.2	2.4	4.9	5.0	5.1	3.2	41	3.7	2.8	.92
20	1.3	3.9	2.7	2.1	4.3	4.5	4.1	2.9	3.4	2.5	1.8	.85
21	.71	55	2.5	2.0	3.7	17	3.8	3.5	2.3	78	1.2	.77
22	.57	4.7	132	1.7	3.3	6.7	4.0	2.2	2.0	12	1.2	.69
23	60	2.8	12	1.7	108	4.5	28	11	1.9	4.5	1.8	.70
24	75	12	6.0	3.0	53	4.0	11	3.5	22	3.0	1.5	.85
25	6.4	70	3.4	13	8.7	18	5.8	2.1	24	2.4	1.1	.80
26	2.3	8.0	1.9	18	5.2	12	4.3	2.2	2.7	2.1	1.1	.80
27	1.6	4.0	1.8	15	4.2	6.3	3.8	2.4	2.2	85	1.2	.75
28	1.2	11	89	7.1	27	102	3.5	8.8	1.9	4.8	1.2	7.8
29	.96	12	12	4.1	9.4	136	34	115	2.2	3.1	1.3	2.8
30	.76	4.3	4.2	3.5	---	18	6.0	129	3.3	2.9	1.4	1.1
31	.76	---	3.0	3.2	---	9.0	---	14	---	2.6	1.3	---
TOTAL	211.15	459.19	930.2	131.5	500.0	627.5	583.7	484.4	228.9	699.7	71.8	63.40
MEAN	6.81	15.3	30.0	4.24	17.2	20.2	19.5	15.6	7.63	22.6	2.32	2.11
MAX	75	154	254	18	138	136	294	129	57	217	9.6	13
MIN	.35	.81	1.8	1.7	2.3	3.0	3.5	2.1	1.6	1.9	1.1	.69
CFSM	.91	2.05	4.02	.57	2.31	2.71	2.61	2.09	1.02	3.03	.31	.28
IN.	1.05	2.29	4.64	.66	2.49	3.13	2.91	2.42	1.14	3.49	.36	.32
CAL YR 1983	TOTAL	5187.17	MEAN	14.2	MAX	291	MIN	.24	CFSM	1.90	IN	25.86
WTR YR 1984	TOTAL	4991.44	MEAN	13.6	MAX	294	MIN	.35	CFSM	1.82	IN	24.89

## 01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

LOCATION.--Lat 39°38'14", long 75°43'43", New Castle County, Hydrologic Unit 02040205, on right bank 60 ft downstream from highway bridge, 0.5 mi southeast of Coochs Bridge, 3.3 mi south of Newark, 3.6 mi upstream from Belltown Run, and 22.6 mi upstream from mouth.

DRAINAGE AREA.--20.5 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-79-1: 1943-70(P).

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 14, 1944, nonrecording gage on upstream side of bridge at same datum. Sept. 14, 1944, to May 13, 1969, recording gage at site on left bank at downstream side of highway bridge at same datum. May 26, 1969, to Dec. 5, 1973, recording gage on left bank 82 ft downstream from highway bridge at same datum.

REMARKS.--Records good. Low and medium flow regulated by mill above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years, 28.8 ft<sup>3</sup>/s, 19.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,330 ft<sup>3</sup>/s May 1, 1947, gage height, 12.41 ft; minimum daily discharge, 0.2 ft<sup>3</sup>/s Aug. 7, 14, 18, 21, 27, 28, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	2015	*2100	10.99	Feb. 15	0515	1500	10.40
Dec. 13	1645	1150	10.05	Mar. 29	0830	1080	9.98
Dec. 22	1415	1220	10.13	July 21	1000	1350	10.26

Minimum daily discharge, 2.6 ft<sup>3</sup>/s Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	7.6	14	14	11	25	30	20	26	55	11	5.0
2	7.6	3.5	13	14	10	21	28	19	21	17	14	4.9
3	4.6	5.6	17	14	18	19	26	37	23	13	23	11
4	3.6	12	247	14	167	18	43	215	19	11	14	29
5	2.6	5.0	41	15	62	69	538	47	16	46	11	10
6	4.5	4.3	58	14	38	65	139	31	38	202	12	6.6
7	3.3	4.7	67	13	21	29	43	29	37	132	10	5.9
8	3.1	4.9	20	12	15	23	32	153	16	21	9.9	4.7
9	3.1	4.9	16	11	15	25	28	93	16	17	8.6	4.7
10	2.9	77	15	16	17	21	26	34	13	15	13	14
11	2.9	56	14	28	25	26	24	27	12	44	42	8.6
12	68	25	550	13	22	23	24	26	12	61	52	5.3
13	34	13	795	10	22	210	23	22	21	14	66	5.8
14	52	10	147	14	60	238	25	21	35	12	14	52
15	6.3	120	39	12	727	61	28	19	12	12	10	34
16	5.0	143	25	9.5	107	39	92	18	11	12	9.9	8.6
17	4.5	19	19	11	45	28	57	17	20	27	10	9.3
18	4.7	14	17	11	36	25	30	17	91	99	7.7	5.0
19	11	11	16	11	28	24	29	17	144	72	31	6.5
20	7.3	14	14	9.0	25	23	24	16	19	17	13	5.0
21	5.0	196	12	10	22	140	22	17	15	306	7.6	5.0
22	3.1	20	417	7.8	20	52	20	15	13	45	8.3	6.5
23	121	14	70	9.0	88	29	52	33	12	27	10	4.7
24	177	23	24	12	228	23	41	25	135	19	7.9	4.7
25	16	228	15	32	40	61	26	15	97	15	7.2	4.3
26	11	33	13	86	26	60	22	14	20	13	6.8	6.5
27	7.3	17	13	93	22	29	21	13	16	50	6.5	4.7
28	6.9	28	205	45	70	221	19	21	14	17	6.5	16
29	6.6	42	85	17	39	458	33	149	13	14	7.4	12
30	6.2	16	21	14	---	77	23	256	14	14	5.8	6.8
31	6.5	---	15	17	---	41	---	50	---	12	5.8	---
TOTAL	601.6	1171.5	3034	608.3	2026	2203	1568	1486	951	1431	461.9	307.1
MEAN	19.4	39.1	97.9	19.6	69.9	71.1	52.3	47.9	31.7	46.2	14.9	10.2
MAX	177	228	795	93	727	458	538	256	144	306	66	52
MIN	2.6	3.5	12	7.8	10	18	19	13	11	11	5.8	4.3
CFSM	.95	1.91	4.78	.96	3.41	3.47	2.55	2.34	1.55	2.25	.73	.50
IN.	1.09	2.13	5.51	1.10	3.68	4.00	2.85	2.70	1.73	2.60	.84	.56

CAL YR 1983	TOTAL	16923.3	MEAN	46.4	MAX	829	MIN	1.3	CFSM	2.26	IN	30.71
WTR YR 1984	TOTAL	15849.4	MEAN	43.3	MAX	795	MIN	2.6	CFSM	2.11	IN	28.76



## DELAWARE RIVER BASIN

01479000 WHITE CLAY CREEK NEAR NEWARK, DE

LOCATION.--Lat 39°51'47", long 75°40'33", New Castle County Hydrologic Unit 02040205, on left bank 35 ft downstream from bridge on private road at Delaware Park Race Track, 0.4 mi downstream from the Baltimore and Ohio Railroad bridge, 1.1 mi downstream from Pike Creek, 3.8 mi east of Newark, and 5.0 mi upstream from mouth. Prior to April 8, 1976, at site 0.5 mi upstream.

DRAINAGE AREA.--89.1 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1051: 1933(M). WSP 1382: 1932, 1934. WDR MD-DE-83-1: 1978-82(P).

GAGE.--Water-stage recorder. Datum of gage is 9.00 ft National Geodetic Vertical Datum of 1929. Nov. 17, 1931, to Sept. 30, 1936, June 4, 1943, to Sept. 30, 1957, and Oct. 1, 1959, to Apr. 7, 1976, at site 0.5 mi upstream at datum 2.6 ft higher.

REMARKS.--Records good except those for January, which are fair. Slight diurnal fluctuation at low flow caused by mills above station. Records do not include a negligible diversion above station by E. I. du Pont de Nemours & Co. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1932-36, 1944-57, 1960-84, 115 ft<sup>3</sup>/s, 17.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft<sup>3</sup>/s June 22, 1972, gage height, 15.91 ft, present datum, from rating curve extended above 6,000 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 4.7 ft<sup>3</sup>/s Sept. 11, 1966; minimum daily discharge, 5.0 ft<sup>3</sup>/s Sept. 10, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 23 ft, previous site and datum, in July 1937 (probably affected by backwater from railroad bridge which has since been raised and widened), from information by Baltimore & Ohio Railroad.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	2230	*4230	14.54	Feb. 15	0530	2730	13.04
Dec. 22	1415	2420	12.63				

Minimum daily discharge, 34 ft<sup>3</sup>/s Oct. 8, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	44	86	140	100	148	202	172	187	325	96	62
2	42	43	76	135	97	141	189	157	157	144	96	61
3	36	45	94	129	115	138	186	171	157	116	98	75
4	35	54	614	121	687	134	217	757	147	104	96	181
5	37	46	210	119	252	188	1240	318	131	129	90	98
6	39	44	160	119	165	233	530	196	185	464	129	72
7	35	43	224	117	120	161	261	188	168	641	92	66
8	34	42	109	113	105	143	224	368	126	167	86	65
9	35	42	93	112	103	142	207	442	118	126	81	63
10	34	109	88	118	120	132	200	201	112	118	84	80
11	34	186	81	172	197	142	194	181	109	147	123	104
12	138	121	1030	110	175	138	190	180	106	202	177	70
13	127	69	1720	110	154	352	188	179	109	113	211	65
14	131	57	588	120	198	571	191	165	200	101	95	318
15	49	253	238	100	1530	283	212	157	112	97	84	223
16	40	511	178	90	424	218	345	152	102	96	76	93
17	38	114	150	100	217	182	260	147	120	282	72	75
18	37	76	135	100	188	166	213	144	659	192	71	70
19	59	67	127	100	165	160	209	150	656	143	315	67
20	58	64	115	80	154	154	187	147	167	105	135	64
21	43	489	114	75	143	372	178	145	134	649	86	61
22	40	119	1020	70	135	244	171	136	118	202	78	59
23	236	82	310	80	220	174	271	163	112	144	81	58
24	585	91	159	100	869	158	229	174	323	120	84	58
25	117	548	121	200	220	200	193	134	463	106	72	58
26	77	187	121	400	174	199	176	130	148	97	69	57
27	58	109	126	601	156	163	168	129	124	381	67	53
28	52	112	590	239	213	461	162	142	113	148	65	96
29	49	239	430	132	181	1070	277	728	109	117	66	90
30	45	110	163	114	---	366	182	954	106	108	67	67
31	45	---	147	116	---	230	---	282	---	102	65	---
TOTAL	2421	4116	9417	4432	7577	7563	7652	7689	5578	5986	3107	2629
MEAN	78.1	137	304	143	261	244	255	248	186	193	100	87.6
MAX	585	548	1720	601	1530	1070	1240	954	659	649	315	318
MIN	34	42	76	70	97	132	162	129	102	96	65	53
CFSM	.88	1.54	3.41	1.61	2.93	2.74	2.86	2.78	2.09	2.17	1.12	.98
IN.	1.01	1.72	3.93	1.85	3.16	3.16	3.19	3.21	2.33	2.50	1.30	1.10

CAL YR 1983 TOTAL 58802 MEAN 161 MAX 1720 MIN 26 CFSM 1.81 IN 24.55  
WTR YR 1984 TOTAL 68167 MEAN 186 MAX 1720 MIN 34 CFSM 2.09 IN 28.46

## DELAWARE RIVER BASIN

27

01480000 RED CLAY CREEK AT WOODDALE, DE

LOCATION.--Lat 39°45'52", long 75°38'08", New Castle County, Hydrologic Unit 02040205, on right bank 12 ft upstream from bridge on State Highway 48, 0.3 mi south of Wooddale, 2.3 mi north of Marshallton, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--47.0 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1141: 1948. WSP 1272: 1951(m). WSP 1432: 1944(M), 1945, 1946(M), 1948, 1949(M). WSP 2102: 1960(M), 1964(M), 1966-67(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 81.46 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 21, 1950, nonrecording gage at site 10 ft downstream at same datum.

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years, 64.9 ft<sup>3</sup>/s, 18.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,010 ft<sup>3</sup>/s July 21, 1975, gage height, 10.32 ft; minimum discharge, 2.9 ft<sup>3</sup>/s Sept. 4, 1966; minimum daily discharge, 4.5 ft<sup>3</sup>/s Sept. 4, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	0200	*3480	8.04	Feb. 15	0500	1520	5.35
Dec. 22	1345	1460	5.26	Apr. 5	0500	1440	5.23

Minimum discharge, 6.7 ft<sup>3</sup>/s Oct. 10, gage height, 2.19 ft, result of regulation; minimum daily discharge, 17 ft<sup>3</sup>/s Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	49	71	55	80	109	98	110	190	59	36
2	25	26	45	66	53	76	102	89	93	82	59	35
3	22	26	54	67	68	74	100	92	90	69	55	39
4	20	30	214	67	341	71	113	336	83	64	55	87
5	19	28	88	68	114	101	590	143	77	67	53	50
6	22	24	74	68	83	120	256	110	85	178	56	41
7	18	25	95	66	65	86	146	110	79	174	51	38
8	18	25	59	64	57	78	125	158	71	79	49	36
9	18	25	53	60	56	81	115	209	68	67	48	36
10	17	40	52	68	77	74	113	115	65	66	56	47
11	18	74	49	93	98	75	110	104	64	78	54	50
12	56	50	429	62	87	73	107	105	62	84	84	39
13	49	35	986	63	82	134	105	100	61	60	231	37
14	51	31	244	63	121	291	106	94	113	58	63	130
15	26	124	123	61	690	161	119	89	65	55	55	92
16	23	194	98	56	185	128	180	87	61	62	50	49
17	21	58	85	59	114	104	139	84	66	176	47	41
18	22	42	78	59	101	92	115	83	273	74	46	39
19	39	39	74	59	88	90	116	87	221	65	82	38
20	31	39	68	51	82	86	104	83	88	57	58	36
21	24	182	63	47	76	192	98	81	74	236	46	36
22	23	58	465	44	72	129	93	78	68	103	45	35
23	84	47	150	45	87	98	161	84	65	75	48	34
24	208	47	97	55	373	88	125	102	174	65	47	33
25	71	204	69	76	114	102	107	77	218	59	43	35
26	46	80	70	130	93	102	97	72	88	56	41	37
27	34	56	76	160	85	88	93	73	74	276	43	29
28	30	58	230	104	118	209	88	75	69	88	38	52
29	28	110	152	68	97	402	186	274	67	69	40	49
30	26	57	83	62	---	172	109	380	67	65	41	37
31	26	---	71	62	---	122	---	155	---	62	39	---
TOTAL	1136	1860	4543	2144	3732	3779	4127	3827	2859	2959	1782	1373
MEAN	36.6	62.0	147	69.2	129	122	138	123	95.3	95.5	57.5	45.8
MAX	208	204	986	160	690	402	590	380	273	276	231	130
MIN	17	24	45	44	53	71	88	72	61	55	38	29
CFSM	.78	1.32	3.13	1.47	2.75	2.60	2.94	2.62	2.03	2.03	1.22	.97
IN.	.90	1.47	3.60	1.70	2.95	2.99	3.27	3.03	2.26	2.34	1.41	1.09

CAL YR 1983	TOTAL	28551	MEAN 78.2	MAX 986	MIN 14	CFSM 1.66	IN 22.60
WTR YR 1984	TOTAL	34121	MEAN 93.2	MAX 986	MIN 17	CFSM 1.98	IN 27.01

## DELAWARE RIVER BASIN

01481500 BRANDYWINE CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°46'09", long 75°34'25", New Castle County, Hydrologic Unit 02040205, on right bank in Rockford Park, 0.2 mi downstream from Rising Sun Bridge, in Wilmington, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--314 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1432: 1948, 1950.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 68.23 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by mills above station. Flow regulated since November 1973 by Marsh Creek Reservoir, capacity 7,230,000,000 gal, about 27 mi upstream. No diversion just above station by plant of E. I. du Pont de Nemours & Co. since June 13, 1960. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 488 ft<sup>3</sup>/s, 21.11 in/yr, adjusted for storage since November 1973.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft<sup>3</sup>/s June 23, 1972, gage height, 15.49 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s; minimum discharge, about 30 ft<sup>3</sup>/s Dec. 26, 1948, during period of ice effect; minimum daily discharge, 56 ft<sup>3</sup>/s Aug. 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	0930	*10200	10.09	Apr. 5	1300	5180	7.78
Dec. 22	2115	4520	7.37	May 30	0415	5540	7.99
Dec. 28	-	Unknown	Ice jam	July 2	0500	4870	7.60
Dec. 29	0330	4440	7.30	July 7	2145	8260	9.29
Feb. 15	1545	5980	8.22				

Minimum discharge, 82 ft<sup>3</sup>/s Oct. 3, Nov. 7, gage height, 2.55 ft; minimum daily discharge, 103 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	155	458	726	506	826	1270	847	1430	1940	564	259
2	150	153	388	699	407	774	1140	756	990	3070	546	253
3	131	154	411	713	497	750	1160	750	908	1270	552	267
4	123	170	1230	894	2260	721	1050	2760	863	739	548	504
5	114	157	1160	890	1270	836	4080	1900	782	695	516	347
6	128	144	681	878	790	1160	2750	1150	759	1060	526	279
7	124	142	882	662	627	864	1790	1080	684	4610	489	266
8	111	142	616	610	530	765	1510	1260	645	2750	547	253
9	105	138	532	535	512	761	1360	1850	623	1260	462	243
10	108	176	515	548	579	717	1390	1130	587	993	467	243
11	103	346	466	766	772	729	1190	980	569	2030	486	315
12	162	323	1520	513	1010	699	986	969	562	1180	575	265
13	354	221	7510	514	774	857	944	957	524	790	579	245
14	293	182	4160	545	838	1900	972	868	702	707	467	262
15	199	529	1860	502	4640	1410	1020	819	572	658	430	336
16	139	2020	1520	406	3380	1310	1370	794	512	664	399	310
17	123	615	1050	462	1570	1220	1260	731	526	1220	380	251
18	121	376	897	462	1260	988	1120	708	1540	736	364	230
19	193	294	803	462	1080	921	1050	740	1920	733	426	228
20	257	253	731	347	943	895	947	723	823	612	484	221
21	169	1070	663	334	859	1230	881	687	677	1420	364	211
22	141	626	2520	310	796	1530	823	659	606	942	342	204
23	283	349	1930	322	869	1050	1090	695	524	769	358	202
24	1540	317	1020	367	2660	849	1080	865	746	681	385	198
25	597	1370	578	583	1380	857	965	660	1670	616	333	198
26	344	1170	600	889	1050	884	845	613	699	578	307	199
27	231	529	600	1000	910	790	789	679	574	1980	295	188
28	192	453	1030	1030	1050	1240	755	651	538	1070	287	260
29	175	1240	2470	642	1150	2940	1240	2080	518	759	290	340
30	160	700	942	560	---	1930	905	4290	506	700	293	248
31	158	---	755	555	---	1660	---	1870	---	620	283	---
TOTAL	7151	14514	40498	18726	34969	34063	37732	35521	23579	37852	13344	7825
MEAN	231	484	1306	604	1206	1099	1258	1146	786	1221	430	261
MAX	1540	2020	7510	1030	4640	2940	4080	4290	1920	4610	579	504
MIN	103	138	388	310	407	699	755	613	506	578	283	188
(+)	+6.2	+31.9	+13.2	-29.9	+28.7	+1.8	-0.8	+13.3	-13.9	-2.0	+0.2	0.0
MEAN*	237	516	1319	574	1235	1101	1257	1159	772	1219	430	261
CFSM*	0.75	1.64	4.20	1.83	3.93	3.51	4.00	3.69	2.46	3.88	1.37	0.83
IN*	0.87	1.83	4.85	2.11	4.24	4.04	4.47	4.26	2.74	4.48	1.58	0.93
CAL YR 1983	TOTAL	243211	MEAN 666	MAX 7510	MIN 92		MEAN*	670	CFSM*	2.13	IN*	28.97
WTR YR 1984	TOTAL	305774	MEAN 835	MAX 7510	MIN 103		MEAN*	839	CFSM*	2.67	IN*	36.38

\* Change in contents in Marsh Creek Reservoir, equivalent in cubic feet per second, furnished by Pennsylvania Department of Environmental Resources.

\* Adjusted for change in reservoir contents.

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, Hydrologic Unit 02040205, water-quality recorder located on platform about 0.4 mi downstream from Reedy Island near Port Penn.

DRAINAGE AREA.--11,200 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: February 1970 to current year.

WATER TEMPERATURES: February 1970 to current year.

DISSOLVED OXYGEN: February 1970 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1970.

REMARKS.--Interruptions in record due to instrument malfunctions and pump failures.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 35,600 micromhos Nov. 15, 1978; minimum, 100 micromhos on several days during August 1969, April 1970, February 1974, January, February, and March 1979.

pH: Maximum, 8.9 units Mar. 4, 1980; minimum, 5.4 units Dec. 31, 1972.

WATER TEMPERATURES: Maximum, 31.5°C July 21, 1977, July 19, 1982; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 17.1 mg/L Dec. 16, 19, 1976; minimum, 0.3 mg/L Sept. 16, 17, 1971.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20700	12400	16200	---	---	---	---	---	---	---	---	---
2	20900	12900	16600	---	---	---	---	---	---	---	---	---
3	21300	13000	16000	---	---	---	7000	2240	3860	---	---	---
4	21100	13400	16100	---	---	---	12500	2480	5500	---	---	---
5	20600	13300	16200	---	---	---	10600	2400	4760	---	---	---
6	21000	13500	16300	---	---	---	10000	2520	4580	---	---	---
7	20600	13100	16100	13600	9520	---	---	---	---	---	---	---
8	20400	13400	16200	19600	10800	14300	---	---	---	---	---	---
9	20400	13600	16200	18700	12800	15000	---	---	---	---	---	---
10	21100	14100	16800	21500	13500	15900	---	---	---	---	---	---
11	19200	13800	16100	19400	12600	16700	---	---	---	---	---	---
12	19200	13600	16100	15700	11500	13000	---	---	---	---	---	---
13	17500	12400	15000	18700	11300	15400	---	---	---	---	---	---
14	19300	14200	16000	22200	13600	18000	---	---	---	---	---	---
15	18900	13500	15100	25100	14700	19600	---	---	---	---	---	---
16	20600	13300	16000	22400	14500	18900	---	---	---	---	---	---
17	21600	13800	17200	19000	12800	15600	---	---	---	---	---	---
18	20000	13600	16600	---	---	---	---	---	---	---	---	---
19	20600	13900	16100	18900	9800	12900	---	---	---	---	---	---
20	20700	14700	17600	19700	10600	13900	---	---	---	---	---	---
21	20200	14700	17600	18400	10200	13600	---	---	---	---	---	---
22	20000	14800	17500	14900	8440	11100	---	---	---	---	---	---
23	21000	15100	17700	17100	8000	10900	---	---	---	---	---	---
24	18200	14900	16500	17100	7640	12000	---	---	---	---	---	---
25	---	---	---	14000	7200	9700	---	---	---	---	---	---
26	---	---	---	8920	3960	6740	---	---	---	---	---	---
27	---	---	---	9680	3560	5360	---	---	---	---	---	---
28	---	---	---	13100	3800	7150	---	---	---	---	---	---
29	---	---	---	13000	4880	8030	---	---	---	---	---	---
30	---	---	---	7120	3400	4930	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	21600	12400	16400	25100	3400	12700	12500	2240	4680	---	---	---

## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1				---	---	---	8400	2000	4200	5920	1280	2450
2				---	---	---	8000	1800	3520	4200	1000	2080
3				---	---	---	7520	1560	2940	5000	1000	2030
4				---	---	---	6440	1600	2990	6960	1240	2640
5				---	---	---	8760	880	3210	2080	600	1040
6				---	---	---	3920	360	1210	1800	440	738
7				---	---	---	1600	320	781	1520	360	614
8				---	---	---	1160	560	817	1520	360	629
9				---	---	---	2640	440	1080	600	320	408
10				8280	1760	---	3720	360	1570	1200	320	444
11				10900	2920	---	4800	400	1880	1640	320	513
12				5480	1760	---	5320	520	1820	600	280	384
13				9160	2000	---	3720	600	1500	2320	280	493
14				---	---	---	3080	520	1320	1040	280	433
15				---	---	---	4400	640	1630	1800	280	529
16				---	---	---	3600	560	1500	1440	320	506
17				---	---	---	3320	480	1240	2680	320	860
18				---	---	---	1680	360	760	4680	400	1350
19				4920	1800	---	920	320	540	5080	560	1680
20				7200	1760	3280	960	280	426	4800	600	1680
21				7680	1920	4240	480	280	368	3280	600	1540
22				5960	3120	---	1400	280	457	4160	760	1940
23				---	---	---	3600	320	1180	4440	760	1810
24				---	---	---	4880	360	1790	3520	600	1360
25				---	---	---	5360	600	2120	6000	640	2440
26				7080	1800	---	7360	1040	3690	5600	760	2750
27				6920	1680	3980	9120	1800	4510	5960	800	2110
28				8760	1920	4980	7280	2240	3950	6600	880	2500
29				12700	4000	7230	6240	1960	3310	6440	1040	2410
30				10000	2520	5790	5280	1680	2840	3600	240	978
31				9800	2200	5150	---	---	---	680	240	323
MONTH				12700	1680	4950	9120	280	1970	6960	240	1340
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	280	200	224	9120	1920	4160	11200	3560	6190	16100	8840	11900
2	240	160	202	7120	1600	3230	9800	3600	5890	16200	9040	11600
3	2400	160	603	6200	1240	2760	11100	3680	6240	16400	9120	12100
4	2920	160	471	5560	1240	2480	10500	3880	6420	16500	9400	12200
5	2480	160	378	5040	1080	2150	11000	4160	6800	17500	9320	12400
6	1560	160	318	2880	960	1520	12500	4160	6950	16500	9640	12100
7	1840	200	380	1600	600	1010	13100	4440	7400	17000	9240	12100
8	2080	200	493	1360	280	474	14800	4640	7620	17700	9320	12200
9	2760	200	638	2520	280	558	---	---	---	16600	9760	12100
10	3120	240	626	3880	280	603	---	---	---	16300	9880	12000
11	3720	280	937	3960	280	749	---	---	---	15500	9400	11800
12	4280	320	967	4960	440	---	---	---	---	16200	9640	11900
13	4640	440	1280	---	---	---	---	---	---	16600	9400	12400
14	4080	480	1240	---	---	---	10600	5480	---	15900	9920	12500
15	4440	600	1560	---	---	---	12400	5160	7820	15900	9640	12000
16	---	---	---	2720	680	---	12400	5360	8050	18400	9680	13200
17	---	---	---	5080	640	1740	13000	5280	8730	17400	10600	13400
18	4080	1320	---	6080	840	2150	14100	5800	9680	17600	10400	13600
19	6440	1120	2650	5000	680	1960	14600	6280	10600	18600	10200	14200
20	6080	1200	2550	6280	680	2870	15300	7360	11100	19000	10200	13700
21	7480	1280	3700	6040	920	3110	16700	7480	12000	19700	9440	12900
22	9600	1720	5210	6080	1200	3000	18000	7920	12600	19700	9560	13600
23	---	---	---	7320	1120	3230	17300	7480	11200	18000	10500	13500
24	---	---	---	7080	1280	3110	17900	7320	11000	18400	9520	12600
25	---	---	---	10700	1280	3610	19000	7880	12000	18500	9880	13100
26	9760	1760	---	12800	2120	5500	19200	8200	12400	19000	10300	13600
27	9640	2000	4310	12100	3280	6400	18300	8960	12400	19600	10700	13900
28	9320	1440	3460	10700	2600	5220	18000	9280	12400	19800	11500	15000
29	8800	1560	3390	11800	2840	5590	17000	8880	12100	20600	12100	15900
30	9200	1840	3710	11600	3160	5960	16100	8680	11600	21500	12600	16700
31	---	---	---	11200	3360	6230	15800	8840	11700	---	---	---
MONTH	9760	160	1710	12800	280	3050	19200	3560	9640	21500	8840	13000

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.6	7.5	7.6	---	---	---	---	---	---	---	---	---
2	7.6	7.5	7.6	7.0	6.8	---	---	---	---	---	---	---
3	7.6	6.9	7.3	7.0	6.8	6.9	7.1	6.9	6.9	---	---	---
4	7.4	6.9	7.0	---	---	---	7.1	6.8	7.0	---	---	---
5	7.2	6.9	7.0	---	---	---	7.1	6.9	6.9	---	---	---
6	7.0	6.8	6.9	---	---	---	7.0	6.8	6.9	---	---	---
7	7.0	6.8	6.9	6.8	6.7	---	---	---	---	---	---	---
8	7.0	6.8	6.9	6.8	6.6	6.7	---	---	---	---	---	---
9	7.0	6.8	6.9	6.8	6.6	6.7	---	---	---	---	---	---
10	6.9	6.8	6.9	6.8	6.6	6.7	---	---	---	---	---	---
11	7.0	6.8	6.9	6.8	6.7	6.8	---	---	---	---	---	---
12	7.1	6.9	7.0	6.8	6.7	6.8	---	---	---	---	---	---
13	7.0	6.9	7.0	6.9	6.8	6.8	---	---	---	---	---	---
14	7.0	6.9	6.9	7.1	6.8	7.0	---	---	---	---	---	---
15	7.0	6.8	6.9	7.1	7.0	7.1	---	---	---	---	---	---
16	7.1	6.8	6.9	7.1	7.0	7.0	---	---	---	---	---	---
17	7.1	6.9	7.0	7.0	6.9	7.0	---	---	---	---	---	---
18	7.1	6.9	7.0	---	---	---	---	---	---	---	---	---
19	7.0	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---
20	7.1	6.9	7.0	7.0	6.8	6.8	---	---	---	---	---	---
21	7.1	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---
22	7.2	7.0	7.1	7.1	6.8	6.9	---	---	---	---	---	---
23	7.2	7.0	7.1	7.0	6.8	6.9	---	---	---	---	---	---
24	7.3	7.2	7.2	7.0	6.8	6.9	---	---	---	---	---	---
25	---	---	---	6.9	6.7	6.8	---	---	---	---	---	---
26	---	---	---	7.0	6.7	6.8	---	---	---	---	---	---
27	---	---	---	7.2	6.8	6.9	---	---	---	---	---	---
28	---	---	---	7.0	6.7	6.9	---	---	---	---	---	---
29	---	---	---	7.1	6.9	7.0	---	---	---	---	---	---
30	---	---	---	6.9	6.8	6.9	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	7.6	6.8	7.0	7.2	6.6	6.9	7.1	6.8	6.9	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	7.4	7.1	7.2	7.3	7.2	7.3
2	---	---	---	---	---	---	7.5	7.1	7.2	7.3	7.2	7.3
3	---	---	---	---	---	---	8.0	7.1	7.2	7.2	7.2	7.2
4	---	---	---	---	---	---	7.2	7.1	7.1	7.3	7.2	7.2
5	---	---	---	---	---	---	7.3	7.1	7.2	7.3	7.2	7.2
6	---	---	---	---	---	---	7.3	7.1	7.2	7.2	7.2	7.2
7	---	---	---	---	---	---	7.2	7.1	7.1	7.2	7.1	7.1
8	---	---	---	---	---	---	7.3	7.1	7.2	7.2	7.1	7.1
9	---	---	---	---	---	---	7.8	7.1	7.3	7.2	7.1	7.1
10	---	---	---	7.5	7.1	---	7.4	7.1	7.2	7.2	7.1	7.1
11	---	---	---	7.7	7.3	---	---	---	---	7.2	7.1	7.2
12	---	---	---	7.3	7.1	---	---	---	---	7.2	7.1	7.2
13	---	---	---	7.5	7.3	---	---	---	---	7.3	7.1	7.2
14	---	---	---	---	---	---	---	---	---	7.3	7.1	7.2
15	---	---	---	---	---	---	---	---	---	7.3	7.1	7.2
16	---	---	---	---	---	---	---	---	---	7.3	7.2	7.2
17	---	---	---	---	---	---	---	---	---	7.3	7.2	7.3
18	---	---	---	---	---	---	---	---	---	7.4	7.2	7.2
19	---	---	---	7.2	7.1	---	---	---	---	7.4	7.2	7.2
20	---	---	---	7.5	7.1	7.2	---	---	---	7.3	7.2	7.3
21	---	---	---	7.4	7.1	7.3	---	---	---	7.3	7.2	7.2
22	---	---	---	7.2	7.2	---	---	---	---	7.3	7.2	7.3
23	---	---	---	---	---	---	6.8	6.6	---	7.3	7.2	7.3
24	---	---	---	---	---	---	6.8	6.7	6.8	7.3	7.2	7.3
25	---	---	---	---	---	---	7.0	6.8	6.9	7.4	7.2	7.3
26	---	---	---	7.4	7.1	---	7.2	6.9	7.0	7.4	7.2	7.3
27	---	---	---	7.7	7.1	7.3	7.2	6.9	7.0	7.4	7.3	7.4
28	---	---	---	7.4	7.1	7.2	7.1	6.9	7.0	7.4	7.3	7.4
29	---	---	---	7.3	7.1	7.2	7.0	6.9	7.0	7.4	7.3	7.4
30	---	---	---	7.3	7.1	7.2	7.3	6.9	7.1	7.4	7.1	7.3
31	---	---	---	7.3	7.1	7.2	---	---	---	7.3	7.0	7.1
MONTH	---	---	---	7.7	7.1	7.2	8.0	6.6	7.1	7.4	7.0	7.2

## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.1	6.9	7.0	7.2	7.1	7.1	7.3	7.2	7.2	7.5	7.4	7.4
2	7.3	7.0	7.1	7.2	7.0	7.1	7.2	7.1	7.2	7.5	7.4	7.5
3	7.2	7.1	7.1	7.1	7.0	7.1	7.2	7.1	7.2	7.6	7.4	7.4
4	7.1	7.0	7.1	7.1	7.0	7.0	7.2	7.1	7.2	7.5	7.4	7.4
5	7.1	6.9	7.0	7.2	7.0	7.1	7.2	7.1	7.2	7.6	7.4	7.5
6	7.0	6.9	6.9	7.2	7.1	7.2	7.2	7.1	7.2	7.7	7.5	7.6
7	7.0	6.9	6.9	7.3	7.1	7.2	7.2	7.1	7.2	7.8	7.6	7.6
8	7.0	6.8	6.9	7.2	7.0	7.2	7.3	7.2	7.2	7.8	7.6	7.6
9	7.0	6.8	6.9	7.2	7.0	7.1	---	---	---	7.8	7.6	7.7
10	7.0	6.8	6.9	7.2	7.0	7.1	---	---	---	7.8	7.6	7.7
11	7.0	6.8	6.9	7.2	7.0	7.1	---	---	---	7.8	7.6	7.6
12	7.0	6.8	6.9	7.2	7.1	---	---	---	---	7.7	7.6	7.6
13	7.0	6.8	6.9	---	---	---	---	---	---	7.7	7.6	7.6
14	7.0	6.9	6.9	---	---	---	7.3	7.2	---	7.7	7.6	7.6
15	7.1	6.9	7.0	---	---	---	7.3	7.2	7.3	7.7	7.5	7.6
16	---	---	---	7.2	7.1	---	7.4	7.3	7.3	7.8	7.6	7.7
17	---	---	---	7.2	7.1	7.2	7.5	7.3	7.4	7.7	7.3	7.5
18	7.0	7.0	---	7.2	7.1	7.2	7.5	7.3	7.4	7.5	7.2	7.3
19	7.1	6.9	7.0	7.2	7.1	7.2	7.5	7.3	7.4	7.4	7.2	7.3
20	7.1	6.9	7.0	7.3	7.1	7.2	7.6	7.3	7.4	7.4	7.2	7.3
21	7.3	7.0	7.1	7.3	7.2	7.2	7.7	7.4	7.5	7.4	7.2	7.3
22	7.2	7.0	7.1	7.3	7.1	7.2	7.7	7.4	7.5	7.5	7.2	7.3
23	---	---	---	7.3	7.1	7.2	7.5	7.4	7.5	7.4	7.2	7.3
24	---	---	---	7.3	7.1	7.2	7.6	7.4	7.5	7.4	7.2	7.3
25	---	---	---	7.4	7.2	7.2	7.7	7.5	7.5	7.3	7.2	7.2
26	7.3	7.1	---	7.3	7.2	7.2	7.7	7.4	7.5	7.3	7.2	7.2
27	7.3	7.1	7.2	7.3	7.2	7.3	7.6	7.4	7.5	7.3	7.2	7.3
28	7.3	7.1	7.2	7.3	7.2	7.3	7.6	7.4	7.4	7.4	7.2	7.3
29	7.2	7.1	7.2	7.3	7.2	7.3	7.5	7.4	7.4	7.4	7.3	7.4
30	7.2	7.1	7.1	7.3	7.2	7.3	7.5	7.4	7.4	7.5	7.3	7.4
31	---	---	---	7.3	7.2	7.2	7.5	7.4	7.4	---	---	---
MONTH	7.3	6.8	7.0	7.4	7.0	7.2	7.7	7.1	7.4	7.8	7.2	7.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.0	19.5	19.5	---	---	---	---	---	---	---	---	---
2	20.5	19.5	20.0	14.0	13.5	---	---	---	---	---	---	---
3	21.0	19.5	20.0	14.5	13.5	14.0	9.0	8.5	8.5	---	---	---
4	21.5	20.0	20.5	---	---	---	8.5	8.0	8.5	---	---	---
5	21.5	20.5	20.5	---	---	---	8.5	8.0	8.5	---	---	---
6	21.0	20.5	20.5	---	---	---	8.5	8.0	8.5	---	---	---
7	21.0	20.0	20.5	12.5	12.0	---	---	---	---	---	---	---
8	21.0	20.0	20.5	12.5	12.0	12.5	---	---	---	---	---	---
9	20.5	20.0	20.5	12.5	12.0	12.5	---	---	---	---	---	---
10	20.0	19.5	20.0	12.5	12.5	12.5	---	---	---	---	---	---
11	19.5	19.0	19.5	13.0	12.0	12.5	---	---	---	---	---	---
12	19.5	19.0	19.5	12.0	11.0	11.5	---	---	---	---	---	---
13	20.0	19.5	19.5	11.5	10.5	11.0	---	---	---	---	---	---
14	20.0	18.5	19.5	11.0	10.5	11.0	---	---	---	---	---	---
15	19.5	18.0	19.0	11.0	10.5	11.0	---	---	---	---	---	---
16	19.5	15.5	18.5	11.5	10.5	11.0	---	---	---	---	---	---
17	19.0	18.0	18.5	11.0	10.0	10.5	---	---	---	---	---	---
18	19.0	18.0	18.5	---	---	---	---	---	---	---	---	---
19	18.5	17.5	18.0	10.5	10.0	10.0	---	---	---	---	---	---
20	17.5	17.0	17.0	11.0	10.0	10.5	---	---	---	---	---	---
21	17.0	16.0	16.5	11.0	10.5	10.5	---	---	---	---	---	---
22	16.5	15.5	16.0	11.0	10.5	10.5	---	---	---	---	---	---
23	16.0	15.5	15.5	11.0	10.5	10.5	---	---	---	---	---	---
24	16.0	16.0	16.0	11.0	11.0	11.0	---	---	---	---	---	---
25	---	---	---	11.0	10.0	10.5	---	---	---	---	---	---
26	---	---	---	10.0	9.5	10.0	---	---	---	---	---	---
27	---	---	---	10.5	9.5	10.0	---	---	---	---	---	---
28	---	---	---	10.5	10.0	10.0	---	---	---	---	---	---
29	---	---	---	10.5	9.5	10.0	---	---	---	---	---	---
30	---	---	---	10.0	9.5	10.0	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	21.5	15.5	19.0	14.5	9.5	11.0	9.0	8.0	8.5	---	---	---

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1				---	---	---	7.5	6.0	6.5	14.5	13.5	14.0
2				---	---	---	8.0	6.5	7.0	15.0	13.5	14.0
3				---	---	---	9.0	7.0	8.0	14.5	14.0	14.0
4				---	---	---	8.5	7.5	8.0	15.0	14.0	14.5
5				---	---	---	9.5	8.0	8.5	15.5	14.5	15.0
6				---	---	---	9.5	8.5	9.0	15.5	14.5	15.0
7				---	---	---	9.0	8.5	9.0	15.0	14.5	15.0
8				---	---	---	10.0	8.5	9.0	15.5	14.5	15.0
9				---	---	---	10.5	8.5	9.5	16.0	14.5	15.0
10				4.0	3.0	---	11.0	9.0	9.5	16.0	14.5	15.0
11				3.0	3.0	---	11.5	9.5	10.0	16.5	15.0	15.5
12				4.0	3.0	---	12.0	9.5	10.5	17.0	15.5	16.0
13				3.0	3.0	---	11.0	10.0	10.5	17.5	16.0	16.5
14				---	---	---	11.0	10.5	10.5	17.0	16.0	16.5
15				---	---	---	11.0	10.5	10.5	17.0	15.5	16.5
16				---	---	---	11.0	10.5	10.5	16.0	15.5	16.0
17				---	---	---	11.5	10.5	11.0	16.5	15.0	15.5
18				---	---	---	12.0	10.5	11.5	16.0	15.0	15.5
19				5.5	5.0	---	12.0	11.0	11.5	16.0	15.0	15.5
20				6.0	5.0	5.5	12.0	11.0	11.5	17.5	15.5	16.5
21				6.0	5.5	6.0	12.5	11.0	11.5	18.5	16.0	17.0
22				6.0	6.0	---	12.0	10.5	11.5	19.0	16.5	17.5
23				---	---	---	11.5	10.5	11.0	19.5	17.5	18.5
24				---	---	---	11.5	11.0	11.5	20.0	18.0	19.0
25				---	---	---	12.0	11.0	11.5	20.5	18.5	19.0
26				7.5	6.5	---	13.5	11.0	12.0	21.0	19.0	20.0
27				7.5	6.0	6.5	13.5	12.0	12.5	21.0	19.5	20.0
28				6.5	6.0	6.5	13.0	12.5	12.5	20.5	19.5	20.0
29				6.0	6.0	6.0	14.0	12.5	13.0	20.5	19.5	20.0
30				6.5	5.5	6.0	14.5	13.0	13.5	20.0	19.0	19.5
31				6.5	6.0	6.5	---	---	---	20.0	18.5	19.5
MONTH				7.5	3.0	6.0	14.5	6.0	10.5	21.0	13.5	16.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	20.0	18.5	19.0	25.5	24.0	24.5	25.5	24.5	25.0	25.5	25.0	25.0
2	19.5	18.0	19.0	26.0	24.5	25.0	26.5	25.0	25.5	25.5	24.5	25.0
3	19.0	18.0	18.5	26.0	24.5	25.5	26.5	25.0	26.0	26.5	25.0	25.5
4	19.5	17.5	18.5	26.5	25.0	25.5	27.5	25.5	26.0	25.5	24.5	25.0
5	19.5	17.5	18.5	26.5	25.5	26.0	27.5	26.0	26.5	25.5	24.0	24.5
6	20.0	18.0	19.0	26.5	25.5	26.0	27.5	26.0	26.5	24.5	23.5	24.0
7	21.0	18.5	19.5	26.5	25.5	26.0	27.5	26.0	26.5	24.5	22.5	23.5
8	21.5	19.0	20.5	26.0	25.0	25.0	28.5	26.5	27.0	24.0	22.5	23.0
9	22.0	20.0	21.0	25.5	24.5	25.0	---	---	---	24.0	22.5	23.0
10	23.0	21.0	22.0	25.0	24.0	24.5	---	---	---	23.5	22.5	23.0
11	24.0	21.5	22.5	26.0	24.5	25.0	---	---	---	24.0	23.0	23.5
12	24.0	22.5	23.0	25.0	24.5	---	---	---	---	23.5	23.0	23.5
13	25.0	23.0	23.5	---	---	---	---	---	---	23.5	22.5	23.0
14	25.0	23.0	24.0	---	---	---	28.0	27.5	---	24.0	23.0	23.5
15	24.5	23.0	24.0	---	---	---	28.0	27.0	27.5	23.5	22.5	23.0
16	---	---	---	27.0	26.5	---	28.0	27.0	27.5	23.0	21.5	22.0
17	---	---	---	27.0	26.0	26.5	28.0	27.0	27.5	22.5	21.0	22.0
18	23.0	23.0	---	26.5	26.0	26.0	28.0	26.5	27.5	22.5	21.0	21.5
19	24.0	22.5	23.0	26.5	25.5	26.0	27.5	26.5	27.0	22.5	21.0	21.5
20	24.0	23.0	23.5	27.0	25.5	26.0	27.0	25.5	26.5	23.0	21.0	21.5
21	24.5	23.0	23.5	26.0	25.5	25.5	27.5	25.5	26.0	22.5	21.5	22.0
22	25.5	23.0	24.0	26.0	25.0	25.5	27.0	25.5	26.0	23.0	21.5	22.0
23	---	---	---	27.0	25.5	26.0	26.5	25.5	26.0	23.0	21.5	22.0
24	---	---	---	27.0	25.5	26.5	26.0	25.0	25.5	23.5	22.0	22.5
25	---	---	---	27.5	25.5	26.0	26.5	24.5	25.0	23.5	22.0	22.5
26	24.5	23.5	---	27.0	25.0	26.0	27.0	24.5	25.5	23.0	21.5	22.5
27	25.0	23.0	24.0	26.0	25.0	25.5	26.0	25.0	25.5	21.5	20.0	21.0
28	25.0	23.5	24.0	25.5	24.5	25.0	26.0	25.0	25.5	20.5	19.0	19.5
29	25.0	24.0	24.5	25.5	24.5	25.0	25.5	25.0	25.5	19.5	19.0	19.0
30	25.0	24.0	24.5	25.0	24.5	24.5	26.0	25.0	25.5	19.5	18.5	19.0
31	---	---	---	25.5	24.0	25.0	26.0	25.0	25.5	---	---	---
MONTH	25.5	17.5	22.0	27.5	24.0	25.5	28.5	24.5	26.0	26.5	18.5	22.5



## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.0	7.3	7.6	---	---	---	---	---	---	---	---	---
2	7.5	6.8	7.2	10.7	9.4	---	---	---	---	---	---	---
3	8.4	6.6	7.5	10.8	9.4	10.3	10.6	10.2	10.3	---	---	---
4	8.3	7.1	7.8	---	---	---	10.9	10.0	10.6	---	---	---
5	8.2	7.1	7.6	---	---	---	11.1	9.7	10.4	---	---	---
6	8.3	6.6	7.6	---	---	---	10.5	9.5	10.0	---	---	---
7	8.2	6.9	7.7	10.3	9.8	---	---	---	---	---	---	---
8	8.2	6.9	7.7	10.0	9.3	9.7	---	---	---	---	---	---
9	8.2	6.9	7.6	9.8	9.1	9.3	---	---	---	---	---	---
10	8.3	7.0	7.6	9.4	8.9	9.2	---	---	---	---	---	---
11	8.1	6.8	7.5	9.5	8.9	9.1	---	---	---	---	---	---
12	7.9	7.1	7.4	9.7	8.7	9.3	---	---	---	---	---	---
13	7.9	6.9	7.4	9.9	9.3	9.7	---	---	---	---	---	---
14	8.1	6.8	7.5	10.0	9.5	9.8	---	---	---	---	---	---
15	8.0	6.9	7.5	10.1	9.7	9.9	---	---	---	---	---	---
16	8.3	7.1	7.7	10.0	9.6	9.8	---	---	---	---	---	---
17	9.0	7.1	8.1	11.5	9.7	10.3	---	---	---	---	---	---
18	9.2	8.0	8.6	---	---	---	---	---	---	---	---	---
19	9.1	8.1	8.6	10.5	10.3	10.3	---	---	---	---	---	---
20	8.8	8.2	8.5	10.7	10.2	10.5	---	---	---	---	---	---
21	8.8	8.3	8.6	11.3	9.8	10.8	---	---	---	---	---	---
22	8.8	8.2	8.5	11.5	10.0	10.8	---	---	---	---	---	---
23	8.5	8.0	8.2	11.3	9.8	10.7	---	---	---	---	---	---
24	8.9	8.1	8.4	11.0	9.9	10.6	---	---	---	---	---	---
25	---	---	---	12.4	9.6	10.6	---	---	---	---	---	---
26	---	---	---	11.6	10.1	10.9	---	---	---	---	---	---
27	---	---	---	11.2	9.8	10.7	---	---	---	---	---	---
28	---	---	---	11.6	10.1	10.8	---	---	---	---	---	---
29	---	---	---	11.4	9.8	10.8	---	---	---	---	---	---
30	---	---	---	11.8	10.3	10.6	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	9.2	6.6	7.9	12.4	8.7	10.2	11.1	9.5	10.3	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	12.1	11.6	11.8	9.9	9.1	9.6
2	---	---	---	---	---	---	11.8	10.2	11.2	9.7	8.6	9.1
3	---	---	---	---	---	---	11.6	11.2	11.3	9.3	8.3	8.8
4	---	---	---	---	---	---	11.5	11.0	11.2	9.3	8.0	8.7
5	---	---	---	---	---	---	11.5	10.7	11.1	9.6	8.5	9.3
6	---	---	---	---	---	---	10.9	10.5	10.7	9.6	9.1	9.3
7	---	---	---	---	---	---	11.0	10.4	10.6	9.2	7.9	8.7
8	---	---	---	---	---	---	11.0	10.7	10.8	9.0	8.0	8.6
9	---	---	---	---	---	---	10.9	10.7	10.8	9.1	8.0	8.7
10	---	---	---	11.7	11.3	---	10.8	9.4	10.3	9.2	8.6	8.9
11	---	---	---	11.7	11.0	---	10.7	9.8	10.5	9.2	8.7	9.0
12	---	---	---	12.1	11.9	---	10.4	10.0	10.3	9.1	8.0	8.6
13	---	---	---	12.4	11.9	---	10.4	10.1	10.3	8.7	7.8	8.3
14	---	---	---	---	---	---	10.5	10.2	10.3	8.4	7.3	7.9
15	---	---	---	---	---	---	10.5	10.1	10.3	9.0	8.0	8.6
16	---	---	---	---	---	---	10.5	8.8	10.0	8.8	7.5	8.3
17	---	---	---	---	---	---	10.3	9.8	10.1	9.0	8.0	8.5
18	---	---	---	---	---	---	10.2	9.9	10.1	8.6	8.1	8.4
19	---	---	---	11.9	11.4	---	10.1	9.9	10.0	8.6	7.5	8.1
20	---	---	---	12.6	11.6	12.2	10.0	9.8	9.9	8.1	7.2	7.7
21	---	---	---	12.8	10.8	12.2	10.6	9.8	10.0	8.0	7.0	7.6
22	---	---	---	12.5	11.4	---	10.3	10.1	10.2	7.8	6.9	7.5
23	---	---	---	---	---	---	10.2	9.0	9.9	8.2	7.2	7.7
24	---	---	---	---	---	---	10.2	9.8	10.0	8.3	7.1	7.6
25	---	---	---	---	---	---	10.4	10.0	10.2	7.9	7.0	7.5
26	---	---	---	11.0	10.3	---	10.4	10.1	10.3	8.1	6.8	7.4
27	---	---	---	10.5	9.9	10.2	10.3	10.0	10.2	8.0	7.0	7.5
28	---	---	---	10.4	9.8	10.1	10.2	9.8	10.0	7.9	7.0	7.5
29	---	---	---	11.3	10.2	10.5	10.0	9.6	9.8	8.6	7.6	8.2
30	---	---	---	12.3	10.9	11.5	9.7	8.6	9.3	8.4	7.5	8.0
31	---	---	---	12.2	11.8	12.0	---	---	---	7.8	5.7	6.9
MONTH	---	---	---	12.8	9.8	11.2	12.1	8.6	10.4	9.9	5.7	8.3

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.9	5.7	6.3	---	---	---	6.7	6.2	6.5	6.0	5.2	5.6
2	8.0	6.1	7.1	6.2	5.6	---	6.4	5.8	6.1	6.0	5.2	5.6
3	7.1	6.6	6.9	5.6	4.0	4.8	6.1	5.6	5.8	5.6	5.0	5.3
4	7.2	6.5	6.8	4.2	3.3	3.7	6.1	5.6	5.8	5.7	5.1	5.4
5	7.3	6.4	7.0	5.1	3.2	3.8	5.9	5.3	5.7	7.0	5.1	5.8
6	7.1	6.5	6.9	6.1	4.6	5.4	6.7	5.4	5.9	7.1	6.2	6.6
7	7.1	6.4	6.9	6.4	5.7	6.0	7.1	5.5	6.6	7.1	6.3	6.7
8	7.5	6.2	6.9	6.2	4.9	5.8	7.5	6.2	6.6	7.1	6.2	6.6
9	7.5	6.4	7.0	6.6	4.9	5.8	---	---	---	7.3	6.3	6.7
10	7.3	5.4	6.7	6.5	5.5	6.1	---	---	---	7.7	6.4	7.0
11	6.7	5.5	6.2	6.4	5.5	6.0	---	---	---	7.5	6.9	7.2
12	5.8	4.7	5.4	6.2	5.7	---	---	---	---	7.2	6.7	7.0
13	5.1	4.3	4.7	---	---	---	---	---	---	7.1	6.6	6.8
14	4.5	3.8	4.2	---	---	---	6.8	5.8	---	7.2	6.3	6.6
15	4.4	3.8	4.0	---	---	---	6.8	5.9	6.4	6.8	6.1	6.4
16	---	---	---	6.3	5.4	---	6.7	5.8	6.1	6.6	6.0	6.3
17	---	---	---	6.2	5.3	5.7	6.6	5.9	6.1	7.7	5.8	6.7
18	6.0	5.7	---	---	---	---	6.5	5.6	6.0	7.9	6.6	7.3
19	5.8	4.9	5.2	---	---	---	6.1	5.3	5.7	7.7	6.5	7.2
20	5.4	4.9	5.1	---	---	---	6.2	4.9	5.4	7.5	6.4	7.0
21	5.8	4.9	5.3	---	---	---	6.2	4.9	5.4	7.4	6.8	7.1
22	5.5	4.9	5.2	---	---	---	5.4	4.3	4.9	7.3	6.6	7.0
23	---	---	---	---	---	---	5.2	4.4	4.8	7.2	5.9	6.7
24	---	---	---	---	---	---	5.3	4.5	4.9	7.0	6.3	6.6
25	---	---	---	6.8	6.2	---	5.6	4.8	5.1	6.7	5.7	6.3
26	6.7	6.0	---	6.8	6.0	6.3	5.9	4.8	5.2	6.8	6.1	6.3
27	6.2	5.6	5.9	6.8	6.2	6.5	5.4	4.6	4.9	6.9	6.2	6.6
28	6.1	5.2	5.7	6.8	6.3	6.5	5.9	4.5	5.0	7.3	6.5	6.9
29	5.6	4.9	5.3	6.7	6.2	6.4	6.3	4.9	5.7	7.2	6.5	6.9
30	---	---	---	7.2	6.3	6.7	6.0	5.3	5.7	7.3	6.8	7.1
31	---	---	---	7.0	6.2	6.8	6.0	5.3	5.6	---	---	---
MONTH	8.0	3.8	5.9	7.2	3.2	5.8	7.5	4.3	5.7	7.9	5.0	6.6

## DELAWARE RIVER BASIN

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, Hydrologic Unit 02040205, on right bank 15 ft downstream from highway bridge, 0.5 mi upstream from Barlow Branch, 0.6 mi southwest of Blackbird, 5.6 mi northwest of Smyrna, and 13.8 mi upstream from mouth.

DRAINAGE AREA.--3.85 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 18.89 ft National Geodetic Vertical Datum of 1929. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft upstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 4.82 ft<sup>3</sup>/s, 17.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 712 ft<sup>3</sup>/s June 22, 1972, gage height, 5.04 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of Type III culvert measurement of peak flow; no flow at times during 1964, 1965, 1966, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1645	55	2.22	Apr. 5	1015	*162	2.96
Feb. 15	1330	63	2.30	May 30	1345	81	2.45
Mar. 14	0230	89	2.51	July 18	1745	57	2.24
Mar. 29	1330	113	2.68				

Minimum discharge, 0.06 ft<sup>3</sup>/s Dec. 25, gage height, 0.64 ft, result of freezeup; minimum daily discharge, 0.25 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.0	2.8	4.3	4.2	6.7	12	28	7.5	19	1.8	.69
2	.93	1.4	2.7	4.4	3.7	5.8	10	9.9	4.9	4.7	1.6	.69
3	.74	1.2	2.7	4.8	4.5	5.4	9.4	7.9	4.3	2.9	1.6	3.0
4	.52	1.5	18	4.9	13	5.2	11	8.5	3.9	2.1	1.7	15
5	.52	1.2	14	5.2	8.8	8.2	89	7.0	3.3	1.8	1.5	3.9
6	.38	1.1	7.8	5.2	6.4	13	33	7.0	3.0	2.1	1.4	1.5
7	.28	1.1	7.7	4.9	4.8	8.1	17	7.9	2.9	5.8	2.0	1.0
8	.25	1.1	4.7	4.3	4.0	6.2	13	19	2.6	2.8	3.5	.91
9	.29	1.0	3.9	4.1	4.0	6.2	11	31	2.5	1.8	1.7	.86
10	.33	4.8	3.7	5.5	4.1	5.3	9.7	9.9	4.1	1.9	1.4	.78
11	.33	7.5	3.5	12	4.9	6.6	9.0	7.3	4.3	5.6	1.6	.95
12	3.0	3.7	14	6.4	5.0	6.7	8.3	5.7	1.8	7.7	2.1	.95
13	2.7	2.2	48	4.2	4.7	22	7.9	5.2	1.9	2.3	1.4	.74
14	5.1	1.7	23	4.8	5.1	51	8.1	4.8	6.4	1.8	1.3	.79
15	1.4	3.6	9.6	4.8	45	16	8.4	4.4	2.5	1.5	1.2	2.3
16	.87	10	6.6	3.9	25	11	22	4.2	2.1	1.5	1.1	1.1
17	.76	4.8	5.3	3.9	11	8.6	16	4.0	2.5	1.4	.97	.63
18	.72	2.4	5.0	4.1	9.0	7.6	9.9	4.0	5.6	29	.90	.54
19	1.1	2.0	4.9	4.2	7.5	7.2	8.0	4.3	8.6	12	2.0	.52
20	1.2	2.2	4.4	3.6	6.7	6.9	7.2	3.9	2.9	2.8	2.0	.49
21	.81	9.5	4.1	3.5	5.8	12	6.5	3.6	2.2	3.2	1.2	.40
22	.73	5.7	20	3.2	5.4	13	5.9	3.4	2.2	7.3	.95	.42
23	4.8	2.7	16	3.4	8.4	7.5	14	3.7	1.9	5.1	.90	.40
24	11	4.1	7.2	5.2	23	6.2	13	4.8	2.7	2.6	.94	.36
25	3.6	18	4.0	17	10	9.3	8.3	3.2	4.7	2.0	.80	.44
26	1.9	12	3.2	21	6.8	18	6.9	2.9	2.1	1.7	.73	.47
27	1.4	4.6	3.6	13	5.7	10	6.0	3.4	1.7	1.9	.70	.40
28	1.2	3.8	15	7.4	13	20	5.7	3.5	1.5	1.9	.68	2.5
29	1.0	4.1	25	5.2	11	83	9.7	8.2	1.6	1.8	.70	2.9
30	.95	3.1	8.1	4.8	---	34	8.4	58	2.9	2.3	.74	1.4
31	.99	---	4.7	5.3	---	16	---	21	---	2.2	.74	---
TOTAL	50.90	123.1	303.2	188.5	270.5	442.7	404.3	299.6	101.1	142.5	41.85	47.03
MEAN	1.64	4.10	9.78	6.08	9.33	14.3	13.5	9.66	3.37	4.60	1.35	1.57
MAX	11	18	48	21	45	83	89	58	8.6	29	3.5	15
MIN	.25	1.0	2.7	3.2	3.7	5.2	5.7	2.9	1.5	1.4	.68	.36
CFSM	.43	1.07	2.54	1.58	2.42	3.71	3.51	2.51	.88	1.20	.35	.41
IN.	.49	1.19	2.93	1.82	2.61	4.28	3.91	2.89	.98	1.38	.40	.45
CAL YR 1983	TOTAL	2479.81	MEAN	6.79	MAX	110	MIN	.15	CFSM	1.76	IN	23.95
WTR YR 1984	TOTAL	2415.28	MEAN	6.60	MAX	89	MIN	.25	CFSM	1.71	IN	23.33

## 01483700 ST. JONES RIVER AT DOVER, DE

LOCATION.--Lat 39°09'49", long 75°31'10", Kent County, Hydrologic Unit 02040207, on left bank 150 ft upstream from Division Street Bridge in Dover, 1,950 ft downstream from Silver Lake, and 12.5 mi upstream from mouth.

DRAINAGE AREA.--31.9 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.00 ft National Geodetic Vertical Datum of 1929. Prior to June 1973, at datum 0.50 ft higher.

REMARKS.--Records good. Flow affected by Silver Lake. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 37.9 ft<sup>3</sup>/s, 16.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft<sup>3</sup>/s Sept. 13, 1960, gage height, 9.45 ft, from flood-mark; no flow at times in 1959, 1961, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 650 ft<sup>3</sup>/s Mar. 30, gage height, 6.10 ft; maximum gage height, 6.53 ft Mar. 29 (backwater from storm tide); minimum daily discharge, 3.3 ft<sup>3</sup>/s Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.9	25	49	46	92	151	54	181	15	9.2	4.2
2	9.3	6.9	22	39	36	66	103	49	86	25	8.8	3.9
3	7.4	9.3	22	38	37	53	81	41	47	26	8.8	4.6
4	6.4	14	60	38	46	48	75	44	35	15	9.6	5.0
5	5.6	11	87	41	56	50	263	42	28	10	8.8	5.1
6	5.1	10	93	43	54	79	406	40	30	12	7.3	4.9
7	4.3	8.9	72	41	47	98	230	47	36	26	7.6	3.9
8	4.1	8.6	64	37	36	76	141	58	26	42	10	3.8
9	4.3	9.3	47	34	32	66	97	68	20	19	8.8	3.7
10	4.3	17	37	39	32	59	75	62	17	12	7.6	3.9
11	4.3	28	31	70	35	53	65	42	15	13	8.4	4.6
12	15	25	57	74	38	47	59	34	13	11	25	4.8
13	19	17	116	60	37	86	56	30	13	8.7	25	4.5
14	28	14	225	45	39	266	86	27	12	8.0	14	10
15	20	23	171	43	148	247	97	23	11	6.9	10	23
16	11	38	106	37	330	148	129	22	9.9	6.8	7.5	11
17	8.2	41	71	35	205	96	151	21	13	6.8	6.6	6.2
18	7.3	30	54	35	130	73	114	20	17	21	6.1	4.7
19	7.1	20	47	35	90	64	79	22	18	32	14	4.6
20	6.5	18	40	31	72	58	62	22	14	18	13	4.6
21	6.5	56	35	30	60	68	54	20	11	31	7.7	4.3
22	6.2	72	75	25	52	89	48	18	10	115	6.1	3.7
23	26	55	138	23	59	86	68	24	9.2	85	6.3	3.7
24	52	39	126	29	129	62	90	37	20	27	6.4	3.7
25	47	78	67	51	172	72	77	25	57	15	5.4	4.1
26	26	99	44	94	105	148	58	19	39	11	5.1	4.9
27	14	82	30	128	70	170	48	20	16	12	4.6	3.3
28	10	49	57	101	79	159	44	20	11	11	4.8	16
29	8.8	36	124	68	110	469	52	41	10	9.1	4.8	18
30	7.1	29	132	52	---	530	57	281	11	9.5	4.8	11
31	7.6	---	77	49	---	257	---	357	---	10	5.0	---
TOTAL	398.4	951.9	2352	1514	2382	3935	3116	1630	836.1	669.8	277.1	193.7
MEAN	12.9	31.7	75.9	48.8	82.1	127	104	52.6	27.9	21.6	8.94	6.46
MAX	52	99	225	128	330	530	406	357	181	115	25	23
MIN	4.1	6.9	22	23	32	47	44	18	9.2	6.8	4.6	3.3
CFSM	.40	.99	2.38	1.53	2.57	3.98	3.26	1.65	.88	.68	.28	.20
IN.	.46	1.11	2.74	1.77	2.78	4.59	3.63	1.90	.97	.78	.32	.23
CAL YR 1983	TOTAL	21008.6	MEAN	57.6	MAX	536	MIN	3.1	CFSM	1.81	IN	24.50
WTR YR 1984	TOTAL	18256.0	MEAN	49.9	MAX	530	MIN	3.3	CFSM	1.56	IN	21.29

## MURDERKILL RIVER BASIN

01484000 MURDERKILL RIVER NEAR FELTON, DE

LOCATION.--Lat 38°58'33", long 75°34'03", Kent County, Hydrologic Unit 02040207, 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 mi upstream from Killen Pond, 2.2 mi south of Felton, and 17.6 mi upstream from mouth.

DRAINAGE AREA.--13.6 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1432: 1932.

GAGE.--Water-stage recorder. Datum of gage is 21.87 ft National Geodetic Vertical Datum of 1929. July 1931 to October 1933, nonrecording gage at bridge 200 ft upstream at datum 2.00 ft higher. March 1951 to May 1960, nonrecording gage and crest-stage gage at bridge 200 ft upstream at datum 2.00 ft higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years (water years 1932-33, 1961-84), 18.7 ft<sup>3</sup>/s, 18.67 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,090 ft<sup>3</sup>/s Aug. 4, 1967, gage height, 8.83 ft; minimum discharge, 0.80 ft<sup>3</sup>/s Aug. 28, Sept. 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 4, 1967, is believed to have been the highest since that of 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 130 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2300	196	4.94	Apr. 5	1515	220	5.05
Feb. 15	1730	238	5.13	Apr. 16	1615	136	4.63
Mar. 14	0545	187	4.90	May 30	0730	*772	6.72
Mar. 29	1345	315	5.44				

Minimum daily discharge, 2.6 ft<sup>3</sup>/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.2	16	21	21	31	47	28	123	10	5.9	2.9
2	3.9	4.0	14	20	18	25	38	22	54	9.4	5.8	2.9
3	3.4	3.9	14	20	19	23	33	21	36	10	6.3	2.9
4	3.0	8.4	39	20	35	21	33	20	28	8.0	8.5	3.7
5	2.8	6.3	42	21	33	24	152	19	23	7.1	6.2	3.5
6	2.8	5.5	33	21	30	58	111	21	23	7.3	5.9	3.2
7	2.7	5.1	45	20	23	43	56	27	42	8.4	5.2	3.0
8	2.6	4.9	27	19	19	30	40	27	23	9.6	5.1	3.0
9	2.7	4.9	21	19	18	29	33	31	19	6.9	4.7	3.0
10	2.8	10	19	21	18	24	30	21	17	6.6	4.8	3.2
11	2.8	15	18	68	20	23	27	18	15	7.0	5.0	3.4
12	8.7	10	25	33	20	21	25	16	14	6.3	5.4	3.5
13	6.7	8.9	107	23	19	47	24	15	13	5.8	5.0	3.5
14	9.9	8.4	132	23	20	148	83	14	12	5.5	4.6	6.4
15	4.5	9.9	62	24	159	64	63	13	11	5.3	4.2	8.0
16	3.6	17	40	20	142	41	105	13	11	5.3	3.9	3.9
17	3.6	11	30	19	67	33	79	12	17	5.4	3.7	3.5
18	3.6	8.9	25	19	44	28	45	12	16	18	3.7	3.4
19	3.8	7.9	23	20	35	26	35	13	19	13	5.8	3.3
20	4.1	7.6	21	18	31	24	31	11	14	7.3	5.1	3.2
21	3.6	51	19	16	27	31	33	10	12	12	4.0	3.1
22	3.4	26	59	17	24	33	32	9.7	11	19	3.8	2.9
23	11	17	79	15	28	25	49	12	10	11	3.8	3.0
24	22	21	41	19	86	21	51	15	10	8.3	3.8	2.9
25	12	74	30	57	48	41	34	10	15	6.7	3.5	2.9
26	8.6	68	20	65	32	116	29	9.6	11	6.2	3.5	2.9
27	6.4	29	19	42	26	72	26	43	9.4	9.4	3.4	2.9
28	5.5	22	42	33	45	66	26	21	8.6	7.2	3.3	9.3
29	4.9	20	102	25	47	281	32	40	8.7	6.8	3.3	6.8
30	4.3	17	42	23	---	175	30	565	9.8	6.9	3.4	4.6
31	4.2	---	25	25	---	75	---	304	---	6.5	3.2	---
TOTAL	168.4	506.8	1231	806	1154	1699	1432	1413.3	635.5	262.2	143.8	114.7
MEAN	5.43	16.9	39.7	26.0	39.8	54.8	47.7	45.6	21.2	8.46	4.64	3.82
MAX	22	74	132	68	159	281	152	565	123	19	8.5	9.3
MIN	2.6	3.9	14	15	18	21	24	9.6	8.6	5.3	3.2	2.9
CFSM	.40	1.24	2.92	1.91	2.93	4.03	3.51	3.35	1.56	.62	.34	.28
IN.	.46	1.39	3.37	2.20	3.16	4.65	3.92	3.87	1.74	.72	.39	.31

CAL YR 1983 TOTAL 8316.8 MEAN 22.8 MAX 216 MIN 2.6 CFSM 1.68 IN 22.75  
WTR YR 1984 TOTAL 9566.7 MEAN 26.1 MAX 565 MIN 2.6 CFSM 1.92 IN 26.17

## MISPILLION RIVER BASIN

39

01484100 BEAVERDAM BRANCH AT HOUSTON, DE

LOCATION.--Lat 38°54'20", long 75°30'49", Kent County, Hydrologic Unit 02040207, on left bank 15 ft upstream from bridge on State Highway 384, 0.8 mi south of Houston, and 1.2 mi upstream from Blairs Pond and mouth.

DRAINAGE AREA.--2.83 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control; timber control prior to Nov. 8, 1979. Datum of gage is 35.67 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversion for irrigation of about 150 acres above station during some years. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 3.77 ft<sup>3</sup>/s, 18.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft<sup>3</sup>/s Sept. 12, 1960, gage height, 5.55 ft; no flow July 28, 1977 (result of pumpage for irrigation).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 14	0215	39	3.22	Apr. 5	1115	65	3.62
Mar. 29	0915	69	3.67	May 30	0800	*149	4.60

Minimum discharge, 0.19 ft<sup>3</sup>/s Sept. 7, 8, gage height, 2.27 ft, result of irrigation; minimum daily discharge, 0.42 ft<sup>3</sup>/s Sept. 8.

REVISIONS.--The maximum discharges for the water years 1981 and 1983 have been revised to 43 ft<sup>3</sup>/s Oct. 25, 1980, gage height, 3.28 ft, and 50 ft<sup>3</sup>/s Apr. 16, 1983, gage height, 3.39 ft, superseding figures published in reports for 1981 and 1983.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.7	3.3	4.7	4.7	6.7	11	6.4	22	3.5	2.4	1.4
2	1.5	1.7	3.2	4.4	4.4	6.3	9.7	6.0	14	3.1	2.3	1.4
3	1.5	1.7	3.2	4.7	4.5	5.9	8.5	6.0	10	3.3	2.5	1.4
4	1.4	1.8	6.6	4.7	6.3	5.6	8.7	6.2	8.6	3.0	2.3	1.3
5	1.4	1.7	4.8	4.7	6.0	6.4	44	5.9	7.4	2.9	2.2	1.3
6	1.4	1.7	5.4	4.4	5.4	11	19	6.0	7.3	3.1	2.1	1.1
7	1.3	1.7	7.5	4.4	4.8	7.6	13	6.3	8.7	3.4	2.0	.61
8	1.3	1.7	4.8	4.2	4.5	6.6	11	6.5	6.8	3.1	2.0	.42
9	1.3	1.7	4.4	3.9	4.4	6.7	9.1	6.9	6.2	2.8	2.0	1.0
10	1.3	1.9	4.3	5.6	4.4	6.0	8.4	5.9	5.8	2.8	2.0	1.2
11	1.3	1.9	4.2	14	4.6	5.9	7.9	5.6	5.4	2.9	2.0	1.1
12	1.8	1.6	5.2	6.0	4.7	5.4	7.5	5.5	5.1	3.2	2.4	1.2
13	1.6	1.5	14	5.0	4.5	13	7.2	5.2	5.0	2.8	2.2	1.3
14	1.8	1.5	9.5	5.0	4.8	22	9.1	5.2	4.8	2.7	2.0	1.3
15	1.5	1.9	6.6	5.0	17	10	12	5.0	4.7	2.6	1.9	1.5
16	1.4	2.7	5.8	4.7	11	8.8	15	4.9	4.6	2.6	1.9	1.3
17	1.4	2.2	5.4	4.7	7.9	7.8	11	4.8	5.5	2.6	1.8	1.1
18	1.4	1.9	5.3	4.7	7.5	7.2	9.1	4.7	4.9	4.0	1.7	1.1
19	1.4	1.9	5.1	4.7	6.8	6.9	8.2	4.8	5.5	3.1	2.0	1.1
20	1.4	1.9	4.7	4.4	6.5	6.6	7.5	4.5	4.2	2.7	1.9	1.1
21	1.3	5.4	4.6	4.2	6.1	7.6	7.1	4.3	4.0	3.5	1.7	1.1
22	1.3	2.8	12	3.9	5.7	7.1	6.7	4.1	3.9	3.4	1.7	.87
23	1.8	2.5	8.6	3.7	7.2	6.3	9.9	4.7	3.7	2.9	1.7	.59
24	2.6	3.1	6.5	3.9	11	6.0	9.1	4.9	3.9	2.8	1.6	.82
25	2.0	8.3	5.2	11	7.6	11	7.7	4.3	3.9	2.6	1.4	.98
26	1.8	4.7	4.7	11	6.4	17	6.9	4.1	3.6	2.5	1.5	.98
27	1.7	3.8	4.7	7.6	6.0	11	6.5	15	3.4	3.0	1.5	.93
28	1.7	3.7	11	6.3	9.9	19	6.2	8.8	3.3	2.7	1.5	1.5
29	1.6	3.6	6.3	5.0	8.4	60	6.8	8.3	3.3	2.6	1.5	1.3
30	1.6	3.4	5.3	4.7	---	24	6.5	98	3.6	2.6	1.5	1.2
31	1.7	---	5.0	5.0	---	14	---	58	---	2.5	1.5	---
TOTAL	48.1	77.6	187.2	170.2	193.0	345.4	310.3	326.8	183.1	91.3	58.7	33.50
MEAN	1.55	2.59	6.04	5.49	6.66	11.1	10.3	10.5	6.10	2.95	1.89	1.12
MAX	2.6	8.3	14	14	17	60	44	98	22	4.0	2.5	1.5
MIN	1.3	1.5	3.2	3.7	4.4	5.4	6.2	4.1	3.3	2.5	1.4	.42
CFSM	.55	.92	2.13	1.94	2.35	3.92	3.64	3.71	2.16	1.04	.67	.40
IN.	.63	1.02	2.46	2.24	2.54	4.54	4.08	4.29	2.41	1.20	.77	.44

CAL YR 1983 TOTAL 1569.92 MEAN 4.30 MAX 34 MIN .70 CFSM 1.52 IN 20.63  
WTR YR 1984 TOTAL 2025.20 MEAN 5.53 MAX 98 MIN .42 CFSM 1.95 IN 26.61

01484500 STOCKLEY BRANCH AT STOCKLEY, DE

LOCATION.--Lat 38°38'19", long 75°20'31", Sussex County, Hydrologic Unit 02060010, on left bank at highway bridge in Stockley, 1.6 mi upstream from mouth, and 4.4 mi southeast of Georgetown.

DRAINAGE AREA.--5.24 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.54 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 16, 1950, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years, 7.04 ft<sup>3</sup>/s, 18.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 217 ft<sup>3</sup>/s Feb. 26, 1979, gage height, 5.01 ft; minimum discharge observed, 0.13 ft<sup>3</sup>/s Sept. 1-11, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 45 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 14	0345	73	3.49	Apr. 5	1130	91	3.73
Mar. 26	1330	46	3.05	May 30	0945	55	3.21
Mar. 29	1300	*118	4.06	May 31	1045	71	3.45

Minimum discharge, 1.1 ft<sup>3</sup>/s Sept. 25, 26, 27, gage height, 1.81 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	3.8	11	11	12	14	24	12	29	5.7	3.7	1.9
2	6.3	3.8	9.9	10	11	13	22	11	21	5.2	4.9	1.9
3	4.3	3.8	9.7	10	11	12	20	11	18	5.3	6.0	1.9
4	3.9	3.8	18	10	13	11	20	12	15	5.0	4.5	1.9
5	3.8	3.6	16	9.9	14	12	70	12	13	4.7	4.0	1.7
6	4.0	3.6	15	9.7	12	18	38	11	12	4.6	3.7	1.6
7	3.6	3.5	18	9.3	11	16	28	12	11	5.1	3.5	1.6
8	3.4	3.5	14	8.8	9.9	14	23	12	10	5.1	3.4	1.6
9	3.4	3.3	12	8.4	9.7	13	21	13	9.7	4.5	3.2	1.5
10	3.0	4.1	11	11	9.3	12	20	11	9.0	4.5	3.1	1.6
11	3.0	4.2	11	33	9.8	11	19	10	8.4	4.4	3.3	1.6
12	4.2	3.6	14	19	9.7	10	17	9.6	8.0	4.9	3.3	1.6
13	3.7	3.3	30	16	9.4	25	16	9.2	7.7	4.1	3.3	1.6
14	3.7	3.4	25	15	9.6	50	23	8.8	7.4	3.9	3.1	1.6
15	3.2	5.4	20	15	24	26	22	8.4	7.0	3.8	3.1	1.7
16	3.1	18	17	14	21	21	27	7.9	6.8	3.8	3.1	1.5
17	3.1	7.8	15	13	17	19	22	7.6	8.9	3.7	2.6	1.5
18	3.1	6.5	14	13	17	17	19	7.4	8.3	3.8	2.4	1.5
19	3.1	6.2	13	16	16	16	17	7.5	9.1	3.8	2.8	1.5
20	3.1	6.0	12	13	15	16	16	7.2	7.6	4.0	2.8	1.5
21	2.9	12	11	11	13	16	15	6.9	7.1	8.4	2.6	1.4
22	2.8	8.2	23	10	12	16	14	6.6	6.7	6.9	2.4	1.4
23	3.7	7.2	21	10	13	14	23	7.5	6.4	5.0	2.4	1.4
24	7.6	11	17	15	17	13	20	7.9	6.4	4.5	2.2	1.4
25	5.4	33	14	31	14	23	17	6.8	6.6	4.2	2.2	1.3
26	4.9	21	13	21	12	39	15	6.4	5.8	4.0	2.2	1.3
27	4.6	16	12	18	11	28	14	8.5	5.5	4.5	2.1	1.2
28	4.2	14	15	16	18	33	13	7.8	5.4	3.9	2.1	1.9
29	4.2	14	18	15	18	95	14	10	5.3	3.8	1.9	1.9
30	4.0	12	14	14	---	44	13	42	5.6	3.9	1.9	1.6
31	4.0	---	12	14	---	29	---	56	---	3.8	1.9	---
TOTAL	123.1	249.6	475.6	440.1	389.4	696	642	367.0	287.7	142.8	93.7	47.6
MEAN	3.97	8.32	15.3	14.2	13.4	22.5	21.4	11.8	9.59	4.61	3.02	1.59
MAX	7.6	33	30	33	24	95	70	56	29	8.4	6.0	1.9
MIN	2.8	3.3	9.7	8.4	9.3	10	13	6.4	5.3	3.7	1.9	1.2
CFSM	.76	1.59	2.92	2.71	2.56	4.29	4.08	2.25	1.83	.88	.58	.30
IN.	.87	1.77	3.38	3.12	2.76	4.94	4.56	2.60	2.04	1.01	.67	.34

CAL YR 1983 TOTAL 3935.5 MEAN 10.8 MAX 49 MIN 2.0 CFSM 2.06 IN 27.93  
WTR YR 1984 TOTAL 3954.6 MEAN 10.8 MAX 95 MIN 1.2 CFSM 2.06 IN 28.07

01485000 POCOMOKE RIVER NEAR WILLARDS, MD

LOCATION.--Lat 38°23'20", long 75°19'30", Worcester County, Hydrologic Unit 02060009, on left bank 30 ft downstream from bridge on State Highway 346, 0.6 mi upstream from Burnt Mill Branch, 1.3 mi east of Willards, 1.3 mi west of Whaleysville, and 50.3 mi upstream from mouth.

DRAINAGE AREA.--60.5 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 13.95 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1951-84), 72.6 ft<sup>3</sup>/s, 16.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,870 ft<sup>3</sup>/s Feb. 26, 1979, gage height, 13.88 ft; minimum discharge, 2.2 ft<sup>3</sup>/s Aug. 18, 19, 1957, gage height, 1.91 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 25	1600	722	10.11	Mar. 26	1600	524	8.96
Jan. 11	0800	569	9.24	Mar. 29	2200	*1070	11.61
Feb. 15	1400	602	9.44	Apr. 5	1800	789	10.44
Mar. 14	1000	892	10.92	May 31	2100	930	11.08

Minimum daily discharge, 6.7 ft<sup>3</sup>/s Sept. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	28	114	95	105	160	395	76	817	128	28	10
2	14	28	99	85	92	129	251	69	497	38	26	9.7
3	14	27	91	80	86	113	188	65	284	32	27	9.6
4	13	28	180	76	118	101	163	68	182	29	30	10
5	13	27	219	74	156	97	700	69	130	26	29	9.9
6	21	26	172	74	133	233	640	65	100	24	26	9.4
7	20	25	197	75	111	240	398	66	82	50	24	9.1
8	17	24	150	72	93	177	253	69	70	120	22	9.1
9	16	23	124	68	84	164	190	90	60	52	20	8.8
10	15	27	110	72	78	135	155	78	52	38	19	8.5
11	15	36	98	471	79	120	131	67	46	33	22	8.6
12	18	37	102	302	101	107	113	60	41	36	23	8.4
13	18	33	300	196	100	291	100	55	39	31	24	8.3
14	19	31	347	179	98	867	137	51	35	27	25	8.3
15	18	33	242	170	442	659	196	47	34	25	22	8.2
16	17	140	213	138	421	402	383	45	34	23	19	8.1
17	16	117	168	117	289	258	292	43	36	22	17	7.7
18	16	80	138	123	233	193	205	41	37	23	16	7.6
19	16	65	122	228	197	157	163	40	43	22	16	7.5
20	16	57	106	195	165	132	132	37	41	20	15	7.5
21	15	82	94	133	139	126	113	35	35	110	14	7.4
22	15	86	202	101	120	128	99	33	32	214	13	7.1
23	16	70	253	88	112	109	148	33	29	116	13	7.1
24	35	87	183	103	158	95	168	53	28	74	13	6.8
25	50	613	129	377	138	226	131	45	27	52	12	6.8
26	48	506	99	294	118	484	107	40	26	40	12	6.7
27	43	291	85	217	105	355	93	41	24	40	11	6.7
28	39	205	96	176	189	344	83	42	23	37	11	7.9
29	35	165	178	145	223	931	80	50	22	32	11	9.5
30	31	134	143	126	---	958	80	456	35	31	11	8.7
31	29	---	112	120	---	642	---	846	---	31	11	---
TOTAL	682	3131	4866	4770	4483	9133	6287	2875	2941	1576	582	249.0
MEAN	22.0	104	157	154	155	295	210	92.7	98.0	50.8	18.8	8.30
MAX	50	613	347	471	442	958	700	846	817	214	30	10
MIN	13	23	85	68	78	95	80	33	22	20	11	6.7
CFSM	.36	1.72	2.60	2.55	2.56	4.88	3.47	1.53	1.62	.84	.31	.14
IN.	.42	1.93	2.99	2.93	2.76	5.62	3.87	1.77	1.81	.97	.36	.15

CAL YR 1983 TOTAL 37315.0 MEAN 102 MAX 972 MIN 10 CFSM 1.69 IN 22.94  
WTR YR 1984 TOTAL 41575.0 MEAN 114 MAX 958 MIN 6.7 CFSM 1.88 IN 25.56



## 01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD

LOCATION.--Lat 38°13'44", long 75°28'19", Worcester County, Hydrologic Unit 02060009, on right bank 15 ft downstream from bridge on State Highway 12, 0.5 mi upstream from Furnace Branch, 0.6 mi downstream from Millville Creek, 5.5 mi northwest of Snow Hill, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--44.9 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1332: 1953.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 12.29 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1951-84), 55.1 ft<sup>3</sup>/s, 16.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft<sup>3</sup>/s Feb. 26, 1979, gage height, 7.95 ft; minimum discharge, 0.80 ft<sup>3</sup>/s Sept. 8, 9, 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 280 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 26	2100	407	5.85	Mar. 27	0500	534	6.23
Jan. 12	2200	399	5.82	Mar. 30	0400	*864	6.86
Jan. 26	1700	333	5.55	Apr. 6	0900	764	6.70
Feb. 16	1600	446	5.98	Apr. 17	0900	292	5.35
Mar. 15	0200	711	6.61	June 1	0700	770	6.71

Minimum daily discharge, 2.0 ft<sup>3</sup>/s Sept. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	10	73	84	77	133	264	52	712	57	30	3.0
2	4.5	9.1	62	68	66	105	172	48	438	61	26	2.9
3	4.2	9.1	54	62	65	80	124	44	238	77	23	2.6
4	3.9	8.8	76	59	75	67	112	48	137	64	21	3.6
5	3.6	8.2	107	59	97	62	402	51	79	52	18	4.6
6	3.6	7.8	148	60	113	114	712	51	53	32	15	3.9
7	3.5	7.8	146	61	101	223	450	52	38	21	12	3.2
8	3.5	7.8	124	58	79	231	254	52	29	23	11	2.9
9	3.4	7.8	111	55	66	168	166	57	23	45	9.9	2.8
10	3.4	10	87	60	61	128	119	56	19	58	8.4	2.8
11	3.3	13	72	189	58	102	94	53	15	37	8.2	2.9
12	8.6	12	67	328	66	83	80	43	17	29	16	2.9
13	8.8	11	91	324	75	123	72	34	15	27	18	2.7
14	7.1	10	172	192	80	486	82	30	12	31	15	2.8
15	6.0	16	260	140	177	625	103	26	12	25	12	2.9
16	4.9	63	202	108	400	354	204	23	14	17	9.1	2.8
17	4.5	65	148	100	354	211	283	21	29	13	7.3	2.7
18	4.3	68	111	97	224	143	220	20	30	18	6.2	2.9
19	4.1	63	86	164	152	107	146	19	30	21	6.5	2.9
20	4.3	48	72	195	116	88	103	17	29	19	8.7	2.8
21	4.2	54	63	191	92	82	81	16	31	43	7.7	2.6
22	3.9	42	87	122	78	81	70	14	26	124	6.1	2.5
23	5.5	37	160	79	72	78	86	14	17	177	5.1	2.3
24	49	43	216	73	85	72	120	19	12	148	4.7	2.1
25	39	138	143	173	92	108	135	18	11	83	4.4	2.1
26	28	337	89	311	91	348	101	15	10	44	4.1	2.0
27	21	343	64	271	77	492	76	14	9.6	44	4.0	2.1
28	18	205	68	184	88	346	63	13	7.9	43	3.8	2.7
29	14	125	112	132	116	581	58	17	7.4	38	3.6	4.3
30	12	89	133	103	---	794	54	114	19	34	3.6	4.8
31	10	---	115	88	---	463	---	450	---	33	3.3	---
TOTAL	298.8	1868.4	3519	4190	3293	7078	5006	1501	2119.9	1538	331.7	88.1
MEAN	9.64	62.3	114	135	114	228	167	48.4	70.7	49.6	10.7	2.94
MAX	49	343	260	328	400	794	712	450	712	177	30	4.8
MIN	3.3	7.8	54	55	58	62	54	13	7.4	13	3.3	2.0
CFM	.22	1.39	2.54	3.01	2.54	5.08	3.72	1.08	1.58	1.11	.24	.07
IN.	.25	1.55	2.92	3.47	2.73	5.86	4.15	1.24	1.76	1.27	.27	.07

CAL YR 1983 TOTAL 26940.2 MEAN 73.8 MAX 768 MIN 2.1 CFM 1.64 IN 22.32  
WTR YR 1984 TOTAL 30831.9 MEAN 84.2 MAX 794 MIN 2.0 CFM 1.88 IN 25.54

## MANOKIN RIVER BASIN

43

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD

LOCATION.--Lat 38°12'50", long 75°40'18", Somerset County, Hydrologic Unit 02060009, on right bank 45 ft downstream from farm bridge, 1.4 mi northeast of Princess Anne, and 1.6 mi upstream from confluence with Loretto Branch.

DRAINAGE AREA.--4.80 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1951 to September 1971, October 1974 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.03 ft National Geodetic Vertical Datum of 1929. Artificial control since Apr. 30, 1975. Nov. 26, 1968, to Sept. 30, 1971, water-stage recorder above and nonrecording gage below gage height 1.4 ft. Prior to Nov. 26, 1968, recording gage at datum 1.0 ft higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years (water years 1952-71, 1975-84), 4.67 ft<sup>3</sup>/s, 13.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 547 ft<sup>3</sup>/s Aug. 20, 1969, gage height, 5.44 ft, from rating curve extended above 27 ft<sup>3</sup>/s on basis of channel-conveyance study; no flow at times in 1954, 1963, 1964, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 25	0830	80	3.37	Mar. 26	1130	75	3.33
Dec. 13	1200	121	3.64	Mar. 29	0400	143	3.76
Jan. 11	0145	80	3.37	Apr. 5	0615	*198	4.01
Jan. 25	0415	67	3.27	May 30	0215	59	3.20
Mar. 13	1945	172	3.90	May 31	0600	82	3.39
Mar. 25	1645	88	3.43				

Minimum discharge, 0.43 ft<sup>3</sup>/s Oct. 10, 11, Sept. 27, gage height, 2.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.1	5.8	5.9	6.7	8.4	14	4.1	26	3.0	1.8	1.0
2	.94	1.1	5.2	5.5	5.9	6.9	11	3.7	14	2.7	1.6	.98
3	.80	1.1	4.9	5.3	5.8	6.1	9.6	3.7	8.6	14	2.3	.97
4	.72	1.1	23	5.2	11	5.4	14	4.2	6.4	4.5	1.9	1.1
5	.64	1.0	15	5.2	12	5.8	109	4.1	5.0	12	1.6	1.0
6	.57	1.0	12	5.5	8.7	36	39	3.9	4.3	2.3	1.5	.90
7	.51	.94	14	5.7	6.9	21	24	4.2	4.0	2.3	1.5	.82
8	.46	.89	9.2	5.1	5.4	13	15	4.2	3.7	3.0	1.3	.80
9	.46	.89	7.5	4.7	5.0	15	11	4.6	3.3	2.1	1.2	.79
10	.44	1.1	6.5	9.9	4.9	9.7	9.7	3.8	3.1	1.8	1.2	.80
11	.44	1.2	5.8	53	5.3	8.8	7.2	3.1	2.9	1.7	1.2	.78
12	.83	1.1	6.5	19	7.4	7.2	6.3	2.9	2.7	1.8	1.2	.74
13	.72	.99	58	12	6.8	59	5.7	2.7	2.6	1.6	3.0	.73
14	.76	.94	31	12	7.5	61	6.8	2.6	2.4	1.5	5.9	.72
15	.68	2.0	21	10	35	27	17	2.4	2.0	1.4	2.9	.72
16	.61	10	16	8.5	19	18	25	2.3	2.1	1.4	2.1	.65
17	.58	5.8	11	7.3	13	13	15	2.1	2.7	1.3	1.7	.58
18	.56	3.9	9.2	16	10	10	10	2.2	2.5	1.6	1.6	.57
19	.55	3.2	8.2	29	8.4	8.6	8.1	2.1	2.5	1.5	3.1	.58
20	.54	2.8	6.8	15	7.6	7.6	7.0	2.0	2.2	1.3	3.3	.57
21	.51	4.4	6.1	9.0	6.6	7.9	5.8	1.8	2.0	3.4	2.3	.55
22	.50	4.1	27	6.5	5.5	7.7	5.4	1.7	1.7	4.2	1.8	.51
23	.62	3.4	20	5.7	8.3	6.5	11	1.8	1.6	3.2	1.6	.51
24	3.3	9.7	13	9.0	13	5.8	9.7	2.1	1.5	2.5	1.5	.51
25	3.5	59	8.1	49	9.5	42	7.3	1.9	1.6	2.1	1.4	.50
26	2.3	23	6.0	24	7.4	55	5.9	1.7	1.5	1.8	1.4	.48
27	1.8	12	5.5	17	6.6	29	5.2	1.7	1.4	2.2	1.3	.45
28	1.5	9.7	9.3	12	16	37	4.6	1.7	1.4	1.9	1.3	.52
29	1.4	7.9	14	10	13	86	4.3	2.7	1.8	1.6	1.3	.61
30	1.2	6.5	9.5	8.7	---	33	4.3	37	2.4	1.9	1.2	.55
31	1.2	---	7.0	8.3	---	20	---	61	---	2.1	1.1	---
TOTAL	30.84	181.85	402.1	399.0	278.2	677.4	427.9	180.0	119.9	80.6	58.1	20.99
MEAN	.99	6.06	13.0	12.9	9.59	21.9	14.3	5.81	4.00	2.60	1.87	.70
MAX	3.5	59	58	53	35	86	109	61	26	14	5.9	1.1
MIN	.44	.89	4.9	4.7	4.9	5.4	4.3	1.7	1.4	1.3	1.1	.45
CFSM	.21	1.26	2.71	2.69	2.00	4.56	2.98	1.21	.83	.54	.39	.15
IN.	.24	1.41	3.12	3.09	2.16	5.25	3.32	1.39	.93	.62	.45	.16

CAL YR 1983 TOTAL 2359.01 MEAN 6.46 MAX 90 MIN .22 CFSM 1.35 IN 18.28  
WTR YR 1984 TOTAL 2856.88 MEAN 7.81 MAX 109 MIN .44 CFSM 1.63 IN 22.14

## NANTICOKE RIVER BASIN

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

LOCATION.--Lat 38°43'42", long 75°33'44", Sussex County, Hydrologic Unit 02060008, on left bank at downstream side of highway bridge, 800 ft downstream from Gum Branch, 2.5 mi southeast of Bridgeville, and 50.5 mi upstream from mouth.

DRAINAGE AREA.--75.4 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1111: 1947. WSP 1232: 1945-49.

GAGE.--Water-stage recorder. Datum of gage is 13.64 ft National Geodetic Vertical Datum of 1929 (levels by Soil Conservation Service). Prior to Apr. 19, 1947, nonrecording gage, and Apr. 19, 1947, to Dec. 18, 1969, recording gage at present site and datum. Timber control Sept. 3, 1947, to Dec. 18, 1969. Feb. 18, 1970, to Oct. 1, 1973, recording gage at site 300 ft downstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years, 92.8 ft<sup>3</sup>/s, 16.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,020 ft<sup>3</sup>/s Feb. 26, 1979, gage height, 10.31 ft; minimum discharge observed, 6.3 ft<sup>3</sup>/s Sept. 29, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 11.0 ft in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 360 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 11	1000	371	6.34	Mar. 29	1700	924	7.77
Feb. 15	1500	440	6.57	Apr. 5	1600	776	7.47
Mar. 14	0400	517	6.82	May 30	2200	*1270	8.37
Mar. 26	1700	491	6.74				

Minimum daily discharge, 32 ft<sup>3</sup>/s Sept. 24, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	40	72	135	119	157	306	165	586	146	69	40
2	38	40	70	129	113	147	272	158	369	113	69	40
3	37	40	70	126	112	140	250	155	292	114	85	40
4	37	42	99	123	122	133	239	161	252	104	78	40
5	36	40	115	122	130	135	588	157	222	98	71	40
6	36	41	102	119	126	191	474	149	202	102	69	40
7	35	40	148	115	118	189	340	151	209	101	65	38
8	34	39	120	109	111	166	287	149	189	106	64	38
9	34	39	106	105	109	165	257	163	175	93	63	37
10	33	44	101	109	107	153	240	153	164	89	61	36
11	34	46	97	287	111	148	227	143	155	89	60	37
12	39	42	100	178	111	140	214	139	147	89	61	37
13	38	41	205	146	108	190	203	134	139	83	60	37
14	38	40	234	139	110	433	207	130	134	78	58	37
15	36	44	165	134	341	276	226	125	130	76	56	39
16	34	55	147	129	298	232	286	122	123	77	54	38
17	34	51	136	126	219	208	268	119	133	73	53	36
18	34	48	128	124	197	191	232	118	136	89	51	36
19	34	47	126	128	183	182	212	117	163	100	53	34
20	34	47	120	118	173	174	198	114	147	84	54	34
21	34	68	115	111	163	177	188	110	131	93	51	34
22	33	61	179	105	154	180	180	106	124	99	48	34
23	38	55	217	104	151	168	224	107	118	89	49	33
24	50	57	167	114	201	158	235	116	117	85	48	32
25	46	109	147	285	178	198	208	104	123	80	47	33
26	43	120	135	213	160	422	189	101	113	77	46	33
27	41	87	129	165	149	342	180	164	107	82	45	32
28	40	80	151	147	164	328	173	161	102	78	45	38
29	40	78	234	135	176	821	168	149	102	75	14	38
30	39	74	164	128	---	578	168	809	116	75	45	35
31	39	---	143	126	---	370	---	1130	---	73	42	---
TOTAL	1156	1655	4242	4334	4514	7492	7439	5879	5220	2810	1764	1096
MEAN	37.3	55.2	137	140	156	242	248	190	174	90.6	56.9	36.5
MAX	50	120	234	287	341	821	588	1130	586	146	85	40
MIN	33	39	70	104	107	133	168	101	102	73	42	32
CFSM	.50	.73	1.82	1.86	2.07	3.21	3.29	2.52	2.31	1.20	.76	.48
IN.	.57	.82	2.09	2.14	2.23	3.70	3.67	2.90	2.58	1.39	.87	.54
CAL YR 1983	TOTAL	37071	MEAN 102	MAX 505	MIN 25	CFSM 1.35	IN 18.29					
WTR YR 1984	TOTAL	47601	MEAN 130	MAX 1130	MIN 32	CFSM 1.72	IN 23.48					

## 01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE

LOCATION.--Lat 38°50'59", long 75°40'24", Kent County, Hydrologic Unit 02060008, on left bank 45 ft upstream from highway bridge, 1.4 mi upstream from Cattail Branch, 1.6 mi northeast of Adamsville, 4.9 mi northwest of Greenwood, and 33 mi upstream from mouth.

DRAINAGE AREA.--43.9 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to March 1969, October 1971 to current year.

REVISED RECORDS.--WSP 1141: 1948(P). WSP 1432: 1946(M), 1948, 1952.

GAGE.--Water-stage recorder. Datum of gage is 26.21 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1953, nonrecording gage and crest-stage gage, and Nov. 24, 1953, to March 1969, recording gage at site on old channel about 240 ft southeast of present site at datum 2.00 ft higher.

REMARKS.--Records good except those affected by backwater from debris, Feb. 15 to Mar. 27, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years (water years 1944-68, 1972-84), 55.5 ft<sup>3</sup>/s, 17.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft<sup>3</sup>/s July 13, 1975, gage height, 13.19 ft; maximum gage height, 13.98 ft Aug. 5, 1967, present datum; minimum discharge, 1.0 ft<sup>3</sup>/s Sept. 9, 10, 1964, Aug. 20, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.5 ft, present datum, in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4.0 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 25	1500	455	4.88	Mar. 26	1100	481	a5.07
Dec. 13	1530	891	6.47	Mar. 29	0845	1510	8.35
Feb. 15	0815	1240	a7.68	Apr. 5	0915	1290	7.72
Feb. 24	0200	472	a5.17	May 30	1130	*2800	a12.65
Mar. 14	0030	906	a6.65				

a Debris jam

Minimum discharge, 10 ft<sup>3</sup>/s Sept. 27, gage height, 2.17 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	17	60	75	62	93	155	65	289	36	21	14
2	14	17	56	69	55	77	127	61	177	31	23	13
3	13	17	54	65	53	68	110	59	128	35	30	13
4	13	17	137	63	90	61	103	60	105	29	23	13
5	13	17	140	63	99	61	745	57	94	28	21	13
6	13	16	115	61	93	181	271	55	99	29	20	13
7	13	16	176	60	72	125	176	59	114	27	21	12
8	12	16	107	56	61	93	135	62	83	26	22	12
9	12	15	87	53	56	87	113	72	70	24	20	12
10	13	17	78	61	53	71	101	63	62	23	19	12
11	12	19	71	232	54	65	92	55	57	23	19	12
12	14	20	88	102	57	58	84	52	52	26	20	12
13	14	18	524	78	56	240	77	49	48	24	20	12
14	17	18	280	73	60	470	129	46	45	22	18	14
15	16	19	169	73	910	186	141	44	42	20	17	21
16	14	28	132	67	398	136	315	42	39	20	17	14
17	13	33	108	62	213	110	187	40	43	21	17	12
18	13	28	95	60	175	91	136	39	43	37	17	12
19	13	25	88	61	136	78	115	39	71	34	18	12
20	13	24	78	56	117	71	98	38	53	25	18	12
21	13	134	71	52	100	83	88	37	43	39	16	12
22	12	71	235	48	86	100	78	35	40	47	16	11
23	15	49	194	47	97	77	106	37	38	35	16	11
24	25	52	131	55	295	66	117	38	38	29	16	11
25	31	281	101	223	152	154	97	35	39	25	15	12
26	24	158	78	169	108	399	82	35	36	24	15	12
27	21	97	69	122	90	205	74	125	34	25	15	11
28	19	81	170	94	138	432	68	84	33	24	15	13
29	19	75	229	75	136	1300	65	193	32	23	15	13
30	18	66	119	66	---	388	65	2500	38	22	14	12
31	17	---	87	69	---	207	---	1110	---	21	14	---
TOTAL	483	1461	4127	2510	4072	5833	4250	5286	2085	854	568	378
MEAN	15.6	48.7	133	81.0	140	188	142	171	69.5	27.5	18.3	12.6
MAX	31	281	524	232	910	1300	745	2500	289	47	30	21
MIN	12	15	54	47	53	58	65	35	32	20	14	11
CFSM	.36	1.11	3.03	1.85	3.19	4.28	3.24	3.90	1.58	.63	.42	.29
IN.	.41	1.24	3.50	2.13	3.45	4.94	3.60	4.48	1.77	.72	.48	.32

CAL YR 1983 TOTAL 27581 MEAN 75.6 MAX 1250 MIN 12 CFSM 1.72 IN 23.37  
WTR YR 1984 TOTAL 31907 MEAN 87.2 MAX 2500 MIN 11 CFSM 1.99 IN 27.04

01489000 FAULKNER BRANCH AT FEDERALSBURG, MD

LOCATION---Lat 38°42'44", long 75°47'34", Caroline County, Hydrologic Unit 02060008, on right bank 25 ft downstream from bridge on Laurel Grove Road, 0.9 mi upstream from mouth, and 1.6 mi northwest of Federalsburg.

DRAINAGE AREA---7.10 mi<sup>2</sup>.

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

REVISED RECORDS---WSP 1552: 1952. WSP 2103: 1960(M).

GAGE---Water-stage recorder and concrete control. Datum of gage is 16.70 ft National Geodetic Vertical Datum of 1929.

REMARKS---Records good. Diversion for irrigation of about 100 acres above station during some years. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE---34 years, 9.23 ft<sup>3</sup>/s, 17.66 in/yr.

EXTREMES FOR PERIOD OF RECORD---Maximum discharge, 1,680 ft<sup>3</sup>/s July 13, 1975, gage height, 5.98 ft, from rating curve extended above 400 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; no flow at times during many years (result of pumpage for irrigation).

EXTREMES OUTSIDE PERIOD OF RECORD---Flood in 1935 is believed to have been higher than that of July 13, 1975, from information by local resident.

EXTREMES FOR CURRENT YEAR---Peak discharges above base of 60 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	2130	180	3.28	Mar. 13	2100	232	3.54
Dec. 13	1230	252	3.63	Mar. 26	1130	98	2.74
Dec. 22	1230	77	2.51	Mar. 28	1930	182	3.29
Dec. 28	1730	108	2.83	Mar. 29	0230	230	3.53
Jan. 11	0045	211	3.44	Apr. 5	0530	404	4.21
Jan. 25	0400	89	2.65	May 27	0545	69	2.42
Jan. 25	1730	73	2.47	May 30	0145	*1290	5.59
Feb. 15	0115	299	3.83	June 19	0515	164	3.19
Feb. 23	2100	115	2.88				

Minimum discharge, 1.3 ft<sup>3</sup>/s Oct. 1, 5, Sept. 24, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.0	7.4	15	13	17	27	13	49	12	7.8	1.9
2	1.5	1.9	7.1	14	13	16	24	13	34	9.3	6.8	1.8
3	1.5	1.9	7.0	14	13	15	22	13	28	19	5.6	2.2
4	1.4	1.9	18	13	15	14	24	13	24	12	12	2.8
5	1.4	1.7	12	13	16	16	184	12	21	9.7	8.6	2.7
6	1.4	1.9	15	13	16	26	46	12	19	9.1	7.1	2.6
7	1.4	1.7	22	12	15	21	32	12	18	7.8	6.5	1.7
8	1.4	1.7	13	11	14	19	26	14	16	8.5	7.5	1.7
9	1.4	1.7	12	11	14	19	23	15	15	7.5	5.0	1.7
10	1.4	1.9	11	24	13	17	21	12	14	5.8	5.2	1.7
11	1.4	2.4	11	56	13	16	20	11	12	6.8	5.5	1.7
12	1.7	2.2	34	18	13	15	18	11	12	7.8	5.8	1.9
13	1.9	2.0	105	16	13	68	18	11	12	6.5	5.9	1.7
14	3.0	2.0	36	16	19	56	23	9.8	11	5.0	5.2	2.4
15	2.4	2.2	26	15	107	30	20	8.9	9.6	4.4	4.3	8.1
16	2.2	3.2	22	14	41	26	35	9.2	9.6	4.7	3.2	3.2
17	2.0	2.9	19	14	29	23	26	8.9	11	5.3	3.3	2.7
18	2.0	2.6	18	14	27	21	22	8.7	10	13	3.7	2.6
19	2.0	2.6	17	13	24	20	19	8.8	51	10	3.7	1.9
20	2.0	2.7	16	12	22	19	18	8.5	16	7.5	3.7	1.8
21	1.9	14	15	11	20	19	17	8.0	13	21	2.7	2.2
22	1.9	5.9	38	11	18	18	16	8.1	12	21	3.0	1.9
23	2.9	4.8	26	11	31	16	28	8.9	9.9	14	2.1	2.0
24	4.2	6.0	21	18	33	15	22	9.7	11	12	2.6	2.0
25	3.0	23	18	58	23	27	19	7.9	11	9.9	2.6	1.6
26	2.6	12	16	26	20	64	16	7.7	9.6	9.8	2.2	1.7
27	2.4	9.5	15	20	18	33	16	32	8.4	11	2.1	2.0
28	2.2	8.9	37	17	21	70	15	19	8.3	9.5	2.0	2.6
29	2.2	8.5	24	15	19	162	14	68	7.8	8.6	1.9	2.5
30	2.0	7.8	17	14	---	47	14	494	9.6	8.5	2.0	2.4
31	2.0	---	16	14	---	32	---	106	---	8.1	2.0	---
TOTAL	62.1	143.5	671.5	543	653	977	825	994.1	492.8	305.1	141.6	69.7
MEAN	2.00	4.78	21.7	17.5	22.5	31.5	27.5	32.1	16.4	9.84	4.57	2.32
MAX	4.2	23	105	58	107	162	184	494	51	21	12	8.1
MIN	1.4	1.7	7.0	11	13	14	14	7.7	7.8	4.4	1.9	1.6
CFSM	.28	.67	3.06	2.47	3.17	4.44	3.87	4.52	2.31	1.39	.64	.33
IN.	.33	.75	3.52	2.84	3.42	5.12	4.32	5.21	2.58	1.60	.74	.37

CAL YR 1983 TOTAL 4156.66 MEAN 11.4 MAX 276 MIN .66 CFSM 1.61 IN 21.78  
WTR YR 1984 TOTAL 5878.40 MEAN 16.1 MAX 494 MIN 1.4 CFSM 2.27 IN 30.80

## CHOPTANK RIVER BASIN

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01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

LOCATION.--Lat 38°59'50", long 75°47'09", Caroline County, Hydrologic Unit 02060005, on left bank at highway bridge, 0.1 mi upstream from Gravelly Branch, 2.0 mi northeast of Greensboro, and 60 mi upstream from mouth.

DRAINAGE AREA.--113 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1622: 1948. WDR MD-DE-79-1: 1961(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.51 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Diversions for irrigation of about 500 acres above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 134 ft<sup>3</sup>/s, 16.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,970 ft<sup>3</sup>/s Aug. 4, 1967, gage height, 14.47 ft, from rating curve extended above 3,600 ft<sup>3</sup>/s; minimum discharge, 1.2 ft<sup>3</sup>/s Aug. 29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of Aug. 4, 1967, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	0830	1950	8.71	Mar. 30	0015	*2600	9.79
Feb. 16	0500	1570	7.92	Apr. 6	0130	2450	9.57
Mar. 14	1915	1420	7.56	May 31	0300	1600	7.98

Minimum daily discharge, 11 ft<sup>3</sup>/s Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	49	172	208	186	310	579	182	844	55	42	15
2	31	42	155	181	161	244	403	180	493	56	39	17
3	27	42	144	168	142	214	289	163	292	60	42	16
4	25	54	190	161	152	194	259	158	230	52	48	19
5	24	52	389	161	223	184	1250	156	186	44	46	24
6	26	46	336	160	227	233	1900	149	154	47	41	21
7	25	42	328	158	207	330	889	166	153	52	35	19
8	23	42	288	151	175	267	550	186	159	66	38	15
9	23	41	243	141	153	239	367	218	136	54	39	14
10	23	62	194	139	144	221	277	225	113	45	34	17
11	23	63	178	264	142	200	253	185	97	45	34	18
12	32	69	198	322	149	186	232	157	86	39	34	19
13	50	66	931	216	152	229	216	143	78	32	35	19
14	56	68	1740	177	151	1070	428	130	75	31	35	19
15	54	54	921	175	664	948	549	119	71	33	30	22
16	39	91	514	166	1380	537	598	111	64	32	24	21
17	34	146	325	151	791	348	706	104	72	29	21	17
18	34	100	273	143	519	269	476	100	77	40	25	17
19	33	83	241	145	357	242	307	99	86	82	27	16
20	34	83	212	132	276	222	258	98	75	64	33	14
21	31	209	185	133	248	217	229	93	65	58	27	13
22	29	293	251	117	220	252	207	86	59	207	25	14
23	43	196	663	119	208	247	213	84	56	208	23	14
24	101	162	473	118	557	211	255	114	58	112	23	13
25	132	329	254	172	609	220	253	103	97	74	22	11
26	98	660	208	423	353	690	221	86	118	60	18	13
27	60	400	186	448	256	807	196	111	74	61	20	14
28	50	245	209	277	255	579	178	105	59	59	14	20
29	53	215	568	222	379	1690	170	110	55	52	20	30
30	49	196	518	192	---	2010	172	881	53	50	22	24
31	41	---	264	186	---	913	---	1410	---	49	19	---
TOTAL	1337	4200	11751	5926	9436	14523	12880	6212	4235	1948	935	525
MEAN	43.1	140	379	191	325	468	429	200	141	62.8	30.2	17.5
MAX	132	660	1740	448	1380	2010	1900	1410	844	208	48	30
MIN	23	41	144	117	142	184	170	84	53	29	14	11
CFSM	.38	1.24	3.35	1.69	2.88	4.14	3.80	1.77	1.25	.56	.27	.16
IN.	.44	1.38	3.87	1.95	3.11	4.78	4.24	2.04	1.39	.64	.31	.17

CAL YR 1983 TOTAL 76727 MEAN 210 MAX 2320 MIN 19 CFSM 1.86 IN 25.26  
WTR YR 1984 TOTAL 73908 MEAN 202 MAX 2010 MIN 11 CFSM 1.79 IN 24.33

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1974 to current year.

SUSPENDED SEDIMENT: October 1980 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 28.0°C July 23, 1978, and July 22, 1980; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 77 mg/L May 12, 1981; minimum daily mean, 1 mg/L on many days during water years 1982-84.

SEDIMENT LOADS: Maximum daily, 363 tons Apr. 16, 1983; minimum daily, 0.02 ton Aug. 30, Sept. 7, 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily, 26.5°C June 11; minimum daily, 0.0°C Jan. 16, 17, 23.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 71 mg/L Nov. 21; minimum daily mean, 1 mg/L on many days during the water year.

SEDIMENT LOADS: Maximum daily, 280 tons Dec. 14; minimum daily, 0.03 ton Sept. 25.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
AUG 16...	1150	31	152	7.1	24.0	20.0	766	2.9	8.5	93	93

DATE	STREP- TOCOCOI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY LAB (MG/L AS CACO3)
AUG 16...	350	48	23	13	3.8	9.1	27	.6	3.9	25

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
AUG 16...	3.8	15	17	<.10	14	124	92	.17	10	1.2

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
AUG 16...	<.010	.60	.080	.25	.060	.010	.03	20	2	120

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
AUG 16...	<.5	<1	<1	<3	2	500	3	<4	37	1.8

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
AUG 16...	<10	2	<1	2	120	<6	16	2	.17	100



01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 08...	1200	41	165	7.1	16.0	11.0	768	2.0	10.8	97	24	600
FEB 14...	1100	152	122	6.6	18.0	9.0	769	8.5	11.5	99	56	100
MAY 16...	1030	110	128	7.1	11.0	13.0	771	4.0	9.8	92	26	250
AUG 01...	1000	43	142	6.7	24.5	21.0	771	3.5	8.0	89	30	160
DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 08...	48	27	13	3.7	9.6	29	.6	2.8	21	3.2	20	18
FEB 14...	34	23	8.6	2.9	6.9	30	.5	1.9	11	5.9	19	12
MAY 16...	36	21	9.6	3.0	6.9	28	.5	1.8	16	2.5	19	12
AUG 01...	41	19	11	3.2	7.5	27	.5	2.2	22	8.5	16	15
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)
NOV 08...	.10	16	103	96	.14	11	1.2	.040	.05	.70	.060	.18
FEB 14...	.10	15	93	74	.13	38	1.3	.110	.14	1.3	.060	.18
MAY 16...	.20	13	94	76	.13	28	1.1	.300	.39	2.7	.060	.18
AUG 01...	<.10	16	118	85	.16	14	1.2	.030	.04	.20	.020	--
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 08...	.010	<.010	--	40	1	84	<.5	1	<1	<3	1	4
FEB 14...	.020	<.010	--	30	<1	86	<.5	<1	<1	3	1	5
MAY 16...	.010	<.010	--	30	<1	77	<1	<1	<1	<3	2	3
AUG 01...	<.010	.040	.12	30	<1	80	<.0	<1	1	<3	<1	1
DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 08...	33	.1	<10	1	<1	--	110	<6	12	--	--	--
FEB 14...	29	<.1	<10	6	<1	<1	83	<6	21	6	2.5	85
MAY 16...	93	<.1	<10	3	<1	<1	93	<6	10	4	1.2	97
AUG 01...	32	.1	<10	1	<1	<1	110	<6	5	5	.58	75

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	10.0	7.5	.5	2.0	4.5	9.0	18.0	---	23.5	---	21.0
2	17.5	9.5	5.0	.5	2.0	5.5	9.5	16.0	16.5	---	24.0	21.5
3	18.0	---	6.5	1.0	2.5	4.5	10.5	15.0	16.0	24.0	24.0	24.0
4	18.0	11.0	---	2.0	5.5	4.0	---	---	19.0	23.5	24.5	22.0
5	19.0	9.0	5.5	3.5	3.5	4.0	12.5	15.5	20.0	25.5	25.5	20.0
6	19.5	8.5	5.5	3.5	3.5	---	---	15.0	22.0	---	---	18.5
7	18.0	8.0	7.5	3.5	2.5	---	10.5	14.5	---	---	25.0	---
8	17.0	9.5	6.5	2.5	1.5	---	11.0	16.0	---	22.0	26.0	17.5
9	16.0	10.5	4.5	2.0	1.0	---	11.5	16.5	26.0	21.0	25.0	18.0
10	16.0	10.5	5.0	3.0	4.0	---	11.0	16.5	---	22.0	24.5	19.5
11	16.0	10.0	6.0	1.5	7.0	---	12.0	18.0	26.5	24.0	25.0	20.5
12	18.0	9.0	11.5	.5	9.0	---	---	17.0	26.0	25.0	25.0	---
13	19.5	7.5	12.0	.5	8.0	---	15.0	18.0	25.5	---	25.5	20.5
14	---	8.5	12.0	1.0	9.0	6.5	13.5	16.0	26.0	---	---	---
15	---	8.0	11.0	2.0	11.0	5.0	---	14.5	24.5	25.0	25.0	20.5
16	15.0	9.5	9.5	.0	10.5	8.0	14.0	14.0	20.0	26.0	25.0	---
17	15.0	8.5	8.5	.0	9.5	8.0	14.0	14.0	19.0	25.5	23.0	18.5
18	15.0	7.0	7.5	.5	9.5	8.0	13.5	13.5	20.5	25.0	24.0	14.5
19	15.0	8.5	4.0	.5	10.5	9.0	15.0	17.0	22.0	---	23.0	14.0
20	14.0	---	---	.5	10.5	8.5	15.5	19.5	23.0	23.5	22.0	15.0
21	14.0	12.0	1.0	---	9.0	11.0	15.0	21.0	23.0	23.0	21.0	15.5
22	12.5	11.5	5.5	---	---	9.5	12.0	23.5	22.0	21.5	21.5	---
23	12.5	10.5	5.0	.0	7.0	---	10.0	22.5	---	23.0	22.0	17.0
24	14.0	13.0	3.5	.5	9.0	---	11.0	21.0	21.5	25.0	20.0	17.0
25	14.0	9.5	.5	1.0	9.5	12.5	8.0	---	22.0	25.0	---	20.0
26	13.5	8.0	.5	.5	---	8.0	12.5	21.5	22.5	23.5	19.5	---
27	12.0	8.0	.5	1.0	5.0	8.5	---	---	22.5	24.0	---	---
28	12.0	9.5	.5	2.0	7.0	9.5	16.0	---	23.0	22.0	22.0	14.0
29	12.0	11.5	.5	2.5	5.5	8.0	18.0	20.0	---	22.0	23.0	14.0
30	11.0	9.0	.5	3.5	---	6.5	16.0	16.5	22.5	21.0	23.0	---
31	8.5	---	.5	4.0	---	6.0	---	15.5	---	22.0	23.0	---

## SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1	.09	1	.13	3	1.4	11	6.2	6	3.0	14	12
2	1	.08	2	.23	4	1.7	8	3.9	4	1.7	11	7.2
3	1	.07	2	.23	3	1.2	5	2.3	5	1.9	8	4.6
4	1	.07	2	.29	6	3.7	5	2.2	6	2.5	6	3.1
5	5	.32	4	.56	22	24	6	2.6	8	4.8	5	2.5
6	6	.42	2	.25	15	14	7	3.0	11	6.7	6	3.8
7	3	.20	2	.23	10	8.9	11	4.7	10	5.6	25	22
8	2	.12	3	.34	6	4.7	11	4.5	7	3.3	27	19
9	1	.06	3	.33	8	5.2	9	3.4	7	2.9	23	15
10	1	.06	6	1.0	8	4.2	5	1.9	6	2.3	11	6.6
11	8	.50	7	1.2	5	2.4	21	15	5	1.9	7	3.8
12	10	.82	7	1.3	7	4.2	22	19	4	1.6	5	2.5
13	7	.95	6	1.1	35	96	14	8.2	4	1.6	11	8.8
14	5	.76	3	.55	60	280	9	4.3	4	1.6	59	171
15	5	.73	5	.73	32	85	6	2.8	34	77	38	102
16	4	.42	9	2.2	21	29	5	2.2	47	179	16	24
17	5	.46	8	3.2	11	9.7	5	2.0	13	30	10	9.7
18	8	.73	6	1.6	6	4.5	6	2.3	13	17	7	5.1
19	7	.62	3	.67	7	4.6	5	2.0	9	8.7	7	4.6
20	2	.18	3	.67	6	3.4	8	2.9	6	4.5	6	3.6
21	2	.17	71	43	4	2.0	10	3.6	4	2.7	5	2.9
22	2	.16	47	37	7	4.9	8	2.5	5	3.0	9	6.1
23	4	.49	23	12	21	39	7	2.2	7	3.9	7	4.7
24	11	3.0	20	8.7	17	22	6	1.9	7	11	4	2.3
25	12	4.3	30	27	8	5.5	8	3.6	9	14	5	2.7
26	7	1.9	33	58	6	3.4	15	18	6	5.4	18	36
27	6	.97	28	31	8	4.0	17	21	5	3.5	20	44
28	6	.81	14	9.3	9	5.1	16	12	6	4.1	15	23
29	4	.57	6	3.5	31	48	11	6.6	12	12	35	168
30	3	.40	3	1.6	28	40	7	3.6	---	---	40	219
31	2	.22	---	---	11	7.8	7	3.5	---	---	21	56
TOTAL	---	20.65	---	247.91	---	769.5	---	173.9	---	417.2	---	995.6

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

**SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984**

[illegible]

## 01493000 UNICORN BRANCH NEAR MILLINGTON, MD

LOCATION.--Lat 39°14'59", long 75°51'40", Queen Annes County, Hydrologic Unit 02060002, on right bank 20 ft upstream from bridge on State Highway 313, 0.9 mi upstream from mouth, and 1.4 mi southwest of Millington.

DRAINAGE AREA.--22.3 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1382: 1952(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Occasional regulation at low and medium flow by Unicorn Lake Dam above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 25.2 ft<sup>3</sup>/s, 15.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft<sup>3</sup>/s Sept. 12, 1960, gage height, 7.17 ft; no flow for part of each day June 13, 14, 1965, caused by regulation at Unicorn Lake Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 180 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2345	*382	4.43	Mar. 29	2200	275	4.03
Feb. 16	0215	244	3.87	Apr. 5	1645	233	3.81
Mar. 14	0930	196	3.60	May 30	2045	190	3.56

Minimum discharge, 0.40 ft<sup>3</sup>/s Feb. 23, gage height, 1.65 ft; minimum daily discharge, 7.8 ft<sup>3</sup>/s Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	12	24	33	44	49	68	43	65	25	13	9.4
2	13	12	23	32	35	41	55	37	42	28	13	9.2
3	13	13	22	32	31	38	50	34	32	20	14	10
4	12	13	40	32	30	35	47	36	28	18	15	13
5	12	13	69	33	51	37	160	33	25	16	14	11
6	11	12	50	33	53	49	196	32	23	16	14	10
7	10	12	54	32	49	48	104	36	24	18	13	9.7
8	11	12	43	30	46	40	70	44	22	16	14	8.3
9	11	12	33	34	42	39	56	58	21	15	12	9.7
10	11	17	29	35	35	36	51	44	20	15	13	8.9
11	11	20	27	71	31	36	47	36	19	16	14	8.9
12	14	17	45	55	32	33	43	32	19	15	30	9.6
13	15	15	239	35	32	48	42	29	18	14	15	9.7
14	18	14	286	28	35	167	59	27	29	14	14	10
15	13	16	135	34	95	112	57	25	19	14	13	9.4
16	12	26	80	31	201	68	92	25	18	13	12	9.2
17	13	22	60	35	101	54	104	24	19	13	12	9.4
18	12	19	50	32	70	47	73	24	20	34	12	9.8
19	13	17	45	31	58	43	56	25	19	29	16	8.7
20	12	17	40	28	51	40	49	23	18	17	15	8.9
21	11	38	37	22	53	45	42	22	17	18	13	8.4
22	11	35	64	22	50	50	39	21	16	19	10	7.8
23	19	23	110	32	38	42	50	22	16	17	11	8.1
24	29	23	73	42	84	37	56	25	19	15	12	8.3
25	19	54	51	42	77	42	48	22	24	14	11	8.4
26	16	79	34	52	55	86	41	20	19	14	11	9.2
27	15	43	31	71	39	89	38	21	17	14	9.2	8.4
28	14	33	46	51	52	72	36	21	16	14	9.9	13
29	13	30	109	41	59	213	37	30	16	14	10	12
30	12	27	67	45	---	203	36	128	18	14	8.6	10
31	12	---	41	48	---	100	---	129	---	14	10	---
TOTAL	422	696	2057	1174	1629	2039	1902	1128	678	533	403.7	286.4
MEAN	13.6	23.2	66.4	37.9	56.2	65.8	63.4	36.4	22.6	17.2	13.0	9.55
MAX	29	79	286	71	201	213	196	129	65	34	30	13
MIN	10	12	22	22	30	33	36	20	16	13	8.6	7.8
CFSM	.61	1.04	2.98	1.70	2.52	2.95	2.84	1.63	1.01	.77	.58	.43
IN.	.70	1.16	3.43	1.96	2.72	3.40	3.17	1.88	1.13	.89	.67	.48

CAL YR 1983	TOTAL	15270.9	MEAN 41.8	MAX 565	MIN 7.1	CFSM 1.87	IN 25.47
WTR YR 1984	TOTAL	12948.1	MEAN 35.4	MAX 286	MIN 7.8	CFSM 1.59	IN 21.60

## CHESTER RIVER BASIN

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

LOCATION.--Lat 39°16'48", long 76°00'54", Kent County, Hydrologic Unit 02060002, on right bank 200 ft upstream from highway bridge, 2.0 mi southwest of Kennedyville, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--12.7 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1552: 1952, 1953(P), 1954(M), 1955, 1956-57(M). WDR MD-DE-76-1: Drainage area. WDR MD-DE-79-1: 1961(M). WDR MD-DE-80-1: 1976(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.76 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good below 50 ft<sup>3</sup>/s and fair above. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 10.8 ft<sup>3</sup>/s, 11.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft<sup>3</sup>/s June 22, 1972, gage height, 13.07 ft, from rating curve extended above 590 ft<sup>3</sup>/s on basis of Type IV culvert and flow-over-road measurement of peak flow; minimum discharge, 0.60 ft<sup>3</sup>/s Aug. 28, 29, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	0245	*430	5.74	Dec. 13	1545	397	5.56

Minimum discharge, 5.0 ft<sup>3</sup>/s Oct. 7-11, Sept. 26, 27, gage height, 1.34 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	6.3	7.6	8.3	16	10	14	29	12	35	7.8	5.6
2	8.0	6.3	7.1	8.5	9.9	9.8	12	13	9.3	27	7.6	5.5
3	6.5	6.5	7.6	9.2	11	9.4	12	11	8.6	10	7.7	5.8
4	6.0	7.6	62	9.7	71	9.4	14	13	8.4	7.8	8.6	13
5	5.7	7.1	49	10	33	13	49	11	8.1	7.3	7.8	8.7
6	5.5	6.8	20	10	18	21	39	12	7.9	11	7.2	6.5
7	5.3	6.7	20	9.9	11	13	18	15	8.6	59	7.9	6.0
8	5.0	6.4	10	8.9	8.2	10	13	34	7.7	28	10	5.9
9	5.5	6.3	8.6	8.5	8.2	11	12	48	7.4	8.7	7.1	5.9
10	5.3	12	8.1	12	8.7	9.8	12	15	7.1	7.7	16	5.9
11	5.5	24	8.0	36	10	11	12	11	7.0	8.6	32	6.3
12	8.6	11	79	19	11	11	11	9.6	6.7	29	45	6.3
13	9.1	8.0	356	9.9	10	34	11	9.6	7.1	12	11	6.3
14	11	6.8	118	10	12	97	13	8.6	31	7.7	7.9	6.3
15	7.2	9.2	25	9.8	126	29	19	8.6	12	7.1	7.3	6.3
16	6.0	33	13	8.4	86	15	27	8.6	7.8	7.0	6.8	5.8
17	5.9	15	11	8.6	22	12	22	8.1	8.1	6.9	6.4	5.5
18	5.5	8.3	9.7	8.6	16	11	14	8.1	9.3	19	6.3	5.6
19	6.8	7.3	9.6	9.5	13	11	12	9.1	9.9	89	8.7	5.9
20	7.2	7.8	8.5	8.3	12	11	11	9.1	8.0	21	8.0	5.9
21	6.0	44	7.9	8.1	11	15	11	8.1	7.2	52	6.4	5.7
22	5.9	19	69	8.1	9.8	14	10	8.1	6.7	32	5.9	5.5
23	10	9.1	52	8.1	14	11	20	8.6	6.7	14	6.3	5.5
24	43	10	15	9.8	49	9.7	18	12	8.9	9.2	6.2	5.5
25	14	67	7.6	36	18	14	13	8.6	14	7.5	5.9	5.6
26	8.7	47	7.3	92	11	31	11	7.6	8.3	6.8	5.8	5.5
27	7.6	13	7.2	99	10	16	11	8.1	7.1	9.7	5.9	5.0
28	6.5	9.7	45	61	16	35	10	9.6	6.7	9.2	5.9	9.1
29	6.3	11	93	23	15	119	11	30	6.8	7.7	5.9	9.8
30	5.9	8.4	20	15	---	61	14	78	7.6	8.5	6.3	7.1
31	6.2	---	9.4	19	---	19	---	38	---	8.6	6.1	---
TOTAL	253.8	440.6	1171.2	602.2	666.8	703.1	476	508.1	272.0	574.0	293.7	193.3
MEAN	8.19	14.7	37.8	19.4	23.0	22.7	15.9	16.4	9.07	18.5	9.47	6.44
MAX	43	67	356	99	126	119	49	78	31	89	45	13
MIN	5.0	6.3	7.1	8.1	8.2	9.4	10	7.6	6.7	6.8	5.8	5.0
CFSM	.65	1.16	2.98	1.53	1.81	1.79	1.25	1.29	.71	1.46	.75	.51
IN.	.74	1.29	3.43	1.76	1.95	2.06	1.39	1.49	.80	1.68	.86	.57

CAL YR 1983	TOTAL	5909.4	MEAN 16.2	MAX 356	MIN 3.3	CFSM 1.28	IN 17.31
WTR YR 1984	TOTAL	6154.8	MEAN 16.8	MAX 356	MIN 5.0	CFSM 1.32	IN 18.03

## 01495000 BIG ELK CREEK AT ELK MILLS, MD

LOCATION.--Lat 39°39'26", long 75°49'20", Cecil County, Hydrologic Unit 02060002, on right bank 100 ft downstream from highway bridge at Elk Mills, 3.5 mi north of Elkton, and 7 mi upstream from confluence with Little Elk Creek.

DRAINAGE AREA.--52.6 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Datum of gage is 68.5 ft National Geodetic Vertical Datum of 1929. Apr. 10, 1932, to May 16, 1946, nonrecording gage at bridge 100 ft upstream at same datum.

REMARKS.--Records good. Slight diurnal fluctuation caused by mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 69.8 ft<sup>3</sup>/s, 18.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft<sup>3</sup>/s July 5, 1937, gage height, 14.5 ft, from floodmarks, from rating curve extended above 1,700 ft<sup>3</sup>/s on basis of velocity-area and conveyance studies; minimum discharge, 4.5 ft<sup>3</sup>/s Jan. 21, 1955, (result of freezeup); minimum daily discharge, 4.8 ft<sup>3</sup>/s Sept. 8-10, 1966; minimum gage height observed, 2.09 ft Sept. 19, 22-24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1884 reached a stage of about 19 ft from information by local residents, discharge, about 18,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft<sup>3</sup>/s Dec. 22, gage height, 5.90 ft, no peak above base of 1,700 ft<sup>3</sup>/s; minimum daily discharge, 18 ft<sup>3</sup>/s Oct. 8, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	32	58	75	57	81	110	87	106	215	53	38
2	28	30	52	75	60	76	101	79	90	85	59	38
3	24	32	59	69	79	73	98	90	88	67	56	40
4	21	38	284	67	483	70	105	514	83	61	54	129
5	20	33	113	63	159	97	485	177	74	81	51	63
6	22	31	93	63	93	138	247	117	94	205	89	46
7	19	31	141	62	70	90	135	114	81	324	54	42
8	18	30	73	58	66	79	116	179	70	90	50	40
9	19	29	64	63	63	81	107	236	66	69	47	39
10	18	53	61	62	106	77	103	117	63	65	47	44
11	18	111	57	107	172	78	99	106	61	84	103	55
12	109	70	280	58	121	76	96	109	59	111	74	42
13	70	47	728	68	104	137	95	106	60	63	113	39
14	75	40	303	63	162	290	103	97	90	58	57	83
15	35	85	125	62	713	156	122	92	61	55	50	70
16	29	211	99	58	258	124	159	90	56	55	46	47
17	27	65	87	60	130	99	150	87	65	123	44	41
18	27	48	79	60	113	89	118	86	212	119	43	39
19	42	43	75	60	96	86	105	89	308	77	137	38
20	41	43	68	56	88	82	96	87	86	58	72	37
21	30	283	64	50	80	144	91	83	70	278	49	36
22	28	71	546	48	74	124	88	79	63	112	46	35
23	90	53	173	55	108	89	139	89	61	78	52	35
24	283	52	97	94	472	80	123	101	117	65	53	35
25	67	285	60	139	125	97	104	79	179	58	44	36
26	51	106	66	192	99	103	92	75	73	53	42	35
27	41	65	64	207	87	84	87	73	64	174	41	34
28	36	68	408	149	120	215	84	79	60	78	41	51
29	35	156	196	79	103	493	110	437	59	62	42	56
30	32	70	83	64	---	201	91	457	59	59	43	42
31	32	---	71	61	---	131	---	154	---	56	41	---
TOTAL	1410	2311	4727	2447	4461	3840	3759	4365	2678	3138	1793	1405
MEAN	45.5	77.0	152	78.9	154	124	125	141	89.3	101	57.8	46.8
MAX	283	285	728	207	713	493	485	514	308	324	137	129
MIN	18	29	52	48	57	70	84	73	56	53	41	34
CFSM	.87	1.46	2.89	1.50	2.93	2.36	2.38	2.68	1.70	1.92	1.10	.89
IN.	1.00	1.63	3.34	1.73	3.15	2.72	2.66	3.09	1.89	2.22	1.27	.99

CAL YR 1983 TOTAL 32358 MEAN 88.7 MAX 728 MIN 17 CFSM 1.69 IN 22.88  
WTR YR 1984 TOTAL 36334 MEAN 99.3 MAX 728 MIN 18 CFSM 1.89 IN 25.70

## 01495900 ELK RIVER NEAR TOWN POINT, MD

LOCATION.--Lat 39°30'09", long 75°54'58", Cecil County, Hydrologic Unit 02060001, at site of Old Town Point wharf, at the Corps of Engineers substation, on left bank of Elk River, 0.7 mi west of Port Herman, 1.1 mi northwest of Town Point, and 1.8 mi downstream from mouth of Back Creek.

PERIOD OF RECORD.--Water years 1982 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to current year.

WATER TEMPERATURES: October 1981 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1981.

REMARKS.--Interruptions in record due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 19,900 micromhos Oct. 26, 1982; minimum, 117 micromhos July 21-23, 28, 1984.

WATER TEMPERATURES: Maximum, 32.5°C July 20, 1983; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 15,100 micromhos Oct. 11, 12, 21; minimum, 117 micromhos May 8, July 21-23, 28.

WATER TEMPERATURES: Maximum, 31.5°C Aug. 8; minimum, 0.0°C on many days during winter periods.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14700	10500	12400	8960	8620	8800	1660	800	1060	880	680	791
2	12300	10000	11300	8820	7960	8680	1220	960	1090	1000	840	925
3	11600	7620	10500	8900	8560	8720	1280	960	1040	1220	1060	1150
4	10800	9380	10200	8820	8520	8690	1600	1060	1230	1360	1180	1240
5	10400	9820	10100	10800	8400	8800	1840	1260	1570	1360	940	1260
6	10100	6760	9140	12700	8360	9360	1880	1580	1740	1240	940	1060
7	11000	7140	9870	10700	8580	9350	1700	780	1250	1540	1040	1250
8	10500	6880	9790	9340	8320	8750	980	300	633	1680	880	1210
9	11300	9500	9970	8960	8380	8620	1200	520	669	1020	580	768
10	15000	9920	11200	11100	8300	8950	700	420	555	1340	900	1140
11	15100	11100	13500	10100	8380	8870	800	380	563	2820	1240	1710
12	15100	14100	14700	8460	6960	7680	3320	420	1520	5800	1760	3770
13	14000	12600	13300	8080	6920	7260	3100	1320	2160	7580	3860	5930
14	12700	11300	11700	10000	6440	7890	2880	1740	2470	9220	6860	7670
15	11600	8380	9740	12100	7880	9440	2400	1660	1890	7680	6160	6630
16	10300	8380	9630	10300	8280	9030	1680	780	1250	6400	6000	6180
17	11000	9640	10300	8480	5280	6660	1640	860	1090	6120	5640	5880
18	10000	9340	9740	6740	3560	4890	1200	600	945	5660	5140	5380
19	9740	9380	9550	4800	3260	3950	920	740	850	5560	4880	5190
20	14900	9560	11500	5380	3980	4460	1120	840	967	5260	4220	4840
21	15100	12000	13800	4980	3340	4320	1140	880	1060	4220	3800	3960
22	14100	12400	13600	4060	2760	3380	880	760	822	3940	3500	3780
23	13400	12500	12900	3620	2600	3050	980	800	882	3500	2820	3240
24	12700	11800	12100	6020	3500	3940	1060	660	858	2720	2180	2300
25	14800	12200	13000	3940	2760	3520	880	420	583	2160	1820	1970
26	14700	13500	14000	3040	1020	1690	720	460	604	1960	1740	1850
27	12900	8400	10800	2020	1020	1280	540	280	382	1940	1680	1800
28	11500	8200	9470	3640	1060	1380	500	320	378	1680	1520	1580
29	8720	7100	7620	4000	1380	2690	400	260	298	1700	1520	1610
30	11000	7500	8100	2580	900	1910	520	380	445	1760	1660	1710
31	9900	8600	8990	---	---	---	820	480	605	1680	1540	1620
MONTH	15100	6760	11000	12700	900	6200	3320	260	1010	9220	580	2880

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1540	1380	1450	980	940	968	1250	1140	1210	440	220	305
2	1380	1280	1320	974	934	958	1240	1120	1210	520	260	390
3	1270	1150	1230	969	908	947	1210	1050	1170	480	260	349
4	1230	1210	1220	963	863	921	1160	1130	1150	360	240	280
5	1240	1120	1230	917	817	900	1140	1050	1110	500	220	252
6	1260	1220	1230	891	871	877	1120	1080	1110	440	280	353
7	1250	1050	1220	886	846	864	1100	1070	1090	340	280	305
8	1270	1130	1240	880	840	860	1050	996	1020	380	240	275
9	1280	1240	1250	874	834	849	992	937	964	320	240	276
10	1270	1190	1230	848	808	834	934	799	906	300	220	268
11	1230	1190	1210	843	803	816	890	837	865	300	220	250
12	1200	1160	1180	857	797	823	847	808	828	260	200	219
13	1180	1140	1160	831	791	814	819	780	794	340	220	271
14	1130	1110	1120	806	706	779	778	715	758	320	220	265
15	1150	1110	1130	1540	720	905	737	713	725	380	240	303
16	1160	1120	1130	1540	968	1210	711	686	700	400	260	326
17	1150	1130	1140	1680	1360	1550	696	661	677	320	220	259
18	1150	1130	1140	2120	1640	1930	670	600	647	320	260	271
19	1140	1040	1120	2030	1770	1950	633	610	622	300	240	269
20	1140	1040	1110	1820	1690	1770	619	597	603	300	220	255
21	1130	1030	1080	1810	1650	1730	594	572	585	300	220	249
22	1130	1070	1100	1720	1390	1610	591	570	582	280	220	251
23	1100	980	1050	1420	954	1220	567	546	559	260	220	230
24	1050	934	1010	1010	817	917	543	523	529	320	200	251
25	1030	928	1000	841	753	795	500	440	524	260	160	213
26	1000	903	970	829	742	777	640	380	549	200	160	185
27	997	897	958	851	817	840	520	400	443	240	160	194
28	971	871	942	989	771	860	500	400	440	240	180	196
29	966	866	948	1210	909	1080	520	360	438	200	180	190
30	---	---	---	1170	1140	1160	480	260	374	360	200	225
31	---	---	---	1220	1090	1180	---	---	---	320	200	238
MONTH	1540	866	1140	2120	706	1090	1250	260	773	520	160	263

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	400	260	368	279	199	223	1960	1320	1810	---	---	---
2	420	320	389	299	219	237	1700	1280	1540	---	---	---
3	420	360	398	278	199	236	1620	1120	1410	---	---	---
4	400	340	368	278	199	233	1860	1420	1550	---	---	---
5	380	320	342	258	199	223	1700	1380	1560	---	---	---
6	360	280	315	278	198	219	1720	1420	1610	---	---	---
7	360	240	298	357	198	219	1800	1400	1660	---	---	---
8	320	240	282	376	198	253	1620	1360	1520	---	---	---
9	280	240	268	297	218	241	1920	1360	1750	---	---	---
10	300	240	264	277	217	245	2180	1480	1910	---	---	---
11	320	240	261	257	217	227	2140	1760	1990	---	---	---
12	320	240	256	276	217	230	3180	1860	2440	---	---	---
13	320	240	266	296	217	234	4100	2360	3060	---	---	---
14	280	240	257	256	197	223	3460	2440	3090	---	---	---
15	380	240	283	275	197	222	---	---	---	---	---	---
16	340	260	281	236	197	219	---	---	---	---	---	---
17	320	260	278	255	196	222	---	---	---	---	---	---
18	320	260	281	216	196	205	---	---	---	---	---	---
19	300	260	279	314	196	224	---	---	---	---	---	---
20	320	260	287	235	196	209	---	---	---	---	---	---
21	300	260	282	235	117	190	---	---	---	3620	3380	3460
22	320	280	306	274	117	173	---	---	---	3500	3340	3430
23	320	260	290	215	117	179	---	---	---	3360	3160	3240
24	280	240	262	215	176	194	---	---	---	3240	3060	3110
25	340	240	258	351	176	222	---	---	---	3120	3020	3060
26	320	240	269	292	175	196	---	---	---	3060	2940	3020
27	300	240	256	214	175	194	---	---	---	8760	3000	4720
28	260	220	238	292	117	211	---	---	---	9180	5200	7190
29	319	220	241	505	214	360	---	---	---	12900	7860	9970
30	299	199	233	1770	369	995	---	---	---	14900	11500	12600
31	---	---	---	2600	1010	1820	---	---	---	---	---	---
MONTH	420	199	289	2600	117	299	4100	1120	1920	14900	2940	5380



## ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.5	19.0	19.5	13.5	11.5	12.5	8.0	6.5	7.0	.0	.0	.0
2	21.0	19.0	20.0	13.5	11.5	12.5	6.5	4.5	6.0	.0	.0	.0
3	22.0	19.5	20.5	14.0	12.5	13.0	7.0	6.5	6.5	.0	.0	.0
4	22.0	19.5	20.5	13.0	11.0	12.0	7.0	6.0	6.5	.0	.0	.0
5	22.0	20.0	21.0	12.0	10.0	10.5	7.0	6.5	7.0	.0	.0	.0
6	22.0	20.0	21.0	11.5	9.5	10.5	7.5	6.5	7.0	.0	.0	.0
7	21.0	19.0	20.5	11.0	10.0	10.5	7.0	4.5	6.0	.0	.0	.0
8	21.0	19.0	20.0	12.0	10.0	11.0	5.0	4.0	4.5	.0	.0	.0
9	21.0	19.5	20.0	12.0	10.0	11.0	4.5	3.5	4.0	.0	.0	.0
10	20.0	18.5	19.5	11.5	11.0	11.0	5.5	4.5	5.0	.0	.0	.0
11	19.0	18.0	18.5	11.5	10.5	11.5	5.0	4.0	4.5	.0	.0	.0
12	19.5	19.0	19.0	10.5	8.0	9.5	6.5	5.0	6.0	.0	.0	.0
13	20.0	19.0	19.5	9.0	6.5	8.0	7.5	6.5	7.0	.0	.0	.0
14	19.5	17.5	18.5	10.5	8.5	9.0	8.0	7.0	7.5	.5	.0	.0
15	19.0	17.0	18.0	10.0	9.0	9.5	8.0	7.0	7.5	.0	.0	.0
16	19.0	16.5	17.5	10.0	9.0	9.5	7.5	6.5	7.0	.0	.0	.0
17	18.5	17.5	18.0	9.0	7.5	8.5	6.5	5.5	6.0	.0	.0	.0
18	18.5	17.5	17.5	9.0	8.0	7.5	6.0	4.5	5.5	.0	.0	.0
19	18.0	16.0	16.5	9.5	8.0	8.5	5.5	3.0	4.5	.0	.0	.0
20	17.0	14.5	16.0	9.5	8.0	8.5	3.5	1.5	2.5	.0	.0	.0
21	16.5	15.0	15.5	10.0	9.0	9.5	3.0	.5	2.0	.0	.0	.0
22	15.5	14.0	15.0	10.0	8.5	9.5	4.0	3.0	3.5	.0	.0	.0
23	15.0	14.5	14.5	10.0	9.0	9.5	3.5	2.0	2.5	.0	.0	.0
24	15.5	15.0	15.0	9.5	9.0	9.5	2.5	.0	1.0	.0	.0	.0
25	15.0	13.5	14.0	9.5	7.5	8.5	.0	.0	.0	.0	.0	.0
26	15.0	13.5	14.5	8.5	7.5	8.0	.0	.0	.0	.0	.0	.0
27	14.0	12.0	13.0	9.5	7.5	8.5	.0	.0	.0	.5	.0	.0
28	13.5	12.0	12.5	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0
29	14.5	12.0	13.0	9.5	8.0	9.0	.0	.0	.0	.0	.0	.0
30	13.0	9.5	11.5	8.0	7.0	7.5	.0	.0	.0	.0	.0	.0
31	13.5	11.5	12.5	---	---	---	.5	.0	.0	.0	.0	.0
MONTH	22.0	9.5	17.0	14.0	6.5	10.0	8.0	.0	4.0	.5	.0	.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	3.5	.0	2.0	9.5	5.0	6.5	16.0	13.0	14.5
2	.5	.0	.0	4.0	.5	2.0	9.5	6.0	7.5	16.0	13.5	15.0
3	.5	.0	.0	4.0	.5	2.0	10.0	7.5	9.0	15.5	14.5	15.0
4	1.0	.0	.5	4.0	1.0	2.5	9.0	8.5	8.5	16.0	14.5	15.0
5	.5	.0	.0	3.0	2.5	3.0	10.0	8.5	9.0	17.0	13.5	15.5
6	.5	.0	.0	4.0	3.0	3.5	10.0	9.0	9.5	16.5	15.5	16.0
7	.5	.0	.0	4.5	3.0	3.5	9.0	8.0	8.5	15.5	15.0	15.0
8	.0	.0	.0	3.5	1.0	2.5	10.5	7.5	9.0	16.5	15.0	15.5
9	.5	.0	.0	2.5	.5	1.5	10.5	9.0	9.5	16.0	14.5	15.0
10	1.5	.0	.5	3.5	.5	2.0	11.0	9.0	10.0	17.5	13.5	15.5
11	1.5	.5	1.0	3.5	2.0	2.5	12.5	9.0	10.5	17.5	15.0	16.0
12	2.0	.5	1.0	3.5	.0	2.0	13.5	10.0	11.0	17.5	15.5	16.0
13	3.5	1.5	2.5	2.5	1.5	2.0	12.5	10.5	11.5	20.0	15.5	17.5
14	3.5	1.5	2.5	4.0	2.0	3.0	11.0	10.5	11.0	17.5	16.5	17.0
15	4.5	2.5	3.5	7.0	2.5	5.0	11.0	10.0	10.5	16.5	15.0	16.0
16	5.0	3.5	4.5	5.0	3.0	4.0	12.0	10.5	11.0	15.5	13.5	14.5
17	4.5	4.0	4.5	5.0	3.5	4.0	12.5	10.5	11.5	16.5	12.5	14.5
18	6.0	4.0	5.0	5.5	4.0	4.5	13.5	11.5	12.5	15.5	14.5	15.0
19	6.0	4.5	5.0	6.0	4.5	5.0	13.5	12.0	12.5	17.0	14.5	15.5
20	6.0	5.0	5.5	6.5	5.0	6.0	13.5	12.0	13.0	18.0	16.0	17.0
21	5.5	5.0	5.0	7.0	5.5	6.0	14.0	12.0	13.0	19.5	17.5	18.0
22	6.0	4.0	5.5	6.5	5.5	6.0	13.0	10.0	11.5	20.5	17.5	19.0
23	5.5	5.0	5.5	6.5	5.0	6.0	12.0	11.0	11.5	21.0	19.0	20.0
24	7.5	5.5	6.5	8.0	4.5	6.5	11.5	11.0	11.5	24.5	18.5	21.0
25	7.0	4.5	6.0	7.0	6.0	6.5	11.0	10.5	11.0	23.0	19.5	20.5
26	7.0	4.0	5.5	9.0	5.5	7.0	15.5	10.5	12.5	23.5	20.0	21.5
27	5.0	4.0	4.5	8.0	6.5	7.0	14.0	12.0	13.0	23.0	21.0	21.5
28	6.0	4.0	5.0	7.0	5.5	6.5	13.5	12.5	13.0	21.5	20.5	21.0
29	5.0	2.5	4.0	5.5	4.5	5.0	17.0	12.5	14.0	21.5	21.0	21.0
30	---	---	---	6.0	4.5	5.0	15.0	13.5	14.0	21.0	18.5	19.5
31	---	---	---	6.5	5.0	5.5	---	---	---	20.0	18.0	19.0
MONTH	7.5	.0	3.0	9.0	.0	4.0	17.0	5.0	11.0	24.5	12.5	17.0

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.5	18.0	19.5	27.0	24.5	26.0	27.5	25.0	26.0	26.5	24.0	25.5
2	20.0	18.0	19.0	27.5	25.0	26.5	28.5	26.0	27.0	26.0	24.5	25.5
3	20.5	18.0	19.0	27.5	25.0	26.0	28.5	26.5	27.5	28.0	25.0	26.0
4	21.0	18.5	20.0	28.0	25.5	27.0	30.0	27.0	28.0	26.0	23.5	25.0
5	22.0	20.0	21.0	27.5	26.5	27.0	30.0	27.5	28.5	25.5	23.0	24.0
6	23.5	21.0	21.5	27.0	26.0	26.5	31.0	27.5	28.5	25.5	23.0	24.0
7	26.0	21.5	23.0	---	---	---	29.5	24.0	27.0	25.0	22.0	23.5
8	27.0	22.5	24.0	27.5	23.5	25.0	31.5	23.0	28.5	24.0	22.0	23.0
9	28.5	23.5	25.0	28.5	24.5	26.0	30.5	27.5	29.0	24.5	21.5	23.0
10	29.5	24.0	26.0	26.5	24.5	25.5	29.5	28.5	29.0	24.0	22.0	23.0
11	29.5	25.5	27.0	29.0	25.0	26.5	29.5	27.0	28.5	24.5	22.5	23.5
12	30.5	25.5	27.5	29.5	26.0	27.5	29.0	27.5	28.5	---	---	---
13	30.0	26.5	28.0	30.0	26.0	27.5	29.5	26.5	28.0	---	---	---
14	29.5	27.0	28.0	30.0	26.5	28.0	29.5	27.0	28.5	---	---	---
15	28.0	26.0	27.0	30.0	25.0	28.0	29.5	27.5	28.5	---	---	---
16	26.0	24.0	25.0	29.0	28.0	28.5	30.0	27.5	28.5	---	---	---
17	25.5	23.5	24.5	29.0	26.5	28.0	29.5	27.5	28.5	---	---	---
18	25.0	24.0	24.5	29.0	26.5	28.0	28.5	27.0	28.0	---	---	---
19	27.0	24.5	25.5	28.5	24.0	27.0	28.0	27.0	27.5	---	---	---
20	27.0	25.0	26.0	29.0	25.0	27.5	27.5	25.5	26.5	---	---	---
21	27.0	24.5	25.5	27.5	24.0	27.0	27.5	24.5	26.0	24.0	21.0	22.0
22	28.0	25.0	26.5	28.0	25.5	27.0	27.5	25.5	26.5	24.0	21.0	22.0
23	26.0	25.0	25.5	30.0	22.0	26.0	26.5	25.0	25.5	23.5	21.0	22.0
24	25.5	24.5	25.0	28.5	23.0	25.5	27.0	24.0	25.0	24.5	22.0	23.0
25	27.5	24.5	25.5	29.5	20.5	26.0	26.5	23.5	25.0	25.0	22.5	23.5
26	27.0	23.5	25.0	30.0	22.0	27.0	27.0	24.5	25.5	23.5	20.5	22.5
27	26.5	24.0	25.0	---	---	---	27.0	24.5	25.5	21.0	18.0	19.5
28	26.5	23.5	25.0	27.0	23.5	26.0	27.0	25.0	26.0	20.0	17.0	18.5
29	27.0	24.0	25.5	27.5	25.5	26.5	26.5	25.0	25.5	19.0	17.0	18.0
30	26.0	25.0	25.5	27.0	25.0	26.5	27.0	25.0	26.0	19.0	17.0	18.5
31	---	---	---	26.0	24.5	26.0	27.0	25.5	26.0	---	---	---
MONTH	30.5	18.0	24.5	30.0	20.5	26.5	31.5	23.0	27.0	28.0	17.0	22.5

## NORTHEAST RIVER BASIN

01496000 NORTHEAST CREEK AT LESLIE, MD

LOCATION.--Lat 39°37'38", long 75°56'40", Cecil County, Hydrologic Unit 02060002, on left bank at downstream side of highway bridge, 0.7 mi northeast of Leslie, 1.5 mi southeast of Bay View, and 1.7 mi upstream from confluence with Little Northeast Creek.

DRAINAGE AREA.--24.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1948 to September 1984 (discontinued).

REVISED RECORDS.--WSP 1232: 1949-51. WDR MD-DE-79-1: 1979.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 115.0 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Regulation at low flow caused by powerplant above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 36.1 ft<sup>3</sup>/s, 20.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft<sup>3</sup>/s June 22, 1972, gage height, 8.41 ft, from rating curve extended above 2,300 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 7.74 ft; minimum discharge, 1.2 ft<sup>3</sup>/s Sept. 8, 9, 10, 11, 12, 13, 14, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,660 ft<sup>3</sup>/s Dec. 13, gage height, 5.16 ft, no other peak above base of 800 ft<sup>3</sup>/s; minimum, 1.3 ft<sup>3</sup>/s Oct. 7, 8, gage height, 1.30 ft; minimum daily, 4.4 ft<sup>3</sup>/s Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	8.9	24	49	25	31	40	29	38	103	17	9.9
2	7.8	9.3	20	38	25	28	37	24	30	33	18	9.7
3	7.6	9.5	23	32	30	27	34	31	25	23	18	10
4	9.5	11	251	28	278	25	40	298	25	20	18	29
5	6.5	11	70	26	77	47	396	85	22	30	16	18
6	6.5	9.9	56	26	44	89	156	39	21	169	16	12
7	4.4	9.8	106	26	29	41	52	38	27	129	15	11
8	5.1	9.5	33	23	28	32	41	104	21	33	18	10
9	6.0	9.3	26	28	27	31	35	184	20	24	15	11
10	6.0	14	24	25	41	31	33	44	18	22	14	11
11	6.0	40	22	55	76	30	31	36	18	30	22	14
12	22	28	191	36	52	30	29	35	17	50	23	12
13	22	17	921	32	46	59	29	35	16	22	19	11
14	22	13	240	28	69	215	38	28	53	19	16	11
15	11	29	54	28	466	82	54	26	20	18	14	18
16	8.1	112	38	27	219	51	80	25	17	17	13	13
17	7.3	25	32	26	62	39	88	23	22	17	13	11
18	7.3	17	27	22	52	34	48	23	101	28	12	10
19	9.5	14	26	22	41	32	39	24	178	45	13	10
20	12	18	22	22	35	32	33	24	33	18	13	10
21	8.5	209	21	20	31	99	30	22	24	358	13	9.8
22	7.8	32	380	20	28	67	28	21	21	71	11	8.9
23	33	20	155	22	42	37	50	24	20	38	12	8.5
24	142	20	41	25	325	31	47	32	50	25	13	9.2
25	23	230	30	37	57	41	37	21	81	20	12	9.4
26	15	53	30	85	39	56	30	20	25	18	11	9.8
27	12	26	29	97	33	36	27	19	21	50	11	8.6
28	11	45	171	79	61	163	26	25	19	27	11	13
29	9.8	132	239	33	48	421	34	191	19	19	11	16
30	9.1	34	54	27	---	136	29	438	18	20	11	11
31	8.9	---	53	27	---	52	---	75	---	18	11	---
TOTAL	473.4	1216.2	3409	1071	2386	2125	1671	2043	1020	1514	450	355.8
MEAN	15.3	40.5	110	34.5	82.3	68.5	55.7	65.9	34.0	48.8	14.5	11.9
MAX	142	230	921	97	466	421	396	438	178	358	23	29
MIN	4.4	8.9	20	20	25	25	26	19	16	17	11	8.5
CFSM	.63	1.67	4.53	1.42	3.39	2.82	2.29	2.71	1.40	2.01	.60	.49
IN.	.72	1.86	5.22	1.64	3.65	3.25	2.56	3.13	1.56	2.32	.69	.54

CAL YR 1983 TOTAL 18599.8 MEAN 51.0 MAX 921 MIN 4.4 CFSM 2.10 IN 28.47  
WTR YR 1984 TOTAL 17734.4 MEAN 48.5 MAX 921 MIN 4.4 CFSM 2.00 IN 27.15

## 01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD

LOCATION.--Lat 39°37'34", long 76°02'27", Cecil County, Hydrologic Unit 02060002, on left bank, 55 ft downstream from bridge on Belvedere Road, 3.5 mi north of Principio Furnace, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--9.03 mi<sup>2</sup>.

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

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

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 13.2 ft<sup>3</sup>/s, 19.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,060 ft<sup>3</sup>/s Aug. 4, 1969, gage height, 9.26 ft, from rating curve extended above 600 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 8.89 ft and 9.26 ft; minimum discharge, 1.2 ft<sup>3</sup>/s Aug. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1745	*1850	7.64	May 29	1530	386	4.49
Dec. 22	0945	482	4.82	June 13	2330	330	4.27
Dec. 28	1645	539	5.00	July 21	0800	1020	6.22
Feb. 15	1430	403	4.55				

Minimum discharge, 2.3 ft<sup>3</sup>/s Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.5	7.4	11	9.1	13	18	11	14	43	8.2	5.0
2	3.0	4.6	6.7	11	8.8	12	17	9.9	12	12	8.1	5.0
3	2.6	4.7	7.6	11	35	11	16	17	11	9.5	8.1	6.2
4	2.5	5.3	66	11	60	11	21	67	10	8.7	8.1	9.7
5	2.5	5.0	14	11	20	20	97	17	9.4	12	7.8	6.0
6	2.6	4.9	20	11	14	22	27	15	15	31	8.0	5.4
7	2.5	4.8	19	11	9.1	15	18	14	12	26	13	5.2
8	2.4	4.8	9.7	9.8	9.1	13	16	42	9.6	10	8.6	5.1
9	2.5	4.8	8.7	9.4	8.8	12	15	26	8.9	8.7	7.5	5.0
10	2.4	9.5	8.6	16	16	11	14	15	8.3	9.3	7.3	5.4
11	2.5	9.7	7.7	15	23	13	14	13	9.6	21	9.7	5.4
12	5.8	7.4	320	11	15	12	13	13	8.6	16	14	5.1
13	3.8	5.2	138	10	14	27	13	12	31	8.7	9.3	5.0
14	6.4	4.7	38	10	28	44	16	11	35	7.9	7.5	6.0
15	2.9	14	20	9.6	136	21	19	11	9.8	7.6	7.1	6.3
16	2.6	20	16	9.4	32	17	28	10	8.8	8.3	6.6	5.2
17	2.7	6.5	13	9.1	19	15	22	9.7	12	9.6	6.5	4.9
18	2.8	5.5	12	9.3	17	14	16	9.7	56	28	6.3	4.9
19	4.0	5.2	11	9.0	14	13	15	10	49	12	6.4	4.9
20	3.5	6.8	9.9	8.4	12	13	14	9.7	13	8.3	6.2	4.8
21	3.1	49	9.4	8.1	11	31	13	9.9	11	165	5.9	4.6
22	3.0	7.8	118	7.8	10	18	12	8.9	9.6	19	5.9	4.6
23	17	6.2	24	8.1	31	14	17	12	9.3	14	6.0	4.6
24	30	6.5	14	9.1	49	13	15	11	39	11	5.9	4.6
25	5.7	54	11	16	18	18	13	8.7	18	9.8	5.6	4.6
26	4.8	11	10	48	15	21	12	8.3	11	9.2	5.5	4.6
27	4.4	7.7	12	47	13	15	11	8.1	9.5	18	5.6	4.4
28	4.3	23	102	18	22	52	11	13	8.8	10	5.4	6.5
29	4.3	22	23	12	16	105	12	93	8.5	9.5	5.4	6.1
30	4.3	9.0	13	11	---	31	12	73	16	9.1	5.5	5.0
31	4.4	---	12	11	---	21	---	20	---	8.6	5.3	---
TOTAL	148.1	334.1	1101.7	409.1	684.9	668	557	608.9	483.7	580.8	226.3	160.1
MEAN	4.78	11.1	35.5	13.2	23.6	21.5	18.6	19.6	16.1	18.7	7.30	5.34
MAX	30	54	320	48	136	105	97	93	56	165	14	9.7
MIN	2.4	4.5	6.7	7.8	8.8	11	11	8.1	8.3	7.6	5.3	4.4
CFSM	.53	1.23	3.93	1.46	2.61	2.38	2.06	2.17	1.78	2.07	.81	.59
IN.	.61	1.38	4.54	1.69	2.82	2.75	2.29	2.51	1.99	2.39	.93	.66

CAL YR 1983	TOTAL	5563.4	MEAN 15.2	MAX 320	MIN 1.9	CFSM 1.68	IN 22.92
WTR YR 1984	TOTAL	5962.7	MEAN 16.3	MAX 320	MIN 2.4	CFSM 1.81	IN 24.56

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD

LOCATION.--Lat 39°39'31", long 76°10'28", Harford County, Hydrologic Unit 02050306, at downstream side of Conowingo Dam, 1.0 mi southwest of Conowingo, and 9.9 mi upstream from mouth.

DRAINAGE AREA.--27,100 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 5.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow regulated by Conowingo Reservoir beginning October 1928, usable capacity, 55,070,000,000 gal; dead storage, 45,290,000,000 gal. Records do not include a small infrequent diversion above station to augment municipal supply of city of Baltimore. Records of diversion available from Baltimore Department of Public Works. Gage-height telemeter at station.

AVERAGE DISCHARGE.--17 years, 42,840 ft<sup>3</sup>/s, 21.47 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130,000 ft<sup>3</sup>/s June 24, 1972, gage height, 36.83 ft; minimum discharge, 144 ft<sup>3</sup>/s Mar. 2, 1969, gage height, 6.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 501,000 ft<sup>3</sup>/s Feb. 16, gage height, 28.08 ft; minimum discharge, 789 ft<sup>3</sup>/s Sept. 23, gage height, 7.34 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1770	7070	52900	25000	26200	81200	89500	73000	180000	44400	27400	6950
2	2530	9970	51300	23700	23000	71900	94700	61700	132000	55300	19600	5110
3	6450	10200	50500	32200	22100	55400	98200	64100	101000	65500	22700	8090
4	8330	9240	42800	32600	27900	34200	110000	68500	80600	63800	5030	18100
5	8220	2390	44800	31500	18800	56400	157000	72900	70200	58800	5510	18100
6	980	1260	57100	33400	29500	44500	292000	43600	60000	52900	27500	24100
7	3750	9310	58500	28200	31600	55000	406000	67900	56100	71100	23000	11600
8	1730	11100	77900	15700	31300	39500	350000	67700	46800	65400	20400	7520
9	848	7290	65400	27600	31800	40900	248000	70200	34800	65400	21800	5310
10	1850	7170	63400	28400	22800	36800	174000	68000	19200	73900	25300	15600
11	8320	11100	68800	25400	27100	21200	133000	58100	36900	65500	12000	15100
12	11000	15500	70800	23400	14800	36200	113000	63300	25700	57600	19100	11200
13	4920	967	86000	22600	34500	34400	94600	57300	28600	48100	30100	9820
14	8640	19600	254000	6890	59200	32800	87400	67900	33800	29200	42800	10400
15	1470	26200	357000	1070	248000	31800	74400	71300	20400	25600	61200	5170
16	886	23000	313000	19200	470000	32500	76800	77500	12300	40000	61600	2640
17	8680	28800	229000	16000	420000	31300	106000	89400	7820	31400	57100	14800
18	8490	27700	158000	16700	307000	24400	116000	86100	39400	26100	53400	7940
19	11900	24400	128000	16600	230000	39400	117000	66000	54400	26400	39000	12200
20	17500	10500	105000	25000	206000	38400	109000	53100	73400	26900	41300	15100
21	7480	29800	74900	7840	184000	49200	107000	57600	78500	15800	32100	13000
22	864	36500	78000	947	158000	62000	103000	51200	72000	12500	33800	1010
23	881	43800	79300	10600	141000	85300	97100	62100	57000	27000	39000	798
24	21200	24600	50800	17000	139000	94200	92800	63600	30700	22300	29300	9980
25	13200	46600	46200	17200	115000	99900	84500	59000	52500	20200	15600	11100
26	15800	46100	6300	21700	93900	88400	80400	54600	44300	17300	12400	10500
27	16100	41800	22200	23400	90100	73400	87500	51200	45100	18200	27300	6750
28	12600	43800	33300	23200	82000	73400	86300	46600	42800	11100	21900	9560
29	1340	53600	42500	22100	72500	87800	68600	53100	33500	9550	24000	914
30	889	50400	41700	27600	---	88500	75000	115000	21700	24800	20500	910
31	5800	---	25600	28600	---	90500	---	208000	---	26800	21800	---
TOTAL	214418	679767	2835000	651347	3357100	1730800	3928800	2169600	1591520	1198850	893540	289372
MEAN	6917	22660	91450	21010	115800	55830	131000	69990	53050	38670	28820	9646
MAX	21200	53600	357000	33400	470000	99900	406000	208000	180000	73900	61600	24100
MIN	848	967	6300	947	14800	21200	68600	43600	7820	9550	5030	798
CFSM	.26	.84	3.38	.78	4.27	2.06	4.83	2.58	1.96	1.43	1.06	.36
IN.	.29	.93	3.89	.89	4.61	2.38	5.39	2.98	2.18	1.65	1.23	.40
CAL YR 1983	TOTAL	15303806	MEAN	41930	MAX	357000	MIN	848	CFSM	1.55	IN	21.01
WTR YR 1984	TOTAL	19540114	MEAN	53390	MAX	470000	MIN	798	CFSM	1.97	IN	26.82

## SUSQUEHANNA RIVER BASIN

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01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
NOV 07...	1300	3370	420	7.3	13.0	14.0	772	4.9	--	--
JAN 04...	1230	41600	220	6.8	2.0	4.0	758	5.8	14.9	114
FEB 17...	1200	444000	120	6.5	5.0	4.0	769	110	14.5	110
APR 09...	1200	265000	115	6.9	10.5	7.0	775	85	13.8	112
MAY 21...	1100	67500	170	7.2	20.0	16.0	767	4.0	11.3	114
JUL 27...	1130	51400	255	7.6	25.5	26.0	761	--	6.9	85
AUG 15...	1200	64400	290	8.0	30.0	28.5	767	--	7.6	97
SEP 19...	1300	30800	290	7.5	20.0	22.0	767	3.6	7.2	82
27...	1115	27700	320	7.7	15.0	21.5	777	--	7.6	84

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
NOV 07...	20	120	160	95	42	14	18	19	.6	2.9
JAN 04...	260	2400	91	45	25	7.0	9.0	17	.4	2.1
FEB 17...	680	7000	39	22	11	2.7	4.2	18	.3	1.6
APR 09...	--	--	43	25	12	3.1	3.4	14	.2	1.3
MAY 21...	K16	<1	61	30	17	4.4	4.7	14	.3	1.2
SEP 19...	K2	72	120	59	31	9.1	8.4	13	.4	1.9

DATE	ALKA- LINITY, CARBON- ATE IT-PLD (MG/L - CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV 07...	--	68	6.6	96	25	.10	1.3	248	240	.34	2260
JAN 04...	--	46	15	51	14	<.10	6.0	143	140	.19	16100
FEB 17...	--	17	10	19	7.5	<.10	3.8	83	61	.11	99500
APR 09...	--	18	4.4	23	6.4	.10	4.3	61	65	.08	43600
MAY 21...	--	31	3.8	27	8.0	<.10	3.5	104	85	.14	19000
JUL 27...	50	50	2.4	--	--	--	3.6	--	--	--	--
AUG 15...	60	58	1.2	--	--	--	2.5	--	--	--	--
SEP 19...	--	56	3.4	56	13	.20	1.6	194	160	.26	16100
27...	61	60	1.9	--	--	--	.9	--	--	--	--

K: Results based on colony count outside the accepted range (non-ideal colony count).

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
NOV 07...	--	--	--	--	1.2	--	.200	.26	--	--
JAN 04...	--	--	--	--	2.5	--	.180	.23	--	--
FEB 17...	--	--	--	--	1.0	--	.250	.32	--	--
APR 09...	--	--	--	--	.95	--	.130	.17	--	--
MAY 21...	--	--	--	--	.89	--	.280	.36	--	--
JUL 27...	1.3	.030	.10	--	1.3	.130	.120	.15	.47	.58
AUG 15...	1.2	.060	.20	--	1.3	.090	.130	.17	.91	.37
SEP 19...	--	--	--	--	1.1	--	.040	.05	--	--
27...	1.0	.060	.20	1.0	1.1	.050	.080	.10	.55	.52

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
NOV 07...	1.5	--	--	--	.060	.18	.010	--	<.010	--
JAN 04...	.60	--	--	--	.070	.21	.030	--	.020	.06
FEB 17...	2.0	--	--	--	.270	.83	.020	--	<.010	--
APR 09...	2.0	--	--	--	.050	.15	.010	--	<.010	--
MAY 21...	1.0	--	--	--	<.010	--	<.010	--	<.010	--
JUL 27...	.60	.70	--	--	.100	--	.020	--	.010	.03
AUG 15...	1.0	.50	--	--	<.010	--	<.010	--	.020	.06
SEP 19...	.90	--	--	--	.030	--	.030	--	.010	.03
27...	.60	.60	1.6	7.1	.070	--	.020	.020	.010	.03

[illegible]

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 07...	22	7	<.1	<10	1	<1	<1	270	<6	13
FEB 17...	7	280	.1	<10	5	<1	1	50	<6	13
APR 09...	8	62	<.1	<10	2	<1	<1	110	<6	8
MAY 21...	<4	71	.1	<10	5	<1	<1	73	<6	12
SEP 19...	10	26	.1	<10	1	<1	<1	160	<6	6

DATE	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
FEB 17...	<1.2	14	9.5	2.1	11	1.8	9.3	.06	.04
SEP 19...	<3.7	.8	--	2.6	.8	2.2	.7	.08	.15

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV , 1983		
07...	9	82
JAN , 1984		
04...	7	786
APR 09...	212	152000
MAY 21...	11	2000
JUL 27...	23	3190
AUG 15...	15	2610
SEP 19...	12	998

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
FEB							
17...	1130	453000	359	439000	65	81	82
17...	1230	429000	295	342000	40	54	75
17...	1240	428000	293	339000	45	58	80
17...	1300	416000	276	310000	45	66	80
17...	1305	415000	235	263000	57	73	88
17...	1310	414000	282	315000	56	81	81
17...	1311	412000	265	295000	58	73	86

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
FEB							
17...	91	96	99	100	--	--	--
17...	84	88	98	99	99	99	100
17...	94	96	99	100	--	--	--
17...	94	97	99	99	100	--	--
17...	95	98	100	--	--	--	--
17...	94	98	99	100	--	--	--
17...	95	98	99	100	--	--	--



## 01580000 DEER CREEK AT ROCKS, MD

LOCATION.--Lat 39°37'49", long 76°24'13", Harford County, Hydrologic Unit 02050306, on right bank 0.3 mi upstream from bridge on Cherry Hill Road, 0.8 mi southeast of Rocks, 1.2 mi upstream from Stirrup Run, and 23.5 mi upstream from mouth.

DRAINAGE AREA.--94.4 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Concrete control since Sept. 7, 1938. Datum of gage is 250.40 ft Baltimore City datum.

REMARKS.--Records good. Some regulation at low flow by mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 125 ft<sup>3</sup>/s, 17.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s Aug. 23, 1933, gage height, 17.7 ft, from flood-marks, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 13.3 ft and 17.7 ft; minimum discharge, 8 ft<sup>3</sup>/s Dec. 16, 1930, Jan. 26, 1939, result of regulation; minimum daily discharge, 8.6 ft<sup>3</sup>/s Sept. 11, 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1888, that of Aug. 23, 1933.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1700	2810	7.27	Apr. 5	0400	2370	6.62
Dec. 13	1600	2020	6.08	July 1	0700	*6280	11.95
Dec. 28	1630	2470	6.77	July 7	0430	3360	8.05

Minimum discharge, 48 ft<sup>3</sup>/s Oct. 7, 8, 9, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	59	120	150	110	204	381	232	196	1480	116	75
2	58	58	107	140	115	191	329	214	183	278	117	74
3	54	59	105	136	220	181	304	231	176	193	115	77
4	52	60	362	137	628	173	415	638	170	163	120	141
5	50	57	189	133	251	201	1270	324	163	179	113	93
6	50	57	160	133	150	232	764	279	161	367	110	81
7	48	55	177	130	122	192	596	272	162	1460	120	76
8	48	55	128	124	120	178	484	433	153	325	117	74
9	48	54	118	122	120	178	422	451	148	241	111	73
10	48	87	117	178	164	167	389	306	144	215	120	74
11	48	174	107	214	324	167	364	280	142	208	113	74
12	112	132	822	135	226	161	342	282	147	196	107	73
13	82	85	1160	130	188	182	330	262	144	169	102	70
14	71	75	583	122	665	226	326	249	178	156	100	72
15	58	77	339	115	774	222	430	238	141	150	98	80
16	54	141	255	110	441	202	398	229	135	148	91	73
17	53	92	213	110	293	186	352	221	149	140	88	70
18	52	79	189	111	257	175	316	217	185	150	87	68
19	73	73	176	116	218	171	297	230	251	148	88	68
20	66	73	159	110	199	166	278	216	154	132	89	67
21	56	340	155	110	182	230	265	209	141	255	84	65
22	54	118	613	110	169	211	254	202	135	175	82	62
23	124	94	268	110	198	180	312	226	132	150	92	63
24	443	89	203	140	753	168	292	239	225	135	94	63
25	122	340	160	300	310	173	278	197	284	125	83	62
26	94	171	140	700	249	186	251	189	168	120	82	61
27	78	120	140	449	220	168	239	184	143	181	80	60
28	70	160	800	253	288	312	232	184	135	135	80	75
29	65	289	427	138	244	669	230	295	131	125	84	80
30	61	143	220	122	---	507	229	302	187	120	82	71
31	60	---	160	117	---	462	---	219	---	118	78	---
TOTAL	2414	3466	8872	5205	8198	7021	11369	8250	4963	8137	3043	2215
MEAN	77.9	116	286	168	283	226	379	266	165	262	98.2	73.8
MAX	443	340	1160	700	774	669	1270	638	284	1480	120	141
MIN	48	54	105	110	110	161	229	184	131	118	78	60
CFSM	.83	1.23	3.03	1.78	3.00	2.39	4.02	2.82	1.75	2.78	1.04	.78
IN.	.95	1.37	3.50	2.05	3.23	2.77	4.48	3.25	1.96	3.21	1.20	.87

CAL YR 1983	TOTAL	55163	MEAN 151	MAX 1320	MIN 42	CFSM 1.60	IN 21.74
WTR YR 1984	TOTAL	73153	MEAN 200	MAX 1480	MIN 48	CFSM 2.12	IN 28.83

01581700 WINTERS RUN NEAR BENSON, MD

LOCATION.--Lat 39°31'12", long 76°22'24", Harford County, Hydrologic Unit 02060003, on left bank 30 ft downstream from bridge on U.S. Highway 1, 0.1 mi upstream from Heavenly Waters, 1.2 mi northeast of Benson, 1.8 mi southwest of Bel Air, and 10.5 mi upstream from mouth.

DRAINAGE AREA.--34.8 mi<sup>2</sup>.

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

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

REMARKS.--Records good except those above 50 ft<sup>3</sup>/s, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--17 years, 54.1 ft<sup>3</sup>/s, 21.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,600 ft<sup>3</sup>/s June 22, 1972, gage height, 11.60 ft; minimum discharge, 3.0 ft<sup>3</sup>/s Jan. 10, 1982, result of freezeup; minimum daily discharge 6.7 ft<sup>3</sup>/s Aug. 28, 29, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1545	2840	7.02	May 29	1245	1430	5.09
Dec. 28	1730	1220	4.74	July 1	0930	*7280	all.35
Apr. 5	0245	1200	4.72				

a From floodmarks.

Minimum discharge, 14 ft<sup>3</sup>/s Oct. 6, 7, 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	23	46	82	61	70	101	84	73	1120	39	27
2	21	24	41	73	60	66	90	80	65	125	39	26
3	19	26	42	68	140	64	87	97	60	83	40	30
4	16	26	150	64	240	62	140	220	58	69	47	70
5	17	25	72	64	109	80	530	106	57	96	39	35
6	15	25	74	63	81	89	190	93	54	175	38	28
7	15	25	73	62	65	73	122	87	54	106	37	25
8	15	25	52	62	68	65	109	150	52	68	36	23
9	15	24	42	64	70	66	104	123	52	57	35	23
10	16	59	40	90	71	66	98	91	52	55	46	23
11	16	76	40	105	94	65	95	84	52	67	40	23
12	65	53	450	70	80	62	95	89	52	84	38	23
13	35	38	500	62	75	88	94	83	55	54	36	23
14	32	30	168	62	350	115	99	80	64	49	35	23
15	21	31	114	61	370	92	126	74	48	47	34	23
16	18	68	95	60	150	83	138	73	46	50	32	23
17	18	43	83	60	104	72	115	72	49	58	30	22
18	18	32	77	61	98	65	108	70	56	54	30	20
19	25	31	76	62	86	65	99	79	70	47	30	20
20	21	34	69	60	77	65	95	74	50	45	30	21
21	19	180	70	60	71	92	94	73	43	170	29	20
22	18	52	300	60	65	79	90	69	41	75	28	19
23	75	42	115	60	120	68	103	78	41	60	30	19
24	150	39	82	70	170	63	100	74	150	53	32	19
25	45	160	75	150	90	69	95	67	90	48	29	19
26	33	65	65	340	75	95	89	67	58	44	28	19
27	28	48	65	180	69	74	85	61	47	60	28	18
28	26	90	320	89	114	180	86	63	45	47	28	30
29	26	110	123	70	85	420	84	270	44	45	28	28
30	24	59	74	64	---	170	88	170	68	40	28	24
31	21	---	75	62	---	126	---	88	---	39	28	---
TOTAL	908	1563	3668	2560	3308	2909	3549	2989	1746	3190	1047	746
MEAN	29.3	52.1	118	82.6	114	93.8	118	96.4	58.2	103	33.8	24.9
MAX	150	180	500	340	370	420	530	270	150	1120	47	70
MIN	15	23	40	60	60	62	84	61	41	39	28	18
CFSM	.84	1.50	3.39	2.37	3.28	2.70	3.39	2.77	1.67	2.96	.97	.72
IN.	.97	1.67	3.92	2.74	3.54	3.11	3.79	3.20	1.87	3.41	1.12	.80
CAL YR 1983	TOTAL	22160	MEAN	60.7	MAX	500	MIN	13	CFSM	1.74	IN	23.69
WTR YR 1984	TOTAL	28183	MEAN	77.0	MAX	1120	MIN	15	CFSM	2.21	IN	30.13

## GUNPOWDER RIVER BASIN

01582000 LITTLE FALLS AT BLUE MOUNT, MD

LOCATION.--Lat 39°36'16", long 76°37'16", Baltimore County, Hydrologic Unit 02060003, on left bank at downstream side of Pennsylvania Railroad bridge, 0.2 mi north of Blue Mount, 0.6 mi upstream from mouth, 0.9 mi downstream from First Mine Branch, and 1.2 mi south of White Hall.

DRAINAGE AREA.--52.9 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 111: 1944(M), 1945-47(P).

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

REMARKS.--Records good. Slight diurnal fluctuation at low flow caused by mill above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 69.2 ft<sup>3</sup>/s, 17.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft<sup>3</sup>/s June 22, 1972, gage height, 18.54 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.9 ft<sup>3</sup>/s Aug. 29, 1966; minimum daily discharge, 4.5 ft<sup>3</sup>/s Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 28	1915	1080	4.91	July 7	0415	*2140	7.55

Minimum discharge, 21 ft<sup>3</sup>/s Oct. 6, 7, 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	32	64	80	60	108	179	127	113	167	57	37
2	28	32	58	76	60	102	159	120	105	86	57	37
3	26	34	57	76	140	97	148	149	101	77	61	40
4	24	33	159	74	280	92	212	271	97	69	64	66
5	23	31	89	74	150	115	430	161	93	105	63	45
6	23	32	92	76	95	120	289	149	91	150	60	40
7	22	31	90	76	70	103	232	146	90	597	55	38
8	22	30	71	73	65	96	203	217	86	145	53	37
9	22	30	65	69	65	96	187	194	84	108	51	36
10	22	55	63	95	110	91	177	158	82	97	78	37
11	23	109	58	100	202	91	171	146	81	91	58	37
12	54	67	179	80	149	86	164	149	80	82	62	35
13	36	48	402	75	120	99	161	137	78	76	60	34
14	42	42	203	70	306	122	165	133	93	72	59	35
15	29	47	136	65	317	114	222	129	78	69	58	38
16	27	71	110	65	209	108	202	126	77	69	50	34
17	26	49	96	65	156	100	178	121	85	67	48	33
18	27	43	86	65	140	95	164	121	96	76	46	33
19	39	40	81	65	122	93	154	127	133	68	48	32
20	32	42	74	65	112	91	147	119	82	63	56	32
21	28	150	73	65	103	124	141	115	76	110	45	30
22	27	61	253	65	95	109	138	112	73	78	44	29
23	85	52	119	70	117	97	166	128	73	72	52	30
24	178	53	90	80	310	92	155	119	93	67	47	29
25	59	170	85	150	156	94	148	108	96	60	43	29
26	48	86	75	260	128	103	135	105	81	61	41	29
27	41	65	75	220	117	93	131	102	72	88	40	28
28	37	106	320	110	152	166	127	105	70	66	40	44
29	34	122	150	75	127	306	125	207	68	63	41	42
30	33	76	90	70	---	241	129	156	74	62	40	36
31	32	---	85	65	---	213	---	123	---	60	39	---
TOTAL	1179	1839	3648	2714	4233	3657	5339	4380	2601	3121	1616	1082
MEAN	38.0	61.3	118	87.5	146	118	178	141	86.7	101	52.1	36.1
MAX	178	170	402	260	317	306	430	271	133	597	78	66
MIN	22	30	57	65	60	86	125	102	68	60	39	28
CFSM	.72	1.16	2.23	1.65	2.76	2.23	3.37	2.67	1.64	1.91	.99	.68
IN.	.83	1.29	2.57	1.91	2.98	2.57	3.75	3.08	1.83	2.19	1.14	.76

CAL YR 1983	TOTAL	26948	MEAN 73.8	MAX 545	MIN 19	CFSM 1.40	IN 18.95
WTR YR 1984	TOTAL	35409	MEAN 96.7	MAX 597	MIN 22	CFSM 1.83	IN 24.90

## GUNPOWDER RIVER BASIN

69

01583100 PINEY RUN AT DOVER, MD

LOCATION.--Lat 39°31'15", long 76°46'02", Baltimore County, Hydrologic Unit 02060003, on right bank 400 ft downstream from bridge on Maryland Route 128, 0.7 mi upstream from mouth, and 2.4 mi southwest of Butler.

DRAINAGE AREA.--12.3 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 380 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,250 ft<sup>3</sup>/s July 7, 1984, gage height, 6.15 ft; minimum discharge, 3.4 ft<sup>3</sup>/s Feb. 11, 1983, result of freezeup.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1545	461	3.50	May 29	0315	405	3.35
Dec. 22	1000	360	3.22	July 7	0100	*2250	6.15
Dec. 28	1730	853	4.33	Aug. 14	2130	569	3.76
Feb. 14	1415	370	3.25				

Minimum discharge, 5.2 ft<sup>3</sup>/s Oct. 6, 7, 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	7.1	14	14	12	20	30	22	21	35	12	11
2	6.5	7.1	13	13	12	19	27	21	20	18	12	11
3	6.3	7.5	12	13	29	18	25	29	19	16	17	13
4	5.8	7.5	43	13	68	17	42	57	19	15	20	14
5	5.7	6.8	20	13	28	21	109	29	18	23	18	12
6	5.6	7.1	23	13	17	22	48	27	18	24	15	11
7	5.4	6.8	21	13	13	19	37	27	17	270	13	9.9
8	5.4	6.5	16	13	12	18	32	49	17	26	12	9.8
9	5.4	6.5	15	12	18	18	30	35	16	21	24	9.8
10	5.5	19	14	27	28	17	28	28	16	19	26	10
11	5.6	33	13	17	42	17	27	26	16	19	17	9.9
12	12	18	32	15	29	16	26	26	15	18	17	9.6
13	8.4	12	136	12	23	18	26	25	16	16	32	9.4
14	10	11	42	12	86	25	28	24	17	15	65	9.5
15	7.2	12	27	12	63	22	45	23	15	15	38	9.3
16	6.7	16	22	12	36	20	37	23	15	15	20	9.2
17	6.5	12	19	12	27	19	31	22	16	14	18	9.0
18	6.5	10	17	12	26	18	28	22	22	23	16	8.9
19	8.1	9.9	16	12	22	18	27	23	24	17	16	8.8
20	7.5	11	15	12	20	17	26	22	17	15	16	8.7
21	7.3	38	14	12	19	24	25	21	15	18	14	8.4
22	7.1	14	82	12	18	20	25	21	14	17	13	8.3
23	24	12	25	12	32	19	28	23	14	16	15	8.3
24	39	12	19	16	45	18	27	21	18	14	14	8.3
25	12	48	18	29	26	18	26	20	20	13	13	8.3
26	9.5	20	17	49	22	20	24	20	16	13	12	8.3
27	8.2	15	15	56	20	18	23	19	14	20	12	8.2
28	7.7	27	130	24	31	39	22	20	14	14	12	11
29	7.5	24	26	15	23	81	22	60	14	13	12	11
30	7.1	16	16	13	---	51	23	30	15	13	11	9.3
31	7.1	---	15	13	---	36	---	23	---	13	11	---
TOTAL	273.5	452.8	907	523	847	723	954	838	508	798	563	293.2
MEAN	8.82	15.1	29.3	16.9	29.2	23.3	31.8	27.0	16.9	25.7	18.2	9.77
MAX	39	48	136	56	86	81	109	60	24	270	65	14
MIN	5.4	6.5	12	12	12	16	22	19	14	13	11	8.2
CFSM	.72	1.23	2.38	1.37	2.37	1.89	2.59	2.20	1.37	2.09	1.48	.79
IN.	.83	1.37	2.74	1.58	2.56	2.19	2.89	2.53	1.54	2.41	1.70	.89

CAL YR 1983	TOTAL	5856.7	MEAN	16.0	MAX	140	MIN	4.2	CFSM	1.30	IN	17.71
WTR YR 1984	TOTAL	7680.5	MEAN	21.0	MAX	270	MIN	5.4	CFSM	1.71	IN	23.23

## GUNPOWDER RIVER BASIN

01583500 WESTERN RUN AT WESTERN RUN, MD

LOCATION.--Lat 39°30'38", long 76°40'37", Baltimore County, Hydrologic Unit 02060003, on right bank 100 ft downstream from bridge on Western Run Road, 0.3 mi southeast of Western Run, 2.5 mi northwest of Cockeysville, 3.2 mi upstream from Beaverdam Run, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--59.8 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1502: 1945-46, 1948(M).

GAGE.--Water-stage recorder. Datum of gage is 262.78 ft Baltimore County datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 69.8 ft<sup>3</sup>/s, 15.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft<sup>3</sup>/s June 22, 1972, gage height, 26.0 ft, from flood-marks, from rating curve extended above 3,200 ft<sup>3</sup>/s on basis of slope-area measurement and contracted-opening measurement at gage height 26.0 ft; minimum discharge, 2.4 ft<sup>3</sup>/s Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	Unknown	1410	4.93	July 7	0445	*2330	6.38
Dec. 28	1945	1580	5.22	Aug. 10	0230	1230	4.58
Feb. 14	1645	1070	4.27	Aug. 15	0145	1230	4.58

Minimum daily discharge, 24 ft<sup>3</sup>/s Oct. 7, 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	33	72	75	60	100	157	120	103	226	54	49
2	30	33	66	75	61	94	144	110	97	87	53	48
3	28	35	64	75	112	90	137	130	93	75	56	51
4	26	35	188	74	261	88	206	293	89	66	97	67
5	26	32	102	73	136	105	480	155	86	72	72	54
6	25	33	107	73	89	110	239	142	85	138	63	49
7	24	32	108	72	70	95	185	141	84	522	56	47
8	24	31	83	69	64	90	163	241	80	98	54	47
9	24	30	75	67	71	90	153	202	77	80	66	46
10	24	83	70	113	97	85	147	152	75	77	307	47
11	35	141	65	121	139	87	142	141	74	75	84	47
12	60	80	240	70	112	84	137	140	72	73	87	46
13	40	56	460	70	98	95	136	130	72	66	160	45
14	45	48	200	70	332	120	139	125	92	63	136	46
15	32	50	150	67	310	112	213	119	72	61	265	45
16	30	74	120	65	178	103	195	115	71	60	90	43
17	30	54	100	65	131	95	158	111	77	59	78	44
18	30	47	92	66	126	91	147	110	82	78	72	43
19	38	44	88	65	109	89	139	117	104	69	69	43
20	36	46	82	65	100	86	134	107	73	60	73	40
21	35	151	77	65	92	129	129	104	69	79	63	39
22	33	69	291	65	87	107	126	101	67	73	61	38
23	95	57	127	65	109	94	147	115	66	66	62	38
24	177	56	99	80	255	90	138	109	86	61	60	38
25	57	192	90	160	124	91	133	98	89	57	57	38
26	46	96	80	243	106	110	123	96	74	55	55	38
27	40	73	75	213	99	94	117	93	65	90	54	37
28	36	118	402	110	151	190	114	95	63	63	54	53
29	35	138	139	77	118	464	115	196	62	59	53	52
30	34	85	89	68	---	249	118	152	65	58	52	44
31	34	---	80	66	---	187	---	114	---	56	51	---
TOTAL	1261	2052	4081	2702	3797	3714	4811	4174	2364	2822	2614	1362
MEAN	40.7	68.4	132	87.2	131	120	160	135	78.8	91.0	84.3	45.4
MAX	177	192	460	243	332	464	480	293	104	522	307	67
MIN	24	30	64	65	60	84	114	93	62	55	51	37
CFSM	.68	1.14	2.21	1.46	2.19	2.01	2.68	2.26	1.32	1.52	1.41	.76
IN.	.78	1.28	2.54	1.68	2.36	2.31	2.99	2.60	1.47	1.76	1.63	.85
CAL YR 1983	TOTAL	29212	MEAN 80.0	MAX 688	MIN 20	CFSM 1.34	IN 18.17					
WTR YR 1984	TOTAL	35754	MEAN 97.7	MAX 522	MIN 24	CFSM 1.63	IN 22.24					

01583570 POND BRANCH AT OREGON RIDGE, MD

LOCATION.--Lat 39°28'49", long 76°41'16", Baltimore County, Hydrologic Unit 02060003, on left bank 500 ft upstream from pond, 600 ft above mouth, 1.0 miles southwest of Beaver Dam Road and Ivy Hill Road interchange, and 2.3 miles west of Cockeysville.

DRAINAGE AREA.--0.16 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1983 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and triple V-notch sharp-crested weir plate. Altitude of gage is 450 ft, from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Nov. 11, 1983, to Jan. 6, 1984, which are fair. Several observations of water temperature were made during the period January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18 ft<sup>3</sup>/s July 1, 1984, gage height, 2.19 ft; minimum discharge, 0.04 ft<sup>3</sup>/s, Sept. 10, 11, 12, 1983.

EXTREMES FOR PERIOD JANUARY 1983 TO SEPTEMBER 1984.--January to September 1983: Maximum discharge during period, 2.4 ft<sup>3</sup>/s Aug. 11, gage height, 1.67 ft; minimum discharge, 0.04 ft<sup>3</sup>/s Sept. 10, 11, 12, gage height, 1.16 ft.

Water year 1984: Maximum discharge, 17 ft<sup>3</sup>/s July 1, gage height, 2.19 ft; minimum discharge, 0.08 ft<sup>3</sup>/s part or all of each day Oct. 6-11, 14, gage height, 1.19 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, JANUARY 1983 TO SEPTEMBER 1983  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				.06	.08	.13	.32	.34	.32	.22	.13	.06
2				.06	.26	.12	.35	.34	.31	.21	.12	.06
3				.06	.14	.11	.46	.34	.29	.20	.12	.06
4				.06	.11	.10	.21	.36	.33	.23	.15	.05
5				.06	.10	.10	.19	.33	.30	.27	.16	.05
6				.08	.10	.11	.19	.32	.27	.24	.16	.05
7				.07	.10	.13	.21	.32	.30	.20	.13	.05
8				.06	.10	.43	.25	.34	.26	.20	.12	.05
9				.06	.09	.25	.34	.33	.25	.18	.11	.05
10				.18	.09	.27	.75	.31	.25	.18	.10	.05
11				.11	.08	.19	.45	.29	.24	.17	.30	.05
12				.08	.08	.18	.32	.29	.24	.17	.17	.06
13				.07	.09	.17	.29	.29	.24	.15	.13	.09
14				.07	.09	.16	.27	.29	.23	.15	.10	.08
15				.08	.10	.15	.81	.40	.23	.15	.09	.07
16				.08	.10	.13	.74	.68	.22	.15	.08	.06
17				.08	.10	.12	.49	.39	.22	.15	.08	.07
18				.08	.12	.30	.41	.33	.28	.15	.08	.06
19				.07	.12	.37	.37	.34	.38	.15	.08	.06
20				.07	.13	.23	.37	.32	.61	.15	.07	.05
21				.07	.13	.37	.36	.52	.41	.15	.06	.14
22				.07	.17	.26	.34	.57	.28	.15	.06	.12
23				.21	.18	.23	.35	.50	.24	.14	.07	.08
24				.10	.16	.23	.72	.40	.24	.15	.07	.07
25				.10	.14	.22	.49	.36	.22	.14	.06	.07
26				.10	.12	.21	.41	.43	.22	.13	.06	.07
27				.09	.11	.53	.40	.35	.22	.13	.06	.07
28				.08	.11	.45	.37	.32	.28	.12	.06	.07
29				.08	---	.38	.37	.38	.29	.12	.06	.07
30				.08	---	.34	.36	.39	.22	.12	.06	.17
31				.08	---	.34	---	.33	---	.12	.06	---
TOTAL				2.60	3.30	7.31	11.96	11.50	8.39	5.14	3.16	2.11
MEAN				.084	.12	.24	.40	.37	.28	.17	.10	.070
MAX				.21	.26	.53	.81	.68	.61	.27	.30	.17
MIN				.06	.08	.10	.19	.29	.22	.12	.06	.05
CFSM				.53	.75	1.50	2.50	2.31	1.75	1.06	.63	.44
IN.				.60	.76	1.69	2.76	2.66	1.94	1.19	.73	.49

## GUNPOWDER RIVER BASIN

01583570 POND BRANCH AT OREGON RIDGE, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.12	.18	.18	.13	.21	.32	.32	.33	1.8	.15	.12
2	.10	.11	.18	.16	.13	.20	.29	.30	.32	.35	.16	.12
3	.10	.15	.16	.14	.15	.19	.28	.49	.30	.29	.24	.15
4	.09	.14	.16	.14	.16	.19	.43	.77	.30	.24	.20	.20
5	.09	.13	.44	.14	.15	.24	.61	.50	.30	.29	.23	.14
6	.08	.13	.20	.14	.13	.22	.42	.46	.29	.30	.17	.13
7	.08	.13	.22	.14	.13	.21	.37	.43	.27	.33	.15	.12
8	.08	.13	.18	.14	.13	.20	.35	.59	.26	.22	.15	.12
9	.08	.12	.17	.13	.13	.20	.33	.47	.25	.21	.14	.12
10	.08	.10	.16	.16	.12	.19	.33	.43	.25	.22	.22	.13
11	.08	.40	.16	.16	.13	.20	.33	.40	.25	.23	.18	.12
12	.23	.22	.50	.16	.13	.19	.33	.41	.24	.22	.20	.11
13	.11	.18	1.0	.14	.13	.26	.33	.40	.47	.19	.21	.12
14	.10	.16	.50	.14	.41	.25	.38	.38	.42	.19	.23	.12
15	.09	.16	.30	.13	.48	.19	.46	.38	.28	.19	.19	.12
16	.09	.20	.24	.16	.32	.19	.42	.38	.25	.18	.15	.12
17	.09	.18	.20	.13	.24	.18	.38	.37	.27	.18	.14	.12
18	.09	.14	.18	.13	.22	.18	.36	.35	.28	.23	.14	.12
19	.14	.14	.18	.13	.19	.18	.35	.38	.31	.20	.14	.11
20	.10	.14	.16	.13	.19	.18	.33	.35	.24	.18	.15	.11
21	.10	.30	.16	.13	.18	.28	.33	.35	.22	.28	.13	.10
22	.10	.30	.70	.12	.18	.20	.34	.34	.22	.22	.13	.10
23	.41	.16	.30	.13	.30	.19	.37	.45	.21	.20	.14	.12
24	.29	.16	.22	.14	.28	.18	.35	.36	.25	.18	.14	.12
25	.13	.50	.18	.16	.22	.20	.34	.33	.25	.17	.13	.12
26	.12	.30	.16	.14	.21	.25	.32	.33	.23	.17	.13	.12
27	.12	.20	.15	.14	.19	.19	.30	.33	.20	.24	.12	.12
28	.12	.40	.80	.13	.30	.36	.30	.33	.19	.17	.13	.18
29	.12	.28	.60	.13	.23	.60	.30	.47	.19	.16	.13	.16
30	.11	.20	.26	.12	---	.42	.33	.42	.21	.16	.13	.15
31	.12	---	.20	.12	---	.35	---	.35	---	.15	.13	---
TOTAL	3.76	5.98	9.20	4.34	5.89	7.27	10.68	12.62	8.05	8.34	4.98	3.81
MEAN	.12	.20	.30	.14	.20	.23	.36	.41	.27	.27	.16	.13
MAX	.41	.50	1.0	.18	.48	.60	.61	.77	.47	1.8	.24	.20
MIN	.08	.10	.15	.12	.12	.18	.28	.30	.19	.15	.12	.10
CFSM	.75	1.25	1.88	.88	1.25	1.44	2.25	2.56	1.69	1.69	1.00	.81
IN.	.87	1.38	2.13	1.00	1.36	1.68	2.47	2.92	1.86	1.93	1.15	.88
CAL YR 1983	TOTAL 74.41	MEAN .20	MAX 1.0	MIN .05	CFSM 1.25	IN 17.19						
WTR YR 1984	TOTAL 84.92	MEAN .23	MAX 1.8	MIN .08	CFSM 1.44	IN 19.62						

## 01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD

LOCATION.--Lat 39°29'13", long 76°38'42", Baltimore County, Hydrologic Unit 02060003, on left bank 50 ft upstream from bridge on Beaverdam Run Lane, 600 ft downstream from bridge on Maryland Route 45 at Cockeysville, and 0.45 mi upstream from mouth.

DRAINAGE AREA.--20.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 245 ft, from topographic map. Previously operated as a low-flow site during water years 1955-59 and 1962-64 at site 600 ft upstream.

REMARKS.--Records good except those for period of no gage-height record, July 1-12, which are fair. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft<sup>3</sup>/s July 1, 1984, gage height 12.10 ft, from floodmarks; minimum discharge, 8.7 ft<sup>3</sup>/s Sept. 8, 19, 20, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1400	715	5.87	June 13	2330	701	5.82
Dec. 28	2030	899	6.52	July 1	Unknown	*3360	a12.10

a From floodmarks.

Minimum discharge, 10 ft<sup>3</sup>/s Oct. 6, 7, 10, gage height, 1.06 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	22	26	21	34	54	40	33	500	22	17
2	14	14	21	23	20	32	46	36	30	75	21	17
3	12	16	21	24	54	30	43	100	29	60	54	33
4	12	17	93	24	67	29	92	142	28	45	42	33
5	12	16	28	24	45	42	196	60	27	35	35	20
6	11	15	45	23	32	38	105	52	27	50	25	17
7	11	13	31	23	26	33	74	48	26	70	22	17
8	12	15	24	22	22	31	59	127	25	50	20	17
9	12	14	22	22	22	33	51	72	25	40	22	17
10	11	72	22	44	23	29	46	53	25	34	63	16
11	13	50	20	36	32	30	43	47	22	32	30	16
12	24	26	119	23	30	27	42	48	22	30	37	16
13	16	19	307	22	30	49	42	43	58	30	40	16
14	18	17	80	24	152	49	57	39	78	28	34	16
15	13	30	52	22	178	38	91	38	26	27	39	16
16	12	29	38	19	85	37	77	36	25	28	25	16
17	12	18	32	20	56	33	56	35	26	26	22	15
18	12	17	28	21	47	31	50	35	25	38	21	15
19	20	16	25	20	40	30	45	38	34	27	23	15
20	15	40	24	20	35	29	42	36	26	26	26	14
21	14	53	23	19	33	54	40	35	23	43	20	16
22	14	22	150	20	30	36	44	33	22	32	19	15
23	101	19	46	19	77	32	50	51	22	28	21	14
24	92	25	34	27	81	30	46	37	34	26	19	13
25	25	86	28	52	48	36	42	33	27	24	18	15
26	21	28	25	89	40	51	39	32	23	23	19	13
27	17	23	23	53	35	34	38	32	22	35	17	14
28	16	77	238	39	58	98	37	31	20	26	18	28
29	16	44	86	30	40	190	38	56	22	25	17	20
30	14	26	39	25	---	94	49	54	24	22	18	18
31	14	---	29	24	---	68	---	38	---	22	17	---
TOTAL	623	872	1775	879	1459	1407	1734	1557	856	1557	826	525
MEAN	20.1	29.1	57.3	28.4	50.3	45.4	57.8	50.2	28.5	50.2	26.6	17.5
MAX	101	86	307	89	178	190	196	142	78	500	63	33
MIN	11	13	20	19	20	27	37	31	20	22	17	13
CFSM	.96	1.39	2.74	1.36	2.41	2.17	2.77	2.40	1.36	2.40	1.27	.84
IN.	1.11	1.55	3.16	1.56	2.60	2.50	3.09	2.77	1.52	2.77	1.47	.93
CAL YR 1983	TOTAL	13184.3	MEAN	36.1	MAX	408	MIN	9.3	CFSM	1.73	IN	23.47
WTR YR 1984	TOTAL	14070.0	MEAN	38.4	MAX	500	MIN	11	CFSM	1.84	IN	25.04



## GUNPOWDER RIVER BASIN

01584050 LONG GREEN CREEK AT GLEN ARM, MD

LOCATION.--Lat 39°27'17", long 76°28'45", Baltimore County, Hydrologic Unit 02060003, on right bank 0.5 mi downstream from bridge on Glen Arm Road, 0.6 mi upstream from State Highway 147 (Harford Road), 0.8 mi east of Glen Arm, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--9.40 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 230 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 12.4 ft<sup>3</sup>/s, 17.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft<sup>3</sup>/s July 1, 1984, gage height, 6.70 ft; minimum discharge, 1.0 ft<sup>3</sup>/s Jan. 29, 1977, gage height, 0.79 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1545	423	3.86	May 29	1245	514	4.06
Dec. 13	1315	431	3.88	June 14	0015	420	3.85
Mar. 29	0600	427	3.87	June 24	1745	416	3.84
Apr. 5	0200	397	3.79	July 1	0730	*3250	6.70
Apr. 5	1900	355	3.67	Aug. 10	0015	1090	4.99

Minimum discharge, 3.8 ft<sup>3</sup>/s Oct. 6, 7, 8, 9, 10, 11, 12, gage height, 1.02 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	5.0	13	12	10	15	22	19	17	240	9.1	6.7
2	4.7	5.0	12	12	9.9	14	20	17	16	20	9.0	6.7
3	4.5	5.4	12	12	24	14	19	25	15	17	16	7.3
4	4.2	5.7	50	12	47	13	34	46	14	15	18	9.5
5	4.0	5.3	17	12	22	18	146	20	13	22	13	7.6
6	4.0	5.7	30	12	13	18	42	19	13	23	9.9	7.0
7	3.8	5.1	21	12	11	15	28	18	13	15	9.1	6.5
8	3.8	5.0	15	11	10	14	24	42	12	13	8.7	6.6
9	3.8	5.0	14	11	10	14	22	25	12	12	23	6.6
10	3.8	13	13	22	12	13	21	19	12	12	86	6.7
11	3.8	11	13	15	16	14	20	18	11	12	13	6.6
12	16	8.9	111	11	13	13	20	18	11	12	15	6.5
13	6.5	7.3	164	11	13	20	19	16	19	11	11	6.4
14	6.6	6.7	33	11	53	28	21	16	41	10	11	6.4
15	4.7	8.5	22	11	85	18	31	15	13	10	10	6.4
16	4.5	12	18	10	28	16	36	15	12	12	9.2	5.9
17	4.3	8.1	16	11	21	15	25	14	12	11	8.9	5.9
18	4.3	7.2	15	11	20	14	23	14	13	13	8.6	5.9
19	5.8	6.9	14	11	17	14	21	15	15	11	10	5.9
20	5.0	14	13	10	16	14	20	14	12	9.9	8.9	5.8
21	4.7	33	12	9.9	15	20	19	14	11	19	8.2	5.5
22	4.3	9.9	54	10	14	15	19	13	11	13	8.0	5.5
23	19	8.5	21	10	31	14	23	18	10	12	8.4	5.6
24	31	8.7	16	11	32	13	21	15	56	11	8.2	5.5
25	8.6	41	14	24	18	15	19	13	17	9.9	7.5	5.6
26	7.4	14	12	52	15	25	18	13	14	9.5	7.3	5.5
27	6.4	11	12	44	15	16	17	12	13	13	7.3	5.3
28	6.0	30	33	15	25	49	17	13	12	10	7.3	7.7
29	5.5	26	18	12	17	149	17	98	11	9.8	7.4	7.1
30	5.0	14	14	11	---	35	21	52	15	9.5	7.3	6.2
31	5.0	---	12	11	---	25	---	21	---	9.1	7.1	---
TOTAL	206.1	346.9	834	449.9	632.9	690	805	687	466	626.7	391.4	192.4
MEAN	6.65	11.6	26.9	14.5	21.8	22.3	26.8	22.2	15.5	20.2	12.6	6.41
MAX	31	41	164	52	85	149	146	98	56	240	86	9.5
MIN	3.6	5.0	12	9.9	9.9	13	17	12	10	9.1	7.1	5.3
CFSM	.71	1.23	2.86	1.54	2.32	2.37	2.85	2.36	1.65	2.15	1.34	.68
IN.	.82	1.37	3.30	1.78	2.50	2.73	3.19	2.72	1.84	2.48	1.55	.76
CAL YR 1983	TOTAL	5451.1	MEAN 14.9	MAX 164	MIN 3.4	CFSM 1.59	IN 21.57					
WTR YR 1984	TOTAL	6328.3	MEAN 17.3	MAX 240	MIN 3.8	CFSM 1.84	IN 25.04					

## 01585100 WHITEMARSH RUN AT WHITE MARSH, MD

LOCATION.--Lat 39°22'15", long 76°26'46", Baltimore County, Hydrologic Unit 02060003, on left bank at upstream side of bridge on State Highway 7, 1.0 mi southwest of White Marsh, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--7.61 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-73-1: 1960(M), 1967-68, 1969(M). WDR MD-DE-79-1: 1965-66(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 38.96 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow affected by operations of sand and gravel plant in vicinity of gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 11.6 ft<sup>3</sup>/s, 20.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft<sup>3</sup>/s Aug. 1, 1971, gage height, 14.05 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of computation of flow through culvert at gage height 10.04 ft and computation of flow through culvert and over road at gage height 14.05 ft; no flow for part of Mar. 20, 1965, caused by construction work above station; minimum daily discharge, 0.10 ft<sup>3</sup>/s Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	2300	782	4.46	Apr. 5	0200	816	4.59
Dec. 12	1530	*1500	7.80	Apr. 5	1845	1260	6.63
Dec. 13	1245	1250	6.56	Aug. 3	2330	1170	6.16
Mar. 29	0615	1420	7.40	Aug. 13	2145	1360	7.12

Minimum discharge, 1.0 ft<sup>3</sup>/s Sept. 22, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.0	6.8	5.1	4.2	8.4	11	10	6.8	32	2.2	1.8
2	2.1	3.2	5.9	4.5	4.2	7.5	9.5	5.8	5.4	4.0	3.9	1.9
3	1.7	5.2	6.0	4.4	14	6.7	8.4	53	5.0	5.2	55	2.3
4	1.4	6.6	106	4.1	21	6.0	42	64	4.2	3.0	36	8.0
5	2.3	3.9	14	4.4	16	23	297	9.8	3.9	16	14	2.5
6	2.1	6.3	70	4.6	7.9	17	43	13	3.9	15	5.4	1.7
7	1.3	3.2	22	4.4	4.6	8.2	17	9.6	3.5	12	12	1.6
8	1.2	2.9	8.8	4.5	4.2	6.5	12	58	3.5	3.6	5.3	1.5
9	1.2	3.1	6.9	3.6	4.2	11	10	21	3.2	3.8	11	1.6
10	1.2	43	6.5	16	4.6	8.9	9.0	8.4	6.5	4.0	7.1	2.0
11	1.3	26	5.5	11	10	13	8.2	6.8	3.9	5.6	23	2.0
12	52	8.7	314	7.5	6.8	7.5	7.8	9.1	2.9	4.3	6.9	1.9
13	7.3	5.1	300	4.2	7.1	61	7.6	5.8	11	2.5	109	1.7
14	7.7	4.3	34	6.5	87	39	10	5.4	8.7	2.4	28	1.7
15	2.2	23	14	4.6	155	14	24	5.0	2.9	2.4	6.1	1.7
16	1.8	23	10	4.1	28	10	70	4.6	2.6	2.3	4.6	1.4
17	1.7	5.6	7.7	3.6	16	7.9	23	4.6	3.5	2.4	3.6	1.3
18	1.7	4.3	6.4	3.6	16	7.1	11	4.2	3.9	15	3.0	1.4
19	7.6	3.9	5.9	3.8	9.4	6.8	8.4	5.9	6.9	3.8	3.6	1.5
20	2.5	52	5.1	3.4	7.8	6.3	7.3	4.6	2.6	2.4	3.1	1.4
21	2.3	72	4.8	3.2	6.8	22	6.8	7.8	2.4	58	2.5	1.3
22	2.0	8.6	141	3.2	6.3	8.6	6.8	4.2	2.5	6.3	2.5	1.2
23	90	5.9	18	3.6	72	6.6	20	13	2.6	3.6	3.2	1.3
24	77	9.0	8.5	7.0	42	6.1	11	5.4	23	3.0	2.5	1.3
25	17	115	6.0	35	12	21	7.3	3.9	5.0	2.5	2.2	1.4
26	7.1	13	5.0	41	7.9	44	6.1	3.5	3.9	2.5	2.2	1.3
27	4.3	7.3	5.0	22	7.0	11	5.8	3.2	2.9	9.7	2.3	1.3
28	3.5	76	110	12	45	110	5.8	12	2.9	2.8	2.6	14
29	3.1	32	19	6.7	16	341	5.5	118	3.0	2.6	2.7	6.3
30	2.8	9.5	9.5	6.2	---	31	21	84	5.6	2.5	2.4	2.1
31	2.9	---	5.6	7.9	---	15	---	12	---	2.2	2.2	---
TOTAL	315.7	584.6	1287.9	255.7	643.0	892.1	732.3	575.6	148.6	237.4	370.1	72.4
MEAN	10.2	19.5	41.5	8.25	22.2	28.8	24.4	18.6	4.95	7.66	11.9	2.41
MAX	90	115	314	41	155	341	297	118	23	58	109	14
MIN	1.2	2.9	4.8	3.2	4.2	6.0	5.5	3.2	2.4	2.2	2.2	1.2
CFSM	1.34	2.56	5.45	1.08	2.92	3.78	3.21	2.44	.65	1.01	1.56	.32
IN.	1.54	2.86	6.29	1.25	3.14	4.36	3.58	2.81	.73	1.16	1.81	.35

CAL YR 1983 TOTAL 6787.41 MEAN 18.6 MAX 314 MIN .59 CFSM 2.44 IN 33.17  
WTR YR 1984 TOTAL 6115.40 MEAN 16.7 MAX 341 MIN 1.2 CFSM 2.19 IN 29.89

## BACK RIVER BASIN

01585200 WEST BRANCH HERRING RUN AT IDLEWYLDE, MD

LOCATION.--Lat 39°22'25", long 76°35'05", Baltimore County, Hydrologic Unit 02060003, on left bank 40 ft downstream from bridge on Regester Avenue, at Idlewylde, 0.1 mi north of Baltimore city limits, 1 mi upstream from mouth, and 1.3 mi east of State Highway 45.

DRAINAGE AREA.--2.13 mi<sup>2</sup>.

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

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

REMARKS.--Records good. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years (water years 1958-64, 1967-84), 2.66 ft<sup>3</sup>/s, 16.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft<sup>3</sup>/s Sept. 11, 1971, gage height, 6.80 ft, from rating curve extended above 90 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 6.37 ft; no flow Aug. 14-24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 290 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 29	1145	492	4.18	July 21	0515	325	3.58
July 1	0600	724	4.84	Aug. 3	2200	*1390	6.22

Minimum discharge, 0.14 ft<sup>3</sup>/s Oct. 3, gage height, 0.77 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	.55	1.4	1.6	1.1	2.1	3.2	2.2	2.7	28	.76	.55
2	.36	.47	1.3	1.6	1.1	2.0	2.9	1.9	2.4	2.1	1.2	.65
3	.30	1.1	1.3	1.5	6.7	1.9	2.7	15	2.3	2.2	26	1.4
4	.31	1.3	19	1.4	3.8	1.8	11	8.2	2.1	1.2	2.8	5.1
5	.30	2.0	2.0	1.4	3.0	6.4	27	2.5	2.0	3.7	3.7	.56
6	.28	.91	13	1.4	1.5	2.7	5.5	4.6	2.3	2.0	1.1	.56
7	.27	.70	2.6	1.4	1.2	2.0	3.5	2.5	1.6	1.3	1.9	.50
8	.28	.55	1.8	1.3	1.2	2.0	2.9	15	1.5	.93	.85	.50
9	.29	.47	1.6	1.3	1.2	3.2	2.7	3.2	1.5	.91	5.8	.53
10	.27	14	1.6	6.7	1.3	2.1	2.7	2.4	4.0	.98	4.5	.50
11	.27	6.7	1.3	2.2	2.7	2.3	2.5	2.3	1.5	2.4	1.9	.50
12	19	1.3	31	1.3	1.4	1.9	2.4	4.0	1.4	1.2	2.8	.46
13	4.2	.80	36	1.3	1.4	12	2.6	2.2	3.4	.97	20	.43
14	.95	.74	4.7	2.3	19	4.8	8.1	2.0	2.0	.82	2.4	.50
15	.42	7.7	2.9	1.3	22	2.6	8.8	1.9	1.2	.82	1.2	.42
16	.38	3.0	2.4	1.3	3.7	2.2	11	1.9	1.2	3.4	.99	.40
17	.38	.91	2.1	1.3	3.2	1.9	3.8	1.8	1.4	.84	.89	.41
18	.36	.80	2.1	1.2	2.7	1.9	2.7	1.8	1.4	6.1	.83	.42
19	3.6	.74	1.8	1.3	2.1	1.8	2.5	2.3	3.9	.94	3.4	.41
20	.68	10	1.6	1.1	2.0	2.0	2.4	3.7	1.2	.80	2.0	.40
21	.43	4.8	1.5	.96	1.8	7.0	2.3	2.2	1.1	20	.80	.41
22	.36	1.2	26	1.0	1.7	1.9	4.2	1.6	1.1	2.3	1.0	.37
23	34	.92	2.7	1.2	17	1.7	4.5	7.7	1.1	1.1	1.3	.37
24	14	4.0	2.0	3.0	5.6	1.7	3.3	1.8	7.9	.94	.87	.38
25	1.8	18	1.7	8.4	2.4	5.2	2.2	1.5	2.0	.91	.64	.49
26	1.0	1.7	1.7	6.6	2.1	8.4	2.1	1.5	1.3	.81	.65	.37
27	.61	1.3	1.6	3.7	2.1	2.6	2.1	1.4	1.2	5.8	.60	.43
28	.59	15	29	1.7	8.2	20	2.0	2.4	1.1	.85	.62	6.2
29	.49	4.8	2.5	1.3	2.5	43	2.0	40	1.1	.83	.63	1.5
30	.50	1.7	1.7	1.4	---	5.0	6.8	12	2.4	.80	.61	.48
31	.52	---	1.6	1.8	---	3.5	---	3.3	---	.80	.56	---
TOTAL	87.82	108.16	203.5	65.26	125.7	159.6	142.4	156.8	61.3	96.75	93.30	26.20
MEAN	2.83	3.61	6.56	2.11	4.33	5.15	4.75	5.06	2.04	3.12	3.01	.87
MAX	34	18	36	8.4	22	43	27	40	7.9	28	26	6.2
MIN	.27	.47	1.3	.96	1.1	1.7	2.0	1.4	1.1	.80	.56	.37
CFSM	1.33	1.70	3.08	.99	2.03	2.42	2.23	2.38	.96	1.47	1.41	.41
IN.	1.53	1.89	3.55	1.14	2.19	2.79	2.49	2.74	1.07	1.69	1.63	.46
CAL YR 1983	TOTAL	1300.65	MEAN	3.56	MAX	46	MIN	.24	CFSM	1.67	IN	22.70
WTR YR 1984	TOTAL	1326.79	MEAN	3.63	MAX	43	MIN	.27	CFSM	1.70	IN	23.16

## BACK RIVER BASIN

77

01585300 STEMMERS RUN AT ROSSVILLE, MD

LOCATION.--Lat 39°20'28", long 76°29'17", Baltimore County, Hydrologic Unit 02060003, on left bank 500 ft upstream from bridge on State Highway 7, at Rossville, 0.9 mi upstream from Brien Run, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--4.46 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1958 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 21.64 ft Baltimore County datum. Prior to Sept. 30, 1972, at site on old channel about 550 ft southeast of present site at datum 2.40 ft lower.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years (water years 1960-72, 1974-84), 6.80 ft<sup>3</sup>/s, 20.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft<sup>3</sup>/s Aug. 1, 1971, gage height, 11.34 ft, from high-water mark in well, site and datum then in use, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum daily discharge, 0.10 ft<sup>3</sup>/s many days in 1962, 1964, and 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1445	950	3.84	Apr. 5	1830	965	3.86
Dec. 13	1215	988	3.89	Aug. 3	2300	1460	4.47
Mar. 29	0545	1270	4.24	Aug. 13	2115	*1650	4.70

Minimum discharge, 0.17 ft<sup>3</sup>/s Oct. 8, 10, 11, gage height, 1.26 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.66	2.6	2.1	2.3	3.8	5.5	3.4	2.9	14	.63	.52
2	.56	.69	2.2	2.1	2.1	3.2	4.4	2.1	2.4	1.4	12	.53
3	.37	1.3	2.2	2.2	6.2	2.8	3.9	33	2.1	2.4	50	.57
4	.30	2.1	53	2.1	9.3	2.6	20	29	1.9	1.0	10	3.6
5	.56	.76	6.1	2.2	8.5	11	134	4.8	1.7	7.9	7.7	.97
6	.76	1.9	37	2.2	4.0	7.9	15	7.4	2.1	6.5	2.1	.56
7	.25	.75	10	2.1	2.3	3.8	7.4	5.8	1.7	5.1	2.3	.49
8	.21	.67	4.4	1.7	2.0	2.9	5.0	25	1.6	1.1	1.7	.48
9	.23	.61	3.3	1.7	2.0	5.5	4.1	8.9	1.5	.87	3.1	.49
10	.23	20	3.0	8.2	2.0	3.6	3.9	4.0	4.5	1.6	1.7	.67
11	.23	11	2.7	5.3	5.0	6.6	3.2	3.1	1.8	3.5	9.4	.78
12	28	3.2	141	2.4	3.2	4.0	3.2	4.9	1.3	2.3	3.8	.66
13	3.0	1.6	149	2.0	3.2	29	2.9	2.8	2.1	.83	82	.52
14	3.1	1.3	14	3.8	47	17	4.4	2.5	3.6	.76	8.7	.51
15	.56	13	6.5	3.6	83	7.1	9.7	2.4	1.1	.72	2.2	.53
16	.43	8.7	4.4	1.8	13	5.0	27	2.2	1.0	.73	1.5	.44
17	.38	2.2	3.4	1.8	7.3	3.8	8.1	2.0	1.2	.79	1.3	.44
18	.41	1.5	2.9	1.7	7.7	3.3	4.8	1.9	1.6	7.0	1.2	.42
19	3.4	1.4	2.6	1.8	4.5	3.0	3.5	2.6	4.4	1.6	3.0	.43
20	.69	29	2.4	1.6	3.9	2.8	2.9	2.1	1.1	.70	1.3	.42
21	.60	30	2.1	1.5	3.2	12	2.8	4.2	.89	17	.90	.37
22	.58	3.2	74	1.6	2.7	4.3	3.6	1.9	.88	2.7	.83	.36
23	44	2.1	7.0	1.9	46	2.9	9.9	7.2	.86	1.1	1.1	.42
24	32	4.1	3.0	4.0	18	2.7	5.4	2.4	13	.82	.88	.44
25	8.2	57	2.5	18	5.9	12	3.4	1.7	2.1	.67	.65	.47
26	2.4	5.5	1.9	24	3.7	23	2.7	1.6	1.7	.61	.64	.48
27	1.3	3.0	2.1	15	3.3	5.7	2.3	2.0	.94	4.9	.64	.37
28	.86	38	54	6.0	22	62	2.2	6.0	.82	.86	.63	6.4
29	.74	14	7.0	4.0	8.0	197	2.2	51	.83	.71	.68	3.1
30	.68	3.9	3.5	3.7	---	13	6.6	35	5.7	.73	.68	.75
31	.66	---	2.3	4.9	---	7.4	---	5.2	---	.64	.62	---
TOTAL	137.09	263.14	612.1	137.0	331.3	470.7	314.0	268.1	69.32	91.54	213.88	27.19
MEAN	4.42	8.77	19.7	4.42	11.4	15.2	10.5	8.65	2.31	2.95	6.90	.91
MAX	44	57	149	24	83	197	134	51	13	17	82	6.4
MIN	.21	.61	1.9	1.5	2.0	2.6	2.2	1.6	.82	.61	.62	.36
CFSM	.99	1.97	4.42	.99	2.56	3.41	2.35	1.94	.52	.66	1.55	.20
IN.	1.14	2.19	5.10	1.14	2.76	3.93	2.62	2.24	.58	.76	1.78	.23

CAL YR 1983 TOTAL 3679.21 MEAN 10.1 MAX 189 MIN .11 CFSM 2.27 IN 30.68  
WTR YR 1984 TOTAL 2935.36 MEAN 8.02 MAX 197 MIN .21 CFSM 1.80 IN 24.48

## BACK RIVER BASIN

01585400 BRIEN RUN AT STEMMERS RUN, MD

LOCATION.--Lat 39°20'01", long 76°28'23", Baltimore County, Hydrologic Unit 02060003, on right bank 0.2 mi upstream from mouth and 0.3 mi north of Stemmers Run.

DRAINAGE AREA.--1.97 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.80 ft Baltimore County datum.

REMARKS.--Records good except those for period of doubtful gage-height record, Dec. 24 to Jan. 25, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 2.61 ft<sup>3</sup>/s, 17.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft<sup>3</sup>/s Aug. 1, 1971, gage height, 10.75 ft, from high-water mark in well, from rating curve extended above 180 ft<sup>3</sup>/s on basis of computation of peak flow through culvert and over road at site 0.8 mile upstream, adjusted for flow from intervening area; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 12	1500	*389	4.36	Apr. 5	1830	325	3.97
Dec. 13	1230	214	3.19	Aug. 3	2315	203	3.10
Mar. 29	0600	272	3.62	Aug. 13	2130	213	3.18

Minimum daily discharge, 0.35 ft<sup>3</sup>/s Oct. 5, 6, 7, 8, 10, 11, 15, 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	.72	1.4	.90	.90	1.6	1.5	1.8	1.0	4.3	.49	.54
2	.37	.60	.68	.90	.87	1.1	1.4	1.3	.79	1.0	7.9	.51
3	.37	.85	.72	.85	2.0	.88	1.3	12	.72	1.5	14	.66
4	.37	1.2	22	.85	4.0	.87	9.9	11	.60	.68	21	.91
5	.35	.41	2.8	.85	3.8	5.0	68	1.7	.61	8.7	4.7	.71
6	.35	.50	18	.85	1.7	3.4	8.3	3.3	.69	4.5	1.7	.53
7	.35	.50	5.0	.80	1.1	1.3	2.6	2.3	.61	2.9	1.7	.49
8	.35	.50	2.0	.75	.80	1.1	1.6	8.6	.61	.82	.84	.54
9	.37	.41	1.7	.75	.74	2.1	1.4	4.0	.54	.89	.85	.60
10	.35	8.0	1.1	4.0	.83	1.4	1.2	1.4	1.7	.95	.88	.60
11	.35	6.1	.72	1.9	1.8	2.8	1.4	.98	.58	1.9	10	.61
12	5.7	1.7	83	.90	1.4	1.6	1.1	1.2	.52	.98	2.3	.71
13	1.3	.64	66	.80	1.5	13	1.2	.87	.50	.60	19	.69
14	.67	.72	6.5	2.0	15	8.5	1.8	.82	.47	.55	4.8	.75
15	.35	5.8	3.6	.80	33	2.8	3.4	.76	.47	.47	1.1	.69
16	.35	3.8	2.7	.75	5.7	1.6	8.6	.74	.47	.49	1.1	.60
17	.35	1.2	2.0	.75	2.8	1.2	2.9	.74	.54	.62	.90	.60
18	.41	.60	1.0	.75	3.0	1.0	1.5	.74	.74	3.3	.69	.60
19	1.5	.60	.89	.75	1.6	1.2	1.2	.92	2.0	.96	1.3	.60
20	.36	9.8	.85	.70	1.3	1.4	.87	.74	.74	.63	.88	.60
21	.38	12	.88	.65	1.2	4.8	.87	.74	.52	11	.61	.66
22	.41	2.2	29	.65	1.6	1.6	1.5	.75	.47	1.4	.70	.60
23	15	1.9	4.1	.70	17	1.1	5.1	2.4	.47	1.0	.69	.60
24	12	2.7	1.5	1.2	9.3	.87	2.2	.82	7.0	.89	.60	.60
25	5.1	19	1.0	6.0	2.2	5.5	1.2	.74	1.1	.61	.60	.65
26	1.9	2.5	.90	5.8	1.3	11	1.1	.74	.78	.60	.60	.64
27	1.3	1.7	.90	4.8	1.2	2.4	.91	.74	.60	2.4	.76	.79
28	.95	13	20	2.5	11	26	.87	3.2	.55	.64	.60	2.9
29	.72	5.3	2.0	1.3	4.0	74	.82	8.9	.47	.60	.60	1.2
30	.72	1.9	1.0	1.2	---	4.4	2.5	12	8.8	.62	.60	.60
31	.60	---	.90	1.5	---	2.1	---	1.9	---	.60	.57	---
TOTAL	54.11	106.85	284.84	47.90	132.64	187.62	138.24	88.84	35.66	57.10	103.06	21.78
MEAN	1.75	3.56	9.19	1.55	4.57	6.05	4.61	2.87	1.19	1.84	3.32	.73
MAX	15	19	83	6.0	33	74	68	12	8.8	11	21	2.9
MIN	.35	.41	.68	.65	.74	.87	.82	.74	.47	.47	.49	.49
CFSM	.89	1.81	4.67	.79	2.32	3.07	2.34	1.46	.60	.93	1.69	.37
IN.	1.02	2.02	5.38	.90	2.50	3.54	2.61	1.68	.67	1.08	1.95	.41
CAL YR 1983	TOTAL	1459.55	MEAN 4.00	MAX 83	MIN .30	CFSM 2.03	IN 27.55					
WTR YR 1984	TOTAL	1258.64	MEAN 3.44	MAX 83	MIN .35	CFSM 1.75	IN 23.76					

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD

LOCATION.--Lat 39°35'35", long 76°58'05", Carroll County, Hydrologic Unit 02060003, on left bank 80 ft upstream from culvert, 0.7 mi upstream from mouth, and 1.8 mi northeast of Westminster.

DRAINAGE AREA.--3.29 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1432: Drainage area, 1954-55. WDR MD-DE-75-1: 1972(M). WDR MD-DE-79-1: 1973-78(P).

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

REMARKS.--Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mi above station since August 1957, capacity, 113,700,000 gal. Beginning October 1972 occasional large diversions past the gaging station from the reservoir through a 30-inch pipe. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years, 3.54 ft<sup>3</sup>/s, 14.61 in/yr, unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft<sup>3</sup>/s Sept. 26, 1975, gage height, 7.47 ft, from rating curve extended above 200 ft<sup>3</sup>/s on the basis of computations of flows through culvert at gage heights 5.54 ft and 7.47; minimum daily discharge, 0.22 ft<sup>3</sup>/s Jan. 30, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 80 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1515	124	3.02	July 6	2345	106	2.92
Dec. 28	1645	106	2.92	Aug. 9	2145	89	2.82
Feb. 14	1345	99	2.88	Aug. 13	0815	*399	4.02

Minimum daily discharge, 0.58 ft<sup>3</sup>/s Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.5	1.9	.70	2.8	5.5	6.5	6.7	2.7	5.3	2.7	2.4
2	.84	1.5	2.0	1.3	2.7	5.2	5.4	6.1	2.5	3.6	2.7	1.8
3	1.3	1.3	2.0	1.0	12	5.0	5.0	12	3.6	1.6	4.0	3.4
4	1.3	1.3	9.1	.75	15	4.8	14	13	2.7	3.0	3.8	4.3
5	1.2	1.3	2.5	1.2	4.9	7.0	25	7.8	2.2	6.2	3.8	2.4
6	1.2	1.0	5.3	1.8	3.5	6.5	12	7.6	2.2	9.5	2.8	2.2
7	1.2	.73	4.7	1.5	3.1	5.3	8.7	7.9	2.3	17	2.7	2.3
8	1.2	.96	3.5	1.1	2.5	4.7	7.6	13	2.9	4.0	2.3	2.2
9	1.2	.58	1.9	1.8	5.0	4.7	7.1	9.2	2.2	2.7	11	1.8
10	1.3	3.6	1.6	3.4	6.3	4.4	8.0	7.7	3.0	3.1	7.2	2.3
11	1.2	6.1	1.2	2.9	12	4.6	8.7	7.1	2.3	2.4	2.9	2.4
12	2.4	3.2	6.7	2.0	6.2	4.1	8.1	5.8	2.6	2.8	3.4	2.3
13	1.1	1.6	44	1.8	5.2	4.9	7.5	4.0	3.7	3.4	37	2.3
14	1.2	1.2	10	1.6	26	8.7	7.6	4.1	3.8	3.5	11	2.3
15	1.1	2.4	4.0	1.6	17	5.5	13	3.9	3.5	3.3	7.7	2.3
16	.81	2.7	2.7	1.6	9.0	2.7	12	3.8	3.6	3.3	4.3	1.7
17	1.1	2.3	2.2	1.7	7.0	2.3	10	3.6	3.9	2.3	3.0	2.3
18	1.3	2.1	2.1	1.9	6.5	2.2	8.9	3.7	8.1	4.4	2.8	2.3
19	1.5	2.0	2.8	.95	5.2	2.1	8.1	4.3	7.3	3.1	5.0	2.0
20	1.3	2.9	2.1	1.8	4.7	2.0	7.7	3.7	3.1	2.8	6.4	2.2
21	1.0	6.8	1.4	1.3	4.3	6.3	7.3	4.8	3.9	3.0	2.8	2.1
22	1.4	2.1	23	1.3	4.0	3.2	7.3	2.9	3.6	4.1	2.6	2.1
23	7.4	2.0	4.0	1.3	12	2.1	8.9	4.8	3.2	2.6	4.4	1.6
24	6.9	1.8	1.7	2.3	18	2.2	8.2	3.9	5.3	3.1	3.1	2.1
25	1.5	15	1.1	5.4	8.2	2.2	7.3	3.4	4.3	3.0	2.6	2.2
26	1.8	4.2	2.0	7.0	6.3	5.9	6.8	2.8	4.2	2.9	2.6	2.3
27	1.5	1.5	2.0	11	5.5	2.3	6.7	3.4	3.2	3.7	2.5	2.1
28	1.4	6.3	18	3.8	12	11	6.5	2.9	2.9	2.6	2.5	2.6
29	1.6	3.6	3.6	1.7	7.0	19	6.4	6.4	3.2	2.1	2.5	2.1
30	.95	2.3	1.6	2.7	---	14	7.5	7.7	3.2	2.7	2.4	2.3
31	.84	---	.93	3.0	---	9.2	---	4.0	---	2.4	2.2	---
TOTAL	51.44	85.87	171.63	73.20	233.9	169.6	263.8	182.0	105.2	119.5	156.7	68.7
MEAN	1.66	2.86	5.54	2.36	8.07	5.47	8.79	5.87	3.51	3.85	5.05	2.29
MAX	7.4	15	44	11	26	19	25	13	8.1	17	37	4.3
MIN	.81	.58	.93	.70	2.5	2.0	5.0	2.8	2.2	1.6	2.2	1.6
CFSM	.51	.87	1.68	.72	2.45	1.66	2.67	1.78	1.07	1.17	1.54	.70
IN.	.58	.97	1.94	.83	2.64	1.92	2.98	2.06	1.19	1.35	1.77	.78

CAL YR 1983 TOTAL 1222.77 MEAN 3.35 MAX 48 MIN .58 CFSM 1.02 IN 13.82  
WTR YR 1984 TOTAL 1681.54 MEAN 4.59 MAX 44 MIN .58 CFSM 1.40 IN 19.01

## 01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD

LOCATION.--Lat 39°30'00", long 76°53'00", Carroll County, Hydrologic Unit 02060003, on left bank at downstream side of private footbridge at Cedarhurst, 0.8 mi downstream from Roaring Run, 8 mi southeast of Westminster, and 16.5 mi upstream from confluence with South Branch.

DRAINAGE AREA.--56.6 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1903: 1959-60.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 425 ft, from topographic map.

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 2.65 ft<sup>3</sup>/s diverted above station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 64.9 ft<sup>3</sup>/s, 15.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,800 ft<sup>3</sup>/s June 22, 1972, gage height, 20.75 ft, from high-water mark in well, from rating curve extended above 4,100 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.3 ft<sup>3</sup>/s Sept. 17, 1983, result of regulation; minimum daily discharge, 3.1 ft<sup>3</sup>/s Sept. 10, 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1700	1860	5.82	July 7	0315	*2260	6.43
Dec. 22	1100	1170	4.39	Aug. 10	0015	1010	4.04
Dec. 28	Unknown	Unknown	Unknown	Aug. 13	1030	1120	4.27
Feb. 14	1545	1390	4.86	Aug. 14	2200	1180	4.40

Minimum discharge, 1.8 ft<sup>3</sup>/s Nov. 5, result of regulation, gage height, 1.11 ft; minimum daily discharge, 14 ft<sup>3</sup>/s Oct. 5-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	22	62	58	40	111	157	105	79	98	40	39
2	18	22	52	58	40	103	138	91	75	60	39	39
3	16	24	52	56	107	97	128	116	71	51	97	41
4	15	24	183	54	275	92	254	291	68	48	132	69
5	14	20	93	54	121	114	531	130	64	58	59	47
6	14	24	110	54	73	122	253	122	63	121	51	41
7	14	22	116	52	50	102	198	123	62	617	43	38
8	14	22	78	49	47	93	167	223	60	91	40	37
9	14	21	67	44	69	91	150	172	57	69	89	38
10	14	69	62	72	109	85	141	135	56	63	196	39
11	14	139	56	73	191	87	136	123	54	63	70	41
12	47	79	111	44	130	82	129	123	52	60	69	38
13	27	44	783	44	107	89	128	111	53	51	343	37
14	30	33	269	46	435	126	134	107	65	51	203	37
15	20	42	151	41	312	117	246	100	52	50	201	39
16	18	76	123	38	184	102	189	96	51	49	85	37
17	17	42	103	41	136	92	156	92	57	46	69	35
18	17	34	87	42	130	87	144	91	83	79	62	34
19	22	31	78	42	108	83	130	96	131	56	62	34
20	19	34	69	40	98	81	122	88	59	47	114	34
21	19	169	56	38	90	109	116	87	55	53	60	33
22	18	58	353	38	83	95	113	84	52	71	53	33
23	108	43	134	38	118	81	138	97	52	52	67	34
24	217	43	100	70	347	76	127	91	88	49	59	33
25	48	282	80	139	144	79	118	79	74	46	49	33
26	35	105	65	207	122	108	106	77	64	43	48	33
27	29	69	58	270	106	84	102	74	52	61	45	32
28	26	127	400	129	198	180	99	77	50	46	44	47
29	25	132	100	67	138	386	98	140	48	44	43	43
30	23	78	75	52	---	265	100	128	52	43	42	38
31	23	---	60	49	---	196	---	93	---	41	41	---
TOTAL	955	1930	4186	2099	4108	3615	4748	3562	1899	2377	2615	1153
MEAN	30.8	64.3	135	67.7	142	117	158	115	63.3	76.7	84.4	38.4
MAX	217	282	783	270	435	386	531	291	131	617	343	69
MIN	14	20	52	38	40	76	98	74	48	41	39	32
CFSM	.54	1.14	2.39	1.20	2.51	2.07	2.79	2.03	1.12	1.36	1.49	.68
IN.	.63	1.27	2.75	1.38	2.70	2.38	3.12	2.34	1.25	1.56	1.72	.76
CAL YR 1983	TOTAL	25706	MEAN 70.4	MAX 925	MIN 12	CFSM 1.24	IN 16.89					
WTR YR 1984	TOTAL	33247	MEAN 90.8	MAX 783	MIN 14	CFSM 1.60	IN 21.85					

01586210 BEAVER RUN NEAR FINKSBURG, MD

LOCATION.--Lat 39°29'22", long 76°54'12", Carroll County, Hydrologic Unit 02060003, on downstream center line of bridge pier on Hughes Road, 0.25 mi northwest of intersection of Hughes Road and Maryland Route 91, and 0.75 mi southwest of Finksburg.

DRAINAGE AREA.--14.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 439.12 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft<sup>3</sup>/s Aug. 4, 1984, gage height, 4.28 ft; minimum discharge observed, 2.0 ft<sup>3</sup>/s Sept. 12, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,030 ft<sup>3</sup>/s Aug. 4, gage height, 4.28 ft, no other peak above base of 500 ft<sup>3</sup>/s; minimum discharge, 3.5 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	5.6	17	20	14	30	46	27	19	21	9.5	12
2	4.0	5.6	15	19	14	29	41	25	18	14	9.9	11
3	3.8	5.7	14	18	30	27	38	36	17	13	88	15
4	3.8	6.0	45	18	65	26	69	61	17	12	91	15
5	3.8	5.6	23	18	36	33	111	34	16	15	18	13
6	3.7	5.8	30	18	18	32	66	32	17	26	15	12
7	3.8	5.9	27	18	16	28	55	32	16	108	13	11
8	3.8	5.8	22	17	15	26	48	68	16	21	12	11
9	3.8	5.3	19	16	20	26	44	47	15	16	12	11
10	3.7	21	19	26	30	29	41	37	15	16	17	11
11	3.5	30	17	20	46	24	39	34	18	15	20	11
12	11	16	29	18	34	23	37	34	16	15	100	11
13	7.1	11	169	16	28	25	36	31	14	13	110	10
14	7.7	9.4	64	15	116	34	42	30	18	12	75	10
15	4.9	11	41	15	77	30	64	29	14	12	45	10
16	4.5	18	33	15	50	29	52	28	14	11	26	9.5
17	4.3	11	28	15	39	27	43	26	15	11	22	9.2
18	4.2	9.3	25	15	38	26	39	26	17	22	20	9.4
19	6.0	8.7	23	15	32	25	36	28	25	14	26	8.8
20	5.2	11	21	14	30	24	35	26	15	12	36	8.8
21	5.0	36	19	14	27	30	33	25	14	14	18	8.4
22	4.6	14	79	14	25	27	32	24	13	16	16	8.4
23	30	11	33	15	42	24	38	29	13	13	18	8.6
24	40	12	30	17	57	23	34	26	22	12	17	8.7
25	10	60	26	30	35	24	32	24	18	11	15	9.1
26	8.4	23	22	50	30	34	30	22	15	10	14	9.3
27	7.0	18	20	60	28	26	29	20	14	14	13	9.5
28	6.6	37	110	30	51	52	28	20	13	11	13	14
29	6.2	29	35	22	34	92	27	32	12	10	13	13
30	5.6	19	24	18	---	68	28	29	13	10	13	12
31	5.6	---	22	16	---	53	---	22	---	9.9	12	---
TOTAL	226.3	466.7	1101	632	1077	1006	1293	964	479	529.9	927.4	320.7
MEAN	7.30	15.6	35.5	20.4	37.1	32.5	43.1	31.1	16.0	17.1	29.9	10.7
MAX	40	60	169	60	116	92	111	68	25	108	110	15
MIN	3.5	5.3	14	14	14	23	27	20	12	9.9	9.5	8.4
CFSM	.52	1.11	2.54	1.46	2.65	2.32	3.08	2.22	1.14	1.22	2.14	.76
IN.	.60	1.24	2.93	1.68	2.86	2.67	3.44	2.56	1.27	1.41	2.46	.85
CAL YR 1983	TOTAL	6745.3	MEAN 18.5	MAX 204	MIN 2.3	CFSM 1.32	IN 17.92					
WTR YR 1984	TOTAL	9023.0	MEAN 24.7	MAX 169	MIN 3.5	CFSM 1.76	IN 23.97					



## 01586610 MORGAN RUN NEAR LOUISVILLE, MD

LOCATION.--Lat 39°27'07", long 76°57'20", Carroll County, Hydrologic Unit 02060003, on right downstream wingwall of bridge on London Bridge Road, 1.4 mi southwest of Gamber, and 1.65 mi south of the intersection of Maryland Route 32, and 1.7 mi west of Louisville.

DRAINAGE AREA.--28.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 430 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,010 ft<sup>3</sup>/s Apr. 15, 1983, gage height, 5.17 ft; minimum discharge observed, 6.2 ft<sup>3</sup>/s Sept. 20, 21, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1945	*929	5.00	Feb. 14	1345	818	4.76
Dec. 28	1800	858	4.85				

Minimum discharge, 7.7 ft<sup>3</sup>/s Oct. 5, 6, 7, 8, 9, 10, 11.

REVISIONS.--The peak discharges for the water year 1983 have been revised to 818 ft<sup>3</sup>/s Apr. 10, 1983, gage height, 4.76 ft, and 1,010 ft<sup>3</sup>/s Apr. 15, 1983, gage height, 5.17 ft, superseding figures published in the report for 1983.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	38	46	32	77	111	63	45	43	18	21
2	9.6	12	33	42	32	73	99	58	42	30	20	21
3	8.8	12	31	41	100	69	91	79	40	26	51	27
4	8.3	12	97	40	180	66	162	132	38	25	96	34
5	8.0	12	58	40	61	78	243	76	36	25	29	25
6	7.8	12	70	40	45	77	157	73	39	35	24	22
7	7.7	12	67	40	38	69	125	72	38	150	22	21
8	7.7	11	51	38	36	64	108	131	35	40	21	20
9	7.7	11	47	36	48	64	98	102	33	31	20	20
10	7.7	39	45	60	62	60	91	83	32	30	34	20
11	7.7	53	41	48	101	61	87	76	31	29	45	20
12	17	28	56	40	70	57	82	74	30	28	170	20
13	12	19	480	36	61	62	80	68	42	25	179	19
14	12	16	200	34	283	79	89	66	48	23	116	19
15	9.3	18	105	34	199	74	136	62	31	22	67	19
16	8.8	29	77	34	132	70	113	60	30	22	48	18
17	8.7	19	63	34	102	66	94	57	31	23	42	18
18	8.7	16	54	34	93	63	87	56	40	44	38	17
19	10	15	50	34	80	62	80	58	69	28	37	17
20	10	18	43	32	75	60	76	54	33	23	48	17
21	10	55	40	32	70	80	73	53	30	26	33	16
22	9.4	24	168	33	66	70	72	50	28	29	31	16
23	39	19	78	36	95	63	81	57	28	27	34	16
24	62	19	57	40	136	60	75	52	44	23	32	16
25	20	127	50	70	89	61	70	47	42	20	28	16
26	16	55	48	120	78	84	66	45	35	20	27	16
27	14	38	46	140	73	67	64	44	28	27	25	15
28	12	78	261	80	119	124	62	45	27	21	25	24
29	12	71	95	50	89	242	62	62	26	20	25	21
30	12	45	60	40	---	172	65	63	27	20	24	18
31	12	---	55	35	---	133	---	49	---	19	23	---
TOTAL	406.9	907	2664	1459	2645	2507	2899	2067	1078	954	1432	589
MEAN	13.1	30.2	85.9	47.1	91.2	80.9	96.6	66.7	35.9	30.8	46.2	19.6
MAX	62	127	480	140	283	242	243	132	69	150	179	34
MIN	7.7	11	31	32	32	57	62	44	26	19	18	15
CFSM	.47	1.08	3.07	1.68	3.26	2.89	3.45	2.38	1.28	1.10	1.65	.70
IN.	.54	1.20	3.54	1.94	3.51	3.33	3.85	2.75	1.43	1.27	1.90	.78
CAL YR 1983	TOTAL	15291.8	MEAN 41.9	MAX 480	MIN 6.6	CFSM 1.50	IN 20.32					
WTR YR 1984	TOTAL	19607.9	MEAN 53.6	MAX 480	MIN 7.7	CFSM 1.91	IN 26.05					

## 01589000 PATAPSCO RIVER AT HOLLOFIELD, MD

LOCATION.--Lat 39°18'36", long 76°47'34", Baltimore County, Hydrologic Unit 0206003, on left bank at downstream side of highway bridge at Hollofield, 0.3 mi downstream from Dogwood Run, 3.0 mi north of Ellicott City, and 28 mi upstream from mouth.

DRAINAGE AREA.--285 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 187.7 ft National Geodetic Vertical Datum of 1929. June 26 to Dec. 8, 1972, nonrecording gage at same site and datum. Prior to June 22, 1972, water-stage recorder at site on opposite bank at same datum.

REMARKS.--Records good except those for January and February, which are fair. Flow regulated by Liberty Reservoir 11 mi upstream beginning July 22, 1954, usable capacity, 42,070,000,000 gal; dead storage, 1,260,000,000 gal. Diversions above station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek), and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore, and beginning February 1970 for a small municipal supply for part of Carroll County. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,600 ft<sup>3</sup>/s June 22, 1972, gage height, 31.3 ft, from flood-marks, from rating curve extended above 27,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 6 ft<sup>3</sup>/s Sept. 6, 1944; minimum daily discharge, 9.6 ft<sup>3</sup>/s Aug. 12, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,270 ft<sup>3</sup>/s July 1, gage height, 7.19 ft; minimum daily discharge, 27 ft<sup>3</sup>/s Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	33	134	190	135	296	880	383	277	954	75	73
2	39	33	114	180	130	274	692	317	242	159	176	63
3	37	35	106	170	185	271	576	357	198	121	240	67
4	33	56	488	170	500	246	823	1190	179	103	928	277
5	33	151	220	170	320	286	2060	740	162	98	181	119
6	29	154	243	170	220	388	1580	562	152	166	144	84
7	28	151	250	170	160	329	1140	529	157	235	116	72
8	30	41	164	160	150	284	861	717	152	235	108	68
9	32	27	145	160	150	310	685	1020	142	153	103	67
10	32	110	139	180	150	247	590	667	139	118	224	67
11	33	317	123	240	260	243	536	523	136	103	152	68
12	91	148	227	170	240	243	485	467	132	93	607	73
13	74	73	1710	150	220	269	460	426	132	82	1910	69
14	80	58	1040	140	1030	386	479	386	135	77	1080	73
15	51	72	332	140	830	408	1170	342	125	77	770	82
16	45	148	249	140	520	354	1090	313	117	80	414	79
17	43	89	210	140	330	339	833	285	123	73	247	76
18	42	69	185	140	300	277	662	260	133	95	166	73
19	50	63	172	140	250	260	563	276	153	98	135	78
20	52	71	160	130	230	243	504	267	126	84	200	75
21	52	354	150	130	210	344	448	257	125	115	138	57
22	48	133	750	130	193	359	408	233	127	105	110	55
23	212	93	350	150	259	305	523	242	132	93	110	51
24	508	91	300	200	582	256	491	303	145	84	98	52
25	125	611	240	400	291	260	454	234	201	77	84	52
26	77	227	220	500	245	504	397	207	144	73	75	51
27	57	148	200	550	224	359	354	194	126	91	71	79
28	46	294	600	370	389	640	324	187	117	84	80	72
29	41	350	500	190	346	2440	324	325	115	73	77	81
30	36	167	220	170	---	1540	315	538	124	77	77	70
31	34	---	190	155	---	1250	---	374	---	73	80	---
TOTAL	2139	4367	10131	6195	9049	14210	20707	13121	4468	4149	8976	2323
MEAN	69.0	146	327	200	312	458	690	423	149	134	290	77.4
MAX	508	611	1710	550	1030	2440	2060	1190	277	954	1910	277
MIN	28	27	106	130	130	243	315	187	115	73	71	51
(#)	35520	35350	39280	39610	43260	43800	43880	43670	43350	43500	43920	42700
(#)	166	159	203	229	229	220	222	232	228	226	227	238
CAL YR 1983	TOTAL	64156	MEAN 176	MAX 1720	MIN 27	# 173						
WTR YR 1984	TOTAL	99835	MEAN 273	MAX 2440	MIN 27	# 215						

\* Month-end contents, in millions of gallons in Liberty Reservoir, contents on Sept. 30, 1983: 38,410,000,000 gal; records furnished by Baltimore Department of Public Works.

\* Diversions, in cubic feet per second, above station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records furnished by cities of Westminster and Baltimore, respectively.

## 01589100 EAST BRANCH HERBERT RUN AT ARBUTUS, MD

LOCATION.--Lat 39°14'24", long 76°41'33", Baltimore County, Hydrologic Unit 02060003, on left bank 50 ft upstream from bridge on Tom Day Boulevard at U.S. Route 1 in Arbutus, 0.5 mi upstream from mouth, and 2 mi south of Baltimore city limits.

DRAINAGE AREA.--2.47 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-81: 1979.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 45 ft, from topographic map. Prior to August 1981 at site 100 ft downstream at same datum.

REMARKS.--Records good. Slight regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 3.35 ft<sup>3</sup>/s, 18.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,460 ft<sup>3</sup>/s Sept. 6, 1979, gage height, 13.7 ft, present site, from floodmarks, from rating curve extended above 280 ft<sup>3</sup>/s on basis of culvert measurement at gage height 5.0 ft, present site, discharge, 580 ft<sup>3</sup>/s and culvert and flow-over-road measurement of peak flow at gage height 13.7 ft present site, from floodmarks; minimum daily discharge, 0.30 ft<sup>3</sup>/s July 24, Sept. 4, 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 29	0445	538	4.94	Aug. 11	0515	*1060	7.51
July 21	Unknown	410	4.26	Aug. 13	0645	795	6.18
Aug. 3	2230	580	5.15	Aug. 13	0900	652	5.50

Minimum daily discharge, 0.44 ft<sup>3</sup>/s Oct. 7, 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	.72	1.8	1.5	1.3	2.4	3.6	1.7	2.2	11	1.1	.72
2	.61	.84	1.7	1.5	1.3	2.3	3.2	1.7	1.9	1.6	2.0	.72
3	.51	1.1	1.4	1.4	4.0	2.1	2.9	13	1.8	1.9	22	1.7
4	.51	1.4	25	1.5	2.9	2.0	12	10	1.8	.93	2.6	4.1
5	1.7	.61	2.6	1.5	3.6	6.0	20	2.3	1.6	3.0	1.8	.77
6	.51	.61	18	1.5	1.8	3.0	5.4	5.3	1.5	2.0	.80	.61
7	.44	.55	3.6	1.3	1.4	2.1	3.7	3.4	1.3	1.3	.70	.61
8	.44	.54	2.2	1.2	1.4	2.3	3.2	13	1.3	1.0	.61	.61
9	.44	.61	2.0	1.1	1.3	4.0	2.9	3.6	1.3	1.0	.61	.61
10	.44	16	1.8	5.3	1.2	2.4	2.7	2.5	1.3	1.0	5.9	.61
11	1.0	7.4	1.7	2.7	2.5	3.2	2.6	2.2	1.3	4.0	57	.61
12	13	1.3	30	1.2	1.5	1.9	2.4	3.5	1.1	2.0	15	.61
13	4.2	1.2	49	1.2	1.5	16	2.5	2.0	1.1	1.3	109	.61
14	1.7	1.1	5.1	2.6	24	5.8	3.6	1.8	1.1	.80	5.2	.61
15	1.1	8.4	3.2	1.4	35	3.1	8.0	1.8	.98	.80	2.5	.61
16	1.1	3.2	2.3	1.2	4.7	2.7	7.9	1.7	.98	1.1	1.7	.61
17	1.2	1.3	1.9	1.2	3.5	2.4	3.0	1.7	.98	1.0	1.5	.61
18	1.3	1.5	1.8	1.2	3.1	2.2	2.4	1.7	1.2	1.8	1.4	.61
19	3.7	1.3	1.7	1.5	2.4	2.2	2.3	2.0	4.3	.90	2.0	.61
20	1.4	13	1.5	1.2	2.1	2.1	2.2	1.7	.98	.90	3.1	.61
21	1.2	6.7	1.4	1.1	2.0	12	2.2	1.6	.98	18	1.1	.61
22	1.1	1.3	32	1.1	1.8	2.7	4.2	1.5	.98	4.9	1.1	.61
23	33	1.1	3.1	1.1	22	2.2	5.1	7.3	.98	.94	1.1	.61
24	12	4.1	2.0	1.5	6.2	2.0	2.8	1.7	3.2	.74	1.1	.61
25	3.3	25	1.7	6.0	3.1	6.8	2.1	1.4	1.4	.61	.98	.61
26	1.2	2.2	1.6	6.5	2.5	9.8	2.0	1.1	1.1	.61	.94	.61
27	.87	1.6	1.6	3.4	2.4	3.3	2.0	1.1	.84	3.7	.84	.68
28	.68	18	26	2.4	14	38	1.8	2.1	.84	.83	.84	4.7
29	.72	4.3	2.8	1.5	3.8	88	1.8	41	.84	.68	.84	1.5
30	.72	2.0	1.6	1.7	---	12	2.1	13	3.0	.61	.85	.61
31	.65	---	1.5	2.0	---	4.8	---	2.9	---	.61	.72	---
TOTAL	91.46	128.98	233.6	61.5	158.3	251.8	122.6	151.3	44.18	71.56	246.93	28.34
MEAN	2.95	4.30	7.54	1.98	5.46	8.12	4.09	4.88	1.47	2.31	7.97	.94
MAX	33	25	49	6.5	35	88	20	41	4.3	18	109	4.7
MIN	.44	.54	1.4	1.1	1.2	1.9	1.8	1.1	.84	.61	.61	.61
CFSM	1.19	1.74	3.05	.80	2.21	3.29	1.66	1.98	.60	.94	3.23	.38
IN.	1.38	1.94	3.52	.93	2.38	3.79	1.85	2.28	.67	1.08	3.72	.43

CAL YR 1983	TOTAL	1677.65	MEAN 4.60	MAX 90	MIN .44	CFSM 1.86	IN 25.26
WTR YR 1984	TOTAL	1590.55	MEAN 4.35	MAX 109	MIN .44	CFSM 1.76	IN 23.95

01589300 GWYNNS FALLS AT VILLA NOVA, MD

LOCATION.--Lat 39°20'45", long 76°44'01", Baltimore County, Hydrologic Unit 02060003, on right bank 300 ft downstream from bridge on Essex Road, 300 ft north of State Highway 26 (Liberty Road), in Villa Nova, 1.1 mi west of Baltimore city limits, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--32.5 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-83: 1981-82(P).

GAGE.--Water-stage recorder. Datum of gage is 361.32 ft Baltimore County datum. Prior to Aug. 27, 1963, and Oct. 25, 1972, to Sept. 20, 1973, water-stage recorder, and June 26, 1972, to Oct. 24, 1972, nonrecording gage at site 300 ft upstream at same datum.

REMARKS.--Records good. Slight diurnal fluctuation at times from unknown source above station. Small diversion for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 39.7 ft<sup>3</sup>/s, 16.59 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft<sup>3</sup>/s June 22, 1972, gage height, 21.5 ft, from floodmarks, from rating curve extended above 4,200 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.7 ft<sup>3</sup>/s Sept. 7, 8, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21, 1956, reached a stage of 12.6 ft, discharge, 5,270 ft<sup>3</sup>/s on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1430	1210	5.48	Aug. 3	2215	1010	5.00
Feb. 14	1600	865	4.64	Aug. 4	0130	1160	5.37
Mar. 29	0530	1320	5.72	Aug. 11	0715	943	4.84
May 4	0100	1130	5.30	Aug. 13	1130	*8690	al5.5
July 1	0645	4420	10.70	Aug. 14	0400	2040	7.60

a From floodmarks.

Minimum discharge, 8.6 ft<sup>3</sup>/s Oct. 7-10.

REVISIONS.--Some peak discharges and the annual maximum (\*) for water year 1981 have been revised as shown in the following table. They supersede figures published in the report for 1983.

Water year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Water year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
1981	Feb. 23, 1981	1545	896	4.72	1981	June 14, 1981	0145	*2420	7.80

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	35	32	28	41	56	68	38	1030	17	24
2	14	17	32	30	28	37	49	42	34	48	20	24
3	13	19	30	30	65	36	46	152	33	41	95	28
4	12	22	235	29	118	34	162	329	32	29	236	72
5	12	18	55	31	70	56	357	68	30	36	35	30
6	11	19	100	31	46	56	96	64	41	75	31	25
7	11	18	64	31	35	40	62	59	36	42	23	24
8	11	16	38	29	30	37	52	228	29	27	28	23
9	10	15	33	29	28	41	49	125	27	24	27	22
10	11	138	33	62	29	34	47	60	25	24	129	23
11	11	165	30	69	49	34	45	52	25	31	135	22
12	88	47	198	33	43	34	44	57	24	26	47	22
13	25	29	656	30	43	69	45	48	23	22	3760	21
14	30	25	106	33	298	97	69	45	38	22	556	21
15	15	43	55	31	292	60	193	42	24	20	71	20
16	14	65	44	27	99	49	153	40	23	23	53	19
17	13	31	40	26	60	41	69	39	25	21	44	19
18	14	25	36	25	58	38	56	38	26	28	37	19
19	25	23	35	25	47	37	50	43	93	25	48	19
20	16	47	32	25	44	36	47	38	25	19	66	18
21	15	168	32	24	39	102	45	40	23	65	35	18
22	13	36	301	23	36	51	47	36	22	58	32	17
23	202	29	66	23	125	40	78	71	23	28	36	17
24	244	35	42	36	193	37	57	49	38	22	32	17
25	41	276	28	70	57	48	50	36	37	19	28	18
26	27	55	26	108	44	113	44	34	27	18	27	17
27	22	36	26	77	41	48	42	32	22	32	27	16
28	19	189	220	48	119	238	41	34	21	19	26	45
29	18	115	67	35	57	536	42	71	22	19	27	30
30	17	43	40	33	---	129	59	96	27	19	27	21
31	17	---	36	33	---	75	---	44	---	18	26	---
TOTAL	1010	1781	2771	1168	2221	2324	2252	2180	913	1930	5781	711
MEAN	32.6	59.4	89.4	37.7	76.6	75.0	75.1	70.3	30.4	62.3	186	23.7
MAX	244	276	656	108	298	536	357	329	93	1030	3760	72
MIN	10	15	26	23	28	34	41	32	21	18	17	16
CFSM	1.00	1.83	2.75	1.16	2.36	2.31	2.31	2.16	.94	1.92	5.72	.73
IN.	1.16	2.04	3.17	1.34	2.54	2.66	2.58	2.50	1.05	2.21	6.62	.81

CAL YR 1983	TOTAL	19787.2	MEAN	54.2	MAX	656	MIN	8.6	CFSM	1.67	IN	22.65
WTR YR 1984	TOTAL	25042.0	MEAN	68.4	MAX	3760	MIN	10	CFSM	2.11	IN	28.66

## PATAPSCO RIVER BASIN

01589330 DEAD RUN AT FRANKLINTOWN, MD

LOCATION.--Lat 39°18'40", long 76°43'02", Baltimore County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on Colonial Road at Security Boulevard at Franklinton, 0.3 mi west of Baltimore city limits, 1.2 mi southwest of Woodlawn, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--5.52 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-80-1: 1979(m).

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

REMARKS.--Records good. Occasional regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 8.07 ft<sup>3</sup>/s, 19.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft<sup>3</sup>/s June 22, 1972, gage height, 12.5 ft, from flood-marks, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow at bridge 0.6 mi downstream, adjusted for flow from intervening area; minimum discharge, 0.10 ft<sup>3</sup>/s Sept. 11-12, 1966, gage height, 0.57 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1230	837	4.71	Aug. 3	2230	934	4.99
Mar. 29	0515	1200	5.71	Aug. 13	0830	*7050	12.32
July 1	0530	2630	8.70				

a From flood mark.

Minimum discharge, 0.32 ft<sup>3</sup>/s Oct. 7, 8, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.91	2.7	2.4	2.1	4.7	5.3	3.7	2.2	246	1.1	1.6
2	.65	.95	2.5	2.3	2.1	3.6	4.4	2.5	1.9	3.1	32	1.5
3	.47	1.6	2.4	2.3	16	3.3	3.7	47	1.9	6.7	49	9.3
4	.53	2.8	74	2.3	15	2.7	51	56	1.6	2.2	10	18
5	.48	.86	5.4	2.3	16	19	65	6.2	1.6	5.8	3.9	1.9
6	.49	.86	46	2.3	3.8	11	16	16	1.6	7.1	1.6	1.6
7	.35	.73	11	2.2	2.4	3.9	7.2	11	1.6	1.6	1.4	1.5
8	.34	.78	3.5	1.9	2.0	3.6	4.4	56	1.6	1.4	3.3	1.4
9	.36	.76	2.8	1.9	2.0	9.8	3.7	15	1.6	1.2	6.3	1.4
10	.36	53	2.7	18	2.1	4.5	3.7	5.3	1.6	1.4	1.8	1.5
11	1.4	26	2.3	7.3	9.4	7.5	3.1	4.4	1.6	12	28	1.5
12	47	2.6	87	2.0	3.4	4.1	2.8	11	1.4	3.0	40	1.6
13	16	1.6	167	2.0	3.9	33	3.1	3.1	1.6	1.4	800	1.5
14	2.9	1.4	14	8.1	86	28	27	2.8	1.4	1.0	14	1.6
15	.78	21	8.0	2.7	89	10	41	2.5	1.4	1.0	7.3	1.6
16	.68	10	4.9	2.0	16	6.6	38	2.5	1.4	1.9	3.7	1.5
17	.67	2.0	3.4	2.0	12	4.5	14	2.5	1.4	1.4	2.8	1.5
18	.71	1.6	3.1	2.0	12	3.4	7.2	2.2	3.7	3.7	2.8	1.7
19	11	1.5	2.8	4.0	5.5	3.1	6.2	4.4	18	1.2	6.2	1.5
20	1.5	38	2.6	2.0	4.0	3.1	3.7	2.2	1.2	1.2	12	1.6
21	1.4	25	2.2	1.8	3.1	34	3.1	2.2	1.2	44	2.1	1.7
22	.67	2.4	97	1.8	2.8	7.2	10	2.2	1.2	13	2.1	1.6
23	86	2.0	9.9	1.8	61	4.3	16	15	1.0	1.9	3.9	1.5
24	43	12	5.0	2.4	25	3.2	11	2.8	9.8	1.4	2.0	1.6
25	9.3	83	4.0	20	8.0	18	4.4	1.9	4.2	1.2	1.9	1.7
26	2.4	4.7	2.4	20	4.1	40	3.1	1.9	2.6	1.4	1.8	1.8
27	1.6	2.6	2.2	10	4.5	8.6	2.8	1.6	1.0	12	1.8	2.3
28	1.2	61	80	3.8	41	86	2.8	3.1	1.0	1.4	1.8	22
29	1.1	14	8.0	2.6	12	185	2.8	35	1.2	1.2	1.8	3.7
30	.99	3.3	4.4	2.8	---	17	7.2	20	17	1.0	1.8	1.5
31	.90	---	3.0	4.8	---	9.2	---	2.5	---	1.0	1.7	---
TOTAL	236.53	378.95	666.2	143.8	466.2	581.9	373.7	344.5	90.5	383.8	1049.9	94.7
MEAN	7.63	12.6	21.5	4.64	16.1	18.8	12.5	11.1	3.02	12.4	33.9	3.16
MAX	86	83	167	20	89	185	65	56	18	246	800	22
MIN	.34	.73	2.2	1.8	2.0	2.7	2.8	1.6	1.0	1.0	1.1	1.4
CFSM	1.38	2.28	3.90	.84	2.92	3.41	2.26	2.01	.55	2.25	6.14	.57
IN.	1.59	2.55	4.49	.97	3.14	3.92	2.52	2.32	.61	2.59	7.07	.64

CAL YR 1983	TOTAL	4444.73	MEAN 12.2	MAX 239	MIN .34	CFSM 2.21	IN 29.95
WTR YR 1984	TOTAL	4810.68	MEAN 13.1	MAX 800	MIN .34	CFSM 2.37	IN 32.41

## PATAPSCO RIVER BASIN

87

01589440 JONES FALLS AT SORRENTO, MD

LOCATION.--Lat 39°23'30", long 76°39'42", Baltimore County, Hydrologic Unit 02060003, on right bank 0.3 mi downstream from bridge on State Highway 25 (Falls Road), 0.4 mi downstream from Slaughterhouse Branch and Sorrento, and 12.5 mi upstream from mouth.

DRAINAGE AREA.--25.2 mi<sup>2</sup>.

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

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

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 34.3 ft<sup>3</sup>/s, 18.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,800 ft<sup>3</sup>/s June 22, 1972, gage height, 18.11 ft, from flood-marks, from rating curve extended above 1,400 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.8 ft<sup>3</sup>/s Sept. 7, 8, 1966, gage height, 1.16 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1430	638	6.63	Aug. 10	0115	*5810	13.70
Mar. 29	0600	763	7.00	Aug. 13	0800	638	6.63
July 1	0845	5170	13.21	Aug. 13	2145	1110	7.86
Aug. 3	2230	771	7.02				

Minimum daily discharge, 9.3 ft<sup>3</sup>/s Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	31	29	25	41	60	60	39	1320	21	23
2	12	14	28	29	24	38	56	50	36	57	22	23
3	11	15	27	29	40	36	53	84	35	46	79	24
4	10	16	88	29	69	35	84	170	33	38	106	38
5	10	15	43	28	48	46	158	60	31	41	31	27
6	9.9	15	53	29	36	46	81	57	34	50	25	24
7	9.3	14	46	28	29	39	66	55	32	38	26	23
8	9.6	13	35	27	26	37	60	110	30	32	25	22
9	10	13	31	25	26	38	56	75	28	30	41	22
10	9.6	49	30	38	27	37	55	57	28	30	654	22
11	9.9	57	28	42	36	37	54	52	27	30	113	22
12	37	32	91	28	33	36	52	54	26	29	40	21
13	18	23	278	26	33	50	52	49	26	26	320	21
14	18	20	76	28	135	61	60	46	48	25	146	20
15	13	27	51	26	160	51	95	45	28	25	51	21
16	13	38	42	24	72	46	88	44	27	26	41	20
17	12	24	38	24	53	41	66	43	30	25	36	20
18	13	20	35	25	49	39	60	42	31	31	32	19
19	18	19	33	25	43	37	57	45	39	27	32	18
20	14	25	30	24	40	36	54	42	27	24	37	19
21	13	64	28	24	37	64	53	42	26	42	30	17
22	13	29	128	24	35	47	53	39	24	46	28	17
23	73	24	53	25	67	40	66	53	24	31	30	17
24	91	25	42	26	89	38	59	45	33	26	28	17
25	29	92	34	40	50	44	55	39	30	24	28	18
26	21	40	28	60	42	61	51	38	27	23	25	18
27	18	31	28	45	40	44	50	36	23	28	25	17
28	16	66	105	35	64	99	49	39	22	24	25	29
29	15	65	49	28	48	282	49	52	22	24	25	25
30	14	37	34	27	---	88	57	57	25	23	25	21
31	14	---	30	27	---	69	---	43	---	22	24	---
TOTAL	588.3	936	1673	924	1476	1703	1909	1723	891	2263	2171	645
MEAN	19.0	31.2	54.0	29.8	50.9	54.9	63.6	55.6	29.7	73.0	70.0	21.5
MAX	91	92	278	60	160	282	158	170	48	1320	654	38
MIN	9.3	13	27	24	24	35	49	36	22	22	21	17
CFSM	.75	1.24	2.14	1.18	2.02	2.18	2.52	2.21	1.18	2.90	2.78	.85
IN.	.87	1.38	2.47	1.36	2.18	2.51	2.82	2.54	1.32	3.34	3.20	.95
CAL YR 1983	TOTAL	14025.3	MEAN 38.4	MAX 412	MIN 7.1	CFSM 1.52	IN 20.70					
WTR YR 1984	TOTAL	16902.3	MEAN 46.2	MAX 1320	MIN 9.3	CFSM 1.83	IN 24.95					

## PATAPSCO RIVER BASIN

01589500 SAWMILL CREEK AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'12", long 76°37'51", Anne Arundel County, Hydrologic Unit 02060003, on left bank 300 ft upstream from bridge on State Highway 648, 0.25 mile southeast of State Highway 3, and 0.50 mile northwest of Glen Burnie.

DRAINAGE AREA.--4.97 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1944 to September 1952. Annual maximum, water years 1965-70. October 1983 to September 1984.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 26.07 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Low flow affected by ground-water diversions from Anne Arundel County municipal well fields above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years (water years 1945-52, 1984), 7.68 ft<sup>3</sup>/s, 20.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 157 ft<sup>3</sup>/s Sept. 1, 1952, gage height, 4.77 ft; minimum discharge, 0.28 ft<sup>3</sup>/s, Oct. 8, 9, 1983, gage height, 1.64 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1933 reached a stage of about 14 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1400	40	2.55	Aug. 4	0100	145	3.19
Mar. 29	0600	*274	3.63	Aug. 12	0545	32	2.47

Minimum discharge, 0.28 ft<sup>3</sup>/s Oct. 8, 9, gage height, 1.64 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.54	1.4	1.8	1.7	2.8	4.4	5.1	3.3	4.9	1.5	1.3
2	.74	.54	1.2	1.9	1.6	2.5	3.9	3.4	2.9	2.4	2.9	1.2
3	.64	.63	1.2	2.0	1.8	2.3	3.6	5.5	2.6	2.2	6.0	1.3
4	.51	.84	7.3	2.1	2.8	2.2	5.1	13	2.6	1.9	30	1.7
5	.43	.67	3.3	2.2	2.6	2.9	9.1	5.0	2.4	1.9	3.6	1.6
6	.40	.62	4.0	2.8	2.2	3.1	7.0	4.6	2.4	3.0	2.7	1.3
7	.35	.57	3.8	3.0	1.8	2.8	4.4	5.2	2.5	3.0	2.1	1.2
8	.30	.54	2.0	2.5	1.5	2.8	3.7	7.1	2.3	2.0	1.9	1.2
9	.32	.52	1.5	2.3	1.6	3.1	3.4	7.1	2.2	1.6	1.8	1.2
10	.32	2.2	1.4	2.7	1.6	2.6	3.4	4.3	2.0	1.6	1.7	1.3
11	.33	3.4	1.3	3.7	1.8	2.5	3.4	3.7	2.0	1.8	2.2	1.3
12	2.6	1.5	7.3	2.1	1.8	2.5	3.4	3.7	1.9	1.5	14	1.3
13	1.8	.86	22	1.8	1.8	4.3	3.7	3.4	1.9	1.3	9.8	1.3
14	2.5	.70	10	2.2	5.7	5.2	3.9	3.2	1.9	1.3	5.5	1.7
15	.87	1.0	3.5	2.0	16	3.6	4.7	3.0	1.8	1.2	2.9	1.7
16	.57	2.3	2.5	1.7	7.5	2.9	7.4	3.0	1.8	1.3	2.3	1.2
17	.50	1.1	2.2	1.8	3.4	2.6	5.5	2.9	2.3	1.3	2.0	1.1
18	.51	.79	2.0	1.7	2.9	2.5	4.0	2.9	2.4	4.1	1.8	1.1
19	.66	.69	2.1	1.9	2.6	2.4	3.6	3.1	2.9	4.2	1.9	1.1
20	.71	1.2	1.8	1.4	2.4	2.3	3.4	2.9	2.1	1.9	2.5	1.1
21	.65	4.8	1.7	1.5	2.3	4.0	3.2	2.7	1.8	11	2.0	.97
22	.51	1.6	11	1.2	2.1	3.9	3.4	2.6	1.8	5.1	1.7	.91
23	4.3	1.0	5.2	1.4	4.1	2.9	6.5	4.1	1.7	2.9	1.7	.91
24	6.2	1.3	2.5	2.0	7.5	2.6	4.6	4.7	3.7	2.1	1.6	.91
25	2.2	8.1	1.3	3.8	4.0	3.5	3.8	2.9	4.0	1.7	1.5	.91
26	1.5	3.3	1.1	4.9	3.1	5.3	3.4	2.6	2.2	1.5	1.5	.95
27	.98	1.5	1.4	3.8	2.8	3.4	3.3	2.9	1.8	2.5	1.4	.91
28	.75	3.7	8.4	2.7	4.9	9.1	3.2	2.9	1.7	1.9	1.5	2.6
29	.65	5.1	5.7	2.1	4.3	56	3.2	6.2	1.7	1.7	1.4	2.5
30	.56	2.0	2.9	2.0	---	9.5	3.8	10	2.4	1.7	1.5	1.6
31	.53	---	2.0	2.1	---	5.2	---	4.9	---	1.6	1.4	---
TOTAL	34.99	53.61	125.0	71.1	100.2	163.3	129.4	138.6	69.0	78.1	116.3	39.37
MEAN	1.13	1.79	4.03	2.29	3.46	5.27	4.31	4.47	2.30	2.52	3.75	1.31
MAX	6.2	8.1	22	4.9	16	56	9.1	13	4.0	11	30	2.6
MIN	.30	.52	1.1	1.2	1.5	2.2	3.2	2.6	1.7	1.2	1.4	.91
CFSM	.23	.36	.81	.46	.70	1.06	.87	.90	.46	.51	.76	.26
IN.	.26	.40	.94	.53	.75	1.22	.97	1.04	.52	.58	.87	.29

WTR YR 1984 TOTAL 1118.97 MEAN 3.06 MAX 56 MIN .30 CFSM .62 IN 8.37

## 01589512 SAWMILL CREEK AT CRAIN HIGHWAY AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'59", long 76°36'51", Anne Arundel County, Hydrologic Unit 02060003, on right bank 150 ft downstream from bridge on Crain Highway (Maryland Route 3 Business), 250 ft upstream from bridge on Maryland Route 2 at Glen Burnie, and 650 ft upstream from mouth.

DRAINAGE AREA.--8.24 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to September 1984.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5 ft from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Oct. 1 to Nov. 17, which are fair. Low flow affected by ground-water diversions from Anne Arundel County municipal well fields above station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 378 ft<sup>3</sup>/s Mar. 29, 1983, gage height, 7.09 ft; minimum daily discharge observed, 3.1 ft<sup>3</sup>/s Nov. 19, 1983, Sept. 22-26, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1315	175	5.83	Aug. 3	2345	342	6.88
Mar. 29	0615	*378	7.09	Aug. 12	0730	168	5.78
Aug. 2	1845	168	5.78				

Minimum daily discharge, 1.3 ft<sup>3</sup>/s Oct. 8; minimum daily discharge observed, 3.1 ft<sup>3</sup>/s Nov. 19, Sept. 22-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	2.4	4.6	5.0	4.2	7.0	8.5	12	7.0	14	4.4	3.6
2	3.2	2.4	4.1	4.9	3.9	6.1	7.9	7.0	6.3	5.9	23	3.4
3	2.8	2.8	3.9	5.0	4.9	5.7	7.2	23	5.9	6.2	33	4.3
4	2.2	3.6	35	5.3	8.6	5.4	17	37	5.5	4.8	71	5.8
5	1.9	3.2	9.4	5.4	7.7	9.2	38	9.6	5.2	6.2	10	4.2
6	1.7	2.8	24	5.9	5.6	8.5	16	12	4.9	10	7.5	3.8
7	1.5	2.4	12	6.4	4.2	6.6	8.9	12	6.5	11	5.7	3.6
8	1.3	2.3	6.0	6.1	3.9	6.6	7.5	22	5.1	5.3	5.1	3.6
9	1.4	2.2	4.9	5.7	4.2	8.4	7.2	15	4.8	4.5	4.8	3.4
10	1.4	10	4.6	8.6	4.6	6.9	7.2	9.0	4.6	4.3	4.7	3.9
11	1.5	16	4.4	11	5.4	6.6	6.8	7.7	4.4	4.5	6.4	3.9
12	12	6.5	51	5.6	5.3	6.2	7.2	8.2	4.3	4.1	42	3.9
13	8.0	4.0	83	4.6	5.3	18	7.3	7.6	4.2	3.9	19	3.7
14	10	3.0	20	6.0	30	14	8.5	7.0	4.1	3.9	9.1	11
15	4.0	4.6	8.6	5.6	61	8.1	13	6.8	4.2	3.8	6.0	6.2
16	2.2	10	6.7	4.6	19	6.7	27	6.4	4.0	3.8	4.9	3.9
17	2.3	4.0	6.0	4.2	9.0	6.3	13	6.4	4.5	3.9	4.4	3.6
18	2.4	3.4	5.6	4.2	8.3	6.0	8.1	6.0	4.9	14	4.3	3.4
19	2.8	3.1	5.5	4.2	6.9	6.0	7.5	6.8	7.4	9.2	4.3	3.4
20	3.2	9.5	5.2	3.9	6.1	5.8	7.0	6.4	4.7	5.1	6.7	3.4
21	3.0	26	4.9	3.9	5.7	18	6.8	6.0	4.1	40	4.5	3.3
22	2.2	5.2	44	3.6	5.4	8.6	8.1	5.6	3.9	15	4.3	3.1
23	16	4.0	12	3.6	19	6.9	19	17	3.9	7.0	4.3	3.1
24	28	7.5	6.7	5.3	21	6.5	9.8	9.9	19	5.4	4.2	3.1
25	10	42	4.3	15	8.9	12	7.6	6.4	9.1	4.6	4.3	3.1
26	7.0	8.6	3.8	15	7.0	18	7.0	5.9	5.4	4.3	3.9	3.1
27	4.4	5.0	3.7	9.1	6.5	9.0	6.8	6.0	4.9	8.7	3.8	3.2
28	3.0	23	34	6.4	18	40	6.8	7.3	5.4	5.0	3.9	11
29	2.6	15	14	4.9	12	141	6.8	25	4.3	4.6	3.9	7.6
30	2.4	6.0	6.7	4.9	---	20	13	29	6.8	4.6	3.9	6.0
31	2.3	---	5.5	5.3	---	10	---	9.8	---	4.5	3.8	---
TOTAL	151.7	240.5	444.1	189.2	311.6	444.1	322.5	355.8	169.3	232.1	321.1	132.6
MEAN	4.89	8.02	14.3	6.10	10.7	14.3	10.8	11.5	5.64	7.49	10.4	4.42
MAX	28	42	83	15	61	141	38	37	19	40	71	11
MIN	1.3	2.2	3.7	3.6	3.9	5.4	6.8	5.6	3.9	3.8	3.8	3.1
CFSM	.59	.97	1.74	.74	1.30	1.74	1.31	1.40	.68	.91	1.26	.54
IN.	.68	1.09	2.00	.85	1.41	2.00	1.46	1.61	.76	1.05	1.45	.60

WTR YR 1984 TOTAL 3314.6 MEAN 9.06 MAX 141 MIN 1.3 CFSM 1.10 IN 14.96



## PATAPSCO RIVER BASIN

01589522 MARLEY CREEK AT HARUNDALE, MD

LOCATION.--Lat 39°08'37", long 76°36'25", Anne Arundel County, Hydrologic Unit 02060003, on right bank 250 ft up-stream from bridge on Maryland Route 2 at Harundale, 0.8 mile northwest of intersection of Maryland Route 2 and Maryland 100 and 3.25 miles upstream from mouth.

DRAINAGE AREA.--4.79 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1983 to September 1984.

GAGE.--Water-stage recorder. Altitude of gage is 5 ft, from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, Oct. 1 to Nov. 30, and Jan. 11 to Feb. 9, which are fair. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft<sup>3</sup>/s Aug. 3, 1984, gage height, 9.83 ft; minimum daily discharge observed, 2.0 ft<sup>3</sup>/s Sept. 21-27, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Unknown	Unknown	105	6.71	Apr. 5	2115	124	7.03
Dec. 13	Unknown	175	7.91	July 21	0930	148	7.42
Dec. 22	0830	123	7.02	Aug. 3	2300	*290	9.83
Dec. 28	1730	108	6.76	Aug. 12	0600	167	7.75
Mar. 29	0500	278	9.64	Aug. 13	0900	280	a9.7

a Estimated.

Minimum daily discharge, 0.7 ft<sup>3</sup>/s Oct. 8; minimum daily discharge observed, 2.0 ft<sup>3</sup>/s Sept. 21-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	1.2	3.4	5.0	3.6	5.0	8.6	8.4	4.7	19	3.0	2.5
2	1.7	1.2	3.2	5.2	3.4	4.3	8.0	5.1	4.2	3.6	6.8	2.5
3	1.4	1.4	3.3	4.8	4.0	4.1	7.0	19	4.0	5.2	27	2.8
4	1.2	2.6	46	4.6	9.5	3.8	20	25	3.6	2.9	53	4.5
5	1.0	1.7	8.1	4.7	7.0	12	51	6.3	3.4	6.2	4.4	3.0
6	.90	1.4	29	4.7	4.6	10	24	10	3.2	14	3.6	2.5
7	.80	1.3	19	4.6	3.6	5.1	9.4	9.5	3.3	8.5	2.9	2.5
8	.70	1.2	4.9	4.4	3.4	4.6	7.8	29	3.0	3.2	3.0	2.5
9	.75	1.1	4.0	4.1	3.7	9.9	7.0	13	2.9	3.2	2.5	2.4
10	.75	9.0	3.9	9.3	3.7	5.6	6.7	6.2	2.7	3.2	2.5	2.6
11	.80	18	3.8	13	4.1	6.3	6.5	5.5	2.7	3.2	2.8	2.6
12	13	5.0	60	6.0	4.1	5.6	6.2	5.5	2.7	3.2	31	2.4
13	7.0	2.8	90	4.0	3.9	27	6.3	4.9	2.6	2.7	77	2.3
14	11	2.2	14	5.0	36	17	6.9	4.9	2.6	2.9	19	2.8
15	3.0	4.0	8.5	4.8	75	7.6	11	4.9	2.4	2.8	6.0	2.7
16	1.6	9.0	6.6	3.8	18	5.8	25	5.0	2.6	3.1	4.6	2.4
17	1.2	3.2	5.7	3.6	7.3	5.0	13	4.7	3.3	5.9	4.0	2.2
18	1.3	2.4	5.3	3.6	7.7	4.6	7.7	4.4	3.0	26	3.7	2.1
19	1.4	2.2	5.0	3.6	5.1	4.7	6.9	4.6	4.9	12	4.0	2.1
20	1.7	8.0	4.6	3.4	4.5	4.4	6.1	4.2	2.8	3.4	4.3	2.1
21	1.6	30	4.4	3.4	4.0	19	5.9	3.8	2.6	61	3.3	2.0
22	1.2	3.6	57	3.2	3.7	6.7	6.8	4.0	2.5	15	3.1	2.0
23	12	3.2	12	3.2	20	4.7	22	14	2.6	5.7	3.1	2.0
24	28	6.0	7.4	5.0	24	4.2	8.7	7.6	17	3.9	3.0	2.0
25	8.0	46	5.7	17	6.3	17	6.5	3.8	8.0	3.3	2.9	2.0
26	5.0	7.0	6.2	16	4.5	32	5.9	4.1	3.2	3.1	2.8	2.0
27	3.0	4.2	6.1	10	4.0	7.6	5.6	7.6	2.8	9.2	2.9	2.0
28	1.6	24	45	7.0	25	50	5.5	6.1	2.6	3.4	2.7	11
29	1.4	10	18	4.4	13	120	5.6	30	2.7	3.1	2.7	5.4
30	1.3	3.8	6.6	4.4	---	17	8.3	37	15	3.1	2.8	2.8
31	1.2	---	5.4	4.6	---	10	---	6.5	---	3.0	2.7	---
TOTAL	118.10	216.7	502.1	180.4	316.7	440.6	325.9	304.6	123.6	248.0	297.1	84.7
MEAN	3.81	7.22	16.2	5.82	10.9	14.2	10.9	9.83	4.12	8.00	9.58	2.82
MAX	28	46	90	17	75	120	51	37	17	61	77	11
MIN	.70	1.1	3.2	3.2	3.4	3.8	5.5	3.8	2.4	2.7	2.5	2.0
CFSM	.80	1.51	3.38	1.22	2.28	2.97	2.28	2.05	.86	1.67	2.00	.59
IN.	.92	1.68	3.90	1.40	2.46	3.42	2.53	2.37	.96	1.93	2.31	.66

WTR YR 1984 TOTAL 3158.50 MEAN 8.63 MAX 120 MIN .70 CFSM 1.80 IN 24.52

## 01590500 BACON RIDGE BRANCH AT CHESTERFIELD, MD

LOCATION.--Lat 39°00'07", long 76°36'53", Anne Arundel County, Hydrologic Unit 02060004, on left bank 50 ft downstream from highway bridge, 0.5 mi east of Chesterfield, 1.4 mi upstream from confluence with North River, and 6.8 mi northwest of Annapolis.

DRAINAGE AREA.--6.92 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to September 1952. Annual maximum, water years 1965-74. October 1974 to current year. Monthly discharge only October and November 1942, published in WSP 1302.

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

REMARKS.--Records good except those for period of doubtful or no gage-height record, Jan. 3 to Feb. 11, which are fair. Records include sewage from Crownsville State Hospital, which obtains its water supply from wells. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years (water years 1943-52, 1975-84), 9.55 ft<sup>3</sup>/s, 18.74 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft<sup>3</sup>/s Aug. 2, 1944, gage height, 5.49 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 4.43 ft; minimum discharge, 1.1 ft<sup>3</sup>/s, gage height, 1.71 ft Feb. 11, 1983, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 208 ft<sup>3</sup>/s Mar. 29, gage height, 3.64 ft, no other peak above base of 185 ft<sup>3</sup>/s; minimum discharge, 2.4 ft<sup>3</sup>/s part of each day Sept. 1, 2, 3, 21, 22, 23, 24, 25, gage height, 1.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.0	7.5	11	7.5	11	19	17	14	22	4.1	2.7
2	3.6	4.1	7.0	10	6.5	10	16	12	11	7.7	4.5	2.7
3	3.5	4.2	7.0	9.5	7.0	9.6	14	12	9.3	8.0	5.2	3.6
4	3.2	5.7	23	9.0	9.5	9.3	17	18	8.4	5.5	6.9	9.5
5	3.2	4.4	17	9.0	10	12	29	14	7.5	4.5	5.0	4.2
6	3.9	4.1	14	9.0	9.0	15	36	13	7.1	9.3	4.0	3.3
7	3.2	4.1	18	8.5	7.5	11	21	17	6.8	29	6.5	3.0
8	3.1	4.0	11	8.0	6.5	9.7	17	23	6.3	9.9	15	2.8
9	3.1	3.9	9.0	8.0	6.5	11	15	24	5.8	5.4	5.0	2.8
10	3.1	9.4	8.6	11	6.5	9.9	14	15	5.4	5.4	4.1	3.0
11	3.1	21	7.8	25	6.5	11	13	13	5.1	5.6	8.2	3.3
12	14	8.1	20	12	7.0	11	13	12	4.8	6.5	33	3.2
13	9.3	5.2	88	9.0	9.0	16	14	11	4.6	4.3	23	3.2
14	15	4.6	51	9.5	17	23	16	10	4.3	3.8	16	4.2
15	4.4	5.8	23	10	47	14	16	9.3	3.9	3.6	8.6	4.7
16	3.5	15	15	9.0	33	12	20	9.2	4.2	3.6	5.7	3.1
17	3.5	9.1	12	8.5	19	11	22	8.8	5.9	3.7	4.7	2.9
18	3.5	6.3	10	8.0	16	10	16	8.7	6.1	13	4.1	3.0
19	3.9	6.0	9.9	8.0	13	10	14	10	11	16	4.5	3.0
20	3.8	6.8	8.9	7.0	12	9.8	13	8.6	5.6	5.5	4.2	2.9
21	3.9	32	8.0	7.0	10	15	13	8.0	4.7	14	3.5	2.7
22	3.6	13	32	9.5	9.9	12	13	7.3	4.2	16	3.4	2.6
23	13	8.4	23	10	12	10	21	11	4.1	9.1	3.5	2.6
24	29	8.8	13	9.5	21	9.3	17	17	7.5	6.2	3.4	2.6
25	23	30	8.2	14	13	13	14	8.3	13	4.9	3.1	2.7
26	14	18	10	19	10	22	13	9.1	5.5	4.4	3.0	2.7
27	6.5	10	11	11	9.9	15	12	37	4.3	8.8	3.0	2.7
28	4.7	9.9	19	9.0	18	24	12	17	4.0	5.7	2.9	11
29	4.3	13	22	8.0	15	126	12	21	4.0	5.2	3.1	8.6
30	3.8	8.6	9.3	8.0	---	47	12	37	6.0	5.1	3.2	4.7
31	3.8	---	9.9	8.5	---	25	---	22	---	4.5	3.0	---
TOTAL	208.5	287.5	533.1	312.5	374.8	554.6	494	460.3	194.4	256.2	207.4	114.0
MEAN	6.73	9.58	17.2	10.1	12.9	17.9	16.5	14.8	6.48	8.26	6.69	3.80
MAX	29	32	88	25	47	126	36	37	14	29	33	11
MIN	3.1	3.9	7.0	7.0	6.5	9.3	12	7.3	3.9	3.6	2.9	2.6
CFSM	.97	1.38	2.49	1.46	1.86	2.59	2.38	2.14	.94	1.19	.97	.55
IN.	1.12	1.55	2.87	1.68	2.01	2.98	2.66	2.47	1.04	1.38	1.11	.61

CAL YR 1983 TOTAL 3995.7 MEAN 10.9 MAX 88 MIN 2.2 CFSM 1.58 IN 21.48  
WTR YR 1984 TOTAL 3997.3 MEAN 10.9 MAX 126 MIN 2.6 CFSM 1.58 IN 21.49

## PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD

LOCATION.--Lat 39°14'18", long 77°03'23", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 0.6 mi upstream from Cattail Creek, 0.8 mi upstream from Triadelphia Reservoir, 1.1 mi northeast of Unity, and 97 mi upstream from mouth.

DRAINAGE AREA.--34.8 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1111: 1947. WSP 1432: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 364.76 ft Washington Suburban Sanitary Commission datum. Prior to Aug. 14, 1946, non-recording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 39.9 ft<sup>3</sup>/s, 15.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft<sup>3</sup>/s Sept. 11, 1971, gage height, 18.60 ft, from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 13.00 ft; minimum discharge, 0.20 ft<sup>3</sup>/s Sept. 10, 11, 12, 1966, gage height, 1.66 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 770 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1930	*1330	6.69	Mar. 29	0900	987	5.97
Feb. 14	1730	1090	6.19				

Minimum discharge, 9.5 ft<sup>3</sup>/s part or all of each day Oct. 7-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	39	48	39	74	130	72	48	52	39	14
2	12	15	34	46	44	68	114	65	44	33	70	14
3	11	15	33	42	89	64	103	80	41	29	67	21
4	11	16	145	40	151	60	181	205	39	27	166	86
5	11	15	66	40	86	75	258	94	38	26	35	28
6	10	15	83	42	60	80	156	91	38	34	28	21
7	9.5	15	77	45	44	65	127	92	38	36	25	19
8	9.5	15	52	43	43	61	111	128	36	27	23	18
9	9.6	15	44	40	41	60	102	113	34	25	22	17
10	9.5	62	43	64	49	55	96	89	32	26	96	17
11	9.5	107	39	71	97	58	91	81	31	26	45	17
12	23	42	49	48	75	56	87	79	30	23	37	16
13	17	27	623	40	67	64	84	72	30	21	32	16
14	21	23	236	38	415	88	106	69	29	20	31	16
15	12	24	113	36	187	84	204	66	27	20	27	15
16	11	38	88	34	123	74	159	62	28	20	24	14
17	11	27	74	32	95	65	118	59	31	20	23	14
18	11	23	65	32	89	61	106	58	33	26	21	14
19	12	21	61	32	76	59	94	61	43	24	22	13
20	12	23	53	30	69	57	88	55	30	21	26	13
21	14	104	47	30	63	98	83	53	28	27	21	13
22	13	37	185	33	58	79	83	50	27	28	20	12
23	103	29	95	35	77	65	108	66	27	26	22	12
24	150	30	65	44	150	60	90	59	33	22	21	12
25	34	193	55	75	86	64	80	49	118	20	19	12
26	25	65	50	128	72	119	74	46	35	19	18	12
27	20	42	48	148	67	81	71	44	30	22	18	11
28	18	89	219	79	119	168	68	46	28	20	18	19
29	17	87	104	52	94	468	89	85	28	19	17	17
30	15	48	63	45	---	214	75	81	29	19	16	14
31	15	---	50	42	---	158	---	54	---	19	15	---
TOTAL	672.6	1277	2998	1554	2725	2902	3336	2324	1083	777	1064	537
MEAN	21.7	42.6	96.7	50.1	94.0	93.6	111	75.0	36.1	25.1	34.3	17.9
MAX	150	193	623	148	415	468	258	205	118	52	166	86
MIN	9.5	15	33	30	39	55	68	44	27	19	15	11
CFSM	.62	1.22	2.78	1.44	2.70	2.69	3.19	2.16	1.04	.72	.99	.51
IN.	.72	1.37	3.20	1.66	2.91	3.10	3.57	2.48	1.16	.83	1.14	.57

CAL YR 1983	TOTAL	19540.5	MEAN 53.5	MAX 623	MIN 7.1	CFSM 1.54	IN 20.89
WTR YR 1984	TOTAL	21249.6	MEAN 58.1	MAX 623	MIN 9.5	CFSM 1.67	IN 22.71

01591400 CATTAIL CREEK NEAR GLENWOOD, MD  
(Formerly published as Cattail Creek at Roxbury Mills Road at Roxbury Mills, MD)

LOCATION.--Lat 39°15'27", long 77°03'13", Howard County, Hydrologic Unit 02060006, on right bank at upstream side of bridge on Roxbury Mill Road, 1.3 mi upstream from mouth.

DRAINAGE AREA.--22.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 400 ft, from topographic map. Prior to Dec. 28, 1983, at site 800 ft upstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 28.6 ft<sup>3</sup>/s, 16.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft<sup>3</sup>/s Sept. 6, 1979, gage height, 11.69 ft, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge recorded, 4.1 ft<sup>3</sup>/s part or all of each day Aug. 24-28, 1981, Sept. 17-20, 1982, but may have been less during period of no gage-height record Aug. 28 to Oct. 15, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 24	0230	522	3.89	Feb. 14	1430	1690	5.92
Dec. 13	0730	589	4.06	Mar. 29	0700	1570	5.77
Dec. 13	2100	*2640	6.96	Apr. 15	0145	661	4.23
Dec. 28	1815	1500	5.67	Aug. 4	0330	1650	5.87

Minimum daily discharge, 7.8 ft<sup>3</sup>/s Oct. 7, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	26	26	22	39	54	45	32	41	17	11
2	9.5	14	24	26	30	37	51	41	30	24	37	11
3	8.9	15	24	26	50	35	48	54	29	21	119	15
4	8.2	15	106	27	100	34	100	128	27	20	315	67
5	8.1	15	37	27	55	45	154	46	26	20	35	20
6	8.1	15	51	27	35	48	70	46	26	37	24	16
7	7.8	14	42	27	27	39	58	48	26	31	20	14
8	7.9	14	31	26	25	36	52	82	25	21	19	13
9	8.0	13	29	25	24	36	50	60	24	19	17	13
10	7.8	45	29	50	29	34	49	45	23	20	21	13
11	8.0	76	26	44	54	37	47	41	22	19	26	13
12	19	30	38	29	38	35	46	41	22	18	21	13
13	13	22	1030	25	35	41	45	38	21	17	20	12
14	20	19	110	26	425	64	72	36	21	16	18	12
15	10	19	49	25	122	49	165	35	20	15	17	12
16	9.4	32	40	24	67	43	86	34	20	15	16	12
17	9.1	21	35	22	50	39	61	32	23	15	15	11
18	9.4	18	33	22	49	37	56	33	24	18	15	11
19	10	18	31	20	42	36	51	36	29	17	16	11
20	10	19	29	20	39	35	49	32	22	16	18	11
21	12	67	28	19	36	53	47	31	20	19	15	11
22	10	25	135	19	34	42	47	30	20	19	14	11
23	78	21	46	22	55	37	64	39	20	18	15	10
24	148	23	34	30	84	35	54	36	24	16	15	10
25	30	138	30	60	45	36	48	30	68	15	13	9.9
26	22	37	24	120	39	70	45	29	24	14	13	9.9
27	18	28	24	80	37	43	44	28	21	16	13	9.7
28	16	60	323	50	73	105	42	30	20	15	12	15
29	15	44	53	30	50	447	48	75	20	14	12	14
30	14	29	32	27	---	91	45	55	21	14	12	13
31	14	---	28	25	---	63	---	36	---	14	12	---
TOTAL	580.2	920	2577	1026	1771	1821	1848	1372	750	594	952	424.5
MEAN	18.7	30.7	83.1	33.1	61.1	58.7	61.6	44.3	25.0	19.2	30.7	14.2
MAX	148	138	1030	120	425	447	165	128	68	41	315	67
MIN	7.8	13	24	19	22	34	42	28	20	14	12	9.7
CFSM	.82	1.34	3.63	1.45	2.67	2.56	2.69	1.93	1.09	.84	1.34	.62
IN.	.94	1.49	4.19	1.67	2.88	2.96	3.00	2.23	1.22	.96	1.55	.69

CAL YR 1983	TOTAL	13399.4	MEAN 36.7	MAX 1030	MIN 5.7	CFSM 1.60	IN 21.77
WTR YR 1984	TOTAL	14635.7	MEAN 40.0	MAX 1030	MIN 7.8	CFSM 1.75	IN 23.77

## PATUXENT RIVER BASIN

01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD

LOCATION.--Lat 39°11'31", long 77°00'16", Montgomery County, Hydrologic Unit 02060006, on right bank at Brighton Dam, 500 ft downstream from Triadelphia Reservoir, 1.3 mi east of Brighton, and 92 mi upstream from mouth.

DRAINAGE AREA.--78.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 310 ft from topographic map. June 1978 to October 1980, nonrecording gage 300 ft upstream on left bank at different datum.

REMARKS.--Records good. Flow completely regulated by Triadelphia Reservoir, 500 ft upstream, usable capacity, 6,200,000,000 gal; no dead storage. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,280 ft<sup>3</sup>/s Dec. 1, 1983, gage height, 6.02 ft; minimum discharge, 1.3 ft<sup>3</sup>/s Nov. 22, 23, 1982, gage height, 0.80 ft; minimum daily discharge, 2.1 ft<sup>3</sup>/s Jan. 27, 28, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a discharge of 17,800 ft<sup>3</sup>/s. Data furnished by Washington Suburban Sanitary Commission.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft<sup>3</sup>/s Dec. 1, gage height, 6.02 ft; minimum discharge, 1.4 ft<sup>3</sup>/s Jan. 22, gage height, 0.81 ft; minimum daily discharge, 7.6 ft<sup>3</sup>/s Nov. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	11	820	215	37	255	396	188	121	101	8.9	13
2	8.9	12	938	214	37	210	172	187	90	98	25	13
3	36	14	38	129	36	128	119	125	91	99	78	13
4	62	13	39	51	38	128	111	152	90	101	163	106
5	67	12	386	35	37	69	205	183	93	98	256	159
6	85	9.1	38	34	37	23	444	118	88	100	300	85
7	97	9.1	677	35	38	23	420	90	91	101	168	43
8	96	9.2	952	35	38	140	361	93	91	100	44	110
9	96	9.2	875	35	38	274	310	235	90	99	8.7	111
10	95	9.4	728	36	38	250	290	394	91	69	18	90
11	101	9.3	392	36	38	252	237	386	92	15	22	77
12	49	9.6	217	36	39	104	119	239	92	9.3	22	77
13	13	9.5	225	36	27	25	195	188	92	27	71	77
14	49	9.5	232	36	147	81	234	190	79	8.7	230	92
15	73	9.5	489	36	259	269	222	117	34	8.6	249	100
16	70	9.5	587	36	503	149	117	90	14	31	130	101
17	97	9.5	509	36	459	152	119	91	14	44	115	101
18	119	9.4	451	35	126	152	460	119	32	74	94	161
19	117	9.1	354	36	125	152	494	131	81	92	95	200
20	116	9.3	323	37	125	150	228	131	97	91	38	200
21	75	9.6	350	35	204	149	188	175	100	92	8.2	213
22	13	9.3	295	27	254	149	154	206	101	92	8.8	221
23	14	9.1	189	37	176	150	115	207	98	92	9.3	221
24	14	9.2	108	36	155	149	60	208	99	92	9.5	218
25	14	8.5	102	38	125	146	236	134	98	92	10	220
26	13	7.6	106	37	126	309	270	102	98	65	11	164
27	10	9.1	106	37	274	229	186	102	100	40	68	42
28	10	154	106	38	250	124	185	103	101	40	116	42
29	10	324	381	38	342	391	186	104	100	40	55	42
30	10	528	328	38	---	660	187	173	101	40	17	42
31	10	---	217	37	---	916	---	206	---	23	13	---
TOTAL	1648.7	1270.6	11558	1577	4128	6358	7020	5167	2559	2074.6	2461.4	3354
MEAN	53.2	42.4	373	50.9	142	205	234	167	85.3	66.9	79.4	112
MAX	119	528	952	215	503	916	494	394	121	101	300	221
MIN	8.8	7.6	38	27	27	23	60	90	14	8.6	8.2	13
(/)	5180	6410	3130	4730	5950	6070	5950	6230	6190	6130	6140	4920

CAL YR 1983 TOTAL 40941.0 MEAN 112 MAX 952 MIN 2.1 CFSM 1.42 IN 19.33  
WTR YR 1984 TOTAL 49176.3 MEAN 134 MAX 952 MIN 7.6 CFSM 1.70 IN 23.21

/ Month-end contents, in millions of gallons, in Triadelphia Reservoir (contents on Sept. 30, 1983, 5,070,000,000 gal). Records furnished by Washington Suburban Sanitary Commission.

## PATUXENT RIVER BASIN

95

01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD

LOCATION.--Lat 39°10'29", long 77°01'22", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 650, 1.0 mi upstream from mouth, and 1.7 mi north of Sandy Spring.

DRAINAGE AREA.--27.0 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 320 ft, from topographic map.

REMARKS.--Records good except those for period of doubtful record, Oct. 25 to Dec. 2, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 34.2 ft<sup>3</sup>/s, 17.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,300 ft<sup>3</sup>/s Sept. 6, 1979, gage height, 8.80 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 0.75 ft<sup>3</sup>/s Jan. 30, 1981, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1815	*1350	6.15	Mar. 29	0615	1050	5.42
Dec. 28	1730	753	4.64	July 1	0500	856	4.92
Feb. 14	1330	925	5.10				

Minimum daily discharge, 6.7 ft<sup>3</sup>/s Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	12	26	30	25	42	62	42	34	116	16	7.2
2	8.6	12	25	29	29	38	55	38	31	24	46	6.9
3	8.2	12	26	28	59	36	51	53	30	22	61	6.7
4	7.8	12	192	28	121	34	137	172	28	19	52	12
5	7.8	12	51	27	68	47	297	57	26	17	21	10
6	7.8	12	86	27	44	59	92	56	26	19	18	8.3
7	7.8	12	65	26	30	41	67	61	25	19	19	7.3
8	6.9	12	37	26	29	37	58	127	24	16	20	6.9
9	6.9	13	32	26	27	37	53	99	23	14	16	6.9
10	6.9	46	31	51	26	35	51	55	22	16	41	7.1
11	7.8	123	30	73	43	38	48	48	21	17	28	7.3
12	33	33	48	34	40	39	45	48	20	14	21	7.3
13	19	20	773	27	37	50	44	43	20	13	18	7.3
14	21	18	312	25	395	88	48	40	19	12	18	7.8
15	15	19	63	25	160	61	147	38	18	12	15	8.1
16	10	27	44	24	88	47	122	37	18	28	13	7.4
17	8.3	20	38	24	55	41	68	36	20	38	12	7.3
18	7.7	17	36	23	56	38	59	36	22	31	10	7.3
19	7.9	16	33	23	43	37	51	37	24	23	13	7.3
20	9.2	17	30	22	39	36	47	34	19	14	15	7.6
21	11	132	28	22	36	72	44	33	18	24	10	7.3
22	12	25	192	22	33	58	45	32	16	23	9.7	6.9
23	82	22	59	25	67	40	77	48	17	19	9.5	6.9
24	368	23	38	30	132	36	56	41	20	16	9.9	6.9
25	35	230	34	80	52	42	47	32	39	14	9.1	6.9
26	19	50	26	140	40	117	43	31	20	13	8.6	7.1
27	16	32	27	95	37	51	41	31	18	16	8.8	7.3
28	14	60	214	50	91	154	39	31	16	14	8.6	17
29	13	100	84	33	67	591	60	73	16	13	8.2	16
30	12	35	46	30	---	135	45	78	18	13	8.2	12
31	12	---	31	28	---	77	---	40	---	12	8.0	---
TOTAL	809.8	1174	2757	1153	1969	2254	2099	1627	668	661	571.6	248.3
MEAN	26.1	39.1	88.9	37.2	67.9	72.7	70.0	52.5	22.3	21.3	18.4	8.28
MAX	368	230	773	140	395	591	297	172	39	116	61	17
MIN	6.9	12	25	22	25	34	39	31	16	12	8.0	6.7
CFSM	.97	1.45	3.29	1.38	2.52	2.69	2.59	1.94	.83	.79	.68	.31
IN.	1.12	1.62	3.80	1.59	2.71	3.11	2.89	2.24	.92	.91	.79	.34
CAL YR 1983	TOTAL	14780.1	MEAN 40.5	MAX 773	MIN 4.4	CFSM 1.50	IN 20.36					
WTR YR 1984	TOTAL	15991.7	MEAN 43.7	MAX 773	MIN 6.7	CFSM 1.62	IN 22.03					

## PATUXENT RIVER BASIN

01592500 PATUXENT RIVER NEAR LAUREL, MD

LOCATION.--Lat 39°06'56", long 76°52'27", Prince Georges County, Hydrologic Unit 02060006, on right bank at Rocky Gorge pumping station, 600 ft downstream from T. Howard Duckett Reservoir, 0.7 mi upstream from Walker Branch, 1.3 mi northwest of Laurel, and 81 mi upstream from mouth.

DRAINAGE AREA.--132 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-78-1: 1976(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 153.5 ft National Geodetic Vertical Datum of 1929 (levels by Washington Suburban Sanitary Commission). Prior to Oct. 1, 1955, water-stage recorder and concrete control at site 0.3 mi downstream at different datum. Oct. 1, 1955, to Sept. 30, 1956, nonrecording gage at present site at datum 1.2 ft lower. Oct. 1, 1956, to Jan. 27, 1957, nonrecording gage at present site and datum. Jan. 28, 1957, to May 3, 1972, water-stage recorder and concrete control at present site and datum. May 4, 1972, to Sept. 4, 1973, nonrecording gage at present site and datum.

REMARKS.--Records good. 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 T. Howard Duckett Reservoir, combined usable capacity, 11,800,000,000 gal; dead storage, 80,000,000 gal. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 26,000 ft<sup>3</sup>/s June 22, 1972, gage height, about 25 ft, from floodmarks, from rating curve extended above 6,600 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 0.10 ft<sup>3</sup>/s Sept. 25, 1964, (valve closed for repair); minimum daily discharge, 1.1 ft<sup>3</sup>/s June 26, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft<sup>3</sup>/s Dec. 14, gage height, 9.18 ft; minimum daily discharge, 16 ft<sup>3</sup>/s Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	23	266	25	25	532	462	315	319	209	22	22
2	19	499	334	25	25	50	651	301	313	210	22	22
3	20	607	18	306	25	68	402	91	129	208	22	22
4	22	369	18	469	24	69	162	317	24	206	22	16
5	23	140	18	291	25	69	24	458	26	204	22	22
6	22	23	18	25	25	57	465	161	24	155	263	22
7	22	20	18	25	25	26	775	24	72	22	357	22
8	22	19	567	25	25	449	736	24	128	22	22	22
9	22	19	980	25	25	525	267	555	128	22	22	22
10	22	19	978	24	24	26	189	793	125	22	22	35
11	22	19	341	24	24	26	307	340	124	22	22	98
12	24	19	19	25	24	208	441	99	77	22	22	124
13	22	19	403	24	104	26	168	99	25	22	192	128
14	22	19	1990	24	432	457	24	316	24	22	301	128
15	22	19	812	24	575	453	24	453	24	22	247	130
16	22	19	594	24	941	160	266	351	24	22	22	91
17	22	19	689	24	698	26	796	132	24	23	26	111
18	22	19	482	24	24	26	1060	24	24	23	35	123
19	22	19	234	82	24	358	733	24	24	22	35	123
20	22	19	235	90	24	283	216	24	24	110	30	116
21	22	19	238	25	130	26	114	24	23	228	24	108
22	23	19	241	25	526	298	24	280	42	223	24	110
23	24	18	462	25	468	227	24	233	24	97	25	87
24	450	18	573	24	228	218	24	295	23	23	25	60
25	803	18	379	24	23	217	281	319	22	22	22	36
26	707	18	21	24	23	548	453	188	22	22	22	24
27	264	18	23	135	208	372	350	24	23	22	22	25
28	23	34	23	234	167	161	221	24	23	22	22	25
29	23	18	424	231	877	729	221	125	117	22	22	25
30	23	18	548	99	---	1780	223	205	208	22	22	25
31	23	---	132	25	---	1100	---	284	---	22	22	---
TOTAL	2820	2126	12078	2476	5768	9570	10103	6902	2209	2315	1980	1924
MEAN	91.0	70.9	390	79.9	199	309	337	223	73.6	74.7	63.9	64.1
MAX	803	607	1990	469	941	1780	1060	793	319	228	357	130
MIN	19	18	18	24	23	26	24	24	22	22	22	16
( $\Sigma$ )	9370	10110	8740	10000	11560	11600	11560	11980	11910	11710	11650	10400
( $\bar{x}$ )	55.8	65.3	65.1	62.3	60.5	56.8	46.3	47.0	47.3	49.2	48.4	53.7

CAL YR 1983 TOTAL 48678 MEAN 133 MAX 1990 MIN 15  $\neq$  57.8  
WTR YR 1984 TOTAL 60271 MEAN 165 MAX 1990 MIN 16  $\neq$  54.8

$\neq$  Combined month-end total contents, millions of gallons, in Triadelphia and T. Howard Duckett Reservoirs, contents on Sept. 30, 1983: 10,150,000,000 gal; furnished by Washington Suburban Sanitary Commission.

$\neq$  Diversions, in cubic feet per second, above station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records furnished by Washington Suburban Sanitary Commission.

## 01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD

LOCATION.--Lat 39°10'04", long 76°51'07", Howard County, Hydrologic Unit 02060006, on left bank 25 ft downstream from bridge on State Highway 32, 1 mi west of Guilford, 3 mi upstream from Middle Patuxent River, 4 mi north of Laurel, and 20.1 mi upstream from mouth.

DRAINAGE AREA.--38.0 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1502: 1933, 1934(M), 1939(M), 1945(M), 1948(P).

GAGE.--Water-stage recorder. Concrete control since June 20, 1946. Datum of gage is 259.26 ft National Geodetic Vertical Datum of 1929. Prior to June 25, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good. Low flow affected by regulation from unknown source. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 43.1 ft<sup>3</sup>/s, 15.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft<sup>3</sup>/s June 22, 1972, gage height, 18.38 ft, from high-water mark in well, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 13.26 ft and contracted-opening and flow-over-embankment measurement at gage height 18.38 ft; no flow Sept. 8, and parts of Sept. 6, 7, 9-12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1730	1170	7.70	July 1	0900	*1490	8.69
Mar. 29	0830	1060	7.23	Aug. 4	0630	1230	7.92
May 4	0300	858	6.37	Aug. 12	2000	852	6.34

Minimum discharge, 8.7 ft<sup>3</sup>/s Oct. 10, 11, gage height, 2.54 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	16	39	40	33	53	74	54	51	896	55	16
2	14	16	33	37	30	46	65	47	45	60	103	15
3	12	17	32	36	47	43	61	108	41	39	211	15
4	10	20	264	36	171	41	162	423	40	24	623	42
5	9.6	17	92	37	110	70	366	83	36	24	76	24
6	13	17	146	37	69	80	159	99	37	35	40	19
7	9.8	16	155	36	41	52	87	106	35	24	32	16
8	9.7	16	52	34	36	46	70	172	33	22	28	16
9	9.4	16	42	32	34	54	64	201	32	21	27	16
10	9.2	105	39	58	35	46	62	83	30	23	24	16
11	9.3	190	35	88	61	50	59	68	28	23	100	16
12	100	55	133	36	57	50	57	84	26	26	483	16
13	31	30	647	33	51	117	56	64	25	21	106	15
14	39	23	266	40	312	162	64	56	23	19	45	15
15	17	34	81	38	345	96	200	51	22	18	34	15
16	14	83	58	32	185	67	228	50	21	21	28	14
17	12	34	49	31	76	55	96	48	23	23	25	14
18	12	26	44	31	76	50	72	47	28	41	22	13
19	20	23	42	31	56	48	66	54	60	32	22	13
20	18	29	39	32	48	46	59	46	27	22	32	13
21	19	211	36	27	43	115	55	44	25	88	22	12
22	15	44	325	25	40	71	57	42	23	44	20	12
23	186	31	91	26	95	50	122	84	22	32	20	12
24	234	34	49	38	229	45	79	77	31	25	21	12
25	70	326	44	125	73	73	64	47	46	22	18	12
26	36	85	35	164	52	252	57	42	26	20	18	12
27	24	43	33	131	47	85	54	41	23	36	18	12
28	20	137	260	68	135	241	51	42	22	25	17	34
29	18	193	168	42	106	728	53	139	21	22	17	28
30	16	54	54	37	---	185	53	208	122	22	17	18
31	16	---	48	37	---	92	---	69	---	21	16	---
TOTAL	1043.0	1941	3431	1495	2693	3209	2772	2779	1024	1771	2320	503
MEAN	33.6	64.7	111	48.2	92.9	104	92.4	89.6	34.1	57.1	74.8	16.8
MAX	234	326	647	164	345	728	366	423	122	896	623	42
MIN	9.2	16	32	25	30	41	51	41	21	18	16	12
CFSM	.88	1.70	2.92	1.27	2.45	2.74	2.43	2.36	.90	1.50	1.97	.44
IN.	1.02	1.90	3.36	1.46	2.64	3.14	2.71	2.72	1.00	1.73	2.27	.49

CAL YR 1983	TOTAL	24688.6	MEAN	67.6	MAX	1250	MIN	6.8	CFSM	1.78	IN	24.17
WTR YR 1984	TOTAL	24981.0	MEAN	68.3	MAX	896	MIN	9.2	CFSM	1.80	IN	24.45



## PATUXENT RIVER BASIN

01594440 PATUXENT RIVER NEAR BOWIE, MD

LOCATION.--Lat 38°57'21", long 76°41'36", Anne Arundel County, Hydrologic Unit 02060006, on left bank 45 ft upstream from bridge on U.S. Highway 50 (John Hanson Highway), 3.0 mi west of Bowie City Hall, 3.1 mi downstream from mouth of Little Patuxent River, 4.2 mi northwest of Davidsonville, and 60 mi upstream from mouth.

DRAINAGE AREA.--348 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1955 to June 1977 (gage heights and discharge measurements only), August 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.10 ft National Geodetic Vertical Datum of 1929. Prior to June 27, 1977, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Flow regulated by T. Howard Duckett Reservoir, usable capacity 5,600,000,000 gal, 21 mi above station.

AVERAGE DISCHARGE.--7 years, 421 ft<sup>3</sup>/s, 16.43 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,100 ft<sup>3</sup>/s June 22, 1972, gage height, 27.9 ft, from flood-marks, on basis of contracted-opening measurement of peak flow; minimum discharge observed, 32 ft<sup>3</sup>/s Aug. 9, 1966; minimum daily discharge, 61 ft<sup>3</sup>/s Sept. 14, 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,340 ft<sup>3</sup>/s Mar. 30, gage height, 12.58 ft; minimum daily discharge, 102 ft<sup>3</sup>/s Oct. 9, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	150	400	453	293	970	1680	606	647	991	165	110
2	135	145	320	325	257	855	937	614	607	1680	242	110
3	118	398	280	314	268	408	895	579	565	623	481	140
4	112	740	2000	588	598	368	843	1190	338	471	743	400
5	107	610	900	722	585	389	1380	1260	237	404	1070	240
6	112	270	850	539	587	584	1520	865	226	504	305	180
7	109	166	1400	311	355	442	1000	722	224	530	431	160
8	104	148	700	281	271	338	1220	655	260	241	642	140
9	102	143	500	264	259	661	1160	1010	294	197	230	140
10	103	188	400	275	258	759	803	947	285	190	197	150
11	102	626	360	631	286	359	612	995	280	200	308	160
12	244	560	700	388	371	373	654	727	272	202	574	202
13	354	270	2000	286	324	575	744	491	221	185	917	221
14	326	200	4000	297	534	834	516	416	176	172	904	226
15	187	180	2200	333	2140	935	625	586	171	162	568	233
16	136	430	1670	267	2270	854	825	670	167	163	397	219
17	125	328	958	259	1300	552	1030	591	173	283	200	178
18	119	210	956	250	1150	368	965	372	190	287	184	200
19	122	185	864	250	547	335	1110	294	283	366	187	207
20	139	183	589	240	425	627	1010	283	227	204	243	207
21	145	826	537	240	371	624	609	254	182	517	201	194
22	139	676	905	240	465	629	430	243	173	742	174	187
23	297	285	1780	250	678	641	597	489	181	593	167	189
24	1330	254	940	260	1240	542	580	666	193	296	159	167
25	900	845	856	413	811	567	457	562	250	200	152	145
26	980	1390	724	779	434	1010	642	549	218	177	145	128
27	940	456	391	872	350	1150	730	827	179	209	135	113
28	570	333	464	749	747	947	639	347	172	210	130	158
29	207	953	1380	612	918	2950	545	402	177	180	130	218
30	172	577	964	545	---	3620	539	1230	296	172	140	162
31	157	---	935	385	---	1870	---	940	---	170	120	---
TOTAL	8859	12725	31923	12618	19092	26136	25297	20382	7864	11521	10641	5484
MEAN	286	424	1030	407	658	843	843	657	262	372	343	183
MAX	1330	1390	4000	872	2270	3620	1680	1260	647	1680	1070	400
MIN	102	143	280	240	257	335	430	243	167	162	120	110
CFSM	.82	1.22	2.96	1.17	1.89	2.42	2.42	1.89	.75	1.07	.99	.53
IN.	.95	1.36	3.41	1.35	2.04	2.79	2.70	2.18	.84	1.23	1.14	.59
CAL YR 1983	TOTAL	184718	MEAN	506	MAX	4280	MIN	90	CFSM	1.45	IN	19.75
WTR YR 1984	TOTAL	192542	MEAN	526	MAX	4000	MIN	102	CFSM	1.51	IN	20.58

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 14...	1100	197	245	7.1	7.5	9.0	763	3.5	9.6	83	K14000	K18000
JAN 03...	1200	305	225	6.7	5.0	5.0	769	6.3	12.2	95	550	3800
MAR 26...	1230	992	200	6.9	11.0	11.0	757	40	12.2	111	830	2200
MAY 14...	1100	414	200	7.0	16.0	16.0	766	7.5	9.0	91	130	50
JUL 16...	1130	162	263	7.1	29.0	24.0	763	6.4	6.5	77	--	47
SEP 17...	1100	165	230	7.1	14.5	16.0	780	4.0	8.0	79	120	370
DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 14...	64	26	19	3.9	17	35	1	4.4	38	5.8	23	23
JAN 03...	53	24	15	3.8	18	41	1	3.1	29	12	19	26
MAR 26...	43	20	12	3.2	17	44	1	2.5	23	5.6	19	28
MAY 14...	53	20	15	3.7	13	34	.8	2.5	33	6.4	18	20
JUL 16...	69	22	21	3.9	19	36	1	3.9	47	7.2	19	26
SEP 17...	66	24	20	3.9	17	34	.9	3.4	42	6.5	17	23
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)
NOV 14...	.50	10	148	130	.20	79	2.3	1.10	1.4	3.4	.580	1.8
JAN 03...	.10	10	124	110	.17	102	2.5	.730	.94	2.1	.360	1.1
MAR 26...	.10	5.8	110	100	.15	295	1.4	.300	.39	.90	.250	.77
MAY 14...	.20	8.2	130	100	.18	145	2.0	.590	.76	1.6	.280	.86
JUL 16...	.30	7.4	184	130	.25	80	3.4	.420	.54	--	--	--
SEP 17...	.30	8.3	141	120	.19	63	3.0	.410	.53	.90	.640	--
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 14...	.420	.450	1.4	30	<1	32	<.5	<1	<1	<3	3	1
JAN 03...	.230	.250	.77	--	--	--	--	--	--	--	--	--
MAR 26...	.050	.040	.12	<10	<1	37	<.5	<1	<1	<3	3	6
MAY 14...	.230	.210	.64	10	<1	38	<1	<1	<1	<3	3	1
JUL 16...	.790	.670	2.1	--	--	--	--	--	--	--	--	--
SEP 17...	.520	.530	1.6	<10	<1	26	<.0	<1	2	<3	2	1

K: Results based on colony count outside the accepted range (non-ideal colony count).

## PATUXENT RIVER BASIN

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE- NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON- TIUM, DIS-SOLVED (UG/L AS SR)	VANA- DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 14...	120	<.1	<10	6	<1	<1	70	<6	16	12	6.4	92
MAR 26...	100	.2	<10	3	<1	<1	61	<6	12	93	249	84
MAY 14...	120	<.1	<10	3	<1	<1	72	<6	10	24	27	90
SEP 17...	1800	.1	<10	<1	<1	<1	71	<6	9	12	5.3	74

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD

LOCATION.--Lat 39°14'37", long 79°25'43", Garrett County, Hydrologic Unit 02070002, on left bank at downstream side of bridge (abandoned) on Dobbin Road, 0.6 mi south of intersection of Kempton Road, 1.2 mi from mouth, and 3.0 mi southwest of Wilson.

DRAINAGE AREA.--8.23 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,600 ft, from topographic map.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Natural flow of stream affected by inflow from deep coal mine dewatering process.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 479 ft<sup>3</sup>/s Aug. 18, 1980, gage height, 5.99 ft; minimum discharge, 3.2 ft<sup>3</sup>/s Sept. 26, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 170 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 6	2100	249	3.68	July 10	1415	*296	4.19
Feb. 14	1845	281	4.03	July 10	2330	277	3.99
Mar. 25	2330	172	2.82	July 12	0530	237	3.55
Apr. 5	0115	231	3.48	Aug. 11	2115	201	3.14
Apr. 29	0115	220	3.36	Aug. 13	1745	193	3.05
May 8	1915	200	3.13				

Minimum discharge, 2.2 ft<sup>3</sup>/s Oct. 9, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	6.5	36	15	10	26	40	52	18	9.6	10	6.0
2	2.8	6.6	29	14	13	21	45	35	17	7.2	9.6	5.9
3	2.7	14	32	13	11	20	54	51	13	5.9	10	7.1
4	2.5	13	70	13	18	17	85	51	12	5.8	18	11
5	2.7	11	56	12	16	30	146	38	12	7.4	12	7.3
6	2.8	11	119	12	13	46	83	88	10	14	11	7.1
7	2.5	13	119	11	12	31	58	94	7.6	31	14	6.2
8	2.4	14	63	10	11	27	48	116	6.9	9.2	12	5.8
9	2.2	16	45	9.0	10	27	45	135	7.5	7.4	13	5.5
10	2.2	19	39	8.4	12	23	39	97	6.8	141	28	5.2
11	2.5	26	33	10	21	18	33	70	5.8	180	68	5.2
12	3.3	23	49	13	37	18	27	92	7.7	181	163	5.2
13	4.2	18	47	9.4	60	20	24	64	7.9	104	159	7.2
14	5.4	16	38	8.4	196	25	27	48	8.4	49	121	7.1
15	2.8	27	34	7.8	141	28	59	39	5.2	28	62	6.5
16	2.5	45	28	7.5	78	57	84	31	4.6	23	31	5.1
17	2.4	34	24	7.3	51	66	57	24	4.8	14	22	4.9
18	2.4	29	21	7.0	40	57	50	18	4.5	15	17	4.8
19	3.6	38	18	6.6	35	50	43	15	15	12	15	4.6
20	3.6	35	17	7.0	35	42	34	13	8.6	12	13	4.9
21	14	39	15	9.0	28	56	29	11	5.5	20	13	4.5
22	7.7	29	19	10	24	44	54	9.4	7.2	11	12	4.4
23	58	26	20	11	23	36	75	19	6.2	9.7	14	4.4
24	21	28	16	16	48	32	87	15	6.9	14	11	4.4
25	13	39	14	30	61	66	82	8.8	5.4	21	8.9	4.3
26	11	30	13	20	44	131	72	8.4	4.9	11	7.6	4.8
27	11	28	14	17	37	93	61	7.1	4.4	35	7.0	4.5
28	9.6	80	23	16	34	111	74	12	6.8	20	7.8	6.1
29	7.9	83	36	14	29	92	137	75	4.8	12	6.6	5.0
30	7.1	49	21	12	---	61	79	33	7.7	11	6.3	5.2
31	6.7	---	16	11	---	47	---	21	---	11	7.0	---
TOTAL	226.1	846.1	1124	367.4	1148	1418	1831	1390.7	243.1	1032.2	909.8	170.2
MEAN	7.29	28.2	36.3	11.9	39.6	45.7	61.0	44.9	8.10	33.3	29.3	5.67
MAX	58	83	119	30	196	131	146	135	18	181	163	11
MIN	2.2	6.5	13	6.6	10	17	24	7.1	4.4	5.8	6.3	4.3
CFSM	.89	3.43	4.41	1.45	4.81	5.55	7.41	5.46	.98	4.05	3.56	.69
IN.	1.02	3.82	5.08	1.66	5.19	6.41	8.28	6.29	1.10	4.67	4.11	.77
CAL YR 1983	TOTAL	7990.8	MEAN	21.9	MAX	123	MIN	2.2	CFSM	2.66	IN	36.11
WTR YR 1984	TOTAL	10706.6	MEAN	29.3	MAX	196	MIN	2.2	CFSM	3.56	IN	48.39

## POTOMAC RIVER BASIN

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

pH: May to September 1984.

WATER TEMPERATURES: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Periods of missing record due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water year 1984): Maximum, 1,590 micromhos Sept. 14, 1984; minimum, 161 micromhos Apr. 5, 1984.

WATER TEMPERATURES (water year 1984): Maximum, 22.5°C Aug. 9, 10, 1984; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,590 micromhos Sept. 14; minimum, 161 micromhos Apr. 5.

WATER TEMPERATURES: Maximum, 22.5°C Aug. 9, 10; minimum, 0.0°C on many days during winter periods.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV , 1983												
03...	1030	19	820	3.3	--	9.0	3.6	--	210	2.1	104	59
SEP , 1984												
18...	1010	4.5	1210	2.9	10.0	10.5	.60	10.1	260	5.0	248	63

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
NOV , 1983											
03...	16	6.3	6	.2	2.7	<1.0	310	2.3	.30	18	466
SEP , 1984											
18...	24	6.6	5	.2	2.8	<1.0	450	1.8	.30	27	772

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
NOV , 1983											
03...	.63	24	--	--	--	--	.24	--	--	--	--
SEP , 1984											
18...	1.0	9.4	4	<.010	<.010	<.10	<.10	.410	.410	.53	.19

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
NOV , 1983											
03...	--	--	--	--	--	<.010	7000	7000	--	1	--
SEP , 1984											
18...	.19	.60	.60	.010	.010	--	--	22000	<1	<1	9

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV , 1983											
03...	--	--	--	--	--	--	6900	0	7800	--	--
SEP , 1984											
18...	<10	<1	50	30	<90	80	20000	--	21000	<100	50

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1983											
03...	1500	100	1400	--	.1	--	--	--	290	--	--
SEP , 1984											
18...	2600	--	2600	<.1	.2	300	<1	<1	--	780	860

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1370	980	1100	690	640	665	245	200	215	524	506	518
2	990	960	970	765	690	730	370	250	325	557	533	545
3	960	950	950	800	590	690	380	335	370	629	567	583
4	960	950	960	590	490	525	335	215	255	664	646	659
5	990	960	970	570	500	530	270	210	230	674	654	658
6	1010	990	1000	500	460	485	285	210	255	881	683	808
7	1000	990	990	460	420	430	205	200	200	911	815	868
8	1120	1000	1060	420	375	385	210	205	205	820	772	795
9	1090	1000	1020	390	340	350	280	210	250	844	772	796
10	1000	990	990	420	380	390	290	280	285	865	835	856
11	990	970	980	400	300	330	295	280	285	1030	815	894
12	980	950	965	310	290	300	295	260	280	1050	1000	1010
13	1000	980	990	320	300	310	300	265	285	1120	992	1030
14	1070	980	1030	330	320	325	300	280	290	1120	967	1030
15	1070	1020	1050	355	290	325	285	280	280	961	931	944
16	1020	950	975	300	280	290	340	280	300	933	919	929
17	960	930	945	310	290	300	380	340	360	1200	916	1100
18	940	930	935	370	300	340	420	380	400	1270	1200	1240
19	940	860	900	380	270	330	440	420	430	1300	1250	1280
20	870	820	835	270	230	250	472	436	453	1310	1120	1220
21	860	640	710	270	220	230	499	481	491	1110	1050	1070
22	680	580	620	420	320	370	485	287	367	1050	1020	1040
23	580	300	440	480	420	450	384	268	332	1020	996	1000
24	310	270	280	460	310	370	402	338	373	990	594	824
25	445	300	370	310	270	275	449	405	436	579	491	516
26	550	445	480	285	270	280	477	455	468	511	489	498
27	590	540	560	300	280	290	500	486	496	527	507	516
28	595	585	580	290	175	210	518	364	455	542	526	531
29	630	580	615	175	170	170	481	385	425	556	538	547
30	645	620	635	200	170	180	497	463	481	578	552	564
31	665	625	645	---	---	---	510	470	487	769	571	639
MONTH	1370	270	824	800	170	370	518	200	347	1310	489	823

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	887	799	857	696	636	672	467	383	427	586	492	533
2	999	889	923	695	565	616	382	330	367	599	585	593
3	910	648	801	595	517	567	370	322	343	665	593	617
4	630	536	564	614	544	585	337	195	284	699	673	689
5	530	520	524	593	379	497	183	161	171	705	665	685
6	533	519	525	373	323	336	200	184	191	671	599	644
7	563	529	542	386	338	360	272	234	253	601	539	563
8	592	558	571	430	390	411	306	278	295	545	527	535
9	602	578	589	483	429	451	334	298	310	533	525	529
10	602	592	598	539	449	489	496	346	411	553	527	532
11	593	469	540	528	502	515	543	499	524	627	563	598
12	461	367	411	576	504	543	523	467	483	672	636	661
13	361	311	331	709	545	612	489	473	481	674	636	655
14	318	234	270	707	639	655	583	489	548	644	634	638
15	292	260	256	682	560	649	487	327	399	646	632	637
16	322	296	315	549	281	417	329	305	312	740	654	689
17	338	314	325	277	265	270	407	339	386	829	743	785
18	376	340	355	280	266	272	387	377	381	844	828	835
19	404	376	392	300	280	290	545	397	485	828	792	810
20	412	380	392	325	301	312	567	527	547	801	783	792
21	456	412	431	329	269	296	531	513	520	796	778	788
22	504	456	476	332	284	310	534	468	516	799	787	793
23	505	459	497	380	334	356	472	440	451	811	797	803
24	449	329	364	401	381	393	450	418	432	864	812	837
25	328	276	295	393	217	335	456	424	441	890	814	835
26	348	292	320	212	202	206	524	468	493	1030	898	980
27	387	349	366	281	209	242	554	534	546	956	920	936
28	523	393	462	305	251	283	552	516	539	996	656	897
29	634	526	583	286	242	256	514	462	484	588	380	431
30	---	---	---	388	292	345	486	452	465	633	463	543
31	---	---	---	467	391	428	---	---	---	633	571	596
MONTH	999	234	482	709	202	418	583	161	416	1030	380	692
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	583	549	562	923	681	808	1240	1140	1210	1020	981	999
2	705	553	636	875	853	866	1290	1230	1270	1060	1010	1030
3	709	675	693	969	881	943	1320	1220	1310	1090	975	1060
4	785	667	691	1050	966	1010	1210	730	970	936	770	831
5	1030	807	925	995	745	938	738	688	709	920	866	889
6	1140	1040	1110	843	645	748	773	737	761	975	925	950
7	1080	897	969	570	492	523	954	658	798	---	---	---
8	902	856	878	695	557	621	1040	965	1000	---	---	---
9	1050	858	907	788	704	756	1090	845	1030	---	---	---
10	1140	1030	1090	830	282	550	974	708	855	---	---	---
11	1030	986	1000	427	249	286	653	383	515	---	---	---
12	---	---	---	340	262	296	383	325	343	1180	1120	1150
13	---	---	---	425	341	396	390	344	365	1410	1050	1190
14	---	---	---	422	394	406	431	401	424	1590	1330	1480
15	---	---	---	492	424	451	490	438	461	1580	1200	1370
16	---	---	---	531	479	497	570	496	529	1220	1190	1200
17	---	---	---	616	536	570	647	579	609	1220	1180	1210
18	---	---	---	619	581	599	706	656	676	1230	1180	1210
19	1200	782	982	651	611	631	749	717	729	1250	1190	1220
20	1390	1200	1310	998	658	844	805	759	775	1330	1200	1270
21	1350	1060	1170	1040	775	910	1110	796	925	1280	1250	1270
22	1560	1060	1360	770	736	751	1220	1040	1160	1280	1240	1260
23	1540	1210	1410	817	755	769	1030	728	826	1290	1260	1280
24	1210	964	1090	1130	825	986	780	706	746	1310	1270	1300
25	1030	978	1010	818	666	716	881	779	825	1290	1280	1280
26	1160	1020	1100	975	701	841	936	896	916	1300	1270	1280
27	1130	1070	1110	1030	774	915	977	933	954	1280	1240	1260
28	1110	1020	1060	900	762	810	982	904	936	1230	1060	1130
29	1100	1010	1070	937	799	862	1010	979	993	1160	1060	1120
30	1050	921	1010	1050	756	826	1030	987	1010	1210	1120	1190
31	---	---	---	1210	1080	1150	1000	916	959	---	---	---
MONTH	1560	549	1010	1210	249	719	1320	325	825	1590	770	1180

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
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										3.1	3.1	3.1
26										3.1	3.0	3.1
27										3.0	2.9	3.0
28										3.1	3.0	3.0
29										3.9	3.1	3.3
30										3.2	3.0	3.1
31										3.1	2.9	3.1
MONTH										3.9	2.9	3.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	3.1	3.0	3.1	3.3	3.1	3.2	3.2	3.2	3.2	3.1	3.1	3.1
2	3.1	3.0	3.1	3.1	3.1	3.1	3.3	3.2	3.3	3.1	3.1	3.1
3	3.1	3.0	3.1	3.1	3.1	3.1	3.3	3.3	3.3	3.1	3.1	3.1
4	3.1	3.0	3.1	3.1	3.0	3.1	3.3	3.2	3.3	3.2	3.2	3.2
5	3.1	3.1	3.1	3.2	3.0	3.1	3.3	3.3	3.3	3.2	3.1	3.1
6	3.2	3.1	3.1	3.3	3.2	3.2	3.3	3.2	3.2	3.1	3.1	3.1
7	3.1	3.0	3.1	3.3	3.3	3.3	3.4	3.3	3.3	3.1	3.1	3.1
8	3.1	3.0	3.0	3.2	3.2	3.2	3.4	3.3	3.4	---	---	---
9	3.1	3.0	3.0	3.1	3.1	3.1	3.7	3.3	3.3	---	---	---
10	3.1	3.1	3.1	4.4	3.1	3.4	3.5	3.3	3.4	---	---	---
11	3.1	3.0	3.0	3.7	3.6	3.7	3.6	3.4	3.5	3.1	3.0	3.1
12	3.2	3.0	3.1	4.0	3.7	3.8	3.8	3.6	3.7	3.1	3.0	3.1
13	---	---	---	3.7	3.5	3.6	3.8	3.6	3.7	3.2	3.0	3.1
14	---	---	---	3.5	3.4	3.4	3.7	3.5	3.6	3.2	3.1	3.2
15	---	---	---	3.4	3.3	3.3	3.5	3.4	3.5	3.2	3.1	3.1
16	---	---	---	3.3	3.3	3.3	3.4	3.3	3.4	3.0	3.0	3.0
17	---	---	---	3.3	3.2	3.2	3.3	3.3	3.3	3.0	2.9	2.9
18	3.1	3.0	3.1	3.2	3.2	3.2	3.3	3.2	3.3	2.9	2.9	2.9
19	3.3	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	2.9	2.9	2.9
20	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.0	2.9	2.9
21	3.2	3.0	3.1	3.3	3.2	3.2	3.3	3.2	3.2	2.9	2.9	2.9
22	3.2	3.1	3.1	3.2	3.1	3.2	3.3	3.2	3.3	2.9	2.9	2.9
23	3.2	3.1	3.2	3.2	3.1	3.1	3.3	3.2	3.2	2.9	2.8	2.9
24	3.1	3.1	3.1	3.4	3.2	3.2	3.2	3.2	3.2	2.9	2.9	2.9
25	3.1	3.0	3.1	3.2	3.2	3.2	3.2	3.1	3.2	2.9	2.9	2.9
26	3.0	2.9	3.0	3.3	3.2	3.2	3.1	3.1	3.1	2.9	2.9	2.9
27	3.1	2.9	3.0	3.4	3.2	3.3	3.1	3.1	3.1	2.9	2.8	2.8
28	3.0	3.0	3.0	3.3	3.2	3.3	3.2	3.1	3.1	2.9	2.8	2.9
29	3.1	3.0	3.0	3.2	3.1	3.1	3.1	3.1	3.1	2.9	2.9	2.9
30	3.1	3.0	3.1	3.2	3.1	3.2	3.1	3.1	3.1	2.9	2.8	2.8
31	---	---	---	3.2	3.0	3.1	3.1	3.1	3.1	---	---	---
MONTH	3.3	2.9	3.1	4.4	3.0	3.3	3.8	3.1	3.3	3.2	2.8	3.0



01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.5	11.0	12.0	9.0	6.5	7.5	4.0	2.0	3.0	.5	.5	.5
2	13.5	12.5	13.0	9.5	8.0	8.5	4.0	1.5	3.0	.5	.5	.5
3	14.0	12.0	12.5	11.5	9.5	10.5	5.0	4.0	4.5	1.5	.5	1.0
4	15.0	10.0	13.5	10.5	5.0	7.0	6.0	4.5	5.0	2.5	1.5	2.0
5	15.0	10.0	12.5	5.0	3.0	4.0	6.0	5.0	5.5	2.5	2.0	2.5
6	15.0	10.0	11.0	4.5	2.5	3.5	7.0	4.5	5.5	2.5	2.0	2.5
7	14.0	12.0	12.5	5.5	4.0	4.5	4.5	3.0	3.5	2.0	.0	1.0
8	12.5	10.5	11.5	6.5	4.0	5.5	4.0	3.0	3.5	.5	.0	.5
9	13.5	11.0	12.0	8.0	4.5	6.0	5.5	2.5	4.0	2.0	.0	.5
10	14.0	12.5	13.0	9.0	5.5	8.0	6.0	5.0	5.5	3.5	2.0	2.5
11	13.5	13.0	13.5	9.0	4.0	6.5	5.0	3.5	4.5	2.0	.0	.5
12	15.0	13.0	14.0	4.0	2.0	2.5	6.0	4.5	5.0	.0	.0	.0
13	16.5	16.0	16.0	4.5	1.5	2.5	6.0	5.5	6.0	.0	.0	.0
14	16.0	12.0	13.5	4.5	2.5	3.5	8.0	5.5	6.5	.0	.0	.0
15	12.0	10.0	11.0	5.0	3.5	4.0	7.0	5.0	6.0	.0	.0	.0
16	11.0	9.0	10.0	5.5	3.0	4.5	5.0	3.5	4.0	.0	.0	.0
17	11.5	9.5	10.5	3.0	2.5	2.5	3.5	2.5	3.0	.0	.0	.0
18	12.5	10.5	11.5	6.0	3.0	4.0	3.5	1.0	2.0	.0	.0	.0
19	12.5	12.0	12.0	7.5	5.5	6.5	3.5	1.5	2.0	.0	.0	.0
20	12.0	10.0	11.0	8.5	5.0	6.5	1.5	1.0	1.0	.0	.0	.0
21	10.0	9.0	9.5	8.0	6.0	7.0	2.5	1.0	2.0	.0	.0	.0
22	9.0	8.5	8.5	9.0	6.0	6.5	4.0	1.0	2.5	.0	.0	.0
23	11.0	8.5	10.0	9.5	6.5	7.5	1.0	.5	1.0	.0	.0	.0
24	11.5	10.5	11.0	9.5	8.0	9.0	.5	.5	.5	.0	.0	.0
25	11.5	10.5	11.0	8.0	4.0	5.0	.5	.5	.5	.0	.0	.0
26	10.5	8.5	9.5	6.0	5.5	6.0	.5	.5	.5	1.0	.0	.5
27	9.0	6.5	7.5	7.0	4.0	5.0	.5	.5	.5	3.0	.0	1.5
28	8.5	6.0	7.0	9.0	6.5	7.5	.5	.5	.5	3.0	1.0	1.5
29	10.0	8.0	9.0	8.5	4.0	6.0	.5	.5	.5	1.5	1.0	1.0
30	8.0	5.5	6.5	4.0	3.0	3.5	.5	.5	.5	1.0	.0	.5
31	7.0	5.5	6.0	---	---	---	.5	.5	.5	.0	.0	.0
MONTH	16.5	5.5	11.0	11.5	1.5	5.5	8.0	.5	3.0	3.5	.0	.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	.5	.0	.0	8.5	3.0	5.5	---	---	---
2	.0	.0	.0	1.5	.0	.5	10.0	2.5	6.0	---	---	---
3	.5	.0	.0	2.5	.0	.5	8.5	4.5	6.5	---	---	---
4	1.5	.5	1.0	4.0	.0	1.0	6.0	4.0	5.5	---	---	---
5	1.5	1.0	1.0	4.0	3.0	3.5	7.5	4.0	5.5	---	---	---
6	1.0	.0	.5	3.0	1.5	2.0	5.0	3.5	4.0	---	---	---
7	.5	.5	.5	2.5	1.0	1.5	4.5	2.5	3.5	---	---	---
8	.5	.5	.5	1.0	.0	.5	10.0	3.0	6.0	---	---	---
9	.5	.5	.5	.0	.0	.0	9.0	5.0	6.5	---	---	---
10	1.0	.5	1.0	1.0	.0	.0	11.5	4.0	7.5	---	---	---
11	2.0	1.0	1.0	1.5	.0	.5	13.0	4.0	8.0	---	---	---
12	5.0	.5	3.0	4.0	.0	1.0	14.0	5.5	9.5	---	---	---
13	3.0	1.0	2.0	3.5	1.0	2.5	13.5	8.5	11.0	---	---	---
14	2.0	1.0	1.5	3.5	2.5	3.0	12.5	9.0	11.0	---	---	---
15	6.0	1.0	3.5	7.0	1.5	4.0	12.0	9.0	10.0	---	---	---
16	6.0	4.0	5.0	5.5	3.5	4.5	10.5	8.0	9.5	---	---	---
17	5.5	4.5	5.0	8.5	3.0	5.0	9.5	8.0	8.5	---	---	---
18	6.0	4.5	5.0	6.5	4.0	5.0	11.0	7.5	8.5	---	---	---
19	7.5	5.5	6.0	10.5	4.5	7.0	13.0	7.5	10.0	---	---	---
20	6.5	5.5	6.5	12.0	4.5	8.0	13.5	9.5	11.0	---	---	---
21	6.5	3.0	3.5	9.0	3.5	6.0	13.5	9.0	11.0	---	---	---
22	7.5	1.5	4.0	3.0	2.0	2.5	11.5	9.0	9.5	---	---	---
23	6.0	2.0	4.0	4.0	.5	2.0	14.5	9.0	11.0	---	---	---
24	7.0	2.0	4.5	8.0	1.0	4.0	11.5	10.0	10.5	---	---	---
25	5.0	1.5	3.0	9.0	4.0	6.0	16.5	10.0	12.5	---	---	---
26	5.5	.5	2.5	9.0	2.5	5.0	21.0	12.5	15.0	19.0	16.5	17.5
27	3.0	2.0	2.0	8.5	4.0	6.0	20.0	12.5	16.0	18.0	16.0	17.0
28	3.0	1.0	2.0	6.0	3.5	5.0	---	---	---	18.5	16.0	17.5
29	.5	.0	.5	3.0	.5	2.0	---	---	---	17.5	13.0	14.5
30	---	---	---	4.5	2.0	3.0	---	---	---	12.5	10.5	11.0
31	---	---	---	7.0	2.5	4.5	---	---	---	13.0	9.0	10.5
MONTH	7.5	.0	2.5	12.0	.0	3.0	21.0	2.5	9.0	19.0	9.0	14.5

## POTOMAC RIVER BASIN

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01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.5	9.0	11.0	18.0	17.0	17.5	20.5	18.0	19.0	17.5	15.5	16.5
2	17.5	11.0	14.0	19.5	17.0	18.0	21.0	20.0	20.5	18.0	16.0	17.0
3	17.5	15.0	16.0	20.0	18.5	19.5	21.0	20.0	20.5	20.0	18.0	19.0
4	18.0	12.5	15.0	20.0	18.5	19.0	20.5	18.0	19.0	19.0	15.0	16.5
5	19.0	14.0	16.5	20.0	18.5	19.0	19.5	17.5	18.5	14.5	13.0	13.5
6	20.0	16.0	18.0	19.5	17.5	18.5	20.0	18.0	19.0	14.0	13.0	13.5
7	20.5	18.0	19.0	19.5	16.5	18.0	20.5	18.5	19.5	13.5	11.5	12.5
8	20.5	18.5	19.5	18.0	14.0	16.0	21.5	18.5	19.5	---	---	---
9	21.0	18.5	20.0	17.0	14.5	15.5	22.5	19.5	21.0	---	---	---
10	21.0	19.0	20.0	18.0	15.5	17.0	22.5	18.5	19.5	---	---	---
11	21.0	19.0	20.0	20.5	15.0	17.0	18.5	17.0	17.5	17.0	15.5	16.0
12	21.0	19.0	20.5	20.0	15.5	17.5	18.0	16.5	17.0	20.0	16.0	18.0
13	---	---	---	21.0	13.5	17.0	18.0	16.0	16.5	18.0	15.5	17.0
14	---	---	---	20.0	14.5	17.0	19.0	15.5	17.0	18.0	17.5	17.5
15	---	---	---	21.5	15.5	18.5	20.5	14.5	17.0	18.0	14.0	16.5
16	---	---	---	21.5	18.0	20.0	20.5	14.5	17.5	13.5	11.0	12.0
17	---	---	---	21.0	16.5	18.5	20.5	15.0	17.5	12.0	9.5	10.5
18	21.5	20.5	21.0	21.0	17.0	18.5	19.5	15.0	17.0	13.0	10.0	11.0
19	21.0	18.5	20.0	19.0	15.5	17.5	19.0	15.5	17.0	13.5	10.5	12.0
20	20.5	18.0	18.5	19.0	15.5	17.0	19.0	15.0	17.0	15.0	12.0	13.5
21	19.0	17.0	18.0	19.0	16.0	17.5	19.0	13.5	16.5	17.5	14.0	15.5
22	19.5	18.0	18.5	18.0	16.0	17.0	19.5	15.5	17.5	17.0	15.0	16.0
23	19.0	18.0	18.5	20.0	17.0	18.0	20.0	16.5	18.0	18.0	15.5	16.5
24	18.5	17.5	18.0	20.0	18.5	19.5	18.5	15.5	17.0	17.5	15.5	16.5
25	19.0	17.0	18.0	20.5	16.5	18.0	17.0	13.5	15.5	18.5	16.5	17.0
26	18.5	15.5	17.0	20.0	17.0	17.5	17.0	14.5	16.0	17.5	14.0	16.5
27	18.5	15.5	17.0	18.5	15.5	16.5	17.5	15.5	16.5	13.5	9.0	11.0
28	21.0	18.0	19.0	17.5	14.0	15.5	19.0	17.5	18.0	9.0	8.0	8.5
29	21.5	18.5	19.5	17.5	14.5	15.5	19.5	18.5	19.0	10.5	8.5	9.5
30	19.0	18.0	18.5	17.5	15.0	16.0	19.5	18.0	18.5	10.0	9.0	9.5
31	---	---	---	20.0	15.5	17.5	19.0	17.5	18.5	---	---	---
MONTH	21.5	9.0	18.0	21.5	13.5	17.5	22.5	13.5	18.0	20.0	8.0	14.5

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD

LOCATION.--Lat 39°15'29", long 79°25'07", Garrett County, Hydrologic Unit 02070002, on right bank 0.1 mi downstream from a retention pond, just off Old Wilson Road, 0.4 mi upstream from mouth, and 1.4 mi west of Wilson.

DRAINAGE AREA.--1.55 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to August 1980, October 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,540 ft from topographic map.

REMARKS.--Water-discharge records fair. Natural flow of stream affected by inflow from deep coal mine dewatering process and operation of a retention pond located 0.1 mi upstream since September 1980.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 282 ft<sup>3</sup>/s Aug. 18, 1980, gage height, 4.65 ft, minimum discharge recorded, 0.01 ft<sup>3</sup>/s Aug. 20, 1981, gage height, 0.74 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 90 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 16	1900	99	3.04	July 10	1330	*145	3.54

Minimum discharge, 0.05 ft<sup>3</sup>/s Sept. 24, gage height, 0.75 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.85	5.8	1.6	2.4	3.3	7.1	8.0	4.9	4.2	1.3	1.6
2	.17	1.6	5.4	2.4	2.2	2.3	9.7	7.3	4.1	2.4	3.5	.27
3	2.0	2.8	7.0	2.0	3.5	2.0	10	8.7	.90	2.9	3.1	.24
4	3.5	3.2	14	1.4	7.6	1.8	18	8.3	2.4	.77	2.5	2.7
5	.76	1.7	11	1.5	6.7	6.8	29	4.1	4.1	3.1	.98	4.6
6	.12	1.8	34	1.3	5.4	8.3	12	9.6	3.7	4.9	3.2	4.0
7	1.7	3.7	20	.94	3.2	4.1	8.9	10	3.3	2.9	5.6	3.6
8	.47	4.3	10	.78	3.7	2.9	6.6	14	3.8	.85	3.8	1.3
9	.15	3.4	7.1	2.1	1.5	2.5	7.1	13	.82	2.3	5.5	.25
10	.94	3.0	5.5	1.9	3.4	2.3	6.6	9.2	.21	38	4.7	1.6
11	1.7	5.6	5.3	1.6	6.3	3.6	6.2	6.6	1.7	16	5.8	3.7
12	.62	4.2	12	.95	6.4	4.9	5.7	8.1	3.3	24	11	3.5
13	.18	2.6	9.6	.59	10	6.0	5.1	5.0	3.3	8.6	13	2.0
14	2.6	2.8	7.3	.48	47	6.9	5.3	5.9	3.2	5.9	7.8	2.1
15	2.4	6.1	6.0	.50	25	8.9	9.4	5.4	3.4	2.3	5.9	.90
16	.26	9.8	5.8	.25	10	13	13	5.9	.85	3.6	4.5	.23
17	1.6	7.0	3.9	.69	7.0	12	9.9	4.1	.27	3.4	3.0	.39
18	.78	5.5	2.6	.98	5.3	10	9.1	3.7	1.5	3.7	2.2	2.2
19	1.3	6.4	3.6	1.1	5.4	8.8	7.8	1.9	4.3	3.1	1.3	1.9
20	.46	5.1	3.6	.32	6.0	8.1	4.2	1.4	2.4	3.0	1.4	2.2
21	5.9	7.0	3.1	.12	6.8	13	3.2	3.0	1.1	1.7	3.4	2.5
22	3.0	5.5	5.3	.22	5.0	9.4	9.3	3.1	1.0	.83	3.5	.98
23	17	4.3	4.5	.97	5.9	7.5	13	3.9	1.2	1.0	4.4	.16
24	7.1	4.0	4.0	7.0	11	5.3	13	3.9	.91	3.5	3.2	1.2
25	3.8	6.1	2.0	7.7	10	14	9.8	3.2	2.1	3.4	1.3	2.3
26	1.8	4.1	2.7	4.3	6.2	26	8.2	1.2	3.7	3.4	.51	2.6
27	2.4	3.9	3.7	2.5	6.4	14	7.4	.65	3.8	3.9	1.3	2.0
28	3.5	18	3.4	2.0	6.5	23	8.4	2.0	4.2	.93	3.9	2.2
29	.90	15	6.4	1.5	5.7	14	17	7.1	2.6	.58	4.0	.82
30	.63	7.9	2.7	1.9	---	9.6	10	5.4	1.3	1.6	4.1	.31
31	1.6	---	1.8	2.5	---	7.8	---	5.0	---	3.3	4.4	---
TOTAL	69.77	157.25	219.1	54.09	231.5	262.1	290.0	178.65	74.36	160.06	124.09	54.35
MEAN	2.25	5.24	7.07	1.74	7.98	8.45	9.67	5.76	2.48	5.16	4.00	1.81
MAX	17	18	34	7.7	47	26	29	14	4.9	38	13	4.6
MIN	.12	.85	1.8	.12	1.5	1.8	3.2	.65	.21	.58	.51	.16
CFSM	1.45	3.38	4.56	1.12	5.15	5.45	6.24	3.72	1.60	3.33	2.58	1.17
IN.	1.67	3.77	5.26	1.30	5.55	6.29	6.96	4.28	1.78	3.84	2.98	1.30
CAL YR 1983	TOTAL	1531.61	MEAN	4.20	MAX	34	MIN	.05	CFSM	2.71	IN	36.73
WTR YR 1984	TOTAL	1875.32	MEAN	5.12	MAX	47	MIN	.12	CFSM	3.30	IN	44.98

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Periods of missing record due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1983-84): Maximum, &gt;2,000 micromhos Nov. 10-14, 18-20, July 26 to Sept. 12, Oct. 4-20, 1983, June 26, 27, 1984; minimum, 180 micromhos Dec. 28, 1982.

WATER TEMPERATURES (water years 1982-84): Maximum, 29.5°C July 25, 1982; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, &gt;2,000 micromhos Oct. 4-20, June 26, 27; minimum, 290 micromhos Nov. 27.

WATER TEMPERATURES: Maximum, 25.0°C June 10; minimum, 0.0°C Jan. 12-27, 29-31, Mar. 3.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	
JUL , 1984												
03...	1445	2.7	1600	7.2	--	21.5	3.1	8.5	830	810	-	
SEP												
19...	1240	.22	1900	6.9	21.0	17.5	.30	8.5	1100	1100	.2	
		ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUL , 1984												
03...	--	290	26	29	7	.5	5.2	--	21	2.6	940	
SEP												
19...	9.9	380	36	34	6	.5	5.2	22	19	5.4	1200	
		CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
JUL , 1984												
03...	4.7	.70	1.9	1480	1300	2.0	11	--	--	--	--	
SEP												
19...	2.9	.80	1.7	1840	1700	2.5	1.1	3	.78	.76	.020	
		NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. TOTAL (MG/L AS N)
JUL , 1984												
03...	--	--	.70	.63	--	--	--	--	--	1.7	--	
SEP												
19...	.020	.07	.80	.78	.740	.740	.95	.46	.26	1.2	1.0	

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 to SEPTEMBER 1984

DATE	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
JUL , 1984										
03...	2.4	11	--	--	<.010	220	100	1	1	--
SEP										
19...	2.0	8.9	<.010	<.010	--	--	600	<1	<1	<.0
DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
JUL , 1984										
03...	1	<1	20	10	1	<1	380	3	4	1
SEP										
19...	<10	<1	30	20	<10	<10	220	29	<100	<10
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL , 1984										
03...	6200	690	<.1	<.1	--	2	2	1100	20	6
SEP										
19...	430	720	.1	.1	100	2	2	--	20	22

## SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1960	1870	1930	1710	1560	1650	982	958	970	839	777	806
2	1910	1760	1860	1730	1500	1630	1060	859	990	991	769	843
3	>2000	1890	1940	1740	1310	1530	1180	966	1070	1210	958	1030
4	>2000	1960	1990	1410	1210	1280	974	642	736	1300	1180	1240
5	>2000	>2000	>2000	1530	1330	1450	1080	761	985	1390	1200	1300
6	>2000	1980	---	1320	776	1090	1100	588	900	1480	1280	1390
7	>2000	1990	---	1450	611	921	629	559	584	1490	1280	1390
8	>2000	>2000	>2000	1540	1120	1370	724	650	702	1280	1150	1210
9	>2000	>2000	>2000	1640	1190	1430	771	673	735	1590	1090	1290
10	>2000	>2000	>2000	1680	981	1370	760	558	655	1720	1610	1660
11	>2000	>2000	>2000	1390	892	1100	682	516	551	1800	1550	1710
12	>2000	>2000	>2000	1450	997	1280	881	737	836	1810	1570	1750
13	>2000	1180	---	967	557	744	922	784	863	1690	1530	1640
14	>2000	1940	---	1070	506	648	969	933	951	1570	1370	1430
15	>2000	>2000	>2000	1290	849	1130	974	800	876	1390	1270	1360
16	>2000	>2000	>2000	1150	576	826	1010	909	953	1270	950	1110
17	>2000	1930	---	1190	1100	1140	1040	954	1000	1420	926	1110
18	>2000	>2000	>2000	1150	807	969	970	766	857	1750	1320	1530
19	>2000	1820	---	1080	490	745	1070	729	853	1920	1650	1790
20	>2000	>2000	---	483	353	401	1190	1090	1160	1840	1570	1710
21	1890	1140	1630	995	367	530	1270	1010	1150	1550	1370	1430
22	1930	985	1650	1080	922	1030	1330	1030	1240	1380	1170	1270
23	1010	824	951	1220	641	909	1070	859	941	1850	995	1320
24	1320	706	987	1050	574	768	1250	1100	1190	1680	1220	1400
25	1410	1150	1350	621	447	561	1110	828	966	1260	878	1100
26	1400	1370	1380	459	355	406	1180	771	886	1180	874	989
27	1390	1360	1380	362	290	319	1430	1230	1360	855	643	718
28	1680	1380	1520	951	303	700	1400	1030	1180	711	555	628
29	1720	1610	1690	966	938	952	1110	950	1030	549	441	491
30	1640	1370	1470	963	941	950	1040	915	972	988	416	651
31	1720	911	1260	---	---	---	922	834	875	1290	772	990
MONTH	>2000	706	1710	1740	290	994	1430	516	936	1920	416	1240

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1310	1070	1230	987	957	977	497	367	422	860	756	810
2	1340	931	1120	972	770	875	627	319	423	937	869	899
3	1360	1090	1250	752	426	532	638	478	580	979	923	959
4	1260	1190	1230	429	335	375	658	458	558	928	904	912
5	1250	1230	1240	883	319	556	455	301	362	916	734	830
6	1240	1150	1190	639	395	523	543	423	475	729	639	667
7	1250	881	1100	538	430	475	592	440	516	735	595	645
8	1370	1240	1320	434	370	386	436	318	378	796	692	743
9	1220	632	902	373	355	361	677	315	455	914	808	868
10	1570	1120	1370	365	325	351	891	635	756	1050	917	963
11	1580	835	1200	749	295	402	1080	820	910	1060	903	984
12	786	476	575	1290	792	1100	1180	948	1060	1050	758	912
13	1010	378	662	1380	1290	1350	1240	987	1090	758	634	699
14	1100	487	813	1280	1040	1190	1240	961	1160	775	615	647
15	575	463	496	1190	1020	1130	906	506	665	974	816	911
16	639	475	550	1020	809	924	784	548	648	1160	984	1080
17	600	472	542	874	798	831	927	827	870	1170	1000	1050
18	568	378	464	918	868	897	1000	925	960	1180	961	1080
19	435	303	346	937	885	917	1080	1010	1030	1150	887	1040
20	577	447	540	953	911	936	1090	736	893	878	676	757
21	788	580	673	954	784	889	727	535	616	1190	626	770
22	960	738	838	772	700	732	724	494	564	1310	1090	1170
23	1090	964	1040	830	766	807	692	522	610	1300	1210	1260
24	1020	571	817	751	423	544	779	699	746	1320	1100	1220
25	593	473	527	529	343	388	867	791	822	1360	1230	1290
26	522	362	424	488	312	379	948	878	907	1350	1180	1260
27	686	320	463	518	346	422	974	940	954	1180	1100	1150
28	824	700	782	613	467	542	981	699	855	1170	941	1080
29	965	829	901	489	337	421	743	461	553	1120	753	896
30	---	---	---	592	446	510	748	476	630	1150	1010	1080
31	---	---	---	626	532	575	---	---	---	1240	1150	1190
MONTH	1580	303	848	1380	295	687	1240	301	716	1360	595	962

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1270	1230	1250	1540	1010	1140	1780	1660	1730	1780	1740	1750
2	1280	1250	1270	1530	961	1090	1770	1710	1750	1720	1650	1690
3	1230	1060	1120	1870	1460	1650	1720	1660	1690	1630	1180	1560
4	1180	1020	1090	1880	1760	1830	1680	994	1230	---	---	---
5	1400	1190	1270	1820	1700	1760	988	783	857	---	---	---
6	1400	1320	1360	1840	1540	1660	1400	795	969	---	---	---
7	1390	1330	1370	1600	1050	1240	1350	1070	1190	---	---	---
8	1390	1350	1380	1100	1000	1050	1450	1220	1340	1580	1560	1570
9	1390	1170	1300	1350	1030	1100	1500	1280	1420	1540	1490	1510
10	1250	1180	1220	1660	745	1180	1500	1380	1430	1520	1390	1480
11	1310	1200	1240	898	716	788	1380	969	1210	1800	1530	1650
12	1420	1310	1360	856	688	750	946	732	816	1880	1790	1830
13	1470	1420	1450	952	762	838	741	623	674	1890	1830	1860
14	1460	1360	1410	1180	963	1040	747	697	720	1860	1760	1800
15	1450	1350	1380	1090	827	934	960	736	799	1870	1770	1820
16	1450	1370	1420	1190	742	850	1080	959	1000	1840	1800	1820
17	1420	1270	1380	1360	1240	1300	1670	1090	1250	1850	1790	1820
18	1380	1220	1330	1360	1270	1310	---	---	---	1880	1820	1860
19	1370	1270	1320	1320	1280	1300	---	---	---	1940	1870	1910
20	1440	1360	1380	1340	1290	1310	---	---	---	---	---	---
21	1590	1360	1480	1360	1150	1280	---	---	---	1950	1900	1930
22	1790	1440	1650	1190	1020	1110	---	---	---	---	---	---
23	1890	1790	1840	1190	907	980	---	---	---	---	---	---
24	1900	1750	1850	1570	1300	1490	---	---	---	---	---	---
25	1970	1820	1860	1860	1610	1740	---	---	---	---	---	---
26	>2000	1980	---	1880	1830	1860	1590	1470	1550	---	---	---
27	>2000	1850	---	1840	1700	1770	1600	1330	1420	---	---	---
28	1850	1670	1730	1660	1310	1440	1790	1590	1700	---	---	---
29	1850	1680	1760	1340	1140	1260	1830	1770	1800	---	---	---
30	1850	1280	1690	1500	1340	1410	1820	1670	1770	---	---	---
31	---	---	---	1790	1500	1620	1790	1650	1710	---	---	---
MONTH	1970	1020	1430	1880	688	1290	1830	623	1310	1950	1180	1740

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	12.0	12.5	10.5	8.0	9.0	4.0	2.0	3.0	1.0	.5	.5
2	13.5	11.5	12.5	10.5	7.5	9.5	3.5	2.0	3.0	1.5	.5	1.0
3	14.5	10.5	12.5	10.0	9.0	10.0	4.0	3.5	4.0	2.5	.5	1.0
4	14.5	12.0	13.5	8.5	6.5	7.0	5.0	3.5	4.0	2.5	1.0	1.5
5	14.5	13.5	14.0	6.5	5.0	6.0	5.5	5.0	5.0	2.0	1.0	1.5
6	15.5	12.0	13.5	5.0	4.0	4.5	6.0	4.5	5.5	2.0	1.5	1.5
7	15.0	9.5	12.5	6.5	3.5	5.0	4.5	3.0	3.5	1.5	.5	1.0
8	16.0	11.5	13.5	7.5	4.5	6.0	3.5	3.0	3.0	1.0	.5	.5
9	16.5	11.0	14.0	7.5	5.0	6.5	4.0	2.5	3.0	2.5	.5	1.5
10	14.5	12.5	13.5	8.0	7.5	8.0	5.0	3.5	4.0	2.5	2.0	2.0
11	13.0	12.5	13.0	8.0	5.5	6.5	4.0	3.0	3.5	2.5	.5	1.5
12	15.0	13.0	14.0	5.5	2.5	4.0	5.5	4.0	4.5	1.5	.0	1.0
13	18.0	13.5	15.0	3.5	2.0	3.0	5.5	5.0	5.5	.5	.0	.0
14	14.5	12.5	13.5	4.5	2.5	3.5	7.0	5.5	6.0	.0	.0	.0
15	15.0	12.5	14.0	4.5	4.0	4.5	6.5	5.5	6.0	.5	.0	.0
16	16.5	11.5	13.5	4.5	4.0	4.5	5.5	4.0	4.5	.0	.0	.0
17	14.5	11.0	13.0	4.0	3.5	3.5	4.0	2.0	3.0	.0	.0	.0
18	14.0	12.5	13.5	5.0	2.5	4.0	2.5	1.5	2.0	1.0	.0	.0
19	13.5	12.5	13.0	6.5	5.0	5.5	4.0	1.5	2.5	1.5	.0	.5
20	12.5	11.0	12.0	6.5	5.0	6.0	4.0	3.0	3.5	.5	.0	.0
21	11.5	9.5	10.5	7.0	5.5	6.5	3.5	1.5	2.5	2.0	.0	.0
22	11.5	9.0	10.5	7.0	5.5	6.5	3.5	1.5	3.0	.5	.0	.0
23	10.5	9.0	10.0	7.5	5.5	6.5	1.5	1.0	1.5	.0	.0	.0
24	10.5	10.5	10.5	8.5	7.0	8.0	1.5	.5	1.0	.5	.0	.0
25	10.5	10.0	10.5	6.5	3.5	4.5	1.0	.5	.5	1.0	.0	.5
26	10.5	9.5	10.0	4.5	3.0	4.0	2.0	.5	1.0	1.0	.0	.5
27	9.5	8.0	9.0	5.0	3.5	4.5	3.0	2.0	2.5	1.0	.0	.5
28	9.5	7.5	8.5	7.0	5.0	6.0	2.5	1.0	1.5	.5	.5	.5
29	10.5	7.5	9.5	7.0	5.0	6.0	1.0	.5	1.0	.5	.0	.0
30	10.0	6.0	8.0	5.0	3.5	4.5	1.0	.5	.5	1.0	.0	.5
31	10.0	4.5	7.0	---	---	---	1.0	.5	.5	1.5	.0	.5
MONTH	18.0	4.5	12.0	10.5	2.0	6.0	7.0	.5	3.0	2.5	.0	.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.0	1.0	1.5	2.0	.5	1.5	6.0	3.0	4.5	13.0	11.0	12.0
2	2.5	.5	1.5	1.5	.5	1.0	7.0	3.5	5.0	11.5	11.0	11.5
3	3.0	1.5	2.5	2.5	.0	1.0	7.5	5.0	6.5	11.0	10.5	11.0
4	3.5	2.5	3.0	2.5	.5	1.5	7.0	5.5	6.5	11.0	10.5	10.5
5	3.5	3.5	3.5	2.0	1.0	1.5	6.0	4.5	5.5	12.5	9.5	11.0
6	3.5	3.0	3.5	1.5	1.0	1.5	6.0	4.0	5.0	12.0	10.0	10.5
7	3.0	1.0	2.0	2.0	1.0	1.5	4.5	3.5	4.0	12.0	9.5	10.0
8	3.0	2.0	2.5	2.0	.5	1.0	7.0	3.0	5.0	11.5	10.0	10.5
9	2.5	1.0	1.5	2.0	.5	1.0	6.5	5.0	5.5	10.0	9.0	9.5
10	4.5	2.0	3.0	1.0	.5	.5	8.5	4.5	6.5	11.5	8.5	10.0
11	4.5	2.0	3.0	1.5	.5	1.0	10.5	5.5	7.5	13.0	8.5	11.0
12	3.0	1.5	2.0	3.0	1.5	2.5	10.5	6.5	8.5	14.0	11.5	12.5
13	4.0	2.0	3.0	4.0	3.0	3.5	11.5	8.0	10.0	14.0	11.5	12.5
14	4.0	3.0	3.5	4.0	3.0	4.0	11.5	9.5	10.5	12.5	10.5	11.0
15	4.5	3.0	3.5	5.5	3.5	4.5	11.0	9.0	10.0	11.0	9.0	10.0
16	5.5	4.0	5.0	4.5	3.5	4.0	9.5	8.5	9.0	12.0	8.5	10.5
17	6.5	4.5	5.5	6.5	3.5	5.0	9.5	8.5	9.0	14.0	9.5	12.0
18	7.0	5.5	6.0	6.5	4.5	5.5	9.5	7.5	8.5	12.5	11.0	12.0
19	6.5	5.0	5.5	9.0	6.0	7.5	10.0	7.0	8.5	16.0	11.0	13.5
20	6.0	4.0	5.0	9.0	6.0	8.0	9.0	7.0	8.5	17.5	14.0	15.5
21	4.0	3.5	4.0	8.5	5.0	7.0	9.0	6.5	8.0	19.0	13.5	16.5
22	5.5	3.0	4.5	4.5	3.5	4.0	8.0	5.5	6.0	19.5	12.5	17.0
23	5.5	4.5	5.0	4.5	3.0	3.5	8.0	5.0	6.5	17.0	13.5	16.0
24	5.5	3.5	4.5	4.5	2.0	3.5	7.5	6.5	7.0	19.5	12.5	16.0
25	4.5	2.0	3.5	6.5	3.5	4.5	8.5	6.5	7.5	19.5	12.0	16.5
26	3.0	1.0	2.0	6.0	3.5	4.5	13.0	7.0	10.0	19.0	13.0	17.0
27	2.5	1.5	2.0	6.5	4.5	5.5	14.0	10.0	12.0	21.0	16.5	18.5
28	2.5	2.0	2.5	6.5	4.0	5.5	15.5	11.5	13.0	19.0	17.5	18.5
29	2.5	1.5	2.0	4.0	2.0	3.0	15.0	11.0	13.0	18.0	14.5	16.0
30	---	---	---	3.5	2.5	3.0	14.0	11.5	13.0	14.0	12.0	13.0
31	---	---	---	5.0	3.0	4.0	---	---	---	13.5	11.5	12.5
MONTH	7.0	.5	3.5	9.0	.0	3.5	15.5	3.0	8.0	21.0	8.5	13.0

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.5	11.5	12.5	19.5	16.5	18.0	24.0	17.5	20.0	19.5	16.0	17.5
2	16.0	12.0	14.0	24.0	17.5	20.0	22.5	19.0	20.0	23.5	16.0	19.0
3	18.5	15.0	16.0	22.5	15.0	19.0	21.0	18.5	19.5	21.5	18.5	19.5
4	20.0	12.0	16.5	21.0	17.5	19.0	21.5	18.0	19.5	19.5	18.0	18.5
5	19.5	12.5	17.0	22.0	19.0	20.0	23.0	18.5	20.5	18.0	16.0	17.0
6	20.0	13.0	17.5	19.5	16.0	18.5	23.5	19.5	21.0	18.0	15.5	16.5
7	20.5	14.5	18.0	18.0	15.5	16.5	21.0	19.0	19.5	18.0	14.5	16.0
8	20.5	16.0	18.5	21.0	16.5	18.5	22.5	19.0	20.0	19.0	14.0	16.5
9	24.0	16.0	19.0	20.5	16.0	18.0	22.5	19.0	20.0	21.0	14.0	17.0
10	25.0	18.0	21.0	18.0	16.5	17.0	22.0	18.5	20.0	19.0	14.0	16.5
11	24.0	19.0	21.5	20.5	16.5	18.0	20.5	19.0	19.5	20.0	15.5	17.5
12	23.0	17.0	20.5	20.0	16.5	18.0	20.0	18.5	19.5	19.0	16.5	17.5
13	23.0	17.0	20.0	22.0	16.5	18.5	20.0	18.5	19.5	21.5	16.0	18.5
14	21.5	16.5	19.5	19.0	16.5	18.0	21.5	19.5	20.0	19.5	17.0	18.0
15	22.0	16.0	19.0	22.5	16.5	19.5	22.5	19.0	20.5	17.0	15.0	16.5
16	21.0	15.5	18.5	23.0	19.0	20.5	23.0	18.5	20.0	18.0	13.5	15.5
17	23.0	18.0	20.0	21.5	17.5	19.0	22.5	18.5	20.0	19.5	11.5	15.0
18	23.0	18.0	21.0	19.5	17.5	18.5	22.5	19.0	20.0	17.5	12.0	15.5
19	23.0	17.0	20.0	21.5	16.5	18.5	21.5	19.0	20.5	17.5	13.5	15.5
20	20.5	15.5	18.5	20.5	16.0	18.0	24.0	19.0	21.0	17.5	14.5	16.0
21	24.0	16.0	19.0	20.5	17.0	18.0	23.5	18.5	20.5	19.0	15.0	17.0
22	22.0	16.5	18.5	19.5	17.0	18.0	21.0	15.5	18.0	21.0	15.5	17.5
23	21.0	17.0	19.0	23.5	18.0	20.0	19.5	17.0	18.0	21.5	15.5	18.0
24	22.0	18.5	20.0	20.5	18.0	19.5	19.5	16.0	17.5	19.5	16.0	17.5
25	21.5	18.0	19.5	21.5	17.0	19.0	22.0	16.0	18.5	19.5	17.5	18.0
26	21.5	16.5	19.0	18.5	17.0	17.5	23.0	16.0	19.0	17.5	16.0	17.0
27	19.5	15.5	18.0	17.0	15.5	16.5	21.5	15.5	19.0	16.0	14.5	15.0
28	20.5	15.0	18.5	20.5	14.5	17.0	22.0	18.0	19.5	14.5	13.0	13.5
29	22.5	16.0	19.0	19.0	15.5	17.5	21.0	17.5	18.5	15.5	12.5	13.5
30	21.0	17.0	19.0	19.5	15.5	17.5	20.0	17.0	18.0	13.0	11.5	12.0
31	---	---	---	22.0	16.0	18.5	19.0	16.5	18.0	---	---	---
MONTH	25.0	11.5	18.5	24.0	14.5	18.5	24.0	15.5	19.5	23.5	11.5	16.5



01594936 NORTH FORK SAND RUN NEAR WILSON, MD

LOCATION.--Lat 39°15'36", long 79°24'36", Garrett County, Hydrologic Unit 02070002, on right bank, 0.1 mi north-west of Wilson-Cqrunna Road, 0.1 mi upstream from mouth and 0.8 mi northwest of Wilson.

DRAINAGE AREA.--1.91 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and steel weir plate. Altitude of gage is 2,515 ft, from topographic map.

REMARKS.--Water-discharge records good except those below 0.5 ft<sup>3</sup>/s, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 248 ft<sup>3</sup>/s Aug. 18, 1980, gage height, 5.75 ft; minimum discharge, 0.09 ft<sup>3</sup>/s Aug. 22, 1983, gage height, 1.54 ft.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 40 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 6	1845	76	3.88	Apr. 28	2330	79	3.94
Feb. 14	1730	*86	4.04	July 10	1245	57	3.57
Mar. 25	2330	50	3.43	July 12	0345	42	3.27
Apr. 4	2315	74	3.86				

Minimum discharge, 0.14 ft<sup>3</sup>/s Oct. 8, 9, 10, 11, gage height, 1.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.90	7.0	3.4	2.0	5.4	11	9.8	2.3	3.2	1.1	.95
2	.29	.86	5.5	3.0	2.1	4.8	13	7.5	2.1	1.6	.96	.74
3	.20	2.3	6.2	2.6	2.8	4.5	16	8.3	1.9	1.1	1.4	.85
4	.17	2.4	16	2.3	4.7	4.2	25	9.0	1.7	.99	2.5	1.6
5	.17	1.9	11	2.2	4.1	9.5	35	7.0	1.6	1.3	1.8	1.4
6	.17	2.2	32	2.1	3.5	13	19	13	1.4	2.6	2.4	1.2
7	.17	2.4	25	1.9	3.1	8.3	15	14	1.3	3.4	4.3	.91
8	.15	2.5	14	1.8	2.5	6.6	11	16	1.2	1.9	2.8	.79
9	.14	2.1	9.6	1.7	2.5	5.6	9.6	16	1.1	1.3	2.0	.72
10	.14	2.8	8.5	1.7	2.9	5.0	7.7	11	1.0	1.9	3.2	.69
11	.16	4.3	7.2	1.6	6.0	4.6	6.7	8.5	.94	13	4.2	.66
12	.26	4.1	12	1.5	9.0	3.5	5.7	12	.87	21	11	.64
13	.38	3.3	11	1.4	14	3.5	5.0	9.1	.85	8.6	13	.60
14	.59	3.1	9.5	1.4	52	4.6	5.6	7.3	1.1	5.1	8.5	.56
15	.48	4.9	8.0	1.3	31	5.9	14	6.1	.79	3.7	5.9	.67
16	.34	8.4	6.3	1.3	17	13	17	5.1	.72	3.5	4.4	.64
17	.27	6.3	5.2	1.2	12	14	11	4.4	.84	2.6	3.6	.56
18	.23	5.5	4.5	1.2	9.6	13	9.9	3.8	.82	2.5	3.0	.49
19	.34	7.9	4.0	1.2	8.5	11	8.3	3.4	1.6	1.9	2.5	.44
20	.50	7.6	3.6	1.1	8.8	11	7.1	3.1	1.1	1.7	2.0	.41
21	3.1	7.5	3.2	1.0	7.0	17	6.2	2.6	.86	1.9	1.8	.37
22	2.1	5.3	5.6	.98	6.0	15	13	2.2	.74	1.7	1.6	.33
23	15	4.5	5.3	.97	5.9	13	19	2.9	.70	1.6	2.6	.33
24	5.0	5.2	4.3	4.0	15	12	17	2.5	.87	1.4	1.9	.32
25	2.4	7.4	3.5	6.4	16	21	13	2.0	.73	1.6	1.6	.31
26	1.8	5.6	3.1	4.4	11	34	9.8	1.9	.71	1.4	1.4	.35
27	1.8	5.1	2.5	3.9	8.9	21	8.1	1.7	.59	2.2	1.2	.40
28	1.5	18	5.4	3.5	8.0	28	16	1.7	.74	1.9	1.0	.87
29	1.3	16	6.9	3.0	6.6	21	31	5.9	.63	1.5	1.1	.89
30	1.1	9.7	4.5	2.7	---	15	15	3.6	1.3	1.2	1.1	.78
31	.94	---	4.2	2.3	---	11	---	2.8	---	1.2	1.0	---
TOTAL	41.49	160.06	254.6	69.05	282.5	359.0	400.7	204.2	33.10	117.59	96.86	20.47
MEAN	1.34	5.34	8.21	2.23	9.74	11.6	13.4	6.59	1.10	3.79	3.12	.68
MAX	15	18	32	6.4	52	34	35	16	2.3	21	13	1.6
MIN	.14	.86	2.5	.97	2.0	3.5	5.0	1.7	.59	.99	.96	.31
CFSM	.70	2.80	4.30	1.17	5.10	6.07	7.02	3.45	.58	1.98	1.63	.36
IN.	.81	3.12	4.96	1.34	5.50	6.99	7.80	3.98	.64	2.29	1.89	.40

CAL YR 1983 TOTAL 1489.72 MEAN 4.08 MAX 32 MIN .09 CFSM 2.14 IN 29.00  
WTR YR 1984 TOTAL 2039.62 MEAN 5.57 MAX 52 MIN .14 CFSM 2.92 IN 39.70

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Periods of missing record due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1982-84): Maximum, 890 micromhos Sept. 27, 1984; minimum, 68 micromhos Mar. 17, 1982.

WATER TEMPERATURES (water years 1982-84): Maximum, 25.5°C July 20, 1983; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 890 micromhos Sept. 27; minimum, 85 micromhos July 12.

WATER TEMPERATURES: Maximum, 22.5°C Aug. 9; minimum, 0.0°C on many days during winter periods.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
SEP , 1984											
19...	1050	.43	805	7.0	17.0	10.0	1.2	10.1	420	400	120
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CACO3)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
SEP , 1984											
19...	29	2.7	1	.0	1.7	15	15	2.9	360	2.2	.10
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
SEP , 1984											
19...	4.7	653	530	.89	.76	4	<.010	<.010	.30	.23	.180
DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
SEP , 1984											
19...	.210	.27	.52	.39	.70	.60	1.0	4.4	.020	.030	600

## POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
SEP , 1984											
19...	<1	<1	<.0	<10	<1	<10	<10	<10	<10	430	120

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
SEP , 1984											
19...	<100	<10	1600	1500	.4	.3	100	<1	<1	10	15

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	806	692	754	412	382	392	179	166	172	272	266	270
2	801	718	770	419	400	412	192	181	187	278	273	275
3	752	721	741	419	298	337	192	186	188	287	280	283
4	772	753	764	299	266	276	186	157	167	302	288	296
5	788	766	779	275	266	272	165	160	163	307	303	305
6	822	765	791	277	255	269	166	138	153	318	309	314
7	853	825	845	263	253	258	149	142	146	327	319	322
8	848	826	836	258	252	254	157	150	153	342	329	336
9	827	823	825	258	253	256	165	157	161	354	343	349
10	854	828	839	260	236	250	174	166	170	360	354	357
11	873	857	866	241	211	226	181	173	177	367	361	364
12	854	804	817	214	209	211	183	168	176	387	368	374
13	845	584	787	223	215	219	175	169	172	394	385	391
14	687	570	646	224	220	222	180	175	177	391	385	388
15	685	651	664	229	199	213	187	178	183	407	392	400
16	681	652	668	197	177	183	197	188	193	414	407	412
17	697	676	685	188	178	183	208	199	203	414	411	412
18	712	701	708	192	185	189	220	210	215	424	415	419
19	699	621	643	190	173	184	228	220	224	435	421	427
20	699	456	651	177	173	174	241	230	235	457	434	447
21	446	313	365	179	174	177	253	242	248	481	458	469
22	312	258	297	181	178	179	257	228	248	489	482	486
23	257	154	188	197	192	195	233	225	228	487	480	484
24	196	159	176	198	185	195	249	234	241	480	220	355
25	231	197	216	186	182	184	265	250	258	222	193	200
26	261	233	248	193	186	188	276	266	270	216	199	208
27	280	262	271	195	190	191	284	269	277	224	214	218
28	306	281	294	190	147	162	290	225	276	232	224	227
29	326	308	316	156	149	152	227	217	221	241	231	237
30	346	329	338	165	157	161	249	228	239	251	241	246
31	380	347	361	---	---	---	265	252	259	259	250	254
MONTH	873	154	585	419	147	225	290	138	206	489	193	340

01594934 SOUTH FORK SAND RUN NEAR WILSON, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	274	259	268	226	199	212	181	170	176	---	---	---
2	289	274	281	244	228	236	175	145	163	---	---	---
3	282	243	272	260	245	253	152	143	147	---	---	---
4	240	199	211	279	258	268	143	87	129	---	---	---
5	217	200	207	267	157	223	109	88	98	---	---	---
6	230	216	222	166	150	155	124	110	118	---	---	---
7	246	230	239	184	166	177	138	126	132	---	---	---
8	262	245	255	199	187	195	147	138	144	---	---	---
9	269	259	265	213	199	206	156	146	152	---	---	---
10	269	246	263	232	214	222	174	159	166	---	---	---
11	242	184	217	238	229	232	188	176	181	---	---	---
12	181	154	169	258	238	250	201	190	196	---	---	---
13	152	128	138	266	258	262	217	202	210	---	---	---
14	124	97	106	257	229	239	226	195	217	---	---	---
15	109	98	103	244	183	225	188	120	150	---	---	---
16	120	109	114	184	136	164	---	---	---	---	---	---
17	133	120	126	144	136	140	---	---	---	---	---	---
18	144	132	137	151	142	147	---	---	---	---	---	---
19	152	144	149	163	153	159	---	---	---	---	---	---
20	157	147	151	178	164	170	---	---	---	---	---	---
21	171	158	164	181	151	163	---	---	---	---	---	---
22	186	170	178	180	156	168	---	---	---	264	243	251
23	200	187	195	203	181	192	---	---	---	266	232	250
24	181	132	148	211	201	207	---	---	---	257	243	249
25	137	128	132	202	108	175	---	---	---	285	256	---
26	151	138	145	113	106	109	---	---	---	309	283	---
27	162	150	156	128	114	122	---	---	---	328	306	---
28	175	162	168	132	108	120	---	---	---	328	291	---
29	198	177	187	134	116	125	---	---	---	214	171	---
30	---	---	---	155	136	145	---	---	---	207	173	---
31	---	---	---	172	156	165	---	---	---	233	208	220
MONTH	289	97	185	279	106	188	226	87	159	328	171	243
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	255	234	242	351	261	311	463	414	437	602	579	589
2	273	253	261	372	330	346	497	465	479	626	601	613
3	291	272	278	437	374	402	511	372	482	660	576	643
4	309	291	299	465	439	449	393	314	350	586	544	572
5	328	306	315	487	309	439	343	314	324	543	489	510
6	353	329	339	387	260	317	363	257	340	533	489	504
7	379	348	361	278	240	259	264	213	231	590	542	564
8	405	373	386	321	270	290	255	221	238	650	598	626
9	427	394	408	373	324	348	283	254	267	688	658	668
10	446	417	429	379	90	214	297	221	267	731	695	707
11	466	430	444	121	100	111	246	217	239	772	729	740
12	489	452	467	119	85	95	216	135	155	786	749	762
13	509	483	493	122	99	111	137	111	122	811	759	777
14	508	405	467	149	122	136	133	122	127	812	785	797
15	530	492	506	177	150	163	149	133	140	805	718	759
16	543	516	529	197	177	187	171	148	159	808	784	797
17	543	507	530	215	194	202	196	171	183	799	787	791
18	564	527	543	237	215	223	221	195	207	813	783	792
19	521	390	442	253	234	240	242	220	228	825	804	810
20	453	411	426	282	253	264	270	242	253	849	816	829
21	505	442	466	297	277	286	299	271	281	865	839	849
22	539	506	516	292	273	280	337	300	316	875	853	859
23	579	541	555	309	284	295	345	299	312	882	861	867
24	599	532	572	331	311	320	313	292	300	885	868	873
25	601	567	585	361	322	340	363	320	337	887	866	875
26	610	578	593	381	357	365	419	368	391	878	842	860
27	639	611	621	376	319	339	465	426	442	890	832	875
28	662	603	633	331	300	311	495	461	476	815	662	727
29	657	563	640	346	317	327	538	503	519	702	612	648
30	602	352	544	377	339	355	555	532	544	603	496	585
31	---	---	---	408	375	389	573	545	558	---	---	---
MONTH	662	234	463	487	85	281	573	111	313	890	489	729

## POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.0	9.5	11.0	8.5	5.5	7.0	3.0	1.5	3.0	.5	.0	.5
2	13.0	11.0	11.5	9.0	6.0	8.0	3.5	1.5	2.5	.5	.5	.5
3	14.5	9.5	11.5	10.0	8.5	9.5	4.0	3.5	3.5	1.0	.5	1.0
4	16.0	10.5	13.0	8.0	4.5	6.0	5.0	3.5	4.5	1.0	1.0	1.0
5	15.5	13.0	14.0	4.5	3.5	3.5	5.5	4.5	5.0	1.5	1.0	1.5
6	15.5	12.5	13.5	4.5	3.5	4.0	6.5	4.5	5.0	1.5	1.5	1.5
7	13.0	8.5	11.0	5.5	4.0	4.5	4.0	3.0	3.5	1.5	.5	1.0
8	12.5	8.0	10.0	6.5	3.5	5.0	4.0	3.0	3.5	.5	.0	.5
9	13.5	9.0	11.0	7.0	3.5	5.5	4.5	2.5	3.5	1.0	.5	.5
10	14.0	11.0	12.5	8.0	6.0	7.0	5.5	4.0	4.5	1.5	1.0	1.0
11	12.0	11.5	11.5	7.5	3.0	5.5	4.5	3.5	4.0	1.0	.0	.5
12	15.5	11.5	13.0	3.0	2.0	2.5	5.0	4.0	4.5	.5	.0	.0
13	17.0	13.5	14.5	4.0	2.0	3.0	5.5	5.0	5.5	.5	.0	.0
14	13.0	10.0	11.0	4.0	2.5	3.5	7.0	5.0	6.0	.0	.0	.0
15	12.0	8.5	10.0	4.5	3.0	4.0	6.0	4.5	5.5	.5	.0	.0
16	11.5	7.0	9.5	5.0	3.0	4.0	4.5	3.0	3.5	.0	.0	.0
17	12.0	8.0	10.0	3.0	2.5	3.0	2.5	1.0	2.0	.0	.0	.0
18	12.0	9.0	10.5	5.0	2.5	4.0	2.5	.5	1.5	.0	.0	.0
19	11.5	9.5	10.5	7.0	4.5	5.5	2.0	.5	1.5	.0	.0	.0
20	9.5	8.5	9.0	7.5	4.5	6.0	.5	.5	.5	.0	.0	.0
21	9.0	8.0	8.5	7.5	5.5	6.5	1.0	.5	.5	.0	.0	.0
22	8.5	7.5	8.0	8.0	5.5	6.5	2.0	.5	1.0	.0	.0	.0
23	10.0	8.5	9.5	8.0	6.0	7.0	1.0	.0	.5	.0	.0	.0
24	10.5	10.0	10.5	8.0	7.0	8.0	.5	.0	.5	.0	.0	.0
25	10.5	9.5	10.0	6.5	3.5	4.5	.5	.0	.5	.0	.0	.0
26	9.5	8.0	9.0	5.5	3.5	4.5	.5	.0	.5	1.0	.0	.5
27	7.5	6.5	7.0	6.0	3.5	4.5	.5	.0	.5	2.0	.0	1.0
28	9.0	5.5	7.0	7.0	6.0	6.5	.5	.0	.5	1.5	.5	1.0
29	9.0	7.5	8.5	7.0	4.0	5.5	.5	.0	.5	1.0	.5	1.0
30	7.5	4.5	6.0	4.0	3.0	3.5	.5	.0	.0	1.0	.0	.5
31	7.5	4.0	6.0	---	---	---	.5	.0	.0	.5	.0	.0
MONTH	17.0	4.0	10.5	10.0	2.0	5.5	7.0	.0	2.5	2.0	.0	.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.0	.5	.0	.0	7.0	2.5	4.5	---	---	---
2	.5	.0	.0	1.0	.0	.5	7.5	2.5	5.0	---	---	---
3	1.0	.0	.5	1.0	.0	.5	7.0	4.0	5.5	---	---	---
4	2.0	1.0	1.5	1.0	.0	.5	5.0	3.5	4.5	---	---	---
5	1.5	.5	1.0	2.0	1.0	1.5	6.5	3.5	5.0	---	---	---
6	1.0	.0	.5	2.0	1.0	1.5	4.5	3.0	4.0	---	---	---
7	.0	.0	.0	2.0	.5	1.5	4.0	2.5	3.0	---	---	---
8	.5	.0	.0	1.0	.0	.5	7.5	3.0	5.0	---	---	---
9	.5	.0	.5	.5	.0	.0	7.5	4.5	6.0	---	---	---
10	1.5	.0	1.0	.5	.0	.0	9.5	3.5	6.0	---	---	---
11	2.0	1.0	1.5	.5	.0	.5	10.5	3.5	7.0	---	---	---
12	4.0	1.5	2.5	1.0	.0	.5	11.5	4.5	8.0	---	---	---
13	3.5	2.0	3.0	1.5	.5	1.0	11.5	7.5	9.5	---	---	---
14	3.0	2.5	2.5	2.0	1.0	1.5	10.0	8.0	8.5	---	---	---
15	5.5	3.0	4.0	3.5	.5	2.0	10.0	7.0	8.5	---	---	---
16	7.0	4.0	5.0	4.0	2.0	2.5	9.0	7.0	7.5	---	---	---
17	6.5	4.5	5.5	5.5	2.0	3.5	---	---	---	---	---	
18	7.0	5.0	5.5	5.0	3.0	4.0	---	---	---	---	---	
19	7.0	4.5	5.5	8.0	3.5	5.5	---	---	---	---	---	
20	6.0	3.0	4.5	9.0	4.0	6.5	---	---	---	---	---	
21	3.5	2.0	2.5	7.0	3.0	5.0	---	---	---	---	---	
22	5.5	1.5	3.0	3.0	1.5	2.5	---	---	---	19.5	14.0	17.0
23	3.5	1.5	2.5	4.0	1.0	2.0	---	---	---	17.5	14.0	15.5
24	5.0	2.0	3.5	5.5	1.0	3.0	---	---	---	18.0	11.0	14.5
25	3.5	1.0	2.5	7.0	3.0	4.5	---	---	---	19.5	---	15.5
26	3.5	.5	2.0	6.5	2.5	4.5	---	---	---	18.5	15.0	16.5
27	1.5	1.0	1.5	6.5	4.0	5.0	---	---	---	18.5	---	16.5
28	2.0	.0	1.0	5.0	3.0	4.5	---	---	---	17.0	---	16.0
29	.5	.0	.0	3.0	1.0	2.0	---	---	---	15.0	---	14.0
30	---	---	---	4.0	2.0	2.5	---	---	---	12.5	---	11.0
31	---	---	---	5.5	2.0	3.5	---	---	---	12.5	9.0	10.5
MONTH	7.0	.0	2.0	9.0	.0	2.5	11.5	2.5	6.0	19.5	9.0	14.5

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.5	8.5	10.5	17.5	15.0	16.0	20.0	17.0	18.5	17.0	14.0	15.5
2	17.5	9.5	13.5	20.5	15.5	18.0	21.0	18.5	19.5	19.0	14.0	16.5
3	17.0	13.5	15.0	20.5	15.5	18.0	20.5	19.0	20.0	19.0	17.0	18.0
4	18.0	10.5	14.5	19.0	15.5	17.5	19.0	17.5	18.5	17.5	14.5	16.5
5	18.0	11.5	15.0	20.0	16.5	18.0	20.5	17.5	19.0	15.5	12.5	14.0
6	20.0	13.0	17.0	19.5	16.0	17.5	20.0	17.5	19.0	15.0	12.5	13.5
7	21.0	14.5	18.0	19.0	16.0	17.0	19.5	17.0	18.5	14.5	10.5	13.0
8	20.5	15.5	18.0	18.5	12.5	15.5	21.5	18.0	19.5	16.0	12.0	13.5
9	21.5	16.0	19.0	18.0	12.0	15.0	22.5	18.0	20.5	16.0	11.5	13.5
10	21.0	16.5	19.0	17.0	14.5	15.5	20.5	18.0	19.0	15.5	12.0	14.0
11	21.5	16.0	19.0	19.5	15.0	17.0	18.5	17.5	18.0	17.0	12.5	15.0
12	21.0	16.5	19.0	18.5	15.5	17.0	18.0	16.5	17.0	18.5	16.0	17.0
13	22.0	17.0	19.5	19.5	14.0	16.5	17.5	16.5	17.0	17.5	13.5	16.0
14	21.5	18.0	20.0	18.5	14.5	16.5	18.5	16.0	17.0	17.5	15.0	16.5
15	21.0	16.5	19.0	20.5	15.0	17.5	19.5	16.0	17.5	17.0	13.0	15.0
16	18.5	15.5	17.5	21.0	17.5	19.0	19.5	15.5	17.5	13.0	10.5	12.0
17	20.5	16.0	18.5	20.5	16.0	18.0	20.0	15.5	17.5	12.0	8.0	10.0
18	21.5	18.0	19.5	19.5	17.0	18.0	19.0	15.5	17.0	13.0	8.5	10.5
19	21.5	18.0	19.5	19.5	15.0	17.5	18.5	16.0	17.0	13.0	8.5	11.0
20	19.0	15.5	17.5	19.0	14.5	17.0	19.0	15.5	17.0	15.0	10.0	12.5
21	20.5	15.0	17.5	18.5	16.0	17.5	18.5	13.0	16.0	16.5	13.0	14.5
22	19.5	16.0	18.0	17.5	15.5	16.5	18.5	14.5	17.0	16.5	13.0	15.0
23	18.5	16.0	17.5	20.0	16.5	18.0	18.5	16.0	17.5	17.0	13.0	15.0
24	19.0	16.0	17.5	19.5	17.0	18.5	17.5	15.0	16.5	16.0	14.0	15.5
25	19.0	15.0	17.0	20.0	17.0	18.5	17.5	13.0	15.5	18.5	15.5	16.5
26	18.0	13.0	16.0	19.0	16.5	17.5	17.0	13.5	15.5	16.5	12.0	15.0
27	18.5	13.0	16.0	17.5	16.0	16.5	17.0	13.5	16.0	11.5	8.5	9.5
28	19.5	16.0	18.0	18.0	14.5	16.0	19.0	15.0	17.0	9.5	8.0	8.5
29	19.5	16.0	18.0	17.0	14.5	16.0	19.0	16.5	18.0	11.5	9.0	10.0
30	18.5	16.0	17.5	17.5	14.5	16.0	19.0	16.0	17.5	10.5	8.5	9.0
31	---	---	---	19.0	14.5	17.0	19.5	17.0	18.0	---	---	---
MONTH	22.0	8.5	17.5	21.0	12.0	17.0	22.5	13.0	17.5	19.0	8.0	13.5

## 01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for January, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 173 ft<sup>3</sup>/s, 32.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft<sup>3</sup>/s July 3, 1978, gage height, 10.30 ft, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 2.9 ft<sup>3</sup>/s Sept. 10, 1965, gage height, 2.03 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0545	2430	6.46	Apr. 5	0145	2410	6.44
Feb. 14	1900	*3100	7.13				

Minimum discharge, 4.7 ft<sup>3</sup>/s Oct. 10, 11, gage height, 2.06 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	33	250	125	85	165	343	287	101	117	48	32
2	22	34	199	120	80	154	420	232	92	69	42	27
3	14	79	211	110	90	140	482	247	75	45	37	26
4	13	106	391	105	170	131	703	286	71	34	43	72
5	14	82	536	100	160	226	1400	236	65	38	46	50
6	13	83	485	95	125	382	648	387	63	92	38	41
7	9.6	96	1510	90	100	231	466	454	57	134	42	32
8	8.7	101	604	80	90	187	365	458	49	70	37	27
9	9.6	95	382	75	85	166	330	509	44	47	31	25
10	6.2	107	302	70	120	161	265	350	41	490	43	23
11	4.7	171	282	63	210	147	227	270	35	438	110	25
12	21	156	270	55	330	144	192	337	35	595	300	25
13	22	116	620	60	470	140	175	275	35	242	490	25
14	43	99	401	65	1980	191	179	231	37	152	360	21
15	28	155	317	60	1260	213	380	201	28	110	210	25
16	17	288	260	55	577	495	562	174	23	98	190	25
17	11	231	217	52	386	520	356	149	28	84	170	21
18	8.7	187	178	48	321	452	301	130	29	90	140	20
19	16	250	156	43	269	395	256	115	95	70	110	20
20	21	235	135	37	283	330	213	107	50	54	94	20
21	148	239	141	33	220	542	182	99	31	64	76	16
22	79	185	194	39	186	438	358	91	28	56	59	15
23	538	157	210	46	176	333	659	106	32	50	89	15
24	207	172	150	62	366	290	568	110	36	45	66	15
25	105	279	105	300	445	557	423	78	40	48	53	16
26	85	213	100	280	311	1280	310	69	31	43	44	20
27	77	203	110	150	251	773	249	63	26	60	36	18
28	74	507	180	135	227	1020	304	64	34	70	35	29
29	55	586	290	115	189	801	884	230	28	66	36	25
30	44	345	140	100	---	485	406	148	58	58	36	16
31	33	---	120	90	---	372	---	114	---	52	36	---
TOTAL	1770.5	5590	9446	2858	9562	11861	12606	6607	1397	3681	3147	767
MEAN	57.1	186	305	92.2	330	383	420	213	46.6	119	102	25.6
MAX	538	586	1510	300	1980	1280	1400	509	101	595	490	72
MIN	4.7	33	100	33	80	131	175	63	23	34	31	15
CFSM	.78	2.55	4.18	1.26	4.52	5.25	5.75	2.92	.64	1.63	1.40	.35
IN.	.90	2.85	4.81	1.46	4.87	6.04	6.42	3.37	.71	1.88	1.60	.39

CAL YR 1983	TOTAL	56392.3	MEAN 154	MAX 1510	MIN 4.7	CFSM 2.11	IN 28.74
WTR YR 1984	TOTAL	69292.5	MEAN 189	MAX 1980	MIN 4.7	CFSM 2.59	IN 35.31

01595200 STONY RIVER NEAR MT. STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft downstream from highway bridge on U.S. Highway 50, 1.0 mi west of Mt. Storm, and at mile 6.4.

DRAINAGE AREA.--48.8 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for January, which are poor. Flow regulated by Stony River Reservoir, 14.0 mi upstream from station, capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake) 4.0 mi upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

AVERAGE DISCHARGE.--23 years, 100 ft<sup>3</sup>/s, 27.83 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft<sup>3</sup>/s July 3, 1978, gage height, 10.34 ft, from rating curve extended above 2,500 ft<sup>3</sup>/s; minimum discharge, 1.8 ft<sup>3</sup>/s July 13, 1968; minimum daily discharge, 1.9 ft<sup>3</sup>/s July 13, 1968; minimum gage height, 1.79 ft, sometime during period Oct. 3-23, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,140 ft<sup>3</sup>/s Feb. 14, gage height, 8.37 ft; minimum discharge, 3.0 ft<sup>3</sup>/s, Sept. 24, gage height, 1.86 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	54	106	75	43	119	106	148	41	22	16	15
2	4.8	51	98	74	40	109	112	139	34	14	15	9.5
3	3.7	54	119	71	41	99	135	149	23	10	15	7.2
4	5.7	57	188	66	69	86	259	169	15	7.4	15	11
5	8.8	48	272	61	65	114	505	151	14	7.9	11	11
6	13	47	327	57	55	141	391	211	13	11	9.7	10
7	17	51	442	53	49	107	492	228	12	15	9.0	9.4
8	17	50	300	49	45	96	418	218	12	7.9	6.0	7.5
9	13	47	260	48	37	87	807	216	13	5.6	4.8	5.1
10	13	70	241	61	34	82	99	190	15	39	33	5.2
11	24	100	233	55	65	77	101	171	11	28	30	8.4
12	54	81	384	47	91	72	122	171	8.4	51	182	7.7
13	41	68	422	43	128	85	132	168	9.2	33	324	7.5
14	47	65	354	39	972	108	121	158	9.1	38	734	7.6
15	26	94	304	36	2190	197	200	143	7.1	45	158	7.2
16	19	135	268	34	261	340	224	126	6.7	50	192	4.6
17	18	125	234	29	137	309	193	111	7.7	50	176	4.2
18	23	117	204	27	143	280	235	100	7.7	50	149	7.3
19	30	148	177	20	162	249	217	88	18	42	124	7.3
20	32	213	135	15	174	229	195	60	9.1	37	105	7.3
21	121	225	57	13	161	477	175	56	7.2	34	89	7.0
22	62	238	65	12	151	389	209	51	6.8	29	66	5.7
23	145	252	91	11	146	332	336	29	6.3	28	62	3.4
24	103	281	72	54	182	301	671	31	8.7	27	51	3.3
25	129	214	62	71	201	377	124	33	8.7	25	42	6.7
26	135	71	60	46	168	728	121	38	7.5	21	38	6.4
27	147	73	61	45	147	727	125	44	6.7	32	36	6.9
28	129	125	109	43	140	837	149	49	8.3	22	34	10
29	113	149	97	42	129	696	652	63	8.4	17	30	6.6
30	100	118	84	42	---	536	238	54	12	16	26	4.4
31	71	---	80	43	---	436	---	46	---	17	23	---
TOTAL	1675.0	3421	5906	1382	6226	8822	7864	3609	366.6	831.8	2805.5	220.4
MEAN	54.0	114	191	44.6	215	285	262	116	12.2	26.8	90.5	7.35
MAX	147	281	442	75	2190	837	807	228	41	51	734	15
MIN	3.7	47	57	11	34	72	99	29	6.3	5.6	4.8	3.3
(/)	957	1175	1230	1122	1154	1197	1230	1102	1219	1164	1154	994

CAL YR 1983 TOTAL 35849.6 MEAN 98.2 MAX 735 MIN 2.8 CFSM 2.01 IN 27.33  
WTR YR 1984 TOTAL 43129.3 MEAN 118 MAX 2190 MIN 3.3 CFSM 2.42 IN 32.88

/ Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Co. These values do not include changes in storage in Mount Storm Lake.



## POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder since December 1961.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 27.5°C Aug. 14, 1984; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.5°C Aug. 14; minimum, 1.0°C Dec. 31, Jan. 1, 11-13.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.0	9.0	10.0	9.0	5.0	4.5	2.0	1.0	3.0	3.0	5.5	5.0
2	12.0	11.0	10.0	9.0	5.0	4.0	2.0	2.0	3.0	3.0	6.0	5.0
3	13.0	10.0	10.5	10.0	5.5	5.0	3.0	2.0	4.0	3.0	6.0	5.0
4	13.0	11.0	10.0	6.0	5.5	5.0	3.0	3.0	5.0	4.0	6.0	5.0
5	13.0	12.0	6.0	5.0	7.0	5.0	4.0	3.5	5.0	4.5	7.0	6.0
6	13.0	12.0	6.0	5.0	7.0	5.0	4.0	4.0	5.0	4.0	6.0	5.0
7	12.0	8.5	6.0	5.5	5.0	5.0	4.0	2.5	4.0	3.0	5.5	5.0
8	10.5	8.0	6.0	5.0	6.5	5.0	2.5	2.5	3.0	2.5	5.5	4.5
9	11.0	9.0	6.0	5.0	6.5	6.0	3.0	2.5	3.0	2.5	4.5	4.0
10	11.0	10.5	7.0	6.0	6.5	6.5	4.0	3.0	3.5	2.5	4.0	3.0
11	10.5	10.0	7.0	5.5	6.5	6.5	3.5	1.0	4.5	4.0	4.5	3.5
12	13.0	10.0	5.5	4.0	6.5	5.5	1.0	1.0	5.0	4.0	4.0	3.0
13	14.0	12.5	5.0	4.0	6.5	6.0	1.5	1.0	5.0	5.0	5.5	4.0
14	13.0	9.0	5.0	4.5	7.0	6.5	2.5	2.0	8.0	4.0	6.0	5.5
15	9.0	8.0	6.0	4.5	7.0	7.0	2.5	1.5	10.0	8.5	8.5	6.0
16	9.0	7.0	6.0	5.5	7.0	7.0	1.5	1.5	10.0	6.5	8.0	6.0
17	10.0	8.0	5.5	5.5	7.5	7.0	2.0	1.5	7.0	6.5	6.5	6.0
18	10.0	8.5	6.0	5.5	7.5	7.0	2.0	1.5	7.5	7.0	7.0	6.5
19	9.5	9.0	8.0	6.0	7.5	5.5	1.5	1.5	9.0	7.5	10.0	7.0
20	9.0	8.0	9.5	8.0	5.5	3.5	2.0	2.0	9.0	8.0	11.0	9.0
21	8.0	7.5	9.5	9.0	3.5	1.5	2.0	2.0	8.0	7.0	11.0	7.0
22	7.5	7.0	9.5	9.0	3.5	1.5	2.0	2.0	8.5	7.0	7.0	7.0
23	8.0	7.5	11.0	9.5	2.5	1.5	2.0	2.0	8.0	7.5	8.0	7.0
24	11.0	8.0	11.0	10.0	1.5	1.5	2.0	1.5	8.5	8.0	9.0	8.0
25	13.0	11.0	10.0	5.0	1.5	1.5	2.0	2.0	8.0	6.5	8.5	7.0
26	13.0	12.0	5.0	4.0	2.0	1.5	2.0	1.5	7.5	6.5	8.0	7.0
27	12.5	12.0	5.0	4.5	1.5	1.5	2.0	1.5	7.0	6.5	12.0	8.0
28	12.0	11.5	6.0	5.0	1.5	1.5	2.5	2.0	7.0	6.5	11.0	9.0
29	12.0	11.0	6.0	5.0	1.5	1.5	3.0	2.5	6.5	5.5	9.0	9.0
30	11.0	9.5	5.0	4.5	1.5	1.5	3.5	3.0	---	---	9.5	9.0
31	10.0	10.0	---	---	1.5	1.0	4.0	3.0	---	---	10.0	9.0
MONTH	14.0	7.0	11.0	4.0	7.5	1.0	4.0	1.0	10.0	2.5	12.0	3.0

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	5.5	13.0	11.0	12.0	10.5	18.5	18.0	21.5	20.0	19.5	17.5
2	6.0	4.0	11.0	10.5	15.0	11.5	19.5	17.5	22.5	21.0	20.5	17.0
3	5.5	5.0	11.0	11.0	15.0	14.0	21.0	18.0	23.0	22.0	21.0	19.0
4	5.0	5.0	12.0	11.0	15.0	12.0	20.5	18.0	22.5	21.0	20.0	17.5
5	7.0	5.0	13.0	11.0	16.0	12.0	20.5	19.5	22.0	20.5	17.5	15.5
6	8.5	7.0	12.5	11.0	17.5	14.0	21.0	19.5	22.0	20.5	16.5	14.5
7	9.0	8.5	13.0	11.0	19.0	15.0	21.0	19.0	22.5	21.0	16.0	13.0
8	11.0	9.0	13.5	11.0	18.0	16.0	20.0	16.0	24.0	21.5	17.0	14.0
9	13.0	10.0	11.0	10.0	20.0	16.5	19.5	16.0	25.0	22.0	18.0	14.5
10	10.5	6.5	13.0	10.0	19.5	17.0	19.0	18.0	24.5	21.0	16.5	14.5
11	9.0	6.0	13.5	11.0	20.0	17.0	21.5	18.0	21.0	20.5	18.0	15.0
12	11.0	7.0	14.0	12.0	22.0	17.0	21.0	19.0	20.5	20.0	19.5	17.5
13	11.0	10.0	13.0	11.0	22.0	19.0	21.0	18.0	23.0	20.0	19.0	16.0
14	11.5	10.0	13.0	11.0	22.0	20.0	21.0	19.5	27.5	23.5	19.0	17.0
15	10.5	9.0	11.5	10.5	22.5	19.0	22.5	20.0	24.0	22.0	18.5	15.0
16	10.0	9.5	12.0	9.0	20.5	18.0	23.0	22.0	26.0	24.0	18.0	12.5
17	10.5	9.5	13.0	9.0	21.0	18.0	23.0	21.0	26.0	25.5	14.5	10.0
18	11.0	10.0	12.0	11.0	23.0	20.0	22.5	21.5	26.0	25.5	13.5	11.0
19	11.5	10.0	15.0	11.0	22.0	20.5	21.0	19.5	25.5	25.0	14.0	11.0
20	11.5	11.0	15.0	12.5	21.5	19.0	21.0	19.0	25.5	24.0	16.0	13.0
21	11.0	11.0	15.0	14.0	21.5	18.0	20.5	20.0	24.0	21.5	17.0	15.0
22	11.0	8.5	17.0	14.0	21.0	18.5	20.5	20.0	24.0	22.0	18.0	15.0
23	9.0	8.5	17.0	13.0	20.5	19.0	21.5	20.0	24.0	22.5	18.5	15.5
24	12.0	7.0	15.0	11.0	20.0	18.5	21.5	21.0	22.5	21.0	18.0	16.5
25	9.0	7.0	17.0	12.0	20.0	17.5	22.0	20.0	21.0	19.0	19.0	17.5
26	12.5	7.5	16.5	15.0	20.0	16.0	21.0	20.0	21.5	19.0	19.0	15.0
27	13.5	10.0	16.0	15.0	20.0	16.0	20.0	19.0	22.0	19.0	15.0	12.0
28	14.0	12.0	16.0	15.5	21.5	18.0	19.0	17.5	22.0	20.0	12.0	11.0
29	15.0	11.5	16.0	14.0	20.0	18.0	19.0	18.0	22.5	21.5	12.0	11.0
30	15.0	13.0	14.0	12.0	19.0	18.0	19.5	18.0	22.5	21.0	11.5	10.0
31	---	---	12.0	11.0	---	---	21.5	18.0	22.0	20.5	---	---
MONTH	15.0	4.0	17.0	9.0	23.0	10.5	23.0	16.0	27.5	19.0	21.0	10.0

## POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi downstream from bridge on State Highway 38 in Kitzmiller, 1.5 mi downstream from Wolfden Run, and at mile 68.9.

DRAINAGE AREA.--225 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,572.26 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1954, at site 0.3 mi upstream at datum 7.58 ft higher. Oct. 15, 1954, to Nov. 20, 1955, nonrecording gage at bridge 0.5 mi upstream at datum 21.51 ft higher.

REMARKS.--Water-discharge records good. Regulation at low flow by Stony River Reservoir, 30 mi above station (see station 01595200). Gage-height telemeter at station.

AVERAGE DISCHARGE.--35 years, 452 ft<sup>3</sup>/s, 27.28 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft<sup>3</sup>/s Oct. 15, 1954, gage height, 13.73 ft, from flood-marks, present site and datum; minimum discharge, 4.6 ft<sup>3</sup>/s Oct. 3-7, 1953, gage height, 1.45 ft, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 6	1215	5400	7.64	Mar. 28	1700	5400	7.64
Feb. 14	1930	*9090	8.88	Apr. 5	0245	6790	8.17
Mar. 26	0145	4190	7.08	Apr. 24	0630	3490	6.71

Minimum discharge, 18 ft<sup>3</sup>/s Oct. 11, gage height, 2.18 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	118	661	325	229	529	1050	811	228	1010	104	87
2	53	114	550	311	222	486	1150	692	209	353	92	70
3	34	153	587	288	250	409	1350	711	174	197	88	58
4	25	233	1570	278	470	361	1780	918	147	142	125	109
5	25	189	1150	267	450	494	4090	756	135	137	133	103
6	26	190	3440	257	340	917	2020	1030	129	231	91	78
7	26	230	1910	238	266	619	1710	1420	112	335	115	70
8	22	227	1350	201	242	516	1370	1260	98	201	100	61
9	22	201	1060	187	231	448	1590	1380	91	136	84	54
10	21	265	943	180	226	391	830	1030	86	786	114	49
11	19	566	865	160	477	391	676	842	82	842	361	49
12	48	451	1980	145	830	335	619	937	73	1020	1140	52
13	81	321	1820	160	1120	357	592	844	72	539	1700	50
14	106	276	1330	165	5830	460	573	728	81	348	2150	50
15	68	348	1060	155	5120	557	1090	637	70	272	787	50
16	41	761	879	140	1880	1360	1430	562	54	238	621	53
17	32	676	735	135	1150	1510	1030	485	55	214	511	46
18	28	535	628	125	991	1340	938	428	69	269	421	41
19	39	679	552	110	873	1210	851	388	285	210	355	43
20	54	730	442	90	931	1070	729	325	128	158	291	43
21	388	742	319	75	754	2040	646	294	80	174	242	42
22	249	649	437	95	653	1680	925	270	61	162	206	38
23	1200	604	516	120	615	1250	2080	242	60	142	243	37
24	674	672	358	165	1070	1070	2170	278	72	128	208	36
25	385	907	276	680	1220	1400	1190	209	124	148	160	33
26	363	572	258	500	910	3440	922	190	81	119	134	39
27	342	544	284	430	756	2510	778	181	62	169	123	40
28	314	1210	346	370	697	3460	692	180	76	192	113	54
29	253	1350	779	307	615	2900	2060	481	70	131	111	68
30	204	847	418	262	---	1850	1360	349	127	108	104	46
31	167	---	320	237	---	1470	---	266	---	101	106	---
TOTAL	5366	15360	27823	7158	29418	36830	38291	19124	3191	9212	11133	1649
MEAN	173	512	898	231	1014	1188	1276	617	106	297	359	55.0
MAX	1200	1350	3440	680	5830	3460	4090	1420	285	1020	2150	109
MIN	19	114	258	75	222	335	573	180	54	101	84	33

CAL YR 1983 TOTAL 160827 MEAN 441 MAX 4090 MIN 18 CFSM 1.96 IN 26.59  
WTR YR 1984 TOTAL 204555 MEAN 559 MAX 5830 MIN 19 CFSM 2.48 IN 33.82

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

pH: October 1980 to current year.

WATER TEMPERATURES: August 1961 to current year.

DISSOLVED OXYGEN: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980. Temperature recorder prior to October 1980.

REMARKS.--Interruptions in record were due to malfunctions of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1983-84): Maximum, 1,470 micromhos Aug. 11, 1983; minimum, 96 micromhos Apr. 24, 1983.

pH (water years 1983-84): Maximum, 6.7 units Feb. 21, 22, May 22, 23, Aug. 23, 1983; minimum, 4.4 units Aug. 29-31, 1983.

WATER TEMPERATURES (water years 1961-79, 1982-84): Maximum, 32.0°C Aug. 15, 16, 18, 1965; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN (water years 1983-84): Maximum, 14.6 mg/L Nov. 16, 1982; minimum, 7.0 mg/L Sept. 13, 1984.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,260 micromhos Sept. 26, 27; minimum, 117 micromhos Apr. 5.

pH: Maximum, 6.6 units May 9, July 12; minimum, 4.6 units June 12, 13.

WATER TEMPERATURES: Maximum, 28.0°C Aug. 9; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 14.1 mg/L Jan. 15; minimum, 7.0 mg/L Sept. 13.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1170	1110	1150	420	370	407	225	203	214	380	366	376
2	1190	1140	1160	501	420	439	245	218	228	382	326	361
3	1180	1150	1170	691	501	574	273	238	251	326	290	302
4	1180	1170	1170	702	482	585	247	159	186	311	288	296
5	1180	1160	1170	493	483	486	205	159	175	407	315	372
6	1170	1130	1160	503	483	496	201	134	157	439	407	420
7	1130	1080	1090	484	374	436	177	143	160	461	439	448
8	1140	1080	1110	375	325	348	---	---	---	477	461	469
9	1150	1130	1140	425	375	403	201	188	194	506	437	477
10	1190	1150	1170	426	356	400	200	185	194	433	396	413
11	1190	1090	1170	357	277	314	181	172	174	491	400	461
12	1090	900	992	287	257	263	178	137	159	512	484	498
13	930	800	868	298	258	270	167	141	155	555	463	500
14	840	720	775	309	269	294	191	169	182	600	555	572
15	900	840	868	319	259	277	212	191	202	601	576	586
16	910	890	896	340	249	287	230	213	221	587	552	578
17	930	900	907	280	247	261	249	230	242	552	465	498
18	980	930	962	293	279	287	259	250	254	561	465	510
19	980	930	963	282	255	270	261	232	246	641	561	591
20	930	750	857	255	207	225	278	232	248	680	641	668
21	---	---	---	207	177	192	363	286	333	715	675	693
22	---	---	---	225	186	208	407	363	383	858	684	790
23	---	---	---	247	225	240	400	296	330	888	830	859
24	223	183	202	248	236	241	354	325	338	850	656	790
25	264	224	246	236	184	200	401	354	387	656	346	398
26	335	264	288	245	201	227	387	344	371	363	342	352
27	346	326	331	250	243	247	344	321	329	375	360	368
28	367	337	355	243	160	192	409	335	380	379	368	373
29	407	367	379	192	168	179	430	298	350	376	345	358
30	378	378	378	212	192	205	349	300	327	381	335	361
31	379	369	375	---	---	---	366	349	363	349	321	330
MONTH	1190	183	832	702	160	315	430	134	258	888	288	486

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	440	349	405	241	211	228	256	222	242	242	210	228
2	486	439	469	278	241	260	266	238	249	266	242	255
3	497	457	477	250	239	244	241	205	220	300	266	293
4	457	329	396	255	242	248	231	163	206	295	257	272
5	331	316	325	261	244	256	163	117	130	282	264	274
6	343	314	326	244	194	205	187	146	165	265	189	241
7	364	308	331	217	197	209	203	174	190	189	171	180
8	416	363	392	227	218	223	205	188	200	200	192	196
9	403	340	379	279	226	237	206	135	186	197	180	187
10	336	305	322	315	279	296	241	153	207	209	196	201
11	315	249	292	324	284	301	298	242	276	238	199	225
12	249	202	226	321	292	311	294	274	278	249	226	240
13	204	167	182	345	292	315	310	266	276	254	223	237
14	172	135	149	384	326	357	330	310	323	271	254	263
15	143	128	134	356	279	334	323	233	272	296	271	284
16	177	141	162	281	167	225	241	198	213	308	289	297
17	193	173	182	167	153	159	249	207	230	355	316	334
18	199	183	191	179	167	173	262	205	227	380	327	363
19	193	175	186	181	177	180	261	206	224	382	327	353
20	190	179	185	189	175	180	266	253	257	414	320	364
21	210	189	197	190	151	168	269	260	267	473	416	444
22	207	188	197	177	152	169	259	194	244	512	461	490
23	208	182	197	220	178	197	184	156	161	545	502	520
24	188	154	172	222	210	216	185	124	156	550	474	519
25	178	152	164	226	187	218	236	183	201	543	482	514
26	187	178	182	167	129	137	247	222	234	557	543	551
27	182	173	177	152	129	142	252	234	242	559	545	550
28	191	177	184	154	123	139	284	252	267	551	511	539
29	217	189	207	172	124	145	277	129	171	522	367	453
30	---	---	---	192	172	181	211	125	174	448	375	412
31	---	---	---	226	188	207	---	---	---	486	452	470
MONTH	497	128	255	384	123	221	330	117	223	559	171	347

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	531	488	518	760	200	312	700	600	633	807	767	790
2	573	531	552	400	340	365	760	700	740	768	728	747
3	582	565	574	470	400	432	830	760	808	789	739	768
4	630	581	617	530	470	499	890	800	840	870	750	812
5	669	629	646	580	530	558	810	710	777	750	490	572
6	758	653	698	560	490	535	710	600	621	750	500	623
7	834	758	783	500	440	462	660	600	628	810	750	763
8	878	834	856	450	410	421	660	560	615	870	810	847
9	886	817	853	470	420	448	750	670	717	910	870	904
10	869	820	842	500	250	395	880	750	791	950	900	928
11	882	859	874	260	230	244	---	---	---	1020	950	979
12	882	833	866	260	190	230	---	---	---	1060	1020	1040
13	871	847	858	290	230	256	---	---	---	1080	1010	1040
14	890	836	864	320	290	308	190	140	153	1140	1080	1110
15	890	790	848	340	320	331	240	190	216	1150	1110	1130
16	840	790	815	370	340	353	250	240	244	1150	1130	1140
17	840	820	832	390	370	383	300	250	277	1140	1060	1110
18	940	750	878	440	390	420	300	280	294	1140	1110	1130
19	750	510	598	450	390	423	300	290	294	1140	1110	1130
20	700	640	658	460	390	427	300	290	294	1160	1140	1150
21	760	650	714	490	420	441	380	300	343	1210	1160	1180
22	800	760	785	480	420	445	460	380	420	1230	1210	1220
23	840	780	797	490	430	451	520	460	481	1220	1180	1200
24	930	840	893	600	490	549	481	421	455	1180	1170	1170
25	870	800	825	780	600	657	482	422	459	1220	1170	1200
26	820	780	797	800	580	647	502	482	495	1260	1220	1250
27	810	790	803	680	600	625	493	463	476	1260	1240	1250
28	800	750	770	690	560	610	564	493	516	1250	1170	1220
29	980	800	919	590	560	574	705	565	612	1170	1050	1120
30	970	790	884	610	590	597	736	666	689	1050	1020	1040
31	---	---	---	630	600	614	807	717	753	---	---	---
MONTH	980	488	774	800	190	452	890	140	523	1260	490	1020

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	4.9	4.8	4.9	5.5	5.4	5.4	6.1	6.1	6.1	5.6	5.5	5.5
2	4.9	4.8	4.9	5.4	5.3	5.3	6.1	6.0	6.1	5.5	5.5	5.5
3	4.9	4.7	4.8	5.4	5.3	5.3	6.2	6.0	6.1	5.5	5.4	5.5
4	4.9	4.7	4.8	5.8	5.4	5.7	6.4	6.1	6.2	5.5	5.3	5.4
5	4.8	4.8	4.8	5.9	5.8	5.8	6.2	6.0	6.2	5.5	5.5	5.5
6	4.9	4.8	4.8	6.0	5.8	5.9	6.5	6.0	6.4	5.5	5.5	5.5
7	5.0	4.8	4.9	6.3	6.0	6.2	6.2	6.1	6.1	5.5	5.5	5.5
8	5.0	4.8	4.9	6.2	6.1	6.2	---	---	---	5.6	5.5	5.5
9	4.9	4.8	4.9	6.1	5.9	6.1	6.0	5.9	6.0	5.6	5.5	5.5
10	4.9	4.8	4.9	6.1	5.7	5.9	6.0	5.9	5.9	5.5	5.4	5.5
11	5.0	4.8	4.9	6.3	5.9	6.1	6.0	5.9	5.9	5.6	5.4	5.5
12	5.0	4.8	4.9	6.4	6.3	6.3	6.2	5.8	6.0	5.6	5.5	5.6
13	5.1	4.9	5.1	6.3	6.1	6.2	6.1	5.9	6.0	5.6	5.5	5.6
14	5.2	5.0	5.1	6.1	6.0	6.1	5.9	5.8	5.9	5.5	5.4	5.5
15	5.3	5.1	5.2	6.3	6.0	6.1	5.9	5.8	5.8	5.4	5.4	5.4
16	5.3	5.1	5.2	6.4	6.1	6.3	5.8	5.8	5.8	5.4	5.4	5.4
17	5.2	5.0	5.1	6.4	6.3	6.4	5.8	5.8	5.8	5.4	5.3	5.4
18	5.1	5.0	5.1	6.3	6.2	6.3	5.8	5.7	5.8	5.3	5.3	5.3
19	5.2	5.0	5.1	6.4	6.3	6.3	5.7	5.6	5.7	5.4	5.3	5.4
20	5.5	5.1	5.3	6.3	6.2	6.2	5.7	5.6	5.7	5.3	5.3	5.3
21	---	---	---	6.3	6.2	6.3	5.6	5.6	5.6	5.3	5.2	5.3
22	---	---	---	6.3	6.2	6.3	5.6	5.5	5.6	5.3	5.3	5.3
23	---	---	---	6.3	6.2	6.2	5.8	5.6	5.7	5.3	5.2	5.3
24	6.2	5.9	6.0	6.3	6.2	6.2	5.8	5.7	5.8	5.4	5.3	5.3
25	5.9	5.7	5.8	6.4	6.2	6.3	6.1	5.8	5.9	6.1	5.4	5.9
26	5.9	5.7	5.8	6.3	6.2	6.3	6.0	5.6	5.7	6.1	5.9	6.0
27	5.9	5.8	5.9	6.3	6.1	6.2	5.6	5.4	5.5	6.0	6.0	6.0
28	6.0	5.8	5.9	6.5	6.0	6.3	5.5	5.4	5.5	6.0	5.8	5.9
29	5.8	5.7	5.7	6.5	6.2	6.3	5.7	5.5	5.6	5.8	5.7	5.8
30	5.8	5.7	5.7	6.2	6.1	6.2	5.7	5.6	5.7	5.7	5.7	5.7
31	5.7	5.5	5.6	---	---	---	5.7	5.5	5.6	5.7	5.6	5.7
MONTH	6.2	4.7	5.2	6.5	5.3	6.1	6.5	5.4	5.9	6.1	5.2	5.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.7	5.6	5.6	5.9	5.8	5.8	5.8	5.5	5.6	5.8	5.7	5.8
2	5.6	5.5	5.6	5.8	5.7	5.7	5.9	5.5	5.7	5.8	5.6	5.7
3	5.6	5.5	5.6	5.8	5.7	5.7	6.0	5.7	5.8	6.0	5.6	5.7
4	6.3	5.6	6.1	5.7	5.6	5.6	6.3	5.7	5.9	6.0	5.9	6.0
5	6.2	6.1	6.1	5.8	5.5	5.6	6.4	5.9	6.1	6.0	5.8	5.9
6	6.1	6.0	6.1	6.2	5.8	6.1	6.0	5.8	5.9	6.4	5.8	6.0
7	6.0	6.0	6.0	6.1	6.0	6.1	5.9	5.7	5.8	6.4	6.3	6.4
8	6.0	5.9	5.9	6.1	5.9	6.0	5.7	5.6	5.6	6.5	6.2	6.3
9	5.9	5.8	5.8	5.9	5.8	5.9	5.8	5.5	5.6	6.6	6.3	6.4
10	5.8	5.7	5.7	6.0	5.8	5.9	5.6	5.3	5.4	6.3	6.1	6.2
11	6.4	5.8	6.1	5.9	5.6	5.7	5.5	5.3	5.4	6.1	5.9	6.0
12	6.4	6.2	6.3	5.8	5.6	5.8	5.4	5.2	5.3	6.2	5.9	6.1
13	6.4	6.2	6.2	5.9	5.7	5.8	5.3	5.2	5.2	6.2	6.1	6.1
14	6.4	6.2	6.4	6.0	5.7	5.8	5.3	5.2	5.3	6.1	6.0	6.1
15	6.2	6.1	6.1	6.2	5.8	6.0	5.8	5.2	5.5	6.1	6.0	6.1
16	6.1	5.8	6.0	6.4	6.2	6.3	5.9	5.8	5.8	6.1	5.8	5.9
17	5.9	5.7	5.8	6.3	6.1	6.2	5.8	5.7	5.7	5.9	5.7	5.8
18	5.8	5.7	5.8	6.2	6.1	6.2	5.7	5.6	5.7	5.7	5.7	5.7
19	5.9	5.8	5.8	6.2	6.0	6.1	5.6	5.5	5.6	5.8	5.5	5.7
20	6.1	5.9	6.0	6.1	6.0	6.0	5.6	5.5	5.5	5.5	5.3	5.4
21	6.0	5.8	5.9	6.4	6.0	6.2	5.5	5.4	5.5	5.4	5.2	5.3
22	5.9	5.8	5.8	6.4	6.2	6.3	6.3	5.4	5.6	5.3	5.2	5.3
23	5.8	5.7	5.8	6.2	6.1	6.1	6.4	6.0	6.2	5.4	5.2	5.3
24	6.2	5.9	6.0	6.2	6.0	6.1	6.3	6.0	6.1	5.6	5.1	5.3
25	6.3	6.1	6.2	6.2	6.1	6.1	6.0	5.7	5.9	5.4	5.1	5.2
26	6.2	6.0	6.1	6.4	6.3	6.4	5.8	5.5	5.7	5.2	5.0	5.1
27	6.1	5.9	6.0	6.3	6.1	6.2	5.6	5.4	5.5	5.1	5.0	5.1
28	5.9	5.9	5.9	6.5	6.0	6.2	5.9	5.3	5.4	5.3	5.0	5.1
29	5.9	5.8	5.9	6.3	6.1	6.2	6.5	5.4	6.2	6.0	5.2	5.6
30	---	---	---	6.0	5.9	6.0	6.1	5.8	5.9	6.1	6.0	6.0
31	---	---	---	6.0	5.7	5.8	---	---	---	6.0	6.0	6.0
MONTH	6.4	5.5	6.0	6.5	5.5	6.0	6.5	5.2	5.7	6.6	5.0	5.8

## POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	5.7	5.5	5.6	6.5	5.6	6.3	5.4	5.1	5.2	5.1	5.0	5.0
2	5.6	5.3	5.4	6.5	6.2	6.4	5.1	4.9	5.0	5.0	4.9	5.0
3	5.3	5.2	5.3	6.2	5.9	6.1	5.0	4.8	5.0	5.0	4.9	4.9
4	5.3	5.0	5.2	5.9	5.7	5.8	5.1	5.0	5.1	5.0	4.9	5.0
5	5.2	5.0	5.1	6.0	5.5	5.7	5.2	5.0	5.1	5.1	5.0	5.0
6	5.2	5.0	5.1	6.2	5.7	6.0	5.1	5.0	5.1	5.1	5.0	5.1
7	5.1	4.9	5.0	6.4	6.1	6.3	5.2	5.0	5.1	5.1	5.0	5.1
8	5.0	4.9	5.0	6.3	6.0	6.1	5.3	5.1	5.1	5.1	4.9	5.0
9	5.0	4.8	4.9	6.0	5.8	5.9	5.1	5.0	5.1	5.1	4.9	5.0
10	4.9	4.8	4.8	6.5	5.8	6.2	5.7	5.0	5.1	5.0	4.9	4.9
11	4.9	4.7	4.8	6.4	6.2	6.3	---	---	---	5.0	4.8	4.9
12	5.0	4.6	4.8	6.6	6.3	6.4	---	---	---	4.9	4.8	4.9
13	4.8	4.6	4.7	6.4	6.3	6.4	---	---	---	4.9	4.8	4.9
14	5.1	4.7	4.8	6.3	6.2	6.3	6.4	6.0	6.2	4.9	4.8	4.8
15	5.0	4.8	4.9	6.2	5.9	6.0	6.1	5.9	6.0	4.9	4.8	4.8
16	5.0	4.9	5.0	5.9	5.7	5.8	6.0	5.9	6.0	4.9	4.8	4.9
17	5.3	4.8	4.9	6.4	5.6	5.7	5.9	5.9	5.9	5.0	4.8	4.9
18	6.4	4.8	4.9	6.4	5.7	6.0	5.9	5.7	5.8	5.0	4.8	4.9
19	6.4	4.9	5.6	6.1	5.8	6.0	5.8	5.7	5.7	5.0	4.8	4.9
20	5.5	5.1	5.3	5.9	5.6	5.8	5.7	5.5	5.6	4.9	4.8	4.9
21	5.2	5.0	5.1	5.8	5.6	5.6	5.5	5.3	5.4	4.9	4.8	4.8
22	5.1	5.0	5.1	5.6	5.1	5.3	5.3	5.2	5.3	4.9	4.8	4.8
23	5.1	5.0	5.1	5.4	5.2	5.3	5.5	5.2	5.3	4.9	4.7	4.8
24	5.7	4.9	5.1	5.3	5.1	5.2	5.6	5.2	5.4	4.8	4.7	4.8
25	5.2	5.0	5.1	5.4	5.2	5.3	5.5	5.3	5.4	4.8	4.7	4.7
26	5.2	4.9	5.0	5.4	5.1	5.2	5.3	5.2	5.3	4.9	4.7	4.8
27	5.1	4.9	5.0	5.5	5.2	5.3	5.2	5.1	5.2	4.9	4.9	4.9
28	5.9	5.0	5.1	5.7	5.5	5.6	5.1	5.1	5.1	5.0	4.9	4.9
29	5.1	4.9	5.0	5.7	5.5	5.6	5.1	4.9	5.0	5.0	4.9	5.0
30	6.0	4.9	5.1	5.5	5.2	5.3	5.0	4.9	5.0	5.0	4.9	5.0
31	---	---	---	5.4	5.1	5.1	5.0	5.0	5.0	---	---	---
MONTH	6.4	4.6	5.1	6.6	5.1	5.8	6.4	4.8	5.3	5.1	4.7	4.9

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	12.5	13.5	10.0	6.5	8.5	3.5	2.0	3.0	.5	.0	.5
2	17.0	12.5	14.5	11.5	7.0	9.0	3.0	1.0	2.0	.5	.5	.5
3	18.5	11.5	15.0	11.0	10.0	10.5	4.5	3.0	4.0	.5	.0	.5
4	19.5	12.5	15.5	10.0	6.0	7.5	5.5	4.0	5.0	.5	.0	.5
5	18.0	15.0	16.0	6.0	5.0	5.5	6.5	5.5	6.0	.5	.5	.5
6	18.0	13.5	15.5	5.5	4.5	5.0	7.5	4.0	6.0	.5	.5	.5
7	17.5	10.5	14.0	6.5	4.0	5.0	4.0	3.5	3.5	1.0	.0	.5
8	17.5	10.0	13.5	7.0	4.0	5.5	---	---	---	.5	.0	.0
9	17.5	11.5	14.0	7.5	4.0	6.0	6.0	3.5	4.5	.5	.0	.5
10	14.5	13.0	13.5	8.5	6.0	7.0	6.5	5.0	6.0	1.0	.0	.5
11	13.0	12.0	12.5	8.5	5.0	7.0	5.5	5.0	5.0	.5	.0	.0
12	16.5	12.5	14.5	4.5	2.5	3.5	6.0	5.5	6.0	.5	.0	.0
13	17.5	14.5	15.5	3.5	1.5	2.5	7.0	6.0	6.5	.5	.0	.0
14	14.5	11.5	12.5	5.0	2.5	3.5	7.5	6.5	7.0	.5	.0	.0
15	14.0	9.5	11.5	4.0	2.5	3.0	7.5	6.0	7.0	.5	.0	.0
16	14.0	8.5	11.0	5.5	4.0	4.5	6.0	4.5	5.0	.0	.0	.0
17	14.5	9.5	12.0	4.0	3.5	3.5	4.5	2.5	3.5	.5	.0	.0
18	14.5	10.5	12.5	5.5	3.0	4.5	3.0	1.5	2.5	.5	.0	.0
19	13.5	11.5	12.5	8.0	5.5	7.0	3.0	1.0	2.0	.0	.0	.0
20	11.5	9.5	10.5	9.0	6.5	7.5	1.5	.5	.5	.5	.0	.0
21	---	---	---	9.0	7.5	8.0	.5	.5	.5	.0	.0	.0
22	---	---	---	9.0	7.0	8.0	.5	.5	.5	.0	.0	.0
23	---	---	---	10.0	8.5	9.0	.5	.0	.5	.0	.0	.0
24	11.5	10.5	11.0	11.0	10.0	11.0	.5	.0	.5	.0	.0	.0
25	11.5	11.0	11.5	10.0	5.0	7.0	.5	.0	.5	.5	.0	.0
26	12.0	10.0	11.0	6.0	4.5	5.0	.5	.5	.5	.5	.0	.5
27	10.0	8.5	9.5	6.0	4.0	5.0	.5	.0	.5	.5	.0	.5
28	11.5	8.0	9.5	8.0	6.0	7.0	.5	.5	.5	.5	.0	.0
29	11.5	9.0	10.5	8.0	5.0	6.5	.5	.0	.0	.5	.0	.0
30	9.5	6.5	8.0	5.0	3.5	4.0	.5	.0	.0	.5	.0	.5
31	9.5	6.0	7.5	---	---	---	.5	.0	.0	.5	.0	.0
MONTH	19.5	6.0	12.5	11.5	1.5	6.0	7.5	.0	3.0	1.0	.0	.0

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.5	1.0	.0	.5	7.0	4.0	5.5	13.5	11.0	12.5
2	.5	.0	.5	2.5	.5	1.0	7.5	3.5	5.5	11.5	10.0	11.0
3	.5	.0	.5	3.5	.5	1.0	7.5	5.0	6.5	11.0	9.5	10.0
4	.5	.0	.5	2.0	.5	1.0	6.5	5.0	5.5	11.5	10.5	11.0
5	2.0	.5	1.0	2.5	1.5	2.0	7.0	4.5	6.0	13.0	10.0	11.0
6	1.5	.5	.5	2.5	2.0	2.0	6.5	5.5	5.5	12.5	10.5	11.5
7	.5	.5	.5	2.5	1.0	2.0	6.5	5.0	5.5	12.0	10.0	11.0
8	.5	.5	.5	1.0	.5	.5	9.5	5.5	7.5	13.0	11.0	12.0
9	1.0	.5	.5	1.0	.0	.5	12.0	7.0	9.0	10.5	9.0	9.5
10	2.0	.5	1.0	1.5	.5	.5	10.5	6.0	8.0	12.0	8.5	10.0
11	2.0	.5	1.0	2.5	.5	1.0	10.0	5.5	7.5	14.0	10.0	12.0
12	3.5	1.0	2.0	2.0	.5	1.0	11.5	6.5	9.0	15.5	12.5	14.0
13	4.0	1.5	3.0	1.0	.5	.5	11.5	9.5	10.5	14.0	11.0	13.0
14	4.0	3.0	3.5	3.5	1.0	2.0	10.5	9.5	10.0	13.0	10.5	12.0
15	8.5	4.0	7.0	5.5	1.0	3.5	10.0	8.5	9.5	10.5	9.0	10.0
16	8.0	5.5	6.5	6.0	4.0	5.0	10.0	8.5	9.0	12.5	8.5	10.5
17	6.5	5.5	6.0	6.5	3.5	5.0	9.0	8.0	8.5	13.5	8.5	11.0
18	7.0	6.0	6.5	6.0	4.5	5.5	9.0	7.0	8.0	13.0	11.5	12.0
19	7.0	5.5	6.5	8.5	5.5	6.5	9.5	7.0	8.0	17.5	11.5	14.5
20	7.0	4.5	5.5	9.0	5.5	7.5	10.0	8.0	9.0	19.0	14.5	17.0
21	6.0	3.5	4.0	9.0	4.5	6.5	10.5	7.5	8.5	19.5	15.5	17.5
22	6.0	2.5	4.0	4.5	4.0	4.5	9.0	5.0	6.5	21.0	16.5	18.5
23	5.0	4.0	4.5	5.0	3.5	4.0	7.0	5.0	6.0	19.0	16.0	18.0
24	6.5	3.5	5.0	6.5	3.0	5.0	9.5	6.5	8.0	20.0	13.5	16.5
25	6.0	3.0	4.5	7.5	5.5	6.5	9.5	6.0	7.5	21.5	14.0	17.5
26	3.5	1.5	2.5	7.5	4.0	6.0	12.5	7.0	9.5	21.0	16.0	18.5
27	3.0	1.5	2.0	8.5	5.5	6.5	13.5	10.0	12.0	20.0	16.5	18.5
28	2.0	1.0	1.5	9.0	5.0	6.5	14.5	11.5	13.0	19.5	17.5	18.0
29	1.5	.5	.5	5.0	3.0	4.0	15.5	11.0	13.0	18.0	15.0	16.5
30	---	---	---	6.0	4.0	5.0	15.5	13.5	14.5	15.0	12.0	13.0
31	---	---	---	7.0	4.5	6.0	---	---	---	13.5	10.5	12.0
MONTH	8.5	.0	3.0	9.0	.0	3.5	15.5	3.5	8.5	21.5	8.5	13.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	15.5	10.0	12.5	19.0	16.0	17.0	24.5	19.0	21.5	21.5	16.5	19.0
2	19.0	11.5	15.5	20.5	16.5	18.5	26.0	20.5	22.5	24.0	16.5	20.0
3	19.5	15.0	17.0	22.5	17.0	19.5	26.5	21.5	24.0	23.0	18.5	21.0
4	21.0	13.5	17.0	21.5	17.0	19.5	23.5	21.5	22.5	20.5	17.5	19.5
5	22.0	14.5	18.0	22.5	18.0	20.0	24.5	20.0	22.0	19.5	15.0	17.0
6	23.5	16.5	20.0	22.0	18.5	20.0	25.0	19.5	22.0	19.5	14.5	17.0
7	24.0	17.5	21.0	21.0	17.5	19.0	24.5	20.5	22.5	19.5	13.0	16.0
8	24.0	18.5	21.0	21.0	15.0	17.5	27.0	21.0	23.5	21.0	14.5	17.5
9	26.0	18.5	22.5	20.5	14.5	17.5	28.0	21.5	24.5	21.0	14.0	17.5
10	26.0	19.5	22.5	18.0	16.5	17.0	25.5	22.0	23.5	20.5	14.5	17.5
11	25.5	19.5	23.0	21.0	17.0	18.5	---	---	---	22.5	15.0	19.0
12	26.5	19.5	23.0	20.0	17.5	19.0	---	---	---	23.0	18.5	20.0
13	27.5	20.5	24.0	21.0	17.0	19.0	---	---	---	23.5	16.0	20.0
14	26.0	21.0	23.5	21.0	17.0	19.0	23.5	19.0	21.5	22.0	18.0	20.0
15	26.5	19.0	22.5	23.0	18.0	20.5	21.5	19.0	20.0	20.0	15.5	18.0
16	22.0	18.5	20.0	24.0	20.0	21.5	22.5	19.0	20.5	17.0	13.5	15.0
17	24.0	18.0	21.0	23.5	19.0	21.0	23.0	19.5	21.5	17.5	10.5	14.0
18	26.0	20.0	22.5	22.5	19.5	20.5	23.0	20.0	21.0	18.0	11.0	14.5
19	24.5	19.5	22.0	22.5	17.0	19.5	23.0	19.5	21.0	18.5	11.0	14.5
20	22.5	19.0	20.5	22.5	17.0	19.5	23.0	19.0	20.5	20.0	12.5	16.0
21	25.5	17.5	21.5	21.0	18.5	19.5	22.5	17.0	19.5	21.5	15.0	18.0
22	24.5	18.5	21.0	20.0	18.0	19.0	23.0	17.5	20.5	22.0	15.0	18.5
23	22.5	19.0	21.0	23.5	18.5	20.5	21.5	19.0	20.5	22.0	16.5	19.0
24	23.0	18.5	20.0	23.5	19.0	21.0	21.0	17.0	19.0	21.0	17.0	19.0
25	23.0	17.0	20.0	24.0	19.0	21.5	22.0	16.0	18.5	23.0	18.0	20.0
26	24.0	16.0	20.0	22.5	19.0	20.5	22.0	15.5	18.5	19.5	15.0	18.0
27	23.0	16.0	20.0	20.0	18.0	19.5	22.5	16.5	19.5	14.5	11.5	12.5
28	25.5	18.5	21.5	21.0	16.5	18.5	24.0	17.5	20.5	11.5	10.0	10.5
29	24.0	18.5	21.5	20.0	17.0	18.5	24.0	19.5	21.5	14.0	10.5	11.5
30	21.0	19.5	20.0	21.5	17.0	19.0	24.0	19.0	21.0	12.0	9.5	11.0
31	---	---	---	24.5	17.0	20.5	23.5	19.0	21.0	---	---	---
MONTH	27.5	10.0	20.5	24.5	14.5	19.5	28.0	15.5	21.0	24.0	9.5	17.0



## POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	10.4	9.2	9.8	12.0	11.3	11.6	12.9	12.5	12.6	---	---	---
2	10.4	9.5	10.0	12.0	10.7	11.4	13.3	12.6	13.0	---	---	---
3	10.8	9.1	9.9	11.1	10.7	11.0	12.8	12.3	12.5	---	---	---
4	10.5	9.2	9.8	12.1	11.0	11.7	12.5	12.2	12.3	---	---	---
5	10.0	9.3	9.6	12.4	12.2	12.3	12.3	12.0	12.1	12.3	12.1	12.2
6	10.5	9.5	9.8	12.5	12.2	12.4	13.1	11.8	12.4	12.3	12.1	12.2
7	11.3	9.6	10.3	12.7	12.1	12.4	13.4	13.0	13.2	12.6	12.4	12.4
8	11.4	9.6	10.4	12.7	11.8	12.3	---	---	---	12.7	12.6	12.7
9	11.1	9.6	10.2	12.7	11.6	12.2	13.2	12.7	13.0	13.0	12.8	12.9
10	10.7	10.0	10.3	12.1	11.2	11.6	12.7	12.3	12.5	13.1	12.8	13.0
11	10.9	10.3	10.6	12.1	11.3	11.6	12.8	12.5	12.7	13.4	13.2	13.3
12	10.5	9.5	10.1	13.0	12.1	12.7	12.5	12.3	11.8	13.7	13.4	13.6
13	10.0	9.3	9.7	13.2	12.5	12.8	12.4	12.0	12.1	13.8	13.7	13.7
14	10.9	9.9	10.4	12.8	12.2	12.5	12.1	11.7	11.9	13.9	13.8	13.9
15	11.5	10.2	10.8	12.6	12.2	12.4	12.3	11.7	12.0	14.1	13.9	14.0
16	11.8	10.3	10.9	12.3	11.9	12.1	13.1	12.3	12.9	---	---	---
17	11.5	10.1	10.7	12.5	12.3	12.4	13.9	13.1	13.7	---	---	---
18	11.1	10.1	10.5	12.5	11.7	12.1	---	---	---	---	---	---
19	10.9	10.2	10.6	11.8	11.1	11.4	---	---	---	---	---	---
20	11.4	10.8	11.1	11.5	10.7	11.1	---	---	---	---	---	---
21	---	---	---	11.2	10.7	11.0	---	---	---	---	---	---
22	---	---	---	11.4	10.8	11.1	---	---	---	---	---	---
23	---	---	---	11.0	10.4	10.7	---	---	---	---	---	---
24	11.0	10.7	10.8	10.4	10.2	10.3	---	---	---	---	---	---
25	10.8	10.7	10.7	12.0	10.4	11.4	---	---	---	---	---	---
26	11.0	10.6	10.8	12.2	11.7	12.0	---	---	---	---	---	---
27	11.5	11.1	11.3	12.2	11.5	11.9	---	---	---	---	---	---
28	11.7	10.7	11.2	11.5	10.9	11.2	---	---	---	---	---	---
29	11.5	10.7	11.0	11.7	11.0	11.4	---	---	---	---	---	---
30	12.1	11.4	11.7	12.5	11.7	12.1	---	---	---	---	---	---
31	12.3	11.3	11.8	---	---	---	---	---	---	---	---	---
MONTH	12.3	9.1	10.5	13.2	10.2	11.8	13.9	11.7	12.5	14.1	12.1	13.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	12.9	12.7	12.8	11.6	11.1	11.4	10.7	9.7	10.2
2	---	---	---	12.9	12.5	12.7	11.7	11.1	11.4	11.0	10.3	10.7
3	---	---	---	12.9	12.8	12.8	11.5	10.8	11.1	11.0	10.7	10.8
4	---	---	---	13.0	12.6	12.8	11.0	10.8	10.9	10.7	10.4	10.6
5	---	---	---	12.7	12.2	12.4	11.2	10.6	10.9	11.0	10.2	10.7
6	---	---	---	12.4	12.2	12.3	10.9	10.8	10.8	11.0	10.2	10.6
7	---	---	---	12.4	12.1	12.2	10.9	10.8	10.9	11.1	10.5	10.8
8	13.8	13.5	13.6	12.4	12.1	12.3	11.1	10.5	10.8	10.7	10.1	10.4
9	13.7	13.3	13.5	12.4	12.3	12.4	10.8	10.2	10.5	11.3	10.9	11.1
10	13.7	13.3	13.5	12.5	12.2	12.4	11.1	10.5	10.7	11.5	10.4	11.0
11	13.6	13.3	13.5	12.4	12.1	12.3	11.1	10.4	10.7	11.1	9.9	10.5
12	13.6	13.1	13.3	12.6	12.3	12.5	11.0	10.2	10.6	10.3	9.6	10.0
13	13.2	12.5	12.8	12.6	12.3	12.5	10.6	10.2	10.4	10.8	10.0	10.4
14	13.1	12.7	12.9	12.5	12.2	12.3	10.6	10.4	10.5	10.8	10.2	10.5
15	12.7	12.2	12.4	12.5	11.8	12.2	10.8	10.5	10.7	11.3	10.9	11.1
16	12.7	12.3	12.5	12.1	11.7	11.9	10.8	10.5	10.6	11.5	10.4	11.0
17	12.6	12.3	12.5	12.1	11.5	11.8	10.7	10.1	10.4	11.5	10.1	10.8
18	12.5	12.2	12.4	11.7	11.4	11.6	10.4	10.0	10.2	10.7	10.2	10.5
19	12.4	12.1	12.3	11.5	11.0	11.3	10.3	9.8	10.1	10.6	9.0	9.8
20	12.5	12.1	12.3	11.4	10.8	11.1	10.2	9.8	10.0	9.7	8.7	9.2
21	12.6	12.5	12.6	11.5	10.9	11.2	10.2	9.8	10.0	9.5	8.7	9.1
22	12.9	12.3	12.6	11.3	11.0	11.1	10.7	9.9	10.3	9.3	8.4	8.9
23	12.4	12.1	12.3	11.2	10.9	11.1	10.9	10.0	10.5	9.4	8.8	9.0
24	12.4	11.8	12.4	11.3	10.7	11.0	10.2	10.0	10.1	10.1	8.7	9.4
25	12.4	11.8	12.1	11.0	10.6	10.8	10.3	9.8	10.1	9.9	8.4	9.2
26	12.9	12.4	12.6	11.4	10.8	11.1	10.2	9.7	10.0	9.4	8.5	9.0
27	12.7	12.6	12.6	11.2	10.6	10.9	10.1	9.7	9.9	9.5	8.7	9.0
28	12.7	12.2	12.4	11.2	10.6	11.0	10.3	9.8	9.9	9.3	8.8	9.1
29	12.8	12.5	12.7	11.4	11.1	11.3	11.2	10.0	10.9	9.8	9.1	9.4
30	---	---	---	11.5	11.2	11.3	10.8	10.3	10.5	10.6	9.8	10.3
31	---	---	---	11.5	11.1	11.3	---	---	---	10.9	10.2	10.6
MONTH	13.8	11.8	12.7	13.0	10.6	11.8	11.7	9.7	10.5	11.5	8.4	10.1

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.9	9.5	10.3	9.6	8.7	9.0	9.1	8.1	8.5	8.5	7.6	8.0
2	10.4	8.7	9.5	9.5	8.6	9.2	8.9	7.8	8.4	8.6	7.1	7.9
3	9.5	8.6	9.1	9.4	8.3	8.9	8.7	7.7	8.2	8.2	7.4	7.7
4	9.9	8.4	9.1	9.3	8.4	8.8	8.8	8.1	8.5	8.7	7.8	8.2
5	9.8	8.3	9.0	9.1	8.2	8.7	9.1	8.3	8.7	9.3	8.4	8.8
6	9.4	7.9	8.7	9.0	8.3	8.7	9.2	8.1	8.7	9.3	8.2	8.7
7	9.0	7.9	8.5	9.3	8.6	8.9	9.1	8.3	8.7	9.6	8.2	8.9
8	8.9	7.8	8.4	9.9	8.7	9.3	9.0	7.9	8.4	9.2	8.0	8.5
9	8.8	7.5	8.1	10.0	8.7	9.3	8.8	7.6	8.1	9.2	7.8	8.4
10	8.7	7.5	8.1	9.4	9.2	9.3	8.7	7.4	8.2	8.9	7.8	8.3
11	8.7	7.5	8.1	9.4	8.6	9.0	---	---	---	8.8	7.4	8.0
12	8.7	7.4	8.0	9.4	9.0	9.1	---	---	---	8.2	7.2	7.7
13	8.6	7.2	7.9	9.8	8.8	9.3	---	---	---	8.6	7.0	7.7
14	8.4	7.7	8.0	9.7	8.8	9.3	9.1	8.1	8.5	8.2	7.3	7.6
15	9.0	7.7	8.3	9.5	8.4	9.0	9.0	8.3	8.6	8.3	7.4	7.9
16	9.1	8.4	8.7	9.0	8.2	8.6	8.8	8.0	8.4	9.1	8.3	8.7
17	9.2	7.9	8.5	9.2	8.2	8.7	8.5	7.7	8.1	10.2	8.6	9.3
18	8.7	7.6	8.1	9.0	8.4	8.8	8.3	7.7	8.1	10.1	8.4	9.1
19	8.7	7.8	8.2	9.6	8.5	9.0	8.3	7.7	8.0	10.0	8.2	9.0
20	8.9	8.2	8.5	9.6	8.4	9.0	8.4	7.6	8.0	9.6	8.4	8.8
21	9.1	7.6	8.3	9.2	8.7	9.0	8.8	7.6	8.2	9.3	8.0	8.5
22	8.9	7.8	8.3	9.4	8.9	9.1	8.5	7.3	7.9	9.3	7.9	8.5
23	8.8	8.1	8.4	9.2	8.2	8.9	8.1	7.7	7.9	9.2	7.9	8.4
24	8.8	8.0	8.5	9.1	8.1	8.6	8.5	7.6	8.1	9.3	8.1	8.5
25	9.1	8.0	8.5	9.0	8.2	8.6	8.7	7.4	8.1	9.0	7.8	8.3
26	9.4	8.1	8.7	9.1	8.5	8.8	8.7	7.5	8.1	9.1	8.2	8.7
27	9.6	8.3	8.8	9.1	8.7	8.9	8.5	7.3	7.9	10.2	9.1	9.7
28	9.1	7.7	8.4	9.4	8.6	9.0	8.3	7.1	7.7	10.5	9.8	10.1
29	9.1	8.0	8.5	9.5	8.8	9.1	8.0	7.1	7.6	10.0	9.3	9.7
30	8.9	8.4	8.7	9.4	8.4	8.8	8.1	7.1	7.6	10.5	9.7	10.1
31	---	---	---	9.5	7.9	8.7	8.1	7.2	7.7	---	---	---
MONTH	10.9	7.2	8.5	10.0	7.9	9.0	9.2	7.1	8.2	10.5	7.0	8.6

## POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV

LOCATION.--Lat 39°26'44", long 79°06'39", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at highway bridge at Barnum, W. Va., 0.4 mi upstream from Folly Run, and 4.0 mi southwest of Piedmont, W. Va., and at mile 59.4.

DRAINAGE AREA.--266 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,151.82 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Prior to July 1981 regulation at low flow by Stony River Reservoir, 39 mi above station (see station 01595200). Since July 1981 complete regulation by Bloomington Lake, 1.5 mi above station, capacity 96,600 acre-ft. Gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years, 538 ft<sup>3</sup>/s, 27.47 in/yr, adjusted for storage since October 1981.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft<sup>3</sup>/s July 3, 1978, gage height, 13.37 ft, from rating curve extended above 8,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 0.91 ft<sup>3</sup>/s Aug. 12, 1981, gage height, 1.76 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,500 ft<sup>3</sup>/s Mar. 28, gage height, 7.58 ft; minimum discharge, 20 ft<sup>3</sup>/s Jan. 31, gage height, 2.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	245	998	629	343	1000	1530	1290	288	310	345	390
2	181	245	1010	625	345	1040	1190	703	270	209	502	301
3	179	245	1000	625	345	1060	1100	693	270	202	521	149
4	178	247	1050	623	347	1040	1830	897	259	199	331	247
5	180	249	1020	621	347	1020	3430	894	252	198	327	403
6	179	249	1050	566	347	959	3240	898	252	197	326	390
7	179	584	1230	533	347	934	3690	980	256	196	314	382
8	178	595	1360	530	346	836	1670	1130	256	195	299	377
9	178	249	1360	527	328	670	1130	1680	254	195	299	375
10	178	253	1350	527	365	670	1360	1440	252	212	299	373
11	179	251	1350	470	383	669	721	1170	252	201	300	372
12	182	249	1380	427	387	629	697	1100	253	388	314	372
13	232	249	1370	399	388	556	683	1100	252	485	400	639
14	432	249	1370	423	470	499	686	1080	251	483	421	859
15	178	252	1360	422	843	397	1170	975	231	481	563	367
16	178	254	1360	419	1250	364	1830	712	216	428	567	364
17	178	256	1350	419	1350	369	1390	588	216	349	600	364
18	178	288	1350	419	1340	372	878	597	217	318	597	364
19	179	310	1260	392	1340	384	957	601	220	318	594	364
20	182	311	1330	344	1340	390	1150	600	216	300	594	363
21	184	314	940	343	1230	407	1070	468	216	288	591	361
22	182	404	643	343	1160	496	1180	377	220	288	588	360
23	204	600	639	343	1150	838	2210	379	222	292	723	360
24	224	601	637	343	1160	1140	2210	342	224	295	860	360
25	249	606	637	344	1160	1500	1670	318	211	295	587	385
26	249	600	636	345	1160	2880	1060	318	191	295	585	402
27	247	600	632	346	1090	1580	894	318	189	295	538	346
28	245	641	633	347	1020	3610	896	318	190	295	436	310
29	245	720	631	345	970	4020	1650	320	205	295	390	310
30	245	877	631	345	---	2210	2070	300	199	295	323	310
31	245	---	631	322	---	2160	---	307	---	295	390	---
TOTAL	6408	11793	32198	13706	22651	34699	45242	22893	7000	9092	14524	11319
MEAN	207	393	1039	442	781	1119	1508	738	233	293	469	377
MAX	432	877	1380	629	1350	4020	3690	1680	288	485	860	859
MIN	178	245	631	322	328	364	683	300	189	195	299	149
(f)	62170	71240	68460	56550	78670	94480	93890	91610	85610	89800	86880	68030
CAL YR 1983	TOTAL	186105	MEAN	510	MAX	4410	MIN	177	CFSM	1.92	IN	26.03
WTR YR 1984	TOTAL	231525	MEAN	633	MAX	4020	MIN	149	CFSM	2.38	IN	32.38

† Monthend contents, in acre-feet, in Bloomington Lake (contents on Sept. 30, 1983, 62,800 acre-feet).  
Records furnished by Corps of Engineers.

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

pH: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

DISSOLVED OXYGEN: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1982-84): Maximum, 525 micromhos Oct. 20, 21, 1981; minimum, 161 micromhos July 1, 1984.

pH (water years 1982, 1984): Maximum, 7.0 units June 5, 1982; minimum, 4.9 units Oct. 3-7, 9, 1981.

WATER TEMPERATURES (water years 1982-84): Maximum, 22.0°C Aug. 19, Sept. 9, 1982; minimum 0.5°C on several days during Jan. 1982.

DISSOLVED OXYGEN (water years 1983-84): Maximum, 14.6 mg/L Jan. 24, 1983; minimum, 8.1 mg/L June 25, 26, 1983.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 435 micromhos Oct. 13; minimum, 161 micromhos July 1.

pH: Maximum, 6.6 units Oct. 23, Aug. 12, Sept. 4; minimum, 5.5 units Dec. 16.

WATER TEMPERATURES: Maximum, 18.5°C Aug. 8, Sept. 2; minimum, 2.0 Jan. 12, 19-21, Feb. 1, 2.

DISSOLVED OXYGEN: Maximum, 13.4 mg/L Mar. 13-15; minimum, 8.3 mg/L July 25, 26.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	410	399	405	395	386	391	328	318	323	257	252	254
2	413	402	409	395	388	393	321	319	321	260	255	257
3	409	395	403	390	385	388	320	317	319	260	257	258
4	417	397	406	388	339	362	318	312	315	260	257	259
5	416	397	407	338	332	336	314	309	312	262	259	261
6	421	398	410	335	331	333	310	299	306	266	260	263
7	423	408	416	360	327	347	307	290	297	268	246	264
8	416	408	412	368	320	350	294	272	285	248	244	246
9	421	409	416	326	321	324	280	267	273	250	246	248
10	432	412	423	323	314	319	267	257	261	260	248	251
11	431	416	425	340	321	334	287	261	276	266	258	263
12	433	416	423	339	331	335	285	269	279	264	259	262
13	435	409	426	332	313	322	269	246	256	268	262	264
14	429	406	420	322	310	315	251	239	246	266	262	264
15	428	409	421	313	298	308	---	---	---	268	265	266
16	424	413	419	334	303	321	245	239	241	269	266	268
17	423	417	421	336	325	333	244	240	242	273	269	272
18	425	414	420	346	326	338	248	244	246	273	247	265
19	425	414	420	343	337	340	260	248	254	251	239	247
20	425	415	421	343	337	340	259	253	255	243	241	242
21	424	419	422	345	340	342	272	259	266	248	242	246
22	423	407	413	341	326	335	277	254	267	254	249	252
23	407	373	392	334	324	328	258	254	256	256	253	254
24	411	400	406	326	321	324	256	254	255	259	256	258
25	409	395	399	322	312	318	258	245	254	265	261	263
26	406	396	400	317	313	315	250	239	245	271	267	269
27	402	396	399	319	316	317	243	239	240	275	271	273
28	414	396	408	320	317	318	252	242	247	276	271	274
29	420	382	397	321	318	320	248	243	245	280	277	278
30	397	389	393	327	318	323	249	247	248	284	281	282
31	392	381	387	---	---	---	253	249	251	303	285	287
MONTH	435	373	411	395	298	336	328	239	269	303	239	262

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	296	289	290	237	230	234	205	201	204	220	205	212
2	299	293	297	250	239	244	202	198	200	---	---	---
3	299	276	287	253	243	248	204	195	199	---	---	---
4	280	275	278	256	248	250	208	203	206	217	213	215
5	281	277	280	261	251	257	207	202	204	217	213	216
6	286	282	284	275	257	267	208	204	206	225	216	219
7	292	284	289	276	261	271	208	200	204	226	220	222
8	296	278	292	267	234	249	205	196	201	225	213	222
9	286	271	278	238	230	235	200	197	198	214	210	212
10	275	268	272	239	231	235	214	188	195	217	210	214
11	273	268	270	237	229	234	192	189	191	223	218	219
12	271	267	269	242	236	239	202	190	197	221	218	220
13	309	269	287	254	228	243	202	200	201	220	219	220
14	339	296	318	251	239	248	204	199	202	225	220	221
15	342	271	313	284	251	268	205	195	200	227	221	224
16	272	243	256	284	276	280	203	200	201	229	226	228
17	261	254	257	285	278	281	206	201	203	229	228	229
18	265	252	257	284	280	282	211	194	202	230	221	226
19	265	256	260	288	261	275	207	196	202	224	220	222
20	256	242	247	271	265	268	200	195	198	225	221	223
21	246	224	235	294	270	281	206	200	203	229	222	226
22	237	229	234	294	264	283	208	200	204	230	226	228
23	235	223	229	265	245	254	205	201	203	231	228	230
24	236	224	230	249	246	247	209	205	208	234	228	230
25	231	212	224	260	245	249	215	207	212	233	228	231
26	227	221	224	274	249	262	215	209	212	238	232	234
27	229	210	226	274	254	265	216	212	214	238	233	236
28	236	221	230	255	228	241	216	212	214	247	234	239
29	227	223	225	229	218	222	216	204	209	251	241	244
30	---	---	---	219	205	211	212	205	207	245	241	243
31	---	---	---	209	203	207	---	---	---	243	233	239
MONTH	342	210	263	294	203	253	216	188	203	251	205	226

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	245	237	242	306	161	279	---	---	---	299	296	297
2	249	241	245	302	297	299	---	---	---	311	296	300
3	249	242	246	303	300	301	---	---	---	308	303	306
4	250	243	247	304	299	302	---	---	---	317	305	310
5	247	244	246	305	298	302	---	---	---	320	310	317
6	251	247	249	306	299	303	---	---	---	317	310	315
7	253	248	251	308	302	306	---	---	---	317	311	315
8	251	249	250	310	305	307	312	309	311	314	310	312
9	253	250	252	310	306	307	313	301	307	314	308	312
10	253	251	252	312	297	307	305	301	304	313	308	309
11	254	248	251	---	---	---	307	301	304	308	306	307
12	252	247	251	---	---	---	317	304	312	308	305	307
13	255	250	253	---	---	---	---	---	---	309	305	307
14	254	250	252	306	302	304	---	---	---	310	306	308
15	258	251	254	306	304	305	---	---	---	309	304	307
16	266	252	258	309	303	307	---	---	---	312	306	309
17	270	260	265	310	305	308	306	296	301	310	306	308
18	269	257	265	307	299	304	305	300	304	312	308	310
19	279	263	269	306	301	304	305	298	302	312	309	311
20	269	264	267	311	302	307	304	290	299	319	312	314
21	269	259	264	314	308	312	301	291	299	319	316	317
22	284	260	271	310	307	309	302	299	300	322	317	319
23	286	281	283	307	304	305	307	298	301	321	319	320
24	287	271	281	308	304	306	310	290	303	328	319	324
25	287	283	285	307	299	302	298	292	297	326	318	322
26	287	285	286	302	298	301	300	297	298	324	318	322
27	290	288	289	305	299	303	300	297	298	333	318	324
28	291	286	289	305	303	304	301	296	299	343	330	334
29	291	263	286	305	302	303	296	294	295	331	328	329
30	304	284	297	303	301	303	304	293	297	339	331	336
31	---	---	---	306	298	303	296	293	295	---	---	---
MONTH	304	237	263	314	161	304	317	290	301	343	296	314

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	6.4	6.3	6.3	6.2	6.1	6.2	5.7	5.6	5.7	6.0	5.9	5.9
2	6.3	6.3	6.3	6.2	6.2	6.2	5.8	5.7	5.8	5.9	5.9	5.9
3	6.3	6.3	6.3	6.3	6.2	6.2	5.8	5.7	5.7	5.9	5.9	5.9
4	6.3	6.2	6.3	6.3	6.2	6.3	6.0	5.7	5.8	6.0	5.8	5.9
5	6.3	6.2	6.3	6.3	6.2	6.3	5.8	5.8	5.8	5.9	5.9	5.9
6	6.3	6.3	6.3	6.3	6.2	6.3	5.9	5.8	5.8	5.9	5.9	5.9
7	6.3	6.3	6.3	6.3	6.0	6.1	5.8	5.8	5.8	5.9	5.8	5.9
8	6.3	6.3	6.3	6.3	6.0	6.1	5.8	5.7	5.7	5.9	5.9	5.9
9	6.3	6.2	6.3	6.3	6.3	6.3	5.7	5.7	5.7	5.9	5.8	5.8
10	6.3	6.2	6.3	6.5	6.3	6.4	5.7	5.7	5.7	5.8	5.7	5.8
11	6.2	6.2	6.2	6.4	6.3	6.4	5.9	5.7	5.8	5.7	5.7	5.7
12	6.4	6.2	6.3	6.3	6.1	6.2	6.0	5.8	5.9	5.7	5.7	5.7
13	6.3	6.2	6.2	6.2	6.1	6.1	5.9	5.9	5.9	5.7	5.7	5.7
14	6.2	6.0	6.1	6.2	6.1	6.1	6.0	5.9	6.0	5.7	5.7	5.7
15	6.3	6.2	6.2	6.2	6.1	6.1	---	---	---	5.7	5.7	5.7
16	6.3	6.2	6.2	6.2	5.9	6.1	5.7	5.5	5.6	5.7	5.7	5.7
17	6.3	6.2	6.2	6.0	6.0	6.0	6.0	5.6	5.7	5.8	5.7	5.8
18	6.3	6.2	6.2	6.1	5.8	5.9	---	---	---	5.9	5.6	5.7
19	6.4	6.2	6.3	6.0	5.9	6.0	---	---	---	5.8	5.6	5.7
20	6.5	6.2	6.3	6.0	5.6	5.8	---	---	---	5.8	5.8	5.8
21	6.5	6.2	6.3	5.9	5.8	5.9	6.1	6.1	6.1	5.8	5.7	5.8
22	6.5	6.2	6.3	5.9	5.8	5.9	6.1	6.0	6.1	5.7	5.7	5.7
23	6.6	6.4	6.5	5.8	5.7	5.8	6.0	6.0	6.0	5.7	5.7	5.7
24	6.4	6.3	6.3	5.8	5.8	5.8	6.0	6.0	6.0	5.7	5.7	5.7
25	6.3	6.3	6.3	5.9	5.8	5.8	6.0	6.0	6.0	5.8	5.7	5.8
26	6.3	6.3	6.3	5.9	5.8	5.9	6.0	6.0	6.0	5.8	5.7	5.8
27	6.3	6.2	6.2	5.8	5.8	5.8	6.0	6.0	6.0	5.9	5.7	5.8
28	6.2	6.2	6.2	5.9	5.8	5.9	6.0	5.9	6.0	5.8	5.8	5.8
29	6.2	6.2	6.2	5.9	5.8	5.9	6.0	5.9	6.0	5.8	5.8	5.8
30	6.2	6.2	6.2	5.9	5.6	5.8	6.0	5.9	5.9	5.8	5.8	5.8
31	6.2	6.2	6.2	---	---	---	6.0	5.9	5.9	6.0	5.8	5.8
MONTH	6.6	6.0	6.3	6.5	5.6	6.1	6.1	5.5	5.9	6.0	5.6	5.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.8	5.7	5.8	5.7	5.6	5.6	6.0	5.9	5.9	5.9	5.8	5.9
2	5.7	5.7	5.7	5.6	5.6	5.6	6.0	5.9	6.0	---	---	---
3	5.9	5.7	5.8	5.6	5.6	5.6	6.0	6.0	6.0	---	---	---
4	6.0	5.9	5.9	5.6	5.6	5.6	6.1	5.9	6.0	6.0	5.9	5.9
5	5.9	5.9	5.9	5.7	5.6	5.6	6.0	5.8	5.9	5.9	5.9	5.9
6	5.9	5.8	5.9	5.6	5.6	5.6	5.9	5.8	5.8	5.9	5.9	5.9
7	5.9	5.8	5.8	5.7	5.6	5.6	5.9	5.8	5.8	6.1	5.9	6.0
8	5.9	5.8	5.8	5.8	5.7	5.7	6.0	5.9	5.9	6.0	5.9	5.9
9	6.1	5.9	5.9	5.8	5.8	5.8	6.0	5.9	6.0	5.9	5.9	5.9
10	6.0	5.8	5.9	5.8	5.8	5.8	6.1	5.9	6.0	5.9	5.9	5.9
11	6.0	5.9	5.9	5.8	5.8	5.8	6.1	6.0	6.0	6.0	5.9	5.9
12	6.0	5.9	5.9	5.8	5.8	5.8	6.0	6.0	6.0	6.0	6.0	6.0
13	6.3	5.9	6.0	5.9	5.7	5.8	6.0	6.0	6.0	6.0	5.9	6.0
14	6.3	6.0	6.2	6.0	5.8	5.9	6.1	6.0	6.1	6.0	5.9	6.0
15	5.9	5.8	5.9	6.1	5.9	6.0	6.2	5.9	6.0	6.0	6.0	6.0
16	5.9	5.7	5.8	6.1	6.0	6.1	5.9	5.9	5.9	6.1	6.0	6.1
17	5.7	5.7	5.7	6.1	6.0	6.1	5.9	5.8	5.9	6.1	6.1	6.1
18	5.7	5.7	5.7	6.1	6.1	6.1	6.0	5.8	5.9	6.1	5.9	6.1
19	5.8	5.7	5.7	6.1	6.0	6.0	6.0	5.8	5.9	6.1	6.0	6.1
20	5.7	5.7	5.7	6.1	6.0	6.0	5.9	5.8	5.9	6.1	6.0	6.1
21	5.7	5.7	5.7	6.4	6.0	6.2	5.9	5.8	5.9	6.2	6.0	6.1
22	5.7	5.7	5.7	6.2	6.0	6.1	6.1	5.8	5.9	6.2	6.1	6.1
23	5.8	5.7	5.7	6.0	5.9	6.0	6.1	5.9	5.9	6.1	6.1	6.1
24	5.8	5.7	5.7	5.9	5.9	5.9	5.9	5.8	5.8	6.2	6.1	6.1
25	5.7	5.7	5.7	5.9	5.8	5.9	5.9	5.8	5.8	6.2	6.1	6.2
26	5.7	5.7	5.7	6.1	5.7	5.9	5.9	5.8	5.8	6.1	6.0	6.1
27	5.9	5.7	5.7	6.0	5.8	5.9	5.9	5.8	5.8	6.1	6.0	6.0
28	5.8	5.7	5.7	5.9	5.8	5.8	5.9	5.8	5.8	6.0	6.0	6.0
29	5.7	5.7	5.7	5.9	5.8	5.8	5.9	5.8	5.9	6.2	6.1	6.1
30	---	---	---	5.9	5.8	5.9	5.9	5.8	5.8	6.1	6.1	6.1
31	---	---	---	5.9	5.8	5.9	---	---	---	6.1	6.0	6.1
MONTH	6.3	5.7	5.8	6.4	5.6	5.9	6.2	5.8	5.9	6.2	5.8	6.0

## POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.1	6.1	6.1	6.5	6.2	6.5	---	---	---	6.3	6.3	6.3
2	6.1	6.1	6.1	6.4	6.3	6.3	---	---	---	6.5	6.3	6.4
3	6.1	6.1	6.1	6.3	6.2	6.3	---	---	---	6.6	6.5	6.5
4	6.1	6.1	6.1	6.2	6.2	6.2	---	---	---	6.6	6.3	6.4
5	6.1	6.1	6.1	6.3	6.2	6.2	---	---	---	6.3	6.3	6.3
6	6.1	6.1	6.1	6.3	6.1	6.2	---	---	---	6.3	6.3	6.3
7	6.1	6.1	6.1	6.3	6.2	6.2	---	---	---	6.3	6.3	6.3
8	6.1	6.1	6.1	6.2	6.2	6.2	6.3	6.3	6.3	6.3	6.3	6.3
9	6.1	6.1	6.1	6.2	6.2	6.2	6.3	6.3	6.3	6.4	6.3	6.3
10	6.1	6.1	6.1	6.4	6.2	6.3	6.3	6.2	6.2	6.4	6.3	6.3
11	6.1	6.1	6.1	---	---	---	6.4	6.2	6.3	6.4	6.3	6.3
12	6.1	6.1	6.1	---	---	---	6.6	6.3	6.5	6.4	6.3	6.3
13	6.1	6.1	6.1	---	---	---	---	---	---	6.4	6.2	6.3
14	6.1	6.1	6.1	6.1	6.0	6.0	---	---	---	6.3	6.1	6.2
15	6.2	6.1	6.1	6.1	6.0	6.0	---	---	---	6.4	6.3	6.4
16	6.2	6.1	6.2	6.1	6.0	6.1	---	---	---	6.4	6.4	6.4
17	6.2	6.1	6.1	6.2	6.1	6.1	6.3	6.2	6.3	6.4	6.4	6.4
18	6.2	6.1	6.1	6.2	6.2	6.2	6.3	6.2	6.2	6.4	6.4	6.4
19	6.4	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.4	6.4	6.4
20	6.2	6.1	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.4	6.3	6.4
21	6.2	6.1	6.2	6.3	6.2	6.2	6.2	6.2	6.2	6.4	6.3	6.3
22	6.1	6.1	6.1	6.3	6.2	6.2	6.3	6.2	6.2	6.3	6.3	6.3
23	6.1	6.1	6.1	6.3	6.2	6.2	6.3	6.2	6.2	6.3	6.3	6.3
24	6.2	6.0	6.1	6.3	6.2	6.3	6.2	6.1	6.2	6.3	6.3	6.3
25	6.2	6.1	6.1	6.3	6.2	6.3	6.2	6.2	6.2	6.3	6.2	6.3
26	6.2	6.2	6.2	6.3	6.3	6.3	6.2	6.2	6.2	6.3	6.3	6.3
27	6.2	6.2	6.2	6.3	6.2	6.3	6.3	6.2	6.2	6.4	6.3	6.3
28	6.2	6.2	6.2	6.3	6.3	6.3	6.3	6.2	6.3	6.4	6.3	6.3
29	6.5	6.0	6.2	6.4	6.3	6.3	6.3	6.3	6.3	6.4	6.4	6.4
30	6.5	6.3	6.4	6.3	6.3	6.3	6.5	6.3	6.3	6.4	6.3	6.3
31	---	---	---	6.4	6.3	6.3	6.3	6.3	6.3	---	---	---
MONTH	6.5	6.0	6.1	6.5	6.0	6.2	6.6	6.1	6.3	6.6	6.1	6.3

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.0	15.0	15.0	12.0	10.5	11.0	7.0	7.0	7.0	3.5	2.5	3.0
2	16.5	15.0	15.5	12.0	10.5	11.0	7.0	7.0	7.0	3.5	3.0	3.5
3	17.0	14.5	15.5	11.5	10.5	11.0	7.0	7.0	7.0	3.5	3.0	3.0
4	17.0	14.5	15.5	10.5	9.5	10.0	7.0	7.0	7.0	3.5	3.0	3.0
5	16.5	15.0	15.5	9.5	9.0	9.5	7.0	7.0	7.0	3.0	3.0	3.0
6	16.5	14.5	15.5	9.5	9.0	9.0	7.0	6.5	7.0	3.5	3.0	3.0
7	16.5	14.5	15.0	9.5	9.0	9.0	6.5	6.5	6.5	3.5	3.0	3.5
8	16.5	14.0	15.0	9.5	8.5	9.0	6.5	6.0	6.5	3.5	3.0	3.0
9	16.5	14.5	15.0	10.0	8.5	9.0	6.5	6.0	6.0	3.5	3.0	3.0
10	15.0	14.5	14.5	9.0	8.5	9.0	6.5	6.0	6.0	3.5	3.0	3.5
11	14.5	14.0	14.5	9.0	8.5	8.5	6.5	6.0	6.0	3.0	2.5	3.0
12	15.5	14.0	14.5	8.5	8.0	8.0	6.5	6.0	6.5	3.0	2.0	2.5
13	15.5	15.5	15.0	8.5	7.5	8.0	6.0	6.0	6.0	3.0	2.5	3.0
14	15.0	14.0	14.5	8.5	7.5	8.0	6.5	6.0	6.0	3.0	2.5	3.0
15	15.5	13.5	14.0	7.5	7.0	7.5	---	---	---	3.0	2.5	3.0
16	15.5	13.0	14.0	8.0	7.5	7.5	6.0	6.0	6.0	3.0	2.5	2.5
17	15.0	13.5	14.0	8.0	7.5	7.5	6.0	6.0	6.0	3.0	2.5	2.5
18	15.0	13.5	14.0	8.5	7.5	7.5	6.0	5.5	6.0	2.5	2.5	2.5
19	14.0	13.5	13.5	8.5	7.5	8.0	6.0	5.5	5.5	3.0	2.0	2.5
20	13.5	13.0	13.0	8.0	7.5	7.5	5.5	5.5	5.5	2.5	2.0	2.0
21	13.0	12.5	12.5	8.5	7.5	8.0	5.5	5.5	5.5	3.0	2.0	2.5
22	12.5	12.5	12.5	8.5	7.5	8.0	5.5	5.0	5.5	3.5	2.5	2.5
23	12.5	12.0	12.0	8.0	7.5	7.5	5.0	5.0	5.0	3.5	2.5	3.0
24	12.5	12.0	12.0	8.0	7.5	8.0	5.0	4.0	4.5	3.5	3.0	3.0
25	12.0	12.0	12.0	8.0	7.5	7.5	4.0	3.5	4.0	4.0	3.0	3.5
26	12.5	11.5	12.0	8.0	7.5	8.0	4.0	3.5	4.0	4.0	3.0	3.5
27	12.0	11.5	11.5	8.0	7.5	7.5	4.0	3.5	4.0	4.0	3.0	3.5
28	13.0	11.0	12.0	8.0	7.5	8.0	4.0	4.0	4.0	3.5	3.0	3.0
29	12.5	11.0	11.5	8.0	7.5	7.5	4.0	3.5	3.5	3.0	3.0	3.0
30	12.0	10.5	11.0	7.5	7.0	7.5	3.5	3.0	3.0	3.0	2.5	3.0
31	12.0	10.5	11.0	---	---	---	3.5	2.5	3.0	3.0	2.5	2.5
MONTH	17.0	10.5	13.5	12.0	7.0	8.5	7.0	2.5	5.5	4.0	2.0	3.0

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.5	2.0	2.5	3.5	3.0	3.5	5.0	4.5	4.5	11.5	7.5	9.5
2	3.0	2.0	2.5	3.5	3.0	3.5	5.5	4.5	5.0	---	---	---
3	3.0	2.5	3.0	3.5	3.0	3.0	5.5	4.5	5.0	---	---	---
4	4.0	3.0	3.5	3.5	3.0	3.0	4.5	4.5	4.5	11.0	10.0	10.5
5	4.0	3.0	3.5	3.5	3.5	3.5	5.0	4.5	4.5	11.0	10.0	10.5
6	3.5	2.5	3.0	3.5	3.0	3.0	5.0	4.5	4.5	10.5	10.0	10.0
7	3.0	2.5	2.5	3.5	3.0	3.0	5.0	4.5	5.0	10.5	9.5	10.0
8	3.5	2.5	2.5	3.0	3.0	3.0	5.5	5.0	5.0	10.0	8.5	9.5
9	4.0	2.5	3.0	3.5	2.5	3.0	5.5	5.0	5.5	9.0	8.5	8.5
10	4.0	2.5	3.0	3.5	2.5	3.0	6.5	5.0	5.5	10.0	8.5	9.0
11	3.5	3.0	3.0	3.5	3.0	3.0	7.0	6.0	6.5	11.0	9.0	10.0
12	4.0	3.0	3.5	3.5	2.5	3.0	6.5	5.5	6.0	11.0	10.0	10.5
13	3.0	3.0	3.0	3.5	3.0	3.0	6.0	5.5	5.5	11.0	10.0	10.5
14	3.0	3.0	3.0	3.5	3.0	3.0	5.5	5.5	5.5	10.5	10.5	10.5
15	3.5	2.5	3.0	4.5	3.0	3.5	6.0	5.5	5.5	11.5	10.5	11.0
16	3.5	2.5	3.0	4.0	3.0	3.5	---	---	---	13.0	11.0	12.0
17	3.5	3.0	3.5	4.5	3.0	3.5	---	---	---	13.0	12.0	12.5
18	4.0	3.5	4.0	4.0	3.0	3.5	8.0	6.5	7.0	12.5	10.5	11.5
19	3.5	3.5	3.5	4.5	3.5	3.5	8.0	6.0	7.0	12.0	10.5	11.0
20	4.0	3.5	4.0	5.0	3.5	4.0	7.5	6.5	7.0	12.0	10.5	11.0
21	4.0	3.5	4.0	4.0	3.5	3.5	8.0	7.0	7.5	13.0	11.0	11.5
22	4.5	3.5	4.0	3.5	3.5	3.5	7.5	6.5	7.0	13.0	12.0	12.5
23	4.0	3.5	4.0	4.0	3.5	4.0	6.5	6.0	6.0	12.5	11.5	12.0
24	4.5	4.0	4.0	4.5	3.5	4.0	6.5	6.0	6.5	13.5	11.0	12.0
25	4.5	4.0	4.0	4.0	3.5	4.0	8.0	6.5	7.5	13.5	11.5	12.0
26	4.5	4.0	4.0	4.0	3.5	3.5	9.0	7.5	8.0	13.5	11.5	12.5
27	4.0	3.5	4.0	4.0	3.5	3.5	9.0	8.5	8.5	13.5	12.0	12.5
28	4.0	3.5	4.0	4.0	3.5	3.5	9.5	8.5	9.0	13.0	12.0	12.5
29	4.0	3.5	3.5	4.5	3.5	4.0	9.0	7.0	7.5	13.5	12.5	12.5
30	---	---	---	4.5	4.0	4.5	8.5	7.0	7.5	13.0	12.0	12.5
31	---	---	---	4.5	4.5	4.5	---	---	---	13.0	12.0	12.0
MONTH	4.5	2.0	3.5	5.0	2.5	3.5	9.5	4.5	6.0	13.5	7.5	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	14.0	12.0	12.5	16.5	15.0	16.0	---	---	---	17.0	15.5	16.0
2	14.5	12.0	13.0	17.5	15.0	16.0	---	---	---	18.5	15.5	16.5
3	14.5	12.5	13.0	17.5	15.0	16.0	---	---	---	17.5	16.0	16.5
4	14.5	12.0	13.0	17.5	15.0	16.0	---	---	---	17.0	16.0	16.5
5	14.5	12.0	13.0	17.5	15.5	16.0	---	---	---	17.5	16.5	16.5
6	15.0	12.5	13.5	18.0	15.5	16.0	---	---	---	17.5	16.0	16.5
7	15.5	13.0	14.0	17.5	15.0	16.0	---	---	---	17.5	16.0	16.5
8	15.0	13.0	14.0	17.5	14.5	15.5	18.5	17.0	17.5	17.5	16.0	16.5
9	16.0	13.0	14.5	17.5	14.5	15.5	18.0	16.5	17.0	17.5	16.0	16.5
10	16.0	13.5	14.5	17.0	15.0	16.0	18.0	16.5	16.5	17.5	16.0	16.5
11	15.5	13.5	14.5	---	---	---	16.5	16.0	16.5	17.5	16.0	16.5
12	15.5	13.5	14.5	---	---	---	16.5	16.0	16.5	17.5	16.0	16.5
13	16.0	13.5	14.5	---	---	---	---	---	---	18.0	16.0	17.0
14	16.0	14.0	14.5	16.0	14.5	15.0	---	---	---	17.5	16.5	17.0
15	16.5	13.5	15.0	16.0	15.0	15.0	---	---	---	17.0	16.0	16.5
16	15.5	13.5	14.0	16.5	15.0	15.5	---	---	---	17.0	16.0	16.5
17	15.5	13.5	14.5	16.5	15.0	15.5	16.0	15.0	15.0	17.0	15.5	16.0
18	16.5	14.0	15.0	16.5	15.0	15.5	16.0	15.0	15.5	17.0	15.5	16.0
19	17.0	14.0	15.5	16.5	15.0	15.5	16.0	15.0	15.5	17.0	15.5	16.0
20	15.5	14.0	14.5	17.0	15.0	16.0	16.0	15.0	15.5	17.5	16.0	16.5
21	16.0	13.5	14.5	17.0	15.5	16.0	16.5	15.0	15.5	17.5	16.0	16.5
22	17.0	13.5	15.0	16.5	15.5	16.0	16.5	15.0	15.5	17.5	16.0	16.5
23	16.5	15.0	15.5	16.5	15.5	16.0	16.5	15.5	16.0	17.5	16.0	16.5
24	17.0	15.5	15.5	17.5	15.5	16.0	16.5	15.5	16.0	16.5	16.0	16.5
25	17.0	15.0	15.5	17.0	15.5	16.5	16.5	15.0	15.5	16.0	15.0	15.5
26	17.5	14.5	15.5	17.0	15.5	16.0	16.5	15.0	15.5	15.5	14.5	15.0
27	17.5	14.5	15.5	16.5	15.5	16.0	16.5	15.5	16.0	15.0	14.5	14.5
28	17.5	15.0	16.0	17.0	15.5	16.0	17.0	15.5	16.0	14.5	14.5	14.5
29	17.5	15.0	16.0	16.5	15.5	15.5	17.0	16.0	16.5	15.5	14.5	14.5
30	16.5	15.5	15.5	17.0	15.0	16.0	18.0	16.0	16.5	15.0	14.5	14.5
31	---	---	---	17.5	15.5	16.0	17.0	16.0	16.5	---	---	---
MONTH	17.5	12.0	14.5	18.0	14.5	16.0	18.5	15.0	16.0	18.5	14.5	16.0



01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	10.0	9.8	9.9	10.1	10.0	10.1	11.2	11.1	11.1	13.0	12.6	12.8
2	9.9	9.8	9.9	10.1	9.8	10.0	11.4	10.9	11.2	12.8	12.3	12.5
3	9.9	9.6	9.8	10.1	9.9	10.0	11.2	10.7	11.0	12.6	12.2	12.3
4	9.9	9.3	9.6	10.3	10.1	10.3	11.0	10.6	10.8	12.3	12.1	12.2
5	9.5	9.3	9.4	10.5	10.3	10.5	10.9	10.4	10.7	12.2	11.9	12.1
6	9.8	9.4	9.6	10.7	10.5	10.6	10.7	10.4	10.6	11.9	11.2	11.6
7	9.7	9.4	9.6	11.0	10.8	10.9	10.9	10.7	10.8	---	---	---
8	9.9	9.5	9.7	11.1	10.7	10.9	11.1	11.0	11.0	---	---	---
9	9.9	9.5	9.7	10.9	10.7	10.8	11.3	11.2	11.3	---	---	---
10	9.9	9.6	9.7	10.9	10.6	10.7	11.6	11.3	11.6	---	---	---
11	9.9	9.7	9.8	10.8	10.6	10.7	11.8	11.6	11.7	---	---	---
12	9.8	9.5	9.7	10.9	10.8	10.8	11.9	11.7	11.8	---	---	---
13	9.8	9.5	9.6	11.0	10.9	10.9	12.3	11.9	12.0	---	---	---
14	10.3	9.8	10.0	11.1	11.0	11.0	12.2	12.1	12.2	---	---	---
15	10.1	9.9	10.1	11.2	11.0	11.1	---	---	---	---	---	---
16	10.2	10.0	10.1	11.2	10.9	11.1	---	---	---	---	---	---
17	10.2	9.8	10.0	11.3	11.2	11.2	---	---	---	---	---	---
18	9.9	9.7	9.8	11.3	11.2	11.3	---	---	---	---	---	---
19	10.1	9.8	10.0	11.4	11.2	11.3	---	---	---	---	---	---
20	10.0	9.8	9.9	11.4	11.2	11.3	---	---	---	---	---	---
21	9.8	9.6	9.7	11.6	11.4	11.5	12.8	12.1	12.4	---	---	---
22	9.7	9.6	9.6	11.8	11.6	11.7	12.3	12.1	12.2	---	---	---
23	9.6	9.5	9.6	11.9	11.7	11.8	12.6	12.3	12.5	---	---	---
24	9.6	9.5	9.6	11.7	11.5	11.6	12.6	12.6	12.6	---	---	---
25	9.7	9.6	9.7	11.6	11.4	11.5	12.8	12.6	12.8	---	---	---
26	9.7	9.6	9.7	11.5	11.3	11.4	13.0	12.8	12.9	---	---	---
27	9.8	9.7	9.8	11.4	11.0	11.2	13.1	13.0	13.0	---	---	---
28	9.8	9.7	9.8	11.1	10.8	11.0	13.1	12.8	12.9	---	---	---
29	10.0	9.7	9.9	10.9	10.8	10.8	13.1	12.9	13.0	---	---	---
30	10.1	9.9	10.1	11.0	10.8	10.9	13.1	13.0	13.1	---	---	---
31	10.1	10.0	10.1	---	---	---	13.2	12.8	13.0	---	---	---
MONTH	10.3	9.3	9.8	11.9	9.8	11.0	13.2	10.4	11.9	13.0	11.2	12.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	11.6	11.4	11.5	11.9	11.5	11.7	10.6	9.8	10.2
2	---	---	---	11.8	11.6	11.7	11.7	11.4	11.5	---	---	---
3	---	---	---	12.0	11.9	12.0	11.6	10.5	11.2	---	---	---
4	---	---	---	12.2	12.0	12.1	11.1	10.4	10.7	11.0	10.7	10.9
5	---	---	---	12.2	12.1	12.1	11.6	10.5	11.0	11.3	11.0	11.1
6	---	---	---	12.3	12.2	12.2	11.3	10.9	11.0	11.4	10.9	11.2
7	---	---	---	12.5	12.4	12.4	11.6	10.7	11.2	11.2	10.8	11.0
8	---	---	---	12.7	12.2	12.4	11.0	10.5	10.9	11.1	10.4	10.7
9	---	---	---	12.6	12.5	12.6	11.0	10.6	10.7	11.2	10.7	10.9
10	---	---	---	12.8	12.6	12.8	11.4	10.5	10.9	11.1	10.4	10.7
11	---	---	---	12.9	12.8	12.8	10.8	10.6	10.6	10.7	10.1	10.4
12	---	---	---	13.2	13.0	13.1	10.9	10.7	10.8	10.5	10.1	10.3
13	---	---	---	13.4	13.0	13.1	11.0	10.8	10.9	10.5	10.1	10.3
14	---	---	---	13.4	13.2	13.2	11.1	10.9	11.0	10.5	10.3	10.4
15	---	---	---	13.4	13.1	13.2	11.4	11.1	11.2	10.6	10.3	10.5
16	---	---	---	13.2	13.0	13.1	11.7	11.4	11.6	10.7	10.4	10.5
17	---	---	---	13.2	12.7	13.0	11.7	10.6	11.2	10.7	10.5	10.6
18	---	---	---	12.9	12.5	12.7	10.8	10.3	10.6	10.9	10.5	10.8
19	---	---	---	12.7	12.2	12.4	10.6	10.4	10.6	11.1	10.7	10.9
20	---	---	---	12.3	11.8	12.1	10.8	10.5	10.6	11.3	10.9	11.1
21	---	---	---	12.0	11.3	11.7	10.7	10.4	10.6	11.5	10.9	11.2
22	---	---	---	11.4	11.1	11.2	10.7	10.5	10.5	11.4	11.0	11.2
23	---	---	---	11.2	11.1	11.2	11.3	10.7	11.0	11.4	10.9	11.1
24	11.2	10.7	11.0	11.4	11.3	11.3	11.0	10.8	10.9	11.3	10.5	10.9
25	10.9	10.8	10.9	12.1	11.3	11.5	11.0	10.3	10.6	10.9	10.0	10.4
26	11.1	11.1	11.1	12.7	11.2	11.9	10.5	10.1	10.3	10.3	9.6	9.9
27	11.3	10.9	11.2	11.9	11.2	11.6	10.3	10.1	10.2	10.0	9.4	9.7
28	11.2	10.9	11.0	12.4	11.8	12.1	10.3	10.1	10.2	9.8	9.2	9.5
29	11.3	11.1	11.2	12.5	11.8	12.2	10.8	10.1	10.6	9.8	9.3	9.5
30	---	---	---	12.0	11.9	11.9	10.8	10.4	10.6	9.7	9.4	9.5
31	---	---	---	12.1	11.7	12.0	---	---	---	9.8	9.3	9.6
MONTH	11.3	10.7	11.1	13.4	11.1	12.2	11.9	10.1	10.9	11.5	9.2	10.5

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.6	9.0	9.2	9.1	8.6	8.9	---	---	---	9.4	9.3	9.3
2	9.4	9.0	9.2	9.2	8.7	9.0	---	---	---	9.4	8.8	9.2
3	9.4	9.0	9.2	9.2	8.7	9.0	---	---	---	9.2	8.9	9.1
4	9.5	9.2	9.4	9.2	8.8	9.0	---	---	---	9.4	8.7	9.1
5	9.7	9.4	9.5	9.1	8.7	9.0	---	---	---	8.9	8.6	8.7
6	9.8	9.4	9.6	9.1	8.7	9.0	---	---	---	8.8	8.6	8.7
7	9.9	9.6	9.7	9.3	8.8	9.0	---	---	---	8.9	8.7	8.8
8	10.0	9.7	9.8	9.4	8.9	9.2	9.1	8.8	9.0	9.0	8.7	8.8
9	10.0	9.7	9.8	9.4	8.9	9.2	9.1	8.8	9.0	9.0	8.6	8.8
10	10.0	9.7	9.8	9.3	8.9	9.1	9.1	8.8	8.9	9.0	8.7	8.9
11	10.0	9.6	9.8	---	---	---	8.9	8.8	8.9	8.9	8.7	8.8
12	9.9	9.5	9.7	---	---	---	8.8	8.7	8.7	9.0	8.8	8.9
13	9.9	9.4	9.6	---	---	---	---	---	---	9.2	8.8	9.1
14	9.7	9.1	9.5	9.7	9.4	9.5	---	---	---	9.3	8.8	9.1
15	9.5	9.1	9.3	9.6	9.3	9.4	---	---	---	9.1	8.9	9.0
16	9.6	9.3	9.5	9.4	9.0	9.2	---	---	---	9.3	9.1	9.2
17	9.5	9.1	9.3	9.3	9.0	9.2	11.9	11.4	11.6	9.4	9.1	9.3
18	9.4	8.9	9.1	9.3	9.0	9.1	11.3	11.0	11.2	9.4	9.2	9.3
19	9.4	8.9	9.2	9.4	9.1	9.3	10.9	10.6	10.8	9.5	9.1	9.3
20	9.5	9.2	9.4	9.3	9.0	9.2	10.7	10.4	10.6	9.4	8.8	9.1
21	9.5	9.2	9.4	9.1	8.9	9.1	10.4	10.2	10.3	9.0	8.6	8.8
22	9.7	8.9	9.3	9.2	8.9	9.1	10.2	9.6	9.8	8.9	8.6	8.8
23	9.3	9.0	9.1	9.2	8.9	9.1	9.6	9.1	9.4	8.9	8.5	8.7
24	9.3	8.9	9.1	9.1	8.8	9.0	9.7	9.1	9.5	8.7	8.6	8.7
25	9.3	8.9	9.1	9.0	8.3	8.7	9.5	9.2	9.4	8.8	8.7	8.7
26	9.4	8.7	9.1	8.7	8.3	8.5	9.6	9.3	9.4	9.0	8.8	8.9
27	9.3	8.6	9.0	8.6	8.4	8.5	9.5	9.2	9.4	9.0	8.8	8.9
28	9.0	8.6	8.9	8.9	8.5	8.7	9.4	9.0	9.3	8.8	8.7	8.8
29	9.1	8.6	8.8	8.9	8.7	8.8	9.3	9.1	9.2	8.7	8.6	8.7
30	9.0	8.8	8.9	8.9	8.6	8.8	9.3	8.8	9.1	8.7	8.6	8.6
31	---	---	---	8.9	8.7	8.8	9.3	9.1	9.2	---	---	---
MONTH	10.0	8.6	9.3	9.7	8.3	9.0	11.9	8.7	9.6	9.5	8.5	8.9

## POTOMAC RIVER BASIN

01596500 SAVAGE RIVER NEAR BARTON, MD

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, Hydrologic Unit 02070002, on right bank 0.9 mi upstream from Bear Pen Run, 1.5 mi downstream from Poplar Lick Run, 5.4 mi northwest of Barton, and 10 mi upstream from mouth.

DRAINAGE AREA.--49.1 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1603.88 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for December and January, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 75.3 ft<sup>3</sup>/s, 20.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft<sup>3</sup>/s Oct. 15, 1954, gage height, 8.45 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 0.40 ft<sup>3</sup>/s Sept. 3, 4, 1966, gage height, 0.96 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1900	1540	4.23	Apr. 5	0315	*1930	4.64

Minimum discharge, 3.5 ft<sup>3</sup>/s Sept. 25, 26, 27, gage height, 1.13 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	11	139	34	28	67	195	136	52	237	7.9	8.5
2	7.5	10	101	31	26	67	193	98	45	90	8.1	8.2
3	5.3	13	86	29	30	77	242	97	37	65	15	7.9
4	4.4	17	157	28	40	88	391	149	31	45	11	10
5	4.8	15	321	27	55	66	1120	142	25	40	12	9.8
6	4.6	18	360	24	45	73	427	134	22	55	10	8.4
7	3.9	26	459	23	37	71	335	156	19	62	8.9	7.8
8	3.8	24	305	22	34	65	212	203	17	44	8.5	7.5
9	3.7	21	191	21	32	66	152	194	16	33	8.9	7.2
10	3.5	43	143	20	34	80	125	150	14	50	10	7.0
11	3.6	108	119	18	40	80	104	118	13	48	25	6.9
12	13	99	314	17	150	80	90	133	12	43	154	6.9
13	17	71	408	17	322	80	79	126	11	31	169	6.7
14	34	54	313	17	1250	72	74	118	13	24	206	6.5
15	13	50	210	17	716	38	133	99	12	20	141	11
16	9.7	71	146	17	354	101	270	81	10	17	86	9.8
17	8.0	94	111	16	265	224	260	68	10	15	58	7.8
18	7.3	83	86	16	197	233	180	58	11	15	43	7.3
19	7.2	118	71	16	162	212	135	52	14	13	32	7.0
20	7.9	157	61	15	170	273	108	49	10	11	24	6.8
21	31	159	74	15	145	416	90	43	8.9	14	17	6.5
22	20	119	91	15	117	370	107	37	8.2	13	14	6.3
23	110	92	78	15	100	306	302	34	7.9	12	25	6.2
24	81	76	65	15	157	220	359	31	16	10	17	5.9
25	45	104	45	40	157	181	306	26	17	9.3	13	5.9
26	33	94	50	80	137	213	188	24	11	8.8	11	5.6
27	25	93	55	60	116	292	133	21	8.8	9.6	9.7	5.7
28	19	200	65	50	105	367	110	23	9.0	9.2	9.1	7.6
29	16	327	50	40	86	470	245	81	8.4	8.5	9.2	8.0
30	13	214	45	35	---	329	194	69	13	8.1	8.9	6.9
31	12	---	37	30	---	263	---	59	---	7.9	9.1	---
TOTAL	576.3	2581	4756	820	5107	5540	6859	2809	502.2	1068.4	1181.3	223.6
MEAN	18.6	86.0	153	26.5	176	179	229	90.6	16.7	34.5	38.1	7.45
MAX	110	327	459	80	1250	470	1120	203	52	237	206	11
MIN	3.5	10	37	15	26	38	74	21	7.9	7.9	7.9	5.6
CFSM	.38	1.75	3.12	.54	3.59	3.65	4.66	1.85	.34	.70	.78	.15
IN.	.44	1.96	3.60	.62	3.87	4.20	5.20	2.13	.38	.81	.89	.17

CAL YR 1983	TOTAL	30184.7	MEAN 82.7	MAX 782	MIN 2.0	CFSM 1.68	IN 22.87
WTR YR 1984	TOTAL	32023.8	MEAN 87.5	MAX 1250	MIN 3.5	CFSM 1.78	IN 24.26

## 01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD

LOCATION.--Lat 39°30'05", long 79°07'25", Garrett County, Hydrologic Unit 02070002, on left bank 0.7 mi downstream from Savage River Dam, 1.1 mi downstream from Crabtree Creek, 3.2 mi northwest of Bloomington, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--106 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1432: 1955.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions above station by Baltimore and 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. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years, 165 ft<sup>3</sup>/s, 21.14 in/yr, adjusted for storage since December 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,530 ft<sup>3</sup>/s Oct. 16, 1954, gage height, 7.70 ft; minimum discharge, 0.35 ft<sup>3</sup>/s Oct. 27, 1966, gage height, 0.57 ft; minimum daily discharge, 0.6 ft<sup>3</sup>/s July 27-31, Aug. 5, 6, 9, 10, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,930 ft<sup>3</sup>/s Apr. 5, gage height, 6.32 ft; minimum discharge, 2.3 ft<sup>3</sup>/s Sept. 27, gage height, 0.62 ft; minimum daily discharge 42 ft<sup>3</sup>/s Oct. 15-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	80	720	43	45	263	483	553	109	114	112	112
2	46	80	491	43	52	216	226	160	99	328	98	111
3	46	64	360	43	55	113	103	121	100	212	84	110
4	46	54	238	43	54	90	302	177	98	208	106	110
5	46	54	199	43	54	90	3030	299	98	128	105	110
6	46	54	432	43	65	90	1240	352	74	108	105	110
7	46	181	791	43	72	90	944	432	59	125	105	109
8	46	181	930	43	72	90	934	530	59	125	105	108
9	46	53	652	43	72	90	423	641	59	124	105	108
10	46	54	492	43	72	90	174	570	59	232	104	108
11	46	54	406	43	73	90	99	370	59	343	104	108
12	46	54	255	43	74	88	98	313	59	204	107	108
13	125	54	657	43	87	90	98	349	59	122	108	179
14	180	54	727	43	839	90	98	290	70	122	110	241
15	42	70	438	43	1830	92	101	254	66	122	109	108
16	42	86	226	43	2020	92	287	175	59	122	108	108
17	42	90	162	43	1610	94	592	127	59	122	108	108
18	42	90	160	43	969	96	467	118	59	71	108	108
19	42	90	159	43	360	97	399	128	59	69	108	108
20	42	91	110	43	284	100	329	129	59	120	108	108
21	42	92	87	43	281	226	254	129	59	120	108	107
22	42	205	87	43	280	728	256	128	58	120	108	106
23	45	275	87	43	203	639	405	128	57	115	108	106
24	66	275	87	43	180	469	874	127	57	112	108	106
25	79	273	86	43	263	469	718	96	57	112	108	106
26	79	271	86	43	263	471	488	63	57	112	108	106
27	79	271	71	43	265	474	402	63	57	112	195	79
28	79	341	48	43	266	715	212	64	57	112	214	93
29	80	540	43	43	263	916	307	103	57	112	120	104
30	80	692	43	44	---	833	713	127	58	112	115	104
31	80	---	43	45	---	737	---	127	---	112	112	---
TOTAL	1860	4823	9373	1336	11023	8828	15056	7243	1996	4372	3511	3397
MEAN	60.0	161	302	43.1	380	285	502	234	66.5	141	113	113
MAX	180	692	930	45	2020	916	3030	641	109	343	214	241
MIN	42	53	43	43	45	88	98	63	57	69	84	79
(#)	8810	8750	7620	8650	10640	18140	19220	19680	18370	17420	16390	10680

CAL YR 1983 TOTAL 60672 MEAN 166 MAX 1880 MIN 20 CFSM 1.57 IN 21.29

WTR YR 1984 TOTAL 72818 MEAN 199 MAX 3030 MIN 42 CFSM 1.88 IN 25.55

\* Monthend contents, in acre-feet, in Savage River Reservoir (contents on Sept. 30, 1983, 10,350 acre-feet).  
Records furnished by Corps of Engineers.

## POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--Records good. Flow regulated prior to July 1981 by Stony River Reservoir, 45 mi above station (see station 01597500), since December 1950 by Savage River Reservoir, 5 mi above station (see station 01597500), and since July 1981 by Bloomington Lake, 9 mi above station (see station 01595800). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1900-05, 1950-84), 717 ft<sup>3</sup>/s, 24.10 in/yr, adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft<sup>3</sup>/s Oct. 15, 1954, gage height, 17.15 ft; minimum daily discharge, 6 ft<sup>3</sup>/s Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,000 ft<sup>3</sup>/s Apr. 5, gage height, 9.72 ft; minimum discharge, 156 ft<sup>3</sup>/s Jan. 31, gage height, 1.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	339	1820	694	413	1320	2290	1920	438	1030	409	459
2	218	338	1590	689	419	1320	1590	962	384	624	542	409
3	217	328	1430	687	428	1220	1320	878	378	459	584	248
4	216	310	1460	687	438	1170	2130	1170	366	431	412	308
5	216	312	1350	687	443	1160	7040	1250	355	362	409	467
6	215	311	1740	646	449	1110	4940	1310	338	321	401	455
7	214	729	2330	606	455	1080	5150	1470	320	338	390	451
8	213	875	2600	603	452	1000	2800	1670	322	321	383	447
9	213	310	2210	600	434	808	1610	2340	317	315	379	447
10	213	345	1950	600	472	802	1640	2050	314	443	376	443
11	216	354	1850	551	510	801	879	1580	316	529	387	443
12	236	335	1870	500	534	763	846	1430	348	588	516	443
13	339	327	2280	472	580	706	822	1450	344	616	745	584
14	673	325	2340	496	1950	651	833	1380	350	588	701	1200
15	213	356	1930	493	3270	570	1280	1250	331	572	735	500
16	210	403	1660	492	3770	576	2150	955	299	556	692	440
17	210	409	1560	491	3400	607	2030	755	299	459	696	435
18	209	425	1540	492	2610	614	1400	750	298	390	682	425
19	214	459	1450	463	1800	620	1370	762	316	365	673	420
20	227	460	1460	405	1690	625	1480	757	297	394	660	420
21	257	461	1120	404	1580	903	1330	645	295	390	655	420
22	226	627	784	404	1490	1480	1460	537	296	383	655	420
23	392	938	775	402	1430	1650	2710	536	299	379	735	420
24	332	942	765	407	1420	1690	3240	500	314	376	979	420
25	365	976	761	422	1490	1980	2550	438	299	376	638	420
26	356	952	761	426	1480	3650	1610	398	268	372	633	460
27	351	946	751	429	1420	2130	1350	395	261	379	660	440
28	346	1120	725	427	1370	4550	1180	399	260	376	638	350
29	342	1390	705	423	1310	5770	1920	463	270	372	467	380
30	341	1670	696	422	---	3550	2810	452	301	372	405	370
31	341	---	693	393	---	3300	---	465	---	376	459	---
TOTAL	8556	18072	44956	15913	37507	48176	63760	31317	9593	13852	17696	13544
MEAN	276	602	1450	513	1293	1554	2125	1010	320	447	571	451
MAX	673	1670	2600	694	3770	5770	7040	2340	438	1030	979	1200
MIN	209	310	693	393	413	570	822	395	260	315	376	248
CAL YR 1983	TOTAL	266618	MEAN 730	MAX	7130	MIN 209	CFSM 1.81	IN 24.55				
WTR YR 1984	TOTAL	322942	MEAN 882	MAX	7040	MIN 209	CFSM 2.18	IN 29.74				

## 01599000 GEORGES CREEK AT FRANKLIN, MD

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, Hydrologic Unit 02070002, on right bank at Franklin, and 1.2 mi upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1940.

GAGE.--Water-stage recorder. Datum of gage is 958.96 ft Westvaco Corporation datum. May 4, 1905, to July 15, 1906, nonrecording gage at bridge 0.8 mi downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, water-stage recorder at site 95 ft downstream at present datum.

REMARKS.--Records fair. Records include about 0.5 ft<sup>3</sup>/s of sewage from city of Frostburg, which obtains its water supply from Big Piney Run (Monongahela River basin) and Savage River. A negligible discharge is 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 (see station 01601500). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years (water years 1930-84), 82.0 ft<sup>3</sup>/s, 15.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft<sup>3</sup>/s Mar. 17, 1936, gage height, 9.6 ft, site then in use, from rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.6 ft<sup>3</sup>/s Sept. 29 to Oct. 13, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 10 ft, from floodmarks, at site 95 ft downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	0915	2220	8.20	Apr. 5	0145	*3900	9.40
Mar. 28	1930	1780	7.79	July 1	0415	3220	8.96

Minimum discharge, 7.5 ft<sup>3</sup>/s Oct. 9, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	16	125	45	38	92	349	235	90	826	13	19
2	11	15	106	43	38	89	342	200	80	123	13	18
3	9.3	21	94	41	39	86	327	192	65	77	24	17
4	8.4	24	247	41	55	81	554	332	55	51	19	17
5	8.4	21	281	43	72	79	2210	291	48	44	19	18
6	8.6	21	456	44	62	97	882	260	42	80	15	19
7	8.0	22	528	43	51	92	595	299	36	85	13	17
8	7.8	20	304	37	45	87	431	400	32	65	12	15
9	7.6	18	217	35	44	84	333	360	28	50	15	14
10	7.8	68	174	33	45	85	271	300	26	70	24	12
11	8.3	138	149	34	53	87	228	240	22	60	80	12
12	27	90	533	30	97	82	192	300	20	50	419	11
13	21	58	497	29	162	79	167	260	18	40	356	11
14	31	48	342	28	1630	77	156	240	20	32	347	11
15	14	49	256	27	1020	80	274	220	22	28	280	11
16	11	75	196	26	515	164	291	180	21	24	164	16
17	9.7	96	154	27	338	216	276	150	21	22	116	15
18	9.3	69	129	25	254	221	240	130	21	26	84	12
19	11	75	112	26	213	213	207	110	20	24	70	11
20	16	78	94	24	221	220	178	100	19	20	59	10
21	56	100	79	23	168	510	158	90	24	22	48	9.8
22	28	76	81	22	144	522	183	80	20	22	42	9.2
23	233	64	75	22	137	345	534	75	17	21	41	8.9
24	102	60	66	22	222	258	530	70	30	19	44	8.7
25	53	115	47	75	170	235	426	55	29	17	39	8.4
26	41	89	57	87	145	320	334	48	21	15	34	8.3
27	32	74	74	81	127	335	271	46	18	16	29	8.0
28	25	220	60	71	128	752	226	50	18	15	24	8.6
29	21	248	76	54	114	784	367	200	22	13	23	11
30	18	161	60	48	---	486	283	140	39	13	21	11
31	17	---	52	43	---	381	---	110	---	12	20	---
TOTAL	880.2	2229	5721	1229	6347	7239	11815	5763	944	1982	2507	377.9
MEAN	28.4	74.3	185	39.6	219	234	394	186	31.5	63.9	80.9	12.6
MAX	233	248	533	87	1630	784	2210	400	90	826	419	19
MIN	7.6	15	47	22	38	77	156	46	17	12	12	8.0
CFSM	.39	1.03	2.56	.55	3.03	3.23	5.44	2.57	.44	.88	1.12	.17
IN.	.45	1.15	2.94	.63	3.26	3.72	6.07	2.96	.49	1.02	1.29	.19

CAL YR 1983	TOTAL	33659.5	MEAN	92.2	MAX	1320	MIN	7.0	CFSM	1.27	IN	17.29
WTR YR 1984	TOTAL	47034.1	MEAN	129	MAX	2210	MIN	7.6	CFSM	1.78	IN	24.17

## 01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 mi downstream from Mill Run, and at mile 32.6.

DRAINAGE AREA.--596 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1332: 1943.

GAGE.--Water-stage recorder. Datum of gage is 648.23 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1938, nonrecording gage at highway bridge 250 ft downstream at same datum.

REMARKS.--Water-discharge records good. Some regulation at low flow by Stony River Reservoir, 66 mi above station (see station 01595200) prior to July 1981. Low-flow regulation since December 1950 by Savage River Reservoir, 25 mi above station (see station 01597500). Flow regulated by Bloomington Lake, 29 mi above station (see station 01595800) since July 1981. Gage-height telemeter at station.

AVERAGE DISCHARGE.--46 years, 897 ft<sup>3</sup>/s, 20.44 in/yr, adjusted for storage since October 1981.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft<sup>3</sup>/s Oct. 16, 1954, gage height, 23.23 ft; minimum discharge, 31 ft<sup>3</sup>/s Dec. 18, 19, 1943, gage height, 1.37 ft, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 24 ft, discharge, about 55,000 ft<sup>3</sup>/s. Flood of Mar. 17, 1936, reached a stage of about 23.5 ft, from floodmarks, discharge, about 50,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,600 ft<sup>3</sup>/s Apr. 5, gage height, 13.74 ft; minimum discharge, 230 ft<sup>3</sup>/s Oct. 8, 10, gage height 2.28 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292	377	2210	818	497	1640	3400	2680	557	1980	454	530
2	256	374	2020	814	511	1650	2600	1540	476	999	619	528
3	239	388	1740	809	532	1520	2180	1290	458	688	769	323
4	237	357	2190	807	599	1440	2770	1880	444	586	550	297
5	236	357	2110	825	670	1450	10100	1810	419	532	492	514
6	237	356	2620	826	639	1460	6130	1910	410	433	474	522
7	234	527	3490	762	605	1380	6210	2240	373	489	464	514
8	233	1180	3240	725	576	1360	3520	2570	367	420	431	501
9	234	428	2790	710	557	1090	2420	2910	361	394	459	494
10	233	420	2360	706	567	1040	2270	2750	355	509	443	493
11	236	766	2250	684	644	1060	1390	2210	352	744	642	495
12	288	586	2930	557	730	1010	1300	1990	346	716	1250	488
13	288	478	3360	559	878	972	1220	1950	351	739	1210	491
14	822	440	3170	544	4390	902	1210	1840	345	721	1420	1460
15	346	464	2580	559	5560	939	1740	1680	356	708	1240	561
16	243	591	2180	549	4710	1110	2570	1400	303	683	1040	502
17	238	681	1970	554	4070	1390	2730	1060	306	573	969	491
18	236	601	1900	549	3300	1310	2110	1020	310	517	913	487
19	252	644	1780	542	2370	1220	1790	1020	344	423	881	486
20	254	648	1770	410	2240	1190	2010	1000	315	472	849	484
21	413	682	1540	400	2080	1880	1740	933	306	482	824	481
22	324	682	1050	404	1900	2620	1930	719	299	474	810	480
23	869	1120	1000	445	1830	2560	3960	702	303	464	847	479
24	726	1160	964	440	2060	2310	4160	673	327	458	1210	477
25	536	1370	850	519	2070	2430	3550	589	345	449	809	483
26	475	1290	850	618	1970	4660	2360	517	296	442	775	525
27	439	1230	870	638	1860	2980	1960	500	274	459	751	510
28	412	1550	908	646	1830	5650	1750	525	274	447	871	413
29	395	2000	893	601	1710	8620	2360	683	272	440	559	434
30	389	2110	836	574	---	4840	3210	609	392	439	519	426
31	382	---	807	544	---	4220	---	568	---	436	500	---
TOTAL	10994	23857	59228	19138	51955	67903	86650	43768	10636	18316	24044	15369
MEAN	355	795	1911	617	1792	2190	2888	1412	355	591	776	512
MAX	869	2110	3490	826	5560	8620	10100	2910	557	1980	1420	1460
MIN	233	356	807	400	497	902	1210	500	272	394	431	297
CAL YR 1983	TOTAL	349502	MEAN	958	MAX	9590	MIN	233	CFSM	1.61	IN	21.81
WTR YR 1984	TOTAL	431858	MEAN	1180	MAX	10100	MIN	233	CFSM	1.98	IN	26.95

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1976 to current year.

## PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

pH: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

DISSOLVED OXYGEN: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1982-84): Maximum, 1,240 micromhos Oct. 20, 1982; minimum, 160 micromhos July 5, 1982.

pH (water years 1982-84): Maximum, 8.6 units June 27, 1982; minimum, 6.4 units Oct. 30, 31, 1982.

WATER TEMPERATURES (water years 1982-84): Maximum, 28.5°C Aug. 20, 21, 1983; minimum, 0.5°C on many days during winter periods.

DISSOLVED OXYGEN (water year 1983): Maximum, 14.5 mg/L Nov. 28, 1982; minimum, 6.9 mg/L June 28, 29, 1983.

## EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 936 micromhos Oct. 20; minimum, 182 micromhos Apr. 5.

pH: Maximum, 7.6 units July 31, Aug. 1, 14; minimum, 6.7 units Mar. 26, Apr. 7, July 1, Sept. 25, 26.

WATER TEMPERATURES: Maximum, 26.0°C June 19; minimum, 0.5°C on many days during winter periods.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	837	764	804	666	630	646	300	289	294	470	417	438
2	833	761	801	671	633	655	339	299	306	442	429	435
3	878	833	860	670	659	666	353	337	345	439	420	431
4	900	832	874	677	599	634	355	336	345	423	413	418
5	882	867	874	625	601	610	371	347	358	434	415	425
6	891	835	869	679	621	650	352	287	329	439	426	432
7	876	733	789	680	656	673	289	264	275	461	430	451
8	807	728	754	561	403	425	274	264	270	458	448	455
9	836	814	825	604	410	449	293	259	268	452	445	449
10	818	751	795	652	604	639	297	291	294	461	435	450
11	844	733	775	632	450	523	300	290	294	430	408	415
12	871	848	860	544	481	519	329	278	308	496	422	463
13	881	832	864	596	544	573	289	248	275	520	483	505
14	902	452	675	605	581	595	262	242	250	591	517	531
15	534	437	463	604	563	586	291	262	271	521	484	499
16	826	534	761	565	519	543	319	291	300	533	520	525
17	825	772	793	535	503	517	322	315	319	521	499	508
18	884	825	860	531	498	513	328	315	321	513	503	509
19	920	884	895	517	478	505	371	327	332	536	513	525
20	936	901	920	514	496	505	363	317	324	579	528	548
21	901	775	840	504	489	497	343	331	336	594	564	580
22	793	749	767	527	487	502	399	343	382	609	565	591
23	821	505	723	534	387	420	408	389	401	598	510	544
24	560	451	487	392	381	386	402	384	395	561	533	548
25	649	569	620	381	358	366	422	397	407	597	561	583
26	658	634	648	374	359	366	402	366	382	586	531	554
27	660	633	647	385	374	382	386	364	377	540	514	527
28	675	653	670	385	344	373	400	379	393	514	466	486
29	660	597	628	345	308	335	441	397	427	480	448	465
30	611	540	580	316	281	305	422	404	415	513	481	502
31	629	548	588	---	---	---	473	417	434	536	511	526
MONTH	936	437	752	680	281	512	473	242	336	609	408	494



## 01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	608	526	546	318	305	311	288	245	253	282	229	239
2	555	514	535	316	303	311	302	291	298	315	285	309
3	554	516	530	341	310	327	309	293	303	367	315	356
4	516	470	489	353	342	347	310	261	289	360	305	325
5	472	453	462	364	341	349	261	182	198	310	292	301
6	468	453	461	371	354	362	232	198	218	298	278	293
7	485	466	478	376	350	367	251	229	235	290	280	283
8	478	458	468	353	338	346	255	247	250	272	253	264
9	466	417	442	392	351	376	330	247	276	273	234	254
10	518	437	485	407	378	388	331	277	296	265	240	247
11	516	488	501	399	381	390	376	321	368	300	265	273
12	495	451	473	389	373	384	383	363	373	299	290	295
13	454	411	433	390	371	381	386	349	366	297	287	291
14	415	216	304	432	381	407	391	362	378	299	290	294
15	222	210	215	418	387	408	371	308	351	319	299	309
16	223	213	218	429	392	408	308	282	292	327	319	323
17	238	214	223	397	342	359	282	252	261	385	325	374
18	270	236	241	363	352	357	293	259	267	382	374	378
19	304	272	286	380	360	368	323	287	299	393	363	377
20	314	301	307	376	349	361	309	277	286	372	350	360
21	306	300	303	349	287	326	311	300	305	384	365	378
22	303	287	295	293	241	266	301	256	292	443	384	423
23	309	290	298	285	243	255	273	239	250	451	424	439
24	321	309	316	286	278	282	240	232	236	434	426	431
25	313	295	300	285	277	282	239	214	234	465	431	452
26	307	296	301	277	256	266	267	235	260	514	464	480
27	327	301	306	269	253	261	291	267	276	528	493	505
28	326	302	312	265	220	250	314	291	308	547	488	517
29	325	314	317	230	216	222	346	252	306	504	454	487
30	---	---	---	242	230	233	255	232	249	500	397	454
31	---	---	---	252	241	245	---	---	---	493	446	462
MONTH	608	210	374	432	216	329	391	182	286	547	229	360

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	480	444	461	622	260	398	546	480	509	513	472	493
2	496	440	469	425	348	397	531	474	495	511	487	498
3	525	498	515	433	330	386	503	482	492	560	483	506
4	525	518	522	438	406	423	499	463	479	620	352	480
5	518	442	493	452	420	438	544	494	525	367	338	354
6	437	418	427	575	421	494	553	520	537	452	356	429
7	510	426	469	588	537	558	536	520	529	494	433	471
8	564	510	545	555	541	548	551	529	541	502	444	480
9	566	533	548	565	550	557	563	532	549	---	---	---
10	582	564	575	569	538	559	556	505	534	---	---	---
11	571	539	559	553	380	448	549	503	528	---	---	---
12	539	513	524	375	352	363	538	400	456	---	---	---
13	540	529	534	458	368	429	451	370	408	---	---	---
14	538	460	502	478	458	472	442	309	367	---	---	---
15	530	456	498	477	456	463	416	380	392	516	360	420
16	613	529	561	469	449	461	418	402	410	524	492	507
17	620	611	616	480	450	469	455	413	422	524	493	513
18	631	613	625	507	476	493	436	419	427	523	502	515
19	652	625	638	559	479	522	443	434	439	513	482	494
20	637	594	613	582	513	556	442	432	434	511	480	494
21	594	537	556	549	514	532	437	423	431	527	504	516
22	547	520	537	537	521	529	441	434	437	513	494	507
23	555	514	534	542	522	532	459	427	441	493	484	490
24	637	552	588	539	521	530	452	406	420	507	489	497
25	674	637	654	546	524	539	446	416	432	536	509	525
26	670	651	658	564	543	555	449	437	442	526	523	524
27	751	679	730	557	535	550	453	440	447	---	---	---
28	729	712	718	590	529	562	472	366	407	---	---	---
29	723	675	697	590	567	576	493	371	452	628	563	606
30	703	620	680	566	522	551	493	466	477	561	535	543
31	---	---	---	542	511	524	574	470	497	---	---	---
MONTH	751	418	568	622	260	497	574	309	463	628	338	494

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.4	7.3	7.3	7.3	7.2	7.2	7.1	7.0	7.0	7.2	7.1	7.1
2	7.4	7.3	7.4	7.3	7.2	7.2	7.1	7.0	7.0	7.2	7.1	7.2
3	7.5	7.4	7.4	7.3	7.2	7.2	7.0	7.0	7.0	7.2	7.1	7.1
4	7.5	7.3	7.4	7.2	7.2	7.2	7.1	7.0	7.1	7.2	7.2	7.2
5	7.3	7.3	7.3	7.3	7.2	7.3	7.1	7.0	7.0	7.2	7.1	7.2
6	7.4	7.3	7.3	7.3	7.3	7.3	7.1	7.0	7.0	7.1	7.1	7.1
7	7.4	7.3	7.3	7.3	7.2	7.3	7.1	7.0	7.0	7.2	7.1	7.2
8	7.5	7.3	7.4	7.2	7.0	7.0	7.0	7.0	7.0	7.2	7.1	7.1
9	7.4	7.3	7.3	7.2	7.0	7.1	7.0	6.9	6.9	7.1	7.1	7.1
10	7.4	7.3	7.3	7.3	7.3	7.3	6.9	6.9	6.9	7.1	7.0	7.0
11	7.3	7.3	7.3	7.3	7.3	7.3	6.9	6.9	6.9	7.0	7.0	7.0
12	7.3	7.3	7.3	7.3	7.3	7.3	7.1	6.9	7.0	7.1	7.0	7.1
13	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.0	7.0	7.2	7.1	7.1
14	7.3	7.0	7.2	7.3	7.2	7.3	7.0	6.9	6.9	7.2	7.1	7.2
15	7.2	7.0	7.1	7.3	7.2	7.3	7.0	6.9	6.9	7.1	7.1	7.1
16	7.4	7.2	7.3	7.3	7.2	7.3	7.0	6.9	6.9	7.1	7.1	7.1
17	7.5	7.3	7.4	7.2	7.2	7.2	7.0	6.8	6.9	7.2	7.1	7.1
18	7.4	7.3	7.4	7.2	7.2	7.2	6.9	6.9	6.9	7.3	7.2	7.2
19	7.4	7.3	7.4	7.2	7.1	7.1	7.1	6.9	6.9	7.2	7.2	7.2
20	7.4	7.4	7.4	7.1	7.1	7.1	7.1	6.9	7.0	7.3	7.2	7.2
21	7.4	7.4	7.4	7.1	7.0	7.1	7.0	6.9	7.0	7.3	7.2	7.2
22	7.4	7.3	7.4	7.2	7.1	7.1	7.1	7.0	7.1	7.3	7.2	7.3
23	7.4	7.2	7.3	7.1	7.0	7.0	7.1	7.1	7.1	7.3	7.2	7.2
24	7.3	7.2	7.3	7.0	7.0	7.0	7.2	7.1	7.1	7.3	7.2	7.3
25	7.3	7.3	7.3	7.1	7.0	7.1	7.2	7.1	7.1	7.3	7.3	7.3
26	7.3	7.3	7.3	7.1	7.0	7.0	7.2	7.0	7.1	7.4	7.3	7.4
27	7.3	7.3	7.3	7.0	7.0	7.0	7.1	7.0	7.1	7.4	7.3	7.3
28	7.3	7.3	7.3	7.0	7.0	7.0	7.2	7.1	7.1	7.3	7.3	7.3
29	7.3	7.2	7.2	7.0	7.0	7.0	7.2	7.1	7.1	7.3	7.3	7.3
30	7.3	7.2	7.2	7.1	7.0	7.0	7.2	7.0	7.1	7.3	7.3	7.3
31	7.3	7.2	7.2	---	---	---	7.2	7.1	7.1	7.3	7.3	7.3
MONTH	7.5	7.0	7.3	7.3	7.0	7.2	7.2	6.8	7.0	7.4	7.0	7.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.4	7.3	7.3	7.1	7.0	7.1	7.0	6.9	7.0	7.0	6.9	6.9
2	7.3	7.3	7.3	7.1	7.0	7.0	7.1	7.0	7.1	7.1	7.0	7.0
3	7.4	7.3	7.3	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.1	7.1
4	7.3	7.3	7.3	7.1	7.0	7.0	7.0	6.9	7.0	7.1	7.0	7.0
5	7.3	7.3	7.3	7.1	7.0	7.0	7.2	6.9	7.0	7.0	7.0	7.0
6	7.4	7.3	7.3	7.1	7.1	7.1	7.0	6.8	6.9	7.0	6.9	7.0
7	7.4	7.3	7.3	7.1	7.1	7.1	6.8	6.7	6.7	7.1	7.0	7.0
8	7.4	7.2	7.3	7.1	7.0	7.0	6.8	6.8	6.8	7.0	7.0	7.0
9	7.3	7.2	7.3	7.2	7.0	7.1	7.0	6.8	6.9	7.0	6.9	7.0
10	7.3	7.3	7.3	7.2	7.1	7.2	7.0	6.8	6.9	7.0	6.9	6.9
11	7.3	7.2	7.2	7.2	7.1	7.2	7.0	7.0	7.0	7.0	6.9	6.9
12	7.3	7.2	7.2	7.2	7.1	7.2	7.0	7.0	7.0	7.0	6.9	7.0
13	7.3	7.2	7.2	7.2	7.2	7.2	7.1	7.0	7.1	7.0	7.0	7.0
14	7.3	7.1	7.2	7.3	7.2	7.3	7.1	7.0	7.1	7.0	7.0	7.0
15	7.2	7.0	7.1	7.4	7.3	7.3	7.1	7.0	7.1	7.0	7.0	7.0
16	7.0	6.9	7.0	7.4	7.3	7.3	7.0	6.9	6.9	7.1	7.0	7.0
17	6.9	6.9	6.9	7.4	7.3	7.3	6.9	6.9	6.9	7.1	7.1	7.1
18	7.0	6.9	6.9	7.3	7.3	7.3	7.0	6.9	6.9	7.1	7.0	7.1
19	7.0	6.9	6.9	7.3	7.2	7.3	7.1	7.0	7.0	7.2	7.1	7.1
20	7.0	7.0	7.0	7.3	7.2	7.2	7.1	6.9	7.0	7.2	7.0	7.1
21	7.0	7.0	7.0	7.4	7.2	7.3	7.0	7.0	7.0	7.1	7.0	7.1
22	7.0	6.9	7.0	7.3	7.2	7.2	7.1	6.9	7.0	7.2	7.1	7.1
23	7.1	6.9	7.0	7.2	7.1	7.1	7.3	7.0	7.1	7.2	7.1	7.1
24	7.1	7.0	7.1	7.1	7.0	7.1	7.0	6.8	6.9	7.4	7.1	7.3
25	7.0	7.0	7.0	7.1	7.0	7.0	6.9	6.8	6.8	7.4	7.1	7.3
26	7.1	7.0	7.0	7.1	6.7	6.9	7.0	6.9	7.0	7.5	7.1	7.3
27	7.1	7.0	7.0	7.1	7.0	7.1	7.0	7.0	7.0	7.5	7.1	7.3
28	7.1	7.0	7.0	7.2	6.9	7.0	7.0	7.0	7.0	7.3	6.9	7.1
29	7.1	7.1	7.1	7.0	6.9	6.9	7.3	6.9	7.1	7.1	6.9	7.0
30	---	---	---	7.0	7.0	7.0	6.9	6.8	6.8	7.1	7.0	7.1
31	---	---	---	7.0	6.9	6.9	---	---	---	7.1	7.1	7.1
MONTH	7.4	6.9	7.1	7.4	6.7	7.1	7.3	6.7	7.0	7.5	6.9	7.1

## 01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.1	7.0	7.0	7.3	6.7	7.0	7.6	7.1	7.3	7.1	7.0	7.1
2	7.1	7.0	7.1	7.2	7.1	7.2	7.3	7.1	7.2	7.1	7.0	7.1
3	7.1	7.0	7.1	7.2	7.1	7.2	7.1	7.0	7.1	7.2	7.0	7.1
4	7.1	7.1	7.1	7.2	7.2	7.2	7.3	7.0	7.1	7.2	7.0	7.1
5	7.2	7.1	7.1	7.3	7.2	7.2	7.4	7.2	7.3	7.2	6.9	7.1
6	7.1	7.0	7.1	7.2	7.2	7.2	7.4	7.2	7.3	7.2	6.9	7.0
7	7.2	7.0	7.1	7.3	7.2	7.2	7.4	7.1	7.3	7.2	7.0	7.1
8	7.2	7.1	7.1	7.3	7.3	7.3	7.4	7.2	7.3	7.3	7.0	7.1
9	7.2	7.1	7.1	7.3	7.2	7.2	7.4	7.2	7.3	---	---	---
10	7.1	7.0	7.1	7.3	7.2	7.2	7.4	7.2	7.2	---	---	---
11	7.2	7.1	7.1	7.3	7.2	7.2	7.2	7.1	7.1	---	---	---
12	7.2	7.1	7.1	7.2	7.1	7.2	7.2	7.1	7.2	---	---	---
13	7.2	7.1	7.1	7.2	7.1	7.1	7.2	7.1	7.2	---	---	---
14	7.3	7.0	7.1	7.2	7.0	7.1	7.6	7.1	7.2	---	---	---
15	7.3	7.0	7.2	7.2	7.0	7.1	7.2	7.1	7.2	7.1	6.8	7.0
16	7.2	7.1	7.2	7.1	7.0	7.1	7.1	7.1	7.1	7.2	7.1	7.1
17	7.1	7.0	7.1	7.2	7.1	7.1	7.1	7.1	7.1	7.3	7.1	7.2
18	7.1	7.0	7.1	7.3	7.1	7.2	7.1	7.0	7.1	7.3	7.1	7.2
19	7.1	7.1	7.1	7.4	7.2	7.3	7.1	7.0	7.1	7.2	7.1	7.2
20	7.1	7.1	7.1	7.3	7.1	7.2	7.1	7.1	7.1	7.2	7.1	7.2
21	7.1	7.0	7.1	7.4	7.1	7.2	7.1	7.0	7.1	7.2	7.1	7.2
22	7.2	7.0	7.1	7.4	7.1	7.3	7.1	7.0	7.0	7.2	7.1	7.1
23	7.2	7.1	7.1	7.4	7.2	7.3	7.1	7.0	7.1	7.2	7.1	7.1
24	7.0	6.9	7.0	7.3	7.1	7.2	7.1	7.0	7.0	7.2	7.0	7.1
25	7.1	6.9	7.0	7.4	7.1	7.2	7.1	7.0	7.1	7.1	6.7	7.0
26	7.2	7.1	7.1	7.2	7.1	7.2	7.1	7.0	7.0	6.8	6.7	6.8
27	7.2	7.2	7.2	7.3	7.2	7.2	7.2	7.0	7.1	---	---	---
28	7.2	7.2	7.2	7.4	7.1	7.2	7.1	7.0	7.1	---	---	---
29	7.2	7.2	7.2	7.3	7.2	7.3	7.2	7.0	7.1	7.4	7.3	7.3
30	7.2	7.1	7.1	7.4	7.2	7.3	7.1	7.0	7.1	7.3	7.2	7.3
31	---	---	---	7.6	7.1	7.3	7.1	7.0	7.1	---	---	---
MONTH	7.3	6.9	7.1	7.6	6.7	7.2	7.6	7.0	7.2	7.4	6.7	7.1

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.5	16.5	17.0	12.5	11.0	11.5	7.0	6.5	7.0	3.5	2.0	2.5
2	19.0	17.0	18.0	13.5	12.0	13.0	6.5	5.5	6.0	4.0	3.5	3.5
3	20.0	17.5	18.5	14.5	13.5	14.0	7.5	6.5	7.0	4.5	4.0	4.0
4	20.0	18.0	19.0	14.0	11.0	12.5	7.5	6.5	7.0	4.0	4.0	4.0
5	20.5	19.0	19.5	10.5	9.5	10.0	8.0	7.5	7.5	5.0	4.0	4.5
6	20.0	18.0	19.0	10.0	9.5	10.0	8.0	7.5	7.5	5.0	4.5	4.5
7	19.0	16.5	17.5	11.0	9.5	10.0	7.5	6.0	6.5	4.5	3.5	4.5
8	18.5	16.0	17.0	11.0	9.5	10.0	6.5	5.5	6.0	3.5	3.0	3.0
9	19.0	16.5	17.5	11.0	9.5	10.5	7.0	6.0	6.5	4.0	3.0	3.5
10	17.5	17.0	17.0	12.0	10.5	11.0	7.5	6.5	7.0	4.5	4.0	4.0
11	17.0	16.0	16.5	12.0	9.5	11.0	7.0	6.0	6.5	4.0	2.0	3.0
12	17.5	16.0	16.5	9.5	7.0	8.0	7.5	6.5	7.0	2.0	.5	1.5
13	19.0	17.5	18.5	7.5	6.0	7.0	8.0	7.5	7.5	2.0	1.0	1.5
14	18.5	16.0	17.5	8.5	7.5	8.0	7.5	7.0	7.5	3.5	2.0	2.5
15	16.5	14.5	15.5	8.0	7.0	7.5	7.5	7.0	7.5	3.5	3.0	3.5
16	16.0	14.0	15.0	8.0	7.5	8.0	7.0	6.5	6.5	3.0	2.5	3.0
17	16.5	14.5	15.5	8.0	7.5	8.0	6.5	5.5	6.0	4.0	3.0	4.0
18	16.5	15.5	16.0	8.5	7.0	8.0	6.0	4.5	5.0	3.5	2.5	3.0
19	16.5	15.5	16.0	10.5	9.0	9.5	6.0	5.0	5.5	3.0	1.5	2.5
20	15.5	14.5	15.0	10.0	10.0	10.0	5.0	4.0	4.5	1.5	.5	1.0
21	14.5	13.5	14.0	10.5	9.5	10.0	4.5	3.5	4.0	1.0	.5	.5
22	13.5	12.5	13.0	10.0	9.0	9.5	4.0	3.5	3.5	1.0	.5	.5
23	13.5	12.5	13.0	10.0	9.5	9.5	4.5	3.5	3.5	1.0	.5	.5
24	14.0	13.0	13.5	10.0	9.5	10.0	3.5	.5	2.0	3.5	1.0	2.5
25	14.5	14.0	14.0	10.0	7.5	8.5	.5	.5	.5	5.5	3.5	4.5
26	14.0	13.5	13.5	8.5	7.0	7.5	.5	.5	.5	5.0	4.0	4.5
27	13.5	12.0	12.5	8.5	7.5	8.0	3.0	.5	1.5	5.0	3.5	4.5
28	13.0	11.5	12.0	9.0	9.0	9.0	4.0	3.0	3.5	4.5	4.0	4.0
29	13.5	12.5	13.0	9.0	7.5	8.0	4.0	3.0	3.5	4.0	3.5	3.5
30	12.5	11.0	11.5	7.5	7.0	7.0	2.5	1.0	1.5	3.5	3.5	3.5
31	11.5	10.0	11.0	---	---	---	2.0	.5	1.0	3.5	2.5	3.0
MONTH	20.5	10.0	15.5	14.5	6.0	9.5	8.0	.5	5.0	5.5	.5	3.0

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.0	2.0	2.5	4.0	2.5	3.0	8.0	5.0	6.5	12.0	9.0	10.5
2	4.0	2.5	3.5	4.5	3.0	3.5	9.0	5.0	7.0	12.5	11.0	11.5
3	3.5	3.0	3.5	4.5	2.5	3.5	9.0	7.0	8.0	12.5	11.0	11.5
4	5.5	3.5	4.5	4.5	3.0	4.0	9.0	6.5	7.0	12.0	11.5	11.5
5	6.0	4.5	5.5	5.0	4.0	4.5	7.5	6.0	6.5	13.0	11.0	12.0
6	4.5	3.5	4.0	5.5	4.5	5.0	7.0	6.0	6.5	13.0	11.5	12.0
7	3.5	1.5	2.5	5.0	4.0	4.5	7.0	5.5	6.0	11.5	11.0	11.5
8	3.0	1.5	2.0	4.5	2.0	3.0	9.0	6.0	7.5	11.5	11.0	11.5
9	4.0	2.0	3.0	3.0	1.5	2.5	8.5	6.5	7.5	11.5	9.5	10.0
10	5.0	3.5	4.5	3.5	2.0	2.5	9.0	6.0	7.5	12.5	9.5	10.5
11	6.5	5.0	6.0	4.5	3.5	3.5	10.0	8.0	9.0	13.5	10.0	11.5
12	7.0	6.0	6.5	4.0	3.0	3.5	11.5	9.0	10.0	14.5	12.0	13.5
13	7.5	6.5	7.0	4.0	2.5	3.0	11.5	10.0	10.5	14.5	11.5	13.0
14	7.0	5.5	6.0	5.0	2.5	4.0	10.5	9.0	9.5	14.0	11.5	12.5
15	6.5	5.0	5.5	6.0	4.0	5.5	9.5	9.0	9.0	12.0	10.5	11.5
16	6.5	5.0	5.5	7.0	6.0	6.5	9.0	8.0	8.5	13.0	10.5	12.0
17	6.0	5.0	5.5	7.0	5.5	6.5	8.5	7.5	8.0	14.0	12.5	13.0
18	6.5	5.5	6.0	7.0	6.0	6.5	9.0	7.5	8.5	14.5	13.5	14.0
19	6.5	5.5	6.0	8.0	6.5	7.0	9.0	7.5	8.5	16.5	14.0	15.0
20	6.5	5.5	5.5	8.5	7.5	8.0	9.5	8.0	8.5	17.0	16.5	16.5
21	5.5	4.5	5.5	9.0	6.5	8.0	10.0	8.0	9.0	17.0	16.0	16.5
22	6.5	4.5	5.5	6.5	5.0	5.5	10.0	7.0	8.0	18.5	16.0	17.0
23	6.5	5.0	5.5	6.0	4.5	5.0	7.5	6.5	7.0	18.0	16.5	17.5
24	7.5	5.5	6.0	7.0	4.0	5.5	11.5	7.0	8.5	18.0	15.0	16.5
25	7.5	5.5	6.0	7.0	5.5	6.0	13.0	9.5	11.0	20.0	16.5	18.0
26	6.0	4.0	5.0	7.5	4.0	6.0	12.5	8.5	10.0	20.5	18.0	19.0
27	5.5	4.0	4.5	6.5	5.0	6.0	13.0	10.0	11.5	20.5	18.0	19.5
28	4.5	3.5	4.0	5.5	5.0	5.0	13.5	11.5	12.5	19.5	18.5	19.0
29	4.0	3.5	3.5	5.0	4.0	4.5	14.0	12.0	13.0	19.0	17.5	18.0
30	---	---	---	6.5	5.0	5.5	12.0	9.5	11.0	17.5	15.0	16.5
31	---	---	---	6.5	5.0	6.0	---	---	---	14.5	13.5	14.0
MONTH	7.5	1.5	5.0	9.0	1.5	5.0	14.0	5.0	8.5	20.5	9.0	14.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	16.5	14.0	15.0	22.0	18.0	19.5	23.5	22.0	22.5	21.5	20.0	20.5
2	19.0	15.0	16.5	20.5	19.5	20.0	23.0	22.0	22.5	22.0	19.0	20.5
3	21.0	18.0	19.5	21.5	18.5	20.0	23.0	21.5	22.0	23.0	21.5	22.0
4	20.5	18.0	19.5	21.5	20.0	20.5	22.5	21.5	22.0	23.0	20.5	22.0
5	21.0	18.0	19.5	21.0	20.0	20.5	23.5	21.5	22.5	20.5	18.5	19.0
6	21.0	18.5	20.0	22.5	20.0	21.0	24.5	22.5	23.0	20.0	17.5	18.5
7	23.0	19.5	21.0	23.0	21.5	22.0	24.5	22.5	23.5	20.0	17.5	18.5
8	23.0	21.0	22.5	21.5	19.5	20.5	25.0	23.0	24.0	20.5	18.0	19.5
9	24.5	21.5	23.0	22.0	19.0	20.5	25.0	23.0	24.0	---	---	---
10	24.0	22.5	23.5	21.5	20.0	20.5	25.0	23.5	24.0	---	---	---
11	24.5	22.5	23.5	21.5	20.0	20.5	24.0	21.5	22.5	---	---	---
12	25.0	22.0	23.5	22.0	20.5	21.0	21.5	20.5	21.0	---	---	---
13	25.5	23.0	24.5	21.5	20.5	21.0	21.5	20.5	21.0	---	---	---
14	25.5	23.5	24.5	22.0	20.5	21.0	21.0	20.0	20.5	---	---	---
15	24.5	22.5	23.5	22.0	20.5	21.0	21.5	20.0	21.0	20.0	19.0	20.0
16	23.0	21.0	21.5	22.5	20.5	21.5	21.5	20.0	20.5	19.0	17.5	18.0
17	22.0	20.0	21.0	23.0	21.0	22.0	21.5	21.0	21.0	18.5	16.5	17.5
18	24.0	21.5	22.5	22.5	21.0	21.5	21.0	20.0	20.5	19.0	16.5	17.5
19	26.0	23.0	24.5	22.5	20.0	21.5	21.0	20.0	20.5	19.0	17.0	18.0
20	24.5	23.0	24.0	22.5	20.5	21.5	21.0	20.0	20.5	20.5	18.0	19.0
21	24.5	21.5	23.0	21.5	20.5	21.0	20.0	19.0	19.5	21.5	19.5	20.5
22	23.0	22.0	22.5	21.0	20.0	20.5	20.5	20.0	20.0	21.0	19.5	20.5
23	23.0	21.5	22.0	22.5	20.0	21.5	21.0	20.5	21.0	21.5	20.0	20.5
24	22.5	21.5	22.0	23.0	22.0	22.5	20.5	18.5	19.0	22.0	20.5	21.5
25	23.0	21.0	22.0	23.5	21.0	22.5	20.0	18.5	19.0	25.5	20.5	22.0
26	24.0	20.5	22.0	23.0	21.0	21.5	20.5	19.0	19.5	25.5	23.5	24.5
27	23.5	21.0	22.0	21.5	21.0	21.0	20.5	19.5	20.0	---	---	---
28	25.0	22.0	23.0	21.5	19.5	20.5	20.5	20.0	20.5	---	---	---
29	24.0	22.5	23.5	21.5	20.0	20.5	23.0	20.5	21.5	15.5	14.0	14.5
30	23.0	22.0	22.5	22.0	20.0	21.0	23.0	21.0	22.0	15.5	14.5	15.0
31	---	---	---	23.0	20.0	21.5	23.5	21.0	22.0	---	---	---
MONTH	26.0	14.0	22.0	23.5	18.0	21.0	25.0	18.5	21.5	25.5	14.0	19.5

## POTOMAC RIVER BASIN

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1				---	---	---	11.8	11.6	11.7	11.9	11.8	11.8
2				---	---	---	12.1	11.8	12.0	11.8	11.6	11.7
3				---	---	---	11.9	11.8	11.8	11.7	11.7	11.7
4				---	---	---	11.8	11.6	11.8	11.7	11.6	11.6
5				---	---	---	11.8	11.7	11.8	11.7	11.5	11.6
6				---	---	---	11.8	11.0	11.6	11.6	11.5	11.5
7				---	---	---	12.0	11.1	11.7	11.7	11.5	11.6
8				---	---	---	12.3	12.0	12.2	11.8	11.7	11.8
9				---	---	---	12.4	12.1	12.3	12.0	11.8	11.9
10				---	---	---	12.3	12.1	12.2	11.9	11.7	11.7
11				---	---	---	12.4	12.2	12.3	12.2	11.8	12.0
12				---	---	---	12.3	11.0	11.8	12.5	12.2	12.3
13				---	---	---	11.0	10.5	10.7	12.4	12.2	12.3
14				---	---	---	10.5	10.2	10.4	12.2	11.9	12.0
15				10.7	10.4	10.5	10.4	10.1	10.3	12.2	11.9	12.1
16				10.4	10.0	10.3	10.4	10.2	10.3	12.1	12.0	12.0
17				10.4	10.0	10.2	10.6	10.4	10.5	12.1	11.9	12.1
18				10.4	10.1	10.2	10.8	10.5	10.7	12.3	12.1	12.2
19				10.2	9.9	10.0	10.7	10.5	10.6	12.3	12.2	12.2
20				10.4	10.1	10.3	10.9	10.7	10.9	12.9	12.3	12.6
21				10.9	10.4	10.7	11.1	10.9	11.0	12.9	12.7	12.7
22				11.3	10.8	11.1	11.1	10.8	11.0	12.9	12.7	12.8
23				11.5	10.9	11.2	11.2	10.7	10.9	12.7	12.4	12.5
24				11.3	11.2	11.2	11.4	10.9	11.0	12.4	11.8	12.1
25				11.8	11.2	11.5	11.7	11.4	11.6	11.8	11.6	11.7
26				12.2	11.8	12.0	11.7	11.4	11.6	11.9	11.5	11.7
27				12.2	11.7	12.0	11.5	11.3	11.4	11.7	11.4	11.6
28				11.9	11.5	11.7	11.4	11.2	11.3	11.9	11.4	11.7
29				11.9	11.5	11.7	11.4	11.2	11.3	11.7	11.6	11.7
30				12.2	11.5	11.9	11.9	11.4	11.8	11.8	11.6	11.7
31				---	---	---	12.1	11.8	12.0	12.0	11.6	11.8
MONTH				12.2	9.9	11.0	12.4	10.1	11.4	12.9	11.4	12.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.2	11.9	12.0	12.1	11.7	11.9	12.1	11.1	11.8	12.0	10.9	11.6
2	12.0	11.8	11.9	12.1	11.7	11.9	12.3	10.7	11.7	11.4	10.8	11.1
3	12.0	11.8	11.9	12.4	11.7	12.0	12.1	11.1	11.6	11.0	10.6	10.8
4	11.8	11.5	11.6	12.4	11.8	12.1	12.0	11.2	11.6	10.8	10.4	10.6
5	11.5	11.2	11.3	11.8	11.6	11.7	11.8	11.3	11.6	11.0	10.3	10.8
6	11.7	11.3	11.5	11.7	11.5	11.6	12.0	11.5	11.8	10.9	10.2	10.7
7	12.2	11.6	11.9	12.0	11.5	11.8	12.4	11.9	12.2	10.9	10.5	10.8
8	12.5	12.1	12.3	12.1	11.6	11.8	12.3	11.4	11.9	10.6	10.4	10.5
9	12.3	12.0	12.1	12.1	11.7	11.9	12.0	11.1	11.7	11.3	10.4	11.0
10	12.0	11.6	11.8	12.3	11.6	11.9	12.2	10.9	11.6	11.3	10.2	11.0
11	11.5	11.1	11.3	11.8	11.4	11.6	11.5	10.5	11.1	11.0	9.6	10.4
12	11.7	11.2	11.5	12.3	11.5	11.9	11.2	10.2	10.7	10.1	9.4	9.8
13	11.4	11.0	11.3	12.2	11.6	11.9	10.8	10.0	10.5	10.5	9.3	10.0
14	11.6	11.2	11.4	12.0	11.6	11.8	11.0	10.5	10.8	10.4	9.3	10.0
15	11.9	11.6	11.8	11.9	11.4	11.7	11.0	10.8	10.9	10.6	10.0	10.3
16	12.1	11.7	11.9	11.6	11.1	11.3	11.1	10.8	10.9	10.5	9.6	10.2
17	12.0	11.7	11.9	11.9	11.3	11.6	11.4	10.9	11.2	10.0	9.1	9.6
18	12.0	11.6	11.8	11.7	11.2	11.5	11.6	10.8	11.3	10.0	9.2	9.6
19	11.9	11.5	11.7	11.7	11.2	11.5	11.7	11.0	11.4	9.8	9.2	9.6
20	11.8	11.5	11.7	11.7	11.1	11.4	11.7	11.0	11.4	9.9	8.9	9.4
21	11.9	11.7	11.8	11.4	10.8	11.1	11.8	11.0	11.4	9.9	9.0	9.4
22	12.0	11.2	11.7	11.9	11.4	11.7	12.1	11.0	11.7	9.7	9.2	9.5
23	11.6	11.2	11.4	12.1	11.5	11.9	12.0	11.7	11.9	9.7	8.9	9.2
24	11.4	10.9	11.3	12.3	11.3	12.0	---	---	---	10.5	9.6	10.1
25	11.5	10.9	11.2	11.8	11.3	11.6	---	---	---	10.3	9.5	9.9
26	11.9	11.5	11.7	12.2	11.0	11.7	11.8	10.4	11.3	10.3	9.2	9.7
27	11.9	11.5	11.7	11.9	11.2	11.6	11.3	10.3	10.8	10.6	9.4	9.9
28	11.7	11.2	11.5	11.7	11.4	11.6	11.0	10.1	10.7	9.7	8.9	9.2
29	11.8	11.2	11.6	11.9	11.5	11.7	11.0	10.1	10.5	9.0	8.4	8.7
30	---	---	---	12.0	11.6	11.9	11.9	11.1	11.5	9.3	8.7	9.0
31	---	---	---	12.0	11.5	11.8	---	---	---	9.6	9.3	9.4
MONTH	12.5	10.9	11.7	12.4	10.8	11.7	12.4	10.0	11.3	12.0	8.4	10.1

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.4	8.9	9.2	8.8	6.0	8.2						
2	9.0	8.1	8.6	8.8	8.7	8.7						
3	8.1	7.7	8.0	9.2	8.7	8.9						
4	8.3	7.8	8.0	8.9	8.6	8.8						
5	8.5	7.9	8.2	8.8	8.6	8.7						
6	8.6	8.0	8.3	8.8	8.0	8.5						
7	8.4	7.5	8.0	8.4	8.1	8.3						
8	8.2	7.4	7.8	8.9	8.4	8.7						
9	8.1	7.1	7.6	9.0	8.4	8.8						
10	7.6	7.0	7.3	8.6	8.2	8.4						
11	7.8	7.1	7.4	8.9	8.2	8.7						
12	8.1	7.1	7.6	9.2	8.5	8.8						
13	7.9	7.0	7.4	8.8	8.4	8.7						
14	8.1	6.8	7.4	8.9	8.4	8.6						
15	8.3	7.1	7.5	9.0	8.4	8.7						
16	8.1	7.2	7.6	8.5	8.2	8.4						
17	7.8	7.2	7.6	---	---	---						
18	7.4	6.7	7.1	---	---	---						
19	6.9	6.3	6.7	---	---	---						
20	7.2	6.4	6.9	---	---	---						
21	7.6	7.0	7.3	---	---	---						
22	8.0	7.1	7.5	---	---	---						
23	8.3	7.4	7.8	---	---	---						
24	7.9	7.3	7.6	---	---	---						
25	7.8	7.3	7.6	---	---	---						
26	7.9	7.3	7.7	---	---	---						
27	7.8	7.4	7.6	---	---	---						
28	---	---	---	---	---	---						
29	---	---	---	---	---	---						
30	7.7	7.4	7.5	---	---	---						
31	---	---	---	---	---	---						
MONTH	9.4	6.3	7.7	9.2	6.0	8.6						

## 01601500 WILLS CREEK NEAR CUMBERLAND, MD

LOCATION.--Lat 39°40'07", long 78°47'18", Allegany County, Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge, 2.0 mi upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 640.89 ft National Geodetic Vertical Datum of 1929. May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft upstream at present datum.

REMARKS.--Records good. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into the basin from Georges Creek basin by Hoffman drainage tunnel. Miscellaneous measurements of discharge from the Hoffman drainage tunnel have been made in the water years 1944, 1964-65, and 1967-82 by the U.S. Geological Survey, and in the water years 1958 and 1959 by the Maryland Geological Survey. Slight diurnal fluctuation at low flow caused by quarry upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years (water years 1930-84), 329 ft<sup>3</sup>/s, 18.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft<sup>3</sup>/s Mar. 17, 1936, gage height, 20.2 ft, from flood-marks at present site, from rating curve extended above 6,500 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 13.45 ft and 20.2 ft; minimum discharge, 9 ft<sup>3</sup>/s Oct. 14, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1900	13100	10.80	Apr. 5	0730	12320	10.47
Mar. 21	1600	4540	6.89	Aug. 13	1930	*23970	14.94

Minimum discharge, 22 ft<sup>3</sup>/s Oct. 10, gage height, 1.53 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	54	595	139	153	452	1200	626	300	1110	70	86
2	35	51	449	138	149	388	1190	532	266	632	70	80
3	34	53	372	136	149	326	1170	550	230	411	126	77
4	30	54	675	134	192	300	1740	777	204	283	185	151
5	28	56	921	143	274	362	8550	658	182	242	266	121
6	26	54	1220	152	251	429	3000	655	167	328	161	90
7	25	56	1920	158	192	400	1650	745	154	409	128	78
8	24	60	1210	130	176	364	1100	815	142	333	203	72
9	24	54	1000	128	181	335	842	839	134	271	404	67
10	23	152	600	120	192	292	692	780	126	268	401	64
11	25	477	500	109	258	322	595	688	118	254	742	62
12	62	455	1100	78	487	265	518	776	111	250	2020	60
13	91	306	1500	98	855	271	469	702	105	202	6040	57
14	137	224	1300	103	9010	278	440	685	112	179	3690	56
15	74	210	891	98	5650	320	577	611	108	160	1710	85
16	51	262	679	88	2160	578	693	532	97	146	993	91
17	41	314	533	93	1380	992	750	460	96	131	669	70
18	37	271	434	87	1020	1060	714	408	117	140	496	62
19	50	323	372	83	861	986	641	373	117	123	455	57
20	74	436	287	70	876	1060	551	358	110	105	333	55
21	99	612	226	70	747	2750	490	320	94	120	254	52
22	82	498	271	70	645	2740	617	284	87	146	209	50
23	325	396	243	75	583	1600	1250	265	84	125	222	49
24	290	346	189	100	771	1080	1330	244	125	109	185	47
25	166	503	131	140	756	908	1150	217	144	96	150	45
26	129	455	140	257	723	895	897	203	104	86	129	44
27	104	421	190	332	664	835	736	192	90	93	116	43
28	84	698	220	347	645	1640	628	198	87	91	119	57
29	73	1020	233	267	564	2890	852	448	102	80	134	57
30	64	817	206	220	---	1840	740	358	327	76	105	56
31	58	---	133	187	---	1390	---	332	---	72	97	---
TOTAL	2400	9688	18740	4350	30564	28348	35772	15631	4240	7071	20882	2041
MEAN	77.4	323	605	140	1054	914	1192	504	141	228	674	68.0
MAX	325	1020	1920	347	9010	2890	8550	839	327	1110	6040	151
MIN	23	51	131	70	149	265	440	192	84	72	70	43
CFSM	.31	1.31	2.45	.57	4.27	3.70	4.83	2.04	.57	.92	2.73	.28
IN.	.36	1.46	2.82	.66	4.60	4.27	5.39	2.35	.64	1.06	3.14	.31

CAL YR 1983	TOTAL	140547	MEAN 385	MAX 5730	MIN 23	CFSM 1.56	IN 21.17
WTR YR 1984	TOTAL	179727	MEAN 491	MAX 9010	MIN 23	CFSM 1.99	IN 27.07

## 01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--875 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi above station (see station 01595200). Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi above station (see station 01597500). Flow regulated by Bloomington Lake, 43 mi above station (see station 01595800) since July 1981. 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. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years, 1,271 ft<sup>3</sup>/s, 19.73 in/yr, adjusted for storage since October 1981.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft<sup>3</sup>/s Mar. 17, 1936, gage height, 29.1 ft, from rating curve extended above 33,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge (river only), 12 ft<sup>3</sup>/s Sept. 22, 1932, gage height, 2.38 ft; minimum daily discharge (including flow in canal), 38 ft<sup>3</sup>/s Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft June 1, 1889, discharge, about 89,000 ft<sup>3</sup>/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,100 ft<sup>3</sup>/s Apr. 5, gage height, 17.60 ft; minimum discharge, 264 ft<sup>3</sup>/s Oct. 7, 8, 9, 10, 11, gage height, 2.44 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	330	443	2970	1050	693	2140	5370	3940	903	3280	548	657
2	300	436	2640	992	714	2080	4300	2350	797	1760	667	647
3	282	453	2140	981	732	1900	3730	1920	740	1260	895	512
4	276	427	3050	976	830	1770	4590	2940	702	945	802	483
5	273	421	3330	1000	1010	1840	18800	2640	653	867	793	603
6	269	421	3860	1030	970	1920	10400	2730	627	837	648	664
7	266	425	5810	981	867	1810	8840	3230	576	963	601	637
8	264	1210	4830	903	811	1750	5290	3790	548	833	619	617
9	266	670	3960	884	807	1490	3890	4080	530	732	902	605
10	264	581	3190	865	806	1360	3380	4030	513	762	882	595
11	270	1290	2950	853	943	1420	2160	3270	504	1060	1470	595
12	362	1160	3640	692	1250	1320	1950	3000	492	1000	3510	587
13	400	869	5440	700	1790	1290	1810	2890	490	978	6350	581
14	1000	729	4920	680	11200	1220	1750	2720	487	941	5760	1340
15	450	717	3850	697	12100	1330	2380	2420	498	905	3290	872
16	330	899	3120	672	7400	1690	3520	2060	443	887	2260	625
17	290	1050	2630	684	6010	2560	3920	1530	435	763	1700	584
18	280	939	2410	672	4840	2530	3300	1420	461	718	1460	571
19	292	1000	2240	664	3560	2340	2630	1370	486	604	1380	562
20	339	1140	2070	581	3390	2360	2790	1340	467	592	1230	555
21	535	1370	1880	570	3070	4530	2400	1280	431	630	1130	549
22	469	1220	1400	550	2710	5820	2590	1040	417	654	1070	544
23	1110	1490	1310	560	2550	4550	5750	997	415	624	1120	541
24	1270	1530	1230	606	3010	3650	6070	963	484	597	1360	536
25	764	1930	950	698	3030	3540	5490	862	546	577	1110	535
26	653	1820	1000	944	2900	5810	3750	776	448	552	953	569
27	578	1700	1100	1030	2690	4100	3040	747	397	578	930	572
28	523	2300	1200	1060	2630	6800	2620	765	395	568	1030	500
29	482	3260	1240	948	2390	13400	3280	1170	433	546	792	500
30	463	3100	1080	870	---	7640	4330	1020	769	536	711	492
31	452	---	1010	812	---	6320	---	932	---	529	613	---
TOTAL	14102	35000	82450	25205	85703	102280	134120	64222	16087	27078	46586	18230
MEAN	455	1167	2660	813	2955	3299	4471	2072	536	873	1503	608
MAX	1270	3260	5810	1060	12100	13400	18800	4080	903	3280	6350	1340
MIN	264	421	950	550	693	1220	1750	747	395	529	548	483
CAL YR 1983	TOTAL	519595	MEAN	1424	MAX	13800	MIN	263	CFSM	1.63	IN	22.09
WTR YR 1984	TOTAL	651063	MEAN	1779	MAX	18800	MIN	264	CFSM	2.03	IN	27.68



01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.4.

DRAINAGE AREA.--1,471 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft National Geodetic Vertical Datum of 1929. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good except those for December and January, which are poor. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers' satellite telemeter at station.

AVERAGE DISCHARGE.--60 years (water years 1900-01, 1904-05, 1929-84), 1,309 ft<sup>3</sup>/s, 12.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft<sup>3</sup>/s Mar. 18, 1936, gage height, 34.2 ft, from rating curve extended above 28,000 ft<sup>3</sup>/s on basis of measurement made about 10 mi upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft; minimum discharge, 29 ft<sup>3</sup>/s Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1200	14000	11.71	Apr. 5	2200	18200	13.75
Dec. 29	1800	10200	9.66	Apr. 23	0800	10100	9.64
Feb. 15	1400	*32800	18.63	Aug. 12	2400	11700	10.51
Mar. 22	1000	15700	12.57	Aug. 14	1300	11000	10.16
Mar. 29	1200	15300	12.34				

Minimum discharge, 115 ft<sup>3</sup>/s Oct. 10, 11, gage height, 1.56 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	426	1680	1300	983	2550	6550	3740	698	1240	287	416
2	156	388	1390	1200	825	2130	5470	2990	643	1490	278	369
3	157	365	1160	1100	773	1900	4670	2570	600	909	286	329
4	152	339	1720	1070	864	1690	4250	2620	559	746	300	328
5	142	320	4300	1000	1100	1620	13700	2710	511	559	325	320
6	134	315	3900	990	1130	1910	13000	2520	477	496	333	336
7	127	315	5000	940	972	2610	7470	3770	442	2100	315	322
8	122	301	4630	830	801	2440	5100	4010	414	1280	300	300
9	118	290	3300	770	706	2210	3900	3820	388	737	299	284
10	116	307	2450	820	689	1880	3220	3280	370	551	290	267
11	118	476	1920	1150	690	1670	2760	2770	349	2080	610	255
12	140	986	2840	840	798	1570	2390	2420	339	2390	5200	247
13	157	1200	12300	750	1490	1430	2100	2130	404	1480	8990	243
14	243	957	8060	780	6020	1420	1910	1830	508	1020	9420	234
15	262	812	4920	700	27000	2220	5250	1600	427	767	6060	234
16	244	866	3350	660	11900	2990	7770	1410	353	628	3560	222
17	232	996	2470	640	6810	3980	7220	1250	328	547	2410	218
18	207	1020	1920	650	4850	4060	5330	1120	318	496	1650	215
19	199	892	1550	600	3680	3550	4100	1040	352	439	1270	211
20	189	861	1310	510	3080	3160	3320	972	334	400	1060	208
21	298	1050	1110	700	2660	3980	2780	897	300	442	857	204
22	705	1200	1040	900	2290	13300	2560	825	280	534	702	198
23	1390	1070	2090	1160	2000	8110	9220	769	267	634	694	194
24	4460	931	3000	1500	4790	5200	7420	745	285	551	710	191
25	3210	1680	2100	3200	6810	3880	5570	725	281	456	620	184
26	1790	3110	1600	1900	5880	6010	4240	657	285	403	511	181
27	1220	2500	1400	1600	4240	6370	3390	604	285	375	452	178
28	910	1980	2200	1400	3540	6620	2840	580	267	347	424	187
29	703	1910	4150	1300	3180	14800	3560	601	250	327	416	201
30	566	1960	1600	1200	---	11100	4970	680	262	316	397	263
31	482	---	1500	1100	---	8280	---	806	---	300	383	---
TOTAL	19095	29823	91960	33260	110551	134640	156030	56461	11576	25040	49409	7539
MEAN	616	994	2966	1073	3812	4343	5201	1821	386	808	1594	251
MAX	4460	3110	12300	3200	27000	14800	13700	4010	698	2390	9420	416
MIN	116	290	1040	510	689	1420	1910	580	250	300	278	178
CFSM	.42	.68	2.02	.73	2.59	2.95	3.54	1.24	.26	.55	1.08	.17
IN.	.48	.75	2.33	.84	2.80	3.40	3.95	1.43	.29	.63	1.25	.19

CAL YR 1983 TOTAL 589369 MEAN 1615 MAX 21600 MIN 99 CFSM 1.10 IN 14.90  
WTR YR 1984 TOTAL 725384 MEAN 1982 MAX 27000 MIN 116 CFSM 1.35 IN 18.34

## 01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.--Records good. Low flow affected by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Lake (see station 01595800). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--46 years, 3,296 ft<sup>3</sup>/s, 14.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft<sup>3</sup>/s Oct. 16, 1942, gage height, 38.36 ft; minimum discharge, 164 ft<sup>3</sup>/s Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft Mar. 18, 1936, discharge, 240,000 ft<sup>3</sup>/s, from rating curve extended above 85,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1545	22900	16.60	Apr. 5	2315	52500	25.79
Feb. 15	1145	*59000	27.54	Apr. 23	1230	24200	17.06
Mar. 22	1345	27200	18.11	Aug. 14	0500	24500	17.18
Mar. 29	1145	41100	22.53				

Minimum discharge, 425 ft<sup>3</sup>/s Oct. 11, gage height, 3.46 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	525	1200	5730	2850	2610	6120	17200	9320	2230	3290	982	1330
2	586	1120	5140	2740	2390	5410	13900	6820	2040	4910	985	1350
3	549	1080	4400	2780	2240	5030	11500	5660	1850	3110	1310	1290
4	522	1050	5700	2580	2460	4610	10800	6970	1720	2330	1420	1110
5	503	975	9670	2550	3150	4490	37900	6910	1590	1990	1410	1120
6	479	949	9370	2650	3270	4770	37500	6450	1490	1840	1330	1230
7	458	941	13700	2830	2840	5370	21000	8190	1410	3100	1180	1190
8	448	1230	11900	2620	2440	5230	14100	9740	1290	3200	1100	1130
9	438	1600	9130	2390	2250	4830	10400	9800	1220	2150	1330	1080
10	434	987	7080	2200	2220	4220	8280	9150	1160	1760	1460	1040
11	438	2250	6090	2120	2290	4040	6910	7640	1110	2500	3490	1020
12	516	3090	6360	2000	2620	3850	5820	6700	1070	4110	8610	996
13	639	2990	20300	1980	3760	3650	5230	6360	1060	3080	13800	971
14	978	2480	16700	1850	16500	3560	4870	5700	1180	2480	19300	1180
15	1420	2140	11200	1890	54200	4380	7750	5170	1200	2120	13500	1770
16	817	2450	8240	1800	28900	6340	13500	4610	1090	1900	7960	1040
17	678	2830	6500	1760	16700	8540	14100	3930	972	1700	5550	970
18	629	2840	5530	1650	12400	8740	11100	3510	966	1540	4290	926
19	613	2570	4930	1600	9510	7790	8700	3310	1020	1410	3540	899
20	627	2540	4440	1400	8300	7030	7500	3150	1070	1230	3140	891
21	883	2940	3930	1100	7340	9050	6540	2970	967	1330	2690	874
22	1420	3140	3510	1000	6410	23900	6000	2680	887	1530	2350	864
23	2670	3060	3530	1100	5810	17200	20000	2440	845	1560	2260	853
24	6690	3100	4960	1200	8950	11500	17800	2350	849	1520	2410	846
25	5600	4240	3640	1400	11900	9240	14300	2190	1040	1320	2400	842
26	3530	6040	2650	4300	11300	12700	10500	2000	1030	1210	1910	841
27	2650	5350	2600	4730	8810	14600	8340	1830	894	1160	1740	858
28	2120	5010	2400	4490	7750	15400	7020	1760	835	1130	1680	884
29	1750	6580	3200	3870	7330	38600	7230	2400	795	1070	1790	810
30	1480	6340	3800	3320	---	27900	10500	2620	1140	1030	1540	842
31	1310	---	3200	2970	---	20900	---	2400	---	998	1380	---
TOTAL	42400	83112	209530	73720	256650	308990	376290	154730	36020	63608	117837	31047
MEAN	1368	2770	6759	2378	8850	9967	12540	4991	1201	2052	3801	1035
MAX	6690	6580	20300	4730	54200	38600	37900	9800	2230	4910	19300	1770
MIN	434	941	2400	1000	2220	3560	4870	1760	795	998	982	810

CAL YR 1983 TOTAL 1391482 MEAN 3812 MAX 45800 MIN 418 CFSM 1.23 IN 16.65  
WTR YR 1984 TOTAL 1753934 MEAN 4792 MAX 54200 MIN 434 CFSM 1.54 IN 20.99

## 01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Records good except those for January, which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Lake (see station 01595800). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 4,161 ft<sup>3</sup>/s, 13.87 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft<sup>3</sup>/s Mar. 18, 1936, gage height, 47.6 ft, from rating curve extended above 120,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge observed, 180 ft<sup>3</sup>/s Oct. 4, 1932, gage height, 2.01 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2045	30100	15.21	Apr. 6	0315	63900	22.82
Feb. 15	1430	*79500	25.64	Apr. 23	2030	30100	15.22
Mar. 22	2015	31500	15.59	Aug. 14	1330	23300	13.21
Mar. 29	1645	55300	21.14				

Minimum discharge, 478 ft<sup>3</sup>/s Oct. 11, gage height, 2.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	518	1470	6920	3300	3000	8330	24500	11000	2730	1510	1070	1450
2	569	1330	6130	3200	2800	7020	21100	8940	2490	5610	1060	1390
3	692	1260	5290	3300	2600	6420	17300	7140	2270	4420	1150	1400
4	655	1200	4970	3100	2800	5850	14900	8360	2080	3160	1440	1360
5	607	1160	10900	3000	3700	5490	37400	9250	1920	2520	1500	1170
6	572	1090	11900	3200	3900	5660	54600	8200	1770	2290	1540	1180
7	526	1060	15500	3300	3400	6180	28200	8690	1690	2800	1390	1270
8	505	1040	15800	3000	2900	6410	19700	11400	1570	5310	1250	1210
9	494	1440	11900	2800	2800	6040	13900	11800	1450	3520	1170	1150
10	487	1610	9250	2600	2700	5320	10700	11300	1360	2550	1690	1100
11	487	1390	7500	2500	2900	4820	9300	9740	1290	2180	2750	1070
12	560	3840	6810	2400	2980	4710	7550	8330	1230	4040	8550	1050
13	611	3950	20300	2300	3670	4440	6720	7830	1180	4110	13200	1020
14	799	3400	24900	2200	15600	4280	6160	6950	1180	3220	18600	1010
15	1170	2850	16200	2250	73000	4490	7040	6280	1290	2650	16900	1420
16	1530	2660	11400	2100	46400	6950	15700	5630	1270	2280	10300	1600
17	969	3150	8710	2050	22700	9820	18300	4950	1160	2030	7090	1060
18	811	3470	7100	1900	16400	10900	15000	4270	1100	1790	5230	995
19	766	3230	6120	1850	12800	9890	11600	3950	1110	1660	4120	957
20	709	2940	5390	1400	10400	8720	9580	3750	1140	1520	3590	930
21	756	3010	4780	1300	9310	8940	8510	3560	1180	1340	3120	919
22	1040	3530	4390	1150	8140	24700	7430	3330	1070	1560	2680	902
23	2210	3550	3910	1300	7190	24300	18900	2980	1000	1750	2430	895
24	5870	3510	5270	1400	8730	15700	24500	3040	980	1710	2410	884
25	8550	3780	4800	1600	15900	11800	18600	2940	1010	1630	2610	870
26	5250	8090	3400	3800	15700	11400	14200	2630	1190	1420	2330	857
27	3710	7770	3200	5500	12100	18900	10900	2360	1100	1320	1940	851
28	2880	6290	3000	5200	10100	16100	9060	2200	992	1250	1780	896
29	2340	7110	3800	4500	9730	45900	8360	2420	930	1210	1800	904
30	1940	7780	4400	3800	---	40400	10900	3230	1060	1140	1850	844
31	1660	---	3600	3500	---	27700	---	2870	---	1100	1620	---
TOTAL	50243	97960	257540	84800	334350	377580	480610	189320	41792	74600	128160	32614
MEAN	1621	3265	8308	2735	11530	12180	16020	6107	1393	2406	4134	1087
MAX	8550	8090	24900	5500	73000	45900	54600	11800	2730	5610	18600	1600
MIN	487	1040	3000	1150	2600	4280	6160	2200	930	1100	1060	844
CFSM	.40	.80	2.04	.67	2.83	2.99	3.93	1.50	.34	.59	1.02	.27
IN.	.46	.89	2.35	.77	3.05	3.45	4.39	1.73	.38	.68	1.17	.30
CAL YR 1983	TOTAL	1719103	MEAN	4710	MAX	52500	MIN	460	CFSM	1.16	IN	15.70
WTR YR 1984	TOTAL	2149569	MEAN	5873	MAX	73000	MIN	487	CFSM	1.44	IN	19.63

## 01614500 CONOCOCHIEGUE CREEK AT FAIRVIEW, MD

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, Hydrologic Unit 02070004, on right bank 0.7 mi upstream from highway bridge in Fairview, 2.0 mi upstream from Rockdale Run, 6.5 mi northwest of Hagerstown, and 19.1 mi upstream from mouth.

DRAINAGE AREA.--494 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1432: 1929(M), 1930, 1931-32(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 391.85 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1932, nonrecording gage at highway bridge 0.7 mi downstream at datum 2.93 ft lower. Dec. 6, 1932, to Oct. 7, 1933, nonrecording gage 150 ft downstream from former site at datum 4.92 ft lower than present datum.

REMARKS.--Records good. Low flow partly regulated by small powerplants near Mercersburg, Pa. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--56 years, 596 ft<sup>3</sup>/s, 16.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft<sup>3</sup>/s June 23, 1972, gage height, 24.5 ft, from flood-mark, from rating curve extended above 15,000 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 21 ft<sup>3</sup>/s Aug. 8, Sept. 12, 1966; minimum daily discharge, 25 ft<sup>3</sup>/s Nov. 28, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1928, about 16.5 ft, present datum, sometime in 1889, from information by local residents, discharge, about 22,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	0645	6960	9.63	Apr. 5	1345	7970	10.32
Feb. 15	Unknown	*21500	17.97	July 7	1745	5730	8.72
Apr. 1	0130	4480	7.67				

Minimum discharge, 78 ft<sup>3</sup>/s Oct. 9, 10, gage height, 1.22 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	181	737	630	389	1340	3960	881	430	1930	244	333
2	111	172	620	571	367	1140	3490	794	399	1500	238	298
3	103	169	553	538	381	1030	2930	789	373	771	305	284
4	98	166	822	514	866	928	2840	1640	354	585	715	314
5	95	156	1180	495	1040	922	6740	1290	333	501	432	309
6	89	151	1230	527	770	1060	6800	1060	318	801	396	273
7	86	148	2590	641	571	990	4280	1040	309	4910	322	252
8	84	146	1580	548	456	886	2870	1130	299	2200	325	246
9	84	140	1170	458	445	827	2190	1270	282	1220	277	233
10	84	156	964	424	543	765	1810	1110	267	968	340	230
11	84	503	816	425	683	748	1560	986	257	850	1570	227
12	102	746	1160	354	787	700	1380	945	248	889	1670	212
13	185	490	4340	400	890	672	1240	883	241	687	1670	206
14	316	366	6520	360	8190	694	1150	813	364	573	1740	200
15	236	330	3500	348	19100	898	2400	746	361	503	2240	210
16	162	505	2190	331	9420	1110	2700	686	273	711	1340	209
17	130	546	1650	320	4360	1120	2330	634	258	526	987	203
18	118	445	1340	318	3030	1020	1850	597	337	458	795	193
19	153	368	1150	298	2330	938	1580	597	456	428	686	186
20	218	336	981	240	2010	875	1380	599	477	386	720	182
21	197	1110	840	240	1700	1080	1220	558	334	379	581	179
22	155	1010	1000	260	1460	1890	1100	534	291	407	507	174
23	369	680	1240	300	1310	1500	1880	504	269	371	514	171
24	1090	568	962	400	1690	1260	1680	511	276	342	512	169
25	699	1170	640	550	1840	1130	1470	456	700	314	440	168
26	497	1280	620	800	1740	1040	1270	425	455	290	393	162
27	378	885	720	1100	1460	919	1130	412	357	303	366	156
28	298	799	990	1000	1460	1320	1030	395	317	313	349	168
29	245	1030	1700	685	1660	3690	1000	565	288	284	502	172
30	210	901	911	521	---	3120	953	604	784	268	410	173
31	191	---	700	462	---	3630	---	478	---	256	361	---
TOTAL	6991	15653	45416	15058	70948	39242	68213	23932	10707	24924	21947	6492
MEAN	226	522	1465	486	2446	1266	2274	772	357	804	708	216
MAX	1090	1280	6520	1100	19100	3690	6800	1640	784	4910	2240	333
MIN	84	140	553	240	367	672	953	395	241	256	238	156
CFSM	.46	1.06	2.97	.98	4.95	2.56	4.60	1.56	.72	1.63	1.43	.44
IN.	.53	1.18	3.42	1.13	5.34	2.96	5.14	1.80	.81	1.88	1.65	.49

CAL YR 1983	TOTAL	255289	MEAN 699	MAX 6520	MIN 84	CFSM 1.42	IN 19.22
WTR YR 1984	TOTAL	349523	MEAN 955	MAX 19100	MIN 84	CFSM 1.93	IN 26.32

01617800 MARSH RUN AT GRIMES, MD

LOCATION.--Lat 39°30'53", long 77°46'38", Washington County, Hydrologic Unit 02070004, on right bank 220 ft upstream from bridge on Sprecher Road, 0.1 mi downstream from unnamed tributary, 0.5 mi southwest of Grimes, 1.5 mi upstream from mouth, and 2.2 mi southwest of Fairplay.

DRAINAGE AREA.--18.9 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 354.72 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 13.1 ft<sup>3</sup>/s, 9.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 450 ft<sup>3</sup>/s Feb. 26, 1979, gage height, 4.41 ft; no flow Oct. 1, 1977, result of regulation caused by construction work above station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 60 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 28	1730	65	1.98	Apr. 5	Unknown	102	2.34
Feb. 14	1645	*165	2.84	May 4	0330	83	2.17
Mar. 29	0530	78	2.12	May 8	2145	68	2.01
Mar. 31	2130	83	2.17				

Minimum discharge, 0.84 ft<sup>3</sup>/s Oct. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.1	5.6	11	11	30	74	34	23	19	8.0	6.7
2	1.8	1.2	4.4	11	11	30	62	32	24	16	7.9	6.4
3	1.7	1.4	4.5	11	19	29	58	39	23	14	10	6.4
4	1.6	1.2	9.9	11	24	28	54	64	21	13	12	7.0
5	1.6	1.4	9.2	12	20	31	70	39	18	14	11	6.7
6	1.6	1.5	9.4	13	16	31	64	38	20	18	11	6.4
7	1.3	1.6	11	13	13	28	60	40	21	28	10	6.4
8	1.3	1.7	8.9	12	12	27	56	47	18	15	9.0	6.1
9	1.2	1.5	8.2	11	12	26	54	55	18	13	8.4	6.1
10	1.3	2.2	7.9	11	13	25	49	41	17	13	8.7	6.4
11	1.5	7.9	7.7	11	16	25	47	39	18	15	9.2	6.1
12	1.9	8.3	12	10	16	24	44	39	19	14	11	6.1
13	2.3	5.6	40	10	16	25	41	36	17	12	22	5.8
14	3.7	3.7	42	10	95	26	39	35	17	12	17	5.8
15	2.2	3.9	27	10	76	29	50	34	17	12	13	6.1
16	1.9	4.3	22	9.8	49	24	60	32	17	11	8.8	6.1
17	1.8	3.7	20	9.6	41	22	58	31	17	11	8.3	6.1
18	1.8	3.3	19	9.9	39	23	55	31	17	12	8.2	5.8
19	1.8	3.6	18	9.5	36	23	48	31	17	11	8.4	5.8
20	2.0	4.5	17	9.0	33	23	45	30	18	11	8.6	5.8
21	2.5	10	16	8.5	31	28	43	29	15	14	8.3	5.8
22	2.1	6.1	19	8.5	30	28	40	29	14	13	8.0	5.8
23	5.3	5.3	18	8.5	30	25	56	35	15	10	11	5.5
24	6.6	5.6	16	9.0	51	23	46	27	18	9.5	9.8	5.5
25	3.2	13	12	10	42	24	40	26	19	9.9	8.5	5.5
26	2.4	9.6	11	15	36	24	37	28	16	11	7.7	4.8
27	2.1	7.8	10	19	33	23	36	24	16	12	6.7	5.1
28	1.8	8.1	28	18	39	34	35	25	15	11	5.6	5.8
29	1.6	8.3	30	14	35	68	38	35	14	10	7.7	5.8
30	1.8	7.4	15	12	---	67	36	28	15	10	7.7	5.8
31	1.2	---	12	12	---	75	---	22	---	9.5	7.4	---
TOTAL	66.9	144.8	490.7	349.3	895	948	1495	1075	534	403.9	298.9	179.5
MEAN	2.16	4.83	15.8	11.3	30.9	30.6	49.8	34.7	17.8	13.0	9.64	5.98
MAX	6.6	13	42	19	95	75	74	64	24	28	22	7.0
MIN	1.2	1.1	4.4	8.5	11	22	35	22	14	9.5	5.6	4.8
CFSM	.11	.26	.84	.60	1.64	1.62	2.64	1.84	.94	.69	.51	.32
IN.	.13	.28	.97	.69	1.76	1.87	2.94	2.12	1.05	.79	.59	.35
CAL YR 1983	TOTAL	3941.6	MEAN 10.8	MAX 59	MIN 1.1	CFSM .57	IN 7.76					
WTR YR 1984	TOTAL	6881.0	MEAN 18.8	MAX 95	MIN 1.1	CFSM 1.00	IN 13.54					

## 01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank 0.1 mi downstream from Rumsey Bridge at Shepherdstown, 3.3 mi upstream from Antietam Creek, and at mile 184.

DRAINAGE AREA.--5,936 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of the Mid-Atlantic district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Some regulation at low flow by power plants above station, prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Bloomington Lake (see station 01595800). Gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years (water years 1929-53, 1965-84), 6,158 ft<sup>3</sup>/s, 14.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft<sup>3</sup>/s Mar. 19, 1936, gage height, 42.1 ft, from floodmarks, from rating curve extended above 200,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 170 ft<sup>3</sup>/s Aug. 1, 1966; minimum daily discharge, 185 ft<sup>3</sup>/s July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft and 29.8 ft respectively, from floodmarks, discharges, about 290,000 ft<sup>3</sup>/s and 168,000 ft<sup>3</sup>/s respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 8	0500	24800	9.26	Mar. 30	0400	79100	19.25
Dec. 14	0930	48300	14.09	Apr. 6	1200	83800	19.97
Feb. 15	2200	*131000	26.07	Apr. 17	1500	28200	10.03
Feb. 25	1800	24600	9.22	Apr. 24	0800	38900	12.26
Mar. 23	0700	39300	12.35	Aug. 15	0400	26700	9.69
Mar. 27	2030	26100	9.56				

Minimum discharge, 731 ft<sup>3</sup>/s Oct. 11, gage height, 1.67 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	819	2200	9880	5500	5590	14900	43800	16000	4600	3020	1700	2540
2	813	2000	8530	5270	4830	12100	39300	14100	4280	5050	1700	2260
3	847	1820	7510	4750	4480	10600	32600	11300	3790	7510	1740	2130
4	942	1740	6960	4750	4570	9600	26800	14200	3470	5400	2170	2170
5	964	1690	11500	4750	5920	8800	39600	16900	3350	4120	2720	2150
6	902	1630	16500	4520	6780	8760	79400	14200	2990	3710	2530	2000
7	831	1570	19700	4640	6530	9080	52900	13200	2980	6640	2420	1900
8	803	1500	23500	4940	5540	9420	34200	15800	2790	9460	2210	1900
9	780	1390	18500	5070	4720	9140	24100	18600	2570	7530	2020	1870
10	753	1890	14100	4680	4420	8440	18700	17600	2400	5220	2170	1780
11	744	2500	11200	4290	4550	7600	15400	15600	2280	4310	3540	1700
12	795	3990	9740	4110	5000	7230	13100	13300	2220	3840	8790	1660
13	893	5810	20700	3680	5610	6980	11400	11900	2110	5840	14400	1620
14	1410	5060	45400	3170	16200	6650	10200	10900	1960	5060	19700	1580
15	1620	4260	32200	3240	104000	6960	11800	9640	2070	4220	25700	1600
16	1620	3840	20900	3280	99500	8840	20800	8570	2100	3680	18300	1830
17	1920	4080	15200	3380	45300	12900	27700	7710	2070	3500	11500	2120
18	1470	4520	11900	3210	30100	15300	24800	6820	2040	3300	8310	1690
19	1150	4480	9920	3300	22800	14600	19900	6140	2130	2880	6450	1460
20	1140	4030	8640	3090	18000	13000	16100	5490	2210	2570	5380	1460
21	1200	4680	7560	2300	15700	12000	13800	5140	2190	2560	4790	1420
22	1250	6360	6940	2000	13700	22600	12200	5200	2040	2520	4220	1380
23	1640	5840	7110	2050	12100	36600	16000	5040	1900	2520	3840	1380
24	5190	5200	6730	2150	13500	25500	36200	4710	1810	2690	3650	1340
25	10900	5920	6200	2480	22000	18300	28600	4660	1980	2540	3540	1350
26	9110	10800	5400	3310	23900	15400	22400	4340	2400	2380	3570	1310
27	6000	12300	4600	6480	20300	21700	17600	3920	2250	2250	3130	1320
28	4460	9780	4400	10000	16700	22500	14400	3620	2060	2130	2760	1220
29	3560	8990	6440	9510	16200	48200	13300	3940	1840	2050	2620	1310
30	2940	10600	8200	7980	---	69900	13500	4540	1900	1950	2830	1600
31	2510	---	6500	6560	---	47600	---	5090	---	1810	2770	---
TOTAL	69976	140470	392560	138440	558540	541200	750600	298170	74780	122260	181170	51050
MEAN	2257	4682	12660	4466	19260	17460	25020	9618	2493	3944	5844	1702
MAX	10900	12300	45400	10000	104000	69900	79400	18600	4600	9460	25700	2540
MIN	744	1390	4400	2000	4420	6650	10200	3620	1810	1810	1700	1220
CFSM	.38	.79	2.13	.75	3.25	2.94	4.22	1.62	.42	.66	.99	.29
IN.	.44	.88	2.46	.87	3.50	3.39	4.70	1.87	.47	.77	1.14	.32
CAL YR 1983	TOTAL	2575175	MEAN	7055	MAX	66900	MIN	735	CFSM	1.19	IN	16.14
WTR YR 1984	TOTAL	3319216	MEAN	9069	MAX	104000	MIN	744	CFSM	1.53	IN	20.80

## POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 29...	1200	8750	210	7.2	7.5	7.5	747	4.0	13.1	111	220	2300
JAN 23...	1300	2440	365	7.2	-5.0	.5	774	4.4	14.9	102	K6	K4
MAR 06...	1230	8780	250	7.6	2.0	3.0	756	3.3	14.3	107	K11	330
MAY 09...	1230	18900	220	7.5	13.0	13.0	752	14	10.8	104	K2100	460
JUL 09...	1200	7500	240	7.6	21.0	22.0	762	24	9.5	109	--	220
SEP 10...	1300	1740	390	7.9	23.0	22.0	760	2.7	10.0	115	60	44
DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 29...	84	34	25	5.3	6.2	13	.3	1.9	51	6.2	33	7.9
JAN 23...	150	56	44	8.6	11	14	.4	1.8	90	12	57	17
MAR 06...	110	41	32	6.1	5.4	10	.2	1.5	64	2.9	34	11
MAY 09...	89	32	27	5.3	4.2	9	.2	1.5	58	3.5	32	6.4
JUL 09...	99	31	30	5.8	5.1	10	.2	2.5	68	3.3	28	8.7
SEP 10...	160	62	50	9.4	11	13	.4	2.1	102	2.5	59	18
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)
NOV 29...	.20	6.1	121	120	.16	2860	1.5	.040	.05	1.2	.060	.18
JAN 23...	.10	5.3	223	200	.30	1470	2.0	.060	.08	.40	.040	.12
MAR 06...	<.10	6.0	147	130	.20	3480	1.8	<.010	--	.70	.020	.06
MAY 09...	.10	5.7	164	120	.22	8370	.97	.060	.08	.40	.100	.31
JUL 09...	<.10	6.5	171	130	.23	3460	1.8	.050	.06	.80	.080	--
SEP 10...	.20	1.6	243	210	.33	1140	1.4	.020	.03	.30	.060	--
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 29...	.040	.030	.09	20	1	52	<.5	<1	<1	<3	2	1
JAN 23...	.040	.030	.09	--	--	--	--	--	--	--	--	--
MAR 06...	.020	.010	.03	<10	1	48	<.5	<1	<1	<3	1	3
MAY 09...	.020	.020	.06	10	2	46	<1	<1	10	<3	1	1
JUL 09...	.070	.050	.15	--	--	--	--	--	--	--	--	--
SEP 10...	.070	.050	.15	10	2	63	<.0	<1	2	<3	1	2

K: Results based on colony count outside the accepted range (non-ideal colony count).

## POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDEDED (MG/L)	SED- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 29...	15	<.1	<10	3	<1	<1	130	<6	23	10	236	100
MAR 06...	52	<.1	<10	3	<1	<1	140	<6	8	8	190	76
MAY 09...	12	.2	<10	4	<1	<1	120	<6	7	45	2300	92
SEP 10...	4	.3	<10	<1	<1	<1	230	<6	<3	8	38	62



## POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, Hydrologic Unit 02070004, on left bank 400 ft downstream from Burnside Bridge, 1.0 mi southeast of Sharpsburg, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--281 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1897 to September 1905, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 192: 1897-1905. WSP 726: Drainage area. WSP 1432: 1929-31(M), 1933, 1935(M), 1937(M), 1949(M), 1952(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 29, 1934. Datum of gage is 311.05 ft National Geodetic Vertical Datum of 1929. June 24, 1897, to Aug. 25, 1905, nonrecording gage a few hundred feet downstream from Middle Bridge, 1.2 mi upstream at datum 12 ft higher. Aug. 21, 1928, to July 13, 1933, nonrecording gage at Burnside Bridge, 0.1 mi upstream at present datum.

REMARKS.--Records good. Some diurnal fluctuation caused by powerplant above station. Since 1928 records include pumpage from the Potomac River for municipal supply of Hagerstown. This water later enters Antietam Creek above station as sewage.

AVERAGE DISCHARGE.--61 years (water years 1898-1903, 1905, 1931-84), 278 ft<sup>3</sup>/s, 13.44 in/yr, adjusted for inflow since January 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft<sup>3</sup>/s July 20, 1956, gage height, 16.73 ft; minimum discharge, 9.4 ft<sup>3</sup>/s Nov. 22, 1957, result of regulation caused by construction work above station; minimum daily discharge, 37 ft<sup>3</sup>/s Jan. 30, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	0030	2300	6.62	Mar. 29	0930	1550	5.50
Feb. 15	0745	*5400	10.31	Apr. 5	1915	2150	6.40
Feb. 24	1445	1850	5.96	Aug. 13	1045	4690	9.55

Minimum discharge, 100 ft<sup>3</sup>/s Oct. 10, gage height, 2.35 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	130	244	386	294	823	1390	672	423	366	207	291
2	123	129	230	380	286	763	1280	627	407	349	205	280
3	116	130	221	371	399	720	1190	623	388	279	219	280
4	116	129	304	362	570	679	1190	1080	377	260	420	300
5	111	126	361	359	467	680	1920	836	366	253	287	289
6	109	125	328	370	400	723	1770	752	357	349	262	269
7	107	124	462	373	350	661	1340	743	352	866	240	258
8	107	124	398	343	320	621	1130	767	343	512	224	251
9	105	121	351	321	311	601	1020	947	331	384	210	245
10	102	131	323	332	314	571	937	785	319	362	223	243
11	106	243	300	333	354	556	872	736	312	347	658	239
12	128	261	382	299	378	547	818	710	309	322	673	235
13	198	188	1390	289	376	543	773	683	301	301	1630	228
14	287	160	1980	290	2610	538	744	654	297	287	1360	226
15	187	157	1100	283	4240	573	965	623	296	275	1060	241
16	132	181	832	274	2090	568	1130	595	284	268	706	230
17	121	179	696	271	1390	576	1120	568	285	267	579	218
18	118	162	619	273	1140	568	1020	548	320	274	507	215
19	118	152	568	267	986	558	914	543	371	271	462	211
20	130	150	518	250	888	549	850	534	326	253	490	210
21	137	304	477	243	800	595	798	505	283	286	426	206
22	120	286	548	235	734	750	757	490	271	266	384	200
23	208	210	594	237	707	646	935	575	268	253	450	197
24	417	199	488	249	1420	619	865	524	280	246	493	194
25	261	361	360	333	1220	603	790	474	395	235	383	195
26	197	386	340	410	1160	591	739	448	314	226	350	190
27	173	279	360	513	967	575	708	430	283	242	334	187
28	156	262	580	478	1040	656	680	421	268	236	324	201
29	144	292	870	357	982	1410	721	522	259	221	322	206
30	135	280	491	327	---	1180	673	545	265	216	314	195
31	131	---	410	311	---	1290	---	451	---	213	304	---
TOTAL	4740	5961	17125	10119	27193	21333	30039	19411	9650	9485	14706	6930
MEAN	153	199	552	326	938	688	1001	626	322	306	474	231
MAX	417	386	1980	513	4240	1410	1920	1080	423	866	1630	300
MIN	102	121	221	235	286	538	673	421	259	213	205	187
(†)	-14.3	-14.4	-15.3	-15.8	-15.1	-14.8	-15.2	-15.3	-16.7	-15.5	-15.7	-15.5
MEAN#	139	185	537	310	923	673	986	611	305	290	458	216
CFSM#	0.49	0.66	1.91	1.10	3.28	2.40	3.51	2.17	1.09	1.03	1.63	0.77
IN#	0.56	0.74	2.20	1.27	3.54	2.77	3.92	2.50	1.22	1.19	1.88	0.86

CAL YR 1983 TOTAL 119950 MEAN 329 MAX 1980 MIN 100 MEAN# 318 CFSM# 1.13 IN# 15.36  
WTR YR 1984 TOTAL 176692 MEAN 483 MAX 4240 MIN 102 MEAN# 468 CFSM# 1.67 IN# 22.64

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

# Adjusted for pumpage.

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 5.0.

DRAINAGE AREA.--3,040 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft National Geodetic Vertical Datum of 1929. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--Water-discharge records good except those for January and February, which are fair. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi upstream from station. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers' satellite telemeter at station.

AVERAGE DISCHARGE.--69 years (water years 1896-1908, 1929-84), 2,712 ft<sup>3</sup>/s, 12.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft<sup>3</sup>/s Oct. 16, 1942, gage height, 32.4 ft, from flood-marks; minimum discharge, about 59 ft<sup>3</sup>/s Oct. 4, 1930, gage height, 0.39 ft; minimum daily discharge, 194 ft<sup>3</sup>/s July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	0500	25200	10.93	Apr. 6	1215	27900	11.48
Feb. 15	2245	*58600	16.66	Apr. 17	1345	16700	8.89
Feb. 25	0815	21400	10.10	Apr. 24	0730	16600	8.85
Mar. 30	1230	44400	14.49				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	702	1530	3660	5040	3060	8380	20200	7220	2080	1210	856	1230
2	827	1350	3260	4580	2820	7120	15600	6270	1960	1400	1020	1180
3	827	1290	2940	4090	2780	6200	12700	5700	1850	1690	1060	1110
4	638	1110	3050	3980	2860	5610	10700	6370	1810	1960	1090	1130
5	673	1120	5060	3510	2990	5220	15600	8200	1720	1630	1580	1240
6	718	1140	7770	3410	3240	5010	24700	7850	1660	1690	1500	1130
7	578	987	6970	3300	3170	4780	18000	7710	1610	1600	1560	1080
8	533	1090	6250	3100	2910	4660	12700	9450	1700	1400	1490	1050
9	558	1010	5330	2870	2570	4510	9880	8600	1580	1280	1360	985
10	552	1030	4470	2710	2440	4220	8240	7530	1520	1260	1480	926
11	527	1440	3840	2990	2390	4040	7180	6550	1430	1310	1770	990
12	604	2060	3710	4020	2490	3850	6400	5800	1380	1160	1910	834
13	817	2320	9710	4170	2620	3730	5820	5220	1370	1450	2890	879
14	1430	2250	22300	3280	12500	3740	5460	4760	1430	1560	6600	852
15	1480	1980	14000	2990	50400	4590	6750	4340	1350	1370	8400	902
16	1360	1780	9450	2780	41900	5880	11400	3990	1260	1200	6600	866
17	1190	1680	7180	2660	18800	6030	16100	3660	1240	1080	4940	919
18	804	1600	5840	2560	13000	5610	14000	3400	1240	1080	3750	826
19	876	1530	4950	2530	10000	5250	10700	3240	1350	1140	2970	747
20	752	1520	4340	2460	8200	5000	8680	3050	1310	1040	2490	692
21	737	1840	3830	2240	7030	5000	7380	2920	1280	1040	2220	781
22	944	2500	3690	1820	6150	6880	6530	2760	1160	1160	1920	777
23	1420	2280	4170	1610	5600	10500	9880	2620	1120	1170	1810	758
24	3930	2280	7290	1700	11500	9340	15500	2470	1090	1150	1650	761
25	5330	3530	7300	2000	19600	7380	12100	2370	1180	1330	1460	767
26	5600	7270	5730	2160	14500	7310	9770	2330	1250	1210	1410	745
27	4050	7550	4680	6570	10800	7910	8160	2170	1110	1180	1400	697
28	3030	5780	4990	5330	9220	7600	7050	2130	1130	1040	1240	738
29	2370	4790	6140	4170	9120	28100	6540	2310	1060	1010	1310	783
30	1920	4090	9720	3620	---	42600	6720	2330	954	1170	1360	805
31	1690	---	7270	3370	---	30100	---	2160	---	1120	1220	---
TOTAL	47467	71727	198890	101620	284660	266150	330440	145480	42184	40090	72316	27180
MEAN	1531	2391	6416	3278	9816	8585	11010	4693	1406	1293	2333	906
MAX	5600	7550	22300	6570	50400	42600	24700	9450	2080	1960	8400	1240
MIN	527	987	2940	1610	2390	3730	5460	2130	954	1010	856	692
CFSM	.50	.79	2.11	1.08	3.23	2.82	3.62	1.54	.46	.43	.77	.30
IN.	.58	.88	2.43	1.24	3.48	3.26	4.04	1.78	.52	.49	.88	.33

CAL YR 1983 TOTAL 1366363 MEAN 3743 MAX 29400 MIN 527 CFSM 1.23 IN 16.72  
WTR YR 1984 TOTAL 1628204 MEAN 4449 MAX 50400 MIN 527 CFSM 1.46 IN 19.92

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983 (discontinued).

WATER TEMPERATURES: October 1980 to September 1983 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 29...	1015	4850	240	7.4	8.0	8.0	746	12	11.7	101	630	1200
JAN 23...	1100	1460	398	8.0	-5.0	.0	774	2.4	15.0	101	K3	<1
MAR 06...	1000	5000	305	7.8	2.0	5.0	751	5.2	13.0	103	K6	190
MAY 09...	1030	8680	245	7.7	13.0	14.0	754	16	9.6	94	360	34
JUL 09...	1030	1300	440	8.4	17.0	22.0	763	3.6	9.0	103	--	K14
SEP 10...	1130	1030	420	7.8	23.0	21.0	759	1.7	9.5	107	K14	110

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 29...	96	17	27	7.0	9.2	17	.4	2.4	79	6.1	26	7.3
JAN 23...	150	22	43	11	15	17	.5	1.9	131	2.4	40	12
MAR 06...	130	25	37	8.4	9.0	13	.4	1.6	102	3.1	25	10
MAY 09...	100	17	30	7.2	6.2	11	.3	1.6	88	3.4	24	6.1
JUL 09...	180	28	50	14	19	18	.6	2.5	155	1.2	55	14
SEP 10...	160	24	40	14	24	25	.9	2.4	134	4.1	55	17

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)
NOV 29...	.10	6.7	139	130	.19	1820	1.4	.100	.13	1.2	.170	.52
JAN 23...	.10	5.3	218	210	.30	859	2.1	.040	.05	.60	.100	.31
MAR 06...	<.10	6.4	171	160	.23	2310	1.8	<.010	--	.90	.040	.12
MAY 09...	.20	6.2	124	130	.17	2910	1.2	.080	.10	.50	.180	.55
JUL 09...	.10	6.6	283	250	.38	993	1.5	<.010	--	.90	.120	--
SEP 10...	.10	.5	250	230	.34	695	.68	.060	.08	.40	.020	--

K: Results based on colony count outside the accepted range (non-ideal colony count).

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 29...	.110	.120	.37	10	1	42	<.5	<1	<1	<3	2	1
JAN 23...	.080	.060	.18	--	--	--	--	--	--	--	--	--
MAR 06...	.030	.030	.09	<10	<1	39	<.5	<1	<1	<3	1	5
MAY 09...	.120	.050	.15	<10	1	36	<1	<1	<1	<3	4	1
JUL 09...	.100	.070	.21	--	--	--	--	--	--	--	--	--
SEP 10...	.020	.020	.06	<10	1	44	<.0	<1	4	<3	1	10
DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 29...	3	<.1	<10	1	<1	<1	94	<6	8	23	301	100
MAR 06...	7	.1	<10	3	<1	<1	110	<6	26	10	135	77
MAY 09...	2	.1	<10	2	<1	<1	92	<6	9	57	1340	84
SEP 10...	3	.2	<10	<1	<1	<1	160	<6	<3	5	14	74

## 01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD

LOCATION.--Lat 39°25'35", long 77°33'25", Frederick County, Hydrologic Unit 02070008, on right bank 300 ft downstream from bridge on State Highway 17, 1.3 mi south of Middletown, 2.2 mi downstream from Little Catoctin Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--66.9 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1432: 1947-48. WDR MD-DE-77-1: 1960(M), 1965(M), 1970(M), 1972(P), 1975(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 385 ft, from topographic map.

REMARKS.--Records good except those for January, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 76.9 ft<sup>3</sup>/s, 15.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft<sup>3</sup>/s Oct. 9, 1976, gage height, 14.13 ft, from rating curve extended above 2,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow Aug. 27 to Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2000	1290	4.65	Feb. 14	1430	*5040	8.90

Minimum discharge, 2.0 ft<sup>3</sup>/s Oct. 9, gage height, 1.45 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	17	82	65	55	261	470	139	104	38	13	21
2	8.1	16	73	60	75	227	426	119	92	34	13	20
3	5.6	16	68	55	88	196	380	228	82	23	23	30
4	4.0	16	171	55	120	172	388	486	74	20	68	38
5	3.8	15	136	55	139	188	578	274	65	30	28	27
6	4.1	16	170	60	84	193	418	236	60	102	35	22
7	2.7	16	193	64	68	152	343	218	56	218	25	19
8	2.4	15	136	58	59	134	279	267	51	58	20	17
9	2.2	14	116	58	76	126	234	261	47	40	17	16
10	2.3	20	101	55	68	116	205	215	42	39	48	16
11	2.4	110	88	50	213	112	180	193	39	37	412	16
12	45	79	192	43	131	102	162	185	36	30	164	15
13	45	43	931	46	126	101	149	161	34	25	350	14
14	72	34	557	46	2720	120	147	146	31	22	188	14
15	22	33	276	45	978	140	278	130	31	20	135	15
16	12	46	182	40	587	164	369	118	30	19	96	15
17	8.8	36	143	38	446	168	325	106	33	29	77	14
18	7.3	29	122	38	380	150	323	99	45	27	65	13
19	7.0	27	108	36	309	141	259	101	48	22	59	12
20	7.7	30	94	36	267	131	225	90	32	17	58	11
21	10	157	83	46	222	236	195	82	28	49	47	11
22	11	74	192	48	186	209	180	78	25	33	42	9.8
23	94	57	105	47	229	175	252	207	26	24	55	9.2
24	206	56	78	51	626	158	192	155	43	20	53	9.3
25	64	253	60	115	568	152	168	101	87	16	38	9.3
26	53	138	56	198	421	184	150	89	39	14	33	8.9
27	37	103	66	217	345	150	137	79	35	26	30	8.2
28	28	105	237	131	417	378	136	77	35	26	28	14
29	22	138	134	80	336	700	171	245	23	17	27	16
30	20	96	70	68	---	574	144	162	25	15	26	14
31	17	---	68	60	---	513	---	120	---	14	24	---
TOTAL	832.1	1805	5088	2064	10339	6523	7863	5167	1398	1104	2297	474.7
MEAN	26.8	60.2	164	66.6	357	210	262	167	46.6	35.6	74.1	15.8
MAX	206	253	931	217	2720	700	578	486	104	218	412	38
MIN	2.2	14	56	36	55	101	136	77	23	14	13	8.2
CFSM	.40	.90	2.45	1.00	5.34	3.14	3.92	2.50	.70	.53	1.11	.24
IN.	.46	1.00	2.83	1.15	5.75	3.63	4.37	2.87	.78	.61	1.28	.26
CAL YR 1983	TOTAL	33605.7	MEAN	92.1	MAX	1360	MIN	1.1	CFSM	1.38	IN	18.69
WTR YR 1984	TOTAL	44954.8	MEAN	123	MAX	2720	MIN	2.2	CFSM	1.84	IN	25.00

## 01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--Water-discharge records good. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981, by Bloomington Lake (see station 01595800). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Gage-height telemeter at station.

AVERAGE DISCHARGE.--89 years, 9,420 ft<sup>3</sup>/s, 13.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft<sup>3</sup>/s Mar. 19, 1936, gage height, 41.03 ft from rating curve extended above 300,000 ft<sup>3</sup>/s on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum discharge, 530 ft<sup>3</sup>/s Sept. 11, 12, 1966, gage height, 0.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft<sup>3</sup>/s from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 35,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	1400	81100	15.10	Apr. 6	1730	117000	19.49
Feb. 16	0330	*199000	28.14	Apr. 17	1930	47500	10.39
Feb. 25	1900	45900	10.14	Apr. 24	1530	55100	11.53
Mar. 23	1530	49500	10.69	Aug. 15	1730	36100	8.58
Mar. 30	0930	128000	20.80				

Minimum discharge, 1,340 ft<sup>3</sup>/s Oct. 11, gage height, 0.76 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	4330	15200	12600	10100	26600	70700	25000	7690	4270	3260	4410
2	1770	3860	13400	11000	8830	22500	61100	22800	7140	6310	2940	4100
3	1830	3540	12000	9900	8410	19300	50800	20100	6690	9640	3280	3920
4	1690	3300	11900	9560	9390	17400	42700	24100	6320	9120	3740	4080
5	1750	3060	15200	9220	9910	16100	52600	28200	5950	7100	4550	3930
6	1760	3030	24900	8900	11200	15700	106000	25900	5750	6390	4850	3750
7	1670	2950	26600	8980	11000	15500	86300	23500	5370	8710	4500	3460
8	1440	2780	31100	9080	10100	15600	54400	26600	5330	12800	4420	3420
9	1440	2690	26800	8820	8590	15300	40200	30000	5130	11000	3940	3320
10	1410	2700	21400	8320	7900	14400	31800	28200	4720	8280	3940	3220
11	1380	4240	17400	8100	8220	13200	26400	25200	4530	6840	6250	3080
12	1630	5750	15500	7900	8630	12500	23100	22000	4340	5960	10000	3000
13	1790	8370	27700	7700	9280	12200	20000	19500	4240	6950	24200	2850
14	2700	8590	75600	7300	27200	11900	18200	17900	4090	8030	26300	2830
15	3680	7390	58200	6900	141000	12500	20400	16100	4050	6630	34100	2930
16	3210	6460	37100	6500	174000	15300	31600	14600	4050	5660	29700	2800
17	3360	6260	27200	6300	80500	19500	45800	13300	4030	5260	19900	3410
18	2940	6620	21400	5900	49000	22100	43800	12200	4060	5040	14700	3180
19	2320	6750	17400	5700	37700	21900	35500	11100	4220	4650	11400	2730
20	2120	6340	14900	5000	30500	20100	29000	10500	4230	4200	9500	2450
21	2100	7110	13100	4500	25900	19000	24600	10000	4280	4280	8360	2520
22	2170	9390	12900	4000	22500	25700	21700	9520	4000	4130	7300	2530
23	3350	9480	12900	3600	19900	46400	24000	9530	3750	4050	6620	2450
24	7650	8680	15000	3900	25800	39400	49300	9220	3620	4190	6360	2450
25	15500	10500	15500	5000	41900	29300	45300	8560	3840	4260	5800	2400
26	17300	17400	11800	6000	42100	25500	36300	8230	4160	4120	5610	2390
27	12100	21900	9710	11000	35600	28800	29300	7620	4070	3970	5470	2270
28	8920	18100	11400	16200	30500	34400	24400	7060	3910	3690	4830	2400
29	7040	15500	14300	15800	28700	70400	22300	7240	3650	3500	4590	2260
30	5700	15700	17800	13500	---	124000	21500	7780	3390	3480	4620	2580
31	4820	---	15100	11500	---	92100	---	8320	---	3390	4700	---
TOTAL	128160	232770	660410	258680	934360	874600	1189100	509880	140600	185900	289730	91120
MEAN	4134	7759	21300	8345	32220	28210	39640	16450	4687	5997	9346	3037
MAX	17300	21900	75600	16200	174000	124000	106000	30000	7690	12800	34100	4410
MIN	1380	2690	9710	3600	7900	11900	18200	7060	3390	3390	2940	2260
CFSM	.43	.80	2.21	.87	3.34	2.92	4.11	1.70	.49	.62	.97	.32
IN.	.49	.90	2.55	1.00	3.60	3.37	4.58	1.97	.54	.72	1.12	.35
CAL YR 1983	TOTAL	4398830	MEAN	12050	MAX	109000	MIN	1380	CFSM	1.25	IN	16.96
WTR YR 1984	TOTAL	5495310	MEAN	15010	MAX	174000	MIN	1380	CFSM	1.56	IN	21.18

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1960 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.5°C Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,350 mg/L Apr. 3, 1970; minimum daily mean, 1 mg/L on many days most years.

SEDIMENT LOADS: Maximum daily, 689,000 tons June 23, 1972; minimum daily, 2.0 tons on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 28.0°C Aug. 3; minimum daily, 0.0°C Jan. 12-14.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,470 mg/L Feb. 15; minimum daily mean, 3 mg/L Oct. 9, 10, Nov. 5-9.

SEDIMENT LOADS: Maximum daily, 564,000 tons Feb. 15; minimum daily, 11 tons Oct. 10.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC 14...	1140	80000	445	96100	--	43	56
FEB 16...	0900	192000	625	324000	--	46	59
16...	1218	182000	555	273000	61	68	79
16...	1238	180000	649	315000	45	47	68
16...	1302	179000	507	245000	42	58	70
16...	1322	178000	515	248000	55	60	74
MAR 30...	1105	128000	581	201000	--	33	43

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
DEC 14...	67	76	84	91	97	100	--
FEB 16...	71	78	84	90	96	100	--
16...	87	93	97	98	100	--	--
16...	80	86	96	98	99	100	--
16...	82	89	94	96	98	99	100
16...	80	94	98	100	--	--	--
MAR 30...	51	57	68	77	87	99	100

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	10.0	7.0	---	1.0	4.0	6.0	15.0	17.0	25.0	25.0	22.0
2	19.0	10.0	5.0	---	1.0	3.0	7.0	15.0	19.0	27.0	26.0	25.0
3	17.0	14.0	6.0	---	2.0	4.0	8.0	15.0	20.0	26.0	28.0	24.0
4	17.0	10.0	6.0	---	3.0	4.0	8.0	15.0	19.0	24.0	26.0	24.0
5	19.0	9.0	6.0	1.0	3.0	3.0	9.0	15.0	20.0	27.0	27.0	21.0
6	20.0	9.0	6.0	1.0	2.0	4.0	10.0	13.0	21.0	24.0	25.0	21.0
7	17.0	9.0	5.0	1.0	2.0	4.0	8.0	13.0	23.0	24.0	26.0	20.0
8	16.0	9.0	6.0	1.0	1.0	4.0	9.0	13.0	23.0	24.0	26.0	19.0
9	20.0	9.0	5.0	---	2.0	3.0	8.0	13.0	24.0	22.0	27.0	21.0
10	17.0	10.0	5.0	---	3.0	3.0	9.0	12.0	25.0	22.0	26.0	21.0
11	15.0	10.0	5.0	---	3.0	4.0	9.0	12.0	26.0	23.0	26.0	22.0
12	17.0	7.0	6.0	.0	5.0	4.0	10.0	14.0	26.0	23.0	25.0	23.0
13	19.0	8.0	6.0	.0	5.0	4.0	11.0	14.0	27.0	23.0	25.0	22.0
14	16.0	8.0	7.0	.0	5.0	4.0	12.0	15.0	27.0	23.0	24.0	23.0
15	15.0	7.0	8.0	1.0	6.0	3.0	12.0	14.0	26.0	24.0	23.0	23.0
16	17.0	7.0	8.0	1.0	6.0	5.0	12.0	15.0	23.0	26.0	21.0	---
17	15.0	6.0	7.0	1.0	7.0	7.0	10.0	15.0	21.0	25.0	22.0	18.0
18	15.0	6.0	6.0	---	8.0	7.0	11.0	14.0	22.0	27.0	22.0	18.0
19	15.0	7.0	5.0	---	9.0	8.0	10.0	14.0	24.0	26.0	23.0	18.0
20	14.0	6.0	3.0	---	8.0	7.0	10.0	16.0	24.0	24.0	23.0	19.0
21	13.0	8.0	---	---	7.0	9.0	10.0	21.0	23.0	24.0	21.0	20.0
22	13.0	8.0	---	---	8.0	8.0	10.0	18.0	23.0	25.0	22.0	20.0
23	13.0	9.0	---	1.0	6.0	7.0	9.0	20.0	23.0	25.0	24.0	23.0
24	13.0	9.0	---	---	8.0	7.0	9.0	18.0	22.0	25.0	22.0	22.0
25	13.0	8.0	---	2.0	7.0	7.0	9.0	19.0	24.0	24.0	22.0	22.0
26	13.0	8.0	---	2.0	6.0	8.0	10.0	20.0	22.0	25.0	24.0	22.0
27	12.0	9.0	---	2.0	5.0	7.0	12.0	20.0	23.0	25.0	22.0	17.0
28	11.0	8.0	---	1.0	5.0	7.0	12.0	20.0	25.0	24.0	23.0	15.0
29	12.0	8.0	---	1.0	4.0	5.0	12.0	20.0	23.0	24.0	24.0	15.0
30	11.0	7.0	---	1.0	---	5.0	15.0	18.0	24.0	24.0	24.0	15.0
31	11.0	---	---	1.0	---	5.0	---	17.0	---	24.0	24.0	---

## SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7	31	9	105	14	575	15	510	14	382	21	1510
2	7	33	8	83	12	434	14	416	13	310	18	1090
3	8	40	6	57	11	356	13	347	12	272	13	677
4	8	37	4	36	10	321	12	310	11	279	11	517
5	8	38	3	25	12	492	11	274	11	294	10	435
6	7	33	3	25	48	3230	11	264	11	333	10	424
7	6	27	3	24	59	4240	11	267	8	238	10	418
8	4	16	3	23	99	8310	10	245	8	218	15	632
9	3	12	3	22	78	5640	10	238	7	162	12	496
10	3	11	5	36	46	2660	10	225	6	128	7	272
11	4	15	6	69	23	1080	10	219	5	111	6	214
12	5	22	7	109	18	753	13	277	6	140	5	169
13	6	29	10	226	50	3740	15	312	6	150	6	198
14	11	80	10	232	376	75700	19	374	653	65500	7	225
15	21	209	13	259	185	29100	16	298	1470	564000	7	236
16	10	87	9	157	70	7010	14	246	720	355000	12	496
17	10	91	5	85	36	2640	13	221	223	51600	16	842
18	11	87	4	71	22	1270	11	175	117	15500	17	1010
19	8	50	4	73	15	705	9	139	83	8450	24	1420
20	5	29	5	86	14	563	7	94	65	5350	20	1090
21	4	23	9	173	12	424	5	61	50	3500	18	923
22	5	29	14	355	10	348	5	54	32	1940	40	2780
23	7	63	13	333	10	348	5	49	30	1610	215	26900
24	20	413	10	234	15	607	5	53	50	3480	175	18600
25	50	2090	20	567	13	544	5	67	125	14100	58	4590
26	49	2290	43	2020	11	350	7	113	100	11400	30	2070
27	24	784	50	2960	10	262	21	624	60	5770	26	2020
28	17	409	36	1760	15	462	27	1180	50	4120	55	5110
29	13	247	26	1090	20	772	25	1070	27	2090	314	72900
30	12	185	16	678	30	1440	23	838	---	---	520	174000
31	10	130	---	---	20	815	18	559	---	---	224	58800
TOTAL	---	7640	---	11973	---	155191	---	10119	---	1116427	---	381064



**SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984**

**TOTAL LOAD FOR YEAR: 2165163 TONS.**

## 01639000 MONOCACY RIVER AT BRIDGEPORT, MD

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, Hydrologic Unit 02070009, on right bank 60 ft downstream from bridge on State Highway 140 at Bridgeport, 0.9 mi upstream from Cattail Branch, 3.4 mi northwest of Taneytown, 4.8 mi downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 52 mi upstream from mouth.

DRAINAGE AREA.--173 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1942 to current year.

REVISED RECORDS.--WSP 1382: 1944(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 15, 1947. Datum of gage is 340.83 ft Corps of Engineers datum. Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mi downstream at datum 0.98 ft lower.

REMARKS.--Records good. Occasional regulation at low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--42 years, 206 ft<sup>3</sup>/s, 16.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft<sup>3</sup>/s June 22, 1972, gage height, 24.05 ft, from rating curve extended above 7,000 ft<sup>3</sup>/s on basis of slope-conveyance study; no flow July 24-29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 24, 1933, reached a stage of about 25 ft present site and datum, from floodmarks, discharge, about 23,000 ft<sup>3</sup>/s. Stage exceeded that of June 1889, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2130	9830	14.65	Mar. 30	2200	5050	10.37
Feb. 14	2200	*11700	16.07	May 4	0530	7220	12.46
Feb. 15	2100	5000	10.32	May 29	1600	5740	11.07
Feb. 24	0700	8040	13.18	July 7	0630	5800	11.13
Mar. 29	0330	7380	12.60	Aug. 11	1230	5920	11.25

Minimum discharge, 2.3 ft<sup>3</sup>/s Oct. 11, gage height, 1.77 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	25	225	132	131	392	866	238	197	215	23	39
2	4.9	30	172	126	90	298	522	133	136	149	21	34
3	5.9	29	159	116	187	253	421	264	102	66	87	34
4	6.5	28	1050	114	995	216	738	3490	82	45	363	40
5	5.8	28	603	115	664	295	2780	542	66	39	100	120
6	5.4	27	546	120	486	637	953	336	56	665	59	55
7	4.8	26	1080	152	185	370	537	379	50	2760	41	40
8	3.7	26	344	118	132	251	387	1000	45	360	34	34
9	3.1	25	256	105	107	213	303	1120	40	184	33	32
10	2.9	28	209	95	140	183	254	396	37	131	1120	32
11	2.4	188	176	96	369	185	216	283	34	113	2140	30
12	3.5	209	384	84	463	180	187	239	31	124	1440	28
13	48	110	5880	75	423	165	169	202	27	83	1360	24
14	91	77	3470	78	5130	273	166	163	42	63	886	22
15	47	71	743	79	5160	794	879	139	44	52	695	22
16	20	257	453	62	1860	783	1250	123	29	46	291	20
17	14	155	323	52	894	494	805	108	27	42	198	19
18	11	100	251	54	849	299	486	96	47	40	144	18
19	10	80	222	52	550	245	333	112	488	53	118	18
20	34	74	174	44	450	207	267	107	118	37	217	17
21	23	965	123	34	343	994	220	88	62	78	108	17
22	16	265	1300	35	274	775	186	81	45	64	80	16
23	28	159	851	31	294	380	613	215	37	53	249	15
24	476	135	309	42	4370	272	497	221	46	43	251	15
25	159	1480	150	142	1180	244	346	100	182	35	107	14
26	115	477	110	487	638	231	231	79	106	28	75	14
27	76	244	140	1040	401	183	191	68	62	116	63	15
28	49	322	563	1050	1910	1440	168	61	42	59	54	17
29	34	1430	930	310	949	4070	161	2780	35	37	55	50
30	26	354	221	156	---	2580	145	1130	117	31	54	24
31	23	---	188	126	---	1860	---	378	---	26	45	---
TOTAL	1352.8	7424	21605	5322	29624	19762	15277	14671	2432	5837	10511	875
MEAN	43.6	247	697	172	1022	637	509	473	81.1	188	339	29.2
MAX	476	1480	5880	1050	5160	4070	2780	3490	488	2760	2140	120
MIN	2.4	25	110	31	90	165	145	61	27	26	21	14
CFSM	.25	1.43	4.03	.99	5.91	3.68	2.94	2.73	.47	1.09	1.96	.17
IN.	.29	1.60	4.65	1.14	6.37	4.25	3.28	3.15	.52	1.26	2.26	.19

CAL YR 1983	TOTAL	109562.00	MEAN	300	MAX	6790	MIN	.90	CFSM	1.73	IN	23.56
WTR YR 1984	TOTAL	134692.80	MEAN	368	MAX	5880	MIN	2.4	CFSM	2.13	IN	28.96

## 01639500 BIG PIPE CREEK AT BRUCEVILLE, MD

LOCATION.--Lat 39°36'45", long 77°14'10", Carroll County, Hydrologic Unit 02070009, on left bank 300 ft downstream from bridge on State Highway 194, 800 ft downstream from Bruceville, 3.5 mi upstream from Detour, and confluence with Little Pipe Creek.

DRAINAGE AREA.--102 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to current year. Prior to December 1947, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 340 ft, from topographic map.

REMARKS.--Records good. Occasional diversion for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 112 ft<sup>3</sup>/s, 14.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s Sept. 26, 1975, gage height, 18.98 ft, from rating curve extended above 3,900 ft<sup>3</sup>/s on the basis of contracted-opening measurement at gage height 17.86 ft; minimum daily discharge, 1.0 ft<sup>3</sup>/s Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2000	*4150	9.64	May 3	2330	2530	6.95
Feb. 14	1430	2510	6.93	July 7	0100	3790	9.13
Feb. 24	0330	2400	6.70	Aug. 3	2230	2220	6.33

Minimum discharge, 7.5 ft<sup>3</sup>/s Oct. 11, gage height, 0.78 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	30	112	110	95	246	404	160	126	110	49	55
2	25	29	94	100	93	217	322	137	113	85	48	54
3	24	29	92	100	234	193	279	355	104	68	319	55
4	23	30	396	95	516	175	477	856	97	63	306	123
5	21	29	202	97	277	242	887	271	91	62	86	81
6	17	29	244	99	161	297	556	230	89	375	73	61
7	19	29	253	98	107	208	378	246	87	1200	61	56
8	18	28	141	86	99	176	310	345	83	171	56	53
9	16	28	120	87	123	172	268	361	78	120	113	51
10	17	33	107	83	152	156	244	230	74	102	372	51
11	16	194	95	80	367	162	225	202	73	99	107	51
12	20	132	136	76	254	148	209	192	72	87	310	49
13	45	67	2050	80	202	149	202	174	69	74	467	45
14	31	50	1050	80	1190	273	210	163	70	68	253	46
15	27	48	347	78	944	310	558	151	66	64	553	49
16	22	94	241	76	552	242	540	144	64	62	146	45
17	23	66	189	75	337	199	360	135	71	59	114	43
18	21	50	159	74	297	175	284	132	102	86	96	42
19	21	45	145	75	229	165	241	148	681	75	91	41
20	27	43	122	68	201	153	218	131	122	58	187	40
21	25	201	114	70	174	270	199	122	94	128	88	38
22	24	89	742	65	153	217	186	115	82	87	77	37
23	74	65	291	65	291	167	291	164	78	73	152	38
24	264	62	178	75	1410	147	241	177	131	63	151	37
25	100	503	104	120	464	149	203	118	152	57	88	37
26	66	193	100	220	307	173	178	109	100	52	76	36
27	46	116	120	440	249	143	165	102	81	87	70	35
28	37	267	240	354	661	479	156	104	72	67	67	42
29	33	378	480	150	354	1140	157	221	70	57	66	53
30	30	147	142	108	---	917	155	252	71	55	63	45
31	29	---	111	98	---	590	---	154	---	52	60	---
TOTAL	1185	3104	8917	3482	10493	8450	9103	6401	3263	3866	4765	1489
MEAN	38.2	103	288	112	362	273	303	206	109	125	154	49.6
MAX	264	503	2050	440	1410	1140	887	856	681	1200	553	123
MIN	16	28	92	65	93	143	155	102	64	52	48	35
CFSM	.38	1.01	2.82	1.10	3.55	2.68	2.97	2.02	1.07	1.23	1.51	.49
IN.	.43	1.13	3.25	1.27	3.83	3.08	3.32	2.33	1.19	1.41	1.74	.54
CAL YR 1983	TOTAL	48762	MEAN 134	MAX 2370	MIN 14	CFSM 1.31	IN 17.78					
WTR YR 1984	TOTAL	64518	MEAN 176	MAX 2050	MIN 16	CFSM 1.73	IN 23.53					

01640500 OWENS CREEK AT LANTZ, MD

LOCATION.--Lat 39°40'36", long 77°27'50", Frederick County, Hydrologic Unit 02070009, on right bank 0.5 mi west of Lantz Post Office (Deerfield station on Western Maryland Railway), 1.5 mi south of Sabillasville, 4.5 mi northwest of Thurmont, and 14.2 mi upstream from mouth.

DRAINAGE AREA.--5.93 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1931 to September 1984 (discontinued).

REVISED RECORDS.--WSP 921: 1932(m). WSP 1202: 1935(M). WSP 1382: Drainage area. WSP 1432: 1937(M), 1943(M), 1949(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 965 ft, from topographic map.

REMARKS.--Records good except those for July, which are fair. Small diversions above station prior to 1959 water year by Victor Cullen State Hospital. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years, 9.47 ft<sup>3</sup>/s, 21.69 in/yr, adjusted for diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft<sup>3</sup>/s Dec. 1, 1934, gage height, 8.4 ft, from rating curve extended above 750 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 5.11 ft and 6.30 ft; no flow Sept. 2-11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1630	200	3.15	Apr. 5	0200	247	3.42
Feb. 14	1230	*1300	5.80	July 6	2315	223	3.33
Feb. 23	2315	305	3.61	Aug. 11	0145	461	4.09

Minimum discharge, 0.42 ft<sup>3</sup>/s Oct. 7, gage height, 0.93 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.7	13	9.5	8.6	29	30	14	10	10	2.2	4.2
2	.87	2.6	12	9.1	8.2	26	32	13	9.3	6.0	2.2	4.1
3	.65	2.7	11	8.5	12	24	31	26	8.5	5.0	7.8	4.0
4	.52	2.5	23	8.0	13	22	45	35	7.7	4.8	6.0	5.5
5	.51	2.5	17	8.0	13	25	101	22	7.0	4.6	3.4	4.3
6	.56	2.7	22	9.3	9.8	26	53	20	6.6	13	3.0	3.8
7	.44	2.5	22	8.7	11	22	40	21	6.2	20	2.7	3.6
8	.46	2.3	17	7.6	10	20	33	30	5.6	9.5	2.6	3.5
9	.46	2.1	15	7.1	8.9	19	29	26	5.2	8.0	2.5	3.4
10	.45	12	13	7.8	8.7	22	27	22	4.9	7.0	14	3.4
11	.53	19	12	7.4	20	15	24	19	4.9	6.0	95	3.2
12	19	9.4	38	7.0	18	15	22	17	4.7	5.5	26	3.0
13	10	6.3	143	7.0	19	14	21	16	4.4	5.0	48	2.9
14	8.4	5.3	67	7.1	692	14	22	15	4.2	4.7	33	2.9
15	2.5	7.3	40	7.1	125	15	36	13	4.0	4.5	24	3.6
16	1.7	9.1	29	6.5	87	19	42	13	4.1	4.4	17	3.0
17	1.3	6.5	24	6.1	66	20	32	12	4.9	4.6	13	2.8
18	1.2	5.4	20	6.0	55	18	28	11	12	6.0	11	2.7
19	1.8	5.1	19	5.7	46	17	24	12	9.7	5.0	14	2.6
20	1.6	9.1	16	6.0	43	16	22	11	6.0	4.4	14	2.5
21	2.5	25	14	5.8	39	43	20	10	5.0	8.0	9.4	2.2
22	1.7	11	31	7.3	36	30	20	10	4.6	6.5	8.3	2.2
23	20	9.0	21	7.0	55	24	27	17	4.6	5.0	16	2.2
24	16	9.9	16	16	79	21	21	11	8.0	4.0	9.3	2.2
25	11	31	15	15	72	19	19	9.0	5.5	3.6	7.6	2.1
26	7.3	17	14	13	46	19	18	8.2	5.0	3.2	6.8	2.0
27	4.9	14	13	13	38	17	17	7.7	4.6	4.2	6.2	2.0
28	3.9	20	20	10	44	45	17	8.1	4.4	3.0	5.9	3.3
29	3.3	22	18	8.9	35	43	17	23	4.2	2.8	5.5	3.0
30	3.0	16	11	8.6	---	28	16	14	4.2	2.6	5.2	2.6
31	2.9	---	10	8.2	---	28	---	11	---	2.4	4.8	---
TOTAL	130.95	292.0	756	262.3	1718.2	715	886	497.0	180.0	183.3	426.4	92.8
MEAN	4.22	9.73	24.4	8.46	59.2	23.1	29.5	16.0	6.00	5.91	13.8	3.09
MAX	20	31	143	16	692	45	101	35	12	20	95	5.5
MIN	.44	2.1	10	5.7	8.2	14	16	7.7	4.0	2.4	2.2	2.0
CFSM	.71	1.64	4.12	1.43	9.98	3.90	4.98	2.70	1.01	1.00	2.33	.52
IN.	.82	1.83	4.74	1.65	10.78	4.48	5.56	3.12	1.13	1.15	2.67	.58

CAL YR 1983	TOTAL	4866.53	MEAN 13.3	MAX 146	MIN .35	CFSM 2.24	IN 30.52
WTR YR 1984	TOTAL	6139.95	MEAN 16.8	MAX 692	MIN .44	CFSM 2.83	IN 38.51

01640965 HUNTING CREEK NEAR FOXVILLE, MD

LOCATION.--Lat 39°37'10", long 77°28'00", Frederick County, Hydrologic Unit 02070008, on left downstream wingwall of culvert on park road in Cunningham Falls State Park, 0.25 mi upstream from Hunting Creek Lake, and 2.9 mi west of Thurmont.

DRAINAGE AREA.--2.14 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,030 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 255 ft<sup>3</sup>/s Feb. 14, 1984, gage height, 4.00 ft; minimum daily discharge, 0.04 ft<sup>3</sup>/s Aug. 30, Sept. 18, 1982.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 30 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1745	34	3.19	Aug. 11	0045	240	3.97
Feb. 14	1130	*255	4.00	Aug. 13	1515	240	3.97

Minimum daily discharge, 0.05 ft<sup>3</sup>/s Oct. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.79	4.8	2.7	2.1	8.3	13	3.8	6.3	1.3	.30	.96
2	.10	.77	4.0	2.6	1.9	7.3	14	3.5	5.1	.71	.28	.92
3	.07	.68	3.6	2.6	2.3	6.5	13	6.5	4.3	.56	1.6	.96
4	.06	.63	11	2.4	3.3	5.6	15	15	3.5	.48	1.7	1.4
5	.06	.63	7.8	2.3	3.4	7.0	20	10	3.0	.45	1.3	1.0
6	.06	.63	11	2.3	2.8	7.8	14	8.0	2.7	5.1	1.3	.82
7	.06	.63	11	2.2	2.2	6.3	11	9.0	2.3	9.6	.70	.71
8	.05	.58	7.1	1.9	2.3	5.4	9.7	13	2.0	2.1	.59	.65
9	.05	.53	5.4	1.7	2.2	5.0	8.4	11	1.8	1.4	.69	.62
10	.06	7.7	4.6	1.8	2.3	4.5	7.5	7.4	1.5	1.3	2.5	.62
11	.06	11	4.0	1.8	6.7	4.3	6.7	5.4	1.5	1.2	38	.60
12	.16	4.9	17	1.6	7.1	3.8	6.0	4.6	1.4	.89	17	.54
13	9.1	2.9	29	1.5	7.7	3.6	5.3	4.5	1.1	.72	41	.49
14	3.6	2.2	22	1.5	101	3.8	5.6	4.4	1.0	.61	23	.50
15	.59	2.9	14	1.4	35	4.4	12	4.3	.89	.53	13	.57
16	.35	3.9	10	1.4	27	7.1	15	4.0	.84	.48	7.5	.53
17	.26	2.6	8.3	1.4	19	7.8	11	3.6	1.1	.42	5.1	.46
18	.22	2.0	6.2	1.4	17	6.5	10	3.3	1.7	.55	3.9	.42
19	.23	1.7	5.4	1.3	11	5.8	8.4	3.3	1.5	.45	5.3	.41
20	.23	3.7	4.4	1.3	8.8	5.1	7.4	2.9	.89	.37	5.7	.38
21	.37	11	3.7	1.3	7.2	15	6.5	2.6	.73	1.2	2.9	.35
22	.33	4.5	14	1.2	6.1	12	6.6	3.8	.65	.76	2.3	.33
23	14	3.4	10	1.2	7.8	8.9	9.7	7.9	.65	.68	5.5	.33
24	9.9	4.0	6.6	2.0	16	7.0	7.8	9.4	1.6	.54	3.8	.31
25	4.8	16	5.0	2.7	16	6.4	6.6	6.3	1.5	.40	2.4	.31
26	3.4	8.4	5.1	2.8	12	7.1	5.7	4.9	.86	.37	1.9	.31
27	1.9	5.6	3.7	3.5	10	5.6	4.9	4.1	.64	1.4	1.7	.29
28	1.3	9.3	5.7	3.6	13	13	4.9	3.8	.53	.65	1.5	.50
29	1.1	11	5.9	3.1	11	18	4.2	11	.50	.50	1.4	.48
30	.90	6.5	3.5	2.7	---	13	4.0	11	.64	.43	1.3	.42
31	.80	---	2.9	2.5	---	13	---	7.9	---	.36	1.1	---
TOTAL	54.45	131.07	256.7	63.7	364.2	234.9	273.9	200.2	52.72	36.51	196.26	17.19
MEAN	1.76	4.37	8.28	2.05	12.6	7.58	9.13	6.46	1.76	1.18	6.33	.57
MAX	14	16	29	3.6	101	18	20	15	6.3	9.6	41	1.4
MIN	.05	.53	2.9	1.2	1.9	3.6	4.0	2.6	.50	.36	.28	.29
CFSM	.82	2.04	3.87	.96	5.89	3.54	4.27	3.02	.82	.55	2.96	.27
IN.	.95	2.28	4.46	1.11	6.33	4.08	4.76	3.48	.92	.63	3.41	.30
CAL YR 1983	TOTAL	1602.66	MEAN	4.39	MAX	30	MIN	.05	CFSM	2.05	IN	27.85
WTR YR 1984	TOTAL	1881.80	MEAN	5.14	MAX	101	MIN	.05	CFSM	2.40	IN	32.70

01640970 HUNTING CREEK TRIBUTARY NEAR FOXVILLE, MD

LOCATION.--Lat 39°37'42", long 77°27'44", Frederick County, Hydrologic Unit 02070003, on left downstream wingwall of culvert of park road in Cunningham Falls State Park, 600 ft upstream from Hunting Creek Lake, and 2.7 mi west of Thurmont.

DRAINAGE AREA.--4.01 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,030 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 506 ft<sup>3</sup>/s Aug. 11, 1984, gage height, 3.44 ft; minimum discharge, 0.12 ft<sup>3</sup>/s Sept. 10, 11, 12, 20, 1983.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 90 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	0830	127	2.24	July 6	2345	108	2.12
Feb. 14	1100	478	3.38	Aug. 11	0030	*506	3.44
Feb. 23	2345	114	2.16	Aug. 11	1615	124	2.22
Apr. 5	0215	111	2.14	Aug. 13	1500	443	3.30
May 3	2315	108	2.12				

Minimum discharge, 0.16 ft<sup>3</sup>/s, part or all of each day Oct. 4-11, gage height, 0.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	2.9	8.5	8.0	5.1	18	31	7.5	7.8	6.3	1.5	3.0
2	.32	2.8	7.8	7.5	4.8	16	33	7.0	6.7	2.6	1.5	2.9
3	.18	2.8	7.6	7.5	7.4	14	31	21	5.9	2.1	2.9	3.7
4	.16	2.7	22	7.2	9.5	12	42	39	5.3	2.0	3.2	4.7
5	.16	2.6	13	7.2	8.5	17	63	18	4.8	2.0	2.0	3.2
6	.17	2.6	21	7.5	6.4	19	35	15	4.4	11	2.0	2.8
7	.16	2.6	19	7.3	5.5	13	27	17	4.1	19	1.6	2.6
8	.16	2.5	12	6.4	5.8	11	22	27	3.7	3.5	1.5	2.5
9	.16	2.4	10	5.8	5.7	11	19	21	3.5	2.7	1.9	2.5
10	.16	16	9.5	6.4	5.7	14	17	15	3.3	2.8	29	2.5
11	.18	20	8.9	6.6	18	9.8	14	12	3.6	2.6	108	2.4
12	22	9.0	37	5.5	14	8.7	12	12	3.4	2.3	32	2.3
13	12	6.2	93	5.0	14	7.0	11	9.5	3.0	2.0	102	2.2
14	7.8	5.4	47	5.0	258	8.2	14	8.7	2.8	1.9	48	2.2
15	1.9	6.8	30	4.8	74	11	31	7.8	2.6	1.8	26	2.5
16	1.3	9.0	23	4.8	48	18	38	7.2	2.4	1.7	15	2.3
17	1.1	6.5	19	4.6	37	18	25	6.6	2.4	1.7	10	2.0
18	.97	5.4	16	4.4	30	13	22	6.2	5.0	2.3	8.1	2.0
19	1.1	5.0	15	4.3	24	11	16	6.6	7.0	1.9	12	2.0
20	1.0	8.9	12	4.5	21	9.9	13	5.7	3.0	1.7	12	1.9
21	1.8	22	10	4.5	18	40	11	5.3	2.6	6.4	6.4	1.8
22	1.2	8.9	34	4.8	15	24	13	8.1	2.4	2.5	5.5	1.8
23	27	7.2	21	6.0	23	17	22	21	2.5	2.2	12	1.8
24	16	8.2	16	10	48	13	14	11	6.8	1.9	6.4	1.7
25	9.8	30	12	13	45	12	11	7.0	4.6	1.8	4.9	1.7
26	6.8	14	10	11	30	16	9.6	5.9	2.7	1.7	4.4	1.7
27	4.4	11	9.5	11	23	11	8.7	5.4	2.3	3.0	4.0	1.6
28	3.9	19	14	8.7	36	43	8.3	5.6	2.2	2.2	3.9	2.4
29	3.5	19	11	7.0	25	46	9.3	32	2.1	1.9	3.7	2.3
30	3.1	11	10	6.2	---	30	8.6	15	2.6	1.7	3.5	2.0
31	3.0	---	8.5	5.6	---	28	---	9.5	---	1.6	3.3	---
TOTAL	132.45	272.4	587.3	208.1	865.4	539.6	631.5	395.6	115.5	100.8	478.2	71.0
MEAN	4.27	9.08	18.9	6.71	29.8	17.4	21.1	12.8	3.85	3.25	15.4	2.37
MAX	27	30	93	13	258	46	63	39	7.8	19	108	4.7
MIN	.16	2.4	7.6	4.3	4.8	7.0	8.3	5.3	2.1	1.6	1.5	1.6
CFSM	1.07	2.26	4.71	1.67	7.43	4.34	5.26	3.19	.96	.81	3.84	.59
IN.	1.23	2.53	5.45	1.93	8.03	5.00	5.86	3.67	1.07	.93	4.44	.66

CAL YR 1983	TOTAL	3178.07	MEAN	8.71	MAX	93	MIN	.12	CFSM	2.17	IN	29.47
WTR YR 1984	TOTAL	4397.85	MEAN	12.0	MAX	258	MIN	.16	CFSM	2.99	IN	40.79

## POTOMAC RIVER BASIN

01640975 HUNTING CREEK NEAR THURMONT, MD

LOCATION.--Lat 39°27'48", long 77°27'20", Frederick County, Hydrologic Unit 02070008, on left bank 600 ft downstream from dam on Hunting Creek Lake, 10.7 mi upstream from mouth, 1.6 mi upstream from Bear Branch, and 2.4 mi west of Thurmont.

DRAINAGE AREA.--7.08 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1981 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Altitude of gage is 940 ft, from topographic map.

REMARKS.--Records good. Flow regulated by Hunting Creek Lake 600 ft upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 915 ft<sup>3</sup>/s Feb. 14, 1984, gage height, 4.82 ft; minimum discharge, 1.3 ft<sup>3</sup>/s Aug. 15, 16, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 915 ft<sup>3</sup>/s Feb. 14, gage height, 4.82 ft; minimum discharge 2.2 ft<sup>3</sup>/s Sept. 26, 27, gage height, 0.12 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	11	19	25	4.3	39	49	19	19	5.5	2.6	6.5
2	4.4	9.6	19	25	4.3	39	50	17	16	6.0	2.6	6.4
3	4.1	7.5	18	25	4.3	38	64	21	14	4.8	2.6	6.2
4	4.0	7.5	19	24	4.9	37	69	77	13	4.1	3.0	6.7
5	3.9	7.2	20	24	6.2	37	71	36	11	4.0	3.0	6.8
6	3.9	7.2	26	24	6.3	37	70	29	9.7	5.3	3.1	6.6
7	3.6	7.2	37	24	6.5	36	70	30	9.0	39	3.0	6.1
8	3.7	7.2	27	23	6.2	36	68	37	8.7	10	3.0	5.6
9	3.5	7.2	23	23	6.3	36	67	40	8.1	6.3	2.8	5.2
10	3.5	7.4	21	18	6.5	35	60	30	7.7	5.5	7.2	4.9
11	3.5	7.6	20	14	6.7	35	39	27	7.4	5.0	242	4.6
12	4.6	8.0	30	14	7.0	29	21	25	7.6	4.4	64	4.4
13	4.8	8.0	164	14	7.1	21	15	23	6.7	3.9	196	4.1
14	5.5	8.0	87	10	457	21	13	21	6.3	3.7	89	3.8
15	5.3	8.0	49	5.7	155	20	13	19	5.7	3.5	54	3.7
16	5.3	8.1	36	5.5	86	16	14	18	5.4	3.1	32	3.6
17	5.3	8.0	30	4.4	59	16	13	16	4.8	2.8	23	3.4
18	5.3	8.0	28	3.9	48	16	14	14	5.7	2.8	18	3.1
19	5.3	8.0	27	3.9	39	16	15	14	12	2.8	17	3.0
20	5.0	8.1	27	3.9	33	16	21	14	8.1	2.6	23	2.8
21	4.8	8.9	27	3.9	30	19	27	14	6.1	3.1	15	2.7
22	4.8	9.6	28	4.0	27	29	26	13	5.3	3.7	12	2.5
23	5.5	10	28	4.0	30	32	33	31	4.9	3.9	15	2.4
24	6.0	10	27	4.0	76	35	27	32	5.8	3.6	16	2.4
25	15	11	27	4.0	66	35	25	20	9.6	3.5	12	2.4
26	25	11	27	4.2	52	34	23	16	7.5	3.3	11	2.3
27	24	11	26	4.2	38	34	21	14	6.4	3.6	9.0	2.7
28	23	12	26	4.2	49	40	22	13	5.9	3.7	8.1	3.5
29	18	12	26	4.2	47	49	22	40	5.3	3.5	7.2	3.5
30	12	15	26	4.2	---	49	20	35	5.0	3.5	6.6	3.5
31	12	---	25	4.2	---	49	---	23	---	3.0	6.8	---
TOTAL	239.2	269.3	1020	359.4	1368.6	981	1062	778	247.7	163.5	909.6	125.4
MEAN	7.72	8.98	32.9	11.6	47.2	31.6	35.4	25.1	8.26	5.27	29.3	4.18
MAX	25	15	164	25	457	49	71	77	19	39	242	6.8
MIN	3.5	7.2	18	3.9	4.3	16	13	13	4.8	2.6	2.6	2.3
CFSM	1.09	1.27	4.65	1.64	6.67	4.46	5.00	3.55	1.17	.74	4.14	.59
IN.	1.26	1.41	5.36	1.89	7.19	5.15	5.58	4.09	1.30	.86	4.78	.66
CAL YR 1983	TOTAL	5664.9	MEAN	15.5	MAX	175	MIN	1.7	CFSM	2.19	IN	29.76
WTR YR 1984	TOTAL	7523.7	MEAN	20.6	MAX	457	MIN	2.3	CFSM	2.91	IN	39.53

01641000 HUNTING CREEK AT JIMTOWN, MD

LOCATION.--Lat 39°35'40", long 77°23'50", Frederick County, Hydrologic Unit 02070009, on right bank just downstream from highway bridge, 0.4 mi southwest of Jimtown, about 2.2 mi southeast of Thurmont, 2.2 mi upstream from Little Hunting Creek, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--18.4 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1332: 1952.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 355 ft, from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Dec. 25 to Jan. 31, which are fair. 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. Regulation since spring of 1970 at low flow by Hunting Creek Lake, 5.6 miles above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--35 years, 27.3 ft<sup>3</sup>/s, 20.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,670 ft<sup>3</sup>/s Oct. 9, 1976, gage height, 6.32 ft; minimum discharge, 0.4 ft<sup>3</sup>/s Sept. 9, 1966, gage height, 1.48 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1700	811	4.20	Apr. 5	0230	352	3.20
Feb. 14	1400	*1960	5.47	May 3	2230	907	4.35
Feb. 23	2230	495	3.57	Aug. 11	0300	1750	5.29
Feb. 25	0930	391	3.32	Aug. 11	1600	531	3.65
Mar. 28	2030	427	3.41	Aug. 13	1800	1250	4.80

Minimum discharge, 5.1 ft<sup>3</sup>/s Oct. 5, 9, 10, 11, gage height, 1.64 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	11	29	28	15	91	113	43	48	21	5.8	13
2	6.8	10	27	26	16	84	108	38	43	15	7.8	12
3	6.2	10	27	24	22	78	112	135	38	12	26	12
4	5.9	10	55	24	25	73	151	182	35	10	16	17
5	5.8	9.5	35	22	27	85	218	89	31	10	10	14
6	5.9	9.5	57	22	23	78	157	75	28	22	9.0	12
7	5.6	9.2	57	21	20	71	127	79	26	68	7.8	12
8	5.6	9.2	42	20	21	69	114	102	24	25	7.2	11
9	5.5	10	35	20	19	67	107	90	22	15	7.9	11
10	5.5	21	32	20	19	65	99	74	21	15	18	11
11	5.5	21	30	19	32	66	79	66	22	17	591	11
12	15	15	61	18	26	58	55	62	20	14	167	10
13	12	13	432	17	26	48	48	55	18	9.8	366	9.6
14	13	12	178	17	1050	60	51	50	17	9.6	198	9.5
15	8.1	15	98	16	374	58	82	46	16	9.1	116	9.7
16	7.5	15	71	16	201	51	94	43	16	8.6	72	9.1
17	7.4	13	57	16	145	47	69	40	19	7.8	55	8.4
18	7.4	12	51	15	114	45	66	37	23	8.5	45	8.0
19	7.4	12	48	15	91	44	57	36	29	7.2	42	7.6
20	7.6	19	45	15	78	42	57	35	20	6.7	48	7.4
21	7.9	33	42	15	66	74	59	33	16	9.2	34	7.4
22	7.3	18	94	15	58	69	61	36	14	9.5	28	7.4
23	48	17	57	16	100	69	80	72	14	9.3	37	6.9
24	33	20	50	18	189	68	65	61	24	8.5	33	6.3
25	20	60	42	24	195	67	58	43	22	7.5	26	6.2
26	18	27	38	36	130	67	52	37	17	7.3	23	6.5
27	16	23	44	42	95	63	49	33	14	18	20	6.3
28	14	40	46	22	168	174	47	36	13	9.0	17	9.2
29	12	38	40	18	117	216	49	119	13	8.0	16	9.6
30	12	29	34	16	---	171	47	77	20	7.7	14	8.7
31	11	---	30	15	---	129	---	57	---	7.0	14	---
TOTAL	350.3	561.4	1984	628	3462	2447	2531	1981	683	412.3	2077.5	289.8
MEAN	11.3	18.7	64.0	20.3	119	78.9	84.4	63.9	22.8	13.3	67.0	9.66
MAX	48	60	432	42	1050	216	218	182	48	68	591	17
MIN	5.5	9.2	27	15	15	42	47	33	13	6.7	5.8	6.2
CFSM	.61	1.02	3.48	1.10	6.47	4.29	4.59	3.47	1.24	.72	3.64	.53
IN.	.71	1.13	4.01	1.27	7.00	4.95	5.12	4.00	1.38	.83	4.20	.59

CAL YR 1983	TOTAL	14118.1	MEAN	38.7	MAX	676	MIN	2.8	CFSM	2.10	IN	28.54
WTR YR 1984	TOTAL	17407.3	MEAN	47.6	MAX	1050	MIN	5.5	CFSM	2.59	IN	35.19



## 01641500 FISHING CREEK NEAR LEWISTOWN, MD

LOCATION.--Lat 39°31'35", long 77°28'00", Frederick County, Hydrologic Unit 02070009, on left bank immediately upstream from Fishing Creek Reservoir, 50 ft downstream from Little Fishing Creek, 2.8 mi west of Lewistown, and 9.9 mi upstream from mouth.

DRAINAGE AREA.--7.29 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to September 1984 (discontinued).

REVISED RECORDS.--WSP 1432: Drainage area. WDR MD-DE-83-1: 1972-74, 1977-82(P).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 735 ft, from topographic map.

REMARKS.--Records good except those above 100 ft<sup>3</sup>/s, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 11.8 ft<sup>3</sup>/s, 21.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft<sup>3</sup>/s Oct. 9, 1976, gage height, 5.75 ft, from rating curve extended above 100 ft<sup>3</sup>/s on basis of computation of flow over dam at gage height 5.75 ft; minimum discharge, 0.6 ft<sup>3</sup>/s Sept. 10, 11, 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1730	129	2.34	Apr. 5	0230	113	2.27
Feb. 14	1430	*620	3.72	May 3	2230	126	2.33
Mar. 28	2230	137	2.38				

Minimum discharge, 1.5 ft<sup>3</sup>/s part or all of each day Oct. 4-11, gage height, 1.14 ft.

REVISIONS.--The peak discharges and annual maximum (\*) for water years 1975 and 1976 have been revised as shown in the following table. They supersede figures published in the reports for 1975 and 1976.

Water year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Water year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
1975	Mar. 19, 1975	1430	220	2.71	1976	Apr. 1, 1976	0430	*94	2.18
	Sept. 25, 1975	2400	*426	3.30					

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.6	12	16	8.4	39	65	23	29	7.3	4.0	7.8
2	2.0	2.5	11	15	8.0	35	63	21	26	6.6	4.4	7.4
3	1.8	2.6	10	15	8.6	32	61	35	24	6.3	6.8	7.0
4	1.6	2.7	16	14	9.8	29	67	65	22	6.0	6.8	7.6
5	1.8	2.7	14	14	9.8	29	98	52	20	6.8	5.7	7.0
6	1.8	2.7	18	14	9.3	29	83	47	18	9.1	5.8	6.7
7	1.5	2.7	22	13	8.8	26	70	45	17	12	4.9	6.5
8	1.5	2.6	20	12	8.4	25	58	47	16	6.9	4.8	6.4
9	1.5	2.5	20	11	8.5	24	48	44	15	6.3	4.7	6.3
10	1.5	6.2	19	12	8.7	23	42	42	14	6.3	7.4	6.3
11	1.7	8.1	17	12	12	23	37	39	13	6.2	20	6.1
12	9.1	5.6	26	10	12	21	33	37	12	5.7	14	5.9
13	4.6	4.4	88	10	13	21	30	33	11	5.3	34	5.7
14	5.1	3.9	88	9.7	261	21	30	30	11	5.2	39	5.7
15	2.5	4.4	66	9.5	151	21	42	28	10	5.2	32	5.8
16	2.2	4.8	49	9.3	101	23	49	25	9.8	5.2	25	5.5
17	2.2	4.1	39	9.2	73	23	50	23	11	5.0	21	5.3
18	2.2	3.8	33	9.2	60	23	52	22	11	5.3	19	5.3
19	2.2	3.7	29	8.8	49	23	47	22	9.6	5.1	18	5.2
20	2.3	4.5	25	8.8	42	23	43	20	8.5	4.8	17	5.1
21	2.8	9.0	22	8.4	36	39	38	18	8.2	5.3	14	4.9
22	2.4	6.1	34	8.8	31	37	36	19	7.8	5.3	13	4.7
23	15	5.7	28	8.6	34	36	38	25	7.9	5.2	14	4.7
24	11	6.1	26	9.4	48	33	33	20	13	4.9	12	4.6
25	5.1	15	25	9.2	49	31	30	18	12	4.5	11	4.5
26	4.2	10	24	8.9	46	32	28	17	8.3	4.4	10	4.4
27	3.4	9.3	22	9.3	44	28	26	16	7.4	6.8	9.5	4.2
28	3.0	12	23	9.1	52	59	25	17	6.9	5.1	9.1	5.5
29	2.8	15	21	8.8	45	104	25	38	6.7	4.6	8.7	5.1
30	2.7	13	18	8.8	---	76	24	32	7.0	4.4	8.2	4.7
31	2.7	---	17	8.6	---	69	---	30	---	4.2	8.1	---
TOTAL	107.0	178.3	882	330.4	1247.3	1057	1371	950	393.1	181.3	411.9	171.9
MEAN	3.45	5.94	28.5	10.7	43.0	34.1	45.7	30.6	13.1	5.85	13.3	5.73
MAX	15	15	88	16	261	104	98	65	29	12	39	7.8
MIN	1.5	2.5	10	8.4	8.0	21	24	16	6.7	4.2	4.0	4.2
CFSM	.47	.82	3.91	1.47	5.90	4.68	6.27	4.20	1.80	.80	1.82	.79
IN.	.55	.91	4.50	1.69	6.36	5.39	7.00	4.85	2.01	.93	2.10	.88
CAL YR 1983	TOTAL	5353.8	MEAN 14.7	MAX 129	MIN 1.1	CFSM 2.02	IN 27.32					
WTR YR 1984	TOTAL	7281.2	MEAN 19.9	MAX 261	MIN 1.5	CFSM 2.73	IN 37.15					

## 01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°24'13", long 77°21'58", Frederick County, Hydrologic Unit 02070009, on right bank 0.2 mi upstream from Jug Bridge on U.S. Highway 40, 0.4 mi downstream from Linganore Creek, 2.0 mi east of Frederick, and 16.9 mi upstream from mouth.

DRAINAGE AREA.--817 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for October, November 1929, published in WSP 1302.

REVISED RECORDS.--WSP 711: 1930.

GAGE.--Water-stage recorder. Nonrecording gage at site 0.2 mile downstream. Datum of gage is 231.92 ft Corps of Engineers datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Gage-height tele-meter at station.

AVERAGE DISCHARGE.--55 years, 939 ft<sup>3</sup>/s, 15.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,600 ft<sup>3</sup>/s June 23, 1972, gage height, 35.9 ft, from flood-mark; minimum daily, 19 ft<sup>3</sup>/s Sept. 7-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 reached a stage of 30 ft, from floodmarks, discharge, 56,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	1300	23900	18.24	Mar. 31	0700	11800	12.02
Feb. 15	1000	*28300	20.01	Apr. 5	1730	10600	11.29
Feb. 24	2000	16500	14.60	May 4	1530	14600	13.59
Feb. 29	0030	8880	10.22	July 7	1530	11500	11.83
Mar. 29	1430	19300	16.00	Aug. 4	0900	9170	10.41

Minimum discharge, 92 ft<sup>3</sup>/s Oct. 11, gage height, 1.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	201	1150	800	584	2830	5030	1500	1380	719	276	332
2	130	190	910	700	355	2220	3770	1290	1090	916	276	306
3	125	196	801	800	706	1940	3170	1290	910	550	378	310
4	116	190	1940	761	2880	1710	3320	11500	801	415	5240	510
5	110	186	3240	767	2800	1800	9160	4150	707	369	1140	470
6	106	184	1820	739	1840	2860	6390	2560	653	808	650	400
7	103	182	3460	788	1040	2210	3930	2460	615	9030	470	300
8	98	181	1790	699	690	1740	3090	3110	561	2460	374	277
9	97	176	1250	635	672	1580	2560	5080	519	1090	344	261
10	96	249	1060	665	866	1460	2250	2750	486	822	2720	254
11	94	643	922	772	1440	1410	2020	2120	464	707	3320	251
12	114	1110	957	561	2350	1400	1800	1860	442	633	3850	245
13	202	672	8430	495	1690	1300	1660	1680	418	571	4880	233
14	347	452	20500	563	8250	1550	1650	1470	436	467	3730	224
15	353	382	4750	534	25200	3050	4060	1330	419	414	3170	222
16	227	520	2770	450	10800	2970	5000	1220	400	379	1950	230
17	158	743	1990	476	4660	2310	5070	1140	380	446	1300	222
18	136	502	1570	458	3800	1830	3410	1050	360	532	994	221
19	132	405	1370	340	3030	1620	2630	1060	2000	478	819	212
20	131	368	1190	379	2470	1490	2220	1060	900	412	973	203
21	153	1600	973	350	2080	1960	1970	936	550	402	994	198
22	172	1510	2890	320	1760	3940	1770	860	451	595	632	189
23	371	747	4910	400	1640	2230	2450	995	409	508	594	181
24	1830	621	1920	544	11600	1780	2620	1740	508	420	1200	178
25	1130	2840	945	816	6450	1600	2210	1050	998	365	806	176
26	689	2940	750	1670	4430	1950	1760	838	756	317	546	181
27	509	1210	900	2960	2810	1650	1550	755	561	352	466	165
28	384	1110	1910	2970	5020	2650	1430	720	438	535	423	187
29	303	3950	5590	1360	5890	16300	1490	2330	384	380	401	215
30	246	1910	1530	891	---	9730	1390	5560	381	317	383	233
31	214	---	947	735	---	9350	---	2250	---	292	366	---
TOTAL	9007	26170	85135	25398	117803	92420	90830	67714	19377	26701	43665	7586
MEAN	291	872	2746	819	4062	2981	3028	2184	646	861	1409	253
MAX	1830	3950	20500	2970	25200	16300	9160	11500	2000	9030	5240	510
MIN	94	176	750	320	355	1300	1390	720	360	292	276	165
CFSM	.36	1.07	3.36	1.00	4.97	3.65	3.71	2.67	.79	1.05	1.73	.31
IN.	.41	1.19	3.88	1.16	5.36	4.21	4.14	3.08	.88	1.22	1.99	.35

CAL YR 1983	TOTAL	484026	MEAN	1326	MAX	20500	MIN 90	CFSM	1.62	IN	22.04
WTR YR 1984	TOTAL	611806	MEAN	1672	MAX	25200	MIN 94	CFSM	2.05	IN	27.86

## POTOMAC RIVER BASIN

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°23'16", long 77°22'40", Frederick County, Hydrologic Unit 02070009, at Reich's Ford Bridge, 1.1 mi downstream from U.S. Highway 40, 1.2 mi downstream from gaging station, 2 mi southeast of Frederick, and 15.0 mi upstream from mouth.

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1960 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling. Water-discharge records for Monocacy River at Jug Bridge near Frederick (station 01643000) are used for computation of sediment loads. Prior to 1970, published as Monocacy River at Jug Bridge near Frederick (station 01643000).

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (water years 1961-72, 1975, 1977, 1980-83): Maximum daily, 32.0°C July 21, 1980; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,000 mg/L July 10, 1970; minimum daily mean, 1 mg/L on many days in water years 1961-67, 1970, 1972, and 1982.

SEDIMENT LOADS: Maximum daily, 134,000 tons June 22, 1972; minimum daily, 0.39 ton Dec. 14, 1981.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
DEC 14...	0700	2250	76	462	93	97	98	99	99	99	100	--
FEB 15...	1600	26300	291	20700	78	91	97	99	99	99	100	--
MAY 14...	1630	1530	432	1780	59	71	87	96	98	99	99	100

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	13.0	7.0	.0	---	---	---	18.0	---	23.0	25.0	22.0
2	19.0	13.0	7.0	.0	---	---	---	15.0	---	25.0	27.0	24.0
3	19.0	13.0	7.0	1.0	---	---	---	16.0	---	26.0	26.0	24.0
4	19.0	13.0	7.0	1.0	---	---	---	15.0	---	27.0	24.0	22.0
5	20.0	13.0	8.0	2.0	---	---	---	15.0	---	25.0	26.0	20.0
6	20.0	13.0	8.0	3.0	---	---	---	14.0	---	24.0	26.0	20.0
7	19.0	13.0	7.0	3.0	---	---	---	14.0	---	22.0	26.0	20.0
8	17.0	13.0	7.0	3.0	4.0	---	---	17.0	---	22.0	26.0	20.0
9	16.0	13.0	7.0	---	4.0	---	---	14.0	---	23.0	28.0	19.0
10	15.0	13.0	7.0	---	4.0	---	---	15.0	---	22.0	25.0	21.0
11	15.0	12.0	7.0	---	4.0	---	---	17.0	---	24.0	23.0	22.0
12	15.0	12.0	7.0	---	3.0	---	---	18.0	---	26.0	22.0	23.0
13	16.0	12.0	7.0	---	---	---	---	18.0	28.0	26.0	24.0	20.0
14	17.0	12.0	7.0	---	---	---	---	17.0	25.0	27.0	23.0	21.0
15	18.0	11.0	8.0	---	3.0	8.0	---	15.0	25.0	27.0	24.0	24.0
16	18.0	11.0	8.0	---	---	8.0	---	14.0	22.0	27.0	24.0	24.0
17	17.0	11.0	7.0	---	---	---	11.0	16.0	20.0	27.0	25.0	---
18	16.0	11.0	6.0	---	---	---	---	14.0	23.0	25.0	24.0	---
19	16.0	11.0	5.0	1.0	---	---	---	18.0	24.0	25.0	23.0	---
20	15.0	11.0	5.0	.0	---	---	---	19.0	23.0	24.0	24.0	---
21	15.0	11.0	4.0	---	---	---	---	20.0	25.0	24.0	22.0	---
22	13.0	11.0	4.0	---	6.0	---	---	24.0	23.0	24.0	23.0	---
23	13.0	11.0	3.0	---	6.0	---	---	19.0	24.0	26.0	24.0	---
24	13.0	11.0	2.0	---	---	---	---	21.0	22.0	26.0	22.0	---
25	13.0	10.0	1.0	---	---	---	16.0	22.0	23.0	24.0	22.0	---
26	13.0	10.0	1.0	.0	---	---	16.0	23.0	23.0	25.0	22.0	---
27	13.0	10.0	1.0	1.0	---	---	---	20.0	23.0	24.0	23.0	---
28	13.0	10.0	1.0	1.0	---	---	---	---	24.0	24.0	25.0	---
29	13.0	10.0	1.0	---	---	---	---	---	25.0	23.0	24.0	---
30	13.0	10.0	.0	---	---	---	17.0	---	24.0	24.0	26.0	---
31	13.0	---	.0	---	---	---	---	---	---	23.0	23.0	---

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

## SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13	4.6	10	5.4	19	59	22	48	20	32		
2	12	4.2	9	4.6	17	42	14	26	20	19		
3	11	3.7	8	4.2	13	28	12	26	25	48		
4	12	3.8	6	3.1	14	86	12	25	75	583		
5	13	3.9	7	3.5	51	462	11	23	140	1060		
6	12	3.4	7	3.5	30	147	9	18	65	323		
7	10	2.8	8	3.9	53	489	9	19	50	140		
8	9	2.4	9	4.4	25	121	12	23	45	84		
9	8	2.1	8	3.8	14	47	10	17	45	82		
10	8	2.1	20	13	11	31	10	18	52	122		
11	12	3.0	37	64	10	25	20	42	155	603		
12	22	6.8	46	138	12	31	18	27	155	983		
13	29	16	24	44	25	703	16	21	50	228		
14	28	26	14	17	61	3420	20	30	78	2690		
15	28	27	11	11	36	487	20	29	278	19000		
16	23	14	9	13	25	187	19	23	123	3530		
17	17	7.3	10	20	25	134	20	26	100	1260		
18	14	5.1	8	11	19	81	19	23	85	872		
19	12	4.3	18	20	14	52	18	17	75	614		
20	11	3.9	17	17	13	42	18	18	55	367		
21	15	6.2	74	411	13	34	18	17	45	253		
22	17	7.9	42	200	49	586	25	22	43	204		
23	80	101	23	46	82	1170	20	22	45	199		
24	145	702	20	34	38	197	18	26	---	---		
25	65	203	198	1660	29	74	20	44	---	---		
26	18	33	136	1180	24	49	28	126	---	---		
27	17	23	33	108	20	49	49	392	---	---		
28	16	17	25	75	39	304	54	433	---	---		
29	14	11	92	1010	114	1860	49	180	---	---		
30	12	8.0	39	201	32	132	35	84	---	---		
31	10	5.8	---	---	19	49	28	56	---	---		
TOTAL	---	1264.3	---	5329.4	---	11178	---	1901	---	33296		
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	27	109	27	101	90	175	23	17	10	9.0
2	---	---	31	108	23	68	125	309	13	9.7	12	9.9
3	---	---	27	94	28	69	75	111	22	6400	11	9.2
4	---	---	537	17900	27	58	47	53	414	5860	30	41
5	---	---	118	1430	29	55	36	36	140	431	28	36
6	---	---	35	242	28	49	65	142	62	109	20	22
7	---	---	25	166	25	42	480	12300	32	41	17	14
8	---	---	90	756	25	38	185	1430	22	22	14	10
9	---	---	284	3920	27	38	90	265	22	20	12	8.5
10	---	---	90	668	27	35	55	122	325	2860	13	8.9
11	---	---	25	143	26	33	40	76	257	2550	16	11
12	---	---	21	105	26	31	39	67	154	1650	15	9.9
13	---	---	21	95	26	29	24	37	140	1840	11	6.9
14	---	---	20	79	25	29	24	30	140	1410	12	7.3
15	---	---	15	54	22	25	24	27	160	1370	16	9.6
16	---	---	11	36	21	23	25	26	100	526	16	9.9
17	125	1710	9	28	22	23	25	30	60	211	16	9.6
18	50	460	8	23	26	25	25	36	42	113	13	7.8
19	30	213	8	23	170	918	24	31	35	77	8	4.6
20	20	120	9	26	290	705	24	27	40	105	7	3.8
21	15	80	11	28	100	148	24	26	48	129	6	3.2
22	10	48	11	26	50	61	36	58	26	44	5	2.6
23	25	165	20	54	55	61	36	49	29	47	4	2.0
24	20	141	73	343	110	151	30	34	64	207	5	2.4
25	12	72	40	113	130	350	25	25	48	104	5	2.4
26	13	62	23	52	100	204	22	19	34	50	18	8.8
27	12	50	20	41	80	121	31	29	26	33	16	7.1
28	10	39	18	35	60	71	62	90	21	24	12	6.1
29	12	48	153	1930	55	57	35	36	18	19	12	7.0
30	30	113	319	5620	55	57	25	21	14	14	21	13
31	---	---	60	364	---	---	29	23	10	9.9	---	---
TOTAL	---	3321	---	34611	---	3675	---	15740	---	26302.6	---	303.5

01643500 BENNETT CREEK AT PARK MILLS, MD

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, Hydrologic Unit 02070009, on left bank 75 ft downstream from highway bridge, 0.2 mi south of Park Mills, 1.8 mi upstream from mouth, and 3.7 mi southwest of Urbana.

DRAINAGE AREA.--62.8 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1948 to September 1958. Annual maximum, water years 1960-66. August 1966 to current year.

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

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years (water years 1949-58, 1967-84), 71.0 ft<sup>3</sup>/s, 15.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft<sup>3</sup>/s June 21, 1972, gage height, 22.1 ft, from flood-mark, from rating curve extended above 2,700 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights 11.15 ft, 14.33 ft, and 22.1 ft; minimum discharge, 0.30 ft<sup>3</sup>/s Sept. 8, 1966, gage height, 0.80 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1945	1590	5.80	Feb. 14	1600	*2260	6.89
Dec. 28	1730	1550	5.73	Mar. 29	0830	2100	6.65

Minimum daily discharge, 8.9 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	17	54	60	61	144	253	116	63	56	30	15
2	15	17	48	53	71	131	208	104	60	39	49	15
3	13	17	45	52	120	119	180	140	56	34	37	80
4	12	14	239	50	208	110	360	353	53	31	67	219
5	10	15	100	50	132	132	449	158	51	32	31	47
6	9.1	15	138	55	93	137	270	145	52	48	27	32
7	8.7	16	117	60	70	114	214	143	52	55	25	26
8	8.9	15	74	55	68	107	182	191	49	34	27	24
9	8.6	16	62	53	86	105	166	181	46	30	27	22
10	9.4	59	56	50	72	98	155	142	44	37	176	20
11	9.2	75	49	46	142	101	144	127	43	34	67	18
12	18	40	56	42	109	98	135	119	41	30	42	17
13	16	30	830	40	96	103	131	106	40	27	73	15
14	13	28	345	40	883	152	155	99	39	26	49	16
15	11	28	177	38	393	153	377	92	38	25	38	16
16	9.8	38	130	38	262	137	367	88	38	24	29	15
17	9.6	30	105	38	191	123	239	83	42	23	26	15
18	9.8	25	91	38	168	113	201	82	44	44	24	14
19	9.9	24	84	38	143	108	170	84	52	37	24	13
20	11	25	74	39	128	102	154	78	39	27	38	12
21	14	120	69	43	113	158	141	74	37	47	24	12
22	11	46	286	47	102	134	138	71	35	34	22	12
23	58	36	160	47	153	113	181	89	35	31	26	11
24	106	36	95	57	395	104	150	79	48	27	24	11
25	30	269	70	82	193	109	134	68	51	25	21	11
26	24	85	60	144	151	243	124	64	38	24	19	10
27	20	56	108	269	133	153	119	62	35	36	18	9.5
28	17	127	350	145	236	346	113	64	33	28	20	11
29	16	150	149	79	186	1040	125	80	33	26	24	20
30	15	71	90	66	---	488	116	95	35	25	18	13
31	16	---	65	64	---	339	---	69	---	24	17	---
TOTAL	560.0	1540	4376	1978	5158	5614	5851	3446	1322	1020	1139	771.5
MEAN	18.1	51.3	141	63.8	178	181	195	111	44.1	32.9	36.7	25.7
MAX	106	269	830	269	883	1040	449	353	63	56	176	219
MIN	8.6	14	45	38	61	98	113	62	33	23	17	9.5
CFSM	.29	.82	2.25	1.02	2.83	2.88	3.11	1.77	.70	.52	.58	.41
IN.	.33	.91	2.59	1.17	3.06	3.33	3.47	2.04	.78	.60	.67	.46

CAL YR 1983 TOTAL 31233.0 MEAN 85.6 MAX 1470 MIN 7.7 CFSM 1.36 IN 18.50  
WTR YR 1984 TOTAL 32775.5 MEAN 89.6 MAX 1040 MIN 8.6 CFSM 1.43 IN 19.41

## 01645000 SENECA CREEK AT DAWSONVILLE, MD

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, Hydrologic Unit 02070008, on right bank 60 ft downstream from bridge on State Highway 28, 150 ft downstream from mouth of Great Seneca Creek, 0.5 mi east of Dawsonville, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--101 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1232: 1930. WSP 1272: 1933. WSP 1432: 1934-35(M), 1941(M). WDR MD-DE-74-1: 1970(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.02 ft National Geodetic Vertical Datum of 1929. 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.

REMARKS.--Records good. Small diversion at times for irrigation above station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--54 years, 104 ft<sup>3</sup>/s, 19.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft<sup>3</sup>/s June 22, 1972, gage height, 16.4 ft, from high-water mark in gage house, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement at gage height 12.17 ft at gage; and contracted-opening and flow-over-road measurement at gage height 16.32 ft at site 5.0 mi downstream, adjusted for flow from intervening area; minimum discharge observed, 1.7 ft<sup>3</sup>/s Sept. 28, 29, 1930, gage height, 0.56 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	0600	1920	6.81	Mar. 29	0600	*3010	7.92
Feb. 14	1315	2710	7.67				

Minimum discharge, 25 ft<sup>3</sup>/s Sept. 27, gage height, 1.86 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	52	139	140	106	182	384	199	150	124	76	50
2	39	51	119	130	105	169	317	175	136	82	184	47
3	47	50	111	122	159	154	282	228	124	76	185	47
4	43	54	538	114	441	144	541	647	118	72	143	89
5	34	47	253	120	308	177	768	292	112	77	79	57
6	36	48	316	120	228	196	447	262	110	82	66	50
7	35	45	296	114	150	156	342	268	113	85	62	46
8	34	46	197	106	125	156	289	366	112	69	77	43
9	34	47	154	98	117	169	262	376	102	64	64	42
10	35	133	138	140	117	153	244	246	96	76	521	42
11	35	306	121	261	173	148	238	219	93	74	154	45
12	86	143	132	120	195	142	233	210	88	66	140	47
13	59	91	1130	109	173	166	219	192	86	61	163	44
14	98	78	968	106	1180	248	260	177	82	59	122	44
15	47	80	346	103	887	224	612	167	80	56	92	42
16	40	126	249	93	433	180	579	164	79	61	76	38
17	38	86	189	93	270	162	440	163	86	83	68	36
18	37	72	160	90	248	155	407	156	89	90	63	36
19	38	67	145	80	197	145	293	158	103	88	72	36
20	43	66	127	70	173	133	244	150	86	64	108	37
21	59	329	119	65	153	245	221	144	80	79	67	36
22	46	132	539	80	143	189	218	137	77	76	62	34
23	315	117	287	86	212	157	333	216	77	68	61	34
24	694	116	200	101	574	146	255	189	92	63	62	34
25	209	728	178	163	257	158	218	147	110	58	56	32
26	120	260	198	333	205	329	200	142	74	56	54	32
27	84	179	152	380	185	198	189	136	68	57	53	27
28	66	317	450	283	319	510	180	135	64	55	53	56
29	60	312	420	159	240	2190	307	248	69	54	52	49
30	54	174	160	131	---	802	216	321	72	53	54	42
31	52	---	150	120	---	518	---	172	---	53	55	---
TOTAL	2664	4352	8681	4230	8073	8801	9738	6802	2828	2181	3144	1294
MEAN	85.9	145	280	136	278	284	325	219	94.3	70.4	101	43.1
MAX	694	728	1130	380	1180	2190	768	647	150	124	521	89
MIN	34	45	111	65	105	133	180	135	64	53	52	27
CFSM	.85	1.44	2.77	1.35	2.75	2.81	3.22	2.17	.93	.70	1.00	.43
IN.	.98	1.60	3.20	1.56	2.97	3.24	3.59	2.51	1.04	.80	1.16	.48

CAL YR 1983	TOTAL	57830	MEAN 158	MAX 2060	MIN 26	CFSM 1.56	IN 21.30
WTR YR 1984	TOTAL	62788	MEAN 172	MAX 2190	MIN 27	CFSM 1.70	IN 23.13

## 01645200 WATTS BRANCH AT ROCKVILLE, MD

LOCATION.--Lat 39°05'03", long 77°10'38", Montgomery County, Hydrologic Unit 02070008, on left bank 0.2 mi south of State Highway 28, 1.3 mi west of post office in Rockville, and 9.4 mi upstream from mouth.

DRAINAGE AREA.--3.70 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 2103: 1965. WDR MD-DE-75-1: 1967-70.

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

REMARKS.--Records good except those for the period of backwater from beaver dam, Oct. 29 to Nov. 25, which are fair, and for those above 250 ft<sup>3</sup>/s, which are poor. Some regulation of low flow from unknown source above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years, 4.20 ft<sup>3</sup>/s, 15.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,400 ft<sup>3</sup>/s Sept. 26, 1975, gage height, 7.32 ft, from rating curve extended above 280 ft<sup>3</sup>/s on basis of combined computation of peak flow through culvert and slope-area measurement of tributary inflow at gage height 7.22 ft, 7.83 ft, from floodmarks; minimum discharge, 0.10 ft<sup>3</sup>/s Sept. 2, 1966, gage height, 1.10 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	1130	242	4.10	Aug. 1	1930	*763	6.25
Mar. 29	0430	416	5.26	Aug. 13	1300	236	4.05
May 29	1745	451	5.45				

Minimum discharge, 0.22 ft<sup>3</sup>/s Oct. 4, 5, gage height, 1.16 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	1.0	2.1	2.4	2.4	3.7	5.5	3.7	3.6	14	54	.87
2	.44	1.0	2.3	2.5	2.3	3.4	4.9	3.2	2.5	1.9	5.4	.85
3	.42	1.1	4.6	2.5	11	4.1	4.6	19	2.3	2.1	8.4	4.2
4	.30	1.3	34	2.5	6.2	3.1	32	16	2.1	1.5	4.2	1.5
5	.60	1.1	3.1	2.6	7.6	8.0	36	4.3	2.0	1.9	1.9	.87
6	.47	1.0	23	2.7	3.1	5.2	7.5	8.9	3.5	2.6	1.7	.81
7	.38	.95	4.5	2.6	2.6	3.4	5.7	6.2	2.1	2.9	3.8	.74
8	.49	.95	2.9	2.5	2.4	3.7	5.1	18	1.9	1.4	1.8	.72
9	.55	.95	2.6	2.5	2.4	4.8	4.8	6.0	1.8	1.4	3.4	.75
10	.56	10	2.8	11	2.5	3.3	4.6	4.1	1.8	2.9	4.1	.84
11	1.3	3.0	2.3	4.0	4.5	4.0	4.3	3.8	1.8	1.8	2.2	1.1
12	20	2.0	8.3	2.4	3.0	3.3	4.1	5.9	1.8	1.8	2.4	1.2
13	5.5	1.8	76	2.2	3.0	12	4.9	3.6	1.8	1.8	19	1.2
14	1.6	1.6	7.1	3.3	52	12	10	3.6	2.1	1.7	4.8	1.2
15	.60	8.0	4.2	2.3	14	4.9	11	3.3	2.0	1.8	1.9	1.3
16	.54	3.5	3.3	2.2	5.8	4.1	16	3.2	1.8	5.1	1.6	.92
17	.62	1.8	3.0	2.3	5.1	3.8	6.5	3.1	2.0	1.2	1.5	.61
18	.98	1.5	2.9	2.3	5.1	3.7	5.4	3.2	3.0	6.0	1.5	.66
19	1.8	1.4	2.7	2.2	3.6	3.5	4.4	3.2	3.3	.91	2.7	.70
20	3.2	14	2.5	2.2	3.3	3.4	4.0	3.0	1.7	.78	3.6	.66
21	3.8	3.0	2.4	2.2	3.1	16	3.9	3.0	1.7	5.8	1.1	.66
22	.69	2.1	31	2.2	2.9	4.0	8.5	2.9	1.7	1.7	1.2	.60
23	65	2.0	4.1	2.4	20	3.4	10	11	1.7	1.2	1.3	.61
24	15	8.0	2.9	4.6	12	3.3	5.0	3.0	3.8	1.1	1.3	.65
25	5.7	20	2.6	2.5	4.3	9.4	4.0	2.7	1.9	.78	1.1	.71
26	2.1	3.0	2.4	12	3.3	22	3.8	3.8	1.7	.91	1.0	.72
27	1.6	2.4	2.4	6.5	3.8	4.7	3.6	2.7	1.7	2.4	1.0	.75
28	1.4	14	29	3.1	20	40	3.5	3.0	1.7	.91	1.0	6.4
29	1.1	3.5	3.6	2.7	6.0	86	7.8	42	1.7	.78	.99	1.3
30	1.0	2.4	2.6	2.7	---	9.9	7.7	8.1	2.1	1.2	.96	1.0
31	1.0	---	2.4	2.7	---	6.5	---	3.0	---	.78	.88	---
TOTAL	139.46	118.35	279.6	102.8	217.3	302.6	239.1	210.5	64.6	73.05	141.73	35.10
MEAN	4.50	3.95	9.02	3.32	7.49	9.76	7.97	6.79	2.15	2.36	4.57	1.17
MAX	65	20	76	12	52	86	36	42	3.8	14	54	6.4
MIN	.30	.95	2.1	2.2	2.3	3.1	3.5	2.7	1.7	.78	.88	.60
CFSM	1.22	1.07	2.44	.90	2.02	2.64	2.15	1.84	.58	.64	1.24	.32
IN.	1.40	1.19	2.81	1.03	2.18	3.04	2.40	2.12	.65	.73	1.42	.35

CAL YR 1983 TOTAL 1942.20 MEAN 5.32 MAX 92 MIN .24 CFSM 1.44 IN 19.52  
WTR YR 1984 TOTAL 1924.19 MEAN 5.26 MAX 86 MIN .30 CFSM 1.42 IN 19.34

## 01646500 POTOMAC RIVER NEAR WASHINGTON, DC

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Md., Hydrologic Unit 02070008, on left bank just above Little Falls Dam, 1 mi upstream from District of Columbia boundary line, 1.2 mi upstream from Chain Bridge, 1.8 mi east of Langley, Fairfax County, Va., and at mile 117.4.

DRAINAGE AREA.--11,560 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WDR MD-DE-75-1: 1973-74(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft National Geodetic Vertical Datum of 1929. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mi upstream on right bank at same datum.

REMARKS.--Records good. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D. C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville; since April 1961, at Potomac Filtration Plant for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); and since April 1964, at Violets Lock to Chesapeake and Ohio Canal. Low flow affected slightly prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950, by Savage River Reservoir (see station 01597500), and since July 1981, by Bloomington Lake (see station 01595800). Gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years, 11,560 ft<sup>3</sup>/s, 13.58 in/yr, adjusted for diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 484,000 ft<sup>3</sup>/s Mar. 19, 1936, gage height, 28.1 ft site then in use; minimum daily discharge observed at gaging station, 121 ft<sup>3</sup>/s Sept. 9, 1966, does not include diversion of 489 ft<sup>3</sup>/s for municipal use; minimum daily discharge (adjusted), 601 ft<sup>3</sup>/s Sept. 10, 1966, includes diversion of 449 ft<sup>3</sup>/s for municipal use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 45,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 14	2215	103000	8.98	Mar. 30	2000	151000	10.74
Feb. 16	1130	*222000	13.73	Apr. 5	Unknown	132000	9.95
Feb. 26	0300	54800	6.94	Apr. 17	1515	56800	7.04
Mar. 23	2215	54800	6.94	Apr. 24	2230	61200	7.25

Minimum daily discharge, 1,250 ft<sup>3</sup>/s Oct. 10, does not include diversion for municipal use; minimum daily (adjusted) discharge, 1,710 ft<sup>3</sup>/s Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1480	6660	18900	15100	13100	34700	85400	27000	11100	4730	3340	4660		
2	1590	6210	16800	13600	11700	29300	72900	27500	9500	4950	3770	4380		
3	1690	4700	14900	12600	9970	24900	61400	23000	8450	7530	3570	4270		
4	1710	4310	17100	11600	12800	22100	53600	29000	7740	10400	4680	5150		
5	1670	3850	19600	11400	15400	20300	103000	36000	7170	8680	8800	5020		
6	1610	4620	25900	11000	15400	20000	115000	31000	6660	7070	5640	4360		
7	1600	4780	33100	10700	14100	19900	82900	28000	6400	8670	5150	3940		
8	1600	4840	35400	10700	12600	19000	65100	30000	5930	18200	4670	3660		
9	1440	4040	33600	10500	11000	18600	50200	36000	5700	13900	4530	3490		
10	1250	4880	26900	10100	9860	17700	39200	31000	5360	11200	5440	3380		
11	1270	4710	21700	11100	9650	16400	32600	28000	4880	8510	10100	3280		
12	1850	7330	18600	9840	11600	15600	28300	25000	4650	7120	17000	3160		
13	1670	9640	33300	9530	12300	15300	24600	23000	4440	6140	24900	3100		
14	2010	10900	83000	9540	26600	15400	22100	20500	4310	7580	34000	2880		
15	2810	8520	82400	8460	132000	17600	28000	19000	4130	7790	36200	2980		
16	3780	8100	48900	7890	209000	18600	37100	17500	4130	6520	37700	2950		
17	3400	7190	34900	7490	123000	21500	53600	16000	4330	5720	25800	2920		
18	3310	7200	27000	7690	63800	24800	54200	15100	4370	5360	18300	3330		
19	3100	7240	22000	7270	47100	25600	44500	14300	4830	5440	14100	3280		
20	2640	7290	18900	6270	37800	23900	36200	13400	5430	4840	12000	2850		
21	2580	8770	16500	5390	31200	22700	30200	12700	5390	4680	10200	2530		
22	2510	10500	17500	4580	27400	26200	26500	12100	4580	4550	8800	2550		
23	3760	11700	22800	4100	24500	46000	26600	11800	4160	4380	7530	2550		
24	9300	10700	18900	5010	34100	49000	46200	12700	3870	4260	6920	2450		
25	14800	16500	16600	5700	51500	36700	55000	11700	4030	4240	7060	2390		
26	20400	20800	14200	8540	52400	34900	43600	10600	4510	4230	6170	2330		
27	17700	24300	12400	14000	44600	31500	35800	10100	4680	4240	5780	2280		
28	13400	23500	13000	20700	39100	40700	29500	9020	4340	4010	5440	2500		
29	10400	22500	21700	21300	40700	85400	27300	9180	4030	3850	4870	2580		
30	8700	20900	20700	18000	---	145000	25200	14000	3890	3590	4610	2500		
31	7640	---	18800	14600	---	128000	---	13500	---	3480	4670	---		
TOTAL	152670	297180	826000	324300	1144280	1067300	1435800	617700	162990	205860	351740	97700		
MEAN	4925	9906	26650	10460	39460	34430	47860	19930	5433	6641	11350	3257		
MAX	20400	24300	83000	21300	209000	145000	115000	36000	11100	18200	37700	5150		
MIN	1250	3850	12400	4100	9650	15300	22100	9020	3870	3480	3340	2280		
(*)	507	486	500	496	471	459	474	510	593	560	577	567		
MEAN*	5432	10400	27150	10960	39930	34860	48310	20440	6028	7199	11930	3825		
CFSM*	.47	.90	2.35	.95	3.45	3.02	4.18	1.77	.52	.62	1.03	.33		
IN*	.54	1.00	2.71	1.09	3.73	3.48	4.66	2.04	.58	.72	1.19	.37		
CAL YR 1983	TOTAL	5394050	MEAN	14780	MAX	121000	MIN	1200	MEAN*	15300	CFSM*	1.32	IN*	17.97
WTR YR 1984	TOTAL	6683520	MEAN	18260	MAX	209000	MIN	1250	MEAN*	18770	CFSM*	1.62	IN*	22.11

\* Diversion in cfs, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year); records furnished by Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, and city of Fairfax.

\* Adjusted for diversion.



01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC  
(National stream-quality accounting network station)

LOCATION.--Lat 38°55'46", long 77°07'02", Arlington County, Va., Hydrologic Unit 02070010, under right downstream side of bridge on Virginia State Highway 123, and at river mile 115.9.

DRAINAGE AREA.--11,570 mi<sup>2</sup>.

PERIOD OF RECORD.--Water years 1973 to current year. Prior to October 1977, published as "at Great Falls."

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

							BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)						
NOV 15...	1230	8640	395	7.8	6.0	8.0	757	3.7	11.8	100	270	1300
JAN 26...	1215	8640	375	7.6	12.0	2.0	770	7.7	14.5	104	K6	97
FEB 16...	1400	217000	146	7.3	11.0	7.0	--	190	13.0	--	1400	51000
MAR 26...	1000	36400	180	7.6	9.0	7.0	756	26	12.9	107	K250	460
MAY 07...	1200	29500	215	7.8	13.0	14.0	769	9.6	9.8	94	350	86
SEP 12...	1100	3100	337	8.0	21.0	23.0	768	3.4	9.7	112	220	42
DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 15...	160	58	47	9.5	17	19	.6	2.7	99	3.0	62	20
JAN 26...	130	35	39	8.9	14	18	.5	2.0	99	5.2	37	20
FEB 16...	54	13	16	3.3	3.7	12	.2	2.6	41	4.0	18	7.0
MAR 26...	69	22	20	4.7	5.2	14	.3	1.5	47	2.3	21	9.0
MAY 07...	89	24	26	5.7	4.9	11	.2	1.5	65	2.0	22	7.0
SEP 12...	150	46	42	11	13	16	.5	2.4	105	2.0	50	16
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)
NOV 15...	.20	3.1	230	220	.31	5370	1.5	.210	.27	2.3	.110	.34
JAN 26...	<.10	6.2	204	190	.28	4760	2.5	.090	.12	.50	.080	.25
FEB 16...	<.10	5.1	113	81	.15	66200	1.3	.450	.58	1.5	.290	.89
MAR 26...	<.10	6.1	106	96	.14	10400	1.3	<.010	--	.50	.060	.18
MAY 07...	<.10	6.5	151	110	.21	12000	1.4	.040	.05	.70	.080	.25
SEP 12...	.50	1.5	254	200	.35	2130	1.1	.020	.03	.80	.050	--
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 15...	.070	.080	.25	10	<1	54	<.5	<1	<1	<3	2	5
JAN 26...	.050	.050	.15	--	--	--	--	--	--	--	--	--
FEB 16...	.050	.030	.09	50	1	43	<.5	<1	<1	<3	5	3
MAR 26...	.020	<.010	--	<10	<1	36	<.5	<1	<1	<3	2	5
MAY 07...	.020	.030	.09	<10	1	40	<1	<1	<1	<3	8	4
SEP 12...	.030	.020	.06	20	1	53	<.0	<1	4	<3	2	1

K: Results based on colony count outside the accepted range (non-ideal colony count).

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 15...	7	<.1	<10	<1	<1	<1	210	<6	23	12	280	84
JAN 26...	--	--	--	--	--	--	--	--	--	11	257	88
FEB 16...	50	.3	<10	4	<1	1	58	<6	14	--	--	--
MAR 26...	10	<.1	<10	2	<1	<1	84	<6	9	73	7170	90
MAY 07...	3	<.1	<10	3	<1	<1	100	<6	16	48	3820	82
SEP 12...	4	<.1	<10	3	<1	<1	190	<6	6	15	126	83

## POTOMAC RIVER BASIN

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC

LOCATION.--Lat 38°58'21", long 77°02'25", District of Columbia, Hydrologic Unit 02070010, on left bank 125 ft downstream from Sherrill Drive Bridge in Rock Creek Park in Washington, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--62.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 1432: 1933(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 148.87 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow affected by two upstream reservoirs which control flow from about 25 mi<sup>2</sup>, Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since February 1968. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 62.7 ft<sup>3</sup>/s, 13.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft<sup>3</sup>/s June 22, 1972, gage height, 16.2 ft, from flood-mark, from rating curve extended above 5,640 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights 13.19 ft and 16.2 ft; minimum discharge, 0.5 ft<sup>3</sup>/s Oct. 1-7, 1930, gage height, 1.04 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	2100	1200	5.87	July 1	1130	1620	6.97
Mar. 29	1200	1550	6.81	Aug. 13	1545	*1690	7.12
Apr. 5	1100	1220	5.93				

Minimum discharge, 6.5 ft<sup>3</sup>/s Oct. 7, gage height, 1.22 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	24	64	79	51	102	193	128	83	611	35	17
2	10	29	52	62	46	84	173	75	67	79	283	16
3	9.6	25	47	53	60	73	152	121	57	71	85	73
4	9.0	29	389	51	139	66	338	339	53	46	78	73
5	8.9	21	133	50	143	104	601	134	48	69	46	21
6	9.5	22	240	50	98	101	226	147	47	82	36	18
7	7.4	19	179	52	72	80	180	132	52	38	53	16
8	11	18	103	50	59	74	154	147	45	34	128	14
9	10	18	77	47	51	95	139	161	42	31	53	14
10	9.9	171	64	91	47	72	124	120	45	43	103	15
11	11	190	53	132	64	67	103	99	41	34	69	15
12	273	85	112	74	64	70	90	105	38	31	69	15
13	51	55	795	65	60	166	82	81	36	29	393	14
14	60	40	306	60	468	142	105	74	37	27	91	23
15	16	50	205	55	283	121	190	69	34	26	44	17
16	12	92	181	48	194	93	241	67	32	26	35	13
17	11	42	160	46	162	82	140	63	37	48	31	16
18	10	36	138	44	160	73	120	62	101	87	29	17
19	21	30	119	44	125	68	103	64	81	52	36	12
20	19	55	95	40	101	64	89	62	38	35	77	12
21	44	254	72	39	81	180	80	61	35	213	33	11
22	14	87	410	39	69	107	91	61	33	54	27	11
23	408	56	149	42	170	84	170	144	32	54	25	10
24	295	69	115	64	245	74	110	86	49	35	24	10
25	136	451	95	142	133	127	91	64	48	32	23	11
26	69	132	80	142	104	367	82	113	44	28	20	14
27	45	104	70	134	84	137	75	83	37	59	20	10
28	34	206	331	112	200	356	73	60	36	29	21	77
29	27	136	161	85	167	924	118	228	33	26	20	32
30	26	85	111	68	---	286	88	268	45	26	19	19
31	25	---	100	62	---	217	---	111	---	26	24	---
TOTAL	1712.3	2631	5206	2122	3700	4656	4521	3529	1406	2081	2030	636
MEAN	55.2	87.7	168	68.5	128	150	151	114	46.9	67.1	65.5	21.2
MAX	408	451	795	142	468	924	601	339	101	611	393	77
MIN	7.4	18	47	39	46	64	73	60	32	26	19	10
CFSM	.89	1.41	2.70	1.10	2.06	2.41	2.43	1.83	.75	1.08	1.05	.34
IN.	1.02	1.57	3.11	1.27	2.21	2.78	2.70	2.11	.84	1.24	1.21	.38

CAL YR 1983	TOTAL	31008.4	MEAN	85.0	MAX	820	MIN	5.0	CFSM	1.37	IN	18.54
WTR YR 1984	TOTAL	34230.3	MEAN	93.5	MAX	924	MIN	7.4	CFSM	1.50	IN	20.47

## 01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Riverdale Road, 1.8 mi downstream from Indian Creek, and 1.8 mi upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-75-1: 1972(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 12.68 ft Washington Suburban Sanitary Commission datum. Prior to June 12, 1942, nonrecording gage; June 12, 1942, to Mar. 22, 1966, and Apr. 12, 1967, to Sept. 3, 1969, water-stage recorder, all at bridge at datum 14.00 ft above mean sea level. Mar. 23, 1966, to Apr. 11, 1967, nonrecording gage 600 ft downstream from bridge at datum 9.25 ft above mean sea level.

REMARKS.--Records fair except those for the period of no gage-height record, Aug. 12 to Sept. 25, which are poor. Some regulation at low flow by sand and gravel plants above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 85.5 ft<sup>3</sup>/s, 15.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft<sup>3</sup>/s June 22, 1972, gage height, 9.52 ft, from rating curve extended above 3,800 ft<sup>3</sup>/s on basis of the average of contracted-opening and slope-area measurements at gage height 9.52 ft; maximum gage height, 12.93 ft Oct. 16, 1942; minimum daily discharge, 1.4 ft<sup>3</sup>/s Sept. 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23 or 24, 1933, reached a stage of about 15.5 ft, at datum 14.00 ft above mean sea level, from floodmarks, discharge, 10,500 ft<sup>3</sup>/s, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1815	3680	6.67	May 4	0115	2310	5.36
Dec. 22	0900	2100	5.13	May 26	2230	2840	5.89
Mar. 29	0600	*4310	7.21				

Minimum daily discharge, 9.0 ft<sup>3</sup>/s Sept. 21, 22, 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	32	59	75	61	103	139	132	69	800	36	15
2	20	32	48	67	55	84	118	77	53	400	71	14
3	17	36	48	60	74	75	109	232	44	70	51	90
4	15	51	668	62	160	69	281	817	40	40	38	30
5	15	40	180	60	180	160	596	169	37	60	33	16
6	16	36	403	61	117	138	280	157	35	75	31	14
7	13	32	251	59	74	90	154	173	35	40	42	13
8	12	30	103	52	61	80	121	339	37	30	40	12
9	12	30	74	48	56	106	106	253	33	28	84	12
10	12	240	67	110	54	75	100	118	31	38	76	11
11	16	248	56	162	79	80	95	89	31	30	40	11
12	320	78	237	76	74	82	90	82	29	28	160	11
13	127	40	1920	60	67	296	91	70	29	26	380	12
14	103	31	607	79	410	261	106	60	29	24	60	20
15	33	80	168	71	723	139	188	55	28	22	32	13
16	23	173	108	59	382	98	356	52	27	22	28	11
17	20	57	82	53	158	80	169	49	33	40	26	13
18	20	35	69	49	158	70	117	47	77	100	26	11
19	35	32	63	48	106	64	106	50	69	44	30	10
20	32	164	57	48	89	59	91	48	32	34	70	9.5
21	52	459	51	48	76	250	85	43	28	220	24	9.0
22	28	84	770	50	68	141	102	41	28	90	22	9.0
23	693	47	244	55	257	82	220	168	26	55	20	9.0
24	429	82	115	90	299	66	136	101	37	39	19	9.0
25	163	937	80	190	134	171	102	55	32	32	18	12
26	86	181	60	200	92	572	83	294	30	31	17	13
27	56	80	100	169	79	180	80	256	30	60	17	15
28	47	237	532	120	263	608	75	74	30	35	16	85
29	40	206	262	82	194	2190	115	344	34	31	16	31
30	34	82	119	74	---	399	104	383	100	31	16	22
31	32	---	83	75	---	186	---	125	---	31	18	---
TOTAL	2551	3892	7684	2512	4600	7054	4515	4953	1173	2606	1557	562.5
MEAN	82.3	130	248	81.0	159	228	151	160	39.1	84.1	50.2	18.8
MAX	693	937	1920	200	723	2190	596	817	100	800	380	90
MIN	12	30	48	48	54	59	75	41	26	22	16	9.0
CFSM	1.13	1.79	3.41	1.11	2.18	3.13	2.07	2.20	.54	1.16	.69	.26
IN.	1.30	1.99	3.93	1.28	2.35	3.60	2.31	2.53	.60	1.33	.80	.29
CAL YR 1983	TOTAL	47614.2	MEAN 130	MAX 1920	MIN 7.9	CFSM 1.79	IN 24.33					
WTR YR 1984	TOTAL	43659.5	MEAN 119	MAX 2190	MIN 9.0	CFSM 1.64	IN 22.31					

## 01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Queens Chapel Road (State Highway 500), 0.8 mi downstream from Sligo Branch, 1.0 mi west of Hyattsville, and 1.6 mi upstream from confluence with Northeast Branch.

DRAINAGE AREA.--49.4 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for July 1938 published in WSP 1302.

REVISED RECORDS.--WSP 971: 1942(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 17.10 ft National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to Oct. 22, 1938, nonrecording gage; Oct. 22, 1938, to Sept. 17, 1951, water-stage recorder; Sept. 17, 1951, to Aug. 29, 1952, nonrecording gage and crest-stage gage.

REMARKS.--Records good. Prior to June 1961, low flow regulated by storage at Burnt Mills Dam, 7.0 mi 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. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 47.0 ft<sup>3</sup>/s, 12.92 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft<sup>3</sup>/s June 22, 1972, gage height, 14.47 ft, from rating curve extended above 4,000 ft<sup>3</sup>/s on the basis of the average of slope-area and step-backwater measurements at gage height 14.47 ft; minimum discharge, 0.2 ft<sup>3</sup>/s Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft<sup>3</sup>/s March 29, gage height, 3.89 ft, no other peaks above base of 1,700 ft<sup>3</sup>/s; minimum discharge, 7.2 ft<sup>3</sup>/s Sept. 17, 22, 24, 25, and 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	22	36	45	34	59	86	79	41	295	21	11
2	11	23	32	43	34	52	75	55	37	53	84	10
3	9.9	23	33	42	54	47	58	165	33	54	43	78
4	9.1	27	387	43	115	44	286	353	32	30	38	44
5	9.5	19	66	39	112	91	658	86	30	85	21	16
6	10	21	221	40	69	80	156	105	29	73	18	13
7	8.9	20	147	42	41	52	93	104	30	39	72	11
8	8.6	20	49	39	37	50	80	152	26	24	41	12
9	8.9	19	37	36	36	71	73	110	24	22	44	11
10	8.5	174	37	85	34	46	67	66	26	36	56	11
11	11	182	33	114	53	48	65	59	23	26	22	12
12	294	49	144	42	48	53	62	66	22	23	68	11
13	89	31	945	40	41	181	63	59	24	21	130	11
14	60	26	354	48	376	125	80	52	23	19	46	31
15	17	52	84	44	277	84	184	49	22	18	24	16
16	18	89	63	36	128	62	254	48	21	18	19	10
17	13	32	53	34	74	57	95	46	26	42	18	8.9
18	13	26	46	34	84	53	75	46	69	85	18	9.4
19	28	26	42	34	57	51	72	48	57	38	18	9.3
20	24	103	38	32	51	48	63	44	27	22	22	10
21	44	227	36	32	45	153	60	41	24	186	16	9.3
22	19	40	447	37	43	69	82	40	22	52	16	9.3
23	425	32	96	47	166	53	149	117	22	34	16	8.8
24	274	57	55	64	206	48	78	62	33	24	15	8.6
25	102	491	46	132	70	117	63	43	34	21	14	8.3
26	47	75	44	135	53	342	59	155	28	19	13	8.6
27	28	43	65	94	47	78	56	76	23	43	15	9.6
28	25	172	358	65	211	376	55	40	36	21	14	69
29	23	111	129	40	123	887	80	183	22	18	15	24
30	19	44	55	38	---	197	90	198	48	19	13	15
31	19	---	50	38	---	107	---	55	---	19	12	---
TOTAL	1693.4	2276	4228	1634	2719	3781	3417	2802	914	1479	982	516.1
MEAN	54.6	75.9	136	52.7	93.8	122	114	90.4	30.5	47.7	31.7	17.2
MAX	425	491	945	135	376	887	658	353	69	295	130	78
MIN	8.5	19	32	32	34	44	55	40	21	18	12	8.3
CFSM	1.11	1.54	2.75	1.07	1.90	2.47	2.31	1.83	.62	.97	.64	.35
IN.	1.28	1.71	3.18	1.23	2.05	2.85	2.57	2.11	.69	1.11	.74	.39
CAL YR 1983	TOTAL	25273.6	MEAN 69.2	MAX 945	MIN 5.3	CFSM 1.40	IN 19.03					
WTR YR 1984	TOTAL	26441.5	MEAN 72.2	MAX 945	MIN 8.3	CFSM 1.46	IN 19.91					

## 01653600 PISCATAWAY CREEK AT PISCATAWAY, MD

LOCATION.--Lat 38°42'20", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on left bank 75 ft downstream from bridge on State Highway 223, at Piscataway, 0.4 mi upstream from Tinker Creek, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--39.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to current year.

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

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 48.1 ft<sup>3</sup>/s, 16.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft<sup>3</sup>/s Sept. 6, 1979, gage height, 11.21 ft, from rating curve extended above 1,700 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow at bridge 100 ft upstream; no flow at times in 1966, 1970, 1977, and 1980-83.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 25	1500	462	5.82	Mar. 29	1530	*999	7.30
Dec. 13	2130	595	6.40	July 1	1200	475	5.88
Dec. 28	2330	470	Ice Jam	Aug. 13	2130	469	5.85
Mar. 26	1330	471	5.86				

Minimum discharge, 0.66 ft<sup>3</sup>/s Oct. 11, gage height, 2.06 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	12	38	55	48	64	140	58	53	369	17	5.4
2	6.2	12	34	54	44	58	117	54	43	110	15	5.2
3	4.3	12	34	53	47	56	102	54	35	95	55	5.9
4	2.9	14	198	52	65	53	168	105	30	37	37	24
5	2.0	15	95	52	68	64	309	101	26	25	23	10
6	1.6	13	97	52	67	88	221	72	24	41	16	6.6
7	1.6	12	92	50	51	64	128	78	25	137	14	5.5
8	1.2	10	55	45	44	57	100	99	21	43	18	5.0
9	.86	9.6	48	42	44	62	94	128	18	26	19	4.7
10	.73	53	46	65	44	54	89	68	16	23	92	4.9
11	.78	100	42	230	46	53	83	57	14	24	26	5.0
12	108	34	89	74	46	50	77	53	13	20	152	5.0
13	42	22	498	50	45	122	93	49	11	14	205	4.7
14	44	17	371	55	98	160	197	45	12	12	90	4.8
15	14	23	114	50	265	81	172	41	16	10	40	6.6
16	8.5	104	82	50	262	70	219	39	11	19	30	4.9
17	6.8	47	68	50	103	63	146	38	16	35	22	4.2
18	6.1	30	60	50	93	57	102	36	16	133	17	3.6
19	6.0	25	56	49	78	56	89	37	34	105	17	3.2
20	8.2	26	52	43	69	54	82	32	15	31	35	3.0
21	15	181	50	43	61	95	76	29	11	174	18	2.6
22	13	55	246	40	56	79	75	26	8.9	119	13	2.2
23	120	39	154	40	76	58	176	46	8.2	63	12	2.1
24	206	42	77	45	157	53	105	66	10	44	11	2.1
25	58	357	46	70	85	80	84	33	20	29	9.5	2.3
26	43	168	42	164	67	389	73	27	9.1	23	9.0	2.2
27	27	65	40	82	60	189	69	82	6.9	40	8.0	1.7
28	18	53	140	65	111	231	65	44	21	26	7.3	8.8
29	15	51	227	54	85	814	70	81	70	23	7.1	13
30	13	42	73	54	---	520	64	226	47	22	7.4	7.4
31	12	---	60	57	---	175	---	83	---	21	6.5	---
TOTAL	822.77	1643.6	3324	1935	2385	4069	3585	1987	661.1	1893	1048.8	166.6
MEAN	26.5	54.8	107	62.4	82.2	131	120	64.1	22.0	61.1	33.8	5.55
MAX	206	357	498	230	265	814	309	226	70	369	205	24
MIN	.73	9.6	34	40	44	50	64	26	6.9	10	6.5	1.7
CFSM	.67	1.39	2.71	1.58	2.08	3.32	3.04	1.62	.56	1.55	.86	.14
IN.	.77	1.55	3.13	1.82	2.25	3.83	3.38	1.87	.62	1.78	.99	.16
CAL YR 1983	TOTAL	23874.08	MEAN	65.4	MAX	1050	MIN	.00	CFSM	1.66	IN	22.48
WTR YR 1984	TOTAL	23520.87	MEAN	64.3	MAX	814	MIN	.73	CFSM	1.63	IN	22.15

## POTOMAC RIVER BASIN

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD

LOCATION.--Lat 38°29'26", long 76°55'37", Charles County, Hydrologic Unit 02070011, on left-center downstream side of bridge on Maryland Route 6, 1.0 miles southeast of Newtown, and 1.7 miles downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 34.88 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage-height record Dec. 24, 1983, to Jan. 25, 1984, June 29, 1984, to Aug. 14, 1984, which are fair. Low flow affected by ground-water diversions from municipal well fields at Waldorf and St. Charles, and occasional farm irrigation above station during summer months. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft<sup>3</sup>/s Mar. 29, 1984, gage height, 4.71 ft; minimum discharge, 0.92 ft<sup>3</sup>/s Oct. 11, 1983, and Sept. 3, 4, 1984, gage height, 1.32 ft.

EXTREMES FOR PERIOD JUNE 1983 TO SEPTEMBER 1984.--Peak discharges above base of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 26, 1983	2000	541	3.64	Apr. 16, 1984	2000	548	3.65
Dec. 14, 1983	1130	840	4.00	May 30, 1984	2400	562	3.67
Mar. 29, 1984	2300	*1740	4.71	July 3, 1984	Unknown	721	3.87

June to September 1983: Minimum discharge, no flow all or part of each day Aug. 23-29.

Water year 1984: Minimum discharge, 0.92 ft<sup>3</sup>/s Oct. 11, Sept. 3, 4, gage height, 1.32 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, JUNE 1983 TO SEPTEMBER 1983  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	23	.25	40
2									---	21	.14	30
3									---	19	.08	11
4									---	17	.05	5.9
5									---	54	.06	3.5
6									---	53	17	2.2
7									---	29	25	1.2
8									---	19	9.7	.83
9									---	15	4.8	.46
10									---	12	2.8	.25
11									---	9.6	1.6	.15
12									---	8.2	2.4	.08
13									---	7.3	6.6	6.4
14									44	6.2	5.5	41
15									42	4.9	3.1	37
16									39	3.9	1.8	13
17									33	2.9	.89	6.9
18									29	2.2	.48	4.4
19									28	1.9	.28	2.9
20									63	2.7	.16	2.0
21									117	20	.08	10
22									120	18	.04	24
23									77	7.9	.00	12
24									46	5.5	.00	6.0
25									35	4.7	.00	4.8
26									27	3.9	.00	4.4
27									23	2.9	.00	3.8
28									21	1.8	.00	3.6
29									22	1.1	.10	3.2
30									23	.64	.32	12
31									---	.42	1.5	---
TOTAL									---	378.66	84.73	292.97
MEAN									---	12.2	2.73	9.77
MAX									---	54	25	41
MIN									---	.42	.00	.08
CFSM									---	.15	.03	.12
IN.									---	.18	.04	.14

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	21	85	130	108	136	342	124	266	60	17	1.7
2	12	21	75	115	97	108	253	110	120	70	16	1.3
3	8.5	22	70	105	92	98	213	106	88	260	26	1.1
4	6.0	23	165	100	112	92	219	116	72	100	24	3.8
5	4.8	23	287	110	128	97	366	121	60	40	20	7.4
6	3.5	23	269	105	136	160	450	115	54	26	15	5.7
7	2.8	24	192	100	117	167	342	148	146	28	13	3.5
8	2.3	22	151	94	92	123	222	159	113	24	12	2.5
9	1.6	21	109	90	89	115	181	189	58	18	10	1.9
10	1.2	41	96	96	89	104	162	154	44	18	12	1.6
11	.98	113	89	304	85	96	152	108	35	24	26	1.4
12	32	100	100	400	88	90	141	92	29	18	30	1.8
13	73	73	447	200	85	117	135	84	27	15	36	1.9
14	77	44	798	130	110	264	184	76	27	14	40	2.2
15	43	39	564	110	283	242	439	68	40	13	22	7.7
16	22	80	271	100	448	151	508	65	29	11	15	7.0
17	14	70	167	100	390	123	547	63	42	14	11	4.3
18	11	55	131	95	230	109	449	61	44	80	8.2	2.8
19	9.5	40	114	95	190	102	265	61	36	150	7.8	2.3
20	9.4	40	103	95	153	97	201	57	27	40	11	2.0
21	15	110	93	95	126	118	172	49	22	42	8.3	1.9
22	20	120	195	95	109	151	157	43	19	80	6.4	2.0
23	62	90	342	95	106	118	296	46	17	48	5.3	2.1
24	235	95	315	95	183	96	391	133	18	28	4.7	2.1
25	257	300	250	128	216	185	269	95	38	22	4.1	1.8
26	153	510	220	161	153	590	182	56	32	20	3.5	1.5
27	75	418	190	213	119	673	154	50	21	18	2.9	1.3
28	48	185	300	200	137	483	140	64	18	18	2.4	4.1
29	34	124	350	144	171	1190	132	217	28	18	2.3	8.4
30	26	101	300	114	---	1400	128	495	50	18	2.3	10
31	23	---	170	115	---	624	---	518	---	18	2.3	---
TOTAL	1306.58	2948	7008	4129	4442	8219	7792	3843	1620	1353	416.5	99.1
MEAN	42.1	98.3	226	133	153	265	260	124	54.0	43.6	13.4	3.30
MAX	257	510	798	400	448	1400	547	518	266	260	40	10
MIN	.98	21	70	90	85	90	128	43	17	11	2.3	1.1
CFSM	.53	1.23	2.83	1.67	1.92	3.32	3.25	1.55	.68	.55	.17	.04
IN.	.61	1.37	3.26	1.92	2.07	3.83	3.63	1.79	.75	.63	.19	.05
WTR YR 1984	TOTAL	43176.18	MEAN	118	MAX	1400	MIN	.98	CFSM	1.48	IN	20.10



## POTOMAC RIVER BASIN

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD

LOCATION.--Lat 38°20'00", long 76°43'31", St. Marys County, Hydrologic Unit 02070011, on left bank 60 ft downstream from bridge on State Highway 242, 0.5 mi north of Clements, 2.3 mi upstream from mouth, and 5.7 mi northwest of Leonardtown.

DRAINAGE AREA.--18.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WDR MD-DE-79-1: 1974(P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Altitude of gage is 8 ft, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 21.2 ft<sup>3</sup>/s, 15.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft<sup>3</sup>/s Sept. 6, 1979, from rating curve extended above 480 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; maximum gage height, 6.96 ft Sept. 6, 1979 (backwater from tide); maximum gage height unaffected by backwater, 6.55 ft June 22, 1972; no flow at times in 1977, 1980, 1981, and 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	1200	289	4.03	May 30	1430	356	4.37
Mar. 26	1530	295	4.06	June 7	1600	295	4.06
Mar. 29	1100	*500	4.86				

Minimum discharge, 0.15 ft<sup>3</sup>/s Oct. 9, 10, gage height 0.76 ft, result of irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	5.3	13	16	19	21	46	23	35	35	11	4.2
2	5.3	5.4	12	16	17	19	41	21	25	23	9.8	3.7
3	3.5	5.8	12	16	19	18	37	21	20	152	22	3.7
4	2.5	6.1	73	15	36	18	61	23	17	32	20	4.2
5	1.9	6.0	48	15	29	23	108	27	15	17	12	5.3
6	1.7	5.5	33	14	27	68	60	24	14	15	9.4	5.0
7	1.3	5.3	37	14	19	38	43	28	154	17	7.9	3.9
8	1.1	5.3	21	14	16	27	36	25	64	14	7.1	3.7
9	.78	5.3	17	14	17	34	34	30	24	11	5.8	3.5
10	.92	13	17	30	18	24	33	22	19	11	6.7	3.9
11	.95	24	17	145	18	23	32	19	16	14	24	4.5
12	19	13	32	39	19	20	30	18	15	11	25	4.5
13	17	7.8	230	26	18	66	30	17	16	9.2	47	5.0
14	21	6.8	92	24	26	90	31	16	15	8.7	48	5.7
15	10	9.5	35	22	78	35	32	15	18	7.6	18	7.9
16	5.2	24	25	21	54	29	53	14	13	6.7	12	6.6
17	3.7	16	21	20	31	26	47	14	16	7.5	10	4.9
18	3.0	9.7	19	20	38	24	34	14	17	56	8.5	3.9
19	2.8	8.5	18	20	28	23	30	14	15	102	8.4	3.7
20	3.4	8.9	16	18	25	22	29	14	13	22	8.4	3.7
21	5.3	63	15	17	21	33	28	12	12	24	7.8	3.7
22	5.4	28	50	17	20	29	29	11	10	49	6.6	3.5
23	19	14	41	19	22	23	92	13	9.2	29	6.3	3.2
24	48	19	22	19	41	21	48	26	17	17	6.3	2.9
25	21	156	14	36	28	103	33	15	30	13	6.0	2.8
26	12	75	12	43	23	222	28	12	18	11	5.4	3.0
27	8.2	25	12	40	20	95	27	46	12	13	5.3	3.0
28	6.0	19	43	30	35	108	25	34	11	13	5.0	6.6
29	5.2	18	63	23	28	354	25	75	17	11	4.8	14
30	5.0	15	24	23	---	120	24	298	29	13	4.9	12
31	5.0	---	17	29	---	56	---	113	---	13	5.0	---
TOTAL	255.15	623.2	1101	815	790	1812	1206	1054	706.2	777.7	384.4	146.2
MEAN	8.23	20.8	35.5	26.3	27.2	58.5	40.2	34.0	23.5	25.1	12.4	4.87
MAX	48	156	230	145	78	354	108	298	154	152	48	14
MIN	.78	5.3	12	14	16	18	24	11	9.2	6.7	4.8	2.8
CFSM	.45	1.12	1.92	1.42	1.47	3.16	2.17	1.84	1.27	1.36	.67	.26
IN.	.51	1.25	2.21	1.64	1.59	3.64	2.42	2.12	1.42	1.56	.77	.29
CAL YR 1983	TOTAL	7621.09	MEAN	20.9	MAX	328	MIN	.00	CFSM	1.13	IN	15.32
WTR YR 1984	TOTAL	9670.85	MEAN	26.4	MAX	354	MIN	.78	CFSM	1.43	IN	19.45

## 01661500 ST. MARYS RIVER AT GREAT MILLS, MD

LOCATION.---Lat 38°14'36", long 76°30'13", St. Marys County, Hydrologic Unit 02070011, on left bank at downstream side of bridge on State Highway 471 in Great Mills, 0.3 mi downstream from Western Branch, and 12.0 mi upstream from mouth.

DRAINAGE AREA.--24.0 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1946 to current year.

REVISED RECORDS.--WSP 1702: 1946, 1948-49, 1955, 1957-58. WDR MD-DE-83-1: 1981-82(M).

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

REMARKS.--Records good. Occasional regulation by reservoir on Western Branch of St. Marys River 2.0 mi upstream since 1975, total capacity, 3,200 acre feet. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 24.2 ft<sup>3</sup>/s, 13.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,950 ft<sup>3</sup>/s Aug. 20, 1969, gage height, 13.34 ft, from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 12.08 ft; minimum discharge, 0.2 ft<sup>3</sup>/s Sept. 7, 1966, gage height, 1.13 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 13	0730	629	6.05	Mar. 29	1130	796	6.98
Mar. 25	1430	479	5.07	May 30	0600	*1820	9.66
Mar. 26	1430	828	7.13				

Minimum discharge, 2.9 ft<sup>3</sup>/s Sept. 3, 21, 22, 23, 24, 27, gage height 1.33 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.0	16	27	33	32	105	28	161	74	8.7	3.5
2	8.6	6.0	14	24	28	28	71	24	82	34	8.1	3.4
3	7.0	6.0	13	23	27	25	55	25	50	25	19	3.4
4	5.9	6.7	92	22	47	22	111	32	37	18	13	3.9
5	5.1	6.3	62	21	45	27	265	31	28	14	10	4.4
6	5.0	6.0	46	21	43	117	198	33	23	13	8.2	4.0
7	4.4	6.0	48	19	33	74	119	33	26	11	7.3	3.5
8	3.9	5.7	32	17	27	57	76	29	22	11	6.5	3.5
9	3.6	5.7	24	16	24	68	56	26	19	8.9	7.1	3.4
10	3.6	17	21	41	23	45	47	21	16	9.2	6.9	3.5
11	3.4	22	18	227	27	38	42	20	16	11	7.9	3.6
12	34	13	113	104	25	31	38	18	13	14	88	3.7
13	21	9.6	491	60	23	142	34	17	11	11	32	3.7
14	63	8.4	206	47	44	208	37	16	11	9.9	15	4.2
15	23	13	110	41	243	106	39	14	12	8.4	12	4.1
16	14	31	63	33	163	68	85	14	12	8.0	9.4	3.6
17	9.8	17	44	29	93	49	97	13	14	7.9	7.9	3.4
18	8.1	12	33	28	64	40	68	13	14	31	6.9	3.4
19	7.0	10	27	26	47	35	50	14	13	39	6.9	3.4
20	8.1	10	22	25	39	31	43	13	11	18	6.7	3.3
21	8.3	55	19	21	32	39	37	12	9.9	16	5.5	3.2
22	7.2	24	78	16	28	35	35	11	8.9	16	4.8	3.1
23	26	17	59	15	38	30	144	35	8.1	13	5.0	3.0
24	63	18	42	22	56	26	95	56	12	11	4.8	3.0
25	29	154	30	86	43	243	62	23	21	11	4.4	3.2
26	18	81	23	70	34	543	46	17	15	9.6	4.4	3.4
27	14	45	20	59	29	276	39	252	12	10	4.1	3.1
28	10	32	64	47	48	290	34	133	10	8.7	4.0	7.2
29	8.5	25	82	38	40	578	31	124	11	8.3	3.8	8.8
30	7.1	19	48	34	---	280	30	888	84	12	4.1	7.0
31	6.3	---	34	46	---	178	---	271	---	10	3.8	---
TOTAL	446.9	687.4	1994	1305	1446	3761	2189	2256	782.9	501.9	336.2	117.9
MEAN	14.4	22.9	64.3	42.1	49.9	121	73.0	72.8	26.1	16.2	10.8	3.93
MAX	63	154	491	227	243	578	265	888	161	74	88	8.8
MIN	3.4	5.7	13	15	23	22	30	11	8.1	7.9	3.8	3.0
CFSM	.60	.95	2.68	1.75	2.08	5.04	3.04	3.03	1.09	.68	.45	.16
IN.	.69	1.07	3.09	2.02	2.24	5.83	3.39	3.50	1.21	.78	.52	.18
CAL YR 1983	TOTAL	11082.8	MEAN	30.4	MAX	660	MIN	1.6	CFSM	1.27	IN	17.18
WTR YR 1984	TOTAL	15824.2	MEAN	43.2	MAX	888	MIN	3.0	CFSM	1.80	IN	24.53

## OHIO RIVER BASIN

## MONONGAHELA RIVER BASIN

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, Hydrologic Unit 05020006, on left bank 200 ft downstream from Baltimore and Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1.2 mi northwest of Oakland, and 1.5 mi upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1941 to current year.

REVISED RECORDS.--WSP 1113: 1947(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,353.61 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft upstream at same datum.

REMARKS.--Records good except those for January, which are fair. Town of Oakland diverted an average of 0.4 ft<sup>3</sup>/s for water supply. The diversion is returned above station as sewage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 298 ft<sup>3</sup>/s, 30.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft<sup>3</sup>/s Oct. 16, 1954, gage height, 12.16 ft; minimum daily discharge, 2.5 ft<sup>3</sup>/s Oct. 4, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 15.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 7	0315	2770	6.15	Mar. 28	2300	2330	5.71
Feb. 15	0300	3520	6.83	Apr. 5	0745	*4100	7.32
Mar. 26	1245	2120	5.49	July 1	Unknown	2960	6.33

Minimum discharge, 16 ft<sup>3</sup>/s Sept. 24, 25, 26, gage height, 1.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	60	517	220	160	348	704	530	149	2500	82	50
2	37	55	393	200	139	340	788	425	133	550	70	44
3	29	124	405	190	152	278	840	413	106	280	70	42
4	25	221	863	175	350	229	1100	513	87	180	104	82
5	24	174	1000	160	303	362	3520	428	75	180	105	72
6	22	195	1250	156	229	929	1680	477	65	450	82	54
7	23	260	2240	140	172	620	1060	700	54	650	187	46
8	22	241	1040	113	167	468	812	780	44	320	169	39
9	21	219	692	105	158	384	685	1040	39	220	121	34
10	20	228	598	95	157	337	561	771	33	700	126	31
11	20	376	532	90	524	281	475	577	31	650	270	30
12	30	401	617	87	846	244	397	695	33	600	934	30
13	46	303	736	85	990	229	340	622	34	380	1110	28
14	75	256	601	80	1940	316	326	506	46	330	1170	26
15	60	390	498	78	2800	383	612	409	44	290	661	27
16	39	670	412	76	1240	882	964	344	36	220	434	28
17	33	599	333	74	801	1100	721	287	39	190	311	27
18	32	457	269	71	697	871	653	239	56	280	236	24
19	54	531	239	69	561	739	576	211	379	220	194	23
20	79	524	198	68	555	625	486	174	133	166	161	22
21	215	497	214	67	468	751	412	149	87	217	128	21
22	141	395	268	65	397	764	528	123	68	163	108	21
23	663	316	407	65	367	608	1230	123	62	134	173	18
24	506	316	258	200	930	524	1130	133	68	115	130	17
25	227	441	190	860	1000	694	963	94	90	137	91	17
26	168	393	180	445	793	1990	724	79	70	100	77	16
27	144	397	200	335	603	1530	564	75	54	176	66	18
28	123	918	230	278	499	1520	474	82	115	167	59	28
29	92	1190	600	228	419	1860	1200	387	75	113	57	37
30	76	752	260	193	---	1050	712	256	200	92	56	30
31	68	---	210	154	---	780	---	189	---	82	57	---
TOTAL	3148	11899	16450	5222	18417	22036	25237	11831	2505	10852	7599	982
MEAN	102	397	531	168	635	711	841	382	83.5	350	245	32.7
MAX	663	1190	2240	860	2800	1990	3520	1040	379	2500	1170	82
MIN	20	55	180	65	139	229	326	75	31	82	56	16
CFSM	.76	2.96	3.96	1.25	4.74	5.31	6.28	2.85	.62	2.61	1.83	.24
IN.	.87	3.30	4.57	1.45	5.11	6.12	7.01	3.28	.70	3.01	2.11	.27

CAL YR 1983	TOTAL	105161	MEAN 288	MAX 2240	MIN 14	CFSM 2.15	IN 29.19
WTR YR 1984	TOTAL	136178	MEAN 372	MAX 3520	MIN 16	CFSM 2.78	IN 37.80

## MONONGAHELA RIVER BASIN

197

03076000 DEEP CREEK RESERVOIR NEAR OAKLAND, MD

LOCATION.--Lat 39°30'34", long 79°23'28", Garrett County, Hydrologic Unit 05020006, on Deep Creek at dam, 1.8 mi upstream from mouth and 7.0 mi north of Oakland.

DRAINAGE AREA.--64.7 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385.

GAGE.--Water-stage recorder at right end of spillway. Datum of gage is at mean sea level, unadjusted.

REMARKS.--Reservoir is formed by an earthfill dam completed January 1925, with storage beginning at that time. 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.

COOPERATION.--Elevations and capacity table furnished by Pennsylvania Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 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.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,600 acre-ft Apr. 6, elevation, 2,461.10 ft; minimum, 63,700 acre-ft Jan. 23, elevation, 2,453.80 ft.

## MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 . . . . .	2456.1	71500	
Oct. 31 . . . . .	2455.7	70100	-1400
Nov. 30 . . . . .	2455.9	70800	+700
Dec. 31 . . . . .	2455.1	68100	-2700
CAL YR 1983 . . . . .			-300
Jan. 31 . . . . .	2454.1	64700	-3400
Feb. 29 . . . . .	2458.0	78200	+13500
Mar. 31 . . . . .	2460.2	86300	+8100
Apr. 30 . . . . .	2459.5	83700	-2600
May 31 . . . . .	2459.3	83000	-700
June 30 . . . . .	2458.5	80000	-3000
July 31 . . . . .	2459.7	84400	+4400
Aug. 31 . . . . .	2458.6	80400	-4000
Sept. 30 . . . . .	2456.1	71500	-8900
WTR YR 1984 . . . . .			0

## 03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi upstream from Bear Creek.

DRAINAGE AREA.--295 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. Annual maximum, water years 1905, 1923-31, 1940, published in WSP 1675. 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.

REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi downstream at datum 16.24 ft and 16.29 ft lower, respectively.

REMARKS.--Records good except those for period of doubtful gage-height record, Jan. 21 to June 20, which are fair. Low and medium flow regulated since July 1925 by Deep Creek Reservoir (see station 03076000). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years (water years 1899-1904, 1941-84), 644 ft<sup>3</sup>/s, 29.65 in/yr, adjusted for storage since October 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,600 ft<sup>3</sup>/s Mar. 29, 1924, gage height, 14.2 ft, from flood-marks, site and datum then in use or 10.2 ft, present site and datum, from rating curve extended above 5,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily discharge, 8.2 ft<sup>3</sup>/s Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,760 ft<sup>3</sup>/s April 15, gage height, 6.61 ft; minimum discharge, 24 ft<sup>3</sup>/s Oct. 11, gage height, 1.87 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	152	1300	450	380	830	1450	1350	430	2070	310	129
2	47	143	1100	508	360	810	2000	1100	300	1240	337	109
3	98	172	850	527	410	680	2150	1050	240	737	250	99
4	91	335	1850	404	730	480	2750	1300	290	486	261	317
5	90	316	2400	486	630	860	6090	890	270	519	358	372
6	93	263	3000	447	530	2050	3710	1000	270	1000	354	323
7	89	385	3760	300	410	1400	2880	1700	230	1430	365	318
8	43	406	2300	250	460	1100	2400	1850	220	987	452	105
9	36	475	1520	440	380	900	2100	2400	85	718	457	80
10	65	413	1030	410	380	700	1450	1700	70	1590	487	273
11	70	578	899	400	1100	580	1200	1400	190	3660	473	283
12	111	560	1140	390	1750	620	1150	1450	120	3170	1460	273
13	128	441	1560	340	2150	580	1000	1300	130	2200	2100	275
14	130	472	1340	180	3500	760	680	1350	150	1060	2680	235
15	79	452	1180	170	4600	900	1450	1150	160	707	1510	161
16	70	1090	1030	320	2800	2000	2450	1050	80	757	1060	75
17	116	1120	632	316	1750	2350	1700	800	85	588	868	259
18	105	785	469	224	1450	1850	1700	700	180	707	763	273
19	103	790	673	233	1200	1650	1550	440	850	660	421	267
20	112	830	686	239	1250	1400	1300	390	340	499	575	242
21	191	946	630	150	1080	1750	1000	550	251	351	587	258
22	268	770	735	140	930	1750	1200	480	216	336	521	64
23	545	807	963	200	870	1450	3050	470	143	455	642	53
24	895	489	532	470	2050	1100	3000	450	180	340	622	199
25	396	589	670	1870	2150	1450	2600	300	285	331	243	292
26	304	570	650	990	1650	3500	2150	180	201	323	190	241
27	259	568	680	760	1350	2920	1750	170	174	356	408	256
28	258	1310	690	580	1150	2730	1200	180	164	328	451	276
29	162	2350	1500	480	980	3490	2750	900	201	237	396	80
30	133	1590	800	460	---	2450	1750	640	444	286	331	75
31	156	---	450	370	---	1650	---	490	---	218	330	---
TOTAL	5294	20167	37019	13504	38430	46740	61610	29180	6949	28346	20262	6262
MEAN	171	672	1194	436	1325	1508	2054	941	232	914	654	209
MAX	895	2350	3760	1870	4600	3500	6090	2400	850	3660	2680	372
MIN	36	143	450	140	360	480	680	170	70	218	190	53
( $\Delta$ )	-22.8	+11.7	-43.9	-55.5	+235	+132	-43.7	-11.4	-50.4	+71.6	-65.0	-150
MEAN $\Delta$	148	684	1150	380	1560	1640	2010	930	182	986	589	59
CFSM $\Delta$	0.50	2.32	3.90	1.29	5.29	5.56	6.81	3.15	0.62	3.34	2.00	0.20
IN $\Delta$	0.58	2.59	4.50	1.49	5.70	6.41	7.60	3.63	0.69	3.85	2.31	0.22
CAL YR 1983 TOTAL	210018	MEAN 575	MAX 3760	MIN 36	MEAN $\Delta$ 575	CFSM $\Delta$ 1.95	IN $\Delta$ 26.48					
WTR YR 1984 TOTAL	313763	MEAN 857	MAX 6090	MIN 36	MEAN $\Delta$ 857	CFSM $\Delta$ 2.91	IN $\Delta$ 39.56					

$\Delta$  Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir furnished by Pennsylvania Electric Co.

\* Adjusted for change in contents.

## 03076600 BEAR CREEK AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'22", long 79°23'41", Garrett County, Hydrologic Unit 05020006, on right bank 0.2 mi downstream from bridge on Accident-Friendsville Road, 0.6 mi downstream from South Branch Bear Creek, 0.8 mi southeast of Friendsville, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--48.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,551.34 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 88.7 ft<sup>3</sup>/s, 24.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft<sup>3</sup>/s Sept. 14, 1971, gage height, 9.6 ft, from flood-marks, from rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.5 ft<sup>3</sup>/s Sept. 12, 1966, gage height, 0.42 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 14	2100	1850	5.35	Apr. 28	2300	928	3.84
Mar. 28	2300	873	3.76	Aug. 13	1100	642	3.41
Apr. 5	0130	*2050	5.66				

Minimum discharge, 3.6 ft<sup>3</sup>/s Oct. 10, 11, gage height, 0.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.7	123	56	37	90	277	203	77	232	20	17
2	6.4	8.9	89	50	36	83	313	131	65	86	22	16
3	5.1	16	86	48	43	72	359	121	54	57	52	16
4	4.5	22	168	46	76	70	685	117	48	44	40	22
5	4.6	18	249	44	70	106	1460	97	42	54	74	16
6	5.3	25	315	42	64	239	605	97	39	133	47	14
7	4.5	35	388	38	54	156	387	117	35	261	40	12
8	4.1	31	220	39	49	125	321	187	32	121	36	12
9	3.9	26	160	34	40	100	270	286	29	82	34	11
10	3.8	30	140	33	37	98	193	254	27	272	52	10
11	3.6	49	130	28	78	83	140	164	24	277	64	10
12	4.6	55	230	26	140	74	115	308	22	225	274	11
13	6.6	46	290	24	190	63	98	318	21	139	255	9.8
14	11	41	200	23	1170	59	92	257	23	115	340	8.9
15	6.4	54	130	22	1030	83	113	154	20	89	184	22
16	5.3	103	100	21	461	277	149	115	17	74	111	14
17	5.0	99	83	20	329	335	153	93	17	61	82	11
18	4.6	81	71	19	262	287	145	80	17	122	66	9.3
19	5.6	99	63	18	219	257	124	73	36	56	55	8.7
20	5.9	101	60	17	177	235	109	67	19	44	47	8.3
21	21	89	64	16	141	292	93	57	16	69	40	7.8
22	13	70	82	15	115	272	146	51	14	48	35	7.6
23	49	58	92	15	120	220	320	51	13	44	54	7.1
24	40	54	68	50	219	200	349	46	39	38	36	6.9
25	24	66	47	160	235	240	330	41	34	33	34	6.9
26	19	59	45	100	177	420	272	38	22	30	27	6.9
27	18	64	50	70	146	390	174	37	17	44	24	7.1
28	16	227	60	62	135	540	196	43	20	32	22	11
29	13	320	110	50	111	679	486	233	15	26	21	9.4
30	11	203	62	46	---	400	318	119	29	23	20	7.9
31	11	---	54	40	---	312	---	90	---	22	20	---
TOTAL	346.8	2159.6	4029	1272	5961	6857	8792	4045	883	2953	2228	337.6
MEAN	11.2	72.0	130	41.0	206	221	293	130	29.4	95.3	71.9	11.3
MAX	49	320	388	160	1170	679	1460	318	77	277	340	22
MIN	3.6	8.9	45	15	36	59	92	37	13	22	20	6.9
CFSM	.23	1.47	2.66	.84	4.21	4.52	5.99	2.66	.60	1.95	1.47	.23
IN.	.26	1.64	3.06	.97	4.53	5.22	6.69	3.08	.67	2.25	1.69	.26

CAL YR 1983	TOTAL	29215.6	MEAN	80.0	MAX	575	MIN	3.6	CFSM	1.64	IN	22.22
WTR YR 1984	TOTAL	39864.0	MEAN	109	MAX	1460	MIN	3.6	CFSM	2.23	IN	30.33

## MONONGAHELA RIVER BASIN

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi upstream from Slaubaugh Run, 0.7 mi downstream from U.S. Highway 40, and 1.0 mi north-east of Grantsville.

DRAINAGE AREA.--62.5 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 119 ft<sup>3</sup>/s, 25.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft<sup>3</sup>/s Oct. 15, 1954, gage height, 10.70 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 8.13 ft; no flow Aug. 31, 1962, result of regulation from unknown source.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 12	1930	Ice jam	*6.12	Apr. 5	0330	*2690	5.68
Feb. 14	2130	2430	5.41	July 1	0845	1030	3.73

Minimum discharge, 3.4 ft<sup>3</sup>/s Oct. 10, 11, gage height, 0.97 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	15	166	80	52	121	273	183	77	647	15	19
2	8.0	14	132	75	49	119	319	148	73	153	14	16
3	6.8	24	144	70	58	147	353	155	61	74	28	15
4	6.2	52	288	66	105	103	693	245	53	49	30	26
5	5.7	40	365	64	100	120	1600	180	45	49	69	22
6	5.7	64	410	60	78	239	546	176	40	116	37	17
7	4.8	86	554	56	64	151	374	255	36	179	25	14
8	4.4	74	280	50	58	113	298	280	32	85	20	13
9	4.0	57	206	44	53	104	255	306	30	59	38	12
10	3.7	81	193	42	51	108	206	217	25	189	100	11
11	4.0	171	183	40	110	104	175	177	24	176	176	11
12	7.7	141	378	36	190	101	149	382	22	158	556	10
13	19	84	381	35	260	78	133	286	21	92	350	9.5
14	37	68	258	33	1680	78	131	212	23	66	342	8.8
15	19	84	198	31	1180	111	260	172	23	52	165	21
16	12	218	158	30	537	306	286	143	19	44	107	20
17	9.9	176	129	29	370	344	215	120	17	38	82	13
18	8.2	126	111	28	330	291	180	106	16	55	65	11
19	9.3	209	101	26	273	296	153	98	29	44	57	9.7
20	12	221	85	25	282	355	133	102	25	32	50	8.8
21	62	210	90	24	209	526	115	85	18	38	41	7.9
22	46	139	120	23	167	414	176	75	14	39	36	7.4
23	198	108	135	22	157	274	380	70	13	32	63	7.0
24	113	104	95	40	356	228	392	71	22	27	48	6.0
25	52	172	66	190	278	282	286	59	40	24	34	5.9
26	40	138	64	115	214	403	210	52	23	20	29	6.1
27	33	135	70	95	173	336	172	48	17	29	25	6.2
28	30	420	82	85	158	541	164	50	16	30	24	11
29	24	420	180	70	136	637	488	231	15	23	23	12
30	19	231	95	64	---	351	249	124	52	19	22	10
31	17	---	75	56	---	279	---	87	---	16	22	---
TOTAL	828.8	4082	5792	1704	7728	7660	9364	4895	921	2654	2693	367.3
MEAN	26.7	136	187	55.0	266	247	312	158	30.7	85.6	86.9	12.2
MAX	198	420	554	190	1680	637	1600	382	77	647	556	26
MIN	3.7	14	64	22	49	78	115	48	13	16	14	5.9
CFSM	.43	2.18	2.99	.88	4.26	3.95	4.99	2.53	.49	1.37	1.39	.20
IN.	.49	2.43	3.45	1.01	4.60	4.56	5.57	2.91	.55	1.58	1.60	.22

CAL YR 1983	TOTAL	40764.2	MEAN 112	MAX 762	MIN 2.1	CFSM 1.79	IN 24.26
WTR YR 1984	TOTAL	48689.1	MEAN 133	MAX 1680	MIN 3.7	CFSM 2.13	IN 28.98

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
DELAWARE RIVER BASIN									
01477800 - SHELLPOT C AT WILMINGTON DE (LAT 39 45 39 LONG 075 31 10)									
OCT , 1983					MAR , 1984				
19...	1510	8.2	14.0	14.5	20...	1005	4.5	7.0	11.0
NOV					APR				
23...	1110	2.5	10.0	12.5	13...	0950	3.5	13.5	16.5
JAN , 1984					JUN				
04...	1230	2.7	2.0	5.5	06...	1110	2.3	21.0	26.0
FEB					JUL				
07...	1055	2.8	1.0	-1.0	11...	1110	14	22.0	25.0
01478000 - CHRISTINA R AT COOCHS BRIDGE DE (LAT 39 38 16 LONG 075 43 46)									
OCT , 1983					MAR , 1984				
18...	1310	4.7	14.5	17.0	20...	1225	23	9.0	10.5
NOV					APR				
17...	1235	18	8.5	8.0	09...	1215	42	10.5	10.0
DEC					MAY				
29...	1215	51	.5	2.0	23...	1115	15	22.5	26.0
FEB , 1984					JUL				
10...	1130	12	2.0	10.0	24...	1005	20	22.5	28.0
01478040 - CHRISTINA R NR BEAR DE (LAT 39 38 12 LONG 075 40 53)									
APR , 1984					SEP , 1984				
13...	1255	46	14.5	16.5	07...	1135	9.0	15.5	20.5
01479000 - WHITE CLAY C NR NEWARK DE (LAT 39 42 00 LONG 075 41 10)									
OCT , 1983					APR , 1984				
04...	1015	33	17.0	22.5	10...	1005	202	8.0	6.5
20...	1405	53	14.0	18.0	JUN				
NOV					05...	1335	133	21.0	28.0
22...	1610	106	10.5	19.5	13...	1245	104	25.0	35.0
DEC					JUL				
21...	1135	107	.0	-4.0	10...	1110	117	19.0	24.0
FEB , 1984					AUG				
06...	1055	158	2.0	2.0	29...	1045	65	21.0	27.5
MAR									
19...	1145	163	8.0	11.0					
01480000 - RED CLAY C AT WOODDALE DE (LAT 39 45 52 LONG 075 38 08)									
OCT , 1983					APR , 1984				
19...	1045	30	13.5	10.0	10...	1210	113	10.5	14.5
NOV					JUN				
23...	1300	44	9.0	11.0	05...	1030	80	17.0	29.0
JAN , 1984					JUL				
17...	1505	61	.0	3.0	10...	1315	72	17.5	21.0
FEB					AUG				
06...	1320	73	2.0	4.0	29...	1245	39	20.5	28.0
MAR									
19...	0955	91	7.0	10.0					
01481500 - BRANDYWINE C AT WILMINGTON DE (LAT 39 46 09 LONG 075 34 25)									
OCT , 1983					MAR , 1984				
03...	1305	126	18.0	25.5	01...	1115	787	2.5	-1.5
NOV					MAY				
01...	1035	157	11.5	12.0	01...	1225	864	14.5	17.0
DEC					JUL				
01...	1300	427	6.0	5.0	02...	1055	237	20.0	23.5
JAN , 1984					AUG				
03...	1045	624	1.5	4.0	01...	1055	527	21.0	25.5
01483200 - BLACKBIRD C AT BLACKBIRD DE (LAT 39 21 58 LONG 075 40 10)									
OCT , 1983					MAR , 1984				
12...	1315	4.5	19.0	22.5	20...	1430	6.9	13.0	15.5
NOV					29...	0935	82	5.5	4.0
10...	1440	6.2	11.0	15.5	APR				
DEC					09...	1415	1.1	11.5	8.5
23...	1135	15	3.0	1.0	JUL				
JAN , 1984					09...	1420	1.7	25.0	28.5
30...	1435	4.6	2.5	4.5	AUG				
MAR					22...	1425	.96	26.0	28.5
13...	0955	6.2	3.0	2.5					



TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
ST. JONES RIVER BASIN									
01483700 - ST JONES R AT DOVER DE (LAT 39 09 49 LONG 075 31 10)									
OCT , 1983					APR , 1984				
03...	1055	8.1	22.5	19.0	02...	1005	104	8.0	15.5
NOV					MAY				
01...	1045	7.6	10.5	13.5	01...	1030	50	18.0	15.0
DEC					JUN				
01...	1130	27	9.0	7.0	01...	1115	187	17.0	19.0
JAN , 1984					JUL				
03...	1120	37	2.5	3.0	02...	1000	24	26.0	29.0
FEB					AUG				
01...	1130	46	2.0	.0	01...	0925	9.0	24.5	27.5
MAR					30...	0900	4.6	23.5	25.5
01...	1200	94	3.5	1.0					
02...	1030	66	3.0	3.0					
29...	0915	38	7.0	6.5					
MURDERKILL RIVER BASIN									
01484000 - MURDERKILL R NR FELTON DE (LAT 38 58 33 LONG 075 34 03)									
OCT , 1983					FEB , 1984				
13...	1510	5.0	19.5	26.0	16...	1430	120	10.0	11.0
NOV					MAR				
16...	1310	16	10.5	12.0	05...	1315	23	5.5	9.5
DEC					APR				
05...	1035	41	7.5	12.0	09...	1450	33	12.5	12.0
19...	1350	23	4.5	2.5	JUL				
FEB , 1984					16...	1125	5.9	21.5	30.0
02...	1400	18	3.0	8.5					
MISPILLION RIVER BASIN									
01484100 - BEAVERDAM B AT HOUSTON DE (LAT 38 54 20 LONG 075 30 49)									
OCT , 1983					MAR , 1984				
06...	1510	1.2	17.0	24.0	06...	0930	13	9.0	8.0
NOV					14...	1320	17	8.0	8.5
15...	1430	1.6	11.0	9.0	APR				
DEC					09...	1315	9.0	13.0	13.0
19...	1225	5.0	8.5	3.5	JUL				
JAN , 1984					03...	1455	3.2	18.0	27.5
31...	1105	4.8	2.0	2.5					
INDIAN RIVER BASIN									
01484500 - STOCKLEY B AT STOCKLEY DE (LAT 38 38 19 LONG 075 20 31)									
OCT , 1983					MAR , 1984				
17...	1235	3.2	14.0	18.0	05...	1055	11	8.0	8.5
NOV					14...	1240	45	8.0	14.0
15...	1125	3.3	10.0	10.0	APR				
25...	1105	37	9.0	6.0	09...	1020	20	10.5	8.0
JAN , 1984					MAY				
09...	1215	8.9	5.5	3.0	24...	1425	8.1	19.0	21.5
FEB					JUL				
02...	1055	11	4.5	5.5	11...	1400	4.3	20.0	28.5
POCOMOKE RIVER BASIN									
01485000 - POCOMOKE R NR WILLARDS, MD (LAT 38 23 20 LONG 075 19 30)									
OCT , 1983					APR , 1984				
05...	1135	13	19.0	26.5	06...	1045	600	12.0	15.0
NOV					MAY				
21...	1040	82	13.0	14.0	24...	1100	57	18.0	23.5
JAN , 1984					JUL				
05...	1310	72	7.0	10.0	11...	1050	33	20.0	26.0
FEB					AUG				
03...	1230	89	6.0	14.5	29...	1325	11	21.5	28.0
MAR									
07...	1240	237	8.0	9.5					
26...	1145	443	11.0	10.0					

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POCOMOKE RIVER BASIN--CONTINUED									
01485500 - NASSAWANGO C NR SNOW HILL, MD (LAT 38 13 44 LONG 075 28 19)									
OCT , 1983					APR , 1984				
11...	1240	3.3	15.0	22.5	06...	1505	774	13.0	13.5
NOV					MAY				
09...	1155	7.8	10.0	20.0	23...	1145	14	19.5	25.0
DEC					JUL				
15...	1205	257	11.0	11.0	09...	1135	44	18.5	23.0
JAN , 1984					AUG				
26...	1240	312	1.5	12.0	28...	1250	3.9	18.0	25.5
FEB					SEP				
27...	1150	77	5.0	3.5	27...	1135	1.9	16.0	16.0
MANOKIN RIVER BASIN									
01486000 - MANOKIN B NR PRINCESS ANNE, MD (LAT 38 12 50 LONG 075 40 18)									
OCT , 1983					APR , 1984				
07...	1310	.55	18.0	24.0	11...	1250	7.3	15.0	14.5
NOV					MAY				
07...	1210	.95	10.0	19.5	21...	1245	2.0	22.5	32.0
DEC					JUL				
12...	1115	6.4	12.0	19.0	10...	1140	1.7	20.5	23.5
JAN , 1984					AUG				
23...	1210	5.4	4.0	8.0	20...	1205	3.1	21.5	27.5
FEB									
28...	1245	20	10.5	14.0					
NANTICOKE RIVER BASIN									
01487000 - NANTICOKE R NR BRIDGEVILLE, DE (LAT 38 43 45 LONG 075 33 41)									
OCT , 1983					FEB , 1984				
13...	1135	39	19.0	23.0	16...	1045	293	11.0	11.0
NOV					MAR				
16...	1020	55	10.5	11.0	30...	1505	541	8.0	10.0
DEC					AUG				
14...	1140	231	12.0	14.0	15...	1005	57	22.0	25.5
MARSHYHOPE C NR ADAMSVILLE DE (LAT 38 50 59 LONG 075 40 24)									
01488500 - MARSHYHOPE C NR ADAMSVILLE DE (LAT 38 50 59 LONG 075 40 24)									
OCT , 1983					APR , 1984				
06...	1205	13	19.0	25.0	10...	1305	101	14.0	13.0
NOV					JUN				
14...	1440	18	10.5	14.5	05...	1020	91	18.0	23.5
DEC					07...	1200	109	23.0	28.5
19...	1020	86	5.0	3.0	20...	1315	53	25.0	31.0
JAN , 1984					JUL				
30...	1425	65	7.5	9.0	12...	1515	26	29.5	30.0
FEB					19...	1455	34	26.5	28.0
29...	1450	123	7.5	2.0	AUG				
MAR					22...	1300	17	23.0	25.0
06...	1335	238	9.0	7.5	SEP				
14...	0915	426	4.5	7.0	28...	1330	15	13.0	12.0
22...	1000	114	10.0	13.0					
27...	1035	212	9.0	10.0					
27...	1230	200	10.0	12.5					
FAULKNER B AT FEDERALSBURG, MD (LAT 38 42 44 LONG 075 47 34)									
01489000 - FAULKNER B AT FEDERALSBURG, MD (LAT 38 42 44 LONG 075 47 34)									
NOV , 1983					APR , 1984				
14...	1140	1.7	8.5	9.5	10...	1050	23	10.0	11.5
25...	1345	34	9.5	7.5	MAY				
DEC					10...	1130	12	15.0	15.5
07...	1135	17	8.0	6.5	JUL				
JAN , 1984					03...	1200	21	22.0	26.0
30...	1110	14	5.5	8.0	SEP				
FEB					28...	1025	2.7	13.5	10.5
28...	1230	23	9.5	14.5					

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
CHOPTANK RIVER BASIN									
01491000 - CHOPTANK R NR GREENSBORO, MD (LAT 38 59 50 LONG 075 47 10)									
OCT , 1983					MAY , 1984				
28...	0935	53	10.0	9.0	16...	1030	110	13.0	11.0
NOV					29...	1005	100	21.0	22.5
08...	1200	41	11.0	16.0	31...	1440	1360	17.0	--
28...	1200	254	10.0	11.5	JUN				
JAN , 1984					04...	0915	238	17.0	21.0
27...	1015	432	1.5	5.5	26...	0930	129	21.0	22.0
FEB					JUL				
14...	1100	152	9.0	18.0	26...	0945	54	23.5	24.5
15...	1330	538	11.0	12.0	AUG				
27...	1040	264	5.5	1.0	01...	1000	43	21.0	24.5
29...	1045	401	6.0	2.0	28...	1005	15	21.0	26.0
MAR					SEP				
26...	1050	731	6.0	6.5	24...	1400	13	19.5	28.5
27...	1410	771	9.0	17.0					
APR									
26...	0915	225	12.5	19.5					
CHESTER RIVER BASIN									
01493000 - UNICORN B NR MILLINGTON, MD (LAT 39 14 59 LONG 075 51 40)									
OCT , 1983					APR , 1984				
21...	1355	11	14.5	14.5	05...	1400	225	14.0	25.5
NOV					12...	1300	44	15.0	19.0
08...	1245	13	11.0	14.5	MAY				
DEC					22...	1110	23	23.0	27.0
16...	1325	79	9.0	9.0	JUN				
JAN , 1984					28...	1400	17	26.5	29.5
25...	1435	43	3.0	11.0	AUG				
MAR					21...	1335	13	24.0	22.5
02...	1405	41	4.0	7.0					
01493500 - MORGAN C NR KENNEDYVILLE, MD (LAT 39 16 48 LONG 076 00 54)									
OCT , 1983					APR , 1984				
21...	1135	5.8	11.0	15.0	12...	1030	12	10.0	15.0
NOV					MAY				
08...	1040	6.2	8.0	14.0	17...	1220	8.7	12.0	15.0
DEC					30...	1205	86	18.0	14.5
16...	1100	13	6.5	7.5	JUN				
JAN , 1984					28...	1110	6.7	20.5	27.5
25...	1105	24	.0	8.0	AUG				
MAR					21...	1050	6.6	17.0	20.0
02...	1110	9.7	2.0	4.5					
29...	1410	129	4.0	4.5					
ELK RIVER BASIN									
01495000 - BIG ELK C AT ELK MILLS, MD (LAT 39 39 26 LONG 075 49 20)									
OCT , 1983					APR , 1984				
14...	1120	88	16.0	17.0	12...	1020	100	13.0	18.5
20...	1130	36	12.0	12.0	MAY				
26...	1045	49	11.0	13.5	21...	1125	86	20.0	28.0
NOV					JUL				
10...	1140	30	8.0	13.5	09...	1140	69	19.0	24.5
FEB , 1984					AUG				
14...	1340	100	8.0	14.0	22...	1150	45	20.0	27.5
MAR									
12...	1225	84	2.0	-3.0					
NORTHEAST RIVER BASIN									
01496000 - NORTHEAST C AT LESLIE, MD (LAT 39 37 40 LONG 075 56 40)									
OCT , 1983					APR , 1984				
18...	1240	7.1	14.0	19.0	11...	1235	30	12.5	14.0
NOV					JUN				
18...	1245	15	7.0	9.5	04...	1255	29	19.0	24.0
JAN , 1984					JUL				
31...	1215	27	2.0	2.0	03...	1330	29	23.0	30.0
MAR					AUG				
08...	1330	30	3.5	1.0	21...	1310	8.4	20.5	27.0

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
PRINCIPIO CREEK BASIN									
01496200	- PRINCIPIO C NR PRINCIPIO FURNACE, MD (LAT 39 37 34 LONG 076 02 27)								
OCT , 1983					APR , 1984				
18...	1035	2.8	13.0	16.0	11...	1025	14	11.5	10.5
NOV					JUN				
18...	1035	5.4	6.0	10.5	04...	1055	11	17.0	24.5
DEC					JUL				
20...	1150	9.9	1.5	-2.5	03...	1125	9.9	21.0	26.5
FEB , 1984					AUG				
23...	1045	11	5.0	8.5	21...	1105	6.1	19.0	21.0
MAR									
08...	1100	12	3.0	1.0					
SUSQUEHANNA RIVER BASIN									
01578310	- SUSQUEHANNA R AT CONOWINGO, MD (LAT 39 39 26 LONG 076 10 31)								
NOV , 1983					JUL , 1984				
07...	1300	3370	14.0	13.0	27...	1130	51400	26.0	25.5
JAN , 1984					AUG				
04...	1230	41600	4.0	2.0	15...	1200	64400	28.5	30.0
FEB					SEP				
17...	1200	444000	4.0	5.0	19...	1300	30800	22.0	20.0
APR					27...	1115	27700	21.5	15.0
09...	1200	265000	7.0	10.5					
MAY									
21...	1100	67500	16.0	20.0					
01580000	- DEER C AT ROCKS, MD (LAT 39 37 49 LONG 076 24 13)								
OCT , 1983					FEB , 1984				
12...	1300	137	15.0	19.0	02...	1400	123	.0	2.0
BUSH RIVER BASIN									
01581700	- WINTERS RN NR BENSON, MD (LAT 39 31 12 LONG 076 22 24)								
OCT , 1983					FEB , 1984				
12...	0930	56	16.0	18.5	02...	1020	23	.0	1.0
GUNPOWDER RIVER BASIN									
01582000	- LITTLE FALLS AT BLUE MOUNT, MD (LAT 39 36 16 LONG 076 37 16)								
OCT , 1983					FEB , 1984				
13...	1000	33	17.0	20.0	10...	1115	63	1.0	5.0
NOV					MAR				
10...	0915	29	7.0	10.0	15...	1000	105	3.0	3.5
01582500	- GUNPOWDER FALLS AT GLENCOE MD (LAT 39 32 59 LONG 076 38 11)								
OCT , 1983					MAR , 1984				
07...	1230	228	12.0	17.0	15...	1340	319	5.0	12.0
FEB , 1984									
10...	1415	190	3.0	9.5					
01583100	- PINEY RN AT DOVER MD (LAT 39 31 15 LONG 076 46 02)								
OCT , 1983					FEB , 1984				
07...	1045	5.0	13.0	19.0	03...	0945	13	.5	3.0
NOV					MAR				
09...	0845	6.3	6.0	3.0	15...	1510	21	10.0	15.0
01583500	- WESTERN RN AT WESTERN RUN, MD (LAT 39 30 38 LONG 076 40 37)								
OCT , 1983					FEB , 1984				
13...	1300	34	17.0	22.0	03...	1200	59	1.0	2.0
NOV									
09...	1045	33	7.0	15.0					
01583600	- BEAVERDAM RN AT COCKEYSVILLE MD (LAT 39 29 13 LONG 076 38 42)								
OCT , 1983					FEB , 1984				
07...	1400	9.8	16.0	22.0	03...	1320	22	3.0	4.0
NOV					MAR				
08...	1315	14	10.0	18.0	12...	1440	27	4.0	2.0

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
GUNPOWDER RIVER BASIN--CONTINUED									
01584050 - LONG GREEN C AT GLEN ARM, MD (LAT 39 27 17 LONG 076 28 45)									
OCT , 1983									
12...	1545	17	17.0	20.0					
01585100 - WHITEMARSH RN AT WHITE MARSH, MD (LAT 39 22 15 LONG 076 26 46)									
OCT , 1983					MAR , 1984				
13...	1530	2.9	21.0	22.5	14...	1530	58	7.0	9.0
FEB , 1984									
01...	1345	6.9	.5	-1.5					
BACK RIVER BASIN									
01585200 - WB HERRING RN AT IDLEWYLDE, MD (LAT 39 22 25 LONG 076 35 35)									
OCT , 1983					JAN , 1984				
03...	1500	.30	21.0	28.0	30...	1450	1.2	2.5	3.0
NOV									
08...	1440	.52	11.0	17.0					
01585300 - STEMMERS RN AT ROSSVILLE, MD (LAT 39 20 28 LONG 076 29 17)									
OCT , 1983					MAR , 1984				
14...	1145	1.6	16.0	15.0	16...	0950	4.8	6.0	12.0
NOV									
09...	1315	.59	12.0	19.0					
01585400 - BRIEN RN AT STEMMERS RUN, MD (LAT 39 20 01 LONG 076 28 23)									
OCT , 1983					FEB , 1984				
14...	1015	.54	16.0	13.0	01...	1200	.90	1.0	-2.0
NOV					MAR				
09...	1445	.46	11.0	17.0	14...	1330	9.4	6.0	10.0
PATAPSCO RIVER BASIN									
01585500 - CRANBERRY B NR WESTMINSTER, MD (LAT 39 35 35 LONG 076 58 05)									
OCT , 1983					APR , 1984				
11...	1415	1.1	13.0	15.0	19...	1450	7.8	11.0	15.0
NOV					JUN				
08...	1500	.35	10.0	14.0	27...	1455	3.3	19.0	30.0
FEB , 1984					AUG				
06...	1530	3.4	2.0	-1.0	07...	1445	2.7	21.5	31.5
MAR									
21...	1215	8.8	7.0	11.0					
01586000 - NB PATAPSCO R AT CEDARHURST, MD (LAT 39 30 00 LONG 076 53 00)									
OCT , 1983					MAR , 1984				
11...	1015	15	13.0	14.0	21...	1050	93	7.0	9.0
NOV					JUN				
08...	1030	22	7.0	14.0	27...	1030	55	17.5	23.0
DEC					AUG				
19...	1510	72	2.0	-3.0	07...	1140	44	22.0	25.0
FEB , 1984									
06...	1110	72	.0	-.5					
01586210 - BEAVER RN NR FINKSBURG MD (LAT 39 29 22 LONG 076 54 12)									
OCT , 1983					MAR , 1984				
11...	1130	3.7	11.5	14.5	21...	1455	38	9.0	8.0
NOV					APR				
08...	1200	5.6	8.0	18.0	19...	1140	37	10.0	17.0
DEC					JUN				
19...	1615	22	1.0	-5.0	27...	1230	15	20.5	28.0
FEB , 1984					AUG				
06...	1235	18	.0	.5	07...	1007	13	21.0	28.0

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
PATAPSCO RIVER BASIN--CONTINUED									
01586610 - MORGAN RN NR LOUISVILLE MD (LAT 39 27 07 LONG 076 57 20)									
OCT , 1983					APR , 1984				
11...	1300	7.7	12.0	15.0	19...	1330	81	10.0	17.0
NOV					JUL				
08...	1400	11	7.0	12.0	03...	1400	28	21.5	26.0
DEC					20...	1045	25	18.5	24.0
21...	1100	40	.0	-6.0	AUG				
FEB , 1984					07...	1340	23	22.0	30.5
06...	1400	41	1.0	.5					
01589000 - PATAPSCO R AT HOLLOFIELD, MD (LAT 39 18 36 LONG 076 47 34)									
OCT , 1983					JAN , 1984				
11...	1430	33	15.0	17.0	31...	1500	149	2.0	.0
NOV									
07...	1415	149	9.5	14.5					
01589100 - EB HERBERT RN AT ARBUTUS, MD (LAT 39 14 24 LONG 076 41 33)									
OCT , 1983					JAN , 1984				
11...	1015	.55	15.0	15.0	31...	1100	1.6	2.0	.0
NOV					MAR				
07...	1000	.65	9.0	1.0	14...	1015	4.6	5.0	8.0
01589300 - GWYNNS FALLS AT VILLA NOVA, MD (LAT 39 20 45 LONG 076 44 01)									
OCT , 1983					JAN , 1984				
03...	1115	14	16.0	21.0	30...	1130	33	2.0	4.0
NOV					MAR				
08...	0915	15	8.0	11.5	12...	1100	35	2.0	-3.0
01589330 - DEAD RN AT FRANKLINTOWN, MD (LAT 39 18 40 LONG 076 43 02)									
OCT , 1983					JAN , 1984				
11...	1215	.51	14.5	16.0	31...	1245	3.5	2.5	.5
NOV					MAR				
07...	1200	.89	8.0	14.5	14...	1145	37	5.0	9.0
01589440 - JONES FALLS AT SORRENTO, MD (LAT 39 23 30 LONG 076 39 42)									
OCT , 1983					JAN , 1984				
03...	1315	11	16.5	23.0	30...	1320	27	3.0	3.0
NOV					MAR				
08...	1115	13	8.5	17.0	12...	1300	34	4.0	1.0
01589500 - SAWMILL C AT GLEN BURNIE, MD (LAT 39 10 12 LONG 076 37 51)									
FEB , 1984					MAY , 1984				
09...	0930	1.7	.0	2.5	22...	1130	2.6	20.0	28.0
01589512 - SAWMILL C AT CRAIN HWY AT GLEN BURNIE MD (LAT 39 10 59 LONG 076 36 51)									
FEB , 1984					MAY , 1984				
09...	1100	3.8	5.0	6.0	22...	1515	5.5	21.0	34.0
01589522 - MARLEY C AT HARUNDALE MD (LAT 39 08 37 LONG 076 36 25)									
FEB , 1984					MAY , 1984				
09...	1350	3.7	2.5	11.0	22...	1530	3.9	25.0	35.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
SOUTH RIVER BASIN									
01590500 - BACON RIDGE B AT CHESTERFIELD, MD (LAT 39 00 07 LONG 076 36 53)									
OCT , 1983					FEB , 1984				
06...	1345	3.8	16.0	22.0	08...	1315	6.1	1.0	.0
PATUXENT RIVER BASIN									
01591000 - PATUXENT R NR UNITY, MD (LAT 39 14 18 LONG 077 03 23)									
OCT , 1983					MAR , 1984				
12...	1230	31	15.0	19.0	20...	1200	58	7.0	10.0
NOV					APR				
21...	1105	90	15.0	12.0	20...	1120	86	10.0	15.0
DEC					JUN				
20...	1230	51	.0	-5.0	21...	1315	280	19.0	23.5
01591400 - CATTAIL C AT ROXBURY MILLS RD AT ROXBURY MILLS (LAT 39 15 27 LONG 077 03 13)									
NOV , 1983					APR , 1984				
18...	1000	18	5.0	9.0	20...	1010	49	9.5	13.0
DEC					JUN				
20...	1100	30	.0	-5.0	21...	1525	22	20.5	23.0
FEB , 1984					AUG				
07...	1015	27	.0	-4.0	02...	1330	17	21.5	27.0
MAR									
20...	1050	34	7.0	10.0					
01591610 - PATUXENT R BL BRIGHTON DAM NR BRIGHTON MD (LAT 39 11 31 LONG 077 00 16)									
NOV , 1983					APR , 1984				
18...	1225	9.5	10.0	10.0	20...	1415	229	10.0	9.5
FEB , 1984					JUN				
10...	1100	32	3.0	9.0	26...	1400	94	16.0	23.0
MAR									
20...	1520	141	5.0	14.0					
01591700 - HAWLINGS R NR SANDY SPRING, MD (LAT 39 10 29 LONG 077 01 22)									
OCT , 1983					MAR , 1984				
12...	1045	67	15.0	19.0	20...	1340	36	8.0	14.0
NOV					APR				
21...	1300	70	10.0	15.0	20...	1245	49	11.5	15.0
DEC					JUN				
02...	1300	24	3.0	3.0	26...	1230	22	18.0	20.5
20...	1425	30	.0	-1.0	AUG				
FEB , 1984					06...	1115	17	21.0	28.0
07...	1330	30	.0	.0					
01592500 - PATUXENT R NR LAUREL, MD (LAT 39 06 56 LONG 076 52 27)									
OCT , 1983					FEB , 1984				
06...	1340	23	18.0	21.0	08...	1330	25	2.0	-1.0
24...	1045	74	16.0	15.5	AUG				
NOV					17...	1400	23	23.5	27.0
17...	1340	19	9.0	6.0					
01593500 - L PATUXENT R AT GUILFORD, MD (LAT 39 10 04 LONG 076 51 07)									
OCT , 1983					MAR , 1984				
07...	1030	10	14.0	13.0	19...	1110	47	8.0	11.0
NOV					APR				
09...	1020	15	7.0	11.0	27...	1105	53	15.0	18.5
DEC					JUN				
16...	1100	56	6.0	6.0	22...	1225	22	21.5	23.0
FEB , 1984					AUG				
08...	1110	28	.0	-3.0	03...	1140	83	23.5	27.0
01594440 - PATUXENT R NR BOWIE, MD (LAT 38 57 21 LONG 076 41 36)									
OCT , 1983					MAY , 1984				
06...	1115	108	18.5	19.0	14...	1100	414	16.0	16.0
NOV					JUL				
14...	1100	197	9.0	7.5	16...	1130	162	24.0	29.0
JAN , 1984					SEP				
03...	1200	305	5.0	5.0	17...	1100	165	16.0	14.5
MAR									
26...	1230	992	11.0	11.0					

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POTOMAC RIVER BASIN									
01594930 - LAUREL RN AT DOBBIN RD NR WILSON, MD (LAT 39 14 37 LONG 079 25 43)									
OCT , 1983					JUN , 1984				
07... 0935	2.8	10.0	5.0		18... 1420	4.9	22.0	27.5	
NOV					28... 1150	5.8	19.5	22.0	
03... 1030	19	9.0	--		JUL				
22... 1130	30	5.0	10.0		30... 1155	11	15.0	20.5	
JAN , 1984					AUG				
12... 1115	13	.0	-7.0		06... 1130	8.2	23.5	19.0	
FEB					21... 1235	14	14.0	22.0	
15... 1405	126	4.0	7.0		SEP				
APR					11... 1235	5.7	16.5	24.5	
06... 1150	78	3.0	2.0		18... 1010	4.5	10.5	10.0	
MAY									
16... 1140	30	7.5	7.5						
01594934 - SF SAND RN NR WILSON, MD (LAT 39 15 29 LONG 079 25 07)									
OCT , 1983					MAY , 1984				
07... 1130	.91	13.0	12.0		16... 1250	5.8	11.5	10.5	
NOV					JUN				
22... 1250	7.2	6.5	10.0		19... 1020	2.9	19.5	21.0	
DEC					JUL				
07... 1445	16	2.5	-5.0		03... 1445	2.7	21.5	--	
JAN , 1984					AUG				
12... 1300	2.4	1.0	-7.0		22... 1100	1.9	17.5	22.0	
FEB					SEP				
15... 1525	19	5.0	7.0		11... 1335	4.1	18.0	26.0	
MAR					19... 1240	.22	17.5	21.0	
27... 1115	15	6.0	5.5						
01594936 - NF SAND RN NR WILSON, MD (LAT 39 15 36 LONG 079 24 36)									
OCT , 1983					MAY , 1984				
07... 1215	.16	11.0	13.0		21... 1210	2.7	15.0	24.0	
NOV					JUN				
22... 1315	5.6	7.5	11.0		19... 1125	1.7	19.0	22.0	
JAN , 1984					AUG				
12... 1340	1.6	.0	-7.0		01... 1250	1.1	18.5	22.5	
FEB					22... 1315	1.7	17.0	23.0	
22... 1335	5.5	4.0	7.0		SEP				
APR					19... 1050	.43	10.0	17.0	
02... 1300	11	7.0	7.5						
01595000 - NB POTOMAC R AT STEYER, MD (LAT 39 18 07 LONG 079 18 26)									
OCT , 1983					APR , 1984				
03... 1135	13	14.0	21.5		06... 1010	649	3.5	.0	
NOV					MAY				
23... 1035	156	5.0	8.0		14... 1245	233	10.0	13.0	
JAN , 1984					AUG				
11... 1335	63	.0	-8.0		01... 1145	48	20.0	21.0	
FEB									
15... 1145	1160	5.0	8.0						
01595500 - NB POTOMAC R AT KITZMILLER, MD (LAT 39 23 38 LONG 079 10 55)									
OCT , 1983					APR , 1984				
04... 1115	25	13.0	22.0		09... 1300	1050	8.0	13.0	
05... 1130	26	15.0	18.0		MAY				
NOV					01... 1300	775	11.5	10.0	
01... 1110	117	8.0	11.0		JUN				
30... 1015	782	4.0	1.5		14... 1050	84	22.5	25.5	
JAN , 1984					JUL				
04... 1220	249	.5	-2.0		25... 1140	162	21.5	26.0	
FEB					AUG				
08... 1015	213	.0	-5.0		29... 1000	109	19.5	22.0	
MAR									
07... 1100	550	1.0	-4.0						
21... 1535	2920	5.0	5.0						



TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POTOMAC RIVER BASIN--CONTINUED									
01595800 - NB POTOMAC R AT BARNUM, WV (LAT 39 26 44 LONG 079 06 39)									
OCT , 1983					APR , 1984				
04...	1410	180	17.0	20.0	09...	1435	1060	5.5	14.0
NOV					MAY				
01...	1320	245	12.0	13.0	02...	1400	554	10.5	12.0
30...	1300	970	7.5	-1.0	JUN				
JAN , 1984					14...	1455	243	16.0	29.0
04...	1420	625	3.5	2.0	JUL				
FEB					25...	1320	295	17.0	28.0
08...	1420	364	3.5	-2.0	AUG				
MAR					29...	1225	367	16.5	24.0
07...	1335	924	3.5	.0					
12...	1400	600	3.0	4.0					
21...	1200	428	3.0	2.0					
01596500 - SAVAGE R NR BARTON, MD (LAT 39 34 05 LONG 079 06 10)									
OCT , 1983					MAR , 1984				
03...	1545	5.1	15.0	20.0	16...	0835	68	5.0	5.0
NOV					20...	1350	267	2.5	12.0
10...	1010	16	5.5	8.5	JUN				
10...	1110	19	5.5	8.5	12...	1240	12	20.0	27.0
18...	1350	77	3.5	7.0	22...	1150	7.6	15.0	18.0
JAN , 1984					JUL				
06...	1000	26	3.0	.0	23...	1440	12	20.0	23.0
FEB					AUG				
09...	1400	37	3.0	3.0	30...	0900	8.9	17.0	19.0
01597500 - SAVAGE R BL SAVAGE R DAM NR BLOOMINGTON, MD (LAT 39 30 05 LONG 079 07 25)									
OCT , 1983					MAR , 1984				
05...	1355	45	12.0	19.0	20...	1615	107	7.5	13.0
31...	1245	80	12.0	9.0	JUN				
DEC					12...	0915	60	10.0	22.0
01...	0955	722	6.0	-4.0	JUL				
JAN , 1984					23...	1330	109	12.0	23.0
03...	1300	43	3.0	1.0	AUG				
FEB					27...	1540	177	18.0	28.0
09...	1040	74	2.0	3.0					
01598500 - NB POTOMAC R AT LUKE, MD (LAT 39 28 45 LONG 079 03 55)									
OCT , 1983					MAR , 1984				
06...	1120	211	16.0	18.0	29...	1340	5810	3.5	4.0
31...	1330	341	11.0	16.0	JUN				
DEC					01...	1100	475	11.5	10.0
01...	1015	1790	5.0	-4.0	JUL				
JAN , 1984					26...	1335	359	21.0	24.0
03...	1320	651	2.5	1.0	AUG				
FEB					29...	1530	461	19.5	26.0
09...	1115	466	2.0	4.0					
01599000 - GEORGES C AT FRANKLIN, MD (LAT 39 29 38 LONG 079 02 42)									
OCT , 1983					MAR , 1984				
05...	1520	8.0	17.0	24.0	29...	1145	770	3.0	3.0
31...	1345	17	10.0	16.0	MAY				
NOV					01...	1230	293	9.0	12.0
18...	1445	66	4.0	12.0	JUN				
DEC					15...	0900	22	18.0	21.0
01...	1100	126	3.0	-2.0	JUL				
JAN , 1984					23...	1105	22	20.0	22.0
03...	1445	42	3.0	1.0	AUG				
FEB					27...	1450	24	20.5	27.0
09...	1300	42	2.0	5.0					
MAR									
19...	1540	199	2.5	11.0					
22...	1130	443	3.0	5.0					

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POTOMAC RIVER BASIN--CONTINUED									
01600000 - NB POTOMAC R AT PINTO, MD (LAT 39 33 59 LONG 078 50 25)									
OCT , 1983					APR , 1984				
03...	1400	243	18.0	24.0	05...	1245	13500	6.5	11.0
NOV					MAY				
02...	1055	367	12.0	14.0	04...	1310	1890	11.5	13.0
30...	1445	2020	7.0	-1.0	JUN				
JAN , 1984					15...	1200	360	22.5	22.0
05...	1430	766	5.0	3.0	JUL				
FEB					26...	1000	425	21.5	24.0
07...	1615	611	2.5	-5.0	AUG				
MAR					27...	1040	752	19.5	24.0
22...	1415	2450	5.5	3.0					
30...	1115	4940	5.0	5.0					
01601500 - WILLS C NR CUMBERLAND, MD (LAT 39 40 07 LONG 078 47 18)									
OCT , 1983					APR , 1984				
05...	1235	26	15.0	18.0	05...	0945	10900	6.0	7.0
NOV					MAY				
09...	1200	47	8.5	13.0	01...	1040	657	8.0	10.0
JAN , 1984					JUN				
09...	1040	133	2.5	.0	11...	1500	117	22.5	33.0
FEB					AUG				
06...	1310	257	2.0	1.0	30...	1000	109	20.0	22.0
MAR					31...	0925	98	20.0	19.0
19...	1220	974	3.0	6.0					
01603000 - NB POTOMAC R NR CUMBERLAND, MD (LAT 39 37 16 LONG 078 46 24)									
OCT , 1983					MAY , 1984				
03...	1115	275	18.0	21.0	04...	1050	2930	11.0	16.0
NOV					JUN				
02...	1215	427	9.0	16.0	15...	1420	528	25.0	26.5
DEC					JUL				
01...	1300	2960	7.0	.0	24...	1405	566	23.0	29.0
JAN , 1984					AUG				
05...	1100	1020	4.5	3.0	31...	1115	527	21.0	23.0
FEB									
07...	1215	800	2.0	-5.0					
14...	1605	18000	5.0	12.0					
01610000 - POTOMAC R AT PAW PAW, WV (LAT 39 32 13 LONG 078 27 28)									
OCT , 1983					MAR , 1984				
05...	1005	505	22.0	16.0	27...	1000	14900	5.0	3.0
28...	1145	2130	14.0	16.0	APR				
NOV					03...	1010	12000	5.5	8.0
28...	1235	4760	9.0	8.0	26...	1300	10200	12.0	22.0
DEC					JUN				
27...	1110	3060	.0	-8.0	26...	0900	1060	18.0	16.0
JAN , 1984					JUL				
30...	0945	3390	3.0	-2.0	27...	1020	1160	21.0	23.0
FEB					SEP				
27...	0830	9030	4.0	-3.0	25...	1135	844	20.0	24.0
01613000 - POTOMAC R AT HANCOCK, MD (LAT 39 41 49 LONG 078 10 39)									
OCT , 1983					MAR , 1984				
04...	1345	650	21.0	24.0	15...	1455	4390	3.0	12.0
28...	0855	2970	10.0	5.0	27...	1110	20100	4.5	3.0
NOV					APR				
28...	1020	6320	8.0	5.0	26...	0940	14700	11.0	20.0
DEC					JUN				
27...	0930	3600	.0	-8.0	26...	1000	1180	19.0	20.0
JAN , 1984					JUL				
30...	1115	3800	.0	-3.0	27...	1140	1330	22.0	21.0
FEB					SEP				
27...	0930	12300	3.0	.0	25...	0945	870	18.0	20.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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POTOMAC RIVER BASIN--CONTINUED									
01614500 - CONOCOCHEAGUE C AT FAIRVIEW, MD (LAT 39 42 29 LONG 077 50 00)									
OCT , 1983					MAR , 1984				
03...	1200	99	15.0	19.0	16...	1115	1150	4.0	5.0
NOV					APR				
07...	1035	149	6.0	5.0	24...	1050	1680	7.0	6.0
DEC					JUN				
15...	1005	3470	7.0	8.0	12...	1050	259	22.0	24.0
FEB , 1984									
01...	0955	404	2.0	-5.0					
01617800 - MARSH RUN AT GRIMES, MD (LAT 39 30 53 LONG 077 46 38)									
OCT , 1983					MAR , 1984				
03...	1345	1.7	16.0	21.0	16...	1245	22	9.0	13.0
NOV					APR				
07...	1245	1.7	7.0	9.0	23...	1130	62	7.0	9.0
DEC					JUN				
15...	1530	26	8.0	10.0	12...	1255	20	22.0	26.0
FEB , 1984					AUG				
01...	1210	11	2.0	-2.0	29...	1115	7.4	21.0	23.0
01618000 - POTOMAC R AT SHEPHERDSTOWN, WV (LAT 39 26 04 LONG 077 48 07)									
OCT , 1983					APR , 1984				
04...	1115	944	22.0	20.0	24...	1355	39600	8.0	9.0
NOV					MAY				
07...	1455	1530	10.0	12.0	09...	1230	18900	13.0	13.0
29...	1200	8750	7.5	7.5	JUN				
DEC					13...	1330	2070	25.0	31.0
19...	1405	9820	4.5	-1.0	JUL				
JAN , 1984					09...	1200	7500	22.0	21.0
23...	1300	2440	.5	-5.0	SEP				
MAR					10...	1300	1740	22.0	23.0
06...	1230	8780	3.0	2.0					
15...	1155	7030	3.0	10.0					
01619500 - ANTIETAM C NR SHARPSBURG, MD (LAT 39 27 01 LONG 077 43 52)									
OCT , 1983					MAR , 1984				
03...	1510	113	15.0	23.0	16...	1510	568	8.0	12.0
NOV					APR				
07...	1425	124	7.0	11.0	23...	1405	1000	7.0	8.0
DEC					JUN				
15...	1425	1060	9.0	10.0	12...	1440	307	22.0	27.0
FEB , 1984									
01...	1430	291	2.0	2.0					
01637500 - CATOCTIN C NR MIDDLETOWN, MD (LAT 39 25 35 LONG 077 33 25)									
OCT , 1983					APR , 1984				
04...	1325	4.1	17.0	23.0	25...	1005	178	8.0	11.0
NOV					JUN				
15...	1340	29	4.0	3.0	20...	1310	32	24.0	24.0
FEB , 1984					AUG				
10...	1410	72	3.0	11.0	01...	1245	14	25.0	26.5
MAR									
14...	1225	104	3.0	--					
01638500 - POTOMAC R AT POINT OF ROCKS, MD (LAT 39 16 25 LONG 077 32 35)									
SEP , 1984					SEP , 1984				
27...	1000	2210	17.5	13.0	27...	1215	2210	17.5	13.0
01639000 - MONOCACY R AT BRIDGEPORT, MD (LAT 39 40 43 LONG 077 14 06)									
OCT , 1983					MAR , 1984				
03...	1240	5.4	18.0	23.0	12...	1330	161	.5	-3.0
NOV					JUN				
14...	1340	73	5.0	7.0	18...	1435	38	22.0	27.0
DEC					JUL				
12...	1430	185	5.0	6.0	30...	1400	31	23.0	23.5
JAN , 1984									
30...	1405	137	.0	.5					

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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POTOMAC RIVER BASIN--CONTINUED									
01639500 - B PIPE C AT BRUCEVILLE, MD (LAT 39 36 45 LONG 077 14 10)									
OCT , 1983					MAR , 1984				
17...	1125	22	12.0	16.0	12...	1115	145	.0	-4.0
NOV					APR				
14...	1125	53	5.0	15.0	23...	1135	307	7.0	6.0
DEC					JUN				
12...	1230	98	5.0	6.0	18...	1155	79	19.0	27.5
JAN , 1984					JUL				
30...	1140	114	.0	2.0	30...	1150	55	21.5	24.0
01640500 - OWENS C AT LANTZ, MD (LAT 39 40 36 LONG 077 27 50)									
OCT , 1983					MAR , 1984				
03...	1505	.65	18.0	21.0	12...	1540	14	2.0	-3.0
NOV					APR				
14...	1525	5.3	5.0	5.0	23...	1445	24	6.0	5.0
DEC					JUN				
12...	1555	57	5.0	7.0	18...	1700	4.8	19.5	24.0
JAN , 1984					JUL				
30...	1540	8.5	.0	-1.0	30...	1630	2.3	20.0	22.0
01640965 - HUNTING C NR FOXVILLE, MD (LAT 39 37 10 LONG 077 28 00)									
OCT , 1983					APR , 1984				
13...	1220	.71	15.0	18.5	24...	1100	8.1	7.0	9.0
NOV					JUN				
30...	1215	5.0	5.0	5.0	19...	1230	1.7	18.0	22.0
JAN , 1984					JUL				
31...	1525	2.5	.0	-3.0	17...	1200	.45	19.0	23.5
FEB					19...	1145	.44	17.5	17.5
29...	1435	10	1.0	-2.0	31...	1205	.39	18.0	20.5
MAR									
13...	1125	3.7	.0	-3.0					
01640970 - HUNTING C TR NR FOXVILLE, MD (LAT 39 37 42 LONG 077 27 44)									
DEC , 1983					JUN , 1984				
18...	1350	4.1	8.5	12.5	19...	1040	7.1	18.0	22.0
JAN , 1984					JUL				
31...	1420	5.6	.0	-3.0	17...	1340	1.7	21.0	25.0
APR					19...	1300	2.0	19.0	20.0
24...	0920	15	6.0	9.0	31...	1400	1.6	19.0	22.0
01640975 - HUNTING C NR THURMONT, MD (LAT 39 27 48 LONG 077 27 20)									
OCT , 1983					APR , 1984				
13...	1110	4.9	16.0	19.0	24...	1220	27	9.0	9.0
NOV					JUN				
30...	1100	14	5.5	4.0	19...	1405	12	23.0	27.5
DEC					JUL				
15...	1435	49	6.0	--	17...	1050	2.8	13.0	22.5
JAN , 1984					31...	1040	3.5	17.0	21.0
31...	1205	4.2	2.0	-2.0					
MAR									
13...	1325	19	3.0	-1.0					
01641000 - HUNTING C AT JIMTOWN, MD (LAT 39 35 40 LONG 077 23 50)									
OCT , 1983					APR , 1984				
04...	0935	5.8	15.0	14.5	24...	1450	61	9.0	9.0
NOV					JUN				
15...	0910	11	4.0	2.0	19...	1710	23	23.0	28.5
JAN , 1984					JUL				
31...	1000	16	.0	-3.0	31...	1555	6.6	22.0	26.0
01641500 - FISHING C NR LEWISTOWN, MD (LAT 39 31 35 LONG 077 28 00)									
OCT , 1983					MAR , 1984				
04...	1115	1.5	15.0	21.0	14...	1000	20	3.0	6.0
NOV					JUN				
15...	1055	1.3	4.0	1.5	20...	1030	8.6	16.0	20.0
FEB , 1984					AUG				
01...	1000	8.0	.0	-4.0	01...	1015	4.5	18.0	22.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POTOMAC RIVER BASIN--CONTINUED									
01643000 - MONOCACY R AT JUG BRIDGE NR FREDERICK, MD (LAT 39 23 16 LONG 077 22 48)									
OCT , 1983					JUN , 1984				
05... 0915	108	17.5	23.0		21... 1020	550	22.0	21.0	
NOV 16... 0930	455	5.0	5.0		AUG 02... 1040	261	25.0	29.0	
FEB , 1984									
01... 1700	527	.0	-2.0						
01643500 - BENNETT C AT PARK MILLS, MD (LAT 39 17 40 LONG 077 24 30)									
OCT , 1983					JUN , 1984				
04... 1630	13	17.0	22.0		20... 1635	40	22.0	28.5	
FEB , 1984					JUL 05... 1105	31	23.0	28.0	
01... 1445	71	.0	-2.0		AUG 01... 1600	23	23.0	28.5	
MAR 14... 1525	156	6.0	7.0						
01645000 - SENECA C AT DAWSONVILLE, MD (LAT 39 07 41 LONG 077 20 13)									
DEC , 1983					MAY , 1984				
27... 1125	140	.0	.0		30... 1230	275	16.0	14.0	
FEB , 1984					JUN 25... 1050	101	20.5	21.5	
02... 1010	99	.0	.0		SEP 26... 1130	35	19.0	18.5	
MAR 15... 1010	236	3.0	8.0						
APR 26... 0920	201	11.0	20.0						
01645200 - WATTS B AT ROCKVILLE, MD (LAT 39 05 03 LONG 077 10 38)									
OCT , 1983					APR , 1984				
05... 1130	.40	18.0	24.0		26... 1100	3.7	14.0	21.0	
DEC 14... 1215	6.7	8.0	10.0		JUN 25... 1300	1.9	22.0	25.0	
FEB , 1984					JUL 05... 1320	1.6	23.5	28.0	
02... 1205	2.2	1.0	3.0		AUG 09... 1330	1.6	23.5	34.0	
MAR 15... 1200	4.6	6.0	9.0						
01648000 - ROCK C AT SHERRILL DR WASH, DC (LAT 38 58 21 LONG 077 02 25)									
OCT , 1983					MAR , 1984				
06... 1110	14	17.0	17.0		16... 1045	97	6.0	11.0	
NOV 17... 1115	43	6.0	6.0		MAY 01... 1455	83	17.5	21.0	
DEC 15... 1050	209	7.0	11.0		JUN 26... 0915	43	20.0	18.0	
JAN , 1984					JUL 05... 1455	41	25.0	27.0	
09... 1430	48	2.5	--		AUG 08... 1320	66	25.0	28.0	
FEB 03... 1335	43	1.0	3.0						
01649500 - NE B ANACOSTIA R AT RIVERDALE, MD (LAT 38 57 37 LONG 076 55 34)									
DEC , 1983					MAY , 1984				
14... 1435	392	8.0	11.0		01... 1030	120	15.0	15.0	
JAN , 1984					JUN 25... 1635	32	29.0	--	
09... 1130	47	1.5	--		AUG 08... 1025	35	25.0	29.0	
FEB 02... 1425	63	3.0	5.0		SEP 25... 1225	12	28.0	33.0	
MAR 15... 1645	119	9.0	12.0						

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)
POTOMAC RIVER BASIN--CONTINUED									
01651000 - NW B ANACOSTIA R NR HYATTSVILLE, MD (LAT 38 57 09 LONG 076 58 00)									
OCT , 1983					MAY , 1984				
05... 1545	8.5	22.0	25.0		01... 1255	66	18.0	19.0	
NOV 16... 1710	53	9.0	7.0		JUN 25... 1825	41	26.0	27.0	
DEC 14... 1615	145	9.0	9.0		29... 1210	21	25.0	26.0	
JAN , 1984					JUL 23... 1420	31	26.0	30.0	
09... 1330	37	2.0	--		SEP 25... 1430	7.3	26.5	30.5	
FEB 02... 1605	28	3.0	5.0						
MAR 16... 0900	63	5.0	9.0						
01653600 - PISCATAWAY C AT PISCATAWAY, MD (LAT 38 42 20 LONG 076 58 00)									
OCT , 1983					FEB , 1984				
05... 1700	1.7	18.0	23.0		08... 1100	40	.0	-1.0	
01661050 - ST CLEMENT C NR CLEMENTS, MD (LAT 38 20 00 LONG 076 43 31)									
OCT , 1983					FEB , 1984				
05... 1115	1.9	17.5	22.5		07... 1345	19	1.0	1.0	
01661500 - ST MARYS R AT GREAT MILLS, MD (LAT 38 14 36 LONG 076 30 13)									
OCT , 1983					FEB , 1984				
05... 0820	5.3	17.0	19.0		07... 1055	34	1.0	-1.0	
MONONGAHELA RIVER BASIN									
03075500 - YOUGHIOGHENY R NR OAKLAND, MD (LAT 39 25 19 LONG 079 25 32)									
OCT , 1983					AUG , 1984				
03... 1310	28	14.5	18.5		28... 1620	60	21.5	26.0	
03076500 - YOUGHIOGHENY R AT FRIENDSVILLE, MD (LAT 39 39 13 LONG 079 24 31)									
OCT , 1983					AUG , 1984				
04... 1020	48	15.5	20.5		28... 0900	145	18.5	22.0	
AUG , 1984									
03... 1045	164	19.0	23.0						
03076600 - BEAR C AT FRIENDSVILLE, MD (LAT 39 39 22 LONG 079 23 41)									
OCT , 1983					AUG , 1984				
04... 1240	4.3	14.0	21.0		28... 1350	22	16.5	24.0	
JAN , 1984									
17... 1110	20	.0	-5.0						
03078000 - CASSELMAN R AT GRANTSVILLE, MD (LAT 39 42 08 LONG 079 08 12)									
OCT , 1983					MAR , 1984				
04... 1440	6.3	15.5	23.5		20... 0955	348	3.0	5.0	
NOV 10... 1230	56	6.0	9.5		APR 30... 1505	246	12.5	24.0	
18... 1205	114	3.0	8.0		JUN 12... 1515	24	25.0	29.0	
JAN , 1984					JUL 24... 1125	26	20.0	25.0	
06... 1630	106	.5	1.0		AUG 30... 1225	23	21.0	26.0	
09... 1505	44	.5	-1.0						
FEB 09... 1100	53	.0	1.0						

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 annual maximum stage and discharge at crest-stage stations and the second is a table of annual maximum stage for tidal crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

#### 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 1984

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Gage height (ft)	Dis-charge (ft <sup>3</sup> /s)
Delaware River basin							
01478040	Christina River near Bear, DE	Lat 39°38'12", long 75°40'53", New Castle County, on right bank 500 ft upstream from highway bridge, 1.3 mi north-west of Bear, 1.6 mi downstream from Belltown Run, and 17.7 mi upstream from mouth.	40.6	1979-82†, 1983-84	12-13-84	10.3	2,610
Susquehanna River basin							
01577940	Broad Creek tributary at Whiteford, MD	Lat 39°42'14", long 76°21'49", Harford County, at upstream side of culvert on State Highway 165, 0.8 mi upstream from mouth, and 1.0 mi southwest of Whiteford.	.77	1971-84	7- 1-84	12.4	1,390
Gunpowder River basin							
01584500	Little Gunpowder Falls at Laurel Brook, MD	Lat 39°30'18", long 76°25'56", Baltimore County, 750 ft upstream from bridge on Bottom Road, 5 mi southwest of Bel Air, and 10.5 mi upstream from mouth.	36.1	1927-70†, 1971-84	7- 1-84	11.40	11,800
Patapsco River basin							
01589240	Gwynns Falls at McDonogh, MD	Lat 39°23'28", long 76°45'56", Baltimore County, at bridge on McDonogh Road at McDonogh, and 0.3 mi upstream from Horsehead Branch.	19.3	1958-84	8-13-84	12.4	4,400
Potomac River basin							
01596005	Savage River near Frostburg, MD	Lat 39°40'56", long 78°57'54", Garrett County, at upstream side of culvert on U.S. Highway 40, 1.9 mi northwest of Frostburg city limits, and about 26 mi upstream from mouth.	41.5	1971-84	4- 5-84	19.94	89

† Operated as a continuous-record station.

a Approximately.

## Annual maximum discharge at crest-stage partial-record stations during water year 1984

Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Annual maximum		
					Date	Gage height (ft)	Dis- charge (ft <sup>3</sup> /s)
Potomac River basin--Continued							
01601000	Wills Creek below Hyndman, PA	Lat 39°48'43", long 78°43'00", Bedford County, 150 ft above county highway bridge, 150 ft downstream from Pennsylvania Railroad bridge, 0.35 mi down- stream from Little Wills Creek, and 0.5 mi south of Hyndman.	146	1951-67†, 1968-84	6-21-84	13.76	17,100
01610105	Pratt Hollow tributary at Pratt, MD	Lat 39°41'35", long 78°30'18", Allegany County, at upstream side of culvert on U.S. High- way 40, 0.2 mi northeast of Pratt, and 1.0 mi upstream from Kifer Hollow.	.70	1971-84	10-23-84	11.95	62
01613150	Ditch Run near Hancock, MD	Lat 39°41'30", long 78°07'57", Washington County, at upstream side of culvert on U.S. High- way 40, 0.3 mi upstream from mouth, and 2.7 mi east of Hancock.	a4.8	1965-84	2-14-84	7.78	410
01646550	Little Falls Branch near Bethesda, MD	Lat 38°57'27", long 77°06'31", Montgomery County, on left bank at downstream side of bridge on Massachusetts Ave- nue, 1.7 mi upstream from mouth, and 2.0 mi southwest of Bethesda.	a4.1	1944-59†, 1960-61, 1962-78†, 1979-84	3-29-84	3.71	755
01658000	Mattawoman Creek near Pomonkey MD	Lat 38°35'45", long 77°03'25", Charles County, at downstream side of bridge on State High- way 227, 1.2 mi southeast of Pomonkey, and 12.6 mi upstream from mouth.	54.8	1949-72†, 1973-84	3-29-84	5.72	2,550
Monongahela River basin							
03075600	Toliver Run tributary near Hoyes Run, MD	Lat 39°29'39", long 79°25'14", Garrett County, at upstream side of culvert on Swallow Falls Road, 100 ft upstream from mouth, and 2.4 mi south of Hoyes Run.	.53	1965-84	4- 5-84	8.84	195
03078500	Big Piney Run near Salis- bury, PA	Lat 39°43'34", long 79°02'55", Somerset County, 660 ft up- stream from Little Piney Run, and 2.5 mi southeast of Salis- bury.	24.5	1932-70†, 1974-84	4- 5-84	4.67	1,340

† Operated as a continuous-record station.

a Approximately.



## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1984

## Tidal crest-stage partial-record stations

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

Annual maximum stage at tidal crest-stage partial-record stations during water year 1984

			Annual maximum		
Station No.	Station name	Location	Period of Record	Date	Elevation, in feet NGVD
Smyrna River basin					
01483335	Duck Creek at Smyrna, DE	Lat 39°18'31", long 75°36'34", Kent County, at bridge on U.S. Highway 13, at north edge of Smyrna, 2 mi north of intersection of State Highway 300 and U.S. Highway 13 on downstream right wingwall of bridge.	1966-84	3-29-84	5.86
Murderkill River basin					
01484085	Murderkill River at Bowers, DE	Lat 39°03'30", long 75°23'51", Kent County, at Faulkner's Landing in Bowers, on left bank 10 ft south-east of southeast corner of restaurant on Faulkner's Pier.	1966-84	3-29-84	8.19
Cedar Creek basin					
01484235	Cedar Creek near Slaughter Beach, DE	Lat 38°56'06", long 75°19'26", Sussex County, at bridge No. S-164 on State Highway 36, 1.8 mi northwest of Slaughter Beach.	1966-84	3-29-84	6.46
Indian River basin					
01484595	Indian River at Oak Orchard, DE	Lat 38°35'45", long 75°10'24", Sussex County, at Hanes Landing 2.0 mi southeast of intersection of State Highways 24 and 5, at Oak Orchard.	1966-84	3-29-84	5.23

## 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 1984

Stream	Tributary to	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
Potomac River basin						
Potomac Blue Spring	North Branch Potomac	Lat 39°34'26", long 78°43'50", Alle- gany County, 200 ft below abandoned C&O Canal lock, 1.1 mi northwest of Spring Gap, Md.	-	1958-78 1980-82	6-22-84 9-21-84	13 11
Murley Branch	Murley Branch	Lat 39°39'38", long 78°37'08", Alle- gany County, below dam at spring house of farm on Williams Road, 4.0 mi southwest of Flintstone, Md.	-	1958-78 1980-82	6-22-84 9-21-84	1.8 1.5
01601420 Hoffman Drainage Tunnel	Braddock Run	Lat 39°38'18", long 78°53'35", Alle- gany County, upstream from State Highway 55, 0.5 mi southwest of Clarysville, and 2.1 mi southeast of Frostburg, Md.	-	1944, 1958-59, 1964, 1965, 1967-82	6-22-84 9-21-84	42 19
01601490 Braddock Run	Wills Creek	Lat 39°40'12", long 78°47'37", Alle- gany County, 0.2 mi upstream from mouth, and 2.0 mi northwest of Cumberland, Md.	17.5	1975-83	11-17-83	28

## POTOMAC RIVER BASIN

## Laurel Run seepage investigations--Headwaters to mouth, Garrett County, MD

One series of discharge measurements was made during the 1984 water year, on Sept. 18, on Laurel Run and its tributaries in Maryland, to study the effects of underground coal mining on channel gains and losses. The reach is 4.79 mi in length and extends from its mouth near Wilson, Md., to its headwaters. The measurements were made during a period of base flow; for 3 days before the investigation no measurable precipitation had fallen. Tributary flow was considered a contribution and not a gain. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements. Previous series of measurements were made in the 1981, 1983 water years.

Laurel Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- mhos)
Sept. 18, 1984							
4.79	Laurel Run	Lat 39°13'12", long 79°28'42", Garrett Co., 1.0 mi north- east of Kempton.	0.04	-	-	7.3	-
4.64	Laurel Run tributary	Lat 39°13'17", long 79°28'44", Garrett Co., 1.05 mi north- east of Kempton.	1.77	-	10.4	3.4	-
3.69	Laurel Run	Lat 39°13'39", long 79°27'50", Garrett Co., 1.8 mi north- east of Kempton.	3.92	+2.11	15.8	3.1	1260
3.64	Laurel Run tributary	Lat 39°13'41", long 79°27'48", Garrett Co., at mouth.	.01	-	10.2	7.2	27
3.48	....do....	Lat 39°13'44", long 79°27'39", Garrett Co., at mouth.	<.01	-	10.0	6.3	27
2.70	Laurel Run	Lat 39°14'14", long 79°27'02", Garrett Co., 2.8 mi north- east of Kempton.	4.16	+ .23	9.5	3.0	1175
2.60	Chestnut Ridge Run	Lat 39°14'18", long 79°27'02", Garrett Co., at mouth.	.20	-	12.0	6.8	710
2.32	Laurel Run tributary	Lat 39°14'12", long 79°26'40", Garrett Co., at mouth.	.20	-	10.0	7.3	40
1.67	Dutch Run	Lat 39°14'42", long 79°26'00", Garrett Co., at mouth.	.04	-	15.0	4.0	760
1.67	Laurel Run	Lat 39°14'42", long 79°26'00", Garrett Co., below confluence with Dutch Run	4.78	+ .18	14.0	3.1	1120
1.18	Laurel Run	Gaging station near Wilson (0159430)	4.46	- .32	10.5	2.9	1210
.10	....do....	Lat 39°14'47", long 79°24'42", Garrett Co., at mouth.	3.86	- .60	11.0	2.9	1170
Overall net gain or loss				+1.60			

## Sand Run seepage investigations--Headwaters to Wilson, MD

One series of discharge measurements was made during the 1984 water year, on Sept. 19, on Sand Run and its tributaries in Maryland, to study the effects of underground coal mining on channel gains and losses. The reach is 2.41 mi in length along the North Fork of Sand Run and 2.35 mi in length along the South Fork of Sand Run and extends from the headwaters to the sample station Sand Run near Wilson (01594942). The measurements were made during periods of base flow; for 4 days before the investigation no measurable precipitation had fallen. Tributary flow was considered a contribution and not a gain. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements. Previous series of measurements were made in the 1981, 1983 water years.

Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- mhos)
Sept. 19, 1984							
1.81	North Fork Sand Run	Lat 39°16'35", long 79°25'56", Garrett Co., 2.4 mi north- west of Wilson.	0.11	-	9.2	5.9	40
1.38	North Fork Sand Run tributary	Lat 39°16'19", long 79°25'27", Garrett Co., 1.9 mi north- west of Wilson.	.04	-	12.0	5.4	2650
1.38	North Fork Sand Run	Lat 39°16'19", long 79°25'36", Garrett Co., 1.9 mi north- west of Wilson.	.15	0.00	12.0	6.5	85
.43	....do....	Lat 39°15'55", long 79°24'42", Garrett Co., 1.1 mi north- west of Wilson.	.45	+ .30	7.8	6.8	875
.05	....do....	Gaging station near Wilson (01594936).	.43	- .02	9.8	7.0	805
		Overall net gain or loss North Fork Sand Run		+ .28			
1.75	South Fork Sand Run	Lat 39°15'58", long 79°26'13", Garrett Co., 2.2 mi north- west of Wilson.	.04	-	11.3	7.1	290
1.15	....do....	Lat 39°15'34", long 79°25'44", Garrett Co., 1.6 mi north- west of Wilson.	.08	+ .04	10.5	7.4	235
.48	....do....	Gaging station near Wilson (01594934).	.22	+ .14	17.2	6.9	1900
		Overall net gain or loss South Fork Sand Run		+ .18			
.19	Sand Run	Lat 39°15'13", long 79°24'04", Garrett Co., 0.2 mi west of Wilson.	1.28	+ .63	12.5	6.8	1780
		Overall net gain or loss		+1.09			

## Zekiah Swamp basin low-flow investigations

Three series of base-flow discharge measurements were made during the period May 1983 to April 1984 in the Zekiah Swamp basin as part of a reconnaissance of the hydrologic system in cooperation with Charles County, the Coastal Resources Division of the Maryland Tidewater Administration, and the Maryland Geological Survey. The first and second series were made on May 12 and 13, 1983, and July 20, 1983, respectively, under conditions of low base flow. The third series was made April 12 and 13, 1984, when high base flow conditions prevailed.

Weather records at La Plata near the middle of the area show that no precipitation occurred for three days prior to May 12, 1983, thirteen days prior to July 20, 1983, and six days prior to April 12, 1984. Therefore, the measurements are considered to represent base flow.

The measurements on the stream are listed in order proceeding downstream, and each tributary is inserted in the order in which it enters the main stem. Drainage areas shown were determined from recent U.S. Geological Survey topographic maps of a scale 1:24,000 and contour interval of 20 feet. No previous series of measurements have been made.

## Discharge measurements of Zekiah Swamp and tributaries on May 12 and 13, 1983

Stream	Location	Drainage area (mi <sup>2</sup> )	Measured discharge (ft <sup>3</sup> /s)	Cfs per square mile	Water temp. (°C)	pH (units)	Conductivity (micro-mhos)	Dissolved oxygen (mg/L)
Zekiah Swamp	Lat 38°36'51", long 76°50'00", Charles County, at bridge on State Highway 382, 4.1 mi east of Waldorf.	12.17	10.2	0.838	-	-	60	-
Devils Nest	Lat 38°36'07", long 76°49'34", Charles County, 0.1 mi downstream from State Highway 232, 4.7 mi east of Waldorf.	2.51	3.12	1.243	-	-	60	-
Jordan Swamp	Lat 38°35'33", long 76°50'52", Charles County, 0.4 mi upstream from mouth, 3.9 mi southeast of Waldorf.	10.41	5.90	.567	13.0	-	98	-
Mill Dam Run	Lat 38°33'53", long 76°50'26", Charles County, at bridge on State Highway 232, 0.55 mi north of Bryantown.	4.90	4.85	1.010	-	-	82	-
Zekiah Swamp	Lat 38°33'39", long 76°51'14", Charles County, at bridge on State Highway 5, 0.7 mi northwest of Bryantown.	38.37	32.7	.852	-	-	78	-
Zekiah Swamp tributary	Lat 38°33'11", long 76°50'57", Charles County, at farm bridge on dirt road, 0.65 mi southwest of Bryantown.	3.21	3.13	.975	15.0	-	60	-
Piney Branch	Lat 38°33'29", long 76°52'30", Charles County, at bridge on State Highway 488, 1.75 mi west of Bryantown.	7.12	7.41	1.041	-	-	80	-
Zekiah Swamp tributary	Lat 38°31'32", long 76°53'19", Charles County, 0.5 mi upstream from mouth, 3.3 mi southwest of Bryantown.	2.68	2.56	.955	14.0	-	60	-
Kerrick Swamp	Lat 38°31'01", long 76°55'26", Charles County, 0.8 mi upstream from mouth, 2.95 mi east of La Plata.	12.76	14.7	1.152	13.0	-	60	-
Zekiah Swamp	Gaging station near Newtown (01660920)	79.94	72.8	.911	-	-	65	-
James Run	Lat 38°28'47", long 76°55'10", Charles County, at culvert on Esterez Road, 1.45 mi east of Dentsville.	.76	.70	.921	14.0	-	70	-
Clark Run	Lat 38°28'21", long 76°57'22", at bridge on Newtown Road, 1.5 mi northeast of Bel Alton.	11.25	6.00	.533	14.0	-	70	-

## Discharge measurements of Zekiah Swamp and tributaries on July 20, 1983

Stream	Location	Drainage area (mi <sup>2</sup> )	Measured discharge (ft <sup>3</sup> /s)	Cfs per square mile	Water temp. (°C)	pH (units)	Conduc- tivity (micro- mhos)	Dis- solved oxygen (mg/L)
Zekiah Swamp	Lat 38°36'51", long 76°50'00", Charles County, at bridge on State Highway 382, 4.1 mi east of Waldorf.	12.17	1.62	0.133	24.5	5.7	65	8.2
Devils Nest	Lat 38°36'07", long 76°49'34", Charles County, 0.1 mi down- stream from State Highway 232, 4.7 mi east of Waldorf.	2.51	.17	.068	24.0	6.4	78	8.0
Jordan Swamp	Lat 38°35'33", long 76°50'52", Charles County, 0.4 mi up- stream from mouth, 3.9 mi southeast of Waldorf.	10.41	.74	.071	25.0	-	150	7.0
Mill Dam Run	Lat 38°33'53", long 76°50'26", Charles County, at bridge on State Highway 232, 0.55 mi north of Bryantown.	4.90	.87	.178	23.0	8.7	100	6.6
Zekiah Swamp	Lat 38°33'39", long 76°51'14", Charles County, at bridge on State Highway 5, 0.7 mi north- west of Bryantown.	38.37	2.23	.058	25.0	6.5	95	6.6
Zekiah Swamp tribu- tary	Lat 38°33'11", long 76°50'57", Charles County, at farm bridge on dirt road, 0.65 mi south- west of Bryantown.	3.21	.45	.140	25.0	6.8	115	8.4
Piney Branch	Lat 38°33'29", long 76°52'30", Charles County, at bridge on State Highway 488, 1.75 mi west of Bryantown.	7.12	.78	.110	23.0	6.8	95	8.3
Zekiah Swamp tribu- tary	Lat 38°31'32", long 76°53'19", Charles County, 0.5 mi upstream from mouth, 3.3 mi southwest of Bryantown.	2.68	-	-	-	-	-	-
Kerrick Swamp	Lat 38°31'01", long 76°55'26", Charles County, 0.8 mi up- stream from mouth, 2.95 mi east of La Plata.	12.76	1.97	.154	23.5	6.2	73	7.5
Zekiah Swamp	Gaging station near Newtown (01660920)	79.94	2.35	.029	24.0	6.3	95	6.5
James Run	Lat 38°28'47", long 76°55'10", Charles County, at culvert on Esterez Road, 1.45 mi east of Dentsville.	.76	-	-	-	-	-	-
Clark Run	Lat 38°28'21", long 76°57'22", at bridge on Newtown Road, 1.5 mi northeast of Bel Alton.	11.25	.30	.027	23.5	6.4	70	7.4

## Discharge measurements of Zekiah Swamp and tributaries on April 12 and 13, 1984

Stream	Location	Drainage area (mi <sup>2</sup> )	Measured discharge (ft <sup>3</sup> /s)	Cfs per square mile	Water temp. (°C)	pH (units)	Conduc- tivity (micro- mhos)	Dis- solved oxygen (mg/L)
Zekiah Swamp	Lat 38°36'51", long 76°50'00", Charles County, at bridge on State Highway 382, 4.1 mi east of Waldorf.	12.17	21.7	1.783	11.0	6.2	47	10.2
Devils Nest	Lat 38°36'07", long 76°49'34", Charles County, 0.1 mi down- stream from State Highway 232, 4.7 mi east of Waldorf.	2.51	7.54	3.004	13.0	5.5	74	8.5
Jordan Swamp	Lat 38°35'33", long 76°50'52", Charles County, 0.4 mi up- stream from mouth, 3.9 mi southeast of Waldorf.	10.41	12.7	1.220	10.5	6.2	93	11.0
Mill Dam Run	Lat 38°33'53", long 76°50'26", Charles County, at bridge on State Highway 232, 0.55 mi north of Bryantown.	4.90	10.2	2.082	13.0	6.6	87	10.0
Zekiah Swamp	Lat 38°33'39", long 76°51'14", Charles County, at bridge on State Highway 5, 0.7 mi north- west of Bryantown.	38.37	64.6	1.684	10.5	6.4	88	7.8
Zekiah Swamp tribu- tary	Lat 38°33'11", long 76°50'57", Charles County, at farm bridge on dirt road, 0.65 mi south- west of Bryantown.	3.21	5.83	1.816	14.5	7.1	90	12.2
Piney Branch	Lat 38°33'29", long 76°52'30", Charles County, at bridge on State Highway 488, 1.75 mi west of Bryantown.	7.12	14.5	2.037	13.0	6.5	86	11.5
Zekiah Swamp tribu- tary	Lat 38°31'32", long 76°53'19", Charles County, 0.5 mi upstream from mouth, 3.3 mi southwest of Bryantown.	2.68	4.37	1.631	12.0	6.6	87	-
Kerrick Swamp	Lat 38°31'01", long 76°55'26", Charles County, 0.8 mi up- stream from mouth, 2.95 mi east of La Plata.	12.76	27.6	2.163	13.5	6.2	63	10.0
Zekiah Swamp	Gaging station near Newtown (01660920)	79.94	141	1.764	16.0	6.9	71	-
James Run	Lat 38°28'47", long 76°55'10", Charles County, at culvert on Esterez Road, 1.45 mi east of Dentsville.	.76	1.21	1.592	14.0	7.3	67	9.4
Clark Run	Lat 38°28'21", long 76°57'22", at bridge on Newtown Road, 1.5 mi northeast of Bel Alton.	11.25	16.6	1.476	14.0	6.9	74	14.2

Water-quality partial-record stations are particular sites where chemical-quality, biological, and/or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## NANTICOKE RIVER BASIN

01489100

- PUCKUM BR NR ELDORADO MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
APR 03...	1700	.55	70	4.1	14.0	12.0	6.8	5	.3	15	.95
MAY 01...	1200	.13	64	4.1	17.0	15.0	--	4	.4	20	.73
JUN 05...	0930	.20	53	4.1	21.5	15.5	3.0	4	.4	20	.76

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
APR 03...	.63	2.4	44	.5	1.3	<1.0	8.9	5.1	6.0	<.010	<.10
MAY 01...	.46	2.8	53	.6	1.3	<1.0	7.0	6.7	8.3	<.010	<.10
JUN 05...	.42	2.2	48	.5	1.3	<1.0	5.7	5.1	8.4	<.010	<.10

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
APR 03...	<.010	--	--	.70	--	--	1000	--	--	2
MAY 01...	.220	.28	.28	.50	900	0	900	5	0	5
JUN 05...	.050	.06	1.8	1.8	1000	0	1000	3	--	10

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
APR 03...	--	--	240	--	--	4	--	--	22	18
MAY 01...	690	0	700	5	0	5	20	4	16	25
JUN 05...	1200	0	1200	8	2	6	10	--	16	34



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## TRANSQUAKING RIVER BASIN

01489900

- CHICAMACOMICO R TR NR HAWKEYE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
APR 03...	1345	.14	51	4.1	18.0	13.0	7.4	4	.5	25	.71
MAY 02...	0900	--	51	4.1	17.0	12.0	--	3	.4	20	.61
JUN 05...	1515	--	48	4.1	28.0	20.5	2.0	3	<.1	--	.69

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
APR 03...	.43	1.7	45	.4	.80	<1.0	3.5	4.2	5.8	<.010
MAY 02...	.33	1.7	47	.4	1.0	<1.0	1.5	5.1	8.9	<.010
JUN 05...	.35	1.3	41	.3	.70	<1.0	1.5	3.9	7.1	<.010

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)
APR 03...	<.10	<.010	--	--	.90	--	--	40	--	--
MAY 02...	<.10	.780	1.0	.92	1.7	1400	200	1200	2	0
JUN 05...	<.10	.050	.06	2.3	2.3	1900	0	1900	4	0

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
APR 03...	5	--	--	580	--	--	6	--	16	26
MAY 02...	2	1700	100	1600	10	0	10	<20	15	39
JUN 05...	4	1500	100	1400	8	0	8	10	16	45

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## CHOPTANK RIVER BASIN

01492518

- WARWICK R NR EAST NEW MARKET MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
MAR 27...	1330	45	4.4	13.0	10.0	6.8	7	6	.4	20	1.7
MAY 01...	1600	45	4.3	21.0	17.0	--	7	5	.4	20	1.8
JUN 05...	1330	39	4.4	27.0	20.0	4.0	7	--	.3	15	1.7

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
MAR 27...	.79	2.0	32	.3	1.3	2.0	4.3	3.9	3.2	<.010	<.10
MAY 01...	.72	2.2	35	.4	1.2	2.0	1.7	5.1	3.6	<.010	<.10
JUN 05...	.74	1.7	30	.3	1.1	<1.0	1.7	4.5	5.4	.010	<.10

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
MAR 27...	.080	.10	.62	.70	--	--	730	--	--	7
MAY 01...	.380	.49	.42	.80	1200	100	1100	4	0	4
JUN 05...	.090	.12	1.9	2.0	1000	0	1000	3	--	5

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
MAR 27...	--	--	330	--	--	5	--	--	32	30
MAY 01...	1700	200	1500	5	1	4	30	0	30	--
JUN 05...	1700	200	1500	9	1	8	30	--	31	46

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN

01589493

- SAWMILL C AT QUEENSTOWN RD NR GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 22...	1330	1.0	126	6.3	30.0	28.5	34	27	10	2.2	7.0
SEP 11...	1400	.74	130	6.6	25.0	21.0	--	--	--	--	--
24...	1030	.65	135	6.5	27.5	23.0	--	--	--	--	--

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO (MG/L AS K)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
MAY 22...	28	.5	3.5	7.0	6.8	29	12	.20	4.7	81
	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	73	.11	.22	1.4	.010	.03	100	30	170	170

01589494

- SAWMILL C AT MEADOWBROOK RD AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1245	2.6	125	6.8	30.0	18.0	32	25	9.2	2.1
SEP 11...	1315	1.5	122	6.7	25.0	17.0	--	--	--	--
24...	1000	1.2	127	6.6	25.0	18.5	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO (MG/L AS K)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	6.8	30	.5	2.7	7.0	2.1	25	12	.10	5.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	83	68	.11	.58	1.4	<.010	300	30	190	100

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589496 - SAWMILL C TR AT STEWART AVE NR GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)
MAY 22...	1230	.03	150	7.3	18.0

01589498 - SAWMILL C AT CENTRAL AVE AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)
MAY 22...	1130	2.6	110	6.5	30.0	20.0

01589499 - SAWMILL C TR AT DORSEY RD AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)
MAY 22...	1605	.09	--	--	30.0	16.5
SEP 11...	1010	.08	233	6.6	22.0	18.0
24...	0930	.03	268	6.3	27.0	18.0

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589500 - SAWMILL C AT GLEN BURNIE, MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
FEB 09...	0930	1.7	--	--	2.5	.0	--	--	--	--
MAY 22...	1130	2.6	130	6.6	28.0	20.0	31	19	9.1	2.0
SEP 11...	0950	1.3	128	6.7	22.0	18.0	--	--	--	--
24...	1000	.94	137	6.7	27.0	19.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 22...	8.9	36	.7	2.4	12	5.8	22	16	.20	3.5

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	.79	72	.11	.55	.43	<.010	200	40	310	37

01589502 - SAWMILL C TR AT EASTERN AVE AT FERNDAL MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 22...	1250	.56	302	6.5	30.0	20.0	92	31	31	3.6	18
SEP 11...	1145	.36	300	6.8	23.0	19.0	--	--	--	--	--
24...	1145	.22	320	6.7	27.0	18.0	--	--	--	--	--

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
MAY 22...	29	.9	3.6	61	37	27	35	.10	5.4	195

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	160	.27	.29	1.6	.030	.09	200	50	840	84

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589504

- SAWMILL C TR NR LONGWOOD AVE AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1605	.44	300	8.7	30.5	27.0	93	31	31	3.7
SEP 11...	1045	.28	380	7.6	24.0	19.0	--	--	--	--
24...	1035	.13	299	7.6	27.0	20.5	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	19	30	.9	3.8	62	.2	27	35	.10	3.9

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	196	160	.27	.23	1.4	<.010	100	50	150	12

01589506

- SAWMILL C AT EIGHTH AVE AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAY 22...	1105	3.5	174	6.5	27.0	23.0	51	12	16	2.8	12
SEP 11...	1145	1.5	166	6.6	25.0	18.0	--	--	--	--	--
24...	1120	.79	175	6.7	26.0	21.0	--	--	--	--	--

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
MAY 22...	32	.8	2.5	40	24	16	20	.20	2.9	117

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	98	.16	1.1	.24	.040	.12	<100	50	820	160

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589508

- SAWMILL C TR AT OLEN DR AT FERNDAL MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1335	1.0	294	6.8	30.0	19.0	89	39	27	5.3
SEP 11...	1205	.73	270	7.3	22.0	18.0	--	--	--	--
24...	1220	.77	290	6.9	27.5	17.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	17	29	.8	2.4	50	15	27	32	.10	6.9

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	179	150	.24	.48	2.6	<.010	100	30	51	39

01589510

- SAWMILL C TR BL CRESTHAVEN DR AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1415	.38	184	6.4	31.0	19.0	44	38	12	3.4
SEP 11...	1330	.24	180	6.1	23.0	17.0	--	--	--	--
24...	1300	.26	190	5.9	27.5	17.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	13	37	.9	2.7	6.0	4.6	27	22	.10	6.4

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	127	90	.17	.13	3.4	<.010	<100	20	55	110

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589512

- SAWMILL C AT CRAIN HWY AT GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
FEB 09...	1100	3.8	--	--	6.0	5.0	--	--	--	--
MAY 22...	1515	5.5	191	6.6	34.0	21.0	56	25	17	3.4
SEP 11...	1340	3.9	195	6.6	22.0	18.0	--	--	--	--
24...	1320	2.9	207	6.5	24.0	18.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	13	32	.8	2.5	32	16	19	23	.10	4.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	129	100	.18	1.9	1.6	<.010	200	30	300	56



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589515

- MARLEY C AT PHIRNE RD NR GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1410	.62	250	6.7	33.0	21.0	56	34	17	3.3
SEP 11...	1445	--	270	6.2	25.5	19.0	--	--	--	--
24...	1050	--	287	6.1	26.0	19.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	22	44	1	3.0	22	8.5	23	44	.10	5.0

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	164	130	.22	.27	1.9	<.010	200	30	320	73

01589517

- MARLEY C AT ELVATION RD NR GLEN BURNIE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 22...	1445	1.6	175	6.6	34.0	23.0	46	24	14	2.6
SEP 11...	1430	1.3	175	6.5	25.0	19.0	--	--	--	--
24...	1130	1.1	181	6.5	26.5	19.5	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	13	37	.9	2.4	22	11	18	27	.10	5.6

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	117	96	.16	.51	1.2	<.010	<100	30	320	47

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATAPSCO RIVER BASIN--CONTINUED

01589522

- MARLEY C AT HARUNDALE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
FEB 09...	1350	3.7	--	--	11.0	2.5	--	--	--	--
MAY 22...	1530	3.9	172	7.1	35.0	25.0	41	16	13	2.1
SEP 11...	1350	2.6	170	7.2	25.0	20.0	--	--	--	--
24...	1300	2.0	176	7.8	--	25.0	--	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
MAY 22...	14	41	1	2.0	25	3.8	17	24	.20	5.1

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAY 22...	114	93	.16	1.2	.91	<.010	200	30	230	48

01589523

- MARLEY C TR AT HARUNDALE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)
MAY 22...	1615	.17	330	7.4	35.0	28.0
SEP 11...	1420	.10	134	6.9	25.0	25.0
24...	1215	.07	242	7.7	--	25.0

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATUXENT RIVER BASIN

01594480

- PATUXENT R NR DRURY, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
02...	1615	15.0	.30	237	10.5	8.3
02...	1616	7.00	.39	237	10.5	8.3
02...	1617	1.00	.47	237	10.5	8.3
02...	1720	14.0	.54	239	10.0	8.6
02...	1721	7.00	.80	239	10.0	8.6
02...	1722	1.00	--	238	10.0	8.5
02...	1820	14.0	.63	243	10.0	8.8
02...	1821	7.00	.84	243	10.0	8.7
02...	1822	1.00	.84	243	10.0	8.7
02...	1920	13.0	.57	246	10.0	8.9
02...	1921	7.00	.84	247	10.0	8.8
02...	1922	1.00	.84	247	10.0	8.8

01594530

- PATUXENT R NR BRISTOL, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
03...	0815	9.00	.91	228	11.0	7.7
03...	0816	5.00	1.06	230	11.0	7.6
03...	0817	1.00	1.32	230	11.0	7.6
03...	0920	8.00	.76	238	11.0	7.6
03...	0921	5.00	.80	237	11.0	7.6
03...	0922	1.00	.88	240	11.0	7.6
03...	1020	9.00	.37	236	11.5	7.7
03...	1021	5.00	.39	235	11.5	7.7
03...	1022	1.00	.47	237	11.5	7.7
03...	1120	9.00	1.20	219	12.0	7.8
03...	1121	5.00	1.41	218	12.0	7.8
03...	1122	1.00	1.65	218	11.5	7.8

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATUXENT RIVER BASIN--CONTINUED

01594580

- PATUXENT R AT LOWER MARLBORO MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
02...	0810	13.0	.13	950	11.5	8.4
02...	0811	6.00	.00	770	11.5	8.3
02...	0812	1.00	.21	665	11.5	8.3
02...	0910	13.0	.57	685	11.5	8.2
02...	0911	6.00	.69	645	11.5	8.2
02...	0912	1.00	.62	655	11.5	8.2
02...	1010	14.0	1.44	918	11.5	8.3
02...	1011	6.00	1.70	954	11.5	8.1
02...	1012	1.00	1.40	915	11.5	8.1
02...	1115	14.0	1.06	1450	12.0	7.9
02...	1116	6.00	1.58	1460	12.0	7.9
02...	1117	1.00	1.65	1430	12.0	7.9
02...	1230	14.0	.84	3700	12.5	7.8
02...	1231	6.00	1.26	3470	12.5	7.8
02...	1232	1.00	.93	3500	12.5	7.8
02...	1315	14.0	.76	4920	12.5	7.7
02...	1316	6.00	1.03	4810	12.5	7.7

01594690

- PATUXENT R NR BENEDICT, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
03...	1500	12.0	.13	22700	15.0	8.7
03...	1501	6.00	.12	21100	15.0	9.3
03...	1502	1.00	.29	21200	15.0	9.4
03...	1600	12.0	.22	21500	15.0	9.1
03...	1601	6.00	.17	20700	15.0	9.8
03...	1602	1.00	.54	20100	15.0	10.1
03...	1700	11.0	.49	22400	14.5	8.4
03...	1701	6.00	.63	21600	15.0	9.4
03...	1702	1.00	1.11	19200	15.0	9.6
03...	1800	11.0	.63	21900	14.5	8.6
03...	1801	6.00	.78	21200	14.5	8.6
03...	1802	1.00	1.23	18400	15.0	9.0

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATUXENT RIVER BASIN--CONTINUED

01594730

- PATUXENT R NR GOLDEN BEACH, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT						
25...	1000	7.00	.40	23000	15.5	8.5
25...	1001	4.00	--	22700	15.5	8.5
25...	1002	1.00	.20	22500	15.0	8.5
25...	1101	7.00	.15	23100	15.5	8.5
25...	1102	4.00	--	23000	15.5	8.5
25...	1103	1.00	.16	23100	15.5	8.5
25...	1230	7.00	.30	23300	15.5	8.4
25...	1231	4.00	--	23100	15.5	8.5
25...	1232	1.00	.17	23100	15.5	8.5
25...	1345	7.00	.40	23500	15.5	9.0
25...	1346	4.00	--	23000	15.5	8.8
25...	1347	1.00	.25	22900	15.5	8.7

01594732

- PATUXENT R BL GOLDEN BEACH, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT						
31...	0930	30.0	.36	26400	15.0	8.5
31...	0931	20.0	.47	25600	14.5	9.0
31...	0932	10.0	.65	23300	14.0	9.7
31...	0933	1.00	--	19700	13.0	10.5
31...	1035	30.0	.00	26400	15.5	8.2
31...	1036	20.0	--	25400	15.0	8.8
31...	1037	10.0	.47	23200	14.5	9.7
31...	1038	1.00	--	19200	13.5	10.5
31...	1135	30.0	--	26000	15.5	8.3
31...	1136	20.0	--	25100	15.0	8.8
31...	1137	10.0	.12	22700	14.5	9.9
31...	1138	1.00	--	19300	14.0	10.4
31...	1235	30.0	.16	26100	15.5	8.4
31...	1236	20.0	.21	25200	15.0	8.8
31...	1237	10.0	.26	22700	14.0	9.7
31...	1238	1.00	--	19200	13.5	10.7
NOV						
04...	1005	30.0	.49	26500	14.5	8.3
04...	1006	20.0	.85	24300	14.0	8.9
04...	1007	10.0	.30	22600	14.0	9.2
04...	1008	1.00	--	22400	14.0	9.2
04...	1055	31.0	1.11	26600	14.5	8.4
04...	1056	20.0	1.44	26000	14.5	8.5
04...	1057	10.0	.49	23100	14.0	9.2
04...	1058	1.00	--	22800	14.0	9.4
04...	1130	31.0	.97	26700	14.5	8.7
04...	1131	20.0	1.35	26600	14.5	8.7
04...	1132	10.0	.63	23400	14.0	9.4
04...	1133	1.00	--	23200	14.0	9.6
04...	1210	31.0	.78	26500	14.5	8.6
04...	1211	20.0	1.38	26300	14.5	8.6
04...	1212	10.0	.66	23500	14.0	9.6
04...	1213	1.00	--	23300	14.0	9.9
04...	1300	31.0	1.08	26400	14.5	8.8
04...	1301	20.0	1.26	25800	14.5	8.9
04...	1302	10.0	.78	23900	14.0	9.8
04...	1303	1.00	--	23800	14.5	10.0

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATUXENT RIVER BASIN--CONTINUED

01594734

- PATUXENT R AB SANDGATES, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT						
31...	1430	14.0	.15	23900	14.5	8.3
31...	1431	7.00	.35	22400	14.5	9.9
31...	1432	1.00	.97	20500	14.0	11.3
31...	1530	14.0	.15	24600	15.0	8.3
31...	1531	7.00	.22	22600	14.5	9.6
31...	1532	1.00	.57	20400	14.0	11.3
31...	1645	13.0	.15	23100	14.0	9.4
31...	1646	7.00	.25	21700	14.0	9.5
31...	1647	1.00	.44	19400	13.5	10.8
31...	1735	14.0	.14	24700	14.5	8.9
31...	1736	7.00	--	22300	14.0	9.2
31...	1737	1.00	.36	19400	13.5	10.7

01594790

- PATUXENT R NR HALF PONE POINT, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
NOV						
01...	1340	29.0	.17	26900	15.0	9.1
01...	1341	20.0	.19	26500	15.0	9.5
01...	1342	10.0	.76	24900	14.5	10.7
01...	1343	1.00	--	23100	14.0	13.3
01...	1450	29.0	.11	26700	15.0	9.1
01...	1451	20.0	.27	26400	15.0	9.1
01...	1452	10.0	.84	23800	14.0	11.7
01...	1453	1.00	--	22800	14.0	13.5
01...	1550	29.0	.19	26600	15.0	9.1
01...	1551	20.0	.33	26000	14.5	9.5
01...	1552	10.0	.78	24700	14.5	10.4
01...	1553	1.00	--	23400	14.0	12.7
01...	1650	28.0	--	26600	14.5	9.2
01...	1651	20.0	--	26000	14.5	9.6
01...	1652	10.0	.48	24200	14.0	11.5

01594820

- PATUXENT R NR TOWN POINT, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT						
26...	0830	38.0	.46	27600	16.5	8.3
26...	0831	30.0	.53	27400	16.5	8.4
26...	0832	20.0	--	27100	16.5	8.4
26...	0833	10.0	.45	27000	16.0	8.5
26...	0834	1.00	--	26900	16.0	8.5
26...	0940	38.0	.30	26900	16.5	8.5
26...	0941	30.0	.37	26700	16.5	8.5
26...	0942	20.0	--	26300	16.0	8.6
26...	0943	10.0	1.40	25900	16.0	8.7
26...	0944	1.00	--	25900	16.0	8.7
26...	1055	38.0	.63	26500	16.5	8.5
26...	1056	30.0	.65	26200	16.0	8.6
26...	1057	20.0	--	26200	16.0	8.7
26...	1058	10.0	1.00	26000	16.0	8.8
26...	1059	1.00	--	25900	16.0	8.9
NOV						
01...	0855	37.0	.30	27200	14.5	9.6
01...	0856	30.0	.39	27200	14.5	9.6
01...	0857	20.0	--	26700	14.5	10.0
01...	0858	10.0	.26	25400	14.0	10.8

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PATUXENT RIVER BASIN--CONTINUED

01594850 - PATUXENT R NR DRUM POINT, MD

DATE	TIME	SAM- PLING DEPTH (FEET)	STREAM VELOC- ITY, MEAN (FPS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT						
28...	1230	30.0	.41	27500	15.5	9.4
28...	1231	20.0	.35	27200	15.5	9.4
28...	1232	10.0	.88	27000	15.5	9.5
28...	1233	1.00	--	26900	15.5	9.5
28...	1335	30.0	.36	27500	15.5	9.3
28...	1336	20.0	.33	27200	15.5	9.4
28...	1337	10.0	.69	27100	15.5	9.4
28...	1338	1.00	--	27000	15.5	9.5
28...	1505	30.0	.53	27300	15.5	9.0
28...	1506	20.0	.47	27100	15.5	9.4
28...	1507	10.0	.53	27000	15.5	9.5
28...	1508	1.00	--	26900	15.5	9.6
28...	1605	30.0	.50	27200	15.5	9.1
28...	1606	20.0	.55	27000	15.5	9.6
28...	1607	10.0	.54	26900	15.5	9.8
28...	1608	1.00	--	26900	15.5	9.8
28...	1710	30.0	.40	27500	16.0	9.1
28...	1711	20.0	.46	27100	15.5	9.7
28...	1712	10.0	.34	27000	15.5	9.7
28...	1713	1.00	--	27000	15.5	9.8
28...	1830	31.0	.38	28200	15.5	9.2
28...	1831	20.0	.47	27300	15.5	9.7
28...	1832	10.0	.37	27200	15.5	9.7
28...	1833	1.00	--	27200	15.5	9.7

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN

01594905

- NB POTOMAC R AT KEMPTON MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 09...	1700	130	5.1	6.0	4.7	33	.2	9.9	8.6	2.9	.80
DATE	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NOV 09...	5	.0	.70	<1.0	41	1.0	.20	5.9	72	.10	.24
DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	
NOV 09...	<.010	1600	900	1	570	280	800	830	<.1	42	



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594916

- LAUREL RN AT KEMPTON MD

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
JUN 12...	1126	58	7.4	27.0	16.5	2.1	9.2	25	6	7.2
SEP 17...	1045	60	7.5	12.0	7.5	1.4	9.8	27	6	7.8
DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
JUN 12...	1.8	.30	2	.0	.50	19	1.5	11	.70	.10
SEP 17...	1.9	.30	2	.0	.50	21	1.3	6.1	.00	<.10
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
JUN 12...	4.2	42	37	.06	.40	<.010	160	80	1	<1
SEP 17...	3.8	48	33	.07	.33	<.001	60	30	--	1
DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
JUN 12...	1	<1	--	<1	<1	250	48	2	2	30
SEP 17...	--	--	<1	--	1	300	52	--	<1	20
DATE	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
JUN 12...	11	<.1	.1	<1	<1	25	20	6	--	--
SEP 17...	16	--	--	--	--	25	--	6	2.1	.90

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594923

- LAUREL RN NR RED OAK, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 09...	1545	463	3.5	--	7.5	16	--	90	1.4	70	22
JUN 12...	1645	1010	2.9	--	25.0	1.7	8.2	200	3.7	184	48
SEP 18...	0845	1180	3.0	1.5	9.5	4.0	10.0	240	5.6	278	56

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 09...	8.5	2.4	5	.1	1.5	<1.0	160	1.3	.20	13
JUN 12...	20	3.4	3	.1	2.2	<1.0	520	1.4	.30	24
SEP 18...	24	4.9	4	.1	2.9	<1.0	470	1.7	.20	29

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)
NOV 09...	239	.33	.30	.010	.03	4900	4600	--	1	--
JUN 12...	638	.87	<.10	<.010	--	1500	1400	1	1	2
SEP 18...	722	.98	.04	<.001	--	17000	17000	--	--	--

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
NOV 09...	--	--	--	--	--	11000	8900	--	--	900
JUN 12...	<1	10	10	23	23	16000	18000	9	10	2500
SEP 18...	--	--	10	--	93	31000	34000	--	9	2800

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
NOV 09...	940	--	<.1	--	--	120	--	--	--	--
JUN 12...	2500	<.1	<.1	<1	<1	270	710	870	--	--
SEP 18...	2800	--	--	--	--	320	--	920	.60	.40

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594926

- CHESTNUT RIDGE RN NR RED OAK, MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 03...	1215	--	1250	6.0	11.0	--	2.5	550	540	180
SEP 18...	1000	.20	710	6.8	12.0	5	--	320	320	110
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 03...	24	20	7	.4	4.4	--	5.0	9.7	590	4.5
SEP 18...	12	17	10	.4	2.3	8	9.0	2.5	320	2.4
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 03...	.20	4.7	866	830	1.2	--	--	.79	--	<.010
SEP 18...	.10	2.8	586	470	.80	.32	.40	--	<.010	--
DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 03...	370	300	1	630	92	400	510	.2	790	--
SEP 18...	--	700	--	520	150	220	220	--	--	2.4

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594927

- LAUREL RN AT KEMPTON RD AT RED OAK MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 03...	1530	890	3.3	10.5	9.3	220	2.1	104	60	16	6.7

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 03...	6	.2	2.6	<1.0	320	2.1	.30	20	479	.65	.21

DATE	AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
NOV 03...	<.010	7400	7400	1	11000	12000	1400	1400	.2	300	

01594928

- FROLICKING GLEN RN AT LAUREL RN NR RED OAK MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
NOV 03...	1340	370	6.1	11.5	3.0	13	6	3.5	1.1	.60	8

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
NOV 03...	.0	.90	7.0	11	8.8	1.4	.10	3.5	24	24	.03

DATE	AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
NOV 03...	.70	<.010	300	20	1	1800	57	100	10	.2	14	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594929

- DUTCH RUN AT RED OAK

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 18...	1315	.05	815	3.5	19.5	17.5	<1	7.6	290	1.1	55

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
SEP 18...	81	21	19	12	.5	2.7	<1.0	350	2.6	.10	7.4

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
SEP 18...	641	.87	.09	<.10	<.010	5000	2200	1900	5000	5200	.40

01594931

- NB POTOMAC R AT WILSON, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 09...	1406	755	4.6	6.0	9.0	350	.4	20	120	12	4.1

DATE	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 09...	2	.0	1.8	<1.0	360	2.0	.20	5.7	575	.78	.53

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
NOV 09...	<.010	1300	1000	1	1700	1100	500	540	<.1	300

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED.

01594932 - SF SAND RN AT MOON RIDGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)
SEP 19...	1130	.08	235	7.4	16.0	10.5	2	68	27	22	3.2
DATE	SODIUM, DIS- SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CaCO3)	ALKA- LINITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
SEP 19...	12	27	.7	1.3	41	40	3.2	52	.00	.10	2.9
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
SEP 19...	126	120	.17	.03	.20	<.010	600	540	160	80	70

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594935

- NF SAND RN AT MOON RIDGE, MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)
JUL 03...	1830	--	71	5.5	--	23.0	--	6.5	8.5	28	26	--
SEP 19...	1000	.15	85	6.5	13.0	12.0	44	--	--	34	26	.1
DATE	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JUL 03...	--	7.7	2.2	.40	3	.0	.50	--	2.0	12	25	1.0
SEP 19...	5.0	9.1	2.7	.40	2	.0	.70	8	8.0	4.9	26	1.3
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)
JUL 03...	.10	3.7	58	43	.08	--	.10	.12	.30	.40	1.8	--
SEP 19...	.10	3.6	66	50	.09	.03	.10	--	--	--	--	<.010
DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
JUL 03...	<.010	200	<100	1	1	1	<1	10	<10	1	<1	1700
SEP 19...	--	--	600	--	--	--	--	--	--	--	--	3200
DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL 03...	430	4	2	6200	610	<.1	<.1	<1	<1	29	20	25
SEP 19...	140	--	--	490	490	--	--	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01594942

- SAND RN AT WILSON, MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)
JUL 02...	1915	--	670	7.4	--	20.0	--	3.0	8.5	270	250	--
SEP 19...	0930	1.3	1780	6.8	15.0	12.5	<1	--	9.3	990	970	.2

DATE	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JUL 02...	--	90	11	9.9	7	.3	2.4	--	16	1.2	250	3.4
SEP 19...	9.9	340	34	30	6	.4	4.8	22	21	6.8	1100	2.8

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)
JUL 02...	.30	3.4	436	380	.59	--	.60	.52	.30	.90	4.0	--
SEP 19...	.70	2.2	1670	1500	2.3	5.9	.90	--	--	--	--	<.010

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
JUL 02...	<.010	170	70	1	1	1	<1	10	10	2	1	630
SEP 19...	--	--	600	--	--	--	--	--	--	--	--	290

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL 02...	7	<1	2	6200	610	<.1	.1	1	1	400	10	4
SEP 19...	32	--	--	420	610	--	--	--	--	--	--	--



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595005 - DIFFICULT C AT RTE 50 NR GORMANIA WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 12...	1930	1.1	30	6.9	27.0	19.0	3.0	8.8	15	6	4.3
SEP 17...	1545	.89	40	7.0	18.0	10.0	1.0	--	17	5	4.8

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
JUN 12...	.93	.40	5	.0	.60	9.0	2.2	10	.90	.10	3.7
SEP 17...	1.1	.30	4	.0	.50	12	2.3	4.4	1.0	<.10	3.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
JUN 12...	34	26	.05	.10	.40	<.010	--	100	90	<1	<1
SEP 17...	24	23	.03	.06	.24	.016	.05	80	30	--	--

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
JUN 12...	1	<1	20	<10	4	<1	290	47	1	1	10
SEP 17...	--	--	--	--	--	--	580	88	--	1	10

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
JUN 12...	5	<.1	<.1	<1	<1	16	10	5	--	--
SEP 17...	4	--	--	--	--	16	--	<3	2.1	2.5

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595010

- DIFFICULT C NR STEYER MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 12...	1810	1.1	57	7.0	23.0	18.0	1.4	8.6	27	10	8.2
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 12...		1.5	1.5	11	.1	.70	17	3.3	8.7	3.2	.10
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)
JUN 12...		3.9	52	38	.07	.15	.37	<.010	140	60	1
DATE		ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
JUN 12...		<1	1	<1	10	<10	<1	<1	390	33	<1
DATE		LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 12...		<1	20	4	<.1	.1	<1	<1	33	10	7

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595015

- DIFFICULT C AT POTOMAC R NR STEYER MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
SEP 17...	1830	.90	130	7.4	11.0	10.0	.90	9.7	55	25
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
SEP 17...	16	3.6	1.4	5	.0	.90	30	2.3	26	3.4
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
SEP 17...	<.10	3.6	79	73	.11	.19	.30	<.001	80	30
DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	
SEP 17...	410	71	1	20	14	55	<3	1.7	1.7	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595135

- WYMER RN AB STONY R DAM LAKE WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)
JUN 12...	1010	--	18	4.5	23.0	15.0	1.6	8.8	4	3	<.1
SEP 19...	1745	.02	19	4.7	16.0	12.0	1.0	--	3	0	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 12...	.88	.39	.40	17	.0	.30	1.0	61	3.6	.40	<.10
SEP 19...	.70	.27	.30	17	.0	.20	2.0	77	3.4	.70	<.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)
JUN 12...	3.7	23	11	.03	--	<.10	<.010	--	150	110	<1
SEP 19...	4.0	30	11	.04	.00	.05	.003	.00	120	90	--

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
JUN 12...	<1	1	5	<10	<10	<1	<1	280	120	2	2
SEP 19...	<1	--	<1	--	--	--	1	280	77	--	<1

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
JUN 12...	40	47	<.1	<.1	<1	<1	4	20	30	--	--
SEP 19...	50	36	--	--	--	--	3	--	8	2.2	2.1

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595140

- WYMER RN AT STONY R DAM LAKE WV

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
JUN 12...	1200	235	5.7	22.0	23.0	8.6	8.0	93	27	6.2	.60	1
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
JUN 12...	.0	.80	<1.0	110	.40	<.10	3.8	189	.26	.58	<.010	360
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	
JUN 12...	130	<1	<1	1	<1	20	<10	<1	<1	740	63	
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 12...	2	1	3400	3700	<.1	<.1	<1	<1	38	50	58	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595201

- STONY R TR NR UNION SCHOOL NR MT STORM WV

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
JUN 12...	1400	85	7.2	29.0	21.5	30	8.6	45	6	15
DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
JUN 12...	1.8	.50	2	.0	.60	39	4.8	2.9	.60	<.10
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
JUN 12...	5.7	42	51	.06	.14	<.010	670	90	1	1
DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)
JUN 12...	1	<1	20	<10	2	<1	1900	22	4	1
DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	
JUN 12...	120	70	<.1	<.1	<1	<1	33	<10	7	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595202

- STONY R TR MINE DRAINAGE NR MT STORM WV

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 12...	1510	320	6.2	28.0	14.0	15	1.2	200	55	49
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 12...	19	2.0	2	.0	2.6	146	178	55	3.6	.20
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
JUN 12...	6.1	294	230	.40	<.10	<.010	<100	<100	2	1
DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
JUN 12...	1	<1	20	10	<1	<1	5800	5800	5	5
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 12...	3100	3000	<.1	<.1	<1	<1	94	20	11	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595203

- STONY R TR AT UNION SCHOOL NR MT STORM WV

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 12...	1615	87	6.9	24.0	25.0	5.0	5.9	43	9	12
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 12...	3.2	1.3	6	.0	.90	34	8.3	8.3	2.1	.10
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
JUN 12...	1.4	76	50	.10	<.10	<.010	<100	<100	1	1
DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
JUN 12...	1	1	10	<10	22	<1	3500	70	4	1
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 12...	570	540	<.1	<.1	<1	<1	55	10	6	



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595241

- S PRG LOSTLAND RN HWDS NR TASKERS CORNER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
JUN 13...	0940	42	4.4	23.0	15.5	4.5	7.4	6	--	.1	5.0
SEP 19...	0900	26	5.6	10.0	10.5	1.7	4.8	5	4	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 13...	1.8	.44	.40	11	.0	.40	<1.0	--	9.9	1.2	<.10
SEP 19...	1.3	.36	.40	14	.0	.60	1.0	4.9	4.2	1.7	<.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)
JUN 13...	3.8	38	--	.05	.13	<.010	590	450	1	1	1
SEP 19...	4.8	36	18	.05	<.10	<.001	370	100	--	--	--

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
JUN 13...	<1	30	10	1	<1	570	340	2	2	150
SEP 19...	--	--	1	--	2	8300	4000	--	1	110

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
JUN 13...	120	<.1	<.1	<1	<1	15	40	39	--	--
SEP 19...	91	--	--	--	--	9	--	8	18	9.8

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595242

- S PRG LOSTLAND RN AB AMD NR TASKERS CORNER MD

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)
SEP 19...	1630	28	4.7	18.0	13.0	1.0	9.7	5	4	1.3	.51	.40
DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
SEP 19...	13	.0	.40	1.0	39	7.1	1.0	<.10	4.4	22	16	.03
DATE	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
SEP 19...	.19	.003	.00	300	220	92	230	210	11	14	1.7	1.5

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595243

- S PRG LOSTLAND RN AB S TR NR TASKERS CORNER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
JUN 13...	1120	122	6.1	28.0	19.0	1.9	8.1	51	48	14

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUN 13...	3.9	.60	2	.0	.80	3.0	4.6	48	.90	<.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
JUN 13...	4.2	111	75	.15	<.10	<.010	100	<100	1	<1

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
JUN 13...	1	<1	10	10	5	<1	580	150	4	2

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 13...	610	620	<.1	<.1	<1	<1	29	40	22

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595244

- S PRG LOSTLAND RN TR AT TASKERS CORNER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
SEP 19...	0845	28	6.6	17.0	11.5	45	10.9	10	4	2.1

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LILITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
SEP 19...	1.1	.50	9	.0	.70	6.0	2.9	1.8	1.5

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
SEP 19...	<.10	4.4	44	16	.06	1.1	<.001	1000	60

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)
SEP 19...	1	1	3700	95	<1	130	44	8	3

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595245

- S PRG LOSTLAND RN TR NR TASKERS CORNER MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
SEP 19...	1045	.02	430	7.3	16.0	10.0	1.5	9.7	210	190	50
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
SEP 19...	21	.90	0	.0	1.7	23	2.2	190	1.4	.10	5.7
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	
SEP 19...	354	280	.48	.02	.13	.002	.00	50	20	<1	
DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	
SEP 19...	1	150	16	<1	180	190	67	6	.80	.80	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595246

- S PRG LOSTLAND RN BL S TR NR TASKERS CORNER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 19...	1215	578	4.3	10.0	12.0	4.6	9.4	280	.4	20

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
SEP 19...	78	20	2.1	2	.0	1.2	<1.0	270	1.0	.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
SEP 19...	7.2	464	.63	<.10	.004	.01	1500	1400	1	6

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
SEP 19...	1300	610	<1	1300	1300	78	93	1.5	1.3

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595247

- S PRG LOSTLAND RN AB MOUTH NR TASKERS CORNER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
JUN 13...	1045	465	7.4	17.0	33	10.3	220	210	60	17	1.2	1
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
JUN 13...	.0	1.6	8.0	.6	200	1.6	.10	5.6	383	290	.52	1.2
DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
JUN 13...	<.010	1200	90	1	<1	1	<1	<10	<10	4	<1	1400
DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUN 13...	23	1	<1	730	720	<.1	.1	<1	<1	69	60	61

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595270

- SHORT RN NR SHALLMAR MD

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
JUN 13...	1300	24	6.3	29.0	23.0	1.4	7.6	8	5	2.1
DATE	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
JUN 13...	.64	.40	9	.0	.60	3.0	2.9	5.3	1.1	<.10
DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
JUN 13...	3.9	25	16	.03	.15	<.010	200	70	1	<1
DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS Cd)	CADMIUM DIS-SOLVED (UG/L AS Cd)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS Cr)	CHROMIUM, DIS-SOLVED (UG/L AS Cr)	COPPER, TOTAL RECOVERABLE (UG/L AS Cu)	COPPER, DIS-SOLVED (UG/L AS Cu)	IRON, TOTAL RECOVERABLE (UG/L AS Fe)	IRON, DIS-SOLVED (UG/L AS Fe)	LEAD, TOTAL RECOVERABLE (UG/L AS Pb)	LEAD, DIS-SOLVED (UG/L AS Pb)
JUN 13...	1	<1	<10	<10	<1	<1	310	39	2	1
DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS Mn)	MANGANESE, DIS-SOLVED (UG/L AS Mn)	MERCURY TOTAL RECOVERABLE (UG/L AS Hg)	MERCURY DIS-SOLVED (UG/L AS Hg)	SELENIUM, TOTAL (UG/L AS Se)	SELENIUM, DIS-SOLVED (UG/L AS Se)	STRONTIUM, DIS-SOLVED (UG/L AS Sr)	ZINC, TOTAL RECOVERABLE (UG/L AS Zn)	ZINC, DIS-SOLVED (UG/L AS Zn)	
JUN 13...	140	140	<.1	<.1	<1	<1	10	<10	16	



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595272

- SHORT RN AT SHALLMAR MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
JUN 13...	1320	185	29.0	17.0	1.4	9.0	86	73	22	7.5	.70	2
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
JUN 13...	.0	1.0	13	70	1.1	<.10	5.0	171	120	.23	.35	<.010
DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
JUN 13...	110	10	1	<1	1	<1	20	<10	<1	<1	190	8
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 13...	2	2	50	18	<.1	<.1	<1	<1	54	20	16	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595493

- WOLPDEN RN NR KITZMILLER MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 20...	0845	39	4.3	13.0	12.0	.20	8.8	3	.3	15

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
SEP 20...	.79	.36	.30	15	.0	.10	<1.0	8.8	.80

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
SEP 20...	<.10	4.1	24	.03	<.10	.002	.00	240	640

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
SEP 20...	210	52	<1	60	180	9	26	1.5	1.5

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595494

- WOLF DEN RN AT KITZMILLER MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
SEP 20...	1030	.42	180	5.0	20.0	11.0	1.0	9.3	67	65
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINTY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
SEP 20...	18	5.4	1.2	4	.0	.90	2.0	39	68	2.9
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
SEP 20...	<.10	5.3	138	100	.19	.16	.19	<.001	350	300
DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	
SEP 20...	120	47	<1	140	140	51	21	1.4	1.1	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595544

- THREE FORKS RN AT E VINDEK MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
SEP 18...	1100	88	4.7	13.0	10.0	1.0	9.9	12	11	2.7	1.2

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
SEP 18...	7.4	57	1	.50	1.0	39	8.7	16	<.10	4.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
SEP 18...	48	42	.07	.23	.005	.02	380	380	<1	<1

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
SEP 18...	2	310	8	<1	220	210	19	38	.70	.70

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

01595545

- RT PRG THREE FORKS RN HWDS AB E VINDEK MD

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CAC03)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CAC03)
JUN 13...	1620	236	5.2	--	12.5	<1.0	10.1	20	.2	9.9
SEP 18...	1600	216	4.5	15.0	11.5	1.0	9.3	15	.3	15

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
JUN 13...	5.2	1.6	21	69	2	.80	<1.0	16	45	.10
SEP 18...	3.7	1.4	26	78	3	.80	<1.0	12	51	<.10

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
JUN 13...	3.9	116	.16	.29	<.010	1000	1000	1	<1	2
SEP 18...	4.3	99	.13	<.10	<.001	700	700	--	--	--

DATE	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
JUN 13...	<1	70	<10	1	<1	90	510	1	1	320
SEP 18...	<1	--	<1	--	1	370	85	--	<1	330

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
JUN 13...	350	<.1	<.1	<1	<1	31	40	48	--	--
SEP 18...	340	--	--	--	--	31	--	39	1.5	1.4

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595546

- RT PRG THREE FORKS RN AB E VINDEK MD

DATE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
JUN 12...	230	4.3	13.0	<1.0	9.8	15	.1	5.0	3.8	1.4	24	76
DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
JUN 12...	3	.80	<1.0	11	49	.10	4.0	104	.14	.18	<.010	890
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	
JUN 12...	890	<1	<1	1	<1	30	20	5	<1	110	10	
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 12...	2	2	420	420	<.1	<.1	<1	<1	31	40	53	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595547 - RT PRG THREE FORKS RN NR E VINDEK MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
JUN 12...	1920	760	5.9	14.0	90	10.2	330	100	19	12	7	.3
DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CaCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	
JUN 12...	2.2	<1.0	530	25	.10	6.6	702	.95	.13	<.010	300	
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	
JUN 12...	200	1	<1	2	3	20	10	3	<1	47000	37000	
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS Pb)	LEAD, DIS- SOLVED (UG/L AS Pb)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS Mn)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn)	MERCURY TOTAL RECOV- ERABLE (UG/L AS Hg)	MERCURY DIS- SOLVED (UG/L AS Hg)	SELE- NIUM, TOTAL SOLVED (UG/L AS Se)	SELE- NIUM, DIS- SOLVED (UG/L AS Se)	STRON- TIUM, DIS- SOLVED (UG/L AS Sr)	ZINC, TOTAL RECOV- ERABLE (UG/L AS Zn)	ZINC, DIS- SOLVED (UG/L AS Zn)	
JUN 12...	12	12	2000	1900	.1	<.1	<1	<1	160	400	430	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595548

- RT PRG THREE FORKS RN AT E VINDEK MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 11...	1210	910	3.5	13.0	10.0	16	10.3	330	2.3	114

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
SEP 11...	100	20	11	7	.3	2.1	<1.0	360	21	.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
SEP 11...	8.2	609	.83	.22	.013	.04	2100	2100	<1	1

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
SEP 11...	6	12000	12000	7	2400	2500	150	410	.60	.60



## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

POTOMAC RIVER BASIN--CONTINUED

01595549

- L PRG THREE FORKS RN AT E VINDEK MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 18...	1500	.32	2050	2.7	23.0	15.0	.80	9.6	410	15	745
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
SEP 18...	100	40	.90	0	.0	.50	<1.0	1100	1.8	1.0	35
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	
SEP 18...	1690	2.3	1.5	.18	2.80	8.6	48000	48000	<1	20	
DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	
SEP 18...	250	120000	120000	5	2300	2500	290	1200	.70	.40	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN--CONTINUED

01595551

- THREE FORKS RN NR BLOOMINGTON LAKE MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)
SEP 18...	0900	1060	3.2	9.0	9.0	4.8	10.6	310	3.6	179
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
SEP 18...	88	23	5.2	3	.1	1.3	<1.0	430	9.4	.40
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
SEP 18...	15	751	1.0	.26	.028	.09	16000	16000	<1	6
DATE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
SEP 18...	66	16000	16000	6	1600	1600	250	460	.90	.90

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## POTOMAC RIVER BASIN

01647620

- POTOMAC R AT 14TH ST WASH DC

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
FEB							
16...	1240	219000	898	531000	39	53	68
16...	1315	219000	916	542000	38	53	69
16...	1350	218000	880	518000	39	55	67
16...	1420	218000	931	548000	41	53	66
16...	1455	215000	1020	594000	40	55	67

## GROUND-WATER RECORDS

277

## GROUND-WATER LEVELS

## DELAWARE

## KENT COUNTY

391026075304901. Local number, Id 55-1.

LOCATION.--Lat 39°10'26", long 75°30'49", Hydrologic Unit 02040207, White Oak Road at Dover.

Owner: City of Dover.

AQUIFER.--Piney Point.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 2.5 in, depth 349 ft, cased to 329 ft, screened 329 to 349 ft.

DATUM.--Altitude of land-surface datum is 20 ft. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping in the Dover area. Equipped with water-stage recorder Aug. 26, 1969, to current year.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 67.40 ft below land-surface datum, May 5, 1970; lowest recorded, 145.61 ft below land-surface datum, Aug. 25, 26, 1983.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	140.96	139.90	137.84	135.57	136.08	133.73	128.65	126.05	129.66	139.51	141.80	141.64
10	140.45	139.58	138.29	135.40	136.13	133.26	127.88	126.53	131.93	139.22	141.45	141.86
15	140.23	137.42	138.03	135.88	135.54	132.43	127.16	126.91	135.65	140.45	142.51	142.43
20	140.01	138.10	138.23	136.07	135.01	131.81	126.45	127.97	137.54	142.06	144.38	141.56
25	139.82	137.80	137.43	136.41	133.93	131.41	125.55	129.93	138.50	142.66	144.17	141.11
EOM	140.29	137.15	136.62	136.30	133.55	130.08	125.72	129.50	138.78	142.59	142.34	142.20
WTR YEAR 1984	MAX	125.19	APR 23, 1984	MIN	144.38	AUG 20, 1984						

390607075331501. Local number, Jd 42-3.

LOCATION.--Lat 39°06'07", long 75°33'15", Hydrologic Unit 02040207, 1 mi south of Camden.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1.25 in, depth 11 ft, well point 8.5 to 11 ft.

DATUM.--Altitude of land-surface datum is about 44 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--This is a replacement well and is located 2 ft north of the original well. The measurements published in WSP 1782, for the years 1958-61 for the original well, are doubtful.

PERIOD OF RECORD.--October 1950 to December 1961, August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft below land-surface datum, July 18, 1975; lowest measured, 9.70 ft below land-surface datum, Nov. 24, 1982.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	7.15	JAN 26	5.80	MAR 27	4.86	APR 26	4.10	JUN 26	4.86	AUG 28	5.95
NOV 28	6.78	FEB 27	5.49	APR 10	3.88	MAY 29	4.85	JUL 26	5.29	SEP 27	6.59
DEC 27	5.71										

385041075395601. Local number, Mc 51-1.

LOCATION.--Lat 38°50'41", long 75°39'56", Hydrologic Unit 02060008, 1.3 mi northeast of Adamsville.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 2 in, depth 19 ft, well point 15 to 19 ft.

DATUM.--Altitude of land-surface datum is about 55 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--This is a replacement well and is located about 60 ft north of original well.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.28 ft below land-surface datum, May 31, 1984; lowest measured, 15.74 ft below land-surface datum, Sept. 30, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	13.93	JAN 30	10.40	APR 10	5.07	JUL 12	8.56	AUG 22	11.21	SEP 28	12.69
DEC 19	11.10	FEB 28	8.94	MAY 31	4.28						

## DELAWARE--Continued

## KENT COUNTY--Continued

385310075331301. Local number, Md 22-1.

LOCATION.--Lat 38°53'10", long 75°33'13", Hydrologic Unit 02040207, 2.4 mi west of Williamsville.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in, depth 17 ft, well point 14 to 17 ft.

DATUM.--Altitude of land-surface datum is about 58 ft. Measuring point: Top of casing at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.07 ft below land-surface datum, July 14, 1975;  
lowest measured, 11.14 ft below land-surface datum, Jan. 6, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	7.16	DEC 29	2.46	MAR 6	2.02	APR 27	2.54	JUN 28	4.68	AUG 30	7.50
NOV 15	7.41	JAN 30	2.08	APR 3	2.00	MAY 30	1.25	JUL 9	5.46	SEP 5	7.91
NOV 30	4.42	FEB 3	3.15	APR 9	1.89	JUN 4	2.06	JUL 30	6.12	SEP 27	8.49
DEC 19	2.85	FEB 28	1.91								

## NEW CASTLE COUNTY

393854075415401. Local number, Db 24-10.

LOCATION.--Lat 39°38'54", long 75°41'54", Hydrologic Unit 02040205, 2 mi south of Ogletown.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in, depth 24 ft, well point 21 to 24 ft.

DATUM.--Altitude of land-surface datum is about 77 ft. Measuring point: Top of casing at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.71 ft below land-surface datum, May 24, 1983; lowest measured, 17.43 ft below land-surface datum, Feb. 10, 1966. Previous highest water level measured, 4.33 ft below land-surface datum, Oct. 6, 1978, doubtful reading (well plugged).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 2	12.97	DEC 29	9.15	FEB 29	7.69	MAY 1	6.00	JUN 29	8.12	AUG 29	8.86
NOV 30	12.84	JAN 31	9.40	APR 3	5.52	JUN 8	7.07	JUL 31	7.53		

391949075410701. Local number, Hb 14-1.

LOCATION.--Lat 39°19'49", long 75°41'07", Hydrologic Unit 02040205, at Prices Corners.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in, depth 19 ft, well point 16 to 19 ft.

DATUM.--Altitude of land-surface datum is about 72 ft. Measuring point: Top of casing at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.49 ft below land-surface datum, Apr. 7, 1958;  
lowest measured, 11.95 ft below land-surface datum, Aug. 31, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	8.40	DEC 29	5.35	MAR 13	4.20	APR 27	3.05	JUN 28	5.00	AUG 22	6.49
NOV 10	8.52	JAN 30	5.71	APR 3	2.71	MAY 21	3.92	JUL 9	5.13	AUG 24	6.67
NOV 30	7.83	FEB 1	5.69	APR 12	2.38	MAY 30	3.19	JUL 30	5.60	SEP 27	7.68
DEC 23	5.40	FEB 28	4.67								

## DELAWARE--Continued

## SUSSEX COUNTY

384930075370201. Local number, Nc 13-3.

LOCATION.--Lat 38°49'30", long 75°37'02", Hydrologic Unit 02060008, 2.0 mi northwest of Greenwood.

Owner: University of Delaware.

AQUIFER.--Piney Point.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 630 ft, cased to 620 ft, screened 620 to 630 ft.

DATUM.--Land surface datum is 62.5 ft above mean sea level. Measuring point: Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Equipped with water-stage recorder Dec. 2, 1970, to current year.

PERIOD OF RECORD.--December 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 69.70 ft below land-surface datum, Jan. 1, 1971;

lowest recorded, 81.49 ft below land-surface datum, Oct. 18, 19, 1982.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	80.39	80.45	80.38	80.31	80.19	80.43	80.10	80.48	80.52	80.56	80.68	80.94
10	80.69	80.35	80.50	80.37	80.58	80.58	80.46	80.53	80.55	80.67	80.74	80.93
15	80.60	80.49	80.22	80.50	80.30	80.56	80.34	80.60	80.66	80.71	80.73	80.78
20	80.68	80.48	80.61	80.54	80.31	80.42	80.45	80.51	80.53	80.73	80.75	80.83
25	80.41	80.24	80.34	80.24	80.18	80.34	80.33	80.64	80.50	80.71	80.89	80.94
EOM	80.74	80.40	80.59	80.34	80.22	80.38	80.47	80.35	80.53	80.75	80.77	80.93
WTR YEAR 1984	MAX	79.69		MAR 29, 1984	MIN	81.11	SEP 8, 1984					

384639075353101. Local number, Nc 45-1.

LOCATION.--Lat 38°46'39", long 75°35'31", Hydrologic Unit 02060008, 2.0 mi south of Greenwood.

Owner: P. H. Cannon.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 in, depth 15 ft, screened 14 to 15 ft.

DATUM.--Altitude of land-surface datum is about 43 ft. Measuring point: Top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.67 ft below land-surface datum, Jan. 30, 1952;

lowest measured, 14.66 ft below land-surface datum, Dec. 11, 1978.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15	12.99	FEB 3	11.49	APR 9	9.29	JUL 9	11.81	AUG 30	12.56	SEP 27	13.02
JAN 9	10.46	MAR 15	10.82	MAY 29	11.72						

384955075192801. Local number, Ng 11-1.

LOCATION.--Lat 38°49'55", long 75°19'28", Hydrologic Unit 02040207, 1.2 mi east of Jefferson Crossroads.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in, depth 19 ft, well point 16 to 19 ft.

DATUM.--Altitude of land-surface datum is 24 ft. Measuring point: Top of casing at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.91 ft below land-surface datum, Apr. 10, 1984;

lowest measured, 14.64 ft below land-surface datum, Jan. 7, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	10.51	DEC 27	9.91	MAR 15	9.00	JUN 4	8.33	JUL 9	9.69	SEP 4	11.53
NOV 9	11.24	JAN 23	10.30	APR 10	6.91						

383138075260201. Local number, Qe 44-1.

LOCATION.--Lat 38°31'38", long 75°26'02", Hydrologic Unit 02060008, 1.0 mi east of Whaleys Crossroads.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Bored observation water-table well, diameter 1 in, depth 25 ft, well point 22 to 25 ft.

DATUM.--Altitude of land-surface datum is about 50 ft. Measuring point: Top of casing at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.98 ft below land-surface datum, Mar. 16, 1979 and

Mar. 15, 1984; lowest measured, 12.22 ft below land-surface datum, Dec. 2, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	8.03	DEC 12	6.05	JAN 30	5.75	APR 3	5.56	MAY 23	7.65	JUL 9	8.52
NOV 15	8.57	DEC 29	6.07	FEB 28	5.73	APR 11	5.64	MAY 30	6.17	SEP 4	10.42
NOV 30	5.83	JAN 23	6.32	MAR 15	4.98	APR 27	6.19	JUN 28	8.10	SEP 27	11.25

## GROUND-WATER LEVELS

## MARYLAND

## ALLEGANY COUNTY

394024078273401. Local number, AL-Ah 1.

LOCATION.--Lat 39°40'24", long 78°27'34", Hydrologic Unit 02070003, on Fifteen Mile Creek, 2.8 mi southeast of Pratt.

Owner: Green Ridge State Forest.

AQUIFER.--Jennings Formation.

WELL CHARACTERISTICS.--Drilled unused artesian (?) well, diameter 8 in, reported depth 300 ft, measured depth 113 ft, cased to unknown depth, open hole.

DATUM.--Altitude of land-surface datum is 720 ft. Measuring point: Top of sanitary seal in casing, 0.3 ft above land-surface datum.

REMARKS.--Water level was deeper than 40 ft below land-surface datum on Nov. 19, 1969, and Feb. 12, 1970, when well was being pumped.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.80 ft below land-surface datum, May 18, 1978; lowest measured, 22.80 ft below land-surface datum, July 16, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	5.60	DEC 15	2.85	MAR 16	3.42	JUN 12	4.93	AUG 28	4.61		
NOV 7	5.01	FEB 1	4.22	APR 23	2.95	JUL 13	4.35				

## ANNE ARUNDEL COUNTY

390303076463201. Local number, AA-Cb 1.

LOCATION.--Lat 39°03'03", long 76°46'32", Hydrologic Unit 02060006, on Duvall Bridge Rd., Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in, depth 505 ft, cased to 485 ft, screened 485 to 505 ft.

DATUM.--Altitude of land-surface datum is 126 ft. Measuring point: Top lip of 3-in extension pipe, 3.35 ft above land-surface datum.

REMARKS.--Equipped with water-level recorder during many periods.

PERIOD OF RECORD.--March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.60 ft below land-surface datum, May 1, 1962; lowest measured, 79.81 ft below land-surface datum, Oct. 15, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	76.87	JAN 19	76.87	APR 5	75.04	JUN 8	75.27	AUG 7	74.97		
DEC 9	77.42	FEB 24	76.73	MAY 16	74.75	JUL 5	76.08	SEP 25	75.38		

390423076432001. Local number, AA-Cc 40.

LOCATION.--Lat 39°04'23", long 76°43'20", Hydrologic Unit 02060006, on Rifle Range Rd., Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in, depth 238 ft, cased to 208 ft, screened 208 to 238 ft.

DATUM.--Altitude of land-surface datum is 137 ft (incorrectly reported as 148 ft in 1978 report).

Measuring point: Top of recorder platform, 1.0 ft above land-surface datum.

REMARKS.--Equipped with water-stage recorder Dec. 4, 1959, to July 21, 1960.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.58 ft below land-surface datum, Mar. 25, 1961; lowest measured, 50.09 ft below land-surface datum, Oct. 15, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	47.23	JAN 19	46.16	APR 5	45.09	JUN 7	45.49	AUG 7	45.90		
DEC 9	47.36	FEB 22	45.85	MAY 16	45.40	JUL 5	45.57	SEP 25	46.49		

## MARYLAND--Continued

## BALTIMORE CITY

391617076322001. Local number, 2S5E-1.

LOCATION.--Lat 39°16'17", long 76°32'20", Hydrologic Unit 02060003, near Holabird Avenue and Pumphrey Street, at Baltimore Industrial Park, Baltimore.

Owner: City of Baltimore.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in, depth 290 ft, length of casing and position of screen unknown.

DATUM.--Altitude of land-surface datum is 30 ft. Measuring point: April 1943 to Nov. 22, 1979, and after July 31, 1981, top of casing, 1.8 ft above land-surface datum; Nov. 23, 1979, to July 31, 1981, lower lip of discharge pipe, 3.6 ft above land-surface datum; Sept. 11, 1981, top of casing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--1934, April 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.15 ft below land-surface datum, Sept. 27, 1976; lowest measured, 103.70 ft below land-surface datum, Oct. 15, 1948.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	79.58	DEC 30	80.95	MAR 1	85.99	MAY 2	87.36	JUL 5	81.01	SEP 4	78.53
NOV 9	78.89	FEB 7	80.63	APR 6	84.23	JUN 5	77.34	AUG 3	72.36		

## BALTIMORE COUNTY

393102076341801. Local number, BA-Ce 21.

LOCATION.--Lat 39°31'02", long 76°34'18", Hydrologic Unit 02060003, on Paper Mill Rd, about 0.6 mi west of Jacksonville.

Owner: Baltimore County.

AQUIFER.--Loch Raven Schist (Wissahickon Group).

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 to 6 in, depth 350 ft, cased to 33 ft, open hole.

DATUM.--Altitude of land-surface datum is 536 ft. Measuring point: Top of casing, 2 ft above land-surface datum.

PERIOD OF RECORD.--November and December 1955, November 1956 through September 1975, July 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.60 ft below land-surface datum, June 23, 1972; lowest measured, 21.54 ft below land-surface datum, Feb. 10, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	19.13	DEC 9	18.28	FEB 6	16.16	APR 2	14.71	JUN 6	15.03	AUG 3	16.66
OCT 11	19.22	DEC 27	16.13	MAR 2	16.62	MAY 7	13.92	JUL 2	15.56	AUG 31	17.65
NOV 10	20.93										

## CALVERT COUNTY

381952076270901. Local number, CA-Gd 6.

LOCATION.--Lat 38°19'52", long 76°27'09", Hydrologic Unit 02060006, at the Lord Calvert Yacht Club, about 0.5 mi northeast of Solomons.

Owner: Calvert Marina.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 6 in, depth 493 ft, cased to 472 ft, screened 469 to 493 ft.

DATUM.--Altitude of land-surface datum is 10 ft. Measuring point: Top of pump base, 10 ft above land-surface datum.

REMARKS.--Water level reported at land surface 1942; water level measured 58.9 ft below land-surface datum, Jan. 13, 1944. Equipped with water-level recorder Oct. 19, 1949, to Feb. 25, 1960.

PERIOD OF RECORD.--1942, January 1944, October 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, at land-surface datum, 1942; lowest measured, 61.57 ft below land-surface datum, Sept. 7, 1983.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	60.59	JAN 12	57.23	MAR 7	57.14	MAY 11	57.02	JUL 11	57.97	SEP 5	59.98
NOV 16	58.35	FEB 1	57.42	APR 9	56.85	JUN 11	57.33	AUG 8	58.88		



## GROUND-WATER LEVELS

## MARYLAND--Continued

## CARROLL COUNTY

393638076510001. Local number, CL-Bf 1.

LOCATION.--Lat 39°36'38", long 76°51'00", Hydrologic Unit 02060003, on Hillcrest Street, Hampstead.

Owner: Town of Hampstead.

AQUIFER.--Prettyboy Schist (Wissahickon Group).

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in, depth 407 ft, cased to about 65 ft, open hole.

DATUM.--Altitude of land-surface datum is 933 ft. Measuring point: Top of 2-in casing extension, 2.35 ft above land-surface datum.

REMARKS.--Equipped with water-level recorder July 1, 1952, to Nov. 7, 1962.

PERIOD OF RECORD.--September and December 1946, April and September 1947, February 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.30 ft below land-surface datum, May 13, 1952; lowest measured, 76.26 ft below land-surface datum, Feb. 10, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	70.68	DEC 9	71.12	FEB 6	65.90	APR 2	60.74	JUN 6	58.45	JUL 31	63.08
NOV 10	72.12	DEC 27	65.04	MAR 2	64.31	MAY 2	55.64	JUL 2	61.27	SEP 5	65.73

## CHARLES COUNTY

383422077114601. Local number, CH-Cb 7.

LOCATION.--Lat 38°34'22", long 77°11'46", Hydrologic Unit 02070011, at Caffee and Greenslade Roads, about 2.5 mi southwest of Indian Head.

Owner: U.S. Navy: Naval Ordnance Station.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 6 in, depth 400 ft, cased to 400 ft, screened 154 to 167 ft.

DATUM.--Altitude of land-surface datum is 36 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Equipped with water-level recorder Sept. 21, 1953, to July 8, 1965.

PERIOD OF RECORD.--March and April 1952, August 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.35 ft below land-surface datum, Apr. 18, 1952; lowest measured, 88.58 ft below land-surface datum, Oct. 22, 1968.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	80.36	DEC 14	81.85	MAR 20	81.19	JUN 27	80.28				
NOV 16	81.17	FEB 8	83.59	MAY 2	81.17	AUG 14	79.68				

## DORCHESTER COUNTY

383346076030301. Local number, DO-Ce 21.

LOCATION.--Lat 38°33'46", long 76°03'03", Hydrologic Unit 02060005, on Shoal Creek about 1.5 mi southeast of Cambridge.

Owner: Eastern Shore State Hospital.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 to 4.5 in, depth 368 ft, cased to 368 ft.

DATUM.--Altitude of land-surface datum is 12 ft. Measuring point: Top of casing at land-surface datum.

REMARKS.--Equipped with water-level recorder Aug. 23, 1956, to Nov. 6, 1958, and Sept. 11, 1965, to Oct. 13, 1966.

PERIOD OF RECORD.--August 1914, February 1952, August 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 14 ft below land-surface datum, August 1914; lowest measured, 137.49 ft below land-surface datum, Feb. 8, 1962, affected by pumpage of nearby well.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24	79.80	JAN 12	85.98	MAR 16	73.02	JUN 5	75.12	SEP 6	78.79		
NOV 28	74.91	FEB 9	70.43	APR 16	73.36	JUL 17	78.97				

## MARYLAND--Continued

## GARRETT COUNTY

394016078581601. Local number, GA-Ag 1.

LOCATION.--Lat 39°40'16", long 78°58'16", Hydrologic Unit 02070002, in the Savage River valley, 2.5 mi northwest of Frostburg.

Owner: Town of Frostburg.

AQUIFER.--Pocono Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in, depth 30 ft, cased to unknown depth, open hole.

DATUM.--Altitude of land-surface datum is 2,530 ft. Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.71 ft below land-surface datum, Jan. 14, 1950; lowest measured, 10.04 ft below land-surface datum, Oct. 26, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	9.21	DEC 27	8.02	FEB 27	7.86	APR 26	7.58	JUN 26	8.80	AUG 27	8.08
NOV 28	7.94	JAN 30	8.03	MAR 26	7.55	MAY 28	7.63	JUL 27	9.25	SEP 25	9.36

## HARFORD COUNTY

392343076161901. Local number, HA-Ed 24.

LOCATION.--Lat 39°23'43", long 76°16'19", Hydrologic Unit 02060003, at Bush River Road and 29th Street, about 2 mi southeast of Edgewood.

Owner: U.S. Army: Edgewood Arsenal.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 18 to 10 in, depth 149 ft, cased to 120 ft, screened 120 to 135 ft.

DATUM.--Altitude of land-surface datum is 13 ft. Measuring point: Top of casing, 1.15 ft above land-surface datum.

REMARKS.--Equipped with water-level recorder Jan. 24, 1950, to June 6, 1961.

PERIOD OF RECORD.--April 1944, September 1949, January 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.41 ft below land-surface datum, Apr. 13, 1944; lowest measured, 42.55 ft below land-surface datum, June 26, 1955.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	10.03	DEC 16	10.06	FEB 29	10.54	MAY 3	10.40	AUG 2	9.62		
NOV 10	9.88	FEB 6	9.65	APR 6	9.51	JUL 12	9.29	SEP 17	6.41		

## MONTGOMERY COUNTY

390434076573002. Local number, MO-Eh 20.

LOCATION.--Lat 39°04'34", long 76°57'30", Hydrologic Unit 02070010, at State Highway 196 and Fairland Road, Fairland.

Owner: Cities Service Oil Co.

AQUIFER.--Wissahickon Group.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5.6 in, depth 103 ft, cased to 50 ft, open hole.

DATUM.--Altitude of land-surface datum is 410 ft. Measuring point: West side of bell housing at inside of lip at land-surface datum.

PERIOD OF RECORD.--March 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.39 ft below land-surface datum, June 25, 1972; lowest measured, 15.56 ft below land-surface datum, Nov. 23, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	12.81	DEC 27	10.10	FEB 27	9.93	MAY 1	9.86	JUN 26	11.74	AUG 29	13.29
NOV 28	11.38	JAN 31	10.42	MAR 26	8.94	MAY 30	9.81	JUL 27	12.13	SEP 26	14.03

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WASHINGTON COUNTY

393638078001301. Local number, WA-Be 2.

LOCATION.--Lat 39°36'38", long 78°00'13", Hydrologic Unit 02070004, about 1.2 mi southeast of Big Pool.

Owner: Fort Frederick State Park.

AQUIFER.--Romney Formation.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 42 in, depth 43 ft, cribbed with stone.

DATUM.--Altitude of land-surface datum is 470 ft. Measuring point: Top of stone sill, 0.8 ft above land-surface datum.

PERIOD OF RECORD.--December 1949, June 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.75 ft below land-surface datum, April 26, 1984; lowest measured, 36.92 ft below land-surface datum, Jan. 11, 1965.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	35.10	JAN 30	31.05	MAR 26	23.90	MAY 28	22.73	JUL 27	31.95	SEP 25	34.03
NOV 28	34.30	FEB 27	24.75	APR 26	16.75	JUN 26	29.10	AUG 27	33.35		

## WICOMICO COUNTY

382037075310801. Local number, WI-Cf 3.

LOCATION.--Lat 38°20'37", long 75°31'08", Hydrologic Unit 02060007, on Airport Road, about 5 mi southeast of Salisbury.

Owner: Salisbury Wicomico Airport.

AQUIFER.--Columbia Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 16 in, depth 109 ft, cased to 90 ft, screened 90 to 108 ft.

DATUM.--Altitude of land-surface datum is 45 ft. Measuring point: Top of casing, 2.0 ft above land-surface datum.

REMARKS.--Equipped with water-stage recorder Aug. 2, 1949, to Apr. 11, 1960, and Aug. 29, 1963, to Aug. 20, 1968.

PERIOD OF RECORD.--October 1942, September 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.18 ft below land-surface datum, May 8, 1958; lowest measured, 13.44 ft below land-surface datum, Sept. 18, 1947.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	8.19	DEC 27	5.79	FEB 27	5.61	APR 26	5.35	JUN 27	7.13	AUG 28	8.03
NOV 28	5.64	JAN 26	4.87	MAR 26	3.77	MAY 29	7.06	JUL 26	5.99	SEP 27	9.32

## QUALITY OF GROUND WATER

285

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (GPM)
NEW CASTLE COUNTY, DELAWARE										
CD23 14	010515	394304075320901	217PTMC	84-06-20	145	110	95	10.00	30	25
CD23 15	031944	394328075323001	217PTMC	84-06-20	53.00	53	43	10.00	15	90
CD42 17	040146	394133075331101	217PTMC	84-06-20	125	125	100	45.00	30	333
CD43 3	010474	394132075324801	217PTMC	84-06-18	103	103	89	31.00	25	595
CD44 14	003931	394130075315301	217PTMC	84-06-18	289	289	250	10.00	15	315
CD52 27	033721	394058075335001	217PTMC	84-06-18	141	141	128	9.00	30	240
DC24 41	010050	393827075362801	217PTMC	84-06-19	155	155	115	19.90	30	112
DC25 27	037604	393848075353101	217PTMC	84-06-21	183	183	129	15.00	30	200
DC33 7	043962	393739075371501	217PTMC	84-06-19	215	215	155	15.00	30	800
DC34 7		393754075363501	217PTMC	84-06-19	168	168	163	17.00	180	65
EC22 3	010053	393325075385801	217PTMC	84-06-21	261	261	233	10.00	30	175

LOCAL IDENTIFIER			DATE OF SAMPLE	SAM-PLING METHOD, CODES	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (STAND-ARD UNITS)	TEMPER-ATURE, AIR (DEG C)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	ACIDITY (MG/L AS H)
CD23	14	010515	84-06-20	4040	2550	6.8	31.5	17.0	--	410	330	--
CD23	15	031944	84-06-20	4040	2600	4.4	34.0	20.0	--	470	--	22
CD42	17	040146	84-06-20	4040	410	5.6	31.0	15.0	--	93	73	--
CD43	3	010474	84-06-18	4040	1340	5.6	25.0	17.0	--	190	160	--
CD44	14	003931	84-06-18	4040	210	7.2	22.0	16.0	--	20	0	--
CD52	27	033721	84-06-18	4040	167	5.6	27.0	16.0	--	32	17	--
DC24	41	010050	84-06-19	4040	93	5.6	34.0	15.0	--	23	12	--
DC25	27	037604	84-06-21	4040	280	5.4	32.0	15.0	--	39	28	--
DC33	7	043962	84-06-19	4040	82	5.2	31.0	16.0	--	19	0	--
DC34	7		84-06-19	4040	53	5.1	34.0	16.0	8.2	11	--	--
EC22	3	010053	84-06-21	4040	146	6.5	31.0	17.0	--	45	0	--

LOCAL IDENTIFIER			DATE OF SAMPLE	ACIDITY (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)
CD23	14	010515	84-06-20	--	83	49	260	58	6	6.5	200	61
CD23	15	031944	84-06-20	1090	110	48	59	21	1	5.6	--	--
CD42	17	040146	84-06-20	--	19	11	34	43	2	3.0	19	92
CD43	3	010474	84-06-18	--	35	24	170	66	6	5.3	29	141
CD44	14	003931	84-06-18	--	5.7	1.3	36	77	4	2.8	85	10
CD52	27	033721	84-06-18	--	8.1	2.9	14	47	1	1.3	17	83
DC24	41	010050	84-06-19	--	5.3	2.3	5.0	31	.5	1.2	8.0	39
DC25	27	037604	84-06-21	--	9.9	3.4	30	62	2	1.5	10	77
DC33	7	043962	84-06-19	--	4.6	1.8	5.0	35	.5	1.3	6.0	73
DC34	7		84-06-19	--	2.6	1.2	3.2	36	.4	.90	9.0	138
EC22	3	010053	84-06-21	--	13	3.1	3.3	13	.2	2.4	65	40

Geologic unit (aquifer): 217PTMC - Potomac Group

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NEW CASTLE COUNTY, DELAWARE--CONTINUED										
CD23 14 010515	84-06-20	780	350	<.10	.26	18	1710	1700	2.3	1.3
CD23 15 031944	84-06-20	1500	120	<.10	.14	54	2720	--	3.7	.14
CD42 17 040146	84-06-20	54	74	<.10	.24	11	278	220	.38	3.3
CD43 3 010474	84-06-18	160	290	<.10	.70	14	883	720	1.2	2.3
CD44 14 003931	84-06-18	9.4	6.5	.20	.02	7.2	139	120	.19	<.10
CD52 27 033721	84-06-18	11	28	<.10	.10	11	112	89	.15	4.5
DC24 41 010050	84-06-19	2.0	12	<.10	.04	10	80	45	.11	1.4
DC25 27 037604	84-06-21	7.5	64	<.10	.28	11	187	130	.25	2.1
DC33 7 043962	84-06-19	10	8.0	<.10	.03	10	72	55	.10	3.0
DC34 7	84-06-19	11	4.2	<.10	.02	10	60	--	.08	1.7
EC22 3 010053	84-06-21	4.6	2.3	.20	.01	8.8	83	76	.11	<.10
LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)			
CD23 14 010515	84-06-20	<.010	--	50	110000	38000	410			
CD23 15 031944	84-06-20	<.010	--	30	430000	54000	570			
CD42 17 040146	84-06-20	<.010	--	<20	50	53	180			
CD43 3 010474	84-06-18	.020	.06	50	14	2700	300			
CD44 14 003931	84-06-18	.180	.55	160	800	5	84			
CD52 27 033721	84-06-18	.610	1.9	20	1800	27	84			
DC24 41 010050	84-06-19	<.010	--	<20	9	4	57			
DC25 27 037604	84-06-21	<.010	--	<20	17	34	120			
DC33 7 043962	84-06-19	.010	.03	30	8	3	54			
DC34 7	84-06-19	<.010	--	<20	11	2	32			
EC22 3 010053	84-06-21	.030	.09	20	9200	100	220			

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
SUSSEX COUNTY, DELAWARE										
ND25	3	052080	384819075304601	112CLMB	83-10-18	6.52	117	117	50.00	65
ND25	4	052081	384819075304602	112CLMB	83-10-14	6.53	90.00	90	50.00	35
ND25	5	052082	384819075304501	112CLMB	83-10-18	6.48	54.00	54	50.00	45
ND25	6	052083	384819075304502	112CLMB	83-10-18	6.51	43.00	43	50.00	70
PD33	3	052084	383748075323501	112CLMB	83-10-04	8.70	47.00	47	35.00	95
PD33	4	052085	383748075323502	112CLMB	83-10-14	9.07	94.00	94	35.00	60
PE54	4	054475	383519075262401	112CLMB	83-11-04	5.26	133	133	50.70	55
QE44	3		383157075265601	112CLMB	83-10-28	--	35.00	35	45.00	35

LOCAL IDENTIFIER			DATE OF SAMPLE	DEPTH OF HOLE, TOTAL (FEET)	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)
ND25	3	052080	83-10-18	117	72	6.4	18.0	15.5	.4	9	0	2.6
ND25	4	052081	83-10-14	90	47	6.4	19.0	14.0	.1	2	0	.59
ND25	5	052082	83-10-18	54	56	5.9	16.0	17.5	3.6	8	0	2.5
ND25	6	052083	83-10-18	43	49	5.8	17.0	15.5	2.3	7	0	2.3
PD33	3	052084	83-10-04	82	235	5.2	26.0	19.5	4.8	58	55	15
PD33	4	052085	83-10-14	125	71	5.3	18.0	16.0	4.0	11	7	3.2
PE54	4	054475	83-11-04	300	74	6.1	9.0	12.0	.4	14	0	3.8
QE44	3		83-10-28	35	398	5.4	18.0	15.0	3.5	140	130	32

LOCAL IDENTIFIER			DATE OF SAMPLE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)
ND25	3	052080	83-10-18	.64	10	68	1	1.0	32	25	1.3	4.5
ND25	4	052081	83-10-14	.17	7.1	85	2	.50	18	14	1.8	5.9
ND25	5	052082	83-10-18	.45	7.2	63	1	.90	10	24	.4	4.7
ND25	6	052083	83-10-18	.36	6.7	64	1	.80	14	43	.4	4.4
PD33	3	052084	83-10-04	4.8	20	41	1	4.1	3	37	1.4	18
PD33	4	052085	83-10-14	.73	9.4	61	1	1.6	4	39	1.7	7.4
PE54	4	054475	83-11-04	1.1	9.0	56	1	.90	28	43	1.8	7.8
QE44	3		83-10-28	14	11	14	.4	8.0	7	54	6.7	15

LOCAL IDENTIFIER			DATE OF SAMPLE	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)
ND25	3	052080	83-10-18	<.10	34	74	76	.10	<.10	.180	.23	.02
ND25	4	052081	83-10-14	<.10	35	56	66	.08	<.10	.030	.04	.27
ND25	5	052082	83-10-18	<.10	23	59	45	.08	2.3	<.010	--	--
ND25	6	052083	83-10-18	<.10	23	54	47	.07	1.5	.030	.04	.17
PD33	3	052084	83-10-04	<.10	18	177	84	.24	20	.010	.01	--
PD33	4	052085	83-10-14	<.10	20	70	47	.10	4.5	.020	.03	--
PE54	4	054475	83-11-04	<.10	31	68	75	.09	<.10	.080	.10	--
QE44	3		83-10-28	.10	20	318	110	.43	40	.340	.44	.26

Geologic unit (aquifer): 112CLMB - Columbia Formation

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

## POTOMAC RIVER BASIN--CONTINUED

01639150

- PINEY C NR KEYSVILLE MD

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
JAN 13...	1419	20	266	8.3	2.0	1.9	20	--	96	44
JUN 17...	1700	5.2	287	8.1	31.0	27.8	30	7.0	100	14

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
JAN 13...	26	7.6	12	20	.6	4.5	52	.5	29	23
JUN 17...	29	7.8	15	23	.7	4.0	91	1.4	20	25

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
JAN 13...	4.10	8.5	171	142	.23	9.4	6.1	--	--	--
JUN 17...	.10	3.8	179	159	.24	2.5	2.7	.50	3.2	14

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 13...	.170	.52	.160	360	290	75	20	9	11	4.7
JUN 17...	.370	1.1	.350	110	90	19	20	10	10	5.1

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
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## ANNE ARUNDEL COUNTY, MARYLAND

AA AD 102	AA-81-2641	391032076385904	217PPSC	83-12-09	11.20	108	90	80	70.00	180
AA BD 152	AA-81-3463	390821076365401	217PPSC	84-09-13	29.25	97.00	94	84	45.00	210
AA BD 154	AA-81-3461	390908076394401	217PPSC	84-09-24	31.86	180	177	167	90.00	360
AA DE 136	AA-81-2588	385854076340201	217PPSC	84-06-19	201.00	482	482	400	70.00	1440

LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
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AA AD 102	AA-81-2641	83-12-09	60	4070	43	5.9	17.0	--	12	--	2.7
AA BD 152	AA-81-3463	84-09-13	45	4070	56	5.5	18.0	--	11	8	2.1
AA BD 154	AA-81-3461	84-09-24	100	4070	23	5.1	18.0	--	4	0	1.1
AA DE 136	AA-81-2588	84-06-19	1007	4040	37	5.2	17.0	<1	8	6	2.2

LOCAL IDENT- I- FIER	DATE OF SAMPLE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
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AA AD 102	AA-81-2641	83-12-09	1.2	2.4	28	.3	1.3	--	--	.7	5.0
AA BD 152	AA-81-3463	84-09-13	1.5	3.3	35	.4	1.5	3.0	18	1.0	6.0
AA BD 154	AA-81-3461	84-09-24	.30	1.5	37	.3	1.3	3.0	46	1.2	2.2
AA DE 136	AA-81-2588	84-06-19	.65	.80	16	.1	.90	2.0	24	9.6	1.7

LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPHOS- PHATE, TOTAL (MG/L AS P)
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AA AD 102	AA-81-2641	83-12-09	.20	8.2	43	--	.06	--	2.6	--	<.010
AA BD 152	AA-81-3463	84-09-13	<.10	7.6	43	26	.06	--	3.1	--	.010
AA BD 154	AA-81-3461	84-09-24	<.10	7.3	21	17	.03	--	.58	--	.010
AA DE 136	AA-81-2588	84-06-19	.20	7.9	38	26	.05	<.10	--	.020	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
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AA AD 102	AA-81-2641	83-12-09	--	<100	20	--	15	--	13
AA BD 152	AA-81-3463	84-09-13	.03	600	<20	--	75	--	40
AA BD 154	AA-81-3461	84-09-24	.03	<100	<20	--	55	--	10
AA DE 136	AA-81-2588	84-06-19	--	--	--	820	780	100	73

Geologic unit (aquifer): 217PPSC - Patapsco Formation

Sampling method: 4040 - Submersible pump  
4070 - Air lift



## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)		
CALVERT COUNTY,MD												
CA ED 4/ CA-81-0754	382549076260101	125AQUI	84-02-20	67.00	564	522	476	10.00	450			
DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM
84-02-20	24	4040	214	8.4	19.0	10	40	0	8.9	4.2	27	51
DATE OF SAMPLE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM DIS- SOLVED (UG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
84-02-20	2	13	--	110	.8	4.1	2.3	.20	12	138	140	.19
				NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)			
			84-02-20	<.10	<.010	80	12	<10	<1			

Geologic unit (aquifer): 125AQUI - Aquia Formation

Sampling method: 4040 - Submersible pump

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
CAROLINE COUNTY, MD										
CO CC 54	385514075520301	112CLMB	84-02-28	7.73	45.00	45	35	50.00	--	
		112CLMB	84-03-27	7.82	45.00	45	35	50.00	70	
		112CLMB	84-05-01	8.29	45.00	45	35	50.00	80	
		112CLMB	84-06-05	8.49	45.00	45	35	50.00	65	
CO CC 95 CO-73-0902	385502075515301	112CLMB	84-03-27	--	33.00	33	27	55.00	30	
		112CLMB	84-05-01	--	33.00	33	27	55.00	40	
		112CLMB	84-06-05	--	33.00	33	27	55.00	45	
CO CD 54 CO-73-0695	385557075481201	112CLMB	84-03-26	5.18	45.00	45	35	50.00	40	
		112CLMB	84-04-30	4.95	45.00	45	35	50.00	45	
		112CLMB	84-06-04	5.29	45.00	45	35	50.00	30	
CO CD 61 CO-73-1144	385529075492201	112CLMB	84-03-26	--	24.00	24	20	30.00	15	
		112CLMB	84-04-30	--	24.00	24	20	30.00	35	
		112CLMB	84-06-04	--	24.00	24	20	30.00	25	
CO DD 54 CO-73-1290	385419075475001	112CLMB	84-02-27	2.96	42.00	42	36	50.00	15	
		112CLMB	84-03-27	--	42.00	42	36	50.00	30	
		112CLMB	84-05-01	--	42.00	42	36	50.00	35	
		112CLMB	84-06-05	--	42.00	42	36	50.00	30	

LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
CO CC 54	84-02-28	--	4040	42	5.5	18.0	13.0	--	--	--
	84-03-27	1.3	4040	46	5.4	11.5	13.0	760	3.6	34
	84-05-01	1.3	4040	--	5.2	17.0	12.0	--	3.6	--
	84-06-05	1.3	4040	41	5.3	24.0	13.5	770	3.2	30
CO CC 95 CO-73-0902	84-03-27	3.0	--	39	5.1	14.0	14.0	762	4.0	39
	84-05-01	5.0	--	40	5.2	23.0	15.0	--	4.0	--
	84-06-05	3.6	--	42	4.8	27.0	16.0	771	3.6	36
CO CD 54 CO-73-0695	84-03-26	4.0	4040	36	4.9	16.0	13.0	760	3.8	36
	84-04-30	5.0	4040	35	5.0	23.0	14.0	760	3.9	38
	84-06-04	4.4	4040	39	5.0	28.0	14.0	768	3.8	37
CO CD 61 CO-73-1144	84-03-26	5.0	--	116	4.9	15.0	11.0	760	--	--
	84-04-30	6.0	--	126	5.0	25.0	12.0	--	--	--
	84-06-04	5.2	--	135	4.8	29.0	14.0	769	--	--
CO DD 54 CO-73-1290	84-02-27	6.8	4040	58	5.1	1.0	14.5	--	--	--
	84-03-27	6.0	4040	61	4.8	14.0	13.0	760	2.2	21
	84-05-01	7.0	4040	61	5.0	22.0	15.0	--	1.7	--
	84-06-05	7.1	4040	67	4.9	31.0	15.0	772	2.1	21

Geologic unit (aquifer): 112CLMB - Columbia Formation

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)
CAROLINE COUNTY, MD--CONTINUED										
CO CC 54	84-02-28	8	0	2.0	.80	3.6	43	.6	1.5	12
	84-03-27	7	0	1.5	.75	3.4	46	.6	1.4	12
	84-05-01	8	0	1.8	.80	3.5	44	.6	1.4	11
	84-06-05	7	0	1.6	.77	3.4	46	.6	1.3	9.0
CO CC 95 CO-73-0902	84-03-27	5	0	.64	.76	3.3	51	.7	1.6	6.0
	84-05-01	5	0	.66	.79	3.4	52	.7	1.6	7.0
CO CD 54 CO-73-0695	84-06-05	5	0	.69	.86	3.4	50	.7	1.6	6.0
	84-03-26	3	0	.49	.34	3.6	63	1	1.6	2.0
	84-04-30	3	0	.54	.39	3.7	62	1	1.5	3.0
	84-06-04	3	0	.61	.37	3.6	61	.9	1.5	5.0
CO CD 61 CO-73-1144	84-03-26	26	23	6.1	2.5	8.3	40	.7	1.5	3.0
	84-04-30	28	26	6.8	2.6	8.3	38	.7	1.4	2.0
CO DD 54 CO-73-1290	84-06-04	28	26	6.8	2.6	8.0	37	.7	1.4	2.0
	84-02-27	7	4	1.5	.76	4.8	54	.8	1.6	4.0
	84-03-27	7	3	1.4	.73	4.7	54	.8	1.7	4.0
	84-05-01	7	4	1.5	.74	4.4	52	.8	1.6	3.0
	84-06-05	7	5	1.5	.76	4.5	52	.8	1.6	2.0
LOCAL IDENT- I- FIER	DATE OF SAMPLE	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
CO CC 54	84-02-28	10	60	.4	5.1	13	--	32	.04	<.010
	84-03-27	10	76	.2	5.1	12	--	30	.04	<.010
	84-05-01	9.0	110	<.2	5.2	13	--	--	--	<.010
	84-06-05	8.0	72	<.2	4.9	12	36	--	.05	<.010
CO CC 95 CO-73-0902	84-03-27	5.0	76	<.2	6.4	11	--	--	--	<.010
	84-05-01	6.0	70	<.2	6.9	11	--	--	--	<.010
CO CD 54 CO-73-0695	84-06-05	5.0	151	<.2	6.8	10	38	--	.05	<.010
	84-03-26	1.0	40	<.2	5.9	10	--	--	--	<.010
	84-04-30	2.0	64	<.2	5.8	10	--	--	--	<.010
	84-06-04	4.0	79	<.2	5.7	10	25	--	.03	<.010
CO CD 61 CO-73-1144	84-03-26	2.0	60	19	16	6.3	--	62	.08	<.010
	84-04-30	1.0	32	19	17	6.3	--	63	.09	<.010
CO DD 54 CO-73-1290	84-06-04	2.0	50	17	18	6.1	84	61	.11	<.010
	84-02-27	4.0	50	11	7.3	15	--	46	.06	<.010
	84-03-27	3.0	101	10	7.2	14	--	43	.06	<.010
	84-05-01	2.0	48	13	7.2	14	--	46	.06	<.010
	84-06-05	1.0	40	11	6.9	14	55	43	.07	<.010

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
CAROLINE COUNTY, MD--CONTINUED										
CO CC 54	84-02-28	.28	.100	.13	1.0	1.1	1.4	--	20	--
	84-03-27	.25	<.010	--	--	.30	.55	--	<10	--
	84-05-01	.18	<.010	--	--	<.10	--	<10	<10	1
	84-06-05	.16	<.010	--	--	1.4	--	20	<10	1
CO CC 95 CO-73-0902	84-03-27	.13	.020	.03	.28	.30	.43	--	<10	--
	84-05-01	.17	<.010	--	--	<.10	--	<10	<10	5
	84-06-05	.23	<.010	--	--	1.4	--	30	<10	4
CO CD 54 CO-73-0695	84-03-26	<.10	.110	.14	.09	.20	--	--	<10	--
	84-04-30	<.10	.080	.10	.32	.40	--	10	<10	23
	84-06-04	<.10	<.010	--	--	1.6	--	30	<10	28
CO CD 61 CO-73-1144	84-03-26	.56	.130	.17	.07	.20	.76	--	70	--
	84-04-30	.64	.130	.17	.27	.40	1.0	90	80	19
	84-06-04	.69	.050	.06	1.2	1.2	--	90	70	18
CO DD 54 CO-73-1290	84-02-27	<.10	<.010	--	--	.20	--	--	<10	--
	84-03-27	<.10	.080	.10	.02	.10	--	--	<10	--
	84-05-01	.10	.020	.03	.18	.20	--	<10	<10	51
	84-06-05	<.10	.040	.05	1.6	1.6	--	<10	<10	52

LOCAL IDENT- I- FIER	DATE OF SAMPLE	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
CO CC 54	84-02-28	3	--	<10	--	6	--	--	.80
	84-03-27	2	--	3	--	2	--	5	1.1
	84-05-01	1	150	<10	1	<1	10	<10	1.0
	84-06-05	1	300	11	5	5	<10	6	1.2
CO CC 95 CO-73-0902	84-03-27	5	--	11	--	2	--	6	.70
	84-05-01	5	130	13	2	2	<10	6	.80
	84-06-05	4	280	16	4	4	<10	6	1.4
CO CD 54 CO-73-0695	84-03-26	20	--	24	--	3	--	4	.60
	84-04-30	22	120	23	2	4	<10	5	.70
	84-06-04	23	160	29	5	5	<10	5	1.1
CO CD 61 CO-73-1144	84-03-26	19	--	120	--	2	--	45	1.9
	84-04-30	17	290	120	1	1	50	47	.90
	84-06-04	18	190	89	6	6	40	45	1.7
CO DD 54 CO-73-1290	84-02-27	39	--	1600	--	5	--	40	--
	84-03-27	46	--	1600	--	4	--	39	.90
	84-05-01	47	1800	1600	4	2	40	40	.50
	84-06-05	50	1700	1600	7	6	30	39	1.0

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
CECIL COUNTY, MARYLAND										
CE AA 3	CE-00-6416	394307076121201	300MGCK	83-10-05	20.00	78.00	78	--	395.00	120
CE AA 23	CE-68-0229	394157076104601	300UMFC	83-10-05	16.00	70.00	70	44	365.00	15
CE AB 59	CE-73-3238	394038076094501	300BLDR	83-10-05	--	84.00	84	21	290.00	25
CE AB 66	CE-65-0460	394254076093301	300UMFC	83-10-05	--	70.00	70	28	510.00	15
CE AC 81	CE-03-4500	394228076035401	300QZQZ	83-10-03	--	122	122	97	315.00	15
CE AD 54	CE-72-0430	394006075563401	300LFPF	83-10-06	20.00	76.00	76	59	360.00	15
CE BC 56	CE-81-0485	393602076034501	300FHBP	83-10-05	--	200	200	25	325.00	15
CE BC 57	CE-04-0365	393859076031201	300PRDP	83-10-03	4.00	41.00	41	29	405.00	15
CE BC 60	CE-73-0787	393933076004201	300FHBP	83-10-05	--	220	220	26	448.00	20
CE BD 96	CE-70-0147	393813075572402	300GLPF	83-10-04	8.00	222	222	46	265.00	25
CE CD 59	CE-70-0207	393438075565101	217PTMC	83-10-04	11.00	75.00	75	70	12.00	20
CE CD 71	CE-69-0267	393042075590101	217PTMC	83-10-04	44.00	130	130	111	45.00	20

			LOCAL IDENT- I- FIER	DATE OF SAMPLE	DEPTH OF HOLE, TOTAL (FEET)	FLOW RATE (GPM)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
CE	AA	3	CE-00-6416	83-10-05	78	6.0	335	6.1	17.0	140	66	19	23
CE	AA	23	CE-68-0229	83-10-05	70	6.0	482	6.2	17.0	240	130	14	50
CE	AB	59	CE-73-3238	83-10-05	84	12	175	5.8	14.0	63	33	16	5.7
CE	AB	66	CE-65-0460	83-10-05	70	15	940	6.8	17.0	410	230	6.0	95
CE	AC	81	CE-03-4500	83-10-03	122	10	87	6.8	15.0	36	5	8.0	3.9
CE	AD	54	CE-72-0430	83-10-06	76	20	162	5.6	15.0	43	21	8.1	5.5
CE	BC	56	CE-81-0485	83-10-05	200	6.0	49	5.6	19.0	16	0	3.2	2.0
CE	BC	57	CE-04-0365	83-10-03	41	9.0	156	5.6	17.0	48	22	12	4.4
CE	BC	60	CE-73-0787	83-10-05	220	55	59	5.7	15.0	16	0	3.6	1.7
CE	BD	96	CE-70-0147	83-10-04	222	14	204	5.7	15.0	71	13	12	10
CE	CD	59	CE-70-0207	83-10-04	75	30	24	5.3	17.0	2	0	.52	.28
CE	CD	71	CE-69-0267	83-10-04	130	75	24	5.0	15.0	2	0	.33	.20

			LOCAL IDENT- I- FIER	DATE OF SAMPLE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
CE AA	3	CE-00-6416	83-10-05	6.8	9	.3	.40	76		117	41	12	<.10
CE AA	23	CE-68-0229	83-10-05	2.2	2	.0	.20	111		136	67	31	<.10
CE AB	59	CE-73-3238	83-10-05	6.7	18	.4	1.1	31		95	27	4.2	<.10
CE AB	66	CE-65-0460	83-10-05	35	16	.8	.20	174		53	51	170	<.10
CE AC	81	CE-03-4500	83-10-03	2.3	12	.2	.20	31		9.5	.4	2.0	<.10
CE AD	54	CE-72-0430	83-10-06	10	33	.7	1.1	22		107	18	8.7	<.10
CE BC	56	CE-81-0485	83-10-05	3.0	28	.3	.30	18		88	1.3	2.4	<.10
CE BC	57	CE-04-0365	83-10-03	12	34	.8	1.8	26		127	11	17	<.10
CE BC	60	CE-73-0787	83-10-05	4.2	34	.5	1.1	17		66	<.2	2.6	<.10
CE BD	96	CE-70-0147	83-10-04	13	28	.7	.90	58		224	16	15	<.10
CE CD	59	CE-70-0207	83-10-04	1.6	55	.5	.30	7.0		68	1.7	2.3	<.10
CE CD	71	CE-69-0267	83-10-04	1.8	64	.6	.40	7.0		136	1.8	2.3	<.10

Geologic unit (aquifer):

- 217PTMC - Potomac Group
- 300BLDR - Boulder Gneiss of Wissahickon Formation
- 300FHBP - Felsite, Happy Valley Branch, Big Elk Creek, Principio Creek Members, James Run Formation
- 300GLPF - Gilpins Falls Member of James Run Formation
- 300LFPF - Little Northeast Creek, Frenchtown, Principio Furnace Members, James Run Formation
- 300MGCK - Metagraywacke of Wissahickon Formation
- 300PRDP - Port Deposit Gneiss
- 300QZQZ - Quartz Gabbro and Quartz Diorite Gneiss
- 300UMFC - Ultramafic Rocks

QUALITY OF GROUND WATER

295

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
CECIL COUNTY, MARYLAND--CONTINUED										
CE AA 3	CE-00-6416	83-10-05	25	201	.27	6.8	.020	.06	100	1
CE AA 23	CE-68-0229	83-10-05	46	294	.40	4.3	.040	.12	400	2
CE AB 59	CE-73-3238	83-10-05	20	115	.16	3.4	.060	.18	<100	1
CE AB 66	CE-65-0460	83-10-05	43	521	.71	3.5	.010	.03	100	4
CE AC 81	CE-03-4500	83-10-03	20	70	.10	2.5	.020	.06	<100	1
CE AD 54	CE-72-0430	83-10-06	30	112	.15	4.3	.010	.03	<100	1
CE BC 56	CE-81-0485	83-10-05	18	41	.06	.75	<.010	--	800	1
CE BC 57	CE-04-0365	83-10-03	29	122	.17	4.7	.070	.21	100	1
CE BC 60	CE-73-0787	83-10-05	25	59	.08	2.2	<.010	--	<100	1
CE BD 96	CE-70-0147	83-10-04	36	141	.19	1.3	<.010	--	<100	2
CE CD 59	CE-70-0207	83-10-04	7.3	18	.02	.20	1.20	3.7	700	1
CE CD 71	CE-69-0267	83-10-04	7.9	20	.03	.12	.040	.12	<100	1

LOCAL IDENT- I- FIER			DATE OF SAMPLE	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INOR- GANIC, TOTAL (MG/L AS C)
CE AA	3	CE-00-6416	83-10-05	<20	<1	<10	7	<10	2	<.1	1.2	--
CE AA	23	CE-68-0229	83-10-05	<20	<1	10	25	<10	8	<.1	1.0	--
CE AB	59	CE-73-3238	83-10-05	<20	<1	<10	<3	<10	<1	<.1	.50	--
CE AB	66	CE-65-0460	83-10-05	60	<1	10	5	<10	2	.2	1.1	--
CE AC	81	CE-03-4500	83-10-03	<20	<1	10	26	<10	14	<.1	.30	--
CE AD	54	CE-72-0430	83-10-06	<20	<1	<10	18	<10	7	<.1	1.0	--
CE BC	56	CE-81-0485	83-10-05	<20	<1	10	6	<10	8	<.1	.30	--
CE BC	57	CE-04-0365	83-10-03	<20	1	<10	44	<10	9	<.1	.80	--
CE BC	60	CE-73-0787	83-10-05	<20	<1	10	19	<10	2	<.1	.20	--
CE BD	96	CE-70-0147	83-10-04	<20	<1	10	25	<10	23	<.1	.90	--
CE CD	59	CE-70-0207	83-10-04	<20	<1	<10	2000	<10	22	<.1	1.4	5.0
CE CD	71	CE-69-0267	83-10-04	<20	<1	<10	120	<10	41	<.1	.60	--

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
CHARLES COUNTY, MD										
CH BF 146	383508076540701	217PTMC	83-12-14	1900	199.50	--	--	--	--	--
		217PTMC	83-12-16	0050	198.30	--	--	--	--	--
		217PTMC	83-12-21	1500	--	1420	--	--	--	--
CH BF 147	383508076540702	217PTMC	84-02-27	0800	--	1420	--	--	--	--
CH EE 91	CH-83-0014	382238076585301	217PPSC	84-01-12	1030	103.00	1090	1100	1000	80.00
CH FF 60	381806076545401	217PPSC	84-05-01	0800	79.00	990	982	808	808	10.00
LOCAL IDENT- I- FIER	DATE OF SAMPLE	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CAO3)
CH BF 146	83-12-14	--	.10	--	300	7.4	15.0	21.0	90	3
	83-12-16	--	.20	--	312	7.4	12.0	20.0	75	2
	83-12-21	--	.40	--	260	8.0	.0	23.0	50	2
CH BF 147	84-02-27	--	1.1	--	270	7.4	50.0	22.0	--	1
CH EE 91	CH-83-0014	1410	350	4040	--	--	--	--	1	2
CH FF 60	84-05-01	1390	--	4040	345	7.8	--	22.0	8	1
LOCAL IDENT- I- FIER	DATE OF SAMPLE	HARD- NESS, NONCAR- BONATE (MG/L CAO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	POTAS- SIUM, DIS- SOLVED (UG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)
CH BF 146	83-12-14	0	.75	.21	67	97	18	1.7	--	--
	83-12-16	0	.54	.20	76	97	23	2.1	--	--
	83-12-21	0	.48	.11	64	98	23	1.5	--	--
CH BF 147	84-02-27	0	.24	.19	66	98	25	1.6	1600	22
CH EE 91	CH-83-0014	0	.40	.20	100	98	33	2.1	--	--
CH FF 60	84-05-01	0	.28	.15	88	98	34	1.8	--	--
LOCAL IDENT- I- FIER	DATE OF SAMPLE	ALKA- LINITY LAB (MG/L AS CAO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	IODIDE, DIS- SOLVED (MG/L AS I)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
CH BF 146	83-12-14	143	11	14	1.9	.90	.01	.002	30	187
	83-12-16	152	12	11	2.0	1.1	<.01	.002	30	223
	83-12-21	135	2.6	11	2.1	.90	.01	.003	33	204
CH BF 147	84-02-27	132	1.4	9.3	2.6	.90	--	--	83	304
CH EE 91	CH-83-0014	204	--	12	9.6	1.1	--	--	4.0	298
CH FF 60	84-05-01	180	5.5	12	1.7	1.4	--	--	37	315

Geologic unit (aquifer):

217PPSC - Patapsco Formation

217PTMC - Potomac Group

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

297

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)
CHARLES COUNTY, MD--CONTINUED										
CH BF 146	83-12-14	200	.25	<.10	.960	2.9	--	--	--	--
	83-12-16	210	.30	<.10	.730	2.2	--	--	--	--
	83-12-21	190	.28	<.10	.880	2.7	--	--	--	--
CH BF 147	84-02-27	180	.41	--	--	--	500	16	.7	<1
CH EE 91 CH-83-0014	84-01-12	250	.41	<.10	.210	.64	--	--	--	--
CH FF 60	84-05-01	250	.43	<.10	3.80	12	--	--	--	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
CH BF 146	83-12-14	--	--	--	--	300	--	--	--	30
	83-12-16	--	--	--	--	130	--	--	--	27
	83-12-21	--	--	--	--	65	--	--	--	12
CH BF 147	84-02-27	<10	<3	<10	--	140	<10	<4	--	17
CH EE 91 CH-83-0014	84-01-12	--	--	--	450	380	--	--	30	20
CH FF 60	84-05-01	--	--	--	110	100	--	--	10	10

LOCAL IDENT- I- FIER	DATE OF SAMPLE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
CH BF 147	84-02-27	<10	<100	<1	4	<6	3	.07



## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
DORCHESTER COUNTY, MD										
DO BI 12	DO-73-0890	383523075435301	112CLMB	84-02-29	--	80.00	80	70	27.00	25
			112CLMB	84-03-26	--	80.00	80	70	27.00	20
			112CLMB	84-04-30	--	80.00	80	70	27.00	10
			112CLMB	84-06-04	--	80.00	80	70	27.00	20
DO BI 14	DO-72-0023	383457075433801	112CLMB	84-02-28	--	58.00	58	50	24.00	15
			112CLMB	84-03-26	--	58.00	58	50	24.00	20
			112CLMB	84-04-30	--	58.00	58	50	24.00	20
			112CLMB	84-06-04	--	58.00	58	50	24.00	25
DO DH 20	DO-73-0987	382919075493101	112CLMB	84-03-28	3.94	12.00	12	7.0	10.00	30
			112CLMB	84-05-02	4.90	12.00	12	7.0	10.00	30
			112CLMB	84-06-06	5.14	12.00	12	7.0	10.00	30
DO DH 21	DO-73-0997	382919075493102	112CLMB	84-03-28	3.94	30.00	30	25	10.00	45
			112CLMB	84-05-02	4.57	30.00	30	25	10.00	70
			112CLMB	84-06-06	4.44	12.00	30	25	10.00	60
LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
DO BI 12	DO-73-0890	84-02-29	--	4040	36	5.1	2.0	12.0	--	--
		84-03-26	5.0	4040	36	5.5	12.0	12.0	--	6.6
		84-04-30	6.0	4040	36	5.4	19.0	14.0	--	--
		84-06-04	7.3	4040	37	5.4	30.0	14.5	--	5.2
DO BI 14	DO-72-0023	84-02-28	5.0	4040	37	5.5	12.0	13.5	--	--
		84-03-26	4.8	4040	40	5.4	12.0	11.0	--	5.2
		84-04-30	4.3	4040	38	5.3	17.0	15.0	--	--
		84-06-04	8.1	4040	50	5.4	26.5	15.0	--	2.4
DO DH 20	DO-73-0987	84-03-28	2.0	4040	290	4.3	8.5	9.0	753	2.5
		84-05-02	1.4	4040	410	4.4	25.0	12.0	--	3.4
		84-06-06	1.3	4040	520	4.3	27.0	16.0	770	1.7
DO DH 21	DO-73-0997	84-03-28	2.0	4040	325	6.0	8.5	14.0	752	.4
		84-05-02	1.4	4040	630	6.0	19.0	15.0	--	.3
		84-06-06	1.3	4040	660	6.0	26.0	16.0	771	.4

Geologic unit (aquifer): 112CLMB - Columbia Formation

Sampling method: 4040 - Submersible pump

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
DORCHESTER COUNTY, MD--CONTINUED										
DO BI 12 DO-73-0890	84-02-29	--	--	4	1	1.0	.47	3.9	58	.8
	84-03-26	--	--	4	0	.97	.46	3.9	59	.8
	84-04-30	--	--	4	0	1.0	.43	3.7	58	.8
	84-06-04	--	--	5	1	1.1	.47	3.7	56	.8
DO BI 14 DO-72-0023	84-02-28	--	--	4	0	.84	.46	4.3	62	1
	84-03-26	--	--	4	0	.76	.46	4.3	63	1
	84-04-30	--	--	5	0	1.1	.50	4.5	60	.9
	84-06-04	--	--	5	0	1.0	.51	4.6	60	1
DO DH 20 DO-73-0987	84-03-28	1.6	79	180	180	36	23	13	13	.4
	84-05-02	.6	30	170	170	32	22	13	14	.4
	84-06-06	.7	35	170	170	30	22	14	15	.5
	84-03-28	--	--	22	0	4.5	2.6	85	88	8
DO DH 21 DO-73-0997	84-05-02	--	--	24	0	4.9	2.8	85	87	8
	84-06-06	--	--	24	0	5.0	2.9	85	87	8
LOCAL IDENT- I- FIER	DATE OF SAMPLE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
DO BI 12 DO-73-0890	84-02-29	1.3	4.0	3.0	50	1.1	3.6	12	--	26
	84-03-26	1.3	6.0	5.0	30	1.6	3.8	12	--	27
	84-04-30	1.3	6.0	5.0	38	1.3	4.1	12	--	27
	84-06-04	1.2	4.0	4.0	25	1.0	3.7	12	--	25
DO BI 14 DO-72-0023	84-02-28	1.3	7.0	6.0	35	.4	5.5	11	--	28
	84-03-26	1.3	9.0	8.0	57	<.2	5.9	12	--	--
	84-04-30	1.4	9.0	7.0	72	.4	6.2	12	--	31
	84-06-04	1.6	7.0	6.0	44	.3	6.3	12	--	30
DO DH 20 DO-73-0987	84-03-28	1.8	.000	.00	.0	200	30	28	--	340
	84-05-02	1.8	.000	.00	.0	170	29	27	--	300
	84-06-06	1.8	.000	.00	.0	170	30	26	441	300
	84-03-28	2.4	49	41	78	9.3	160	24	--	340
DO DH 21 DO-73-0997	84-05-02	2.5	46	38	73	6.3	160	24	--	340
	84-06-06	2.5	45	37	72	10	160	24	321	340

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

			SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	
DORCHESTER COUNTY,MD--CONTINUED												
DO BI	12	DO-73-0890	84-02-29	.04	1.4	.210	.69	1.6	<.010	--	--	.30
			84-03-26	.04	--	<.010	--	1.5	.030	.04	.37	.40
			84-04-30	.04	--	<.010	--	.17	<.010	--	--	<.10
			84-06-04	.03	--	<.010	--	1.4	<.010	--	--	1.7
DO BI	14	DO-72-0023	84-02-28	.04	.25	.090	.30	.34	<.010	--	--	.60
			84-03-26	--	.32	.010	.03	.33	.020	.03	.28	.30
			84-04-30	.04	--	<.010	--	.53	.120	.15	--	<.10
			84-06-04	.04	--	<.010	--	.64	.020	.03	--	--
DO DH	20	DO-73-0987	84-03-28	.45	1.7	.020	.07	1.7	.220	.28	.28	.50
			84-05-02	.40	1.3	.040	.13	1.3	.090	.12	.91	1.0
			84-06-06	.60	1.2	.050	.16	1.2	.060	.08	2.8	2.9
DO DH	21	DO-73-0997	84-03-28	.42	--	<.010	--	<.10	.280	.36	.22	.50
			84-05-02	.42	--	<.010	--	<.10	.270	.35	3.3	3.6
			84-06-06	.44	--	<.010	--	<.10	.360	.46	.44	.80
LOCAL IDENT- I- FIER			DATE OF SAMPLE	NITRO- GEN DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
DO BI	12	DO-73-0890	84-02-29	1.9	--	--	--	<10	--	27	--	6
			84-03-26	1.9	--	--	--	<10	--	45	--	5
			84-04-30	--	--	--	<10	<10	56	50	220	12
			84-06-04	--	--	--	10	<10	53	33	210	9
DO BI	14	DO-72-0023	84-02-28	.94	--	--	--	<10	--	12	--	44
			84-03-26	.63	--	--	--	10	--	12	--	36
			84-04-30	--	--	--	<10	<10	10	9	170	34
			84-06-04	--	--	--	40	<10	9	8	220	33
DO DH	20	DO-73-0987	84-03-28	2.2	--	--	--	3800	--	6	--	3500
			84-05-02	2.3	--	--	2500	2500	4	1	5400	4600
			84-06-06	--	--	--	3300	3300	--	3	4100	4200
DO DH	21	DO-73-0997	84-03-28	--	--	--	--	<10	--	1	--	27000
			84-05-02	--	--	--	<10	<10	<1	<1	30000	28000
			84-06-06	--	.180	.55	<10	<10	2	<1	29000	30000
LOCAL IDENT- I- FIER			DATE OF SAMPLE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)				
	DO BI	12	DO-73-0890	84-02-29	--	10	--	3	1.2			
				84-03-26	--	5	--	2	.40			
				84-04-30	9	5	20	3	.60			
				84-06-04	9	5	<10	3	.40			
	DO BI	14	DO-72-0023	84-02-28	--	3	--	5	1.3			
				84-03-26	--	4	--	3	.70			
				84-04-30	2	2	10	4	1.1			
				84-06-04	2	2	<10	4	1.8			
	DO DH	20	DO-73-0987	84-03-28	--	4	--	1100	1.9			
				84-05-02	6	5	950	1000	1.7			
				84-06-06	6	9	9900	980	2.0			
	DO DH	21	DO-73-0997	84-03-28	--	6	--	260	1.2			
				84-05-02	5	5	290	270	1.4			
				84-06-06	12	13	300	280	.90			

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	SITE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
FREDERICK COUNTY, MD										
FR BD 4	393923077284401	400MTRL	84-03-08	SP		--	--	--	1420.00	--
		400MTRL	84-05-10	SP		--	--	--	1420.00	--
		400MTRL	84-08-09	SP		--	--	--	1420.00	--
FR BD 8	393837077264801	400CTCN	83-11-04	GW	127	127	28	1140.00	10	
		400CTCN	84-03-07	GW	127	127	28	1140.00	20	
		400CTCN	84-05-09	GW	127	127	28	1140.00	15	
		400CTCN	84-08-08	GW	127	127	28	1140.00	180	
FR BD 35	393840077291601	400MTRL	83-10-31	GW	250	250	66	1511.00	30	
		400MTRL	83-11-01	GW	250	250	66	1511.00	30	
		400MTRL	84-03-06	GW	250	250	66	1511.00	45	
		400MTRL	84-03-20	GW	250	250	66	1511.00	15	
		400MTRL	84-03-30	GW	250	250	66	1511.00	15	
		400MTRL	84-04-10	GW	250	250	66	1511.00	15	
		400MTRL	84-04-17	GW	250	250	66	1511.00	20	
		400MTRL	84-04-24	GW	250	250	66	1511.00	10	
		400MTRL	84-05-10	GW	250	250	66	1511.00	10	
		400MTRL	84-08-07	GW	250	250	66	1511.00	45	
FR BD 36	393837077291901	400MTRL	83-10-31	GW	250	250	66	1510.00	30	
		400MTRL	83-11-01	GW	250	250	59	1510.00	30	
		400MTRL	84-03-06	GW	250	250	59	1510.00	20	
		400MTRL	84-03-08	GW	250	250	59	1510.00	20	
		400MTRL	84-03-20	GW	250	250	59	1510.00	15	
		400MTRL	84-03-30	GW	250	250	59	1510.00	15	
		400MTRL	84-04-10	GW	250	250	59	1510.00	15	
		400MTRL	84-04-17	GW	250	250	59	1510.00	240	
		400MTRL	84-04-24	GW	250	250	59	1510.00	15	
		400MTRL	84-05-10	GW	250	250	59	1510.00	10	
		400MTRL	84-08-07	GW	250	250	59	1510.00	45	
FR BD 38	393855077290701	400MTRL	83-10-31	GW	450	450	86	1520.00	15	
		400MTRL	83-11-01	GW	450	450	86	1520.00	30	
		400MTRL	84-03-06	GW	450	450	86	1520.00	40	
		400MTRL	84-05-10	GW	450	450	86	1520.00	10	
		400MTRL	84-08-07	GW	450	450	86	1520.00	45	
FR BD 39	393859077292301	400CTCN	83-11-02	SP		--	--	--	1380.00	--
		400CTCN	84-03-07	SP		--	--	--	1380.00	--
		400CTCN	84-05-09	SP		--	--	--	1380.00	--
		400CTCN	84-08-08	SP		--	--	--	1380.00	--
FR BD 40	393906077285101	400CTCN	83-11-03	GW	180	180	76	1510.00	15	
		400CTCN	84-03-08	GW	180	180	76	1510.00	15	
		400CTCN	84-05-09	GW	180	180	76	1510.00	15	
		400CTCN	84-08-09	GW	180	180	76	1510.00	300	
FR BD 43	393833077290001	400CTCN	83-11-03	GW	120	120	27	1645.00	15	
		400CTCN	84-03-08	GW	120	120	27	1645.00	20	
		400CTCN	84-05-09	GW	120	120	27	1645.00	20	
		400CTCN	84-08-09	GW	120	120	27	1645.00	25	
FR BD 49	FR-07-1428	393734077262601	377WVRN	83-11-04	GW	202	202	30	820.00	15
			377WVRN	84-03-07	GW	202	202	30	820.00	30
			377WVRN	84-05-09	GW	202	202	30	820.00	15
			377WVRN	84-08-08	GW	202	202	30	820.00	25
FR BD 73	393939077293801	400MTRL	83-11-04	SP		--	--	--	1380.00	--
		400MTRL	84-03-06	SP		--	--	--	1380.00	--
		400MTRL	84-05-10	SP		--	--	--	1380.00	--
		400MTRL	84-08-08	SP		--	--	--	1380.00	--
FR BD 107	393853077284801	400MTRL	83-11-02	SP		--	--	--	1480.00	--
		400MTRL	84-03-07	SP		--	--	--	1480.00	--
		400MTRL	84-05-09	SP		--	--	--	1480.00	--
		400MTRL	84-08-08	SP		--	--	--	1480.00	--
FR BD 108	393850077292301	400MTRL	83-11-02	SP		--	--	--	1425.00	--
		400MTRL	84-03-06	SP		--	--	--	1425.00	--
		400MTRL	84-05-08	SP		--	--	--	1425.00	--
		400MTRL	84-08-07	SP		--	--	--	1425.00	--
FR BD 111	FR-81-1264	393843077291701	400MTRL	83-11-02	GW	263	263	110	1505.00	10
			400MTRL	83-12-01	GW	263	263	110	1505.00	100
			400MTRL	83-12-01	GW	263	263	110	1505.00	210
FR BD 114	FR-81-1284	393853077284901	400MTRL	83-11-30	GW	143	143	84	1488.00	150
			400MTRL	83-11-30	GW	143	143	84	1488.00	300
FR BD 115	393850077292001	400MTRL	84-05-11	SP		--	--	--	1480.00	--

Geologic unit (aquifer): 377WVRN - Weverton Formation  
 400CTCN - Catoclin Metabasalt  
 400MTRL - Metarhyolite and Associated Pyroclastic Sediments

Site type: GW - Ground water  
 SP - Spring

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
FREDERICK COUNTY, MD--CONTINUED										
FR BD 4	84-03-08	--	4080	57	5.9	-5.0	7.0	<1	<1	<1
	84-05-10	1.0	4080	60	6.0	16.5	10.0	<1	<1	<1
	84-08-09	.20	4080	66	6.0	28.0	12.0	33	K2	46
FR BD 8	83-11-04	--	4040	46	6.4	3.0	8.0	<1	<1	<1
	84-03-07	6.0	4040	75	6.4	-1.0	9.0	<1	<1	<1
	84-05-09	6.0	4040	45	6.2	12.0	10.0	<1	<1	<1
	84-08-08	25	4040	52	5.8	25.0	13.5	<1	<1	<1
FR BD 35	83-10-31	--	4040	221	5.9	17.0	8.0	<1	<1	<1
	83-11-01	--	4040	220	6.2	15.0	15.0	<1	<1	<1
	84-03-06	--	4040	201	5.8	.0	10.0	<1	<1	<1
	84-03-20	--	4040	195	6.0	5.0	13.0	<1	<1	<1
	84-03-30	--	4040	158	5.9	.0	10.0	<1	<1	<1
	84-04-10	--	4040	243	5.8	5.0	10.0	<1	<1	<1
	84-04-17	--	4040	245	5.7	15.0	13.0	<1	<1	>200
	84-04-24	--	4040	375	6.4	6.0	17.0	<1	<1	<1
	84-05-10	--	4040	202	5.5	10.0	11.0	<1	<1	<1
FR BD 36	84-08-07	49	4040	285	5.7	27.0	13.5	<1	<1	<1
	83-10-31	--	4040	189	6.3	17.0	8.0	<1	<1	<1
	83-11-01	--	4040	176	6.3	14.0	15.0	<1	<1	<1
	84-03-06	--	4040	445	7.9	.0	10.0	<1	<1	<1
	84-03-08	--	4040	255	6.5	-4.0	10.0	<1	<1	<1
	84-03-20	--	4040	226	6.5	5.0	12.5	<1	<1	<1
	84-03-30	--	4040	172	6.7	.0	10.0	<1	<1	<1
	84-04-10	--	4040	285	6.7	5.0	10.0	<1	<1	<1
	84-04-17	--	4040	260	6.4	15.0	13.0	<1	<1	<1
	84-04-24	--	4040	450	7.1	6.0	17.0	--	--	--
	84-05-10	--	4040	203	6.3	10.0	11.0	<1	<1	<1
FR BD 38	84-08-07	25	4040	280	6.4	27.0	13.0	<1	<1	<1
	83-10-31	--	4040	180	6.2	17.0	8.0	<1	<1	<1
	83-11-01	--	4040	155	6.8	14.0	15.0	<1	<1	<1
	84-03-06	--	4040	154	6.6	.0	10.0	<1	<1	<1
	84-05-10	--	4040	157	6.7	10.0	11.0	<1	<1	<1
	84-08-07	36	4040	143	6.6	27.0	13.5	<1	<1	<1
FR BD 39	83-11-02	--	4080	108	6.2	15.0	10.5	<1	<1	<1
	84-03-07	.50	4080	110	6.1	5.5	10.0	<1	<1	<1
	84-05-09	--	4080	106	6.3	9.0	10.0	<1	<1	<1
	84-08-08	.20	4080	113	6.0	28.0	13.5	<1	<1	<1
FR BD 40	83-11-03	8.0	4040	65	6.3	16.0	12.0	<1	<1	<1
	84-03-08	6.0	4040	61	6.1	-6.0	9.0	<1	<1	<1
	84-05-09	4.0	4040	67	6.0	10.0	10.0	<1	<1	<1
	84-08-09	35	4040	70	6.4	29.0	11.0	<1	<1	<1
FR BD 43	83-11-03	18	4040	34	6.1	15.0	10.5	<1	<1	<1
	84-03-08	45	4040	12	5.7	-6.0	10.0	--	--	--
	84-05-09	5.0	4040	22	5.5	9.0	9.0	<1	<1	<1
	84-08-09	45	4040	34	6.1	27.0	10.0	K1	<1	>100
FR BD 49 FR-07-1428	83-11-04	--	4040	55	6.2	3.0	10.0	K1	<1	<1
	84-03-07	6.0	4040	50	6.3	.0	10.0	<1	<1	<1
	84-05-09	10	4040	52	6.2	15.0	12.0	<1	<1	<1
	84-08-08	12	4040	54	5.9	25.0	13.5	<1	<1	<1
FR BD 73	83-11-04	.50	4080	75	6.6	3.0	7.0	>80	>60	24
	84-03-06	.50	4080	72	5.8	.0	11.0	25	<1	<1
	84-05-10	1.0	4080	72	6.0	16.5	12.0	52	<1	<1
	84-08-08	.50	4080	86	5.8	35.0	15.0	K3	<1	K11
FR BD 107	83-11-02	--	4080	171	6.0	14.0	15.0	32	<1	K6
	84-03-07	--	4080	385	6.2	4.0	10.0	K12	K8	K3
	84-05-09	2.0	4080	300	6.3	9.0	13.0	K13	K6	62
	84-08-08	.50	4080	180	6.0	35.0	16.0	K1	<1	K6
FR BD 108	83-11-02	--	4080	150	6.7	17.0	12.5	>80	K3	K21
	84-03-06	.50	4080	162	6.0	.0	12.0	K10	K1	K3
	84-05-08	1.0	4080	145	6.0	16.0	12.0	K26	<1	K10
	84-08-07	.50	4080	155	5.9	31.0	15.0	K6	22	K8
FR BD 111 FR-81-1264	83-11-02	75	4040	167	7.4	16.0	13.0	<1	<1	<1
	83-12-01	75	4040	190	5.8	10.0	10.0	<1	<1	21
	83-12-01	75	4040	190	5.8	5.0	10.0	<1	<1	<1
FR BD 114 FR-81-1284	83-11-30	60	4040	200	6.3	7.0	10.0	--	--	--
	83-11-30	60	4040	205	6.3	3.0	10.0	32	K1	K17
FR BD 115	84-05-11	--	4080	130	6.1	17.0	10.0	>80	>60	>200

Sampling method: 4040 - Submersible pump  
4080 - Peristaltic pump

K Results based on colony count outside the acceptable range (non-ideal colony count).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	DATE OF SAMPLE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)
FREDERICK COUNTY, MD--CONTINUED										
FR BD 4	84-03-08	19	9	4.6	1.9	2.1	19	.2	.40	12
	84-05-10	19	8	4.5	1.9	2.1	19	.2	.40	13
	84-08-09	22	9	5.2	2.1	2.4	19	.2	.40	15
FR BD 8	83-11-04	26	1	4.4	3.6	2.5	17	.2	.30	30
	84-03-07	30	0	5.1	4.3	2.4	14	.2	.30	38
	84-05-09	18	0	3.1	2.6	1.5	15	.2	.30	24
FR BD 35	84-08-08	20	0	3.3	2.8	1.6	15	.2	.30	25
	83-10-31	74	38	20	5.9	10	22	.5	1.6	44
	83-11-01	85	34	24	6.0	8.9	18	.4	1.6	62
FR BD 36	84-03-06	62	26	15	5.9	12	29	.7	1.8	44
	84-03-20	64	28	17	5.2	10	25	.6	1.9	44
	84-03-30	60	37	14	6.1	12	29	.7	1.9	28
FR BD 38	84-04-10	58	18	13	6.2	22	44	1	2.0	49
	84-04-17	62	39	14	6.5	15	34	.9	2.0	28
	84-04-24	60	0	15	5.4	53	65	3	1.9	145
FR BD 39	84-05-10	64	45	15	6.5	13	30	.7	2.0	23
	84-08-07	75	55	18	7.3	12	25	.6	1.9	24
	83-10-31	69	18	22	3.3	8.8	21	.5	1.5	29
FR BD 40	83-11-01	71	17	24	2.8	6.6	16	.4	1.3	66
	84-03-06	98	0	32	4.4	65	59	3	1.6	255
	84-03-08	110	25	36	4.4	9.5	16	.4	1.5	101
FR BD 43	84-03-20	94	26	31	4.1	7.5	14	.4	1.6	83
	84-03-30	93	22	31	3.8	7.0	14	.3	1.5	87
	84-04-10	120	20	43	4.0	7.5	12	.3	1.4	127
FR BD 49	84-04-17	99	25	33	4.0	7.3	14	.3	1.6	90
	84-04-24	78	0	24	4.3	70	66	4	1.8	248
	84-05-10	93	26	31	3.9	7.1	14	.3	1.5	83
FR BD 73	84-08-07	95	28	31	4.2	8.3	16	.4	1.6	82
	83-10-31	44	6	13	2.9	5.4	20	.4	1.5	47
	83-11-01	77	6	25	3.6	6.6	15	.3	2.0	84
FR BD 107	84-03-06	66	10	21	3.3	5.5	15	.3	1.8	69
	84-05-10	81	19	27	3.2	5.5	13	.3	1.8	75
	84-08-07	49	4	15	2.9	5.0	17	.3	1.7	56
FR BD 108	83-11-02	41	14	10	3.8	4.6	20	.3	.30	32
	84-03-07	41	17	10	3.9	4.2	18	.3	.40	29
	84-05-09	41	17	10	3.9	4.1	18	.3	.40	29
FR BD 111	84-08-08	40	16	10	3.7	4.0	18	.3	.40	30
	83-11-03	29	0	7.5	2.4	2.7	17	.2	.40	36
	84-03-08	28	3	7.2	2.4	2.1	14	.2	.40	30
FR BD 114	84-05-09	27	1	7.0	2.4	2.1	14	.2	.40	32
	84-08-09	29	0	7.8	2.4	2.1	13	.2	.40	38
	83-11-03	11	0	2.7	1.1	3.3	37	.4	.80	18
FR BD 115	84-03-08	5	0	1.1	.46	1.7	39	.4	.90	10
	84-05-09	4	0	1.0	.45	1.7	40	.4	.90	10
	84-08-09	8	0	1.9	.79	2.5	38	.4	.80	18
FR BD 118	83-11-04	18	0	5.6	.95	3.8	29	.4	1.6	28
	84-03-07	16	0	4.8	.88	2.8	26	.3	1.6	26
	84-05-09	16	0	4.9	.83	2.9	26	.3	1.6	22
FR BD 121	84-08-08	15	0	4.7	.81	2.7	26	.3	1.5	22
	83-11-04	29	10	6.7	3.0	3.8	22	.3	.50	23
	84-03-06	27	8	6.3	2.7	2.8	18	.2	.60	23
FR BD 124	84-05-10	26	8	6.1	2.6	2.7	18	.2	.60	22
	84-08-08	27	12	6.3	2.8	3.1	20	.3	.30	19
	83-11-02	50	19	12	4.8	14	37	.9	1.7	38
FR BD 127	84-03-07	100	60	26	9.6	31	39	1	2.2	54
	84-05-09	81	38	20	7.5	24	39	1	2.0	52
	84-08-08	48	17	12	4.5	11	32	.7	1.5	39
FR BD 130	83-11-02	51	15	13	4.6	11	31	.7	1.3	44
	84-03-06	53	22	13	4.9	9.1	27	.6	1.2	38
	84-05-08	47	21	12	4.2	8.3	27	.5	1.1	32
FR BD 133	84-08-07	48	20	12	4.5	9.9	30	.6	1.2	35
	83-11-02	56	8	15	4.6	9.9	27	.6	1.8	59
	83-12-01	58	26	15	4.9	9.8	26	.6	1.9	39
FR BD 136	83-12-01	60	29	16	4.9	9.9	26	.6	1.8	38
	83-11-30	77	34	19	7.1	7.3	17	.4	2.1	52
	83-11-30	75	32	18	7.3	7.8	18	.4	2.0	52
FR BD 139	84-05-11	38	18	9.6	3.3	6.8	27	.5	1.7	24

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	DATE OF SAMPLE	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
FREDERICK COUNTY, MD--CONTINUED										
FR BD 4	84-03-08	10	24	5.7	6.6	<.10	12	45	39	.06
	84-05-10	11	21	5.3	5.0	<.10	12	41	38	.06
	84-08-09	12	24	9.4	7.0	<.10	13	48	47	.07
FR BD 8	83-11-04	25	19	1.8	4.3	<.10	13	40	45	.05
	84-03-07	31	24	3.5	2.6	<.10	13	52	50	.07
	84-05-09	20	24	.8	2.2	<.10	11	36	33	.05
	84-08-08	21	63	.7	2.5	<.10	12	33	36	.04
FR BD 35	83-10-31	36	88	6.2	31	<.10	18	172	110	.23
	83-11-01	51	62	6.6	26	<.10	27	166	130	.23
	84-03-06	36	111	6.5	35	<.10	14	124	110	.17
	84-03-20	36	70	6.5	29	<.10	17	129	110	.18
	84-03-30	23	56	5.8	38	<.10	14	157	110	.21
	84-04-10	40	98	8.6	39	<.10	12	144	130	.20
	84-04-17	23	89	8.9	41	.10	12	186	110	.25
	84-04-24	119	92	8.1	37	<.10	14	205	210	.28
	84-05-10	19	116	5.1	42	<.10	13	191	110	.26
	84-08-07	20	76	6.9	45	<.10	15	201	120	.27
FR BD 36	83-10-31	50	50	2.5	18	<.10	17	128	100	.17
	83-11-01	54	53	2.3	13	<.10	18	125	100	.17
	84-03-06	209	5.1	5.5	24	<.10	18	289	280	.39
	84-03-08	83	51	5.8	25	<.10	18	176	150	.24
	84-03-20	68	42	6.5	21	<.10	18	168	130	.23
	84-03-30	71	28	5.4	19	<.10	18	167	130	.23
	84-04-10	104	40	6.9	19	<.10	20	185	160	.25
	84-04-17	74	57	5.8	22	<.10	18	184	140	.25
	84-04-24	203	31	5.5	28	.10	16	286	270	.39
	84-05-10	68	66	5.0	21	<.10	19	182	130	.25
	84-08-07	67	52	4.3	24	<.10	18	176	130	.24
FR BD 38	83-10-31	38	47	1.8	7.2	<.10	21	92	76	.13
	83-11-01	67	22	5.1	7.8	<.10	23	127	120	.17
	84-03-06	57	28	3.8	7.0	<.10	22	112	98	.15
	84-05-10	75	24	4.5	6.7	<.10	22	137	110	.19
	84-08-07	46	22	2.7	5.7	<.10	22	102	83	.14
FR BD 39	83-11-02	26	32	5.0	9.6	.10	19	93	68	.13
	84-03-07	24	37	5.0	9.9	<.10	19	84	67	.11
	84-05-09	24	23	5.4	9.9	<.10	20	103	68	.14
	84-08-08	25	48	5.0	9.6	<.10	19	93	67	.13
FR BD 40	83-11-03	30	29	.5	3.7	<.10	16	49	51	.07
	84-03-08	25	38	.3	1.7	<.10	16	49	45	.07
	84-05-09	26	51	.6	1.3	<.10	15	58	45	.08
	84-08-09	31	24	1.8	1.5	<.10	16	52	51	.07
FR BD 43	83-11-03	15	23	.8	1.9	<.10	20	37	40	.05
	84-03-08	8.0	31	1.3	1.8	<.10	10	25	22	.03
	84-05-09	8.0	50	.8	1.3	<.10	11	25	22	.03
	84-08-09	15	23	9.2	1.2	.10	17	36	42	.05
FR BD 49	FR-07-1428	23	31	4.3	1.8	<.10	11	39	44	.05
	84-03-07	21	21	3.8	1.3	<.10	10	41	39	.06
	84-05-09	18	22	4.1	1.3	.10	10	41	37	.06
	84-08-08	18	44	4.4	1.3	<.10	10	39	38	.05
FR BD 73	83-11-04	19	9.2	7.4	2.4	<.10	19	65	54	.09
	84-03-06	19	58	7.1	2.0	<.10	19	61	52	.08
	84-05-10	18	35	8.1	1.9	<.10	19	60	52	.08
	84-08-08	16	48	6.7	2.3	<.10	20	57	51	.08
FR BD 107	83-11-02	31	60	6.3	27	<.10	17	127	100	.17
	84-03-07	44	54	9.0	91	<.10	14	225	210	.31
	84-05-09	43	41	12	55	<.10	14	201	160	.27
	84-08-08	32	62	5.9	21	<.10	16	107	91	.15
FR BD 108	83-11-02	36	14	12	12	<.10	15	112	91	.15
	84-03-06	31	60	16	13	<.10	15	111	91	.15
	84-05-08	26	51	14	13	<.10	15	111	83	.15
	84-08-07	29	70	9.3	16	<.10	16	117	86	.16
FR BD 111	FR-81-1264	48	3.7	10	17	.20	19	125	110	.17
	83-12-01	32	98	12	18	<.10	18	131	99	.18
	83-12-01	31	96	11	17	<.10	18	131	98	.18
FR BD 114	FR-81-1284	43	41	12	23	<.10	21	147	120	.20
	83-11-30	43	41	11	25	<.10	20	147	120	.20
FR BD 115	84-05-11	20	30	7.8	11	<.10	14	111	66	.15

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
FREDERICK COUNTY, MD---CONTINUED						
FR BD 4	84-03-08	.98	.010	.03	<20	9
	84-05-10	.93	<.010	--	<20	13
	84-08-09	.97	.050	.15	<20	4
FR BD 8	83-11-04	.15	.230	.71	<20	<3
	84-03-07	.24	.020	.06	<20	11
	84-05-09	.11	<.010	--	<20	6
	84-08-08	.13	.060	.18	<20	17
FR BD 35	83-10-31	3.9	.030	.09	<20	30
	83-11-01	3.7	.010	.03	<20	36
	84-03-06	3.6	<.010	--	<20	130
	84-03-20	3.4	<.010	--	<20	710
	84-03-30	3.8	<.010	--	20	33
	84-04-10	3.4	<.010	--	<20	250
	84-04-17	3.0	<.010	00	100	180
	84-04-24	3.4	<.010	--	<20	160
	84-05-10	3.3	<.010	--	<20	45
	84-08-07	3.6	<.010	--	<20	45
FR BD 36	83-10-31	2.7	.060	.18	<20	11
	83-11-01	2.8	.020	.06	<20	6
	84-03-06	3.0	.010	.03	<20	190
	84-03-08	3.2	<.010	--	<20	76
	84-03-20	3.3	<.010	--	<20	370
	84-03-30	3.3	<.010	--	50	34
	84-04-10	3.1	<.010	--	<20	320
	84-04-17	2.9	<.010	--	30	200
	84-04-24	3.3	<.010	--	<20	11
	84-05-10	3.0	<.010	--	<20	75
	84-08-07	3.1	<.010	--	<20	9
FR BD 38	83-10-31	2.5	.020	.06	<20	11
	83-11-01	2.6	.050	.15	<20	5
	84-03-06	2.3	.020	.06	<20	8
	84-05-10	2.5	<.010	--	<20	37
	84-08-07	2.4	.020	.06	<20	18
FR BD 39	83-11-02	2.8	.030	.09	<20	<3
	84-03-07	2.7	.020	.06	<20	5
	84-05-09	2.5	<.010	--	<20	7
	84-08-08	2.6	.040	.12	<20	7
FR BD 40	83-11-03	<.10	.040	.12	<20	240
	84-03-08	1.7	.060	.18	<20	20
	84-05-09	1.6	.040	.12	<20	14
	84-08-09	1.4	.120	.37	<20	6
FR BD 43	83-11-03	<.10	.060	.18	<20	10
	84-03-08	.25	<.010	--	90	<3
	84-05-09	.13	<.010	--	<20	5
	84-08-09	<.10	.040	.12	<20	5
FR BD 49 FR-07-1428	83-11-04	.96	.080	.25	<20	450
	84-03-07	.20	.120	.37	<20	420
	84-05-09	.17	.120	.37	<20	470
	84-08-08	.11	.180	.55	<20	980
FR BD 73	83-11-04	.19	.020	.06	<20	6
	84-03-06	2.3	<.010	--	<20	6
	84-05-10	1.9	<.010	--	<20	13
	84-08-08	2.4	.040	.12	<20	5
FR BD 107	83-11-02	2.0	<.010	--	<20	28
	84-03-07	2.6	<.010	--	<20	<3
	84-05-09	2.1	<.010	--	<20	12
	84-08-08	2.0	.020	.06	<20	12
FR BD 108	83-11-02	3.8	.040	.12	100	11
	84-03-06	3.8	.020	.06	<20	8
	84-05-08	3.0	<.010	--	50	14
	84-08-07	3.9	.020	.06	60	9
FR BD 111 FR-81-1264	83-11-02	4.4	.020	.06	40	94
	83-12-01	4.4	<.010	--	<20	180
	83-12-01	4.3	<.010	--	<20	580
FR BD 114 FR-81-1284	83-11-30	3.5	.010	.03	<20	74
	83-11-30	2.3	.020	.06	<20	72
FR BD 115	84-05-11	3.8	<.010	--	20	15



## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENTIFIER		STATION	NUMBER	GEO-LOGIC UNIT	DATE OF SAMPLE	SITE	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN)	FLOW RATE, INSTAN-TANEOUS (GPM)
GARRETT COUNTY, MD											
GA DD	31	392622079120201	324ALGN	84-06-13	GW	3.00	3.00	E3.0	2500.00	E2	E2.5
GA EC	24	392300079165001	324ALGN	84-09-18	GW	3.00	--	--	2500.00	--	2.0
			324ALGN	84-06-13	GW	--	--	--	2520.00	E2	1.4
			324ALGN	84-09-19	GW	--	--	--	2520.00	--	.80
GA GA	3	391316079284301	324ALGN	84-06-12	GW	--	--	--	2640.00	--	14
			324ALGN	84-09-17	GW	--	--	--	2640.00	--	11
GA GA	4	391433079265801	321CNMG	83-10-18	SP	--	--	--	2660.00	--	--
GA GA	5	391415079270601	321CNMG	83-10-18	SP	--	--	--	2680.00	--	--
GA GA	6	391314079290101	324ALGN	83-10-28	GW	--	--	--	2650.00	--	--
GA GA	7	391247079290501	321CNMG	83-10-18	SP	--	--	--	2900.00	--	--
GA GA	8	391544079280601	321CNMG	83-10-18	SP	--	--	--	2620.00	--	--
			321CNMG	83-11-02	SP	--	--	--	2620.00	--	--
GA GA	9	391504079281701	321CNMG	83-10-18	SP	--	--	--	2740.00	--	--
GA GA	10	391321079280301	321CNMG	83-10-18	SP	--	--	--	2620.00	--	--
			321CNMG	83-10-28	SP	--	--	--	2620.00	--	--
GA GA	11	391258079283501	321CNMG	83-10-18	SP	--	--	--	2765.00	--	--
GA GA	12	391303079280501	321CNMG	83-10-18	SP	--	--	--	2710.00	--	--
GA GA	13	391354079271301	324ALGN	83-11-10	GW	700	--	--	2838.00	--	--
GA GA	14	391424079280101	321CNMG	83-11-10	GW	142	--	--	2780.00	--	--
GA GA	15	391314079270801	321CNMG	83-11-10	GW	570	--	--	2750.00	--	--

LOCAL IDENT- IFIER	DATE OF SAMPLE	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
GA DD 31	84-06-13	4080	1430	3.5	--	11.0	60	--	590	--
	84-09-18	4080	1360	6.2	16.0	10.5	65	5.0	600	590
GA EC 24	84-06-13	4080	1550	3.1	--	11.0	1.0	4.2	690	--
	84-09-19	4080	1650	3.5	12.0	11.5	.40	3.7	720	--
GA GA 3	84-06-12	4080	1010	3.5	28.0	10.0	1.3	--	230	--
	84-09-17	4080	1220	3.3	12.0	10.5	1.0	.4	280	--
GA GA 4	83-10-18	--	31	--	20.0	10.0	<1.0	--	12	4
GA GA 5	83-10-18	--	32	--	17.5	11.0	13	--	14	0
GA GA 6	83-10-28	--	600	3.7	--	10.5	1.2	--	240	--
GA GA 7	83-10-18	--	132	--	17.0	10.0	2.8	--	56	11
GA GA 8	83-10-18	--	65	--	18.0	11.0	1.3	--	27	7
GA GA 9	83-10-18	--	42	--	17.5	11.0	<1.0	--	14	5
GA GA 10	83-10-18	--	180	--	17.5	8.0	<1.0	--	74	0
GA GA 11	83-10-18	--	112	--	19.5	9.5	8.3	--	55	5
GA GA 12	83-10-18	--	102	--	18.0	10.0	6.9	--	48	7
GA GA 13	83-11-10	--	3480	3.2	--	11.0	1.4	--	1800	--
GA GA 14	83-11-10	--	668	6.7	--	--	30	--	300	280
GA GA 15	83-11-10	--	750	7.7	--	12.0	8.5	--	200	67

Geologic unit (aquifer): 321CNMG - Conemaugh Formation  
324ALGN - Allegheny Formation

Site type: GW - Ground water  
SP - Spring

E: Estimated

Sampling method: 4080 - Peristaltic pump

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	ACIDITY (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)
GARRETT COUNTY, MD--CONTINUED										
GA DD 31	84-06-13	3.1	154	180	34	1.5	0	.0	3.4	<1.0
	84-09-18	--	--	180	36	1.4	0	.0	3.6	10
GA EC 24	84-06-13	1.5	74	190	52	1.8	0	.0	1.6	<1.0
	84-09-19	1.5	74	200	54	1.8	0	.0	1.6	<1.0
GA GA 3	84-06-12	4.6	228	55	23	4.4	4	.1	2.6	<1.0
	84-09-17	7.9	392	65	28	5.8	4	.2	3.3	<1.0
GA GA 4	83-10-18	--	--	3.0	1.0	.60	10	.0	.50	8.0
GA GA 5	83-10-18	--	--	4.3	.76	.40	6	.0	.40	14
GA GA 6	83-10-28	3.9	194	58	22	6.1	5	.2	3.0	<1.0
GA GA 7	83-10-18	--	--	17	3.2	.50	2	.0	.70	45
GA GA 8	83-10-18	--	--	7.4	2.1	.60	4	.0	.60	20
GA GA 9	83-10-18	--	--	3.6	1.3	.60	8	.0	.60	9.0
GA GA 10	83-10-18	--	--	22	4.6	9.4	21	.5	.80	88
GA GA 11	83-10-18	--	--	16	3.6	.70	3	.0	.60	50
GA GA 12	83-10-18	--	--	14	3.2	.50	2	.0	.60	41
GA GA 13	83-11-10	5.5	273	490	130	96	11	1	15	<1.0
GA GA 14	83-11-10	--	--	87	21	7.6	5	.2	3.3	28
GA GA 15	83-11-10	--	--	62	12	79	44	3	13	138

LOCAL IDENT- I- FIER	DATE OF SAMPLE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
GA DD 31	84-06-13	--	720	1.5	.10	9.4	1280	--	1.7	<.10
	84-09-18	12	730	1.8	.20	9.9	1220	1100	1.7	<.10
GA EC 24	84-06-13	--	800	.90	.20	13	1280	--	1.7	<.10
	84-09-19	--	860	.80	.20	14	1180	--	1.6	.06
GA GA 3	84-06-12	--	580	1.7	.30	37	776	--	1.1	<.10
	84-09-17	--	600	2.1	.20	37	1060	--	1.4	.02
GA GA 4	83-10-18	--	4.1	1.0	<.10	4.7	24	20	.03	1.3
GA GA 5	83-10-18	--	1.3	.60	<.10	5.2	24	21	.03	.92
GA GA 6	83-10-28	--	430	2.6	.50	38	659	--	.90	.12
GA GA 7	83-10-18	--	8.7	1.1	<.10	4.4	67	63	.09	1.7
GA GA 8	83-10-18	--	6.0	2.1	<.10	5.5	40	36	.05	1.1
GA GA 9	83-10-18	--	4.2	1.3	<.10	4.6	32	22	.04	1.8
GA GA 10	83-10-18	--	7.9	.90	.20	5.3	100	100	.14	.11
GA GA 11	83-10-18	--	6.0	.90	<.10	4.9	59	63	.08	.53
GA GA 12	83-10-18	--	5.8	.70	<.10	5.7	54	55	.07	1.4
GA GA 13	83-11-10	--	2300	5.6	.30	23	3320	--	4.5	.13
GA GA 14	83-11-10	11	300	3.7	.20	8.0	463	470	.63	<.10
GA GA 15	83-11-10	5.3	230	9.7	.60	18	515	510	.70	.18

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
GARRETT COUNTY, MD--CONTINUED										
GA DD 31	84-06-13	<.010	--	<100	<100	1	<1	1	5	20
	84-09-18	.061	.19	200	400	--	--	--	7	--
GA EC 24	84-06-13	<.010	--	4900	4900	1	<1	1	<1	20
	84-09-19	.006	.02	5000	5000	--	--	--	--	--
GA GA 3	84-06-12	<.010	--	19000	19000	15	4	4	<1	30
	84-09-17	.075	.23	29000	29000	--	13	--	--	--
GA GA 4	83-10-18	<.010	--	20	<10	--	1	--	--	--
GA GA 5	83-10-18	<.010	--	190	10	--	1	--	--	--
GA GA 6	83-10-28	<.010	--	19000	19000	--	5	--	--	--
GA GA 7	83-10-18	<.010	--	110	<10	--	1	--	--	--
GA GA 8	83-10-18	<.010	--	50	<10	--	1	--	--	--
GA GA 9	83-10-18	<.010	--	20	10	--	1	--	--	--
GA GA 10	83-10-18	<.010	--	40	10	--	1	--	--	--
GA GA 11	83-10-18	<.010	--	450	<10	--	1	--	--	--
GA GA 12	83-10-18	<.010	--	350	<10	--	1	--	--	--
GA GA 13	83-11-10	<.010	--	3100	3000	--	7	--	--	--
GA GA 14	83-11-10	<.010	--	300	<100	--	1	--	--	--
GA GA 15	83-11-10	<.010	--	90	80	--	72	--	--	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
GA DD 31	84-06-13	<10	2	<1	100000	120000	11	11	3000	3000
	84-09-18	<1	--	1	110000	130000	--	5	3100	3200
GA EC 24	84-06-13	10	28	27	2200	2300	4	4	1600	1700
	84-09-19	1	--	14	2000	2000	--	<1	1500	1400
GA GA 3	84-06-12	20	36	32	49000	50000	13	12	2900	2800
	84-09-17	20	--	230	96000	94000	--	13	3100	3100
GA GA 4	83-10-18	--	--	--	100	<3	--	--	<10	<1
GA GA 5	83-10-18	--	--	--	220	<3	--	--	10	<1
GA GA 6	83-10-28	--	--	--	49000	57000	--	--	1900	1900
GA GA 7	83-10-18	--	--	--	250	17	--	--	20	5
GA GA 8	83-10-18	--	--	--	340	4	--	--	10	2
GA GA 9	83-10-18	--	--	--	150	<3	--	--	20	2
GA GA 10	83-10-18	--	--	--	130	6	--	--	10	1
GA GA 11	83-10-18	--	--	--	1000	3	--	--	20	<1
GA GA 12	83-10-18	--	--	--	1200	6	--	--	50	2
GA GA 13	83-11-10	--	--	--	40000	41000	--	--	2200	2300
GA GA 14	83-11-10	--	--	--	20000	20000	--	--	1800	1900
GA GA 15	83-11-10	--	--	--	720	65	--	--	40	47

## QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
GARRETT COUNTY, MD--CONTINUED							
GA DD 31	84-06-13	<.1	<.1	<1	<1	260	800
	84-09-18	--	--	--	--	270	--
GA EC 24	84-06-13	<.1	.1	<1	<1	150	250
	84-09-19	--	--	--	--	160	--
GA GA 3	84-06-12	<.1	.1	<1	<1	340	1000
	84-09-17	--	--	--	--	400	--
GA GA 4	83-10-18	--	.1	--	--	11	--
GA GA 5	83-10-18	--	<.1	--	--	6	--
GA GA 6	83-10-28	--	.2	--	--	360	--
GA GA 7	83-10-18	--	.2	--	--	48	--
GA GA 8	83-10-18	--	.1	--	--	18	--
GA GA 9	83-10-18	--	<.1	--	--	13	--
GA GA 10	83-10-18	--	.1	--	--	100	--
GA GA 11	83-10-18	--	.1	--	--	42	--
GA GA 12	83-10-18	--	.1	--	--	42	--
GA GA 13	83-11-10	--	<.1	--	--	3500	--
GA GA 14	83-11-10	--	.1	--	--	330	--
GA GA 15	83-11-10	--	<.1	--	--	470	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	ZINC, DIS- SOLVED (UG/L AS ZN)	C-13/ C-12 STABLE ISOTOPE RATIO PER MIL	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
GA DD 31	84-06-13	740	--	--	--
	84-09-18	770	--	.70	.70
GA EC 24	84-06-13	280	--	--	--
	84-09-19	260	--	1.5	1.4
GA GA 3	83-10-18	--	-16.5	--	--
	84-06-12	970	--	--	--
	84-09-17	1300	--	1.0	1.1
GA GA 5	83-10-18	--	-14.9	--	--
GA GA 8	83-11-02	--	-15.9	--	--
GA GA 10	83-10-28	--	-13.7	--	--
GA GA 11	83-10-18	--	-16.3	--	--
GA GA 12	83-10-18	--	-15.6	--	--

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENTIFIER	STATION	NUMBER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)		
PRINCE GEORGES COUNTY,MD												
PG HF 38	383247076405303	217PPSC		84-08-31	126.00	1070	1070	964	10.00	255		
DATE OF SAMPLE	FLOW RATE, INSTANTANEOUS (GPM)	SAMPLING METHOD, CODES	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
84-08-31	400	4040	250	7.6	24.0	<1	69	0	13	8.6	21	37
DATE OF SAMPLE	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
84-08-31	1	9.1	118	5.7	14	.00	.30	9.6	140	150	.19	<.10
DATE OF SAMPLE	PHOSPHORUS, TOTAL (MG/L AS P)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)
84-08-31	.030	580	<1.0	<1	<3	<10	770	690	<10	6	10	9
DATE OF SAMPLE					MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)				
				84-08-31	<10	280	<6	56				

Geologic unit (aquifer): 217PPSC - Patapsco Formation

E: Estimated

Sampling method: 4040 - Submersible pump

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
QUEEN ANNES COUNTY, MD										
QA DB 30	QA-81-0473	390201076182701	125AQUI	84-08-27	--	225	220	210	21.00	100
QA DB 31		390201076182702	125AQUI	84-07-13	--	180	--	--	E21.00	315
QA DB 32		390201076182703	125AQUI	84-07-16	--	117	116	106	21.20	--
QA DB 34	QA-81-0471	390023076174301	125AQUI	84-08-29	--	185	180	170	7.40	330
QA DB 35		390119076191001	125AQUI	84-08-23	180.00	205	200	190	7.50	120
QA DB 36	QA-81-0473	390201076182704	125AQUI	84-09-12	--	185	180	170	21.30	600
QA DB 37	QA-81-0471	390023076174302	125AQUI	84-08-28	--	255	250	240	7.10	90
QA EA 77		385718076211501	125AQUI	84-08-01	95.00	210	205	195	10.80	120
QA EA 78		385718076211502	125AQUI	84-07-31	24.00	140	135	125	11.80	120
QA EA 79		385757076200101	125AQUI	84-08-08	--	303	298	288	8.30	120
QA EA 80		385757076200102	125AQUI	84-08-08	--	135	130	120	8.50	45
QA EA 81		385718076211503	125AQUI	84-07-30	300.00	315	310	300	12.40	120
QA EB 155		385843076155302	125AQUI	84-08-20	7.50	250	245	235	3.90	315
QA EB 156		385852076195201	125AQUI	84-07-23	15.00	225	220	210	11.90	120
QA EB 157		385852076195202	125AQUI	84-07-25	30.00	125	120	110	11.90	270

LOCAL IDENTIFIER			DATE OF SAMPLE	DEPTH OF HOLE, TOTAL (FEET)	FLOW RATE, INSTANTANEOUS (GPM)	SAMPLING METHOD, CODES	SPECIFIC CONDUCTANCE (UMHOS)	PH (STANDARD UNITS)	OXIDATION REDUCTION POTENTIAL (MV)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)
QA DB 30	QA-81-0473	84-08-27	360	7.0	4040	15900	6.8	-457	17.0	.0	4100	
QA DB 31		84-07-13	340	E15	4040	19200	7.0	-89	15.0	.0	4400	
QA DB 32		84-07-16	120	--	4040	9400	6.7	--	15.0	.0	3000	
QA DB 34	QA-81-0471	84-08-29	185	54	4040	518	7.4	-189	15.0	.0	190	
QA DB 35		84-08-23	320	5.0	4040	14900	7.0	-149	15.0	.0	5800	
QA DB 36	QA-81-0473	84-09-12	185	38	4040	18600	6.8	--	15.0	.0	3900	
QA DB 37	QA-81-0471	84-08-28	255	10	4040	570	7.5	-188	16.0	.0	250	
QA EA 77		84-08-01	395	34	4040	15400	7.0	-149	15.0	.0	6500	
QA EA 78		84-07-31	140	12	4040	302	7.6	-196	15.0	.0	130	
QA EA 79		84-08-08	340	10	4040	380	9.3	--	17.0	--	53	
QA EA 80		84-08-08	135	15	4040	335	7.7	--	15.0	.5	110	
QA EA 81		84-07-30	338	5.0	4040	640	7.7	-188	15.0	--	140	
QA EB 155		84-08-20	250	49	4040	330	7.8	-195	15.5	1.0	140	
QA EB 156		84-07-23	340	15	4040	14800	7.1	-144	15.0	.0	7100	
QA EB 157		84-07-25	125	45	4040	332	7.5	-149	15.0	.0	150	

Geologic unit (aquifer): 125AQUI - Aquia Formation

E: Estimated

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	DATE OF SAMPLE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CACO3)
QUEEN ANNES COUNTY, MD--CONTINUED										
QA DB 30	QA-81-0473	84-08-27	4000	1400	140	2100	53	15	27	126
QA DB 31		84-07-13	4200	1500	160	2800	58	19	18	179
QA DB 32		84-07-16	2800	1100	55	790	37	7	9.4	223
QA DB 34	QA-81-0471	84-08-29	0	61	8.6	30	25	1	4.0	280
QA DB 35		84-08-23	5700	2000	200	1200	31	7	22	101
QA DB 36	QA-81-0473	84-09-12	3700	1300	160	3400	65	25	17	175
QA DB 37	QA-81-0471	84-08-28	0	84	8.8	20	15	.6	4.1	253
QA EA 77		84-08-01	6400	2100	300	510	15	3	29	60
QA EA 78		84-07-31	0	41	7.3	11	15	.4	3.6	169
QA EA 79		84-08-08	0	18	1.9	63	69	4	7.4	160
QA EA 80		84-08-08	0	34	6.8	27	33	1	4.3	196
QA EA 81		84-07-30	16	45	6.2	70	51	3	5.4	122
QA EB 155		84-08-20	0	35	13	8.8	11	.3	9.9	185
QA EB 156		84-07-23	7100	2100	450	160	5	.9	26	52
QA EB 157		84-07-25	0	55	3.7	6.5	8	.2	1.7	167
LOCAL IDENT- IFIER	DATE OF SAMPLE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	IODIDE, DIS- SOLVED (MG/L AS I)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
QA DB 30	QA-81-0473	84-08-27	39	670	6000	.20	.060	20	11000	14.2
QA DB 31		84-07-13	35	740	7100	<.10	.063	25	12000	16.9
QA DB 32		84-07-16	86	390	3200	<.10	.042	18	5700	7.7
QA DB 34	QA-81-0471	84-08-29	22	.5	11	.10	.013	46	330	.45
QA DB 35		84-08-23	20	470	5700	.60	.056	18	9700	13.2
QA DB 36	QA-81-0473	84-09-12	54	810	7400	<.10	.100	29	13000	18.0
QA DB 37	QA-81-0471	84-08-28	15	58	14	<.10	.007	31	370	.51
QA EA 77		84-08-01	12	430	6000	<.10	.013	19	9400	12.8
QA EA 78		84-07-31	8.2	12	4.1	.10	.008	23	210	.28
QA EA 79		84-08-08	.1	45	3.0	.30	.004	14	220	.30
QA EA 80		84-08-08	6.5	.4	2.6	.10	.008	17	190	.26
QA EA 81		84-07-30	4.7	38	110	.20	.004	14	360	.49
QA EB 155		84-08-20	5.7	2.7	2.2	.80	.011	16	200	.27
QA EB 156		84-07-23	7.9	410	5600	<.10	.018	22	8800	12.0
QA EB 157		84-07-25	10	10	28	.20	.008	30	240	.32

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ANTI- MONY, DIS- SOLVED (UG/L AS SB)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
QUEEN ANNES COUNTY, MD--CONTINUED										
QA DB 30	QA-81-0473	84-08-27	<.010	--	<10	<1	<1	300	<10	<1
QA DB 31		84-07-13	<.010	--	<100	--	--	200	--	--
QA DB 32		84-07-16	<.010	--	<100	--	--	200	--	--
QA DB 34	QA-81-0471	84-08-29	.130	.40	<10	<1	<1	110	<.0	1
QA DB 35		84-08-23	<.010	--	<100	--	--	300	--	--
QA DB 36	QA-81-0473	84-09-12	<.010	--	<10	--	--	300	--	--
QA DB 37	QA-81-0471	84-08-28	.020	.06	<10	--	--	160	--	--
QA EA 77		84-08-01	<.010	--	<100	--	--	1000	--	--
QA EA 78		84-07-31	.040	.12	<100	--	--	90	--	--
QA EA 79		84-08-08	<.010	--	30	--	--	45	--	--
QA EA 80		84-08-08	.050	.15	<10	--	--	98	--	--
QA EA 81		84-07-30	<.010	--	<100	--	--	140	--	--
QA EB 155		84-08-20	<.010	--	30	--	--	140	--	--
QA EB 156		84-07-23	<.010	--	<100	--	--	1000	--	--
QA EB 157		84-07-25	.050	.15	<100	--	--	72	--	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)
QA DB 30	QA-81-0473	84-08-27	1	<1	150000	11	930	1.2	<1	3
QA DB 31		84-07-13	--	--	23000	--	80	--	--	<1
QA DB 32		84-07-16	--	--	13000	--	170	--	--	--
QA DB 34	QA-81-0471	84-08-29	1	<1	--	3	--	.3	<1	2
QA DB 35		84-08-23	--	--	44000	--	170	--	--	--
QA DB 36	QA-81-0473	84-09-12	--	--	25000	--	50	--	--	--
QA DB 37	QA-81-0471	84-08-28	--	--	940	--	42	--	--	--
QA EA 77		84-08-01	--	--	15000	--	630	--	--	--
QA EA 78		84-07-31	--	--	1500	--	29	--	--	--
QA EA 79		84-08-08	--	--	30	--	3	--	--	--
QA EA 80		84-08-08	--	--	520	--	6	--	--	--
QA EA 81		84-07-30	--	--	840	--	57	--	--	--
QA EB 155		84-08-20	--	--	410	--	3	--	--	--
QA EB 156		84-07-23	--	--	15000	--	50	--	--	--
QA EB 157		84-07-25	--	--	1400	--	10	--	--	--

LOCAL IDENT- I- FIER	DATE OF SAMPLE	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
QA DB 30	QA-81-0473	84-08-27	<1	4100	40
QA DB 31		84-07-13	--	2200	--
QA DB 32		84-07-16	--	1100	--
QA DB 34	QA-81-0471	84-08-29	<1	140	<3
QA DB 35		84-08-23	--	3500	--
QA DB 36	QA-81-0473	84-09-12	--	2300	--
QA DB 37	QA-81-0471	84-08-28	--	220	--
QA EA 77		84-08-01	--	7000	--
QA EA 78		84-07-31	--	130	--
QA EA 79		84-08-08	--	220	--
QA EA 80		84-08-08	--	130	--
QA EA 81		84-07-30	--	300	--
QA EB 155		84-08-20	--	860	--
QA EB 156		84-07-23	--	5600	--
QA EB 157		84-07-25	--	78	--



## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- IFIER	STATION	NUMBER	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	AME- TRYNE TOTAL	ATRA- TONE TOTAL (UG/L)	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)
WICOMICO COUNTY, MD										
WI CC 30	WI-73-5492	382118075465601	83-10-04	237	4.3	17.5	<.10	<.10	<.10	<.10
WI CC 31	WI-73-5488	382118075465602	83-10-04	192	4.5	17.5	<.10	<.10	<.10	<.10
WI CC 32	WI-73-5485	382118075465603	83-10-04	130	4.4	17.5	<.10	<.10	<.10	<.10

LOCAL IDENT- I- FIER				DATE OF SAMPLE	CYPRA- ZINE TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	SIME- TONE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)
WI CC 30	WI-73-5492			83-10-04	<.10	<.1	<.1	<.10	<.10	<.1	<.10
WI CC 31	WI-73-5488			83-10-04	<.10	<.1	<.1	<.10	<.10	<.1	<.10
WI CC 32	WI-73-5485			83-10-04	<.10	<.1	<.1	<.10	<.10	<.1	<.10

LOCAL IDENT- IFIER	STATION	NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)
WORCESTER COUNTY, MD										
WO CF 52	WO-73-1148	381737075131501	112CLMB	84-03-28	--	25.00	25	5.0	25.00	20
			112CLMB	84-05-02	--	25.00	25	5.0	25.00	20
			112CLMB	84-06-06	--	25.00	25	5.0	25.00	20
WO DE 46	WO-73-0979	381158075151301	112CLMB	84-02-28	4.36	64.00	64	59	10.00	20
			112CLMB	84-03-28	--	64.00	64	59	10.00	25
			112CLMB	84-05-02	--	25.00	64	59	10.00	20
			112CLMB	84-06-06	--	64.00	64	59	10.00	20

				LOCAL IDENT- I- FIER	DATE OF SAMPLE	FLOW RATE, INSTAN- TANEOUS (GPM)	SAM- PLING METHOD, CODES	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
WO CF	52	WO-73-1148	84-03-28	1.4	4040	100	5.4	7.0	12.0	6.0	16	8		
			84-05-02	2.5	4040	122	6.1	18.0	14.0	3.8	22	0		
			84-06-06	2.8	4040	102	5.5	24.0	17.0	--	16	6		
WO DE	46	WO-73-0979	84-02-28	5.7	4040	112	6.2	12.0	13.5	--	22	0		
			84-03-28	3.0	4040	112	6.1	7.0	12.0	4.2	22	0		
			84-05-02	5.0	4040	102	5.4	20.0	16.0	--	16	8		
			84-06-06	4.1	4040	120	6.1	29.0	15.5	1.8	22	0		

		LOCAL IDENT- I- FIER	DATE OF SAMPLE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
WO CF	52	WO-73-1148	84-03-28	3.7	1.7	12	60	1	.90	10	9.0	63
			84-05-02	5.8	1.8	14	56	1	1.6	38	32	48
			84-06-06	3.7	1.7	11	58	1	.90	12	10	60
WO DE	46	WO-73-0979	84-02-28	5.8	1.9	15	57	1	1.5	39	32	39
			84-03-28	5.7	1.9	15	58	1	1.5	39	32	49
			84-05-02	3.7	1.7	11	58	1	.90	10	9.0	63
			84-06-06	5.8	1.8	14	56	1	1.5	42	34	53

Geologic unit (aquifer): 112CLMB - Columbia Formation

Sampling method: 4040 - Submersible pump

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

LOCAL IDENT- I- FIER	DATE OF SAMPLE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
WORCESTER COUNTY, MD--CONTINUED										
WO CF 52 WO-73-1148	84-03-28	9.4	17	21	71	.10	--	<.010	--	.63
	84-05-02	4.4	14	36	97	.13	--	<.010	--	.23
	84-06-06	9.8	15	21	69	.09	--	<.010	--	.68
WO DE 46 WO-73-0979	84-02-28	4.2	15	36	99	.13	.00	.180	.59	.18
	84-03-28	4.0	15	36	98	.13	.15	.010	.03	.16
	84-05-02	11	16	21	70	.10	--	<.010	--	.69
	84-06-06	3.9	14	36	98	.13	--	<.010	--	.16

LOCAL IDENT- I- FIER	DATE OF SAMPLE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
WO CF 52 WO-73-1148	84-03-28	.050	.06	.35	.40	1.0	--	<10	--	93
	84-05-02	.300	.39	.00	.30	.53	<10	<10	26	12
	84-06-06	.100	.13	1.4	1.5	--	40	<10	120	120
WO DE 46 WO-73-0979	84-02-28	<.010	--	--	.20	.38	--	<10	--	8
	84-03-28	.040	.05	.16	.20	.36	--	<10	--	13
	84-05-02	<.010	--	--	.40	1.1	10	<10	87	85
	84-06-06	<.010	--	--	1.3	--	40	<10	11	9

LOCAL IDENT- I- FIER	DATE OF SAMPLE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
WO CF 52 WO-73-1148	84-03-28	--	49	--	1	--	8	.80
	84-05-02	440	70	6	5	<10	3	.40
	84-06-06	300	52	2	2	<10	8	.60
WO DE 46 WO-73-0979	84-02-28	--	55	--	2	--	2	1.0
	84-03-28	--	88	--	1	--	3	.60
	84-05-02	80	49	5	4	<10	9	.90
	84-06-06	510	50	3	3	<10	1	.50

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## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
cfs-days	$2.447 \times 10^3$	cubic meters (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
gallons per minute (gal/min)	$6.309 \times 10^{-2}$	liters per second (L/s)
	$6.309 \times 10^{-2}$	cubic decimeters per second (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons

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