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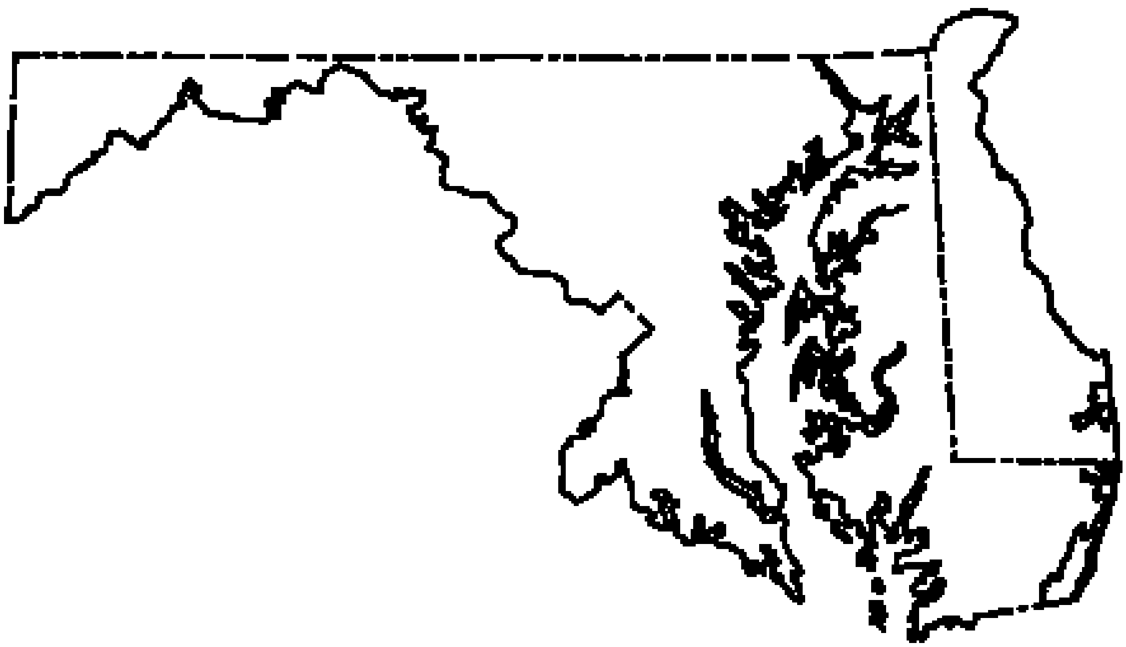
Water Resources Data Maryland and Delaware Water Year 1998

Volume 1. Surface-Water Data

Water-Data Report MD-DE-98-1



U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with the
States of Maryland and Delaware
and with other agencies

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By Robert W. James, Richard W. Saffer, and Anthony Tallman

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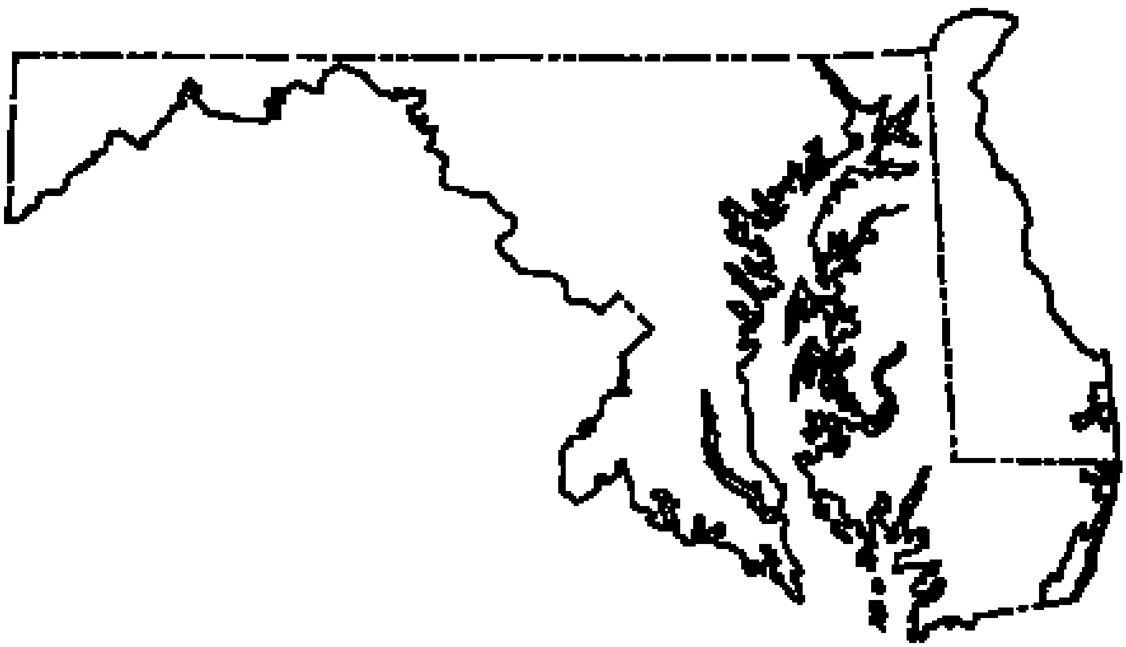

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States of Maryland and Delaware and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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1999

PREFACE

This volume of the annual hydrologic data report for 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. Hydrologic data for Maryland, Delaware, and the District of Columbia are contained in two volumes:

Volume 1. Surface-Water Data

Volume 2. Ground-Water Data

This report (Volume 1) is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey, Maryland Geological Survey, and Delaware 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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13. ABSTRACT *(Maximum 200 words)*

Water resources data for the 1998 water year for Maryland and Delaware consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs. This volume (Volume 1. Surface-Water Data) contains records for water discharge at 105 gaging stations; stage and contents of 1 reservoir; and water quality at 16 gaging stations. Also included are stage and discharge for 3 crest-stage partial-record stations, discharge only for 9 low-flow partial-record stations, and stage only for 5 tidal crest-stage partial-record stations. 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.

14. SUBJECT TERMS
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[Letters after station name designate type of data collected: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

NORTH ATLANTIC SLOPE BASINS	Station number	Page
DELAWARE RIVER BASIN		
Delaware River:		
Shellpot Creek at Wilmington, DE (d)	01477800	44
Christina River at Coochs Bridge, DE (d)	01478000	46
White Clay Creek at Newark, DE (d)	01478650	48
White Clay Creek near Newark, DE (d)	01479000	50
Red Clay Creek at Wooddale, DE (d)	01480000	52
Red Clay Creek at Stanton, DE (d)	01480015	54
Little Mill Creek near Newport, DE (d)	01480095	56
Brandywine Creek at Wilmington, DE (d)	01481500	60
Blackbird Creek at Blackbird, DE (d)	01483200	64
ST. JONES RIVER BASIN		
St. Jones River at Dover, DE (d)	01483700	66
MURDERKILL RIVER BASIN		
Murderkill River near Felton, DE (d)	01484000	68
MISPILLION RIVER BASIN		
Beaverdam Branch (head of Mispillion River) at Houston, DE (d)	01484100	70
DELAWARE BAY NEAR LEWES, DE (c,t)	01484450	72
INDIAN RIVER BASIN		
Cow Bridge Branch (head of Indian River):		
Stockley Branch at Stockley, DE (d)	01484500	78
Millsboro Pond Outlet at Millsboro, DE (d)	01484525	80
POCOMOKE RIVER BASIN		
Pocomoke River near Willards, MD (d)	01485000	82
Nassawango Creek near Snow Hill, MD (d)	01485500	84
MANOKIN RIVER BASIN		
Manokin Branch (head of Manokin River) near Princess Anne, MD (d,c)	01486000	86
NANTICOKE RIVER BASIN		
Nanticoke River near Bridgeville, DE (d,c)	01487000	88
Marshyhope Creek near Adamsville, DE (d)	01488500	90
CHOPTANK RIVER BASIN		
Choptank River near Greensboro, MD (d,c,s)	01491000	92
CHESTER RIVER BASIN		
Chester River:		
Unicorn Branch near Millington, MD (d)	01493000	96
Morgan Creek near Kennedyville, MD (d,c)	01493500	98
ELK RIVER BASIN		
Big Elk Creek (head of Elk River) at Elk Mills, MD (d)	01495000	100
Elk River near Town Point, MD (c,t)	01495900	102
SUSQUEHANNA RIVER BASIN		
Susquehanna River at Conowingo, MD (d,c,s)	01578310	108
Deer Creek at Rocks, MD (d)	01580000	116
BUSH RIVER BASIN		
Winters Run near Benson, MD (d)	01581700	118
GUNPOWDER RIVER BASIN		
Gunpowder Falls (head of Gunpowder River):		
Little Falls at Blue Mount, MD (d)	01582000	120
Gunpowder Falls at Glencoe, MD (d)	01582500	122
Western Run:		
Piney Run at Dover, MD (d)	01583100	124
Western Run at Western Run, MD (d)	01583500	126
Beaverdam Run at Cockeysville, MD (d)	01583600	128
Minebank Run at Loch raven, MD (d)	01583980	130
Long Green Creek at Glen Arm, MD (d)	01584050	134
Bird River:		
Whitemarsh Run (head of Bird River) near Fullerton, MD (d)	01585090	136
North Fork Whitemarsh Run near White Marsh, MD (d)	01585095	138
Whitemarsh Run at White Marsh, MD (d)	01585100	140
BACK RIVER BASIN		
Herring Run (head of Back River):		
West Branch Herring Run at Idlewylde, MD (d)	01585200	142
Moores Run:		
Moores Run tributary near Todd Avenue at Baltimore, MD (d)	01585225	144
Moores Run at Radecke Avenue at Baltimore, MD (d)	01585230	146

[Letters after station name designate type of data collected: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

	Station number	Page
NORTH ATLANTIC SLOPE BASINS--Continued		
PATAPSCO RIVER BASIN		
East Branch of North Branch Patapsco River:		
West Branch of North Branch Patapsco River:		
Cranberry Branch near Westminster, MD (d)	01585500	148
North Branch Patapsco River at Cedarhurst, MD (d)	01586000	150
Beaver Run near Finksburg, MD (d)	01586210	152
Morgan Run near Louisville, MD (d)	01586610	154
Patapsco River:		
Gwynns Falls at Villa Nova, MD (d)	01589300	156
Jones Falls at Sorrento, MD (d)	01589440	158
Furnace Creek:		
Sawmill Creek at Glen Burnie, MD (d)	01589500	160
Sawmill Creek tributary at BWI near Ferndale, MD (d)	01589501	162
SEVERN RIVER BASIN		
Severn Run (head of Severn River)		
South Fork Jabez Branch at Millersville, MD (d)	01589795	164
PATUXENT RIVER BASIN		
Patuxent River near Unity, MD (d,c,s)	01591000	172
Cattail Creek near Glenwood, MD (d)	01591400	178
Patuxent River below Brighton Dam near Brighton, MD (d)	01591610	180
Hawlings River near Sandy Spring, MD (d)	01591700	182
Patuxent River near Laurel, MD (d)	01592500	184
Little Patuxent River at Guilford, MD (d)	01593500	186
Little Patuxent River at Savage, MD (d,c,s)	01594000	188
Patuxent River near Bowie, MD (d,c,s)	01594440	194
Western Branch at Upper Marlboro, MD (d,c,s)	01594526	198
Hunting Creek near Huntingtown, MD (d,c,s)	01594670	204
Killpeck Creek at Huntersville, MD (d,c,s)	01594710	212
POTOMAC RIVER BASIN		
North Branch Potomac River:		
Laurel Run at Dobbin Road near Wilson, MD (d)	01594930	218
Sand Run:		
North Fork Sand Run near Wilson, MD (d)	01594936	220
McMillan Fork near Fort Pendelton, MD (d)	01594950	222
North Branch Potomac River at Steyer, MD (d)	01595000	224
Stony River near Mt. Storm, WV (d,t)	01595200	226
Savage River near Barton, MD (d)	01596500	230
Savage River below Savage River Dam, near Bloomington, MD (d)	01597500	232
North Branch Potomac River at Luke, MD (d)	01598500	234
Georges Creek at Franklin, MD (d)	01599000	236
Wills Creek near Cumberland, MD (d)	01601500	238
North Branch Potomac River near Cumberland, MD (d)	01603000	240
Patterson Creek near Headsville, WV (d)	01604500	242
South Branch Potomac River near Petersburg, WV (d)	01606500	244
South Fork South Branch Potomac River near Moorefield, WV (d)	01608000	246
South Branch Potomac River near Springfield, WV (d)	01608500	248
Potomac River:		
Potomac River at Paw Paw, WV (d)	01610000	250
Cacapon River near Great Cacapon, WV (d)	01611500	252
Potomac River at Hancock, MD (d)	01613000	254
Conococheague Creek at Fairview, MD (d,c,s)	01614500	256
Opequon Creek near Martinsburg, WV (d)	01616500	264
Marsh Run at Grimes, MD (d)	01617800	266
Antietam Creek:		
Beaver Creek:		
Albert Powell Fish Hatchery Spring at Beaver Creek, MD (d)	01619320	268
Antietam Creek near Sharpsburg, MD (d)	01619500	270
Shenandoah River at Millville, WV (d)	01636500	272
Catoctin Creek near Middletown, MD (d)	01637500	274
Potomac River at Point of Rocks, MD (d)	01638500	276
Monocacy River:		
Monocacy River at Bridgeport, MD (d)	01639000	278
Piney Creek near Taneytown, MD (d)	01639140	280
Big Pipe Creek (head of Double Pipe Creek) at Bruceville, MD (d)	01639500	282
Monocacy River at Jug Bridge, near Frederick, MD (d)	01643000	284
Bennett Creek at Park Mills, MD (d)	01643500	286
Seneca Creek:		
Great Seneca Creek near Quince Orchard, MD (d)	01644600	288
Seneca Creek at Dawsonville, MD (d)	01645000	292
Potomac River near Washington, DC (d,c,t)	01646500	294

[Letters after station name designate type of data collected: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

	Station number	Page
NORTH ATLANTIC SLOPE BASINS--Continued		
POTOMAC RIVER BASIN--Continued		
Potomac River--Continued		
Potomac River at Chain Bridge at Washington, DC (c,s)	01646580	304
Rock Creek at Sherrill Drive, Washington, DC (d)	01648000	308
Northeast Branch Anacostia River (head of Anacostia River) at Riverdale, MD (d)	01649500	310
Northwest Branch Anacostia River near Colesville, MD (d)	01650500	312
Northwest Branch Anacostia River near Hyattsville, MD (d)	01651000	314
Watts Branch at Washington, DC (d)	01651800	316
Piscataway Creek at Piscataway, MD (d)	01653600	318
Zekiah Swamp (head of Wicomico River) near Newtown, MD (d)	01660920	320
St. Clement Creek (head of St. Clement Bay) near Clements, MD (d)	01661050	322
St. Marys River at Great Mills, MD (d)	01661500	324
OHIO RIVER BASIN		
MONONGAHELA RIVER BASIN		
Monongahela River:		
Youghiogheny River near Oakland, MD (d)	03075500	326
Deep Creek Reservoir near Oakland, MD (e)	03076000	328
Youghiogheny River at Friendsville, MD (d)	03076500	330
Bear Creek at Friendsville, MD (d)	03076600	332
Casselman River at Grantsville, MD (d)	03078000	334
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The following continuous-record surface-water discharge (gaging stations) in Maryland, Delaware, and the District of Columbia have been discontinued. Daily streamflow records (discharge) were collected and published for the period of record, expressed in water years, shown for each station.

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Period of record
DELAWARE RIVER BASIN			
Delaware River:			
Christina River near Bear, DE	01478040	40.6	1977-82
White Clay Creek above Newark, DE	01478500	66.7	1952-59 1962-80
Mill Creek at Mill Creek Road at Hockessin, DE	01479197	3.66	1990-95
Mill Creek at Stanton, DE	01479500	12.4	1931-33
Little Mill Creek near Newport, DE	01480095	5.24	1991-95 1997-98
Little Mill Creek at Elsmere, DE	01480100	6.70	1964-80
Army Creek at State Road, DE	01482200	2.42	1978-81
Red Lion Creek near Red Lion, DE	01482298	3.08	1978-81
Wiggins Millpond Outlet (head of Appoquinimink River):			
Noxontown Lake Outlet near Middletown, DE	01483153	8.85	1993-94
Drawyer Creek tributary near Odessa, MD	01483170	4.68	1978-80
LEIPSIC RIVER BASIN			
Leipsic River near Cheswold, DE	01483500	9.35	1931-33 1943-57
ST. JONES RIVER BASIN			
Fork Branch (head of St. Jones River)			
Mudstone Branch at Chestnut Grove, DE	01483670	8.96	1993-94
BROADKILL RIVER BASIN			
Broadkill River:			
Beaverdam Creek near Milton, DE	01484270	6.10	1971-80
Sowbridge Branch (head of Primehook Creek) near Milton, DE	01484300	7.08	1957-78
INDIAN RIVER BASIN			
Cow Bridge Branch (head of Indian River):			
Vines Creek at Omar, DE	01484548	13.6	1985-88
WICOMICO RIVER BASIN			
Andrews Branch (head of Wicomico River):			
Beaverdam Creek near Salisbury, MD	01486500	19.5	1930-32 1938-75
NANTICOKE RIVER BASIN			
Nanticoke River:			
James Branch (head of Broad Creek):			
Trap Pond Outlet (head of Hitch Pond Branch) near Laurel, DE	01487500	16.7	1951-71
Broad Creek:			
Holly Ditch near Laurel, DE	01488000	2.19	1951-56
Marshyhope Creek at Adamsville, DE	01488600	60.4	1969-71
Faulkner Branch at Federalsburg, MD	01489000	7.10	1950-92
Rewastico Creek near Hebron, MD	01489500	12.2	1950-56
TRANSQUAKING RIVER BASIN			
Transquaking River:			
Chicamacomico River near Salem, MD	01490000	15.0	1951-80
CHOPTANK RIVER BASIN			
Tappahanna Ditch (head of Choptank River):			
Tidy Island Creek (continuation of Tappahanna Ditch):			
Culbreth Marsh Ditch near Chapeltown, DE	01490500	11.6	1951-56
Choptank River:			
Tuckahoe Creek near Ruthsburg, MD	01491500	85.2	1951-56
Kings Creek:			
Beaverdam Branch at Matthews, MD	01492000	5.85	1950-81
WYE RIVER BASIN			
Wye River:			
Wye East River:			
Sallie Harris Creek near Carmichael, MD	01492500	8.09	1951-56
CHESTER RIVER BASIN			
Chester River:			
Southeast Creek at Church Hill, MD	01494000	12.5	1951-56
SASSAFRAS RIVER BASIN			
Sassafras River:			
Jacobs Creek near Sassafras, MD	01494500	5.39	1951-56
ELK RIVER BASIN			
Big Elk Creek (head of Elk River):			
Little Elk Creek at Childs, MD	01495500	26.8	1949-58
Long Creek near Chesapeake City, MD	01495800	4.36	1978-81

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
NORTHEAST RIVER BASIN			
Northeast Creek (head of Northeast River) at Leslie, MD	01496000	24.3	1949-84
PRINCIPIO CREEK BASIN			
Principio Creek near Principio Furnace, MD	01496200	9.03	1967-92
SUSQUEHANNA RIVER BASIN			
Susquehanna River:			
Broad Creek at Mill Creek, MD	01578000	16.4	1905-09
Octoraro Creek near Rising Sun, MD	01578500	193	1932-58 1969-77
Basin Run at Liberty Grove, MD	01579000	5.31	1949-58
Octoraro Creek at Rowlandsville, MD	01579500	210	1896-99
Deer Creek near Kalmia, MD	01580200	125	1967-77
Deer Creek near Churchville, MD	01580500	141	1905-09
BUSH RIVER BASIN			
Bynum Run (head of Bush River) near Bel Air, MD	01581000	7.50	1951-55
Bynum Run at Bel Air, MD	01581500	8.52	1944-51 1955-70
Church Creek:			
Cranberry Run at Aberdeen, MD	01581657	4.16	1988-89
Cranberry Run at Perryman, MD	01581658	5.22	1987-89
GUNPOWDER RIVER BASIN			
Gunpowder Falls (head of Gunpowder River):			
Western Run:			
Delaware Run:			
Slade Run near Glyndon, MD	01583000	2.09	1947-81
Beaverdam Run:			
Baisman Run:			
Pond Branch at Oregon Ridge, MD	01583570	0.16	1983-86
Baisman Run at Broadmoor, MD	01583580	1.47	1964-69
Gunpowder Falls near Carney, MD	01584000	314	1949-64
Little Gunpowder Falls at Laurel Brook, MD	01584500	36.1	1927-70
Little Gunpowder Falls near Bel Air, MD	01585000	43	1904-09
Bird River:			
Whitemarsh Run (head of Bird River):			
Honeygo Run at White Marsh, MD	01585105	2.65	1990-93
Windlass Run near White Marsh, MD	01585107	2.03	1992-93
BACK RIVER BASIN			
Herring Run (head of Back River):			
Stemmers Run (head of Northeast Creek) at Rossville, MD	01585300	4.46	1959-72 1974-89
Brien Run at Stemmers Run, MD	01585400	1.97	1958-87
PATAPSCO RIVER BASIN			
North Branch Patapsco River near Reistertown, MD	01586500	91.0	1927-54
North Branch Patapsco River near Marriottsville, MD	01587000	165	1930-60
South Branch Patapsco River at Henryton, MD	01587500	64.4	1948-80
Piney Run near Sykesville, MD	01588000	11.4	1931-58
Patapsco River at Woodstock, MD	01588500	251	1896-1909
Patapsco River at Hollofield, MD	01589000	285	1944-92 1994-95
West Branch Herbert Run:			
East Branch Herbert Run at Arbutus, MD	01589100	2.47	1957-89
Gwynns Falls near Owings Mills, MD	01589200	4.90	1958-75
Dead Run at Franklintown, MD	01589330	5.52	1960-87
Jones Falls at Maryland Avenue at Baltimore, MD	01589478	58.3	1981-82
Jones Falls near mouth at Baltimore, MD	01589480	60.4	1981-82
Curtis Creek:			
Furnace Creek:			
Sawmill Creek at Crain Highway at Glen Burnie, MD	01589512	8.24	1984-85 1990-94
Marley Creek at Harundale, MD	01589522	4.79	1984-85
SOUTH RIVER BASIN			
North River (head of South River) near Annapolis, MD	01590000	8.50	1932-74
Bacon Ridge Branch at Chesterfield, MD	01590500	6.92	1943-52 1975-90
RHODE RIVER BASIN			
Rhode River:			
Muddy Creek:			
North Fork Muddy Creek at South River, MD	01590700	0.88	1972-76

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
PATUXENT RIVER BASIN			
Patuxent River:			
Cattail Creek near Cookesville, MD	01591350	8.37	1977-81
Cattail Creek at Roxbury Mills, MD	01591500	27.7	1944-56
Patuxent River near Burtonsville, MD	01592000	127	1911-45
Little Patuxent River:			
Middle Patuxent River near Simpsonville, MD	01593710	48.4	1987-95
Dorsey Run near Jessup, MD	01594400	11.6	1948-58
Western Branch near Largo, MD	01594500	30.2	1950-75
Cocktown Creek near Huntingtown, MD	01594600	3.85	1957-76
St. Leonard Creek near St. Leonard, MD	01594800	6.73	1957-68
POTOMAC RIVER BASIN			
North Branch Potomac River:			
South Fork Sand Run near Wilson, MD	01594934	1.55	1980-86
North Branch Potomac River at Kitzmiller, MD	01595500*	225	1950-85
North Branch Potomac River at Barnum, WV	01595800*	266	1966-85
North Branch Potomac River at Bloomington, MD	01596000	287	1925-27 1929-50
Savage River:			
Crabtree Creek near Swanton, MD	01597000	16.7	1948-81
Savage River at Bloomington, MD	01598000	115	1906-07 1925-27 1929-50
North Branch Potomac River at Pinto, MD	01600000*	596	1939-85
Wills Creek below Hyndman, PA	01601000	146	1951-67
North Branch Potomac River at Cumberland, MD	01602500	873	1894-97
Evitts Creek near Centerville, PA	01603500	30.2	1932-82
Evitts Creek near Cumberland, MD	01604000	89.0	1929-32
Town Creek near Oldtown, MD	01609000	148	1928-35 1967-81
Sawpit Run near Oldtown, MD	01609500	5.08	1948-58
Sideling Hill Creek at Bellegrove, MD	01610155	102	1967-77
Little Tonoloway Creek near Hancock, MD	01612500	16.9	1947-63
Potomac River at Shepherdstown, WV	01618000	5,936	1928-53 **(a)**1954-63 1964-93
Antietam Creek near Waynesboro, PA	01619000	93.5	1948-51 1966-81
Beaver Creek:			
Albert Powell Fish Hatchery Spring at Beaver Creek, MD	01619320		1987-98
Catoctin Creek:			
Little Catoctin Creek at Harmony, MD	01637000	8.83	1947-59 1968
Catoctin Creek near Jefferson, MD	01638000	111	1928-31
Monocacy River:			
Toms Creek at Emmitsburg, MD	01639375	41.3	1986-90
Big Pipe Creek (head of Double Pipe Creek):			
Little Pipe Creek at Avondale, MD	01640000	8.10	1947-56
Owens Creek near Foxville, MD	01640456	1.01	1986-87
Owens Creek at Lantz, MD	01640500	5.93	1932-84
Hunting Creek near Foxville, MD	01640965	2.14	1982-94
Hunting Creek tributary near Foxville, MD	01640970	4.01	1982-91
Hunting Creek near Thurmont, MD	01640975	7.08	1982-86
Bear Branch near Thurmont, MD	01640980	0.38	1990-95
Hunting Creek at Jimtown, MD	01641000	18.4	1950-92
Fishing Creek near Lewistown, MD	01641500	7.29	1948-84
Fishing Creek Tributary near Lewistown, MD	01641510	0.40	1988-95
Monocacy River near Frederick, MD	01642000	665	1896-1930
Linganore Creek near Frederick, MD	01642500	82.3	1932 1934-82
Bennett Creek:			
Bennett Creek tributary at Park Mills, MD	01643495	0.15	1992-93
Broad Run at Elmer, MD	01643615	14	**(b)**1978-80
Seneca Creek:			
Great Seneca Creek near Gaithersburg, MD	01644500	41.0	1925-31
Watts Branch at Rockville, MD	01645200	3.70	1957-87
Little Falls Branch near Bethesda, MD	01646550	4.10	1944-59 1962-79
Rock Creek:			
North Branch Rock Creek:			
Williamsburg Run near Olney, MD	01647685	2.25	1967-74
North Branch Rock Creek near Norbeck, MD	01647720	9.73	1967-77
Manor Run near Norbeck, MD	01647725	1.01	1967-74
North Branch Rock Creek near Rockville, MD	01647740	12.5	1967-77
Rock Creek at Q Street, Washington, DC	01649000	75.8	1892-94 1929-33

***** Currently operated as a crest-stage partial-record station.
a Estimated daily discharges October 1953 to June 1964.
b Daily values data unpublished, available at Baltimore, MD office.

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
POTOMAC RIVER BASIN--Continued			
Potomac River--Continued			
Northeast Branch Anacostia River:			
Northwest Branch Anacostia River at Norwood, MD	01650050	2.45	1967-74
Browns Creek:			
Nursery Run at Cloverly, MD	01650085	0.35	1967-74
North Creek:			
Batchellors Run at Oakdale, MD	01650190	0.47	**(a)**1967-70
Bel Pre Creek at Lay Hill, MD	01650450	1.69	1967-74
Lutes Run at Lutes, MD	01650470	0.47	**(a)**1967-70
Anacostia River:			
Beaverdam Branch Anacostia River at Kenilworth Avenue, Washington, DC	01652000	14	1911-12
Henson Creek (head of Broad Creek) at Oxon Hill, MD	01653500	16.7	1948-78
Mattawoman Creek near Pomonkey, MD	01658000	54.8	1950-72
Wicomico River:			
Chaptico Creek at Chaptico, MD	01661000	10.4	1947-72
OHIO RIVER BASIN			
MONONGAHELA RIVER BASIN			
Monongahela River:			
Youghiogheny River:			
South Branch Casselman River near Bittenger, MD	03077940	3.22	1976-81
Casselman River:			
Big Piney Run near Salisbury, PA	03078500	24.5	1932-70

a Daily values data unpublished, available at Baltimore, MD office.

The following crest-stage partial-record stations in Maryland and Delaware have been discontinued. Annual maximum discharge and gage-height data were collected and published for the period of record, expressed in water years, shown for each station.

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Period of record
DELAWARE RIVER BASIN			
Delaware River:			
Christina River near Bear, DE	01478040	40.6	1983-91
White Clay Creek:			
Pike Creek near Newark, DE	01478950	6.04	1969-75
Mill Creek at Hockessin, DE	01479200	**a**4.19	1966-75
West Branch Red Clay Creek:			
Red Clay Creek tributary near Yorklyn, DE	01479950	0.38	1966-75
Brandywine Creek:			
Brandywine Creek tributary near Centerville, DE	01481200	0.97	1966-75
Husbands Run:			
Willow Run at Rockland, DE	01481450	0.37	1966-75
Red Lion Creek:			
Doll Run at Red Lion, DE	01482310	**b**1.2	1966-75
SMYRNA RIVER BASIN			
Providence Creek (head of Smyrna River):			
Paw Paw Branch:			
Paw Paw Branch tributary near Clayton, DE	01483290	**b**1.3	1966-75
Smyrna River:			
Sawmill Branch:			
Sawmill Branch tributary near Blackbird, DE	01483400	**b**0.6	1966-75
LEIPSIC RIVER BASIN			
Leipsic River near Cheswold, DE	01483500	9.35	1958-75
ST. JONES RIVER BASIN			
St. Jones River:			
Puncheon Branch at Dover, DE	01483720	**b**2.3	1966-75
MURDERKILL RIVER BASIN			
Murderkill River:			
Murderkill River tributary near Felton, DE	01484002	**b**1.0	1966-75
Hudson Branch (head of Spring Creek):			
Pratt Branch near Felton, DE	01484050	3.29	1966-75
BROADKILL RIVER BASIN			
Broadkill River:			
Beaverdam Creek near Milton, DE	01484270	6.10	1966-75
INDIAN RIVER BASIN			
Indian River:			
Whartons Branch near Millsboro, DE	01484531	5.8	1986-88
Pepper Creek at Dagsboro, DE	01484550	8.78	1960-75
Blackwater Creek near Clarksville, DE	01484600	3.5	1986-88
WICOMICO RIVER BASIN			
Andrews Branch (head of Wicomico River) near Delmar, MD	01486100	**b**4.1	1966-76
NANTICOKE RIVER BASIN			
Nanticoke River:			
Bridgeville Branch:			
Bridgeville Branch tributary at Bridgeville, DE	01486900	**b**0.8	1966-68
Gum Branch:			
Toms Dam Branch near Greenwood, DE	01486980	**b**6.4	1966-75
James Branch (head of Broad Creek):			
Trap Pond Outlet (head of Hitch Pond Branch) near Laurel, DE	01487500	16.7	1972-73 1975
Broad Creek:			
Little Creek:			
Meadow Branch near Delmar, DE	01487900	**b**3.9	1967-75
Holly Ditch near Laurel, DE	01488000	2.19	1959-75
CHOPTANK RIVER BASIN			
Tappahanna Ditch (head of Choptank River) near Hartly, DE	01490470	5.93	1961-73
Tidy Island Creek (continuation of Tappahanna Creek):			
Culbreth Marsh Ditch:			
Beachy Neidig Ditch near Willow Grove, DE	01490490	**b**2.3	1966-75
Culbreth Marsh Ditch (Shades Branch) near Chapeltown, DE	**c**01490500	11.6	1957-68
Cow Marsh:			
Meredith Branch near Sandtown, DE	01490600	**b**8.4	1966-75
Broadway Branch:			
Oldtown Branch at Goldsboro, MD	01490800	3.9	1967-76
Gravelly Branch:			
Sangston Prong near Whiteleysburg, DE	01491010	**b**1.9	1966-75
Spring Branch near Greensboro, MD	01491050	**b**3.8	1966-76
Hunting Creek:			
Gravel Run at Beulah, MD	01492050	8.4	1966-76

a 0.15 square miles is probably noncontributing.
b Approximately.
c Prior to 1956 published as "Shades Branch".

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
WYE RIVER BASIN			
Wye River:			
Wye East River:			
Sallie Harris Creek near Carmichael, MD	01492500	8.09	1957-81
Skipton Creek:			
Mill Creek near Skipton, MD	01492550	**b**4.6	1966-76
CHESTER RIVER BASIN			
Andover Branch (head of Chester River):			
Southeast Creek at Church Hill, MD	01494000	12.5	1957-65
Browns Branch:			
Browns Branch tributary near Church Hill, MD	01494020	**b**1.7	1971-78
NORTHEAST RIVER BASIN			
Northeast Creek (head of Northeast River):			
Northeast River tributary near Charlestown, MD	01496080	**b**1.7	1967-76
SUSQUEHANNA RIVER BASIN			
Susquehanna River:			
Broad Creek:			
Broad Creek tributary at Whiteford, MD	01577940	0.77	1971-86
Octoraro Creek:			
Basin Run at West Nottinhgam, MD	01578800	**b**1.3	1967-76
Basin Run at Liberty Grove, MD	01579000	5.31	1965-76
Bush River Basin			
Bynum Run (head of Bush River) at Bel Air, MD	01581500	8.52	1971-72
GUNPOWDER RIVER BASIN			
Gunpowder Falls (head of Gunpowder River):			
Piney Creek near Hereford, MD	01582510	**b**1.5	1966-79
Western Run:			
Western Run tributary at Western Run, MD	01583495	0.26	1966-76
Beaverdam Run:			
Baisman Run at Broadmoor, MD	01583580	1.47	1970-76
Little Gunpowder Falls at Laurel Brook, MD	01584500	36.1	1971-86
PATAPSCO RIVER BASIN			
North Branch Patapsco River:			
South Branch Patapsco River:			
Hay Meadow Branch:			
Hay Meadow Branch tributary at Poplar Springs, MD	01587050	0.54	1966-76
Piney Run near Sykesville, MD	01588000	11.4	1959-74
Patapsco River:			
Gwynns Falls at Owings Mills, MD	01589220	9.12	1958-65 1967-68
Gwynns Falls at McDonough, MD	01589240	19.3	1958-68 1971-84
Jones Falls at Brooklandville, MD	01589400	19.7	1958-65 1968
PATUXENT RIVER BASIN			
Patuxent River:			
Little Patuxent River:			
Little Patuxent River tributary at Guilford Downs, MD	01593350	0.95	1966-76
Dorsey Run near Jessup, MD	01594400	11.6	1959-68
Mill Branch near Mitchellville, MD	01594445	**b**1.1	1967-76
POTOMAC RIVER BASIN			
North Branch Potomac River:			
Savage River near Frostburg, MD	01596005	**b**1.5	1971-86
Wills Creek below Hyndman, PA	01601000	146	1968-86
Potomac River:			
Town Creek:			
Sawpit Run near Oldtown, MD	01609500	5.08	1963-76
Fifteen Mile Creek:			
Pratt Hollow:			
Pratt Hollow tributary at Pratt, MD	01610105	0.70	1971-86
Sideling Hill Creek:			
Bear Creek at Forest Park, MD	01610150	10.4	1965-69 1971-83
Little Tonoloway Creek near Hancock, MD	01612500	16.9	1964
Ditch Run near Hancock, MD	01613150	**b**4.8	1965-86
Potomac River tributary near Hancock, MD	01613160	**b**1.2	1965-76
Antietam Creek:			
Little Antietam Creek:			
Dog Creek:			
Dog Creek tributary near Locust Grove, MD	01619475	0.10	1966-76

b Approximately.

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi²)	Period of record
POTOMAC RIVER BASIN --Continued			
Catoctin Creek:			
Little Catoctin Creek at Harmony, MD	01637000	8.8	1961-67 1969-77
Hollow Road Creek (head of Cone Branch) near Middletown, MD	01637600	2.3	1965-74 1977
Monocacy River:			
Piney Creek:			
Piney Creek tributary at Taneytown, MD	01639095	0.62	1967-76
Big Pipe Creek:			
Little Pipe Creek at Avondale, MD	01640000	8.10	1959-65 1967-80
Owens Creek:			
Owens Creek tributary near Rocky Ridge, MD	01640700	**b**1.2	1967-77
Linganore Creek:			
Dollyhyde Creek at Libertytown, MD	01642400	**b**2.7	1969-76
Little Seneca Creek (head of Seneca Creek):			
Bucklodge Branch:			
Bucklodge Branch tributary near Barnesville, MD	01644420	0.27	1967-76
Little Falls Branch near Bethesda, MD	01646550	**b**4.1	1979-84
Northeast Branch Anacostia River:			
Northwest Branch Anacostia River at Norwood, MD	01650050	2.45	1975-76
Browns Creek:			
Nursery Run at Cloverly, MD	01650085	0.35	1975-76
North Creek:			
Batchellors Run at Oakdale, MD	01650190	0.47	1967-76
Mattawoman Creek near Pomonkey, MD	01658000	57.7	1973-86
Zekiah Swamp Run (head of Wicomico River):			
Wolf Den Branch near Cedarville, MD	01660900	**b**2.3	1966-80
Clark Run near Bel Alton, MD	01660930	10.4	1966-76
Herring Creek:			
Glebe Branch at Valley Lee, MD	01661430	**b**0.3	1968-78
OHIO RIVER BASIN			
MONONGAHELA RIVER BASIN			
Monongahela River:			
Youghiogheny River:			
Little Youghiogheny River:			
Little Youghiogheny River tributary near Deer Park, MD	03075450	0.57	1965-76
Toliver Run:			
Toliver Run tributary near Hoyes Run, MD	03075600	0.53	1965-86
Youghiogheny River tributary near Friendsville, MD	03076505	0.22	1965-76
North Branch Casselman River:			
North Branch Casselman River tributary at Foxtown, MD	03077700	**b**1.0	1965-77
Casselman River:			
Big Piney Run near Salisbury, PA	03078500	24.5	1974-86

b Approximately.

The following continuous-record surface-water-quality stations have been discontinued in Maryland and Delaware. Daily records of specific conductance (SC), water temperature (T), pH, dissolved oxygen (DO), and sediment (SED) were collected for the period (in water years) shown for each station.

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Type of record	Period of record
DELAWARE RIVER BASIN				
Delaware River:				
Christina River:				
White Clay Creek:				
Red Clay Creek at Wooddale, DE	01480000	47.0	T	1953-81
Brandywine Creek at Wilmington, DE	01481500	314	T	1957-61
				1971-73
				1975-80
			SED	1947-61
				1964-80
Delaware Bay near Lewes, DE	01484450		SC, T	1993-98
CHOPTANK RIVER BASIN				
Choptank River near Greensboro, MD	01491000	113	SC, T	1975-91
			SED	1981-91
ELK RIVER BASIN				
Elk River near Town Point, MD	01495900		SC, T	1982-98
SUSQUEHANNA RIVER BASIN				
Susquehanna River at Conowingo, MD	01578310	27,100	SC, T	1979-81
				1984-92
			SED	1980-81
				1984-92
RHODE RIVER BASIN				
Rhode River:				
Muddy Creek:				
North Fork Muddy Creek at South River, MD	01590710	0.89	T	1971-78
Rhode River near South River, MD	01590720	18.0	SC, pH, T, DO	1971-83
PATUXENT RIVER BASIN				
Patuxent River near Bowie, MD	01594440	348	SC, T	1978-80
				1986-91
			SED	1986-91
Patuxent River at Benedict, MD	01594700	742	T	1964-69
POTOMAC RIVER BASIN				
North Branch Potomac River:				
Laurel Run at Dobbin Road near Wilson, MD	01594930	8.23	SC, T	1981-88
			pH	1984-88
Sand Run:				
South Fork Sand Run near Wilson, MD	01594934	1.55	SC, pH, T	1981-86
North Fork Sand Run near Wilson, MD	01594936	1.91	SC, T	1981-88
			pH	1985-88
McMillan Fork near Fort Pendelton, MD	01594950	2.30	SC, pH, T	1987-97
North Branch Potomac River at Kitzmiller, MD	01595500	225	SC, pH, DO	1981-85
			T	1961-85
North Branch Potomac River at Barnum, WV	01595800	266	SC, pH, T, DO	1981-85
North Branch Potomac River at Luke, MD	01598500	404	T	1961-81
North Branch Potomac River at Pinto, MD	01600000	596	SC, pH, T, DO	1981-85
North Branch Potomac River near Cumberland, MD	01603000	875	T, SED	1965-79
Potomac River at Hancock, MD	01613000	4,073	T	1952-64
				1966-75
Conococheague Creek at Fairview, MD	01614500	495	T, SED	1967-80
Potomac River at Shepherdstown, WV	01618000	5,936	SC, T	1981
Antietam Creek near Sharpsburg, MD	01619500	281	T	1963-75
Shenandoah River at Millville, WV	01636500	3,040	SC, T	1980-83
Potomac River at Point of Rocks, MD	01638500	9,651	T, SED	1961-93
Monocacy River at Bridgeport, MD	01639000	173	T, SED	1990-93
Hunting Creek near Foxville, MD	01640965	2.14	SC, T	1988-91
Hunting Creek tributary near Foxville, MD	01640970	4.01	SC, T	1988-91
Fishing Creek:				
Fishing Creek tributary near Lewistown, MD	01641510	0.40	SC, T	1988-90
Monocacy River at Reich's Ford Bridge near Frederick, MD	01643020		T, SED	1961-93
Watts Branch at Rockville, MD	01645200	3.70	T	1957-67
Potomac River at Great Falls, MD	01645500	11,430	SC, T	1973-78

	Station number	Drainage area (mi^2)	Type of record	Period of record
NORTH ATLANTIC SLOPE BASINS				
POTOMAC RIVER BASIN--Continued				
Potomac River at Chain Bridge at Washington, DC	01646580	11,570	SC, pH, T, DO	1978-81
			SED	1979-81
Rock Creek:				
North Branch Rock Creek:				
Williamsburg Run near Olney, MD	01647685	2.25	SED	1967-68
North Branch Rock Creek near Rockville, MD	01647740	12.5	SED	1967-77
Northeast Branch Anacostia River:				
Northwest Branch Anacostia River:				
Browns Creek:				
Nursery Run at Cloverly, MD	01650085	0.35	SED	1967-68
Northwest Branch Anacostia River near Colesville, MD	01650500	21.1	SED	1967-75
Potomac River at Indian Head, MD	01655480	12,160	SC, pH, T, DO	1978-81
Potomac River at Piney Point, MD	01661475	---	SC, pH, T, DO	1980-81
OHIO RIVER BASIN				
MONONGAHELA RIVER BASIN				
Monongahela River:				
Youghiogheny River at Friendsville, MD	03076500	295	T	1963-75

The following low-flow, partial-record stations have been operated in Maryland, Delaware, and the District of Columbia. Measurements at these sites were made during periods of base flow when streamflow was primarily from ground-water storage. The column headed "Period of record" shows the water years in which measurements were made.

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Period of record
DELAWARE RIVER BASIN			
Delaware River:			
Naaman Creek:			
South Branch Naaman Creek near Claymont, DE	01477400	3.83	1955-66 1968-71
Christina River near Newark, DE	01477850	3.76	1981-83
West Branch Christina River near Newark, DE	01477860	4.20	1981-83
Belltown Run near Glascow, DE	01478009	3.35	1978-81
Muddy Run at Glascow, DE	01478024	5.43	1978-81
Muddy Run near Cooches Bridge, DE	01478028	8.21	1978-80
White Clay Creek:			
White Clay Creek tributary near Ogletown, DE	01478878	3.68	1978-80
Brandywine Creek:			
Rocky Run at Talleyville, DE	01481350	1.76	1957-59 1966
Wilson Run at Guyencort, DE	01481400	1.62	1957-59
North Fork Wilson Run at Guyencort, DE	01481430	1.12	1957-59
Wilson Run at Rockland, DE	01481440	3.05	1957-63
Husbands Run at Rockland, DE	01481460	1.28	1957-59
Squirrel Run at Montchanin, DE	01481480	1.67	1957-59
Alapocas Run at Concord, DE	01481530	0.81	1957-59
Red Lion Creek at Red Lion, DE	01482300	3.20	1955-60 1962-71
Dragon Creek at Kirkwood, DE	01482400	1.93	1978-81
Dragon Creek tributary at Kirkwood, DE	01482405	0.16	1978-81
Joy Run near Summit Bridge, DE	01482670	1.26	1978-80
Scott Run near Boyds Corner, DE	01482690	2.18	1978-81
Appoquinimink River:			
Wiggins Millpond Outlet (head of Appoquinimink River) at Townsend, DE	01483150	3.82	1957-60 1962-66 1968-71 1978-80
Drawyer Creek near Mt. Pleasant, DE	01483160	1.54	1978-80
Drawyer Creek tributary near Armstrong, DE	01483165	4.68	1979-80
Drawyer Creek tributary near Odessa, DE	01483170	4.68	1978-80
SMYRNA RIVER BASIN			
Providence Creek (head of Smyrna River) at Clayton, DE	01483300	11.8	1955-60 1962-63 1966, 1968-69
Smyrna River:			
Mill Creek at Smyrna, DE	01483350	4.77	1955-57 1959-60 1962-63 1966, 1968-69
ST. JONES RIVER BASIN			
Fork Branch (head of St. Jones River) at Dupont, DE	01483650	7.50	1955-57 1959-60 1962-66 1968-71
Maidstone Branch at Dupont, DE	01483680	17.3	1955-57 1959-60 1962-66 1968-71
MURDERKILL RIVER BASIN			
Murderkill River:			
Browns Branch near Houston, DE	01484020	12.4	1955-71
Spring Creek:			
Hudson Branch (head of Spring Creek) near Canterbury, DE	01484040	8.40	1955-60
Pratt Branch near Felton, DE	01484050*	3.29	1955-57 1959-60 1962-71
Double Run near Magnolia, DE	01484060	5.68	1955-57 1959-60 1962-64 1966-71
MISSPILLION RIVER BASIN			
Beaverdam Branch (head of Misspillion River):			
Cedar Creek near Lincoln, DE	01484200	7.21	1955-60 1962-63 1966, 1968-69

* Also a crest-stage partial-record station.

WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1998

VOLUME 1. SURFACE-WATER DATA

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Maryland and Delaware each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled **"Water Resources Data - Maryland and Delaware."**

This report series includes records of stage, discharge, and water quality of streams and stage, contents, and water quality of lakes and reservoirs. This volume contains records for water discharge at 105 gaging stations; stage and contents at 1 reservoir; and water quality at 16 gaging stations. Also included are stage and discharge for 3 crest-stage partial-record stations, discharge only for 9 low-flow partial-record stations, and stage only for 5 tidal crest-gage partial-record stations. Locations of these sites are shown on figure 3. Locations of discontinued gaging stations are shown on figure 4. Additional water data were collected at various sites not part of the systematic data-collection program. These data represent that part of the National Water-Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Maryland and Delaware.

This series of annual reports for Maryland and Delaware began with a report for the 1961 water year that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the l975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels. In the 1989 water year, the report format was changed to two volumes. Both volumes contained data on quantities of surface water, quality of surface and ground water, and ground-water levels. Volume 1 contained data on the Atlantic Slope Basins (Delaware River through Patuxent River) and Volume 2 contained data on the Monongahela and Potomac River Basins. Beginning with the 1991 water year, Volume 1 contains all information on quantities of surface water and surface-water-quality data and Volume 2 contains ground-water levels and ground-water-quality data.

Prior to the introduction of this series and for several water years concurrent with it,water-resources data for Maryland and Delaware were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage, and on lake or reservoir contents and stage, through September 1960, were published annually under the title **"Surface-Water Supply of the United States, Parts 6A and 6B."** For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title **"Quality of Surface Waters of the United States,"** and water levels for the 1935 through 1974 water years were published under the title **"Ground-Water Levels in the United States."** The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States, and may be purchased from the U.S.Geological Survey, Branch of Information Services, Federal Center, Bldg. 41, Box 25286, Denver, CO 80225.

Publications similar to this report are published annually by the U.S.Geological Survey for all States. These official Survey reports have 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 volume is identified as **"U.S. Geological Survey Water-Data Report MD-DE-98-1."** For archiving and general distribution, the reports for l971-74 water years also are identified as water- data reports. These water-data reports are for sale in paper copy or on microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 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 at (410) 238-4200.

COOPERATION

The U.S. Geological Survey and agencies of the State of Maryland had cooperative agreements for the collection of water-resource records from 1896 to 1909 and since 1924. Similar cooperative agreements have existed between the Survey and agencies of the State of Delaware since 1943. Organizations that assisted in collecting the data in this report through cooperative agreements with the Survey are:

Maryland Geological Survey, Emery T. Cleaves, Director.

Delaware Geological Survey, Robert R. Jordan, State Geologist.

Maryland Department of the Environment, Chesapeake Bay and Special Projects Program, Robert M. Summers, Division Chief.

District of Columbia Department of Public Works, Larry King, Director.

Maryland State Highway Administration, Parker F. Williams, Administrator.

Assistance with funds or services was given by the U.S. Army Corps of Engineers for collecting records at 13 gaging stations and 6 water-quality stations throughout Maryland and Delaware.

The following organizations also aided in collecting records:

Delaware: Department of Natural Resources and Environmental Control, Water Resources Agency for New Castle County.

Maryland: Maryland Water Resources Administration, Washington Suburban Sanitary Commission, Upper Potomac River Commission, Baltimore County, Baltimore City, Anne Arundel County, Montgomery County, Prince Georges County.

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow at the beginning of the 1998 water year was in the normal range throughout Maryland and Delaware and remained in the normal range during October 1997. During November 1997, flows increased into the excessive range (upper 25 percent of the record) throughout Maryland and Delaware following above normal rainfall (2.0 to 4.5 inches). In December 1997, flows returned to the normal range, except for central Maryland, where flows dropped into the deficient range (lower 25 percent of the record) following below-normal precipitation (0.5 to 1.5 inches). During January through March 1998, flows were in the excessive range following above-normal precipitation (2.0 to 4.5 inches each month). In April 1998, flows returned to the normal range throughout Maryland and Delaware, except for the Potomac River basin in the Washington, DC vicinity, where flows remained in the excessive range. During May 1998, flows were excessive in central and southern Maryland following above-normal precipitation (1.0 to 2.0 inches) and in the normal range for the rest of Maryland and Delaware. Flows for June through August 1998 were in the normal range throughout Maryland and Delaware. During September 1998, flows stayed in the normal range, except for central Maryland, where flows fell into the deficient range following below-normal precipitation (0.5 to 1.5 inches).

During the 1998 water year, flows were in the normal range at three of the four index stations: Seneca Creek at Dawsonville, in central Maryland; Choptank River at Greensboro, on the Eastern Shore of Maryland; and Potomac River near Washington, DC, in central Maryland. At the fourth index station, Potomac River at Paw Paw, WV, in western Maryland, flows were in the excessive range. A record monthly mean was set for Potomac River at Paw Paw, WV during February 1998. The new record monthly mean was 6 percent greater than the record set in 1994. A new maximum daily mean was set at Seneca Creek at Dawsonville during March 1998. The new record daily mean was 72 percent greater than the previous record set in 1967. At the Potomac River near Washington, DC index station, a new maximum monthly mean was set in February 1998. The new record monthly mean was 55 percent greater than the previous record set in 1994.

Monthly and annual-mean discharges for water year 1998 were compared to long-term averages (reference period 1961-90) for two representative streamflow-gaging stations in figure 1. Data for the station, Potomac River at Point of Rocks, in central Maryland, reflect runoff conditions in the Potomac River basin, excluding the Coastal Plain. Data for the station, Choptank River near Greensboro, on the Eastern Shore of Maryland, reflect runoff from a 113 mi^2(square mile) area, of which 21.6 mi^2 is located in Delaware in the central part of the Delmarva Peninsula.

Average freshwater inflow to the Chesapeake Bay was estimated to be 106,000 ft^3/s (cubic feet per second), on the basis of flows for the James, Potomac, and Susquehanna Rivers. This is 137 percent of the long-term average during the reference period 1951-98. Flows for October averaged 59 percent below normal. During November, flows averaged 76 percent below normal. For December, flows averaged 80 percent below normal. For January, flows averaged 10 percent below normal. Flows in February averaged 34 percent below normal. Flows in March and April were 146 and 123 percent above normal, respectively. Flows for May were 156 percent above normal. June flows, were 9 percent below normal. During July, flows were 115 percent above normal. The months of August and September were 33 and 55 percent below normal, respectively.

The combined storage in the three major water-supply reservoirs in the Baltimore City Municipal System (combined usable capacity of 85,340 million gallons) increased from 75 percent of capacity from September 1997, to 87 percent of capacity at the end of September 1998.

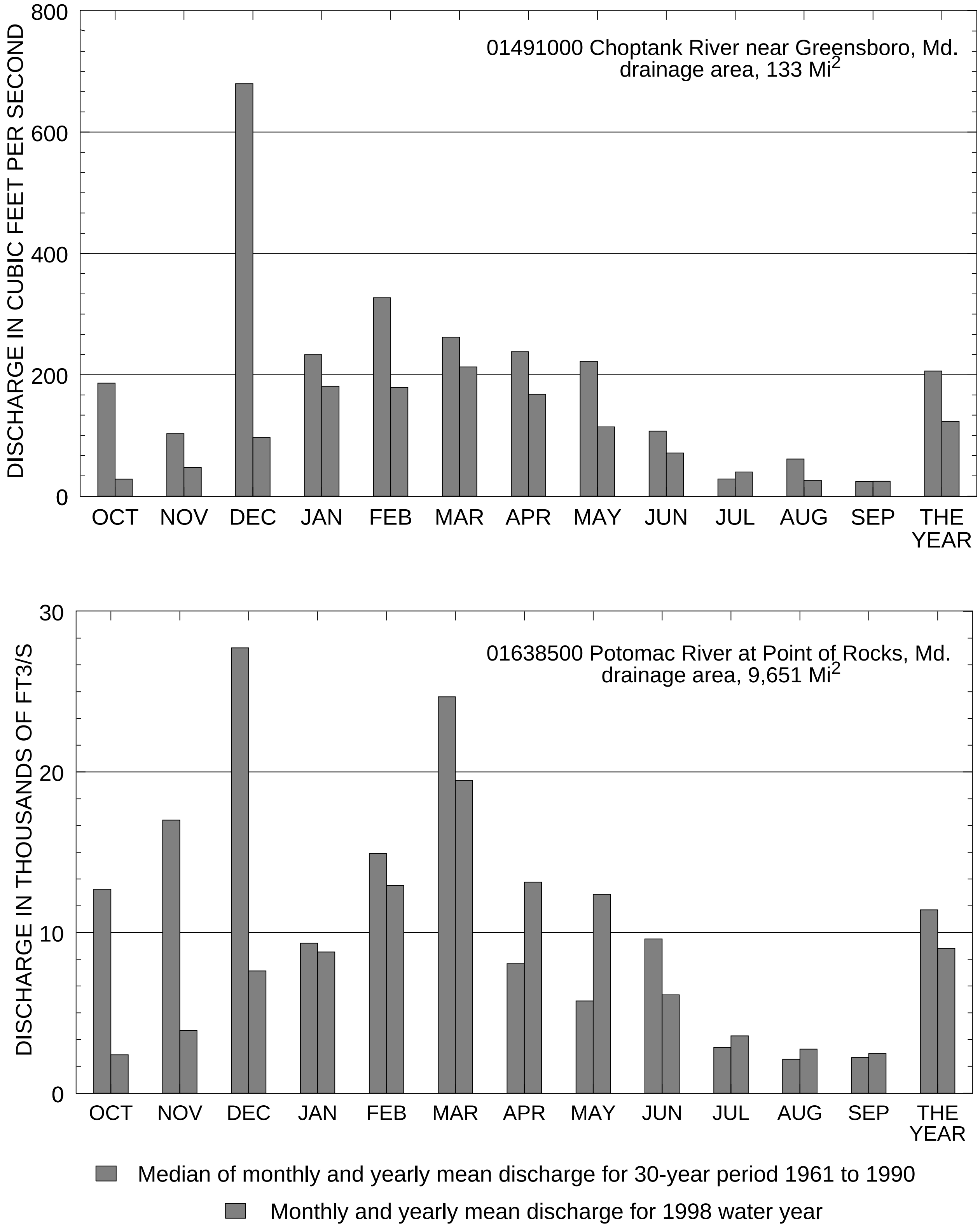

FIGURE 1. COMPARISON OF DISCHARGE AT TWO LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1998 WATER YEAR WITH MEDIAN DISCHARGE FOR INDICATED PERIOD.

SPECIAL NETWORKS AND PROGRAMS

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency so that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used to: (1) describe the long-term trends and changes in concentration and transport of these constituents; (2) test findings of the National Water-Quality Assessment Program (NAWQA); (3) characterize processes unique to large river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans, and to determine global cycles of carbon, nutrients, and other chemicals.

National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide, and account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian Nations, and Universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to coordinate efforts among agencies.

Additional information about the NAWQA program is available on the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1997 water year that began October 1, 1995, and ended September 30, 1997. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figure 3. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The **"downstream order"** system is used for regular surface-water stations and the **"latitude-longitude"** system is used for wells and, in Maryland and Delaware, for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

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 mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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 with respect to the stream to which it is immediately tributary is indicated by an indentation in the **"List of Stations"** in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. 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 eight-digit number for each station, such as 01477800, which appears just to the left of the station name, includes the two-digit part number **"01"** plus the six-digit downstream-order number **"477800."** The part number designates the major river basin; for example, part **"01"** is the North Atlantic Slope Basin.

Latitude-Longitude System

The identification numbers for miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the **LOCATION** paragraph of the station description(See figure 2 below).

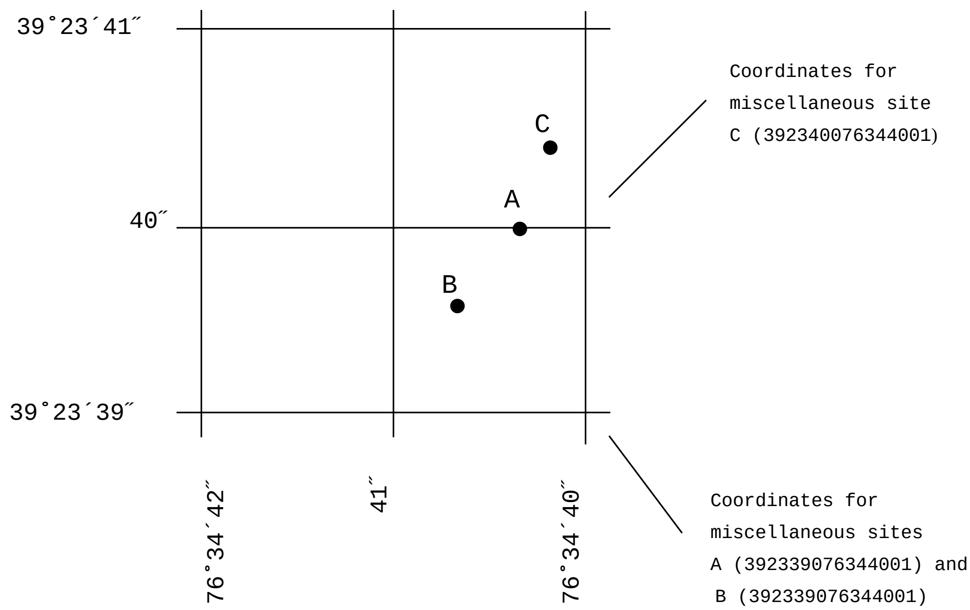

Figure 2. --System for numbering miscellaneous sites (latitude and longitude)

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean-daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because mean-daily discharges and end-of-day contents commonly are published for such stations, they are referred to as **"daily stations."**

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as **"Crest-stage partial records,"** or **"Low-flow partial records."** Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered partial records, but they are presented separately in this report. Locations of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 3.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationship between stage and discharge. These data, together with supplemental information such as weather records are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations (**TWRI**'s), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (**ASTM**)standards and generally follow the standards of the International Organization for Standards (**ISO**).

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily-mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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.

In computing records of lake or reservoir contents, it is necessary to have available curves or tables defining the relationship of stage and content based on bathymetric surveys. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes are then determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic re-surveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the time lapsed since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships, much as other stream discharges are computed.

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 from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, **"Data Presentation"** (**REMARKS** paragraph) and **"Identifying Estimated Daily Discharge."**

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table, and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily-mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water years; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides descriptive information under various headings such as station location, period of record, historical extremes outside the period of record, record accuracy, and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments which follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gaging station in relation to the cultural and physical features in the vicinity and to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in **"River Mileage Measurement,"** Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the maps available vary from one drainage basin to another, the accuracy of drainage areas also varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that flow at it can reasonably be considered equivalent to flow at the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted 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 most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see Glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, **"Identifying Estimated Daily Discharge"**). If a **REMARKS** paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record, to extreme data for the period of record and the current year, and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included in this section is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

PEAK DISCHARGE(S) FOR CURRENT YEAR.--The maximum instantaneous discharge and any secondary peaks occurring during the current year are given. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, the records of a discontinued gaging station may occasionally need revision. Because there would be no current or, possibly, future station manuscript published for these stations to document the revision in a **"Revised Records"** entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. If the data for a discontinued station were obtained by computer retrieval, however, the data would be current and the there would be no need to check because any published revision of data is always accompanied by a revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the **"REMARKS"** and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for **AVERAGE DISCHARGE** and **EXTREMES FOR THE PERIOD OF RECORD** have been deleted and the information contained in these paragraphs is now presented in the tabular summaries following the discharge table or in the **REMARKS** paragraph, as appropriate. No changes have been made to the data presentation of lake contents.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed **"TOTAL"** gives the sum of the daily figures for each month, the line headed **"MEAN"** gives the average flow in cubic feet per second for the month, and the lines headed **"MAX"** and **"MIN"** give the maximum and minimum daily discharges, respectively, for each month. Discharge for the month also is usually 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 or in acre-feet may be omitted if there is extensive regulation or diversion, or if the drainage area includes large non-contributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed **"MEAN"**), maximum (line headed **"MAX"**), and minimum (line headed **"MIN"**) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period is expressed as **"FOR WATER YEARS ____-____, BY WATER YEAR (WY),"** and lista the first and last water years of the range of years selected from the **PERIOD OF RECORD** paragraph in the station manuscript. It consists of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled **"SUMMARY STATISTICS"** follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, **"WATER YEARS ____-____,"** will consists of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated **ANNUAL** (see line headings below), except for the **"ANNUAL 7-DAY MINIMUM"** statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the **REMARKS** paragraph of the manuscript or in footnotes. Because the designated period may not be the same as in the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurrs, it will be noted in the **REMARKS** paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage area.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments below clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations, the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily-mean discharges for the year noted or for the designated period. At some stations the yearly mean is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.-- The lowest mean discharge for 7 consecutive days for a calendar year or a water year. (Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year April 1 to March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period.

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-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.

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 the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

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 annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record 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. These measurements are generally made during times of drought or flood to give better areal coverage of those events. These measurements and others collected for some special reasons are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol **"e"** and printing a table footnote, **"e Estimated,"** or by listing the dates of the estimated record in the **REMARKS** paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under **"REMARKS."** **"Excellent"** means that about 95 percent of the daily discharges are within 5 percent of their true values; **"good,"** within 10 percent; and **"fair,"** within 15 percent. Records that do not meet the criteria mentioned are rated **"poor."** Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, 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 when compared to the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Maryland and Delaware offices of the MD-DE-DC District. In addition, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A **continuing-record station** is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A **partial-record station** is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A **miscellaneous** sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between **"continuing records"** , as used in this report, and **"continuous recordings",** which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 3.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available, or where the water quality differs significantly from that of the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is to insure that the data obtained represent the in situ quality of the water. For this reason, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on-site when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on **"Techniques of Water-Resources Investigations,"** Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. These references are listed under **"PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS"** section of this report. These methods are consistent with ASTM standards and generally follow ISO standards. Also, detailed information on collecting, treating, and shipping samples may be obtained from the U.S. Geological Survey Maryland and Delaware offices.

One sample can adequately define 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. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

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 U.S. Geological Survey Maryland office whose address is given on the back of the title page of this report.

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 diurnal temperature change; shallow streams may have a daily range of several degrees and may closely follow 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. Water temperatures measured at the time of water-discharge measurements are on file in the Maryland and Delaware Offices of the U.S. Geological Survey.

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 discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after these periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are descibed in TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

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

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (**BOD**), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the U.S. Geological Survey laboratory in Arvada, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in TWRI Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters that are currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of **"daily values"** of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge-gaging station, neither the **LOCATION** nor the **DRAINAGE AREA** statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments below describe information presented under the various headings of the station description.

LOCATION.--See Data Presentation under **"Records of Stage and Water Discharge;"** same comments apply.

DRAINAGE AREA.--See Data Presentation under **"Records of Stage and Water Discharge;"** same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

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 ensure that they obtain the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant
V	Analyte was detected in both the environmental sample and the associated blank.

WATER-QUALITY CONTROL DATA

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC collected by this District are described in the following section. Procedures have been established for the storage of water-quality-control data within the U.S. Geological Survey. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this District are:

Field Blank - a blank solution that is subjected to all aspects of sample collection, field-processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank - a blank solution that is processed through the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank -a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank, but normally done in the more controlled conditions of the office).

Sampler blank - a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank - a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank - a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank - a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference sample is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are collected one after the other, typically over a short time.

Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quanities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis

ACCESS TO USGS DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for the most current or discontinued gaging stations on the world wide web. These data may be accessed at

http://water.usgs.gov/

Some water-quality and ground-water data also are available on the world wide web. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address for MD-DE-DC on back of the title page).

DEFINITION OF TERMS

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

Acid neutralizing capacity **(ANC)** is the equivalent sum of all base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalent point.

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

Adenosine triphosphate **(ATP)** is an organic, phosphate-rich, compound important in the transfer of energy in organisms. 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.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while 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 all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35˚C plus or minus 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 intestine 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 that produce blue colonies within 24 hours when incubated at 44.5˚C plus or minus 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 also found in the intestine 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 plus or minus 1.0˚C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria which produce pink to red colonies or reddish-brown precipitate after incubation at 41˚C on mE agar and subsequent transfer to EIA medium. Enterococci include Streptoccus feacalis, Streptoccus feacium, Streptoccus avium, and their variants.

Bedload is the sediment which moves along in essentially continuous contact with the streambed by rolling, sliding, and making brief excursions into the flow a few diameters above the bed.

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

Benthic invertebrates are invertebrate animals inhabitig the bottoms of lakes, streams, and other water bodies. They are useful as indicators of water quality.

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^3), and periphyton and benthic organisms in grams per square mile (g/mi^2).

Dry mass refers to the mass of residue present after drying in an oven at 105˚C for zooplankton and 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 a 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 green 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.

Continuing-record station is a specified site which meeets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.

2. When water temperature records include observations taken one or more times daily.

3. When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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 foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute 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.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.

Dissolved refers to 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.

Dissolved-solids concentration of water is determined either analytically by the **"residue-on-evaporation"** method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

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.

Extractable organic halides (EOX) are organic compounds which contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried stream bottom sediments. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the stream bottom sediments.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide.

Hydrologic Bench-Mark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

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 eight-digit number.

Low tide is the minimum height reached by each falling tide.

Mean high tide is the average of all high tides over a specified period.

Mean low tide is the average of all low tides over a specified period.

Mean water level is the average of all tides over a specified period.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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 substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, µg/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.

Microsiemans per centimeter (mS/cm, US/CM) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemans is the International System of unite nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

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

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the labratory examination; it is not an actual enumeration. It is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic-invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) 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.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize thw water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The **National Atmospheric Deposition Program/National Trends Network (NAPD/NTN)** provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead feredal agency, the USGS works together with over 100 organizations to accomplish the following objectives; (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO2 emmissions that began in 1995 as implementation of the Clean Air Act Admendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO2 and NOx scheduled to begin in 2000.

The **National Water-Quality Assessment (NAWQA) Program** of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Organism is any living entity.

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 meter (m^2), acre, or hectare. 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 milliliter (mL) or liter (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.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, National Water Information Ststem (NWIS), to uniquely identify a specific constituent. The codes used in **NWIS** are the same as those used in the U.S. Environmental Protection Agency data system, **STORET**. The Environmental Protection Agency assigns and approves all requests for new codes.

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 a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine the 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 the recommendation 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 matter 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.

Periphyton is the assemblage of micro-organisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1 x 10) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 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 per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating **"moss"** in lakes. Their concentrations are expressed as number of cells per milliliter (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 (PCB's) 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 [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.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 [mg O_2/(m^2.time)] for periphyton and macrophytes and [mg O_2 /(m^3.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.

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.

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 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 procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

River mile as used herein, is the distance above the mouth of Chesapeake Bay, Potomac River, or confluence of the North and South Branches of the Potomac River, measured along the center line of the navigation channel or the main stem of the Potomac River, Shenandoah River, or North or South Branch of the Potomac River. River mile data were furnished by the U.S. Army Corps of Engineers.

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.

Sea level: In this report **"sea level"** refers to the National Geodetic Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 feet of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

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).

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Suspended total residue at 105˚C concentaration is the concentration of suspended sediment in the sampled zone expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). Asmall aliquot of sample is used for the analysis.

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 mass or volume, that passes a section during a given time.

Total sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance 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 microsiemens 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 microsiemens). 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 lives.

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

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 multiplate 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. Geological Survey 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 the 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 undissolved material in a water-sediment mixture. It is associated with the 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 µm 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 are 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 µm 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.

Synoptic Studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution of critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial 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 of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

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 determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross section per unit of time. This term needs to be qualified, such as **"total sediment discharge," "total chloride discharge,"** and so on.

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 are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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.

Volatile Organic Compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are man-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Enviromenyal Protection Agency, 1996).

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

WDR is used as an abbreviation for **"Water-Data Report"** in the **REVISED RECORDS** paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for **"Water-Resources Data"** in reports published prior to 1976).

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 abbreviaton for **"Water-Supply Paper"** in reference to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting 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) pertains to 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 Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1-D1. **Water temperature--influential factors, field measurements, 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.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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-D2. **Application of seismic-refraction techniques to hydrologic studies**, by F. P. Haeni: USGS--TWRI Book 2, Chapter d2. 1988. 86 pages.

Section E. Subsurface Geophysical Methods

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.

2-E2. **Borehole geopphysics applied to ground-water investigations**, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.

Section F. Drilling and Sample Methods

2-F1. **Application of drilling, coring, and sampling techniques to test holes and wells**, by Eugene Shuter and W¥ E. Teasdale: USGS-TWRI Book 2, Chapter F1. 1989. 97 pages.

Book 3. Application of Hydraulics

Section A. Surface Water Techniques

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 Dividian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. **Stage measurements at gaging stations**, 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 F. A. Kilpatrick, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

3-A10. **Discharge ratings at gaging stations**, E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

Book 3. Application of Hydraulics--Continued

Section A. Surface Water Techniques*--Continued*

3-A12. **Flurometric procedures for dye tracing**, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 34 pages.

3-A13. **Computation of continuous records of streamflow**, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. **Use of flumes in measuring discharge**, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. **Computation of water-surface profiles in open channels**, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. **Measurement of discharge using tracers**, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. **Acoustic velocity meter systems**, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-A18. **Determination of stream reaeration coefficients by use of tracers**, by F. A. Kilpatrick, R. E. Rathbun, Nobuhiro Yotsukura, G. W. Parker, and L. L. Delong: USGS-TWRI Book 3, Chapter 18A. 1989. 52 pages.

3-A19. **Levels of streamflow gaging stations**, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. **Simulation of soluable waste transport and buildup in surface waters using tracers**, by F. A. Kilpratrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

3-A21. **Stream-gaging cableways**, by C. Russell Wagner: USGS--TWRI Book 3, Chapter A21. 1995. 56 pages.

Section B. Ground-Water Techniques

3-B1. **Aquifer-test design, observation, and data analysis**, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pges.

3-B2. **Introduction to ground-water hydraulics, a programmed 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-B4. **Regression modeling of ground-water flow**, by R. L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.

3-B4. **Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems**, by R. L. Cooley: USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.

3-B5. **Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction**, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. **The principle of superposition and its application in ground-water hydraulics**, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

3-B7. **Analytical solutions for one-, two-, and three dimensional solute transport in ground-water systems with uniform flow**, by E¥ J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 pages.

Section C. Sedimentation and Erosion Techniques

3-C1. **Fluvial sediment concepts**, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. **Field methods of 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.

Book 4. Htdrologic Analysis and Interpretation

Section A. Statistical Analysis

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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

Book 4. Hydrologic Analysis and Interpretation--Continued

Section B. Surface Water

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.

Section D. Interrelated Phases of the Hydrologic Cycle

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.

Book 5. Laboratory Analysis

Section A. Water Analysis

5-A1. **Methods for determination of inorganic substances in water and fluvial sediments**, by M. J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 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 determination of organic substances in water** and fluvial sediments, by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.

5-A4. **Methods for collection and analysis of aquatic biological and microbiological samples**, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 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-A6. **Quality assurance practices for the chemical and biological analyses of water and fluvial sediments**, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

Section C. Sediment Analysis

5-C1. **Laboratory theory and methods for sediment analysis**, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

Book 6. Modeling Techniques

Section A. Ground Water

6-A1. **A modular three-dimensional finite-difference ground-water flow model**, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

6-A2. **Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model**, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.

6-A3. **A modular finite-element model (MODFE) for areal and axisymetric ground-water-flow problems, Part 1: Model Description and User's Manual**, by L. J. Torak: USGS--TWRI Book 6, Chapter 3. 1993. 136 pages.

6-A4. **A modular finite-element model (MODFE) for areal and axisymetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions**, by R. L. Cooley: USGS-TWRI Book 6, Chapter A4. 1992. 108 pages.

6-A5. **A modular finite-element model (MODFE) for areal and axisymetric ground-water-flow problems, Part 3: Design philosophy and programming details**, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.

6-A6. **A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction**, by E.D. Swain and E.J. Wexler: USGS--TWRI Book 6, Chapter A6. 1995. 125 pages.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

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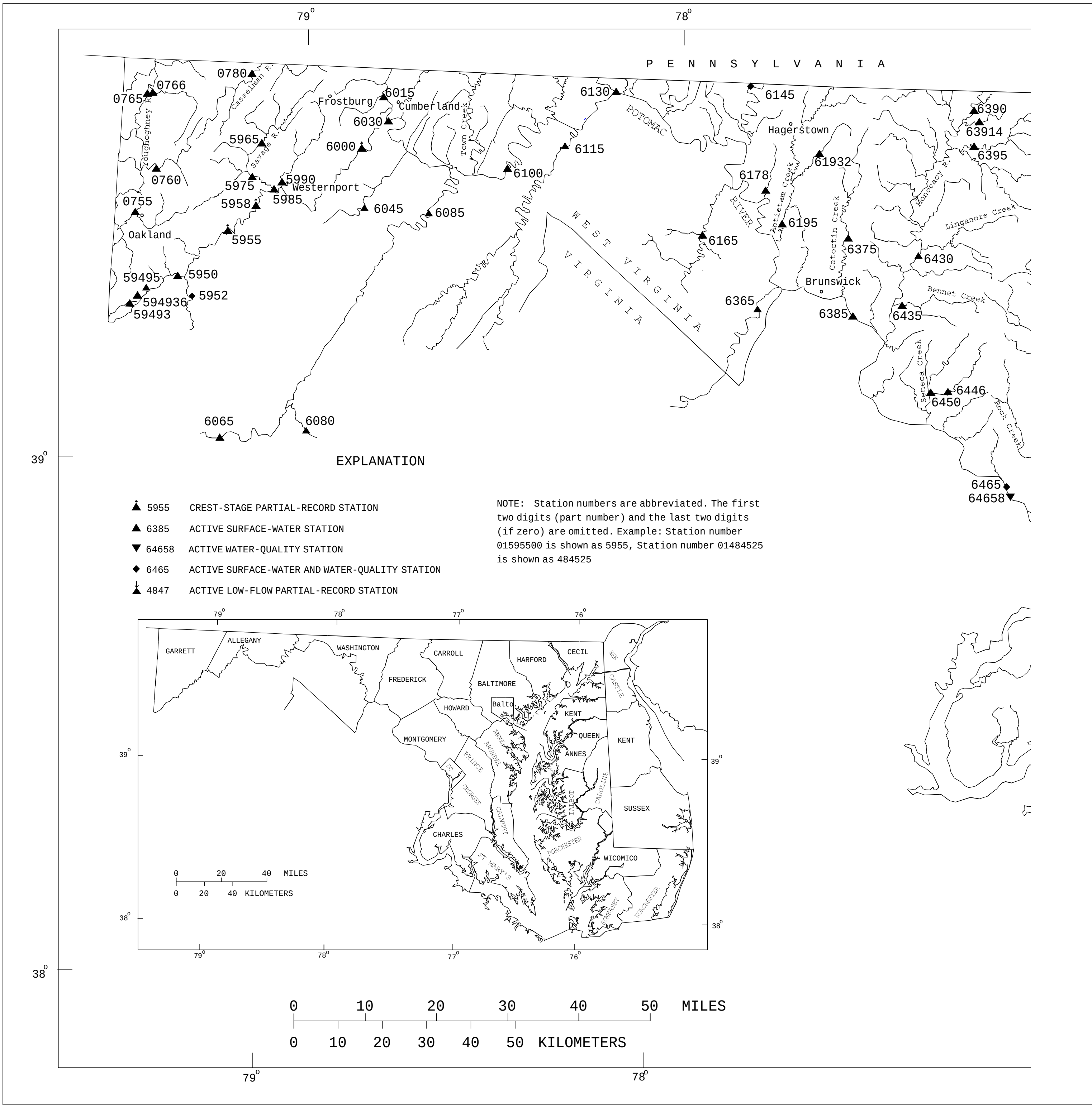
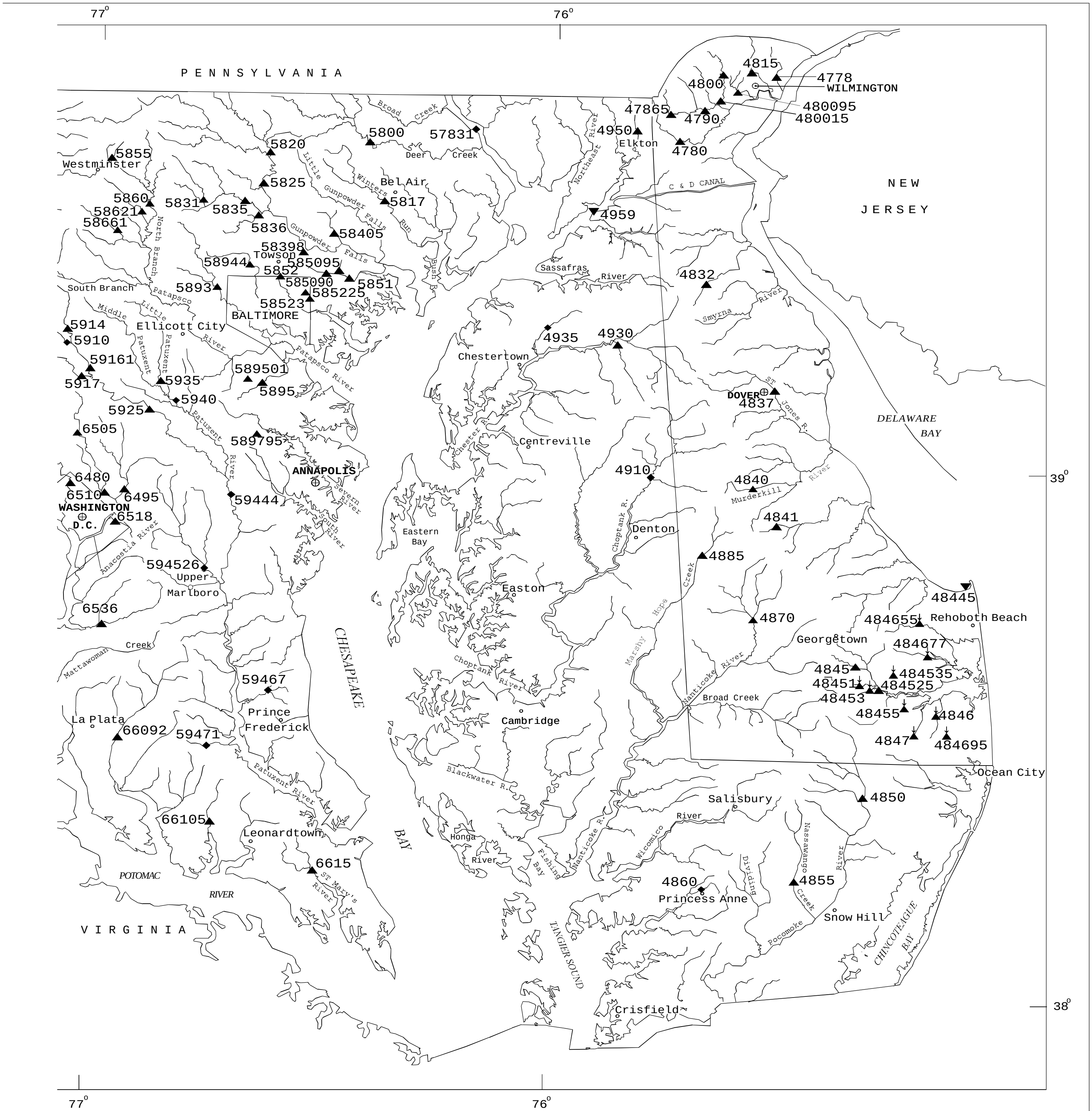


Base map modified from US Geological Survey 1:100 000 DLG

Figure 3. Map of Maryland and Delaware showing location of surface-water, water-quality, low-flow and crest-stage partial-record stations.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Bel Air
Towson
Ellicott City
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Chestertown
Centreville
Denton
Easton
Cambridge
Upper Marlboro
La Plata
Prince Frederick
Leonardtown
Salisbury
Princess Anne
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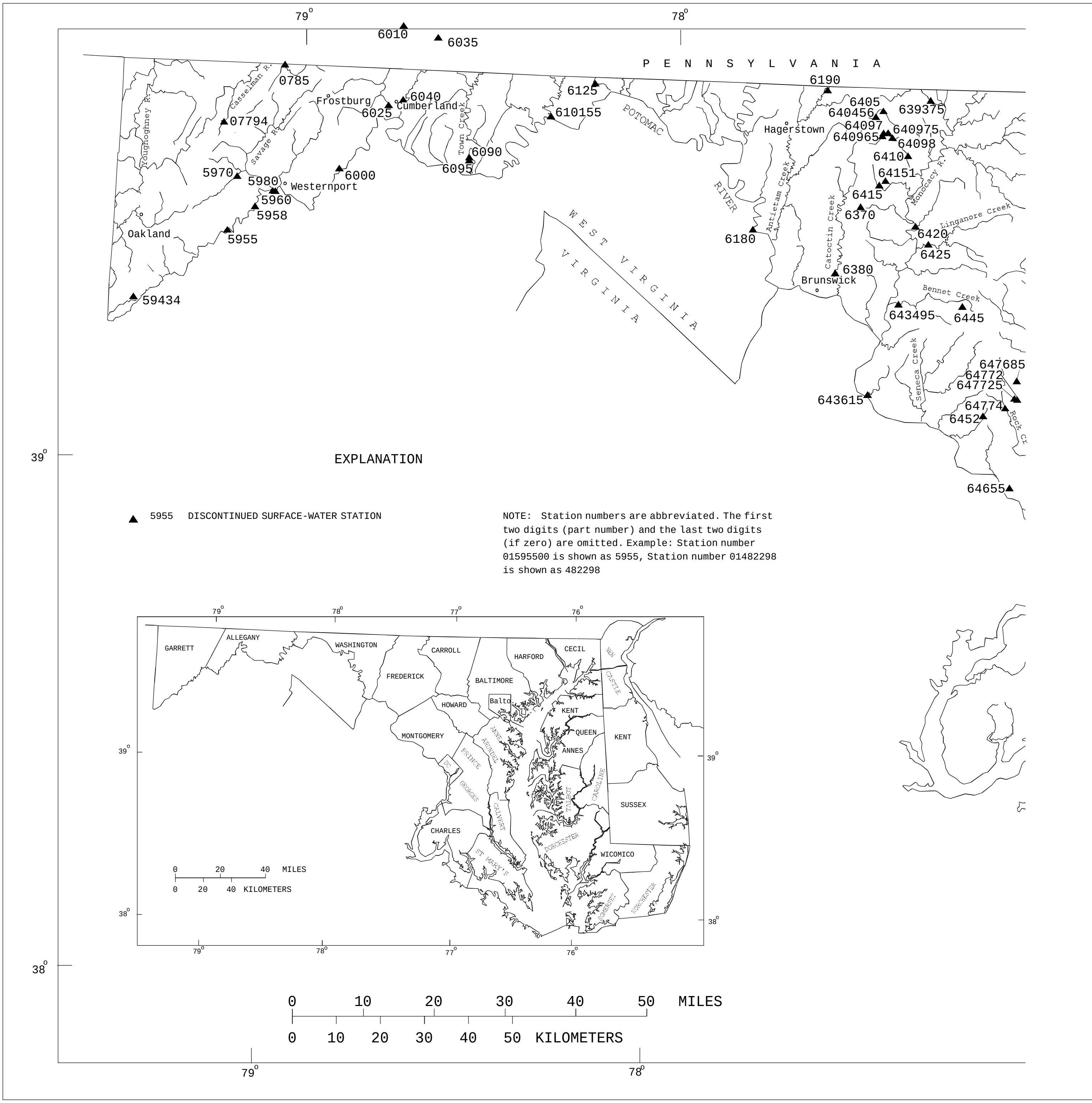

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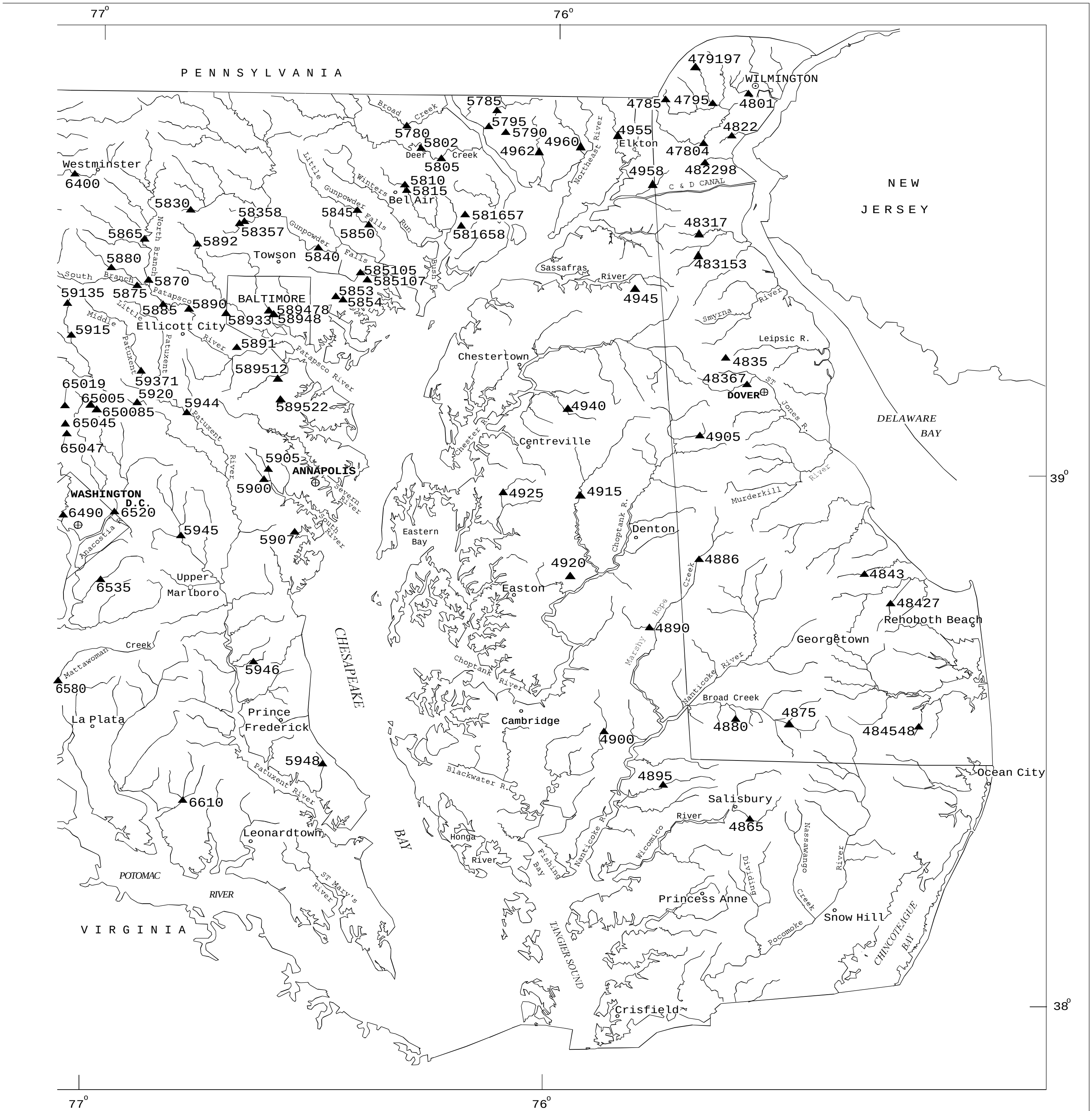
Figure 4. Map of Maryland and Delaware showing location of discontinued surface-water stations.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La Plata
Prince Frederick
Leonardtown
Salisbury
Princess Anne
Snow Hill
Crisfield
Georgetown
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SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

REMARK CODES

The following remark codes may appear with the water-quality data in this section:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count egual to or greater than 15 percent (dominant).
V	Analyte was detected in both the environmental sample and the associated blank.
&	Biological organism estimated as dominant.

Dissolved Trace-Element Concentrations

NOTE--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (ug/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the ug/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols in water year 1994.

Change in National Trends Network Procedures

NOTE--Sample handling procedures at all national Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

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^2.

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 above sea level.

REMARKS.--No estimated daily discharges. Records good below 100 ft^3/s and above 4,000 ft^3/s except those between 100 and 4,000 ft^3/s, which are fair. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1940, that of July 5, 1989. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1555	*1,530	*5.29	Mar 21	0520	1,190	4.67

Minimum discharge, 0.61 ft^3/s, Oct 2-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.71	37	1.3	3.2	3.7	5.3	4.9	4.6	10	4.0	1.9	1.5
2	.65	8.2	1.3	2.8	3.6	5.3	12	6.6	2.2	1.9	1.3	14
3	.61	3.0	1.2	2.7	3.5	53	4.0	3.4	2.4	1.7	1.3	5.4
4	.62	1.6	3.5	2.6	6.0	13	4.8	4.3	2.0	4.5	1.2	1.4
5	.61	1.4	2.0	2.4	15	6.6	4.0	3.6	1.9	3.5	1.1	1.1
6	.61	1.5	1.1	2.3	5.7	5.3	3.6	5.7	1.9	1.7	1.1	1.2
7	.66	2.8	1.0	15	3.8	4.7	3.7	3.4	1.9	1.7	1.1	2.9
8	.66	17	1.0	21	3.4	53	3.8	69	1.9	36	1.0	3.3
9	.63	9.5	1.0	7.3	3.2	84	87	42	1.9	4.5	1.0	.87
10	.70	2.9	8.5	3.8	3.1	12	16	23	1.9	2.3	8.1	.72
11	.69	1.7	5.8	3.2	7.5	6.6	5.9	58	2.5	1.8	6.7	.85
12	.65	1.4	1.9	2.8	24	5.4	4.6	81	103	1.7	1.3	.84
13	.72	1.6	1.4	2.7	4.6	4.8	4.1	13	26	1.6	1.1	2.0
14	.81	16	1.1	2.4	3.7	4.6	4.1	7.1	18	1.6	1.0	2.4
15	1.4	6.0	1.0	10	3.4	4.1	3.8	5.4	3.9	1.5	1.0	.98
16	1.9	3.0	1.0	27	3.3	3.7	3.7	4.5	3.1	1.6	1.0	2.2
17	1.4	1.6	1.0	4.6	32	3.5	15	4.1	2.6	1.6	3.9	12
18	8.3	1.1	.93	4.0	40	9.3	4.8	4.0	2.3	1.6	5.8	1.4
19	1.7	1.0	.88	3.4	12	156	19	3.6	2.1	1.5	3.7	1.4
20	.91	.90	.81	3.0	6.2	13	15	3.9	2.1	1.5	1.2	1.3
21	.76	7.5	.82	2.8	4.8	147	4.7	3.2	2.0	12	1.0	1.3
22	.76	33	1.4	2.7	4.1	17	3.9	2.9	2.1	3.7	.94	11
23	.80	2.8	16	356	57	8.7	3.9	2.7	2.6	2.2	.95	1.6
24	1.2	1.5	2.6	43	45	6.6	3.8	2.5	4.3	1.6	.92	1.1
25	15	1.2	44	15	18	5.5	3.3	2.5	2.5	1.3	.89	1.4
26	18	1.1	4.4	6.1	7.4	5.2	5.1	2.5	3.6	1.3	1.0	1.3
27	12	1.2	7.8	4.8	5.8	5.1	5.7	2.4	3.2	1.3	1.4	1.2
28	2.1	1.6	7.8	55	5.1	4.8	3.1	2.3	2.0	1.3	1.2	1.2
29	1.4	1.6	12	11	---	4.4	3.0	2.5	7.8	1.4	.90	1.1
30	1.3	1.3	20	5.8	---	4.1	3.0	3.1	4.3	1.2	.90	1.1
31	1.1	---	4.5	4.4	---	4.1	---	2.2	---	7.5	1.1	---
TOTAL	79.36	172.00	159.04	632.8	334.9	665.7	263.3	379.0	228.0	112.6	57.00	80.06
MEAN	2.56	5.73	5.13	20.4	12.0	21.5	8.78	12.2	7.60	3.63	1.84	2.67
MAX	18	37	44	356	57	156	87	81	103	36	8.1	14
MIN	.61	.90	.81	2.3	3.1	3.5	3.0	2.2	1.9	1.2	.89	.72
CFSM	.34	.77	.69	2.74	1.60	2.88	1.18	1.64	1.02	.49	.25	.36
IN.	.40	.86	.79	3.16	1.67	3.32	1.31	1.89	1.14	.56	.28	.40

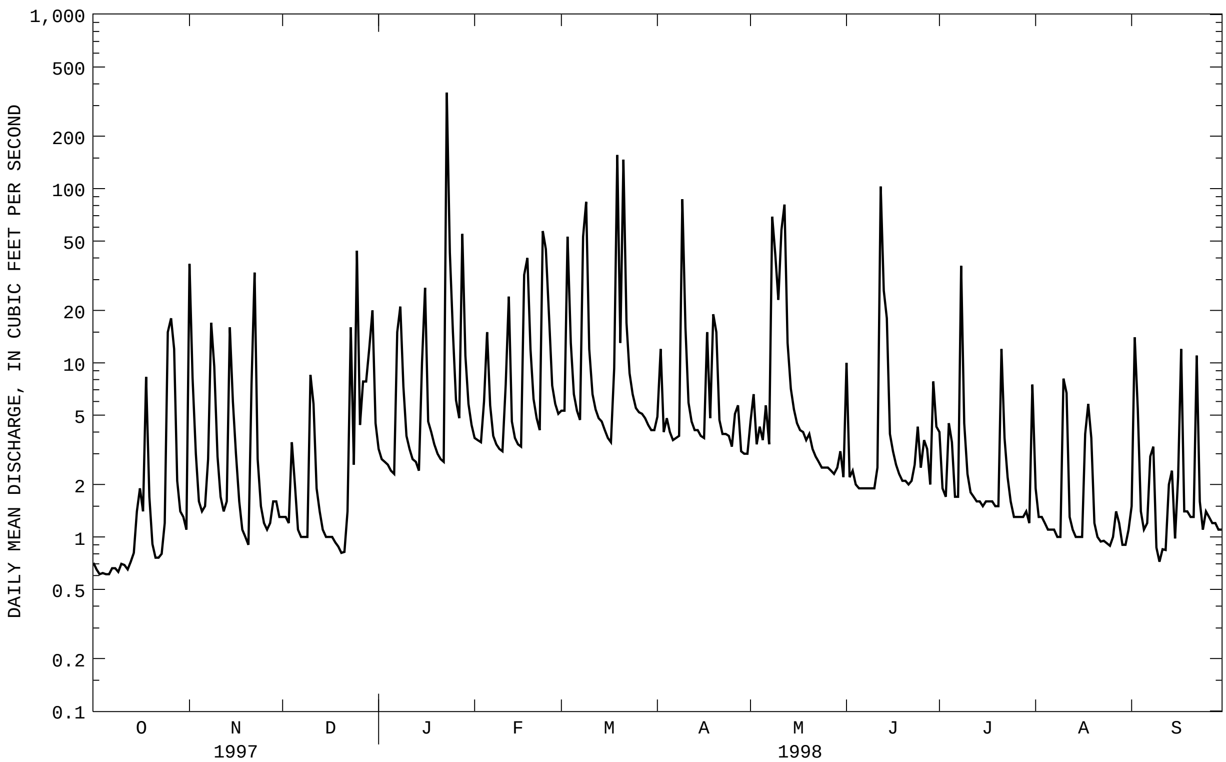
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.12	8.65	11.9	12.8	13.1	15.8	13.1	10.8	7.11	8.57	6.97	6.59
MAX	22.5	27.7	48.7	37.9	34.1	41.4	32.7	31.6	34.8	69.5	62.8	58.3
(WY)	1996	1973	1997	1979	1979	1993	1983	1947	1975	1989	1967	1971
MIN	.62	1.35	1.03	1.18	2.95	2.93	2.55	1.76	1.09	.65	.32	.90
(WY)	1964	1966	1956	1981	1980	1985	1985	1955	1966	1957	1966	1951

01477800 SHELLPOT CREEK AT WILMINGTON, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1946 - 1998	
ANNUAL TOTAL	2919.89		3163.76			
ANNUAL MEAN	8.00		8.67		10.0	
HIGHEST ANNUAL MEAN					16.2	1989
LOWEST ANNUAL MEAN					5.52	1963
HIGHEST DAILY MEAN	158	Apr 28	356	Jan 23	1310	Jul 5 1989
LOWEST DAILY MEAN	.61	(a)	.61	(a)	.09	(b)
ANNUAL SEVEN-DAY MINIMUM	.63	Oct 3	.63	Oct 3	.10	Aug 27 1966
INSTANTANEOUS PEAK FLOW			1530	Jan 23	(c)8040	Jul 5 1989
INSTANTANEOUS PEAK STAGE			5.29	Jan 23	13.76	Jul 5 1989
INSTANTANEOUS LOW FLOW			.61	(d)	.09	Oct 2 1968
ANNUAL RUNOFF (CFSM)	1.07		1.16		1.34	
ANNUAL RUNOFF (INCHES)	14.56		15.78		18.22	
10 PERCENT EXCEEDS	16		16		18	
50 PERCENT EXCEEDS	3.6		3.0		2.9	
90 PERCENT EXCEEDS	.81		1.0		.80	

a Oct. 3, 5, 6.
b Oct. 2, 4, 1968.
c From rating curve extended above 200 ft^3/s on basis of culvert and flow-over-road measurements at gage heights 9.10 and 11.91 ft.
d Oct. 2-9, 11, 12.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

LOCATION.--Lat 39°38'14", long 75°43'42", New Castle County, Hydrologic Unit 02040205, on right bank 60 ft down- stream 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^2.

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

REVISED RECORDS.--WDR MD-DE-79-1: 1943-70(P). WDR MD-DE-87-1: 1980-82(P).

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft above sea level. 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 upstream from station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1815	*1,500	*11.24	Mar 21	0700	1,150	10.55

Minimum discharge, 2.6 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	70	6.8	10	13	19	17	19	12	8.8	6.2	3.9
2	3.9	21	6.6	9.5	11	20	36	29	9.7	7.7	4.6	3.9
3	3.8	10	6.3	9.3	10	179	23	20	14	7.3	4.3	4.6
4	3.8	6.8	9.5	8.8	13	e62	24	39	9.0	7.2	4.1	4.2
5	3.9	6.3	8.4	8.4	42	30	22	24	8.5	7.1	3.9	3.9
6	3.9	5.9	7.0	8.2	23	23	20	17	8.2	6.8	3.8	3.5
7	3.9	8.7	6.5	13	11	21	20	15	7.9	6.6	3.6	5.6
8	3.9	47	6.5	44	9.0	105	20	79	7.9	60	3.5	19
9	3.9	23	6.3	32	7.8	408	86	59	7.8	14	3.8	4.7
10	3.9	10	17	15	6.8	e58	60	56	7.8	9.1	51	4.1
11	4.1	7.6	17	12	6.6	e29	28	94	8.5	7.8	32	3.6
12	3.7	6.7	8.9	10	41	24	21	302	103	7.1	7.0	3.3
13	3.8	6.4	7.8	10	19	21	19	56	86	7.1	5.4	3.2
14	4.0	30	7.3	9.8	15	20	19	22	57	7.2	4.9	3.1
15	4.1	19	7.1	24	14	19	18	16	16	6.7	4.7	3.0
16	4.7	9.7	6.7	e92	13	18	17	13	14	6.7	4.5	3.0
17	4.6	7.9	6.6	e18	99	17	35	12	14	6.8	4.5	2.9
18	20	7.1	6.5	15	117	32	23	11	11	6.7	46	2.8
19	6.3	6.7	6.4	12	33	313	30	11	9.9	6.3	15	2.8
20	4.7	6.5	6.4	12	22	e60	43	10	9.5	6.1	7.4	2.8
21	4.6	15	6.4	11	19	397	21	10	9.2	13	6.4	3.0
22	4.4	85	6.4	9.4	16	e85	18	9.5	9.0	11	5.8	11
23	4.3	13	25	535	175	e48	17	9.2	9.0	7.7	5.3	4.6
24	4.4	8.7	11	e162	201	35	17	9.2	9.8	9.0	4.9	3.6
25	26	7.8	e89	e73	e66	29	13	22	9.1	6.7	4.6	3.1
26	27	7.4	18	30	29	26	17	10	21	6.2	4.4	3.2
27	28	7.0	18	20	22	24	23	9.0	13	6.1	4.4	3.1
28	7.2	6.6	27	207	20	22	15	8.7	8.5	6.0	4.5	3.1
29	5.7	6.8	14	e61	---	21	14	11	8.2	6.1	4.4	2.9
30	5.2	6.7	41	25	---	19	14	9.0	8.2	5.8	4.2	2.6
31	5.0	---	16	16	---	18	---	21	---	21	4.0	---
TOTAL	221.4	480.3	433.4	1522.4	1074.2	2202	750	1032.6	526.7	301.7	273.1	128.1
MEAN	7.14	16.0	14.0	49.1	38.4	71.0	25.0	33.3	17.6	9.73	8.81	4.27
MAX	28	85	89	535	201	408	86	302	103	60	51	19
MIN	3.7	5.9	6.3	8.2	6.6	17	13	8.7	7.8	5.8	3.5	2.6
CFSM	.35	.78	.68	2.40	1.87	3.46	1.22	1.62	.86	.47	.43	.21
IN.	.40	.87	.79	2.76	1.95	4.00	1.36	1.87	.96	.55	.50	.23

e Estimated

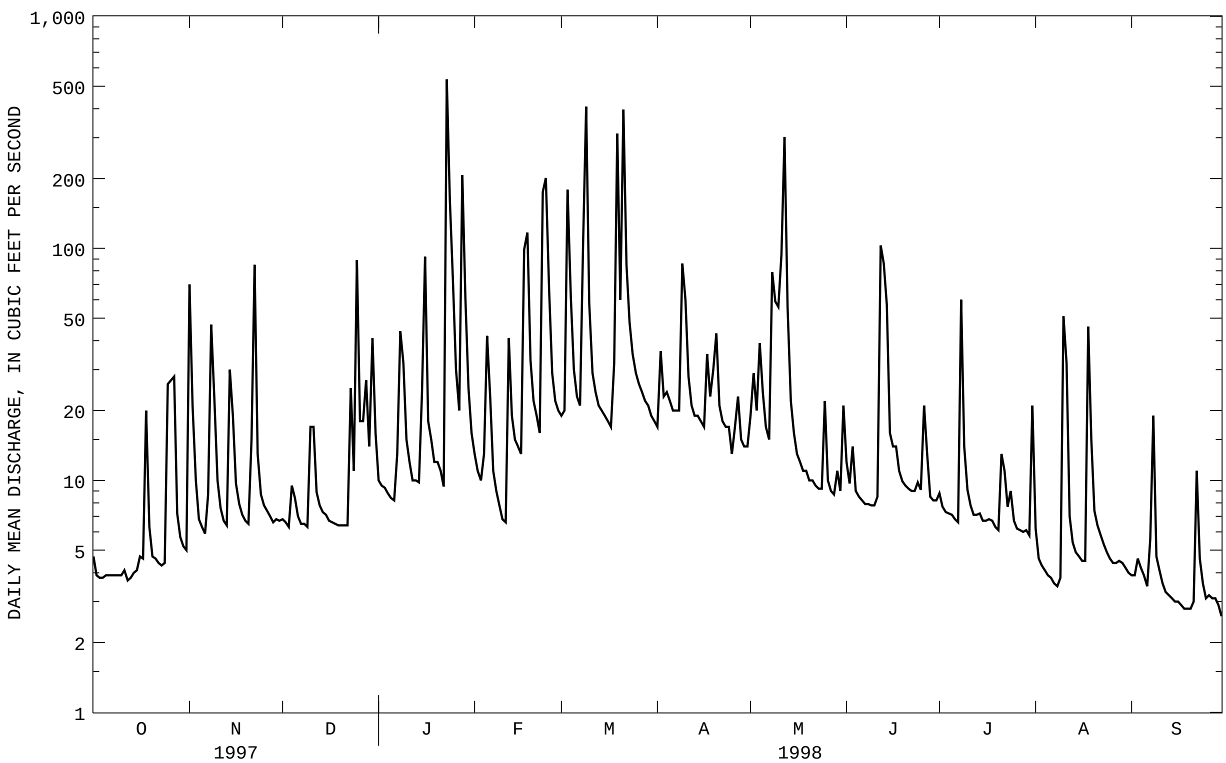
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1998, BY WATER YEAR (WY)

MEAN	15.0	24.7	34.9	40.5	42.4	47.7	37.0	31.5	21.2	22.1	17.5	14.9
MAX	62.9	82.8	122	165	154	121	107	77.6	76.5	165	117	53.6
(WY)	1972	1973	1997	1979	1979	1978	1983	1990	1972	1989	1967	1960
MIN	2.25	2.76	3.98	5.35	10.1	8.35	10.5	8.10	4.57	2.48	1.29	2.85
(WY)	1964	1966	1966	1981	1947	1981	1963	1965	1966	1963	1966	1965

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1998	
ANNUAL TOTAL	8669.1		8945.9			
ANNUAL MEAN	23.8		24.5		29.0	
HIGHEST ANNUAL MEAN					53.4	1978
LOWEST ANNUAL MEAN					14.2	1981
HIGHEST DAILY MEAN	238	Feb 5	535	Jan 23	2000	Jul 5 1989
LOWEST DAILY MEAN	3.7	Oct 12	2.6	Sep 30	.20	(a)
ANNUAL SEVEN-DAY MINIMUM	3.9	Oct 2	2.9	Sep 15	.50	Aug 25 1966
INSTANTANEOUS PEAK FLOW			1500	Jan 23	5530	Jul 5 1989
INSTANTANEOUS PEAK STAGE			11.24	Jan 23	13.12	Jul 5 1989
INSTANTANEOUS LOW FLOW			2.6	Sep 30	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.16		1.20		1.42	
ANNUAL RUNOFF (INCHES)	15.73		16.23		19.25	
10 PERCENT EXCEEDS	44		49		49	
50 PERCENT EXCEEDS	15		9.9		13	
90 PERCENT EXCEEDS	4.7		3.9		4.4	

a Aug. 7, 17, 18, 21, 27, 28, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01478650 WHITE CLAY CREEK AT NEWARK, DE

LOCATION.--Lat 39°41'20", long 75°44'58", New Castle County, Hydrologic Unit 02040205, on right bank 200 ft upstream from highway bridge on Paper Mill Road, at Newark, and 10.3 mi upstream from mouth.

DRAINAGE AREA.--69.0 mi^2.

PERIOD OF RECORD.--March 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 56.45 ft above sea level.

REMARKS.--Records good except those estimated daily discharges (backwater from leaves), which are fair. Flow affected by City of Newark municipal water plant upstream from station. Records do not include a negligible diversion upstream from station by MBNA America. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	1900	*1.500	*8.30	No peak greater than base discharge.			

Minimum discharge, 16 ft^3/s, Oct 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	74	34	39	61	79	89	74	79	53	34	24
2	19	81	32	41	57	73	282	97	61	46	26	27
3	19	56	30	40	56	213	112	101	58	43	24	42
4	20	36	34	39	57	176	102	95	55	38	22	26
5	19	32	33	37	92	104	95	82	51	41	22	23
6	20	30	30	35	78	86	87	78	50	35	20	24
7	19	36	28	39	60	80	82	75	49	33	21	25
8	21	71	28	60	55	109	82	162	49	126	25	28
9	e18	74	28	63	53	551	219	195	49	82	25	22
10	e19	55	31	46	52	214	242	168	51	52	99	22
11	e18	40	48	41	52	122	124	234	51	46	143	21
12	e18	36	36	37	234	103	100	421	235	39	44	21
13	e21	33	33	35	88	93	90	213	167	37	33	20
14	e19	51	31	34	65	91	87	133	207	35	29	19
15	e22	71	29	38	57	84	86	108	84	35	26	20
16	e36	47	28	132	54	80	82	95	72	36	27	20
17	e23	37	28	61	78	76	94	87	61	35	35	23
18	48	33	28	54	211	96	92	81	57	34	86	23
19	48	30	28	50	109	384	100	76	53	30	44	21
20	29	30	28	45	82	163	136	71	53	28	31	22
21	21	33	28	39	74	567	92	68	52	32	28	24
22	e20	124	28	37	65	233	84	63	51	44	28	28
23	e25	57	46	449	130	162	80	63	51	33	25	27
24	34	44	41	286	408	132	79	62	56	39	24	e21
25	51	40	117	126	219	120	73	62	51	30	24	e21
26	44	37	62	82	114	112	73	62	59	30	24	e23
27	69	33	51	69	93	106	83	58	65	27	46	e22
28	37	33	56	208	82	99	71	57	50	26	30	e22
29	31	34	47	161	---	94	70	56	48	25	22	e21
30	29	33	83	86	---	90	68	59	54	24	24	e20
31	29	---	56	70	---	87	---	55	---	39	25	---
TOTAL	864	1421	1240	2579	2836	4779	3156	3311	2129	1253	1116	702
MEAN	27.9	47.4	40.0	83.2	101	154	105	107	71.0	40.4	36.0	23.4
MAX	69	124	117	449	408	567	282	421	235	126	143	42
MIN	18	30	28	34	52	73	68	55	48	24	20	19
CFSM	.40	.69	.58	1.21	1.47	2.23	1.52	1.55	1.03	.59	.52	.34
IN.	.47	.77	.67	1.39	1.53	2.58	1.70	1.79	1.15	.68	.60	.38

e Estimated

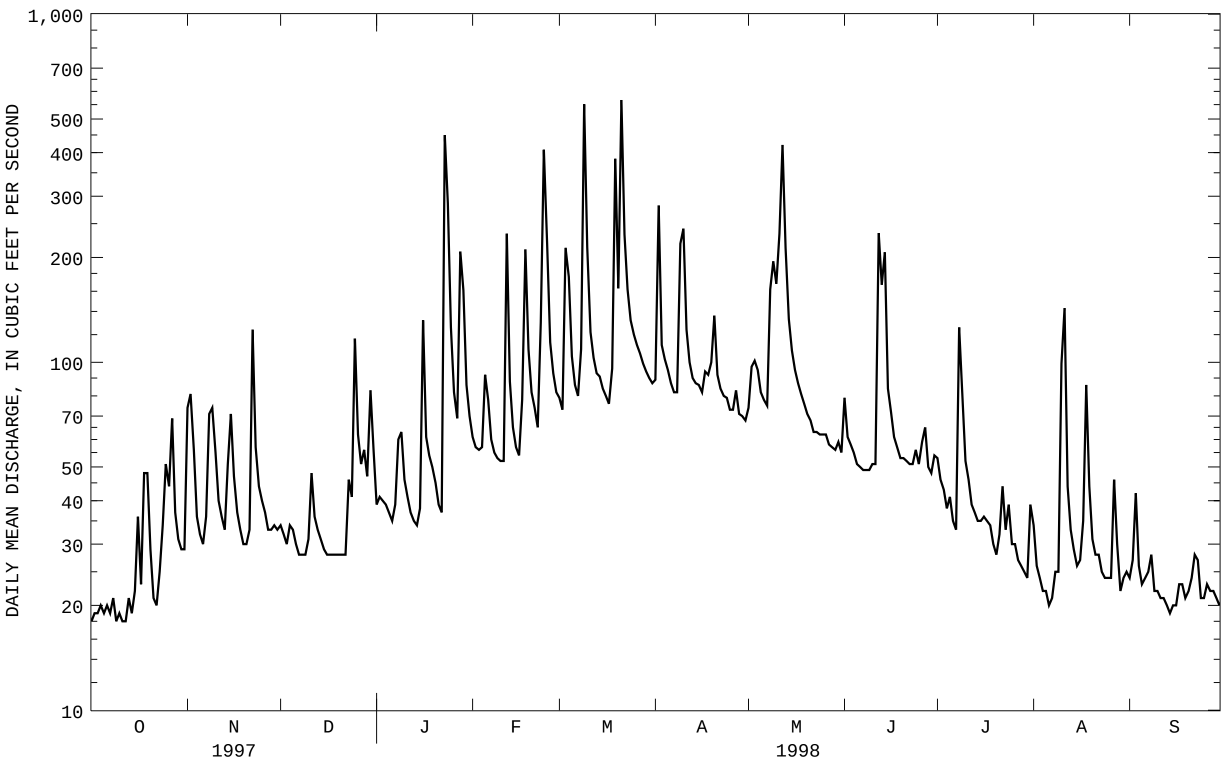
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	75.7	76.5	116	149	103	179	119	96.9	61.4	49.5	46.3	35.4
MAX	185	144	326	256	159	345	171	145	115	104	119	90.2
(WY)	1997	1997	1997	1996	1997	1994	1996	1996	1996	1996	1996	1996
MIN	23.2	33.4	40.0	80.3	48.7	95.2	45.3	48.9	25.7	27.7	13.3	15.8
(WY)	1995	1995	1998	1995	1995	1995	1995	1995	1995	1995	1995	1995

01478650 WHITE CLAY CREEK AT NEWARK, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1994 - 1998	
ANNUAL TOTAL	30447		25386			
ANNUAL MEAN	83.4		69.6		90.0	
HIGHEST ANNUAL MEAN					129	1997
LOWEST ANNUAL MEAN					42.0	1995
HIGHEST DAILY MEAN	784	Jan 25	567	Mar 21	(e)3000	Jan 19 1996
LOWEST DAILY MEAN	16	(a)	18	(b)	4.5	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	18	Sep 19	19	Oct 6	6.1	Sep 1 1995
INSTANTANEOUS PEAK FLOW			1500	Jan 23	(c)7540	Jan 19 1996
INSTANTANEOUS PEAK STAGE			8.30	Jan 23	13.35	Jan 19 1996
INSTANTANEOUS LOW FLOW			16	Oct 1	2.6	Sep 13 1995
ANNUAL RUNOFF (CFSM)	1.21		1.01		1.30	
ANNUAL RUNOFF (INCHES)	16.41		13.69		17.72	
10 PERCENT EXCEEDS	156		126		168	
50 PERCENT EXCEEDS	54		51		56	
90 PERCENT EXCEEDS	20		22		21	

e Estimated
a Sept. 22, 23.
b Oct. 1, 9, 11, 12.
c From rating curve above 2,500 ft^3/s on basis of runoff comparison with White Clay Creek above Newark, DE (01478500).



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01479000 WHITE CLAY CREEK NEAR NEWARK, DE

LOCATION.--Lat 39°41'47", long 75°40'31", New Castle County, Hydrologic Unit 02040205, on left bank 35 ft down- stream 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.

DRAINAGE AREA.--89.1 mi^2.

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 above sea level. 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.--No estimated daily discharges. Records good. Flow affected by City of Newark municipal water plant upstream from station. Slight diurnal fluctuation at low flow caused by mills upstream from station. Records do not include a negligible diversion upstream from station by MBNA America. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some periods have been collected at this location.

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 has been raised and widened), from information by Baltimore & Ohio Railroad.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1930	*2,050	*11.61	No other peak greater than base discharge.			

Minimum discharge, 18 ft^3/s, Oct 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	146	44	75	98	108	120	100	92	78	64	27
2	27	106	43	72	94	105	321	119	85	70	54	38
3	26	70	41	58	92	296	130	117	75	67	51	53
4	27	45	49	57	99	236	120	117	66	66	48	33
5	27	39	48	54	133	130	116	103	65	66	47	26
6	26	37	43	53	111	114	110	100	64	64	45	27
7	24	46	40	67	94	109	107	96	61	63	44	37
8	25	95	40	109	89	201	107	248	61	215	50	55
9	23	96	39	92	86	868	283	250	62	113	50	28
10	24	67	57	67	85	290	339	208	64	79	122	26
11	23	48	67	61	88	153	139	314	64	70	213	25
12	23	43	50	57	279	131	118	681	399	66	52	24
13	27	40	44	56	117	123	111	268	276	65	42	24
14	26	85	42	54	97	121	109	137	278	63	38	22
15	29	86	41	76	90	115	108	113	112	63	36	24
16	42	58	40	217	87	111	104	102	101	64	34	23
17	28	47	39	93	165	108	133	95	92	64	38	25
18	54	43	39	79	299	130	115	91	86	62	121	27
19	40	41	38	72	140	627	133	86	82	61	54	24
20	30	40	39	68	112	226	165	82	81	56	39	23
21	27	53	38	63	105	850	112	80	80	84	34	24
22	26	205	38	61	96	307	104	77	77	78	33	40
23	29	78	78	837	244	200	102	76	79	63	31	29
24	30	58	55	479	596	161	101	75	83	69	29	23
25	75	53	207	188	279	145	96	82	78	59	29	25
26	77	49	94	126	141	138	100	79	99	57	28	26
27	95	46	83	110	121	135	106	72	93	55	46	25
28	47	44	88	334	113	128	95	71	75	53	37	25
29	35	45	72	220	---	123	93	72	72	53	27	23
30	33	44	120	123	---	119	92	74	78	51	27	23
31	32	---	82	106	---	116	---	70	---	85	28	---
TOTAL	1082	1953	1838	4184	4150	6724	3989	4255	3080	2222	1591	854
MEAN	34.9	65.1	59.3	135	148	217	133	137	103	71.7	51.3	28.5
MAX	95	205	207	837	596	868	339	681	399	215	213	55
MIN	23	37	38	53	85	105	92	70	61	51	27	22
CFSM	.39	.73	.67	1.51	1.66	2.43	1.49	1.54	1.15	.80	.58	.32
IN.	.45	.82	.77	1.75	1.73	2.81	1.67	1.78	1.29	.93	.66	.36

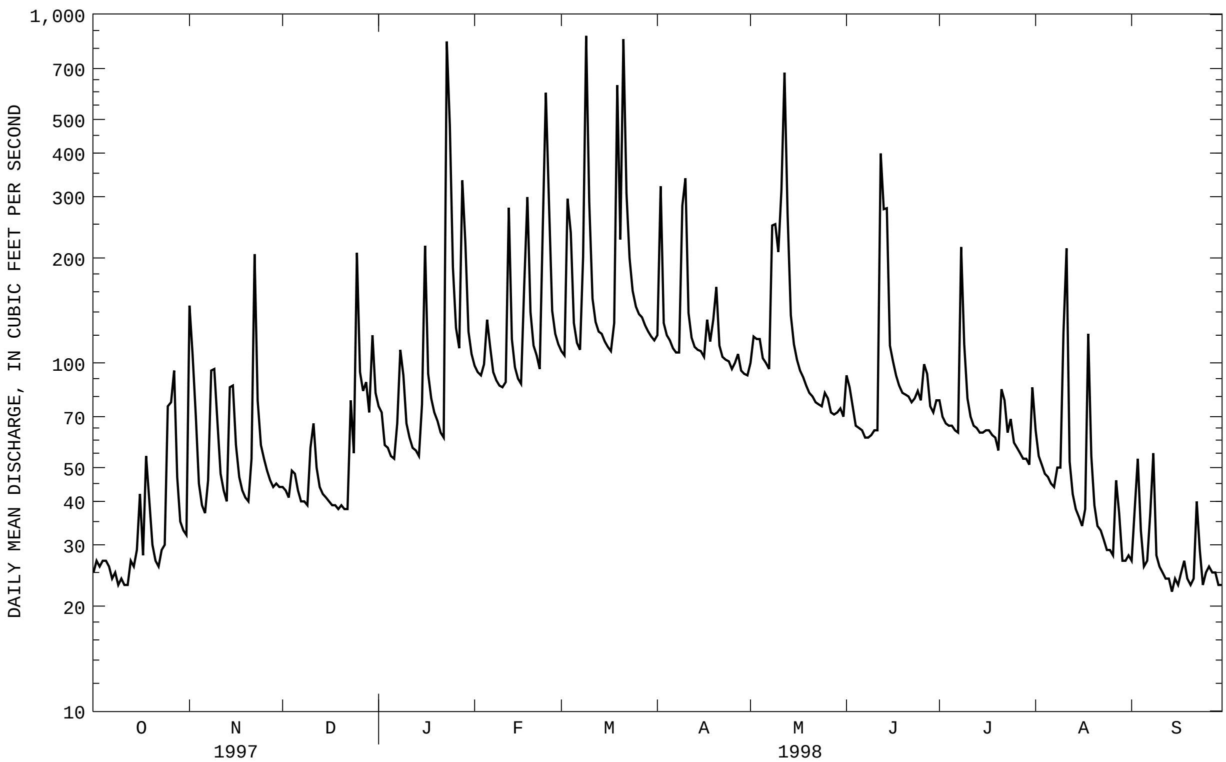
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1936, 1943 - 1957, 1960 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	66.2	92.9	116	149	162	175	152	129	98.4	96.3	79.2	71.4
MAX	234	221	405	493	542	402	342	265	311	540	301	231
(WY)	1997	1973	1997	1979	1979	1994	1983	1989	1972	1975	1967	1979
MIN	17.6	28.4	28.1	32.8	52.4	57.5	59.7	42.3	33.7	16.6	13.6	15.0
(WY)	1964	1966	1966	1966	1934	1981	1963	1955	1995	1963	1966	1932

01479000 WHITE CLAY CREEK NEAR NEWARK, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1936, 1943 - 1957, 1960 - 1998	
ANNUAL TOTAL	39660		35922			
ANNUAL MEAN	109		98.4		116	
HIGHEST ANNUAL MEAN					193	1975
LOWEST ANNUAL MEAN					55.9	1966
HIGHEST DAILY MEAN	830	Jan 25	868	Mar 9	5220	Jan 26 1978
LOWEST DAILY MEAN	23	(a)	22	Sep 14	5.0	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	24	Oct 6	24	Sep 11	5.7	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2050	Jan 23	(b)11600	Jul 5 1989
INSTANTANEOUS PEAK STAGE			11.61	Jan 23	(c)17.74	Jun 22 1972
INSTANTANEOUS LOW FLOW			18	Oct 9	4.7	Sep 11 1966
ANNUAL RUNOFF (CFSM)	1.22		1.10		1.30	
ANNUAL RUNOFF (INCHES)	16.56		15.00		17.62	
10 PERCENT EXCEEDS	205		193		193	
50 PERCENT EXCEEDS	78		72		77	
90 PERCENT EXCEEDS	28		27		33	

a Oct. 9, 11, 12.
b From rating curve extended above 6,700 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
c At previous site and datum.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level. Prior to Sept. 21, 1950, nonrecording gage at site 10 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Low flows augmented at times by inflow from Hoopes Reservoir located 1.7 miles upstream from gage on unnamed tributary to Red Clay Creek, capacity 2,000,000,000 gal. Water from Brandywine Creek is pumped into Hoopes Reservoir and is released into Red Clay Creek during periods of low flow. Water from Red Clay Creek is used for municipal supply. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 21	0745	*1,170	*4.51	No peak greater than base discharge.			

Minimum discharge, 10 ft^3/s, Oct 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	65	23	30	41	47	58	47	52	33	23	15
2	20	54	22	29	39	45	150	58	36	27	20	19
3	20	36	21	27	38	132	66	54	37	27	19	38
4	21	23	25	27	39	92	61	51	34	26	18	20
5	20	20	24	26	62	59	57	49	34	26	17	17
6	20	19	22	25	50	52	54	62	33	24	17	16
7	19	20	22	27	41	49	52	51	32	24	17	16
8	18	59	21	49	38	67	52	125	32	91	17	20
9	19	59	21	49	36	403	141	154	31	50	17	16
10	21	36	23	33	35	116	134	109	31	34	20	15
11	24	26	36	28	36	73	69	159	32	28	56	14
12	26	23	25	26	108	62	60	241	221	25	22	13
13	22	21	23	27	48	57	55	113	91	24	19	13
14	20	36	22	25	40	57	55	74	92	24	20	14
15	24	46	20	27	36	53	55	63	55	24	19	13
16	26	30	20	86	35	50	53	58	49	24	18	13
17	15	25	20	41	48	49	58	54	43	24	61	22
18	22	23	20	34	141	60	55	51	40	23	50	17
19	19	22	20	32	66	282	63	48	36	22	33	15
20	15	21	20	29	51	102	86	46	35	22	22	14
21	14	23	19	27	47	399	58	44	33	24	20	14
22	16	96	21	26	41	138	54	43	32	35	19	19
23	20	40	38	295	78	97	52	42	33	24	19	16
24	19	30	29	182	219	82	52	41	34	24	17	14
25	31	26	86	79	109	74	48	41	32	21	18	14
26	24	25	43	52	61	70	48	40	34	21	17	16
27	53	24	36	44	53	69	55	37	42	20	29	15
28	22	24	41	131	49	65	46	37	30	19	20	13
29	18	25	33	83	---	63	45	36	36	19	17	12
30	17	24	59	53	---	60	45	41	37	19	17	14
31	16	---	39	45	---	58	---	36	---	28	16	---
TOTAL	658	1001	894	1694	1685	3082	1937	2105	1389	856	714	487
MEAN	21.2	33.4	28.8	54.6	60.2	99.4	64.6	67.9	46.3	27.6	23.0	16.2
MAX	53	96	86	295	219	403	150	241	221	91	61	38
MIN	14	19	19	25	35	45	45	36	30	19	16	12
(†)	-4.9	--	--	--	--	--	--	--	--	--	--	--
MEAN≠	16.3	--	--	--	--	--	--	--	--	--	--	--
CFSM≠	.35	--	--	--	--	--	--	--	--	--	--	--
IN≠	.40	--	--	--	--	--	--	--	--	--	--	--

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1998, BY WATER YEAR (WY)

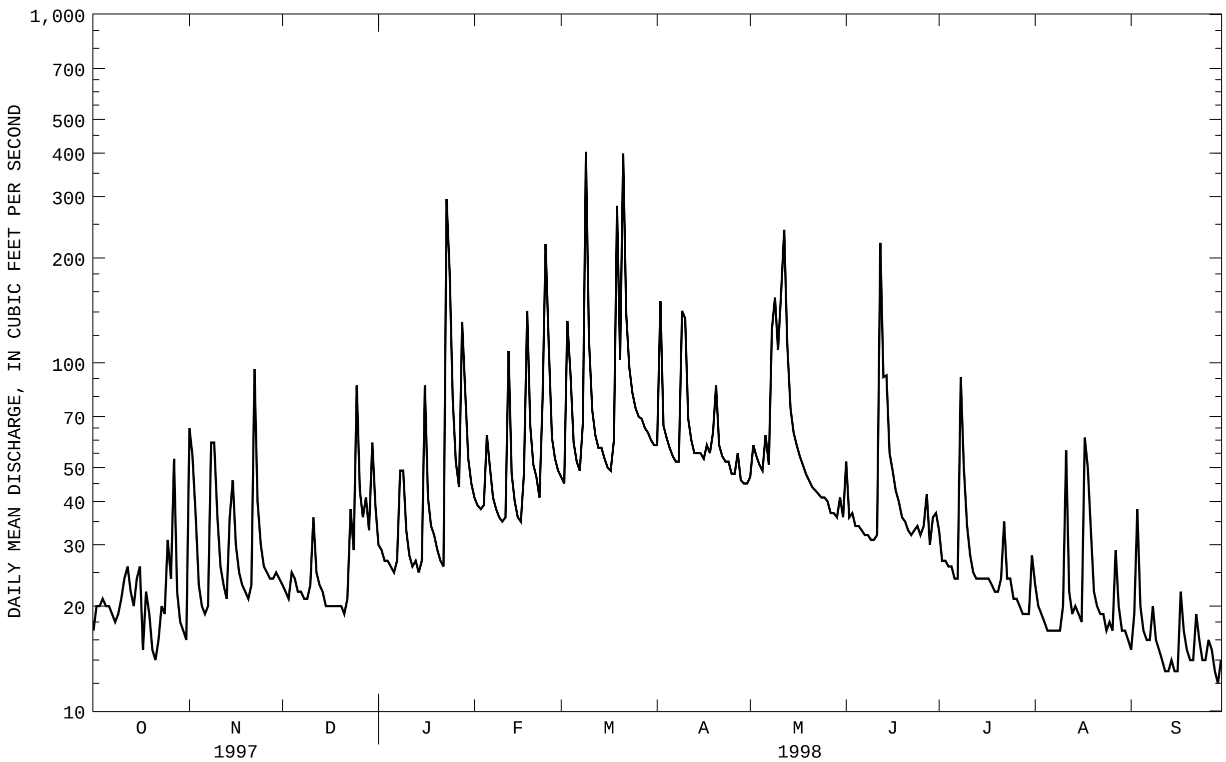
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.8	50.0	64.3	78.0	87.6	91.2	85.4	74.0	56.7	51.3	43.6	39.9
MAX	129	115	212	232	237	182	167	156	147	279	180	180
(WY)	1972	1973	1997	1979	1979	1978	1958	1958	1972	1975	1955	1971
MIN	11.1	18.8	18.9	16.8	33.3	27.3	33.8	24.2	21.7	12.7	9.79	13.7
(WY)	1964	1966	1966	1981	1969	1981	1995	1955	1966	1963	1966	1964

† Inflow in cubic feet per second, from Hoopes Reservoir for municipal supply.
≠ Adjusted for inflow.

01480000 RED CLAY CREEK AT WOODDALE, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1998	
ANNUAL TOTAL	20586		16502			
ANNUAL MEAN	56.4		45.2		63.3	
ANNUAL MEAN≠	55.4		44.8		63.2	
HIGHEST ANNUAL MEAN					104	1975
LOWEST ANNUAL MEAN					32.3	1995
HIGHEST DAILY MEAN	416	Jan 25	403	Mar 9	2430	Sep 12 1960
LOWEST DAILY MEAN	14	Oct 21	12	Sep 29	4.5	Sep 4 1966
ANNUAL SEVEN-DAY MINIMUM	17	Oct 17	14	Sep 10	4.9	Sep 7 1966
INSTANTANEOUS PEAK FLOW			1170	Mar 21	(a)5010	Jul 21 1975
INSTANTANEOUS PEAK STAGE			4.51	Mar 21	10.32	Jul 21 1975
INSTANTANEOUS LOW FLOW			10	Oct 10	2.9	Sep 4 1966
ANNUAL RUNOFF (CFSM)	1.20		.96		1.35	
ANNUAL RUNOFF (CFSM)≠	1.18		.56		1.34	
ANNUAL RUNOFF (INCHES)	16.29		13.06		18.22	
ANNUAL RUNOFF (INCHES)≠	16.02		12.90		18.22	
10 PERCENT EXCEEDS	99		78		107	
50 PERCENT EXCEEDS	40		33		44	
90 PERCENT EXCEEDS	20		17		19	

≠ Adjusted for inflow since June 1994.
a From rating curve extended above 3,900 ft^3/s on basis of contracted-opening measurement at gage height 9.93 ft.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01480015 RED CLAY CREEK NEAR STANTON, DE

LOCATION.--Lat 39°42'55", long 75°38'28", New Castle County, Hydrologic Unit 02040205, on right bank at downstream side of westbound lane of bridge on State Highway 4, near Stanton, and 0.9 mi upstream from mouth.

DRAINAGE AREA.--52.4 mi^2.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Low flows augmented at times by inflow from Hoopes Reservoir located 5.7 miles upstream from gage on unnamed tributary to Red Clay Creek, capacity 2,000,000,000 gal. Water from Brandywine Creek is pumped into Hoopes Reservoir and is released into Red Clay Creek during periods of low flow. Water from Red Clay Creek is used for municipal supply. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	2000	*1,370	*13.88	No other peak greater than base discharge.			

Minimum discharge, unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	77	26	38	50	56	72	55	66	40	27	e16
2	23	69	25	35	47	53	174	67	47	32	22	24
3	24	48	24	34	46	154	82	61	46	31	20	43
4	24	30	27	34	49	118	74	58	42	30	20	23
5	24	26	28	32	71	69	71	55	42	30	19	19
6	23	25	25	31	61	60	66	71	41	28	18	e17
7	22	26	24	36	49	56	64	58	39	27	18	23
8	21	68	23	59	46	83	63	138	39	108	18	23
9	22	68	23	59	44	459	153	176	38	62	18	e18
10	23	46	28	41	43	153	174	132	38	41	28	e16
11	29	33	42	36	44	88	86	174	40	34	62	e15
12	32	29	30	34	125	75	74	261	239	30	25	e13
13	29	27	27	33	56	68	67	138	117	28	21	e13
14	25	44	25	32	49	67	65	90	108	27	22	e14
15	26	55	24	36	45	63	65	76	58	28	21	e13
16	34	38	24	104	43	60	61	69	53	28	20	e13
17	19	31	24	51	58	58	72	63	48	26	43	24
18	29	28	24	45	164	71	64	60	46	26	73	19
19	26	27	24	41	77	327	73	57	43	24	38	e17
20	19	26	24	39	59	130	102	55	41	25	23	e16
21	17	29	23	36	55	452	68	53	39	32	21	e16
22	17	108	23	34	50	179	63	51	37	41	21	21
23	23	46	45	435	87	123	60	50	38	28	20	e18
24	27	34	34	246	262	103	60	49	41	27	e18	e16
25	42	30	103	100	137	92	57	49	39	23	19	e16
26	39	28	53	63	72	87	56	49	41	22	e18	e18
27	65	27	44	54	61	84	63	47	50	22	30	e17
28	30	26	49	154	58	81	54	46	36	20	23	e15
29	24	27	42	107	---	77	53	45	39	22	19	e13
30	22	26	68	62	---	74	52	51	43	21	19	e16
31	21	---	49	54	---	72	---	45	---	34	e18	---
TOTAL	821	1202	1054	2195	2008	3692	2308	2449	1634	997	782	545
MEAN	26.5	40.1	34.0	70.8	71.7	119	76.9	79.0	54.5	32.2	25.2	18.2
MAX	65	108	103	435	262	459	174	261	239	108	73	43
MIN	17	25	23	31	43	53	52	45	36	20	18	13
(†)	-4.9	--	--	--	--	--	--	--	--	--	--	--
MEAN≠	21.6	--	--	--	--	--	--	--	--	--	--	--
CFSM≠	.41	--	--	--	--	--	--	--	--	--	--	--
IN≠	.47	--	--	--	--	--	--	--	--	--	--	--

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

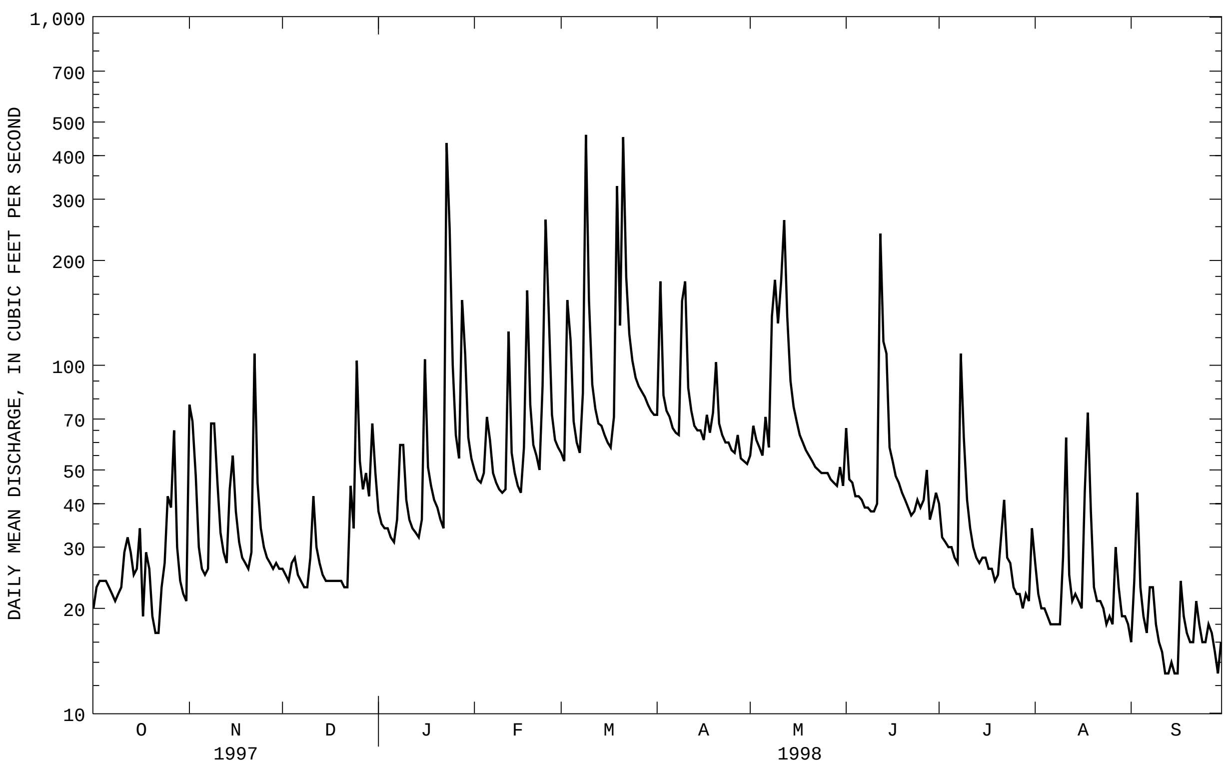
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.5	57.9	76.0	103	78.3	115	94.0	82.4	62.3	63.2	46.1	45.9
MAX	120	91.5	240	220	151	223	191	138	104	246	97.7	115
(WY)	1997	1997	1997	1996	1994	1994	1993	1989	1996	1989	1996	1989
MIN	23.0	32.1	34.0	37.9	40.8	65.0	38.6	39.7	27.2	29.0	25.2	18.2
(WY)	1995	1995	1998	1992	1992	1990	1995	1995	1995	1995	1998	1998

† Inflow in cubic feet per second, from Hoopes Reservoir for municipal supply.
≠ Adjusted for inflow.

01480015 RED CLAY CREEK NEAR STANTON, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1989 - 1998	
ANNUAL TOTAL	23526		19687			
ANNUAL MEAN	64.5		53.9		72.8	
ANNUAL MEAN≠	63.4		53.5		72.3	
HIGHEST ANNUAL MEAN					98.2	1996
LOWEST ANNUAL MEAN					37.2	1995
HIGHEST DAILY MEAN	432	Jan 25	459	Mar 9	2480	Jul 5 1989
LOWEST DAILY MEAN	17	(a)	(e)13	(b)	(e)7.0	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	21	Sep 14	14	Sep 10	10	Sep 6 1995
INSTANTANEOUS PEAK FLOW			1370	Jan 23	5330	Jan 19 1996
INSTANTANEOUS PEAK STAGE			13.88	Jan 23	19.38	Jan 19 1996
INSTANTANEOUS LOW FLOW			UNKNOWN		(c)	(d)
ANNUAL RUNOFF (CFSM)	1.23		1.03		1.39	
ANNUAL RUNOFF (CFSM)≠	1.21		1.02		1.39	
ANNUAL RUNOFF (INCHES)	16.70		13.98		18.88	
ANNUAL RUNOFF (INCHES)≠	16.42		13.85		18.74	
10 PERCENT EXCEEDS	109		95		123	
50 PERCENT EXCEEDS	46		41		51	
90 PERCENT EXCEEDS	23		19		24	

≠ Adjusted for inflow since June 1994.
a Oct. 21, 22.
e Estimated
b Sept. 12, 13, 15, 16, 29.
c Minimum recordable flow was 10 ft^3/s, may have been less during periods of doubtful or no gage-height record.
d Late Aug. and early Sept. 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01480095 LITTLE MILL CREEK NEAR NEWPORT, DE

LOCATION.--Lat 39°43'54", long 75°36'14", New Castle County, Hydrologic Unit 02040205, on left bank at downstream side of railroad bridge at the Wilsmere Yards, 0.5 mi downstream from Chestnut Run, 1.2 mi northeast Newport, and 3.1 mi upstream from mouth.

DRAINAGE AREA.--5.24 mi^2.

PERIOD OF RECORD.--October 1990 to September 1995, August 1997 to September 1998 (Discontinued).

GAGE.--Water-stage recorder. Datum of gage is 58.74 ft above sea level.

REMARKS.--Records good below 400 ft^3/s, except those above 400 ft^3/s, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Peak of 1997 water year unknown.							
Jan 23, 1998	1555	*693	*4.59	Mar 21, 1998	0505	418	3.80

1997 Water Year Minimum discharge, unknown.

1998 Water Year Minimum discharge, 0.38 ft^3/s, Oct 2, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	.93
2	---	---	---	---	---	---	---	---	---	---	---	5.6
3	---	---	---	---	---	---	---	---	---	---	---	1.4
4	---	---	---	---	---	---	---	---	---	---	---	.96
5	---	---	---	---	---	---	---	---	---	---	---	.88
6	---	---	---	---	---	---	---	---	---	---	---	.77
7	---	---	---	---	---	---	---	---	---	---	---	.80
8	---	---	---	---	---	---	---	---	---	---	---	.71
9	---	---	---	---	---	---	---	---	---	---	---	.69
10	---	---	---	---	---	---	---	---	---	---	---	3.3
11	---	---	---	---	---	---	---	---	---	---	---	11
12	---	---	---	---	---	---	---	---	---	---	---	3.0
13	---	---	---	---	---	---	---	---	---	---	---	1.0
14	---	---	---	---	---	---	---	---	---	---	---	.83
15	---	---	---	---	---	---	---	---	---	---	---	.75
16	---	---	---	---	---	---	---	---	---	---	---	.67
17	---	---	---	---	---	---	---	---	---	---	---	.72
18	---	---	---	---	---	---	---	---	---	---	---	.67
19	---	---	---	---	---	---	---	---	---	---	---	.63
20	---	---	---	---	---	---	---	---	---	---	---	.92
21	---	---	---	---	---	---	---	---	---	---	---	1.1
22	---	---	---	---	---	---	---	---	---	---	---	.63
23	---	---	---	---	---	---	---	---	---	---	---	.59
24	---	---	---	---	---	---	---	---	---	---	---	.62
25	---	---	---	---	---	---	---	---	---	---	---	.65
26	---	---	---	---	---	---	---	---	---	---	.87	.64
27	---	---	---	---	---	---	---	---	---	---	.83	.55
28	---	---	---	---	---	---	---	---	---	---	14	4.8
29	---	---	---	---	---	---	---	---	---	---	3.1	2.8
30	---	---	---	---	---	---	---	---	---	---	1.2	.70
31	---	---	---	---	---	---	---	---	---	---	.98	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	49.31
MEAN	---	---	---	---	---	---	---	---	---	---	---	1.64
MAX	---	---	---	---	---	---	---	---	---	---	---	11
MIN	---	---	---	---	---	---	---	---	---	---	---	.55
CFSM	---	---	---	---	---	---	---	---	---	---	---	.31
IN.	---	---	---	---	---	---	---	---	---	---	---	.35

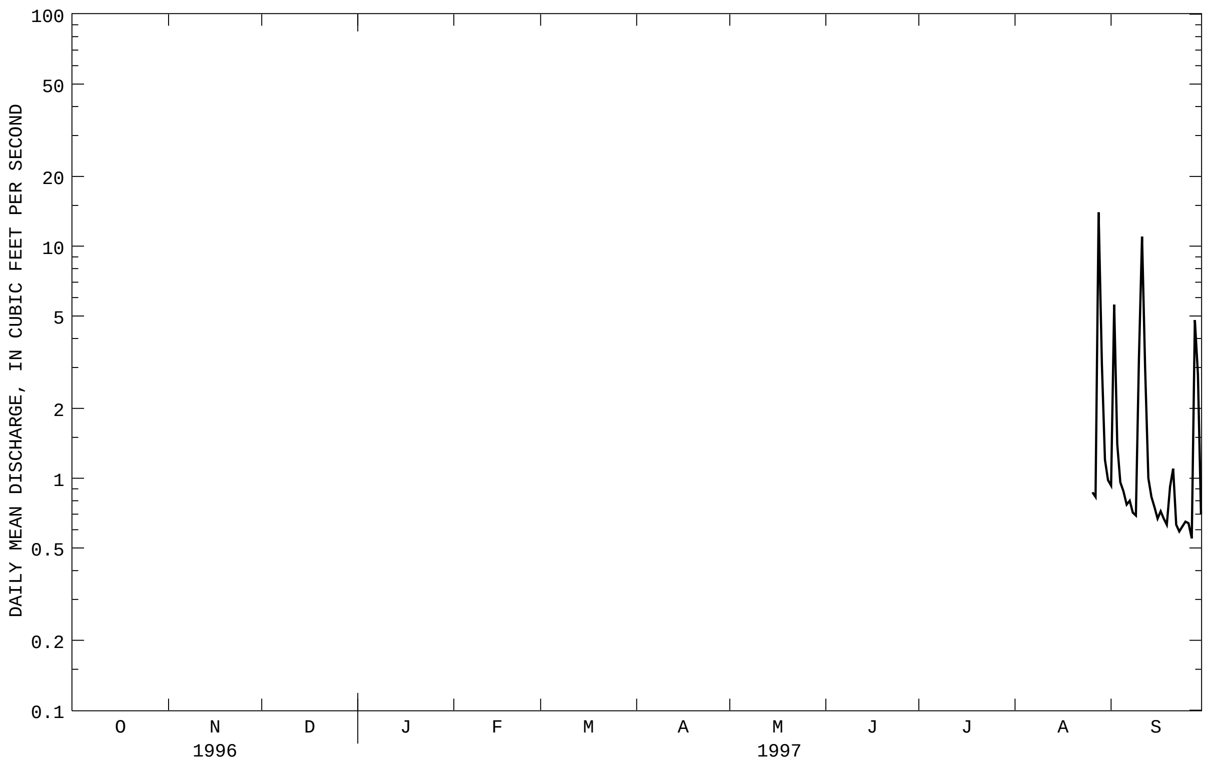
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1995, 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.96	5.27	8.46	10.1	7.97	15.4	9.98	6.79	4.97	7.14	4.88	5.28
MAX	4.34	8.30	11.1	15.9	15.1	24.8	19.8	8.24	6.38	16.5	9.10	9.87
(WY)	1994	1994	1991	1994	1994	1994	1993	1993	1991	1994	1994	1993
MIN	1.99	3.06	5.41	3.66	4.59	8.52	4.97	4.74	3.08	2.97	2.16	1.64
(WY)	1993	1992	1995	1992	1991	1995	1995	1991	1995	1993	1995	1997

01480095 LITTLE MILL CREEK NEAR NEWPORT, DE--Continued

SUMMARY STATISTICS	WATER YEARS 1991 - 1995 1997	
ANNUAL MEAN	7.50	
HIGHEST ANNUAL MEAN	10.8	1994
LOWEST ANNUAL MEAN	5.28	1992
HIGHEST DAILY MEAN	200	Jan 28 1994
LOWEST DAILY MEAN	.55	Sep 27 1997
ANNUAL SEVEN-DAY MINIMUM	.68	Sep 21 1997
INSTANTANEOUS PEAK FLOW	(a)1320	Jul 31 1994
INSTANTANEOUS PEAK STAGE	6.51	Jan 11 1991
INSTANTANEOUS LOW FLOW	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.43	
ANNUAL RUNOFF (INCHES)	19.44	
10 PERCENT EXCEEDS	15	
50 PERCENT EXCEEDS	3.2	
90 PERCENT EXCEEDS	1.5	

a From rating curve extended above 400 ft^3/s.



DAILY MEAN DISCHARGE - 1997 WATER YEAR

01480095 LITTLE MILL CREEK NEAR NEWPORT, DE--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	36	1.5	2.4	3.8	3.4	7.1	5.5	12	1.9	.93	.57
2	.41	5.2	1.6	2.8	3.3	2.7	9.3	7.5	2.4	1.2	.62	8.2
3	.41	1.5	1.8	2.5	3.6	37	3.9	4.0	2.0	.98	.72	3.4
4	.43	1.1	3.9	2.5	12	11	4.2	8.6	1.8	1.8	.49	.76
5	.43	1.0	1.9	2.4	19	5.5	4.9	4.8	1.6	1.3	.44	.46
6	.41	.96	1.4	2.2	6.6	4.2	6.5	19	1.5	.96	.44	.41
7	.41	1.5	1.4	13	4.5	3.6	7.3	5.1	1.4	.85	.44	8.5
8	.41	19	1.4	20	4.2	34	7.5	45	1.3	32	.47	5.4
9	.42	8.4	1.4	5.8	3.7	85	42	33	1.3	5.0	.45	1.3
10	.46	2.4	11	3.0	3.5	15	15	20	1.2	2.3	12	.88
11	.48	2.3	5.0	2.6	9.3	8.1	8.1	35	2.1	1.6	5.8	.79
12	.48	2.0	1.9	2.4	22	6.1	6.7	61	64	1.1	.97	.89
13	.52	1.9	1.6	2.3	5.7	5.5	6.1	18	29	.90	.65	.72
14	.71	17	1.5	2.0	4.5	5.2	6.1	11	15	.87	.60	.72
15	1.6	3.6	1.5	13	4.0	4.1	8.8	8.4	6.3	.86	.46	1.0
16	1.7	1.7	1.5	22	5.1	3.6	6.9	6.5	5.2	.88	.46	.96
17	1.4	1.2	1.4	4.4	23	3.4	17	5.0	3.4	.78	.50	1.4
18	10	1.2	1.4	4.0	19	12	5.7	3.7	2.4	.74	4.5	.82
19	.99	1.2	1.4	3.2	8.7	86	16	3.2	2.0	.66	1.6	.77
20	.72	1.2	1.5	2.7	5.6	19	16	3.0	1.9	.65	.61	.77
21	.66	9.5	3.1	2.5	4.4	86	9.3	2.8	1.7	11	.49	.82
22	.69	28	1.8	1.8	3.4	21	6.4	2.3	1.6	3.2	.44	9.3
23	.73	2.3	18	169	46	11	5.7	2.4	2.0	2.2	.41	1.1
24	.93	1.4	3.2	42	37	8.1	5.0	2.4	2.2	1.3	.51	.89
25	15	1.4	36	22	18	6.4	3.6	2.5	1.5	.82	.41	.89
26	18	1.3	5.0	12	9.3	8.7	6.6	2.4	9.0	.76	.42	.93
27	10	1.3	9.9	8.8	7.3	9.5	6.4	2.3	2.8	.78	.72	.84
28	1.0	1.3	8.2	48	3.5	6.0	4.0	2.1	1.7	.64	.45	1.2
29	.90	1.4	6.7	13	---	3.9	4.5	2.7	2.2	.64	.54	.84
30	.83	1.4	17	6.4	---	7.0	3.3	3.1	2.1	.59	.44	.84
31	.83	---	3.7	5.0	---	7.7	---	2.2	---	7.9	.48	---
TOTAL	72.43	159.66	158.6	445.7	300.0	529.7	259.9	334.5	184.6	87.16	38.46	56.37
MEAN	2.34	5.32	5.12	14.4	10.7	17.1	8.66	10.8	6.15	2.81	1.24	1.88
MAX	18	36	36	169	46	86	42	61	64	32	12	9.3
MIN	.41	.96	1.4	1.8	3.3	2.7	3.3	2.1	1.2	.59	.41	.41
CFSM	.45	1.02	.98	2.74	2.04	3.26	1.65	2.06	1.17	.54	.24	.36
IN.	.51	1.13	1.13	3.16	2.13	3.76	1.85	2.37	1.31	.62	.27	.40

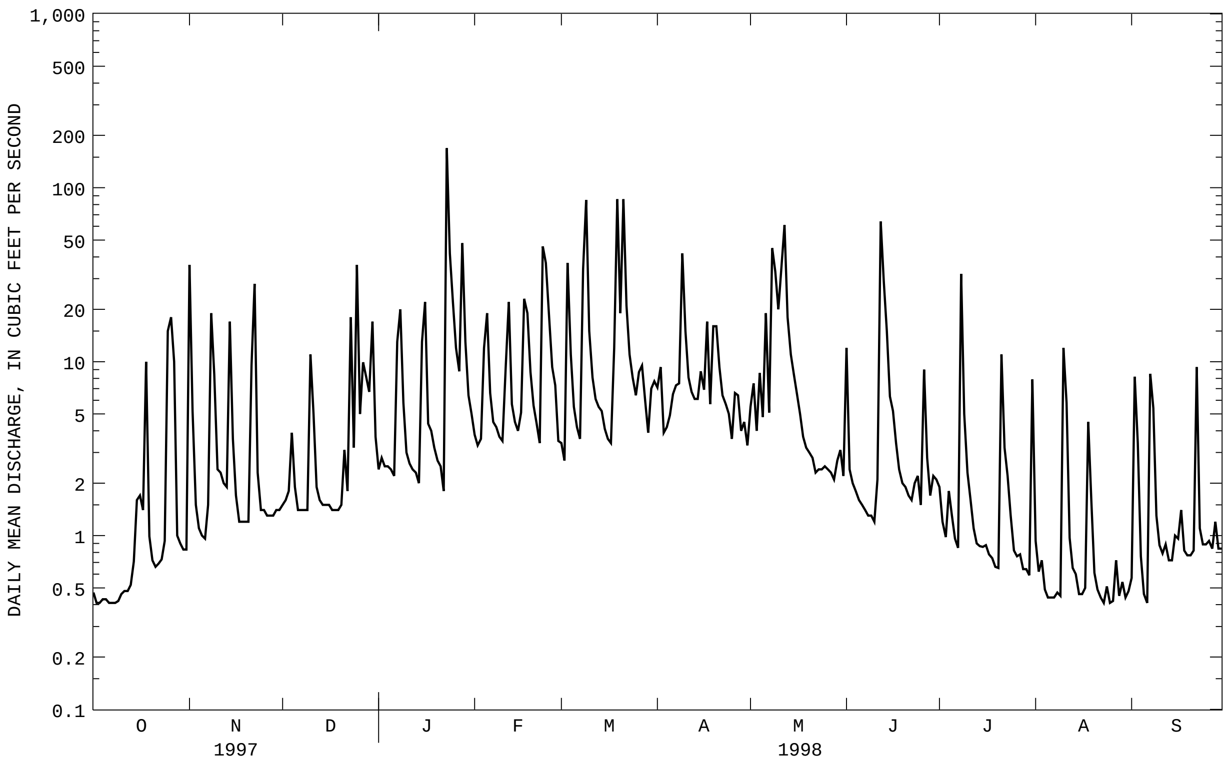
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1995, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.86	5.28	7.90	10.8	8.42	15.7	9.76	7.46	5.17	6.42	4.27	4.79
MAX	4.34	8.30	11.1	15.9	15.1	24.8	19.8	10.8	6.38	16.5	9.10	9.87
(WY)	1994	1994	1991	1994	1994	1994	1993	1998	1991	1994	1994	1993
MIN	1.99	3.06	5.12	3.66	4.59	8.52	4.97	4.74	3.08	2.81	1.24	1.64
(WY)	1993	1992	1998	1992	1991	1995	1995	1991	1995	1998	1998	1997

01480095 LITTLE MILL CREEK NEAR NEWPORT, DE--Continued

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1991 - 1995 1997 - 1998	
ANNUAL TOTAL	2627.08			
ANNUAL MEAN	7.20		7.45	
HIGHEST ANNUAL MEAN			10.8	1994
LOWEST ANNUAL MEAN			5.28	1992
HIGHEST DAILY MEAN	169	Jan 23	200	Jan 28 1994
LOWEST DAILY MEAN	.41	(a)	.41	(a)
ANNUAL SEVEN-DAY MINIMUM	.42	Oct 2	.42	Oct 2 1997
INSTANTANEOUS PEAK FLOW	693	Jan 23	(b)1320	Jul 31 1994
INSTANTANEOUS PEAK STAGE	4.59	Jan 23	6.51	Jan 11 1991
INSTANTANEOUS LOW FLOW	.38	Oct 2	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.37		1.42	
ANNUAL RUNOFF (INCHES)	18.65		19.31	
10 PERCENT EXCEEDS	18		15	
50 PERCENT EXCEEDS	2.5		3.2	
90 PERCENT EXCEEDS	.60		1.3	

a Oct. 2, 3, 6-8, 1997,Aug. 23, Sept. 6, 1998.
b From rating curve extended above 400 ft^3/s.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level.

REMARKS.--No estimated daily discharges. Records good. Some diurnal fluctuation at low flow caused by mills upstream from station. Flow regulated since November 1973 by Marsh Creek Reservoir, capacity 7,230,000,000 gal, about 27 mi upstream. No diversion just upstream from station by plant of E. I. du Pont de Nemours & Co. since June l3, 1960. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 21	1515	4,020	6.91	Apr 2	1000	*5,770	*8.11

Minimum discharge, 83 ft^3/s, Aug 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	258	189	241	361	489	621	509	497	351	314	161
2	110	492	174	261	343	466	3940	595	421	310	217	168
3	110	372	169	245	337	747	1260	683	389	292	185	294
4	115	233	181	240	311	1040	904	611	375	285	169	204
5	110	174	187	205	437	613	811	609	365	296	159	165
6	111	154	167	190	511	524	752	715	359	278	152	158
7	106	155	158	193	343	486	705	608	352	269	149	155
8	101	257	154	361	298	528	658	804	347	484	148	230
9	100	383	152	571	277	2200	906	1390	340	658	144	202
10	102	326	164	360	265	1530	1990	1350	335	386	150	161
11	98	241	240	316	261	770	919	1170	340	361	383	154
12	98	196	219	286	884	637	755	1620	1310	320	264	155
13	106	170	183	272	558	586	709	1210	1160	304	178	149
14	107	242	166	249	358	554	686	807	944	294	160	148
15	113	350	156	217	317	525	676	714	579	285	162	152
16	194	283	153	557	297	498	653	662	494	283	154	143
17	132	229	151	429	345	484	632	629	474	279	332	183
18	155	204	144	312	746	520	612	584	391	269	525	172
19	207	249	144	313	605	1500	635	521	363	260	419	156
20	153	240	143	282	483	1070	925	497	350	254	246	153
21	130	252	142	255	430	2580	695	487	344	257	210	151
22	119	523	140	239	379	1580	638	485	330	279	194	165
23	110	428	241	1110	443	1060	627	440	337	264	190	160
24	121	319	223	1980	1420	845	594	427	338	248	186	148
25	240	276	439	694	1180	761	558	435	333	225	178	147
26	271	266	396	497	663	718	550	428	328	205	172	150
27	358	255	259	413	549	690	600	407	464	191	267	152
28	273	206	269	571	509	663	544	396	336	187	205	147
29	181	184	247	659	---	622	508	390	321	181	170	141
30	149	182	404	482	---	584	503	470	345	170	168	134
31	139	---	361	404	---	563	---	420	---	238	165	---
TOTAL	4547	8099	6515	13404	13910	26433	25566	21073	13661	8963	6715	4958
MEAN	147	270	210	432	497	853	852	680	455	289	217	165
MAX	358	523	439	1980	1420	2580	3940	1620	1310	658	525	294
MIN	98	154	140	190	261	466	503	390	321	170	144	134
(†)	-5.2	-9.7	-1.0	0	14.8	8.1	0.2	0.3	1.3	-2.6	-0.8	-5.9
MEAN≠	142	260	209	432	512	861	852	680	456	286	216	159
CFSM≠	.45	.83	.67	1.38	1.63	2.74	2.71	2.17	1.45	.91	.69	.51
IN≠	.52	.93	.77	1.59	1.70	3.16	3.02	2.50	1.62	1.05	.80	.57

† Change in contents in Marsh Creek Reservoir, equivalent in cubic feet per second, provided by Pennsylvania Department of Environmental Resources.

≠ Adjusted for change in reservoir contents.

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1973, BY WATER YEAR (WY) [UNREGULATED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	223	356	434	498	681	734	696	559	435	330	315	284
MAX	860	794	979	1052	1454	1206	1406	1087	1343	749	1436	1403
(WY)	1972	1972	1973	1953	1971	1958	1958	1958	1972	1958	1955	1971
MIN	80.6	117	129	173	225	333	259	190	149	92.5	81.9	99.6
(WY)	1964	1966	1966	1955	1954	1969	1963	1963	1963	1963	1957	1964

SUMMARY STATISTICS	WATER YEARS 1947 - 1973	
ANNUAL MEAN	461	
HIGHEST ANNUAL MEAN	732	1972
LOWEST ANNUAL MEAN	252	1954
HIGHEST DAILY MEAN	14300	Jun 23 1972
LOWEST DAILY MEAN	56	Aug 23 1957
ANNUAL SEVEN-DAY MINIMUM	59	Aug 18 1957
INSTANTANEOUS PEAK FLOW	(a)29000	Jun 23 1972
INSTANTANEOUS PEAK STAGE	15.49	Jun 23 1972
INSTANTANEOUS LOW FLOW	(b)30	Dec 26 1948
ANNUAL RUNOFF (CFSM)	1.47	
ANNUAL RUNOFF (INCHES)	19.93	
10 PERCENT EXCEEDS	864	
50 PERCENT EXCEEDS	316	
90 PERCENT EXCEEDS	125	

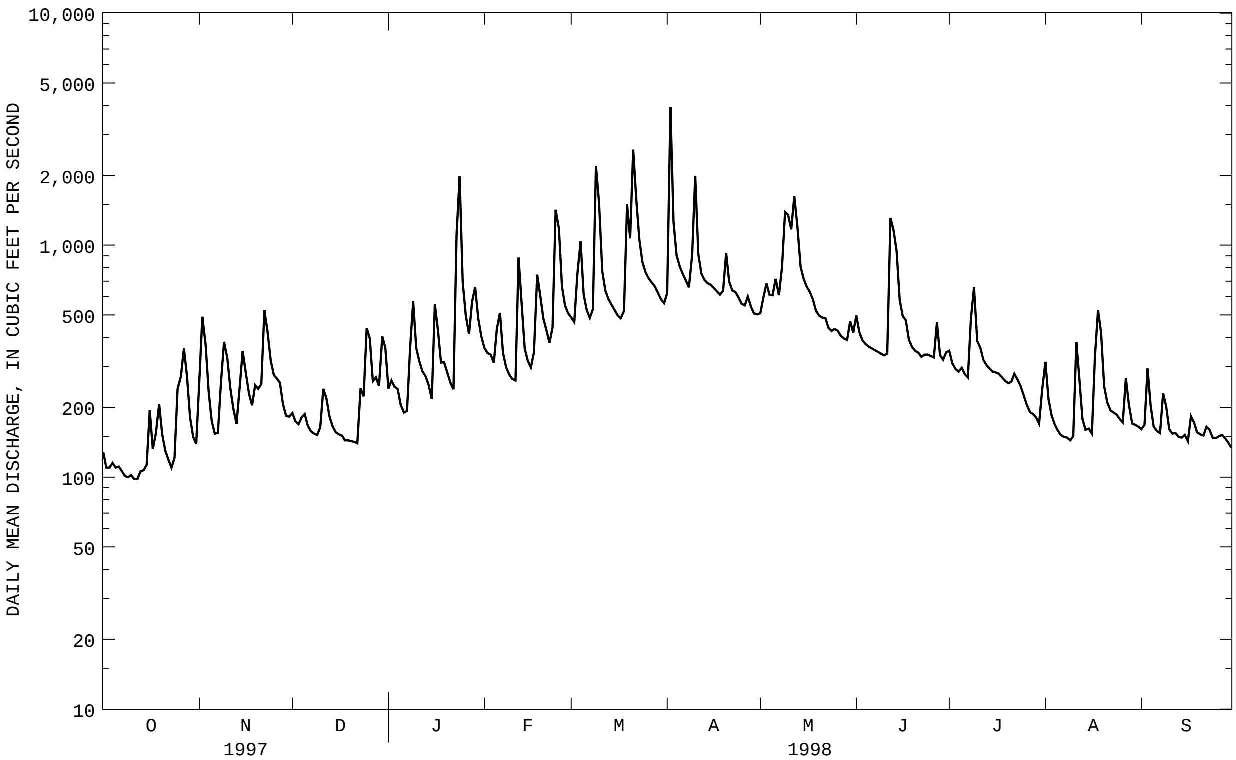
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	306	375	547	642	642	757	734	610	450	402	269	289
MAX	1022	856	1927	1868	1610	1839	1773	1168	1079	1243	572	1095
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1975	1975	1996	1979
MIN	125	157	145	119	246	230	223	304	172	161	103	108
(WY)	1987	1982	1981	1981	1992	1981	1985	1977	1985	1986	1995	1980

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1974 - 1998	
ANNUAL TOTAL	158911		153844			
ANNUAL MEAN	435		421		501	
ANNUAL MEAN≠	436		421		502	
HIGHEST ANNUAL MEAN					835	1984
LOWEST ANNUAL MEAN					228	1981
HIGHEST DAILY MEAN	4020	Jan 25	3940	Apr 2	12100	Jan 25 1979
LOWEST DAILY MEAN	98	(c)	98	(c)	52	Sep 13 1995
ANNUAL SEVEN-DAY MINIMUM	102	Oct 7	102	Oct 7	55	Sep 1 1995
INSTANTANEOUS PEAK FLOW			5770	Apr 2	22400	Jan 25 1979
INSTANTANEOUS PEAK STAGE			8.11	Apr 2	13.22	Jan 25 1979
INSTANTANEOUS LOW FLOW			83	Aug 10	40	Aug 26 1995
ANNUAL RUNOFF (CFSM)	1.39		1.34		1.60	
ANNUAL RUNOFF (CFSM)≠	1.39		1.34		1.60	
ANNUAL RUNOFF (INCHES)	18.83		18.23		21.69	
ANNUAL RUNOFF (INCHES)≠	18.87		18.19		21.71	
10 PERCENT EXCEEDS	849		749		930	
50 PERCENT EXCEEDS	283		314		353	
90 PERCENT EXCEEDS	128		149		142	

a From rating curve extended above 18,000 ft^3/s.
b During period of ice effect.
c Oct. 11, 12.
≠ Adjusted for change in reservoir contents since November 1973.

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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01483200 BLACKBIRD CREEK AT BLACKBIRD, DE

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, Hydrologic Unit 02040205, on left bank 15 ft down- stream from highway culverts, 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^2.

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.

REVISED RECORDS.--WRD MD-DE-89-1: 1987-88(P).

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 17.89 ft above sea level. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft upstream at datum 1.0 ft higher. Oct. 17, 1956, to June 16, 1986, recording gage at same site on right bank at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low and medium flow by Blackbird Lake Dam upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 24	0345	*117	*3.17	Mar 21	1315	65	2.38
Mar 9	0830	53	2.18	Aug 11	0415	51	2.15

Minimum discharge, 0.13 ft^3/s, Sep 19-21, 24, 25, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	2.8	1.5	2.0	4.5	7.5	7.3	4.0	3.9	1.6	.27	.35
2	.36	4.1	1.4	1.9	4.4	7.2	7.9	5.6	2.4	1.6	.24	.29
3	.25	1.7	1.4	1.9	4.6	26	6.8	4.5	1.6	1.6	.24	.56
4	.21	.97	2.1	1.9	6.0	21	7.6	5.1	1.7	1.6	.29	.76
5	.19	.83	1.9	1.8	25	11	7.7	4.2	1.8	1.3	.34	.54
6	.22	.83	1.7	1.7	13	9.1	6.7	3.9	1.6	1.1	.34	.37
7	.22	.99	1.5	2.0	8.1	8.5	6.1	4.2	1.6	1.1	.35	.35
8	.24	9.3	1.4	3.0	6.2	18	6.0	5.7	1.5	2.0	.32	.57
9	.22	8.5	1.4	3.1	5.2	44	12	7.2	1.5	4.6	.26	.59
10	.23	3.5	1.6	2.2	5.1	19	15	8.2	1.5	2.1	2.4	.46
11	.23	2.0	1.9	1.8	5.4	11	8.7	10	1.5	2.0	25	.39
12	.22	1.6	1.8	1.8	9.1	9.4	6.6	31	7.2	1.9	3.2	.35
13	.23	1.9	1.6	1.9	6.9	9.0	6.0	19	16	1.8	.92	.18
14	.23	4.0	1.5	1.8	5.3	8.7	5.8	8.8	12	1.5	.62	.16
15	.22	4.0	1.5	2.6	4.6	8.2	5.7	6.6	5.7	1.2	.55	.17
16	.20	3.0	1.5	9.6	4.6	7.7	5.4	5.3	4.4	.94	.54	.25
17	.22	2.2	1.4	4.3	7.7	7.1	8.6	4.4	3.2	.89	.93	.26
18	.30	1.6	1.4	2.6	13	10	7.8	4.1	2.8	.87	.97	.38
19	.67	1.5	1.4	2.3	8.8	32	5.9	3.7	2.2	.87	1.7	.20
20	.85	1.5	1.4	2.1	6.5	20	8.4	3.2	2.1	.84	1.1	.16
21	.57	1.6	1.3	2.0	5.8	42	5.9	2.9	1.9	.69	.74	.26
22	.45	8.6	1.4	1.9	5.1	28	5.1	2.7	1.8	.60	.64	.29
23	.40	3.3	2.8	16	16	15	5.1	2.7	3.8	.51	.69	.26
24	.40	1.9	2.3	30	50	12	4.9	2.5	2.5	.43	.66	.15
25	1.9	1.7	3.4	11	17	11	4.4	2.5	2.1	.59	.64	.14
26	2.0	1.6	2.8	6.4	10	9.9	4.8	2.6	1.9	.66	.64	.23
27	2.6	1.5	2.2	4.2	8.7	9.6	7.8	2.4	1.9	.61	.59	.28
28	1.5	1.4	2.9	18	8.0	9.2	4.5	2.3	1.7	.60	.50	.21
29	.73	1.4	2.7	19	---	8.6	3.9	2.3	1.4	.53	.38	.16
30	.61	1.5	3.4	8.3	---	8.5	3.8	2.2	1.3	.38	.36	.14
31	.60	---	2.8	5.5	---	7.5	---	2.1	---	.32	.37	---
TOTAL	17.54	81.32	59.3	174.6	274.6	455.7	202.2	175.9	96.5	37.33	46.79	9.46
MEAN	.57	2.71	1.91	5.63	9.81	14.7	6.74	5.67	3.22	1.20	1.51	.32
MAX	2.6	9.3	3.4	30	50	44	15	31	16	4.6	25	.76
MIN	.19	.83	1.3	1.7	4.4	7.1	3.8	2.1	1.3	.32	.24	.14
CFSM	.15	.70	.50	1.46	2.55	3.82	1.75	1.47	.84	.31	.39	.08
IN.	.17	.79	.57	1.69	2.65	4.40	1.95	1.70	.93	.36	.45	.09

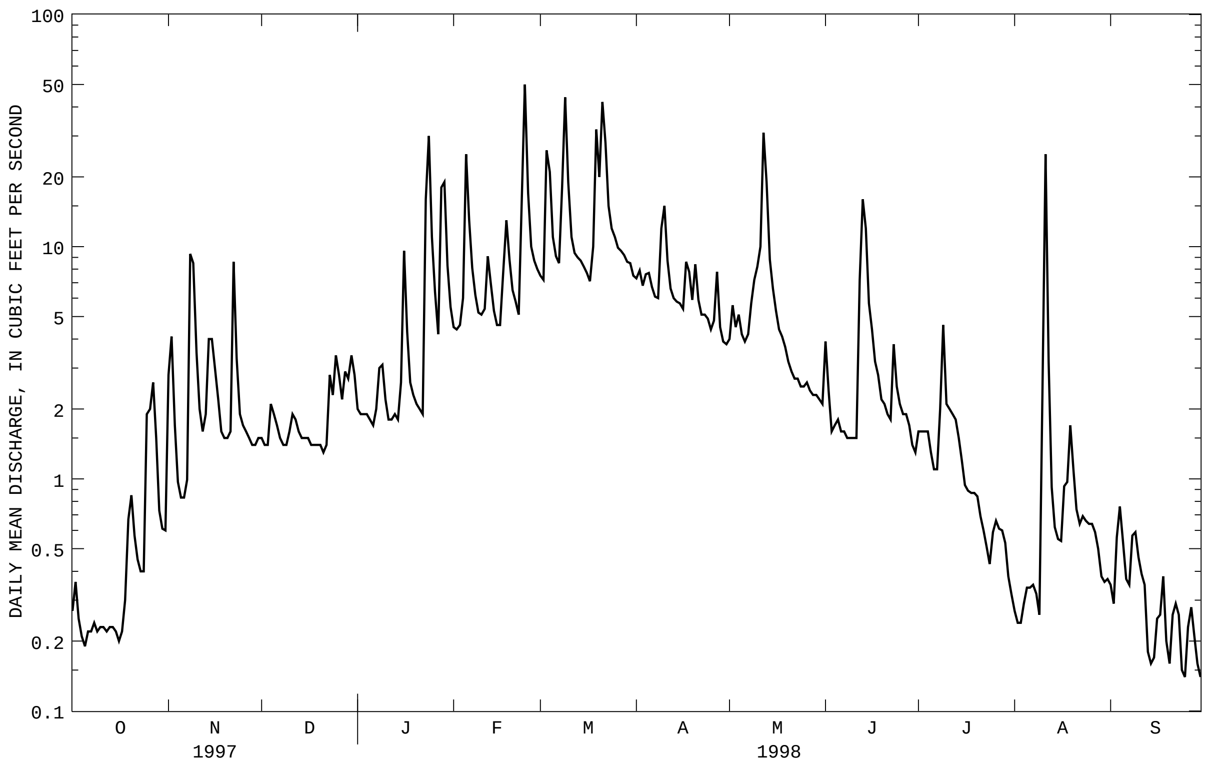
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.44	3.47	5.17	6.33	7.27	8.78	7.54	5.48	3.69	2.94	2.03	2.06
MAX	8.83	10.4	23.5	18.1	19.2	20.3	21.0	13.9	24.4	17.0	6.80	12.2
(WY)	1972	1957	1997	1978	1979	1958	1983	1989	1972	1989	1971	1960
MIN	.30	.73	.71	1.51	2.44	1.98	2.16	1.26	.54	.077	.013	.21
(WY)	1969	1966	1966	1981	1992	1966	1966	1977	1966	1966	1966	1968

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1957 - 1998	
ANNUAL TOTAL	1582.28		1631.24			
ANNUAL MEAN	4.34		4.47		4.75	
HIGHEST ANNUAL MEAN					9.05	1972
LOWEST ANNUAL MEAN					1.40	1966
HIGHEST DAILY MEAN	46	Mar 4	50	Feb 24	338	Jun 22 1972
LOWEST DAILY MEAN	.13	Aug 19	.14	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.21	Sep 25	.19	Sep 24	.00	Jul 17 1966
INSTANTANEOUS PEAK FLOW			117	Feb 24	(c)712	Jun 22 1972
INSTANTANEOUS PEAK STAGE			3.17	Feb 24	5.04	Jun 22 1972
INSTANTANEOUS LOW FLOW			.13	(d)	.00	(f)
ANNUAL RUNOFF (CFSM)	1.13		1.16		1.23	
ANNUAL RUNOFF (INCHES)	15.29		15.76		16.78	
10 PERCENT EXCEEDS	10		9.7		9.8	
50 PERCENT EXCEEDS	2.0		2.0		2.7	
90 PERCENT EXCEEDS	.31		.29		.53	

a Sept. 25, 30.
b Sept. 11, 1965; July 12-15, 17-31, Aug. 1-12, 14, 15, 18-31, Sept. 1-20, 1966.
c From rating curve extended above 200 ft^3/s on basis of Type III culvert measurement of peak flow.
d Sept. 19-21, 24, 25, 30.
f No flow at times during 1964-66.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.00 ft above sea level. Prior to June 1973, at datum 0.50 ft higher.

REMARKS.--Records good except those for estimated daily discharges (backwater from tides), which are fair. Flow affected by Silver Lake. Flow occasionally affected by tide and wind effect. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharge, 544 ft^3/s, Feb. 24, gage height, 5.55 ft; maximum gage height, 6.02 ft, Feb. 5 (backwater from storm tide); minimum discharge, 1.2 ft^3/s, Aug 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	e19	18	30	86	81	49	22	14	12	5.3	e5.9
2	3.6	e30	14	25	67	74	48	26	11	11	3.4	26
3	3.2	22	15	23	59	e123	42	26	11	9.0	2.5	29
4	3.1	12	23	21	e87	187	49	26	9.3	8.1	e1.8	e17
5	3.1	7.8	26	20	e465	146	55	23	9.7	7.7	e1.6	e8.8
6	3.1	6.9	22	23	e424	96	48	22	10	6.6	e1.5	7.4
7	2.9	e20	18	24	e206	77	40	24	9.4	7.3	e1.4	15
8	2.8	e94	16	35	e125	121	37	44	9.1	22	e1.4	31
9	e2.7	e113	16	40	e91	340	60	56	8.0	24	e1.5	19
10	2.7	70	19	30	72	337	e91	e49	8.5	17	e63	11
11	e2.5	40	e25	24	69	189	70	e43	9.7	11	256	8.1
12	e2.5	22	25	22	107	109	47	e215	36	7.9	353	7.2
13	e2.3	14	21	23	118	80	39	e338	45	e6.5	144	6.8
14	e2.5	e51	18	21	89	71	35	e170	35	5.8	49	e5.3
15	e3.3	e49	16	30	67	65	33	76	25	5.4	18	5.6
16	e3.1	40	16	65	57	60	31	48	21	5.1	10	5.9
17	e3.0	26	16	65	e62	55	42	38	19	5.5	8.7	5.9
18	e4.4	19	15	45	e94	71	50	31	15	e4.9	10	e5.6
19	e7.1	16	15	33	106	183	43	26	12	e3.9	e10	e5.6
20	e7.8	14	16	29	81	293	48	23	11	3.9	e7.7	e5.6
21	e6.2	15	14	26	66	e377	43	24	e9.7	3.9	7.3	5.8
22	5.2	38	15	24	57	e397	33	29	e8.8	e4.5	6.5	7.1
23	3.6	37	26	78	e111	242	e30	21	e8.8	e4.4	6.2	5.6
24	3.3	28	26	203	e421	148	e29	17	e10	6.6	5.6	3.6
25	11	17	37	186	378	101	26	16	12	e3.3	5.5	4.3
26	17	15	35	112	215	82	24	16	21	e2.5	5.1	4.7
27	33	14	32	70	130	75	e24	15	35	2.2	11	4.3
28	19	11	36	e145	96	69	23	14	31	2.0	17	4.1
29	9.9	11	38	e324	---	64	21	13	18	2.4	13	2.6
30	7.2	12	e47	e238	---	58	20	13	13	2.5	9.6	2.9
31	6.2	---	45	134	---	53	---	11	---	7.2	7.8	---
TOTAL	191.8	883.7	721	2168	4006	4424	1230	1515	496.0	226.1	1044.4	276.7
MEAN	6.19	29.5	23.3	69.9	143	143	41.0	48.9	16.5	7.29	33.7	9.22
MAX	33	113	47	324	465	397	91	338	45	24	353	31
MIN	2.3	6.9	14	20	57	53	20	11	8.0	2.0	1.4	2.6
CFSM	.19	.92	.73	2.19	4.48	4.47	1.29	1.53	.52	.23	1.06	.29
IN.	.22	1.03	.84	2.53	4.67	5.16	1.43	1.77	.58	.26	1.22	.32

e Estimated

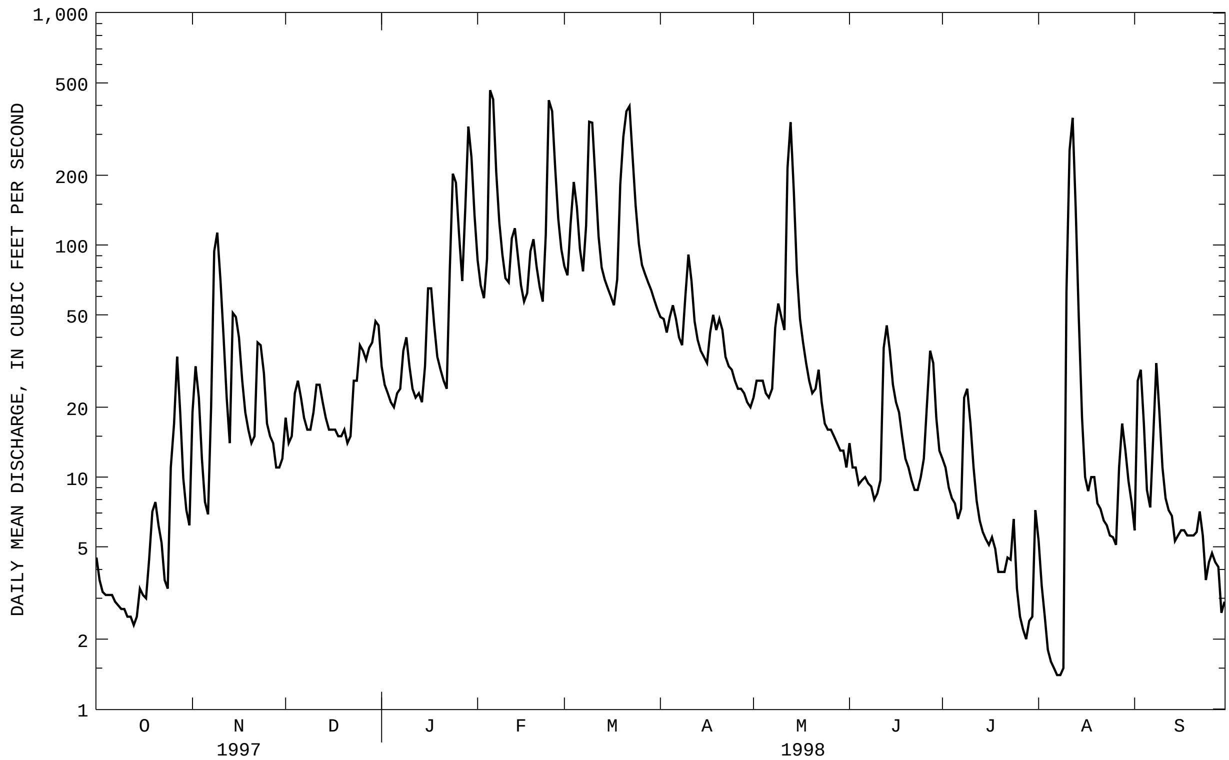
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.3	24.5	37.9	51.3	61.0	75.8	58.3	38.1	29.4	18.3	24.7	19.2
MAX	93.5	103	145	156	143	187	180	117	138	88.6	144	128
(WY)	1972	1973	1997	1978	1998	1994	1983	1989	1996	1975	1958	1960
MIN	.40	1.91	1.35	1.64	11.0	10.7	13.5	9.86	4.36	2.10	.69	1.92
(WY)	1964	1962	1966	1966	1966	1966	1966	1963	1986	1966	1966	1970

01483700 ST. JONES RIVER AT DOVER, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	14071.9		17182.7			
ANNUAL MEAN	38.6		47.1		37.3	
HIGHEST ANNUAL MEAN					69.3	1972
LOWEST ANNUAL MEAN					6.14	1966
HIGHEST DAILY MEAN	e430	Aug 21	e465	Feb 5	1460	Sep 13 1960
LOWEST DAILY MEAN	e1.9	(a)	e1.4	(b)	.00	(c)
ANNUAL SEVEN-DAY MINIMUM	2.6	Oct 8	1.7	Aug 3	.40	Sep 30 1963
INSTANTANEOUS PEAK FLOW			544	Feb 24	1900	Sep 13 1960
INSTANTANEOUS PEAK STAGE			(d)6.02	Feb 5	(f)9.45	Sep 13 1960
INSTANTANEOUS LOW FLOW			1.2	Aug 6	.00	(g)
ANNUAL RUNOFF (CFSM)	1.21		1.48		1.17	
ANNUAL RUNOFF (INCHES)	16.41		20.04		15.89	
10 PERCENT EXCEEDS	88		111		86	
50 PERCENT EXCEEDS	22		21		21	
90 PERCENT EXCEEDS	3.3		3.9		3.8	

e Estimated
a July 20, 21.
b Aug. 7, 8.
c July 9, 1959, May 9, 10, 1961.
d Backwater from storm tide.
f From floodmark.
g No flow at times in 1959, 1961, 1962.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--July 1931 to October 1933. Monthly discharges only for July to September 1931, published in WSP 1302. Annual maximum, water years 1952-60, and occasional low-flow measurements, water years 1952-53, 1955-57, 1959-60. June 1960 to September 1985. October 1996 to current year.

REVISED RECORDS.--WSP 1432: 1932.

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

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during this year. Water-quality records for some prior periods have been collected at this location.

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 greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 24	0800	159	4.96	Mar 9	1500	222	5.33
Jan 28	2245	*415	*6.12	Mar 19	1930	177	5.08
Feb 5	0930	368	5.75	Mar 21	1445	151	4.91
Feb 24	0630	265	5.54	May 12	2215	137	4.81

Minimum discharge, 1.3 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	8.2	17	20	46	38	23	14	8.2	8.1	2.6	1.7
2	3.4	8.4	15	18	37	36	22	17	6.9	6.7	2.2	7.9
3	3.4	4.6	14	17	33	64	20	18	6.2	6.0	2.1	4.7
4	3.2	3.3	17	16	48	62	27	15	6.2	6.0	2.0	3.4
5	3.1	2.9	17	15	306	43	29	15	6.0	7.1	1.9	2.7
6	3.0	3.0	15	15	169	35	23	14	5.9	5.5	1.9	2.3
7	2.7	7.5	14	16	92	34	21	15	5.3	4.7	2.0	2.3
8	2.7	53	13	18	62	63	19	23	5.1	10	2.2	4.9
9	2.7	92	13	18	47	192	27	27	4.9	9.5	2.0	2.7
10	2.8	59	14	16	40	118	42	24	6.0	6.9	3.1	2.2
11	2.7	28	16	14	37	60	28	23	6.3	5.2	8.7	2.0
12	2.7	20	14	13	77	42	22	72	14	4.3	2.8	2.0
13	2.8	17	13	14	58	36	20	88	11	3.9	2.3	1.9
14	2.8	36	12	15	42	34	19	40	13	3.6	2.2	1.9
15	3.8	46	12	17	34	31	19	27	9.3	3.4	2.1	1.9
16	3.8	30	12	34	31	28	17	21	18	3.4	2.1	1.8
17	3.0	22	11	26	35	25	25	18	41	3.4	2.2	1.9
18	3.6	19	11	20	51	42	27	15	14	3.2	2.6	2.2
19	5.8	17	11	18	41	109	23	14	9.9	3.0	3.6	2.3
20	4.3	16	11	16	34	111	41	13	8.6	2.9	2.4	2.1
21	2.7	16	10	15	31	119	27	12	7.3	2.7	2.1	2.0
22	2.4	44	11	14	27	113	21	12	6.7	2.7	2.0	2.0
23	2.3	45	14	34	52	68	19	11	26	2.5	2.0	1.9
24	2.2	29	13	131	237	46	18	11	15	2.4	1.9	1.8
25	6.8	23	24	77	138	38	16	10	10	2.4	1.8	1.8
26	6.8	20	21	47	72	33	15	9.8	15	2.4	1.7	1.9
27	11	18	19	33	49	31	16	9.4	44	2.4	1.9	1.8
28	3.7	17	26	165	41	29	14	9.4	16	2.3	3.8	1.5
29	2.9	16	24	270	---	27	13	8.6	12	2.3	2.7	1.4
30	2.5	16	40	123	---	26	13	8.0	9.9	2.2	2.1	1.5
31	2.4	---	31	70	---	24	---	7.2	---	2.6	1.8	---
TOTAL	111.5	736.9	505	1335	1967	1757	666	621.4	367.7	133.7	76.8	72.4
MEAN	3.60	24.6	16.3	43.1	70.3	56.7	22.2	20.0	12.3	4.31	2.48	2.41
MAX	11	92	40	270	306	192	42	88	44	10	8.7	7.9
MIN	2.2	2.9	10	13	27	24	13	7.2	4.9	2.2	1.7	1.4
CFSM	.26	1.81	1.20	3.17	5.17	4.17	1.63	1.47	.90	.32	.18	.18
IN.	.30	2.02	1.38	3.65	5.38	4.81	1.82	1.70	1.01	.37	.21	.20

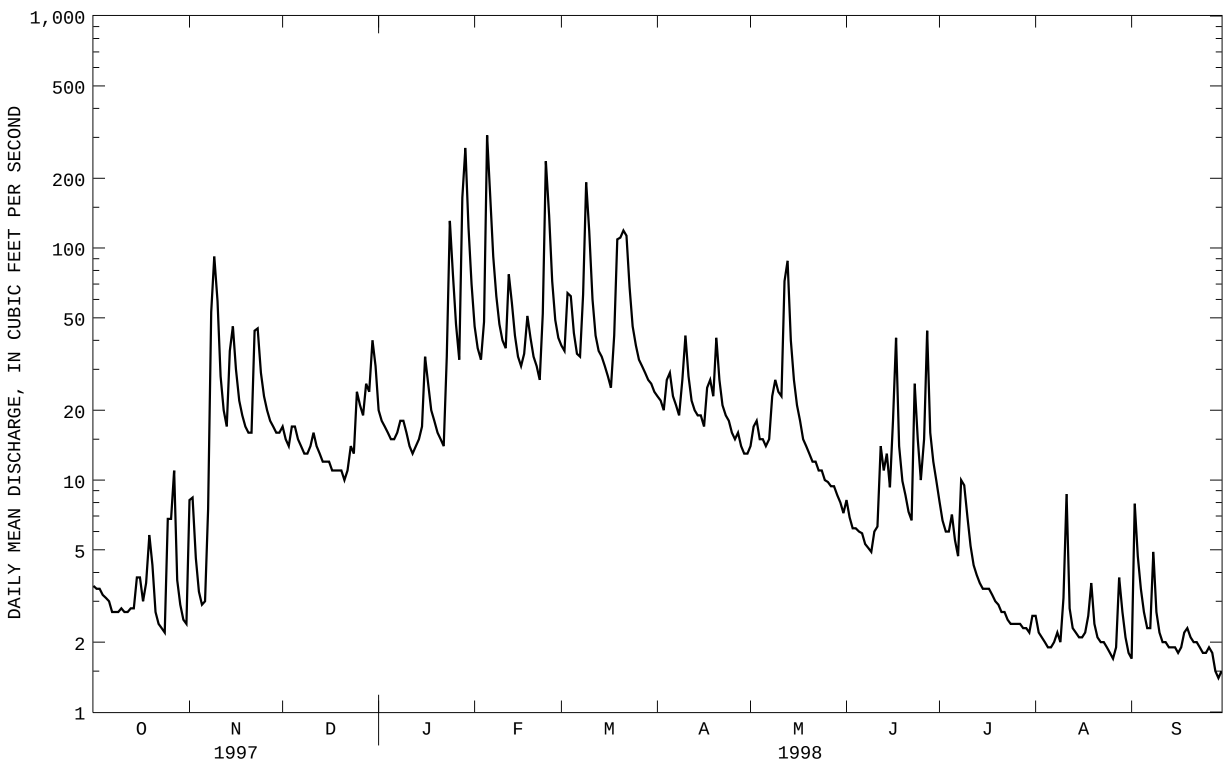
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1985, 1997 - 1998 BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.94	12.9	21.9	26.1	31.6	33.5	27.0	17.5	12.6	10.9	13.0	8.61
MAX	34.9	43.4	59.4	72.7	75.6	76.6	66.4	45.6	30.7	71.4	138	39.9
(WY)	1972	1973	1997	1978	1979	1978	1983	1984	1979	1975	1967	1960
MIN	2.28	3.58	4.15	3.83	10.5	10.2	7.77	5.05	4.36	2.41	2.19	2.38
(WY)	1966	1966	1966	1966	1966	1966	1985	1977	1976	1977	1966	1982

01484000 MURDERKILL RIVER NEAR FELTON, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1985 1997 - 1998	
ANNUAL TOTAL	6704.4		8350.4			
ANNUAL MEAN	18.4		22.9		18.6	
HIGHEST ANNUAL MEAN					28.3	1972
LOWEST ANNUAL MEAN					6.24	1966
HIGHEST DAILY MEAN	286	Aug 21	306	Feb 5	1270	Aug 4 1967
LOWEST DAILY MEAN	2.2	Oct 24	1.4	Sep 29	1.1	Aug 28 1966
ANNUAL SEVEN-DAY MINIMUM	2.4	Jul 29	1.7	Sep 24	1.5	Sep 30 1965
INSTANTANEOUS PEAK FLOW			415	Jan 28	2090	Aug 4 1967
INSTANTANEOUS PEAK STAGE			6.12	Jan 28	8.83	Aug 4 1967
INSTANTANEOUS LOW FLOW			1.3	Sep 30	.80	(a)
ANNUAL RUNOFF (CFSM)	1.35		1.68		1.37	
ANNUAL RUNOFF (INCHES)	18.34		22.84		18.58	
10 PERCENT EXCEEDS	39		47		36	
50 PERCENT EXCEEDS	13		14		11	
90 PERCENT EXCEEDS	2.8		2.2		3.4	

a Aug. 28, Sept. 11, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 culverts 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^2.

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

REVISED RECORDS.--WDR MD-DE-84-1: 1981, 1983 (M).

GAGE.--Water-stage recorder and concrete control; timber control prior to Nov. 8, 1979. Datum of gage is 35.67 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Diversion for irrigation of about 150 acres upstream from station during some years. Several measurements of water temperature were made during this year. Water-quality data for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1215	39	3.49	Mar 9	1415	35	3.41
Nov 9	1030	45	3.61	Mar 19	1800	51	3.73
Jan 28	2115	*81	*4.28	Mar 21	1145	37	3.44
Feb 5	1000	66	4.00	May 12	1900	32	3.34
Feb 24	0845	64	3.96				

Minimum discharge, 0.58 ft^3/s, Sep 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.9	5.3	5.2	10	10	7.1	4.5	3.1	3.1	1.6	.98
2	2.0	4.4	5.0	5.1	9.0	9.6	6.7	4.8	3.0	2.9	1.5	1.6
3	2.0	3.3	4.9	4.9	8.5	14	6.5	4.6	2.9	2.8	1.4	1.2
4	1.9	2.5	5.6	4.9	16	11	7.7	4.5	2.9	2.8	1.3	1.1
5	1.9	2.4	5.2	4.9	58	9.6	7.4	4.6	2.8	2.7	1.3	1.0
6	1.8	2.4	4.9	4.9	34	8.7	6.7	4.3	2.8	2.5	1.1	.98
7	1.8	3.0	4.8	5.1	22	8.5	6.1	4.3	2.7	2.4	1.2	1.1
8	1.8	27	4.6	5.9	14	14	6.1	6.7	2.6	3.2	1.1	2.0
9	1.8	35	4.6	5.5	11	33	8.2	6.3	2.4	2.8	1.0	1.2
10	1.7	11	4.8	5.0	9.7	19	8.5	5.8	2.7	2.5	1.7	1.1
11	1.7	7.1	4.8	4.8	9.5	12	6.8	5.8	2.7	2.2	2.2	.97
12	1.7	6.3	4.5	4.6	19	9.9	6.3	19	3.7	2.2	1.4	.93
13	1.7	5.9	4.4	4.9	11	9.0	6.0	12	3.4	2.1	1.3	.88
14	1.7	11	4.4	4.7	9.0	8.5	5.9	7.7	3.1	2.0	1.3	.87
15	1.8	9.6	4.2	5.4	7.9	7.9	5.8	6.6	2.9	2.0	1.2	.84
16	1.8	7.1	4.1	7.2	7.5	7.5	5.7	5.9	4.3	2.1	1.2	.83
17	1.7	6.3	4.1	5.6	9.3	7.1	7.6	5.5	5.2	2.0	1.2	.84
18	1.9	5.9	4.0	5.3	11	11	6.5	5.2	3.1	1.8	1.5	.97
19	2.4	5.9	3.9	5.1	8.4	32	6.1	4.8	3.0	1.8	1.5	.88
20	2.0	5.6	3.9	4.9	7.7	26	6.0	4.4	2.9	1.7	1.3	.85
21	1.8	5.5	3.9	4.7	7.3	29	5.5	4.3	2.7	1.7	1.2	.81
22	1.7	9.9	4.0	4.6	6.7	25	5.3	4.1	2.7	1.6	1.1	.81
23	1.6	7.3	4.5	9.8	16	15	5.4	4.0	5.8	1.5	1.1	.76
24	1.6	6.3	4.1	12	58	12	5.1	3.8	3.5	1.5	1.1	.73
25	1.9	5.9	5.2	8.5	33	10	4.8	3.8	3.1	1.5	1.0	.72
26	2.3	5.8	4.5	6.7	16	9.4	4.8	3.6	6.6	1.4	1.0	.73
27	2.6	5.5	4.9	6.2	13	8.8	4.9	3.6	6.3	1.3	1.4	.69
28	1.9	5.4	5.9	42	11	8.3	4.5	3.5	3.6	1.3	1.3	.66
29	1.8	5.2	6.2	48	---	7.9	4.3	3.3	3.4	1.4	1.2	.64
30	1.8	5.3	8.6	19	---	7.4	4.3	3.3	3.3	1.4	1.1	.66
31	1.8	---	6.0	12	---	7.1	---	3.2	---	2.0	1.0	---
TOTAL	58.0	226.7	149.8	277.4	453.5	408.2	182.6	167.8	103.2	64.2	39.8	28.33
MEAN	1.87	7.56	4.83	8.95	16.2	13.2	6.09	5.41	3.44	2.07	1.28	.94
MAX	2.6	35	8.6	48	58	33	8.5	19	6.6	3.2	2.2	2.0
MIN	1.6	2.4	3.9	4.6	6.7	7.1	4.3	3.2	2.4	1.3	1.0	.64
CFSM	.66	2.67	1.71	3.16	5.72	4.65	2.15	1.91	1.22	.73	.45	.33
IN.	.76	2.98	1.97	3.65	5.96	5.37	2.40	2.21	1.36	.84	.52	.37

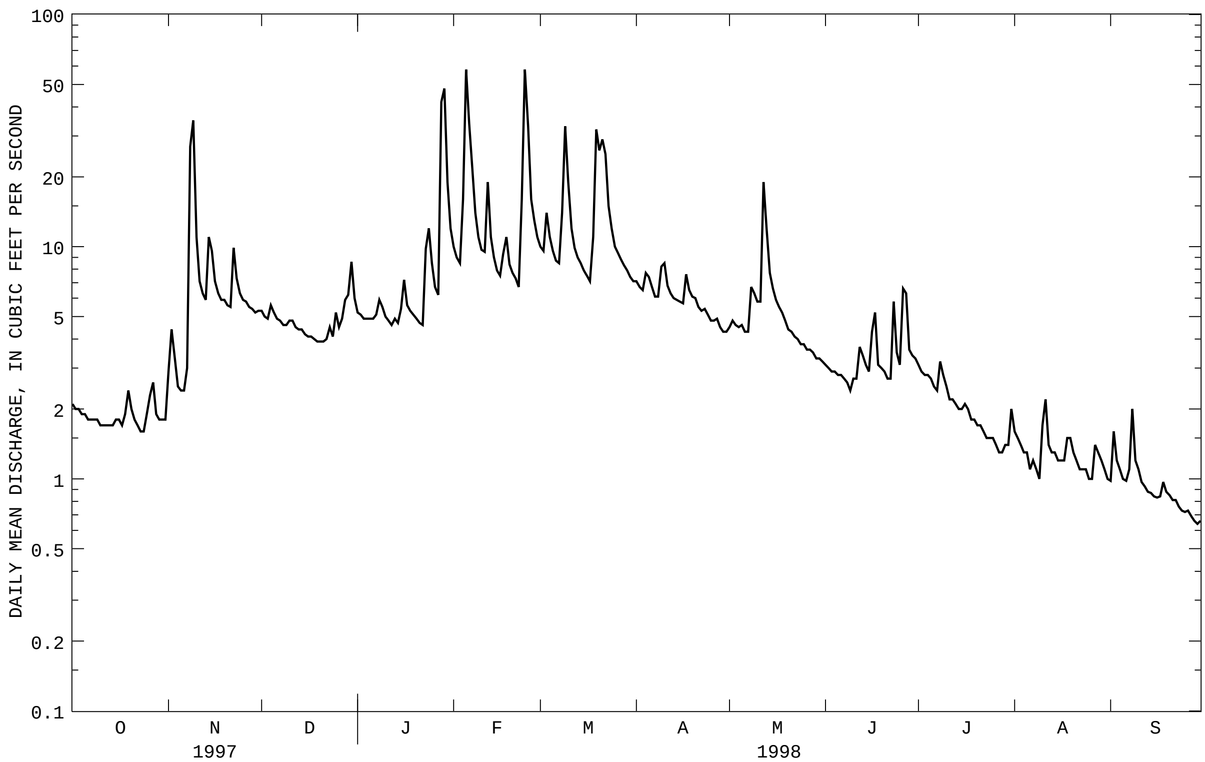
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.83	2.21	3.26	4.59	5.59	6.51	5.64	4.47	3.07	2.72	2.40	2.02
MAX	4.69	7.56	11.5	10.7	16.2	18.0	11.0	10.5	6.17	16.8	9.38	10.1
(WY)	1959	1998	1973	1978	1998	1994	1983	1984	1979	1975	1967	1960
MIN	.37	.44	.48	.57	1.06	1.70	1.90	1.88	1.22	.42	.51	.44
(WY)	1987	1988	1966	1966	1966	1966	1985	1977	1986	1977	1987	1986

01484100 BEAVERDAM BRANCH AT HOUSTON, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	1725.99		2159.53			
ANNUAL MEAN	4.73		5.92		3.65	
HIGHEST ANNUAL MEAN					5.92	1998
LOWEST ANNUAL MEAN					1.20	1966
HIGHEST DAILY MEAN	80	Aug 21	58	(a)	98	May 30 1984
LOWEST DAILY MEAN	.99	Aug 16	.64	Sep 29	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 10	.69	Sep 24	.06	Jul 19 1977
INSTANTANEOUS PEAK FLOW			81	Jan 28	(c)176	Sep 12 1960
INSTANTANEOUS PEAK STAGE			4.28	Jan 28	5.55	Sep 12 1960
INSTANTANEOUS LOW FLOW			.58	Sep 28	.00	(d)
ANNUAL RUNOFF (CFSM)	1.67		2.09		1.29	
ANNUAL RUNOFF (INCHES)	22.69		28.39		17.53	
10 PERCENT EXCEEDS	7.2		11		6.7	
50 PERCENT EXCEEDS	4.2		4.4		2.8	
90 PERCENT EXCEEDS	1.6		1.2		.83	

a Feb. 5, 24.
b Result of pumpage for irrigation.
c From rating curve extended above 75 ft^3/s.
d July 18-30, 1977.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01484450 DELAWARE BAY NEAR LEWES, DE

LOCATION.--Lat 38°47'30", long 75°06'17", Sussex County, Hydrologic Unit 02040204, at east end of fishing pier at Cape Henlopen State Park, in Breakwater Harbor, 2.4 mi southeast of Lewes, and 1.1 mi southwest from mouth of the Delaware Bay.

PERIORD OF RECORD.--January 1993 to September 1998 (Discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1993 to September 1998 (Discontinued).
WATER TEMPERATURE: January 1993 to September 1998 (Discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Records good. Interruption of the daily specific conductance and daily temperature record due to instrument malfunction, power failure, and probe failure.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 53,900 microsiemens, Aug. 2, 3, 1995; minimum, 23,700 microsiemens, Aug. 18, 1994.
WATER TEMPERATURE: Maximum, 27.1°C, July 25, 1995; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT PERIOD.--
SPECIFIC CONDUCTANCE: Maximum, 50,700 microsiemens, Dec. 8, 9; minimum, 23,800 microsiemens, July 26.
WATER TEMPERATURE: Maximum recorded, 25.8°C, Aug. 11; minimum, 3.4°C, on Jan. 1.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

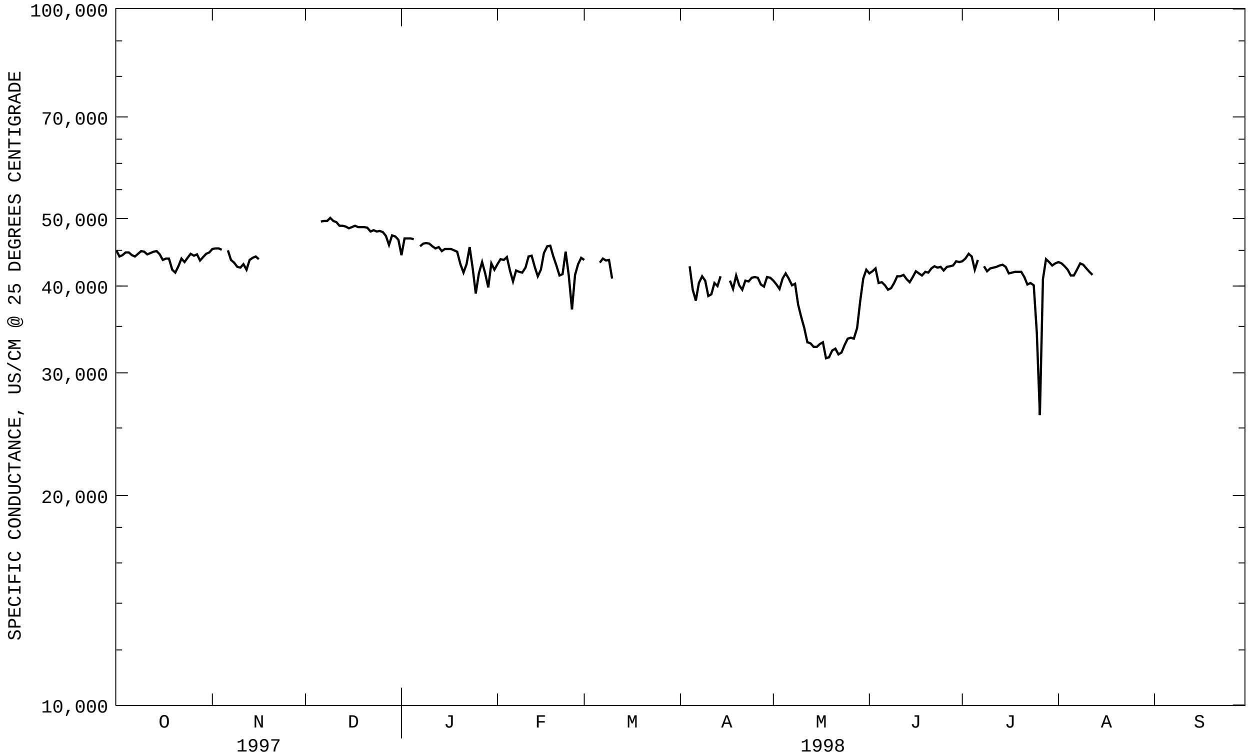
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	45400	44600	45000	45600	43300	45200	---	---	---	47300	24700	44300
2	45000	43500	44100	45500	45100	45300	---	---	---	47700	45900	46800
3	44800	43500	44300	45600	45200	45300	---	---	---	47600	46400	46800
4	45100	44100	44700	45600	41200	45100	---	---	---	47200	46500	46800
5	45200	44200	44700	---	---	---	---	---	---	47100	46400	46700
6	44800	43400	44300	45400	44300	45000	50600	49000	49500	---	---	---
7	44600	43300	44100	45600	38700	43600	50500	48800	49600	46200	45200	45600
8	44800	44000	44500	45000	39500	43200	50700	48900	49600	47100	45500	46000
9	45200	44600	44900	44400	35900	42600	50700	49500	50100	46400	45900	46100
10	45300	44400	44800	43800	36800	42500	50100	49000	49600	46400	45500	46000
11	44800	43900	44400	45100	37500	43000	49700	48800	49400	46000	45100	45600
12	45100	44100	44600	45100	36900	42200	49300	48200	48800	45700	44900	45300
13	45300	44100	44800	44900	40100	43600	49100	48300	48800	46000	45100	45500
14	45200	44600	44900	45100	38300	43900	49200	48000	48700	45500	44300	44900
15	45000	43900	44400	45100	43200	44100	49100	47700	48400	45800	44600	45200
16	44000	43100	43600	45100	38200	43700	49100	47900	48600	45600	44700	45200
17	44300	42800	43800	---	---	---	49100	48300	48800	46800	44300	45200
18	44700	42800	43800	---	---	---	49100	48100	48600	45700	44200	45000
19	43400	39900	42200	---	---	---	49300	48000	48600	46400	43800	44800
20	44600	39600	41800	---	---	---	49100	47600	48600	43900	41900	43000
21	45000	37600	42700	---	---	---	48900	47800	48500	42700	40700	41800
22	45000	42900	43800	---	---	---	48500	47500	47900	45300	39900	43000
23	44800	42600	43300	---	---	---	48500	47500	48100	47000	41800	45500
24	44800	43500	43900	---	---	---	48300	47300	47900	45200	40700	42400
25	44800	44000	44500	---	---	---	48600	47300	48000	40700	37500	39000
26	44800	43500	44200	---	---	---	48500	47300	47800	43500	37500	41700
27	45000	39200	44400	---	---	---	48100	46600	47200	44900	40400	43300
28	44600	41200	43500	---	---	---	47300	45100	45800	44700	38000	41700
29	45300	42400	44000	---	---	---	48200	46500	47300	45000	35000	39800
30	45300	43300	44500	---	---	---	47800	45500	47100	45000	39200	43100
31	45400	42700	44700	---	---	---	47900	44800	46600	44000	40900	42200
MONTH	45400	37600	44100	---	---	---	---	---	---	---	---	---

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	44400	40500	43000	44400	42300	43600	---	---	---	41900	39800	40700
2	44800	41900	43700	---	---	---	---	---	---	41700	39300	40200
3	44900	41700	43600	---	---	---	---	---	---	41200	37700	39600
4	45600	42200	44000	---	---	---	45200	41400	42700	42000	39400	41000
5	43800	40000	42100	---	---	---	41500	37800	39500	42700	40300	41700
6	42900	38500	40600	44000	42500	43200	38700	37000	38100	42000	39800	41000
7	44100	39200	42100	44700	43200	43800	44200	37000	40400	41500	38300	40100
8	44800	38700	41900	44000	43200	43500	43800	38400	41300	41400	38200	40300
9	44400	37500	41800	45000	42900	43600	42800	39100	40700	39100	36100	37600
10	44500	39500	42500	43400	36700	41000	42300	35800	38700	39300	34500	36100
11	45400	42200	44100	---	---	---	43700	35100	38900	38100	33300	34800
12	45600	42700	44200	---	---	---	43200	36000	40400	36400	31100	33200
13	44400	41700	42600	---	---	---	42400	37400	40000	34900	30500	33100
14	44000	40200	41300	---	---	---	42400	39700	41300	35600	30400	32700
15	45500	39400	42200	---	---	---	---	---	---	35300	30100	32700
16	45800	43400	44600	---	---	---	---	---	---	35700	29200	33000
17	46300	44600	45600	---	---	---	42200	39800	40700	35800	31100	33200
18	46500	44800	45700	---	---	---	41900	38700	39600	33500	29600	31500
19	46500	42900	44100	---	---	---	42500	39300	41400	35000	29400	31600
20	45400	41300	42800	---	---	---	41700	38300	40100	35400	29600	32300
21	44000	40500	41400	---	---	---	41500	38400	39500	35000	30000	32500
22	45900	39600	41600	---	---	---	42300	38100	40700	34800	29800	31900
23	46800	40500	44800	---	---	---	42800	39300	40600	34000	29400	32100
24	44000	38000	41500	---	---	---	42700	39500	41100	34400	31600	32900
25	39200	33700	37000	---	---	---	42700	40100	41200	34900	32500	33600
26	44300	37500	41500	---	---	---	42500	40000	41100	34900	32700	33700
27	44300	40500	43000	---	---	---	42300	39000	40200	34900	32500	33600
28	44700	42700	43900	---	---	---	42200	37800	39900	36900	33300	34800
29	---	---	---	---	---	---	42200	39600	41200	42000	36600	38000
30	---	---	---	---	---	---	42200	40200	41100	43800	39100	41000
31	---	---	---	---	---	---	---	---	---	44500	40400	42200
MONTH	46800	33700	42800	---	---	---	---	---	---	44500	29200	35900

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	44500	40000	41700	44700	41400	43400	44900	42000	43300	---	---	---
2	44700	39400	42000	44900	42900	43800	44300	41600	43100	---	---	---
3	44500	39800	42400	46500	42800	44500	44200	41900	42700	---	---	---
4	41300	39600	40400	45500	41000	44100	43600	41300	42200	---	---	---
5	44500	39200	40500	44100	36700	42200	43100	39700	41400	---	---	---
6	41700	39000	40100	46700	40800	43600	43100	40400	41400	---	---	---
7	40600	38600	39500	---	---	---	43100	39100	42200	---	---	---
8	41900	38600	39700	44400	41300	42700	43700	42200	43100	---	---	---
9	43600	38800	40400	43600	40200	42000	43700	41900	42900	---	---	---
10	42700	38900	41300	44300	40600	42400	43800	41700	42400	---	---	---
11	42700	40500	41300	43700	41200	42500	42600	41500	41900	---	---	---
12	42500	40000	41500	43600	41600	42600	41800	41100	41500	---	---	---
13	42500	39900	40900	43700	41900	42800	---	---	---	---	---	---
14	42000	39500	40500	43700	41200	42900	---	---	---	---	---	---
15	43200	39700	41200	43600	42000	42600	---	---	---	---	---	---
16	43700	40500	42000	42600	40800	41700	---	---	---	---	---	---
17	43500	40700	41700	42600	41300	41800	---	---	---	---	---	---
18	43700	40600	41400	43700	40800	41900	---	---	---	---	---	---
19	43500	40200	41900	43100	40800	41900	---	---	---	---	---	---
20	43100	40100	41800	43000	41300	41900	---	---	---	---	---	---
21	43500	41100	42400	41900	39900	41200	---	---	---	---	---	---
22	43800	41900	42700	41300	38900	40200	---	---	---	---	---	---
23	43700	41400	42500	42200	39600	40400	---	---	---	---	---	---
24	43600	41700	42600	42600	39200	40100	---	---	---	---	---	---
25	43200	40500	42100	40100	25700	34300	---	---	---	---	---	---
26	43500	41200	42600	28600	23800	26100	---	---	---	---	---	---
27	44100	41100	42700	44700	27400	40900	---	---	---	---	---	---
28	45200	41000	42800	44600	42800	43700	---	---	---	---	---	---
29	45000	42100	43400	44600	42300	43300	---	---	---	---	---	---
30	44700	42600	43300	44900	39300	42800	---	---	---	---	---	---
31	---	---	---	44800	40000	43100	---	---	---	---	---	---
MONTH	45200	38600	41600	---	---	---	---	---	---	---	---	---



MEAN DAILY SPECIFIC CONDUCTANCE - 1998 WATER YEAR

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.8	18.6	19.5	15.1	14.3	14.7	---	---	---	5.2	3.4	4.2
2	18.9	16.9	18.1	15.1	14.8	14.9	---	---	---	5.2	3.7	4.6
3	19.1	17.8	18.5	15.0	14.6	14.8	---	---	---	5.8	4.4	5.2
4	19.5	18.4	19.0	14.9	14.1	14.7	---	---	---	5.8	5.4	5.7
5	20.3	19.0	19.5	14.2	13.3	13.8	---	---	---	6.0	5.5	5.8
6	20.4	19.4	19.9	14.0	13.3	13.7	7.9	6.6	7.2	7.4	5.9	6.4
7	20.5	19.7	20.1	14.3	13.0	13.9	7.6	6.1	6.6	7.2	6.3	6.7
8	20.5	19.7	20.2	13.8	13.0	13.4	7.6	6.0	6.7	8.0	6.7	7.4
9	20.8	19.7	20.2	13.1	11.8	12.6	7.4	6.6	7.1	8.3	7.2	7.8
10	20.6	19.9	20.2	12.5	11.6	12.3	7.3	6.8	7.1	7.8	7.1	7.3
11	20.4	19.8	20.1	12.9	11.8	12.5	7.4	6.9	7.2	7.7	6.7	7.2
12	20.1	19.6	19.8	12.7	7.6	12.2	7.2	6.4	6.9	7.5	6.6	6.9
13	19.9	19.3	19.7	11.8	10.4	11.3	7.1	6.3	6.7	7.1	6.7	6.9
14	20.1	19.6	19.9	11.7	10.4	11.3	6.6	5.9	6.3	6.8	5.9	6.3
15	20.0	18.6	19.4	11.0	10.0	10.5	6.5	4.9	5.9	6.4	5.9	6.1
16	18.6	17.6	18.1	10.9	8.9	9.8	6.8	5.5	6.2	6.4	5.9	6.3
17	18.2	17.3	17.8	10.4	8.2	9.4	6.8	6.1	6.5	6.2	5.3	5.7
18	17.8	17.1	17.4	10.1	9.1	9.7	6.6	5.9	6.2	6.0	5.6	5.8
19	17.5	15.1	16.6	9.8	8.9	9.6	6.7	5.7	6.3	5.9	5.3	5.5
20	16.4	14.5	15.5	9.7	9.1	9.4	6.7	5.9	6.4	5.3	4.6	5.1
21	16.6	15.1	15.8	9.9	9.1	9.5	6.7	5.8	6.3	4.7	4.0	4.4
22	16.7	14.6	15.6	10.1	9.6	9.9	6.3	5.5	5.9	5.3	4.1	4.8
23	15.6	13.9	14.4	10.2	9.5	9.8	6.8	6.0	6.5	5.7	4.6	5.3
24	15.5	14.0	14.6	9.9	7.5	8.8	6.6	5.9	6.3	5.9	5.5	5.7
25	15.4	14.7	15.1	---	---	---	7.2	6.5	7.0	5.8	5.2	5.4
26	14.9	14.2	14.5	---	---	---	7.4	7.0	7.2	5.5	5.1	5.2
27	15.3	14.4	14.9	---	---	---	7.2	6.2	6.8	5.4	4.9	5.3
28	14.5	12.9	13.4	---	---	---	6.5	5.6	6.0	5.4	4.9	5.3
29	14.1	12.9	13.5	---	---	---	6.8	6.0	6.5	5.4	4.3	5.0
30	14.3	13.1	13.8	---	---	---	6.6	5.4	6.1	5.5	4.9	5.3
31	14.8	13.8	14.2	---	---	---	6.0	4.3	5.4	5.3	4.8	5.1
MONTH	20.8	12.9	17.4	---	---	---	---	---	---	8.3	3.4	5.8

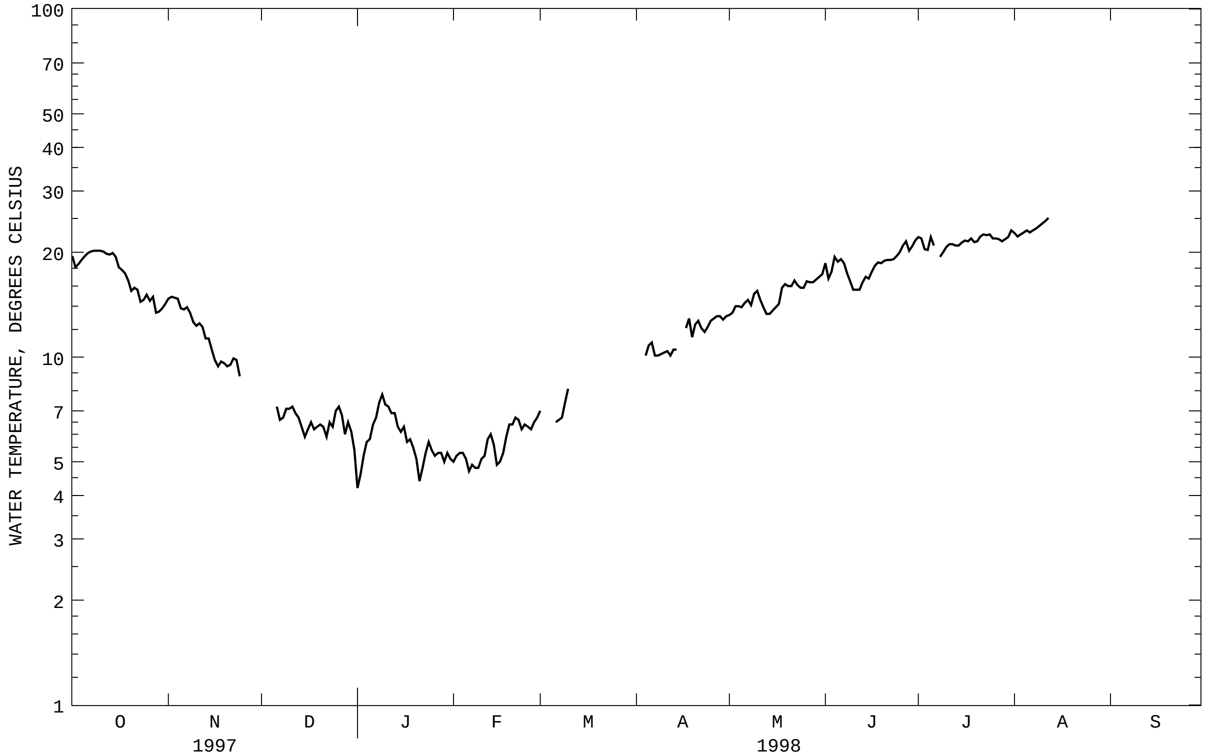
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	4.5	5.0	7.7	6.7	7.0	---	---	---	13.6	12.8	13.2
2	5.4	4.8	5.2	---	---	---	---	---	---	14.2	12.6	13.4
3	5.4	5.1	5.3	---	---	---	---	---	---	14.8	13.1	14.0
4	5.5	5.2	5.3	---	---	---	10.9	9.1	10.1	14.9	13.1	14.0
5	5.3	4.8	5.1	---	---	---	11.7	10.0	10.8	14.9	13.0	13.9
6	4.9	4.4	4.7	7.0	6.2	6.5	11.5	10.5	11.0	15.1	13.5	14.3
7	5.1	4.5	4.9	6.7	6.4	6.6	11.4	9.0	10.1	15.5	13.6	14.6
8	5.0	4.5	4.8	6.9	6.6	6.7	11.8	9.2	10.1	14.8	13.6	14.1
9	5.0	4.4	4.8	8.2	6.7	7.4	11.1	9.6	10.2	16.0	14.3	15.2
10	6.2	4.5	5.1	8.5	7.6	8.1	11.7	9.7	10.3	16.1	14.2	15.5
11	5.5	5.0	5.2	---	---	---	12.2	9.5	10.4	15.1	14.1	14.6
12	6.3	5.3	5.8	---	---	---	10.8	9.6	10.1	14.4	13.4	13.9
13	6.4	5.5	6.0	---	---	---	11.8	9.7	10.5	13.8	12.9	13.3
14	6.0	5.2	5.6	---	---	---	11.1	10.0	10.5	14.1	12.9	13.3
15	5.3	4.6	4.9	---	---	---	---	---	---	14.3	12.8	13.6
16	5.1	4.8	5.0	---	---	---	---	---	---	15.1	12.8	13.9
17	5.6	5.0	5.3	---	---	---	13.4	10.7	12.1	15.3	12.8	14.2
18	6.4	5.5	5.9	---	---	---	13.3	11.2	12.9	18.2	14.0	15.8
19	6.9	5.5	6.4	---	---	---	12.8	10.8	11.4	18.4	13.6	16.2
20	6.8	5.6	6.4	---	---	---	13.4	11.3	12.4	18.7	13.5	16.0
21	7.2	6.0	6.7	---	---	---	13.7	11.2	12.7	18.7	13.9	16.0
22	7.0	5.9	6.6	---	---	---	13.1	11.2	12.1	18.6	14.4	16.6
23	6.7	6.0	6.2	---	---	---	12.3	11.1	11.8	18.0	14.6	16.1
24	6.7	6.2	6.4	---	---	---	13.7	11.3	12.2	17.2	14.8	15.8
25	6.7	5.8	6.3	---	---	---	13.9	12.0	12.7	16.8	15.0	15.8
26	6.9	5.8	6.2	---	---	---	13.7	12.2	12.9	18.0	15.3	16.5
27	7.4	6.1	6.5	---	---	---	14.1	12.2	13.1	17.5	15.5	16.4
28	7.1	6.4	6.7	---	---	---	14.0	12.4	13.1	18.0	15.2	16.4
29	---	---	---	---	---	---	14.1	12.3	12.8	18.4	15.4	16.7
30	---	---	---	---	---	---	14.2	12.4	13.1	18.6	15.3	17.0
31	---	---	---	---	---	---	---	---	---	18.8	14.8	17.3
MONTH	7.4	4.4	5.7	---	---	---	---	---	---	18.8	12.6	15.1

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.3	14.8	18.6	23.1	21.4	22.1	24.4	19.8	22.7	---	---	---
2	19.7	13.8	16.8	23.2	19.5	21.9	23.6	20.4	22.2	---	---	---
3	19.6	15.1	17.6	22.8	17.5	20.4	23.6	21.3	22.5	---	---	---
4	20.4	18.8	19.4	22.6	16.5	20.3	23.7	21.4	22.8	---	---	---
5	19.7	15.4	18.8	23.6	19.5	22.1	24.5	21.3	23.1	---	---	---
6	19.7	18.5	19.1	23.2	16.5	20.9	24.0	21.8	22.8	---	---	---
7	19.2	18.2	18.6	---	---	---	23.8	22.4	23.1	---	---	---
8	18.2	15.2	17.4	20.4	18.1	19.4	24.2	22.9	23.4	---	---	---
9	18.1	13.9	16.5	22.2	18.2	20.0	24.8	23.2	23.8	---	---	---
10	17.3	14.6	15.6	22.8	18.5	20.7	24.9	23.7	24.2	---	---	---
11	16.9	14.6	15.6	23.7	19.5	21.1	25.8	23.8	24.6	---	---	---
12	16.4	15.0	15.6	23.5	19.7	21.1	25.7	24.6	25.1	---	---	---
13	17.8	14.9	16.4	21.8	20.1	20.9	---	---	---	---	---	---
14	18.3	15.4	17.0	22.1	20.1	20.9	---	---	---	---	---	---
15	18.0	15.5	16.8	21.8	20.2	21.3	---	---	---	---	---	---
16	19.3	15.5	17.6	23.1	20.3	21.6	---	---	---	---	---	---
17	19.5	16.1	18.3	23.2	19.6	21.5	---	---	---	---	---	---
18	20.0	15.9	18.7	23.1	19.1	21.9	---	---	---	---	---	---
19	20.2	16.3	18.6	23.1	19.5	21.4	---	---	---	---	---	---
20	20.3	17.4	18.9	23.7	19.0	21.5	---	---	---	---	---	---
21	20.7	17.4	19.0	24.5	20.1	22.2	---	---	---	---	---	---
22	20.3	17.6	19.0	24.3	20.2	22.5	---	---	---	---	---	---
23	20.3	17.7	19.1	24.9	19.8	22.4	---	---	---	---	---	---
24	20.8	18.0	19.5	24.6	20.4	22.5	---	---	---	---	---	---
25	21.6	18.5	20.0	23.2	19.9	21.9	---	---	---	---	---	---
26	22.2	19.4	20.9	23.3	20.2	21.9	---	---	---	---	---	---
27	22.7	20.0	21.5	23.1	19.9	21.8	---	---	---	---	---	---
28	22.0	19.0	20.2	22.3	19.9	21.5	---	---	---	---	---	---
29	22.1	19.7	20.8	22.7	20.4	21.8	---	---	---	---	---	---
30	22.6	20.0	21.6	23.1	20.6	22.1	---	---	---	---	---	---
31	---	---	---	24.5	20.0	23.1	---	---	---	---	---	---
MONTH	22.7	13.8	18.5	---	---	---	---	---	---	---	---	---

01484450 DELAWARE BAY NEAR LEWES, DE--Continued



MEAN DAILY WATER TEMPERATURE - 1998 WATER YEAR

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^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.54 ft above sea level. Prior to Aug. 16, 1950, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by inflow from sand mine dewatering process. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 28	2030	*238	*5.06	Feb 24	0230	62	3.43
Feb 5	0845	171	4.57	Mar 9	1430	49	3.24

Minimum discharge, 0.83 ft^3/s, Oct 5-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.8	5.4	5.6	20	17	21	9.8	8.8	6.7	2.6	8.0
2	.95	1.5	4.6	5.6	20	19	16	8.3	8.7	5.7	1.6	8.2
3	.93	1.3	5.3	5.6	19	22	14	7.1	7.8	3.2	2.7	7.6
4	.91	1.2	8.8	5.4	33	20	18	10	8.5	2.7	3.2	10
5	.88	1.1	8.2	7.0	137	19	21	11	8.1	3.0	3.3	2.0
6	.88	1.1	5.5	7.8	60	18	18	11	4.5	5.2	2.6	1.5
7	.88	1.5	4.5	7.6	40	14	16	10	3.7	5.3	3.3	1.5
8	.88	18	6.2	8.0	28	16	16	13	6.4	6.5	1.6	3.1
9	.90	21	4.8	7.2	23	40	19	9.9	6.8	5.9	1.3	7.4
10	.89	6.5	4.6	5.1	22	29	21	9.8	7.0	5.3	2.5	9.6
11	.90	3.7	6.4	4.8	22	22	15	13	7.0	2.9	3.4	4.5
12	.91	3.3	6.5	4.7	33	18	13	26	9.5	2.6	3.1	4.4
13	.91	3.2	4.5	4.9	25	15	15	27	5.9	3.9	3.1	1.7
14	.91	9.4	3.9	4.8	20	14	16	19	4.9	4.2	3.5	4.4
15	1.2	7.3	3.9	6.9	17	13	15	15	7.4	3.7	1.5	2.5
16	1.3	5.0	3.9	9.4	18	14	15	14	9.3	4.4	1.3	5.0
17	1.1	4.7	3.9	6.6	21	13	15	13	6.6	4.2	2.7	6.0
18	1.4	4.6	3.8	6.2	25	16	12	15	3.9	2.4	6.0	5.8
19	2.1	4.6	3.8	6.7	21	24	11	14	5.9	2.1	7.8	2.1
20	1.4	4.6	3.7	5.9	19	25	15	13	4.0	3.4	4.8	1.3
21	2.3	4.7	3.5	5.5	16	35	14	11	3.4	2.2	4.4	3.6
22	2.5	7.5	3.3	5.3	14	30	13	12	6.7	3.7	3.7	4.0
23	2.3	6.0	5.7	12	26	23	13	9.7	7.7	3.7	1.6	4.7
24	1.2	5.3	4.1	14	54	21	12	9.0	6.7	3.5	3.4	5.9
25	1.1	4.9	5.0	10	35	19	8.6	8.8	5.8	1.8	4.0	6.4
26	1.3	7.3	4.1	10	26	18	7.9	11	7.6	1.6	4.5	9.1
27	1.6	5.7	5.1	10	23	17	12	11	9.8	2.8	5.1	1.6
28	1.1	4.6	7.3	110	21	14	11	11	4.2	3.1	5.8	4.5
29	1.6	4.7	6.4	111	---	13	10	9.9	6.9	3.3	1.8	10
30	1.4	5.1	8.1	33	---	15	9.7	6.9	7.5	3.2	1.3	6.8
31	1.1	---	6.1	24	---	16	---	5.8	---	3.6	1.4	---
TOTAL	38.73	161.2	160.9	470.6	838	609	433.2	375.0	201.0	115.8	98.9	153.2
MEAN	1.25	5.37	5.19	15.2	29.9	19.6	14.4	12.1	6.70	3.74	3.19	5.11
MAX	2.5	21	8.8	111	137	40	21	27	9.8	6.7	7.8	10
MIN	.88	1.1	3.3	4.7	14	13	7.9	5.8	3.4	1.6	1.3	1.3
CFSM	.24	1.03	.99	2.90	5.71	3.75	2.76	2.31	1.28	.71	.61	.97
IN.	.27	1.14	1.14	3.34	5.95	4.32	3.08	2.66	1.43	.82	.70	1.09

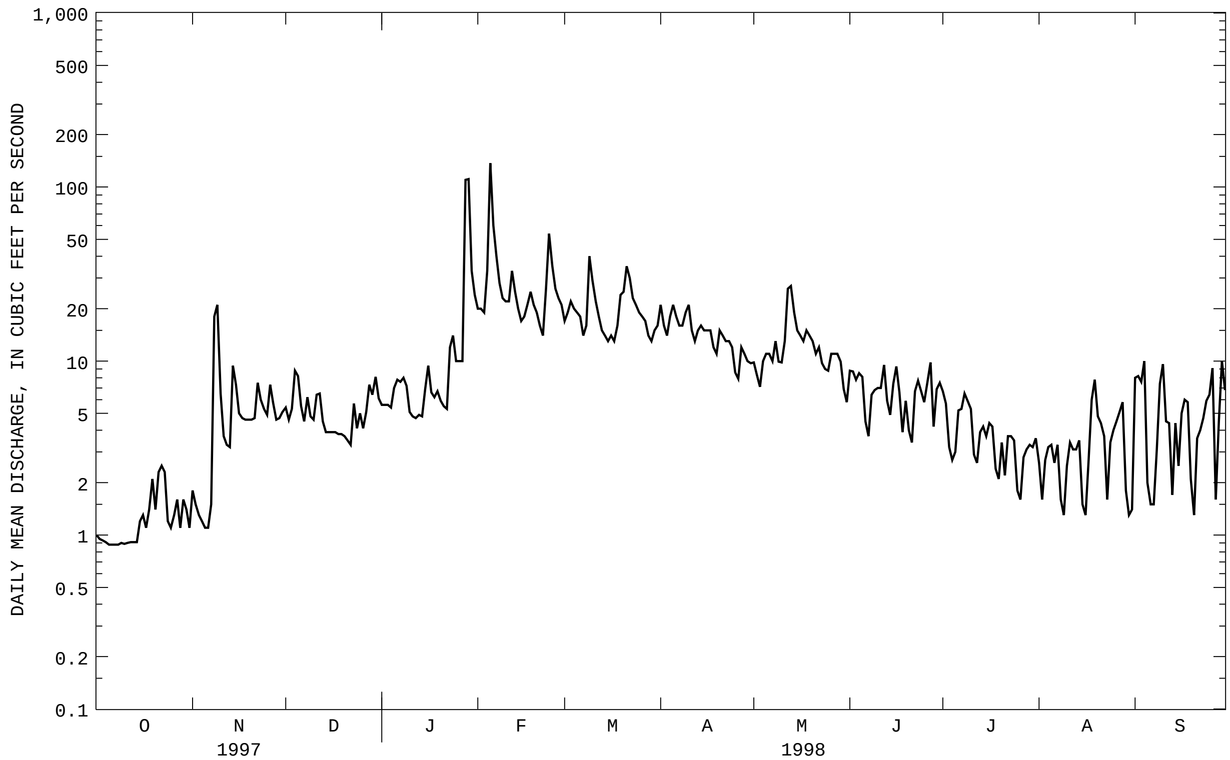
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.37	4.63	6.76	9.56	10.7	12.7	10.4	7.74	5.60	4.15	4.83	3.36
MAX	10.5	14.3	22.8	24.8	29.9	31.2	24.4	19.7	25.3	17.5	24.8	12.2
(WY)	1972	1957	1946	1978	1998	1994	1983	1948	1948	1945	1989	1992
MIN	.67	.77	.76	.92	1.19	4.05	3.78	2.36	1.80	1.21	.65	.67
(WY)	1989	1989	1989	1989	1989	1966	1985	1985	1977	1977	1944	1988

01484500 STOCKLEY BRANCH AT STOCKLEY, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1998	
ANNUAL TOTAL	2246.40		3655.53			
ANNUAL MEAN	6.15		10.0		6.99	
HIGHEST ANNUAL MEAN					12.0	1958
LOWEST ANNUAL MEAN					3.24	1966
HIGHEST DAILY MEAN	23	Feb 15	137	Feb 5	195	Mar 3 1994
LOWEST DAILY MEAN	.88	Oct 5	.88	(a)	.13	(b)
ANNUAL SEVEN-DAY MINIMUM	.89	Oct 5	.89	Oct 5	.13	Sep 2 1944
INSTANTANEOUS PEAK FLOW			238	Jan 28	(c)303	Mar 3 1994
INSTANTANEOUS PEAK STAGE			5.06	Jan 28	5.52	Mar 3 1994
INSTANTANEOUS LOW FLOW			.83	(d)	.13	(f)
ANNUAL RUNOFF (CFSM)	1.17		1.91		1.33	
ANNUAL RUNOFF (INCHES)	15.95		25.95		18.11	
10 PERCENT EXCEEDS	12		21		14	
50 PERCENT EXCEEDS	5.0		6.4		5.0	
90 PERCENT EXCEEDS	1.1		1.5		1.5	

a Oct. 5-8.
b Sept. 2-11, 1944.
c From rating curve extended above 150 ft^3/s.
d Oct. 5-11.
f Sept. 1-11, 1944.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE

LOCATION.--Lat 38°35'40", long 75°17'29", Sussex County, Hydrologic Unit 02060010, on right bank just upstream from Millsboro Pond Dam, 10 ft upstream from bridge on State Highway 24, at Millsboro.

DRAINAGE AREA.--66.0 mi^2.

PERIOD OF RECORD.--May 1986 to September 1988, March 1991 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.98 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (gate openings, no gage-height record), which are poor. Outflow from lake controlled by sluice gates at outlet. Gate openings during water year. Natural flow of stream affected by inflow from sand mine dewatering process. Several measurements of water temperature were made during the period.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft^3/s, Jan 29, gage height, 4.66 ft; minimum discharge, 0.0 ft^3/s, Aug 29-31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	40	90	95	285	241	177	121	89	81	42	17
2	22	45	82	89	e300	227	182	130	86	76	35	50
3	22	34	77	88	e450	241	172	123	90	74	31	70
4	22	30	86	84	e650	252	202	116	83	67	35	61
5	22	28	90	84	e1000	232	272	117	82	65	36	48
6	21	32	85	84	e900	203	252	126	76	64	37	31
7	20	39	79	87	e700	202	213	136	72	66	34	28
8	20	90	77	96	e500	213	193	142	67	77	36	33
9	22	154	77	96	e450	324	201	155	66	86	37	32
10	21	166	78	88	e420	483	240	153	68	77	37	32
11	20	123	79	83	e400	342	238	152	71	68	44	30
12	21	87	77	78	e410	256	201	206	e80	63	43	29
13	22	75	77	82	e430	219	181	345	e100	56	36	29
14	21	99	73	84	e410	208	173	287	e85	65	31	24
15	26	119	72	88	e390	197	174	213	e75	61	31	28
16	26	106	74	112	e360	185	166	187	e99	57	31	28
17	25	89	71	111	e340	187	165	169	102	57	29	29
18	33	84	69	102	e360	197	169	155	81	57	38	29
19	51	81	70	98	e100	254	164	150	71	55	79	30
20	52	80	70	96	286	355	164	142	e67	53	52	26
21	40	80	69	91	272	386	159	134	59	49	40	21
22	28	99	68	88	253	472	154	123	e65	46	34	25
23	25	98	76	113	284	394	152	121	e65	44	32	27
24	25	92	73	152	520	295	149	116	e63	42	31	27
25	29	83	80	153	559	261	139	113	e105	41	28	27
26	31	80	79	134	388	240	133	109	e110	40	29	29
27	38	81	85	127	305	223	131	102	e150	40	e220	27
28	30	77	107	e350	258	215	129	104	133	40	e400	24
29	28	77	103	1220	---	203	122	100	98	39	e380	27
30	28	80	107	718	---	185	118	98	e90	40	e.00	29
31	27	---	100	416	---	178	---	91	---	48	e1.0	---
TOTAL	841	2448	2500	5387	11980	8070	5285	4536	2548	1794	1969.00	947
MEAN	27.1	81.6	80.6	174	428	260	176	146	84.9	57.9	63.5	31.6
MAX	52	166	107	1220	1000	483	272	345	150	86	400	70
MIN	20	28	68	78	100	178	118	91	59	39	.00	17
CFSM	.41	1.24	1.22	2.63	6.48	3.94	2.67	2.22	1.29	.88	.96	.48
IN.	.47	1.38	1.41	3.04	6.75	4.55	2.98	2.56	1.44	1.01	1.11	.53

e Estimated

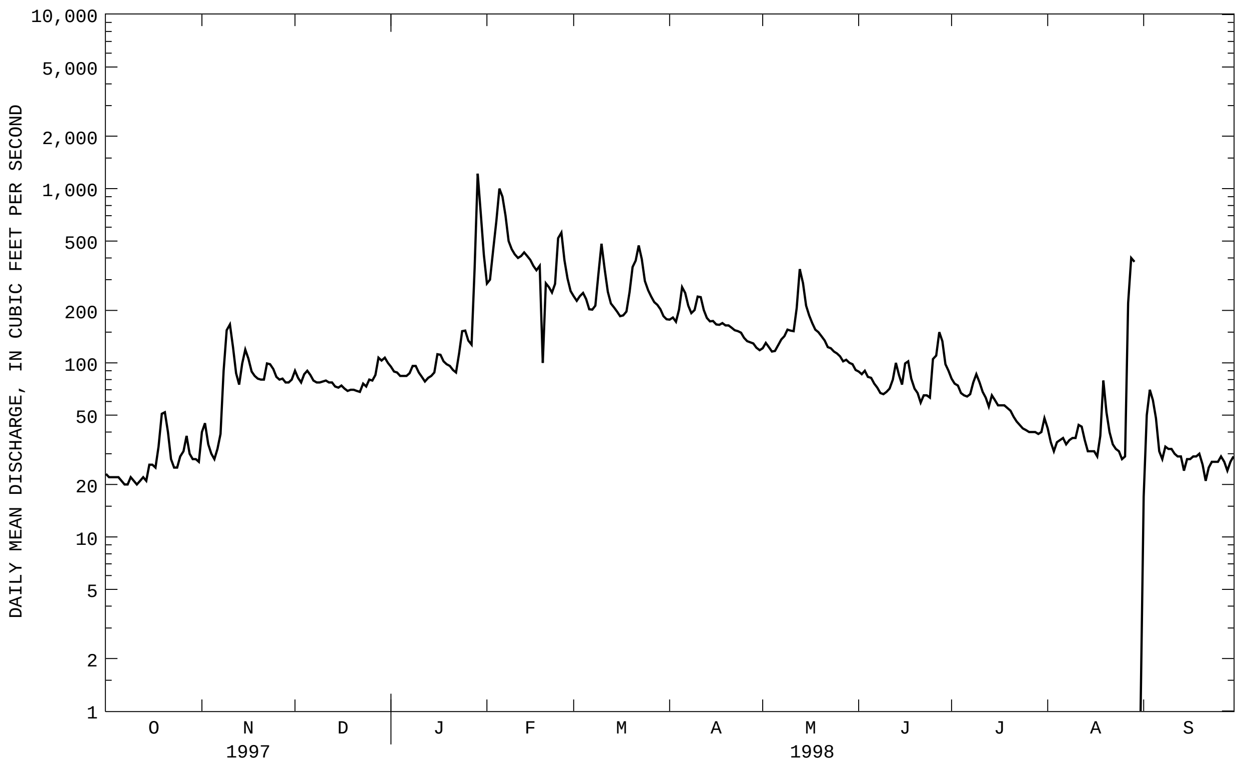
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1988, 1991 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	50.1	55.8	85.5	115	165	179	137	103	65.9	50.3	49.7	45.0
MAX	109	81.6	198	174	428	373	184	151	85.6	75.8	85.6	106
(WY)	1997	1998	1997	1998	1998	1994	1994	1996	1993	1996	1992	1992
MIN	20.8	24.3	33.2	53.7	77.4	94.1	69.1	47.3	34.0	23.2	25.5	20.1
(WY)	1987	1988	1988	1988	1992	1992	1995	1986	1986	1986	1988	1986

01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1988 1991 - 1998	
ANNUAL TOTAL	30687		48305.00			
ANNUAL MEAN	84.1		132		93.1	
HIGHEST ANNUAL MEAN					132	1998
LOWEST ANNUAL MEAN					55.0	1988
HIGHEST DAILY MEAN	276	Feb 16	1220	Jan 29	1260	Mar 4 1994
LOWEST DAILY MEAN	20	(a)	(b, e) .00	Aug 30	(b, e) .00	Aug 30 1998
ANNUAL SEVEN-DAY MINIMUM	21	Oct 6	21	Oct 6	15	Oct 5 1986
INSTANTANEOUS PEAK FLOW			1400	Jan 29	1770	Mar 3 1994
INSTANTANEOUS PEAK STAGE			4.66	Jan 29	4.94	Mar 3 1994
INSTANTANEOUS LOW FLOW			(b, e) .00	(c)	(b, e) .00	(c)
ANNUAL RUNOFF (CFSM)	1.27		2.01		1.41	
ANNUAL RUNOFF (INCHES)	17.30		27.23		19.16	
10 PERCENT EXCEEDS	154		290		163	
50 PERCENT EXCEEDS	77		84		71	
90 PERCENT EXCEEDS	25		28		26	

a Oct. 7, 8, 11.
b As a result of lake being filled after gates were closed.
e Estimated
c Aug. 29-31, 1998.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

GAGE.--Water-stage recorder. Datum of gage is 13.95 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 29	1400	*1,970	*13.90	Mar 9	1900	621	10.15
Feb 6	0100	1,870	13.69	Mar 22	0900	540	9.79
Feb 24	2200	664	10.33				

Minimum discharge, 1.9 ft^3/s, Sep 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	8.5	88	121	695	177	84	41	30	42	9.6	3.5
2	2.9	12	87	104	445	149	80	43	29	35	8.8	3.6
3	2.8	14	74	93	310	153	72	41	31	31	8.3	4.7
4	2.8	12	84	85	403	144	121	39	30	28	7.8	5.6
5	2.7	12	110	77	1440	125	250	37	27	27	7.2	5.0
6	2.6	13	102	73	1720	113	177	36	25	25	6.9	4.1
7	2.4	17	89	71	1280	104	134	40	23	24	6.7	3.7
8	2.3	126	78	73	928	108	113	47	22	23	6.6	3.3
9	2.5	397	71	85	655	498	118	77	21	24	6.2	3.1
10	2.5	377	70	75	428	571	180	89	21	23	6.8	2.8
11	2.5	229	80	64	303	395	138	89	21	21	9.5	2.7
12	2.5	147	79	58	396	258	112	160	33	20	7.7	2.5
13	2.7	111	72	56	338	186	96	354	49	19	6.8	2.3
14	2.8	181	65	62	250	152	87	248	58	17	6.0	2.2
15	3.8	261	59	68	193	128	85	167	52	17	5.4	2.2
16	4.6	177	55	215	161	114	78	123	133	16	5.3	2.2
17	4.6	125	53	182	174	103	74	99	148	16	5.2	4.6
18	6.8	103	51	144	286	120	74	83	101	16	5.0	5.1
19	7.0	93	48	122	227	303	70	69	71	15	5.0	4.2
20	9.1	82	47	108	180	406	80	59	58	14	4.7	3.7
21	6.5	73	44	93	154	464	76	52	76	14	4.3	3.6
22	4.9	111	43	82	132	522	67	47	204	13	4.0	3.5
23	4.4	140	57	155	210	412	62	43	110	12	3.8	3.7
24	5.8	113	62	363	621	283	59	40	99	12	3.7	3.2
25	8.4	97	73	288	615	208	54	38	74	11	3.4	2.8
26	6.4	87	82	209	440	165	49	40	59	10	3.7	2.6
27	9.5	81	85	159	301	141	48	37	110	9.6	4.2	2.4
28	9.6	70	173	785	222	124	44	35	79	12	5.0	2.1
29	8.1	66	171	1860	---	113	42	33	57	11	6.3	2.0
30	8.0	64	227	1510	---	100	41	31	48	9.8	4.7	2.1
31	7.2	---	167	1020	---	91	---	29	---	10	3.8	---
TOTAL	151.7	3399.5	2646	8460	13507	6930	2765	2366	1899	577.4	182.4	99.1
MEAN	4.89	113	85.4	273	482	224	92.2	76.3	63.3	18.6	5.88	3.30
MAX	9.6	397	227	1860	1720	571	250	354	204	42	9.6	5.6
MIN	2.3	8.5	43	56	132	91	41	29	21	9.6	3.4	2.0
CFSM	.08	1.87	1.41	4.51	7.97	3.70	1.52	1.26	1.05	.31	.10	.05
IN.	.09	2.09	1.63	5.20	8.31	4.26	1.70	1.45	1.17	.36	.11	.06

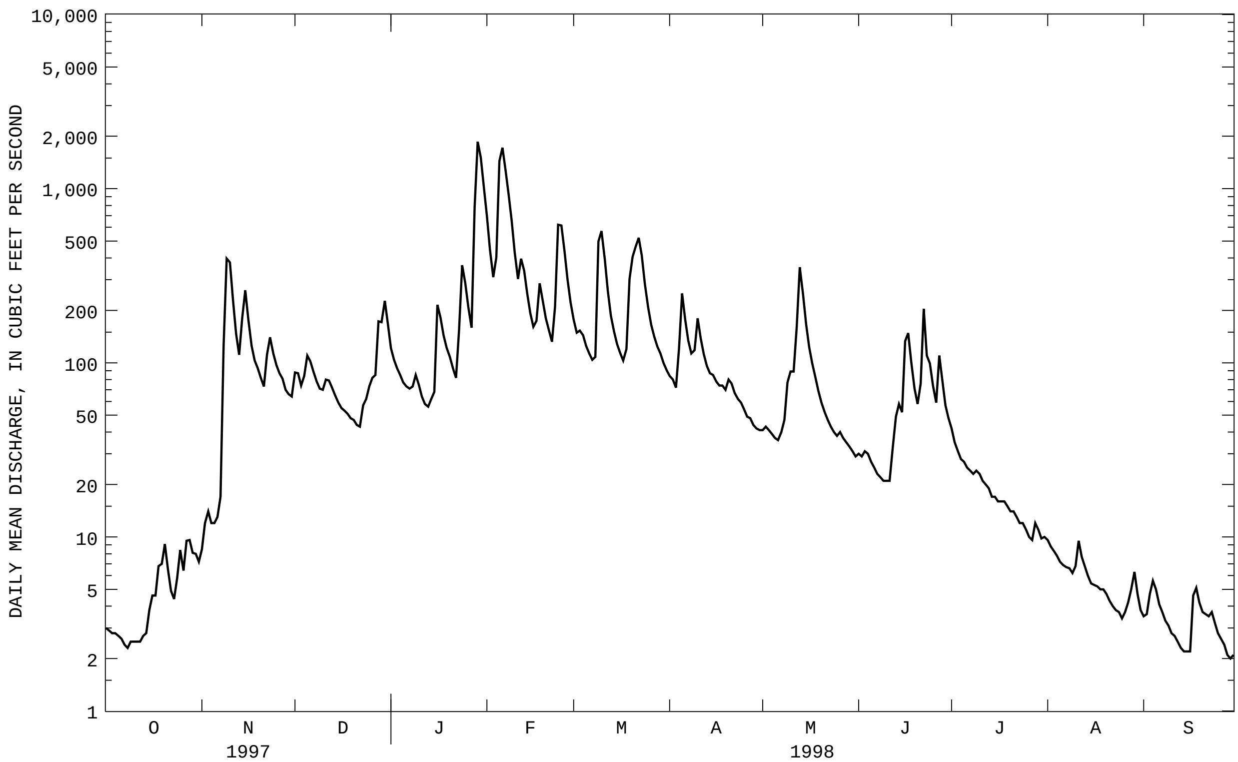
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.7	50.0	83.3	115	130	145	101	60.1	44.1	34.4	51.3	25.6
MAX	164	221	306	322	482	393	277	236	216	217	507	128
(WY)	1977	1980	1997	1978	1998	1994	1983	1978	1972	1975	1989	1979
MIN	4.18	7.27	9.41	15.5	50.0	49.7	29.5	16.1	9.31	6.29	3.51	3.13
(WY)	1969	1969	1966	1981	1981	1981	1995	1985	1986	1986	1957	1995

01485000 POCOMOKE RIVER NEAR WILLARDS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1950 - 1998	
ANNUAL TOTAL	22800.7		42983.1			
ANNUAL MEAN	62.5		118		73.4	
HIGHEST ANNUAL MEAN					130	1979
LOWEST ANNUAL MEAN					24.8	1981
HIGHEST DAILY MEAN	397	Nov 9	1860	Jan 29	2580	Aug 20 1989
LOWEST DAILY MEAN	2.3	Oct 8	2.0	Sep 29	1.3	Sep 15 1995
ANNUAL SEVEN-DAY MINIMUM	2.5	Oct 6	2.4	Sep 10	1.8	Sep 10 1995
INSTANTANEOUS PEAK FLOW			1970	Jan 29	(a)2820	Aug 20 1989
INSTANTANEOUS PEAK STAGE			13.90	Jan 29	15.41	Aug 20 1989
INSTANTANEOUS LOW FLOW			1.9	(b)	1.2	(c)
ANNUAL RUNOFF (CFSM)	1.03		1.95		1.21	
ANNUAL RUNOFF (INCHES)	14.02		26.43		16.49	
10 PERCENT EXCEEDS	146		270		160	
50 PERCENT EXCEEDS	47		58		41	
90 PERCENT EXCEEDS	4.0		3.7		8.7	

a From rating curve extended above 1,600 ft^3/s.
b Sept. 29, 30.
c Sept. 12, 15, 16, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 10	1800	330	5.53	Feb 25	0500	545	6.17
Jan 25	0700	365	5.66	Mar 10	1400	569	6.22
Jan 29	0600	*2,300	*8.13	Mar 22	1600	425	5.86
Feb 6	0100	1,610	7.59				

Minimum discharge, 0.87 ft^3/s, Sep 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	18	60	152	318	119	47	22	13	26	5.2	1.9
2	2.4	21	61	97	212	97	44	25	13	17	4.1	1.8
3	2.1	19	61	75	163	100	39	23	49	13	3.3	1.8
4	2.1	19	65	66	200	103	61	23	32	11	2.9	3.8
5	2.1	18	70	60	1070	95	119	25	20	11	2.6	3.7
6	2.1	17	71	55	1420	81	162	27	15	11	2.4	2.7
7	1.9	32	70	53	872	72	135	25	12	8.8	2.4	2.2
8	1.9	69	65	53	501	76	91	30	10	9.8	2.5	2.2
9	2.0	162	59	54	311	229	90	40	9.0	15	2.5	1.9
10	2.1	313	57	53	218	523	115	51	14	13	3.7	1.9
11	2.0	280	61	52	170	397	115	54	15	9.9	9.7	1.9
12	2.1	177	60	46	199	227	97	73	39	7.7	6.5	1.6
13	2.1	99	58	48	263	153	74	177	43	6.4	4.6	1.5
14	2.2	97	55	52	230	110	62	248	35	5.7	3.7	1.4
15	7.1	126	49	57	166	87	60	189	34	5.5	3.2	1.4
16	10	147	43	115	123	74	53	115	84	5.5	2.8	1.4
17	8.4	122	39	201	113	67	50	72	71	5.5	2.7	1.3
18	15	87	36	194	164	84	48	50	65	5.5	2.6	2.3
19	22	71	34	140	204	160	43	36	60	5.1	2.4	1.8
20	23	61	32	100	178	288	47	30	47	5.3	2.3	1.7
21	13	54	31	80	135	350	42	26	33	4.8	2.4	1.5
22	8.8	68	31	70	104	409	38	23	27	4.1	2.2	1.6
23	7.3	78	40	83	117	334	35	20	24	3.6	2.0	1.7
24	6.5	86	43	228	355	221	33	18	22	3.2	1.7	1.5
25	10	84	54	347	512	160	30	21	21	2.9	1.6	1.4
26	15	75	59	254	340	117	28	23	18	2.9	2.3	1.3
27	28	66	66	176	214	90	26	19	38	2.8	2.8	1.2
28	22	59	100	753	155	76	24	19	52	5.5	3.0	1.0
29	19	52	154	2130	---	68	22	17	62	6.9	3.0	.95
30	16	49	200	1270	---	61	20	15	43	4.6	2.3	1.2
31	13	---	198	610	---	53	---	13	---	5.7	2.0	---
TOTAL	273.9	2626	2082	7724	9027	5081	1850	1549	1020.0	244.7	97.4	53.55
MEAN	8.84	87.5	67.2	249	322	164	61.7	50.0	34.0	7.89	3.14	1.78
MAX	28	313	200	2130	1420	523	162	248	84	26	9.7	3.8
MIN	1.9	17	31	46	104	53	20	13	9.0	2.8	1.6	.95
CFSM	.20	1.95	1.50	5.55	7.18	3.65	1.37	1.11	.76	.18	.07	.04
IN.	.23	2.18	1.72	6.40	7.48	4.21	1.53	1.28	.85	.20	.08	.04

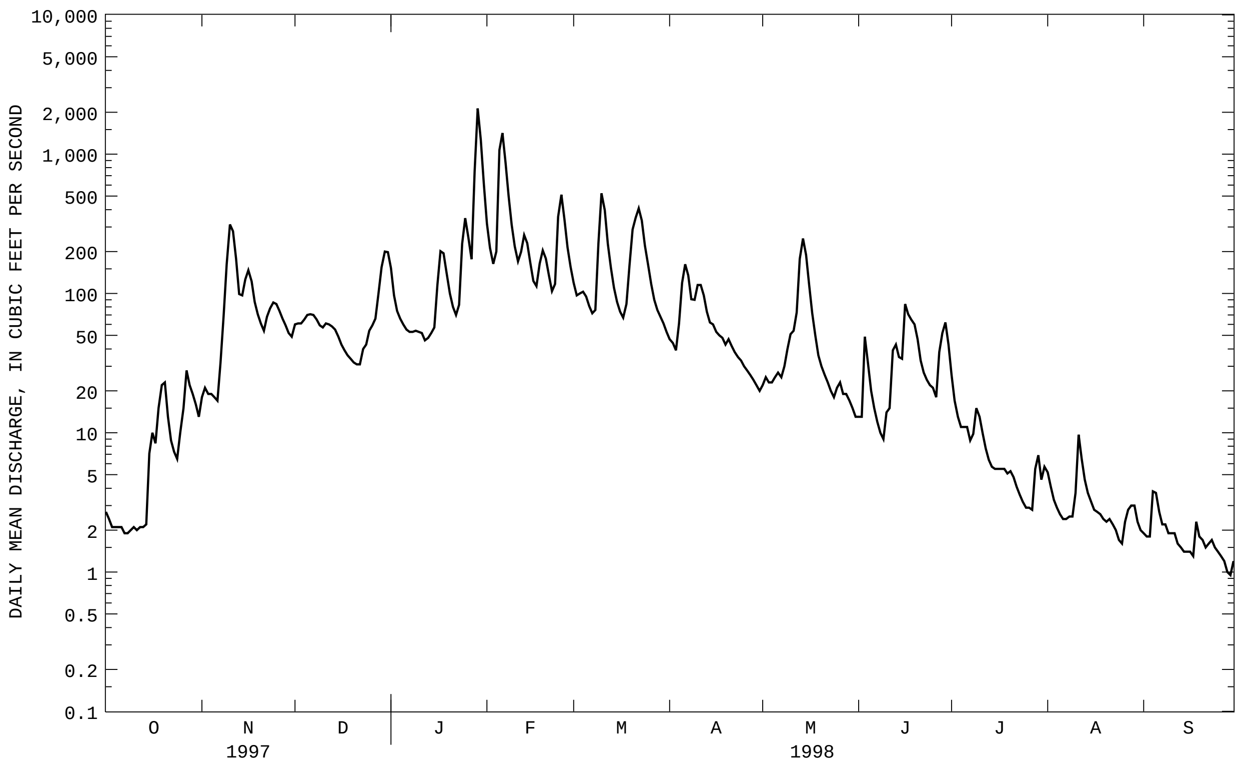
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	25.1	36.1	58.3	87.9	99.9	116	76.7	44.6	28.2	21.1	39.2	17.9
MAX	150	175	196	261	322	302	202	183	160	120	346	177
(WY)	1977	1980	1997	1978	1998	1994	1983	1978	1972	1975	1989	1979
MIN	2.81	3.80	6.33	10.8	32.1	29.5	17.6	7.10	2.52	2.02	1.59	1.64
(WY)	1991	1967	1966	1966	1991	1986	1985	1986	1986	1986	1966	1980

01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1950 - 1998	
ANNUAL TOTAL	17755.4		31628.55			
ANNUAL MEAN	48.6		86.7		54.6	
HIGHEST ANNUAL MEAN					116	1979
LOWEST ANNUAL MEAN					20.8	1981
HIGHEST DAILY MEAN	329	Feb 16	2130	Jan 29	2590	Aug 19 1989
LOWEST DAILY MEAN	1.9	(a)	.95	Sep 29	.80	(b)
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 5	1.2	Sep 24	.86	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2300	Jan 29	(c)3930	Aug 19 1989
INSTANTANEOUS PEAK STAGE			8.13	Jan 29	9.07	Aug 19 1989
INSTANTANEOUS LOW FLOW			.87	Sep 28	.80	Sep 8 1966
ANNUAL RUNOFF (CFSM)	1.08		1.93	(d)	1.22	
ANNUAL RUNOFF (INCHES)	14.71		26.20		16.52	
10 PERCENT EXCEEDS	114		200		126	
50 PERCENT EXCEEDS	34		38		26	
90 PERCENT EXCEEDS	3.0		2.1		3.4	

a Oct. 7, 8.
b Sept. 8-10, 1966.
c From rating curve extended above 1,300ft^3/s on basis of contracted-opening measurement at gage height 9.07 ft.
d Sept. 28, 29.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

REVISED RECORDS.--WDR MD-DE-75-1: Drainage area. WDR MD-DE-85-1: 1983-84 (P).

GAGE.--Water-stage recorder. Datum of gage is 7.03 ft above sea level. 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 site 40 ft upstream at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good below 170 ft^3/s and poor above. Several measurements of water temperature were made during the year. Water-quality data for 1998 and some prior years have been collected at this location. (See "Analyses of Samples Collected at Water-Quality Partial-Record Stations and Miscellaneous Sites")

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1830	64	3.20	Mar 9	1130	60	3.17
Jan 28	1130	*332	*6.21	Mar 19	1430	66	3.21
Feb 5	0430	252	4.53	Mar 21	0545	109	3.47
Feb 12	0230	54	3.12	Mar 22	0200	63	3.19
Feb 23	1930	117	3.51				

Minimum discharge, 0.18 ft^3/s, Sep 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.72	7.8	9.0	20	10	5.8	2.9	2.3	2.0	.72	.33
2	.23	.88	6.3	7.8	16	9.1	5.4	3.5	2.1	1.8	.62	.33
3	.23	.79	5.2	7.2	13	13	4.7	3.1	1.9	1.7	.59	.33
4	.22	.68	7.6	6.7	76	11	15	2.8	1.8	1.7	.57	.47
5	.22	.61	8.4	6.2	158	8.8	19	2.7	1.7	1.7	.56	.40
6	.22	.70	7.0	6.1	64	7.9	11	2.5	1.6	1.5	.55	.33
7	.21	2.8	6.0	6.2	43	7.5	8.4	2.3	1.5	1.4	.55	.32
8	.21	7.1	5.1	7.2	27	13	7.0	6.5	1.5	1.6	.55	.35
9	.20	23	4.8	8.3	19	39	18	7.9	1.5	1.7	.57	.31
10	.21	11	5.0	6.8	15	24	21	6.8	1.8	1.5	.76	.28
11	.19	6.6	6.5	5.9	14	14	13	5.6	1.7	1.3	1.7	.27
12	.19	5.1	5.9	5.4	36	11	9.1	11	3.5	1.2	1.1	.26
13	.20	4.2	5.3	6.3	20	9.4	7.0	17	3.6	1.2	.71	.27
14	.24	12	4.8	7.8	15	8.3	7.0	9.6	3.5	1.1	.59	.25
15	.33	11	4.4	13	12	7.7	7.4	6.8	3.5	1.1	.56	.25
16	.33	7.1	4.2	29	10	6.7	6.2	5.2	8.0	1.1	.55	.24
17	.29	5.5	3.9	18	18	6.0	6.2	4.2	11	1.2	.55	.24
18	.38	4.7	3.7	13	24	17	5.7	3.6	5.9	1.1	.55	.24
19	.57	4.2	3.6	11	16	46	5.3	3.1	4.5	.98	.50	.25
20	.57	3.9	3.5	9.3	13	31	5.8	2.8	4.1	.98	.43	.25
21	.38	3.6	3.3	8.0	11	62	4.9	2.8	3.4	.90	.42	.24
22	.36	11	3.4	7.2	8.9	46	4.3	2.7	3.0	.86	.42	.28
23	.32	9.7	4.7	31	41	25	4.0	2.5	2.8	.80	.41	.26
24	.29	8.5	4.8	37	54	17	3.6	2.3	2.7	.76	.40	.22
25	.36	6.9	6.0	22	27	12	3.3	2.7	2.6	.74	.37	.21
26	.44	6.2	6.1	15	18	10	3.0	3.7	2.4	.72	.46	.23
27	.94	5.4	8.9	12	14	9.2	2.8	3.0	3.3	.69	.49	.24
28	.73	4.5	18	255	12	8.2	2.7	2.8	3.0	.77	.42	.20
29	.58	4.3	17	115	---	7.1	2.6	2.6	2.5	.78	.40	.19
30	.54	4.6	22	48	---	6.4	2.7	2.4	2.3	.66	.36	.21
31	.53	---	13	30	---	5.7	---	2.1	---	.77	.34	---
TOTAL	10.95	177.28	216.2	770.4	814.9	509.0	221.9	139.5	95.0	36.31	17.77	8.25
MEAN	.35	5.91	6.97	24.9	29.1	16.4	7.40	4.50	3.17	1.17	.57	.28
MAX	.94	23	22	255	158	62	21	17	11	2.0	1.7	.47
MIN	.19	.61	3.3	5.4	8.9	5.7	2.6	2.1	1.5	.66	.34	.19
CFSM	.07	1.23	1.45	5.18	6.06	3.42	1.54	.94	.66	.24	.12	.06
IN.	.08	1.37	1.68	5.97	6.32	3.94	1.72	1.08	.74	.28	.14	.06

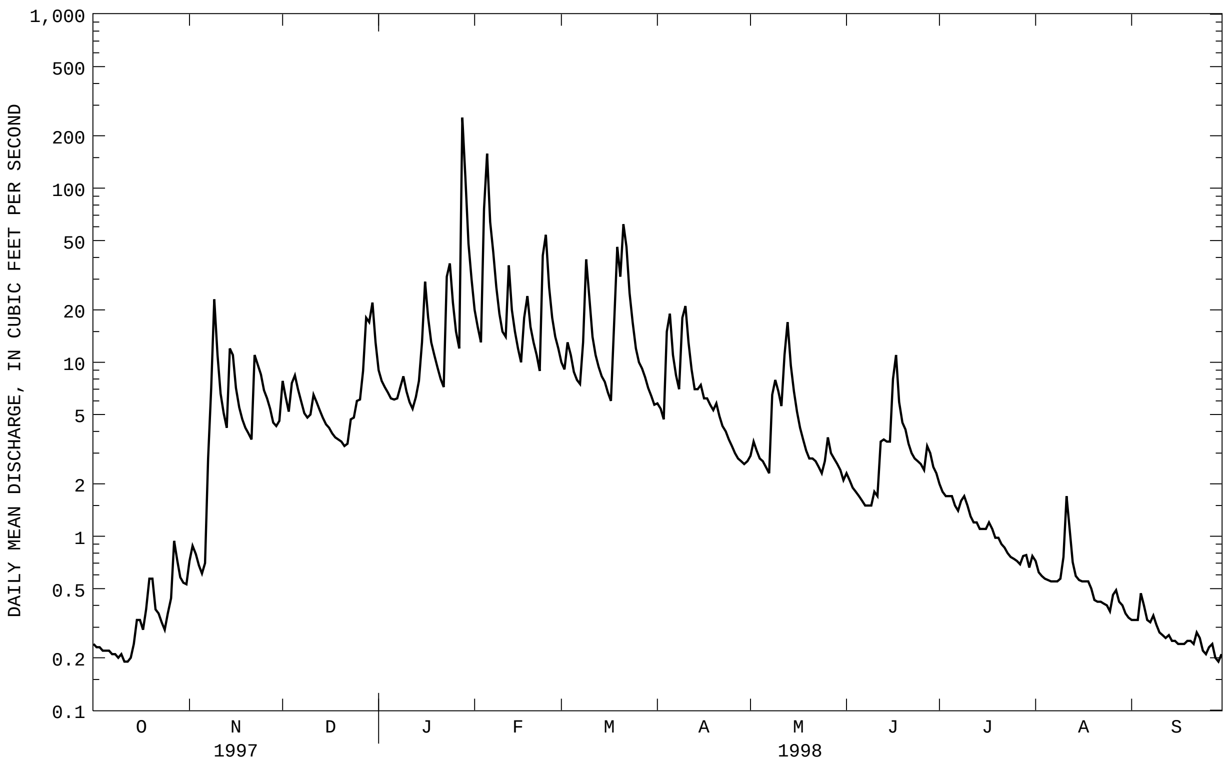
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1971, 1975 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.81	2.52	5.18	8.60	9.57	11.0	7.28	3.98	2.42	1.71	3.67	1.75
MAX	10.5	17.5	22.5	24.9	29.1	30.3	17.3	12.2	12.7	9.20	27.8	18.7
(WY)	1980	1980	1997	1998	1998	1994	1983	1978	1979	1975	1969	1979
MIN	.030	.050	.13	.51	2.40	2.64	1.64	.62	.39	.16	.003	.017
(WY)	1967	1967	1967	1966	1981	1981	1967	1957	1964	1953	1966	1966

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1971 1975 - 1998	
ANNUAL TOTAL	1881.17		3017.46			
ANNUAL MEAN	5.15		8.27		4.94	
HIGHEST ANNUAL MEAN					10.3	1979
LOWEST ANNUAL MEAN					1.41	1981
HIGHEST DAILY MEAN	51	Feb 15	255	Jan 28	255	Jan 28 1998
LOWEST DAILY MEAN	.19	(a)	.19	(b)	.00	(c)
ANNUAL SEVEN-DAY MINIMUM	.20	Oct 7	.20	Oct 7	.00	Aug 23 1963
INSTANTANEOUS PEAK FLOW			332	Jan 28	(d)547	Aug 20 1969
INSTANTANEOUS PEAK STAGE			6.21	Jan 28	(f)7.08	Aug 19 1985
INSTANTANEOUS LOW FLOW			.18	(g)	.00	(c)
ANNUAL RUNOFF (CFSM)	1.07		1.72		1.03	
ANNUAL RUNOFF (INCHES)	14.58		23.39		14.00	
10 PERCENT EXCEEDS	13		18		11	
50 PERCENT EXCEEDS	3.3		3.6		2.1	
90 PERCENT EXCEEDS	.32		.29		.32	

a Oct. 11, 12, 1997.
b Oct. 11, 12, Sept. 29, 1998.
c No flow during 1954, 1963, 1964, 1966.
d From rating curve extended abov 27 ft^3/s on basis of channel-conveyance study.
f Gage height of 5.44 ft occurred on Aug. 20, 1969 following ditching of stream channel.
g Sept. 29, 30.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 on county road No. 545, 800 ft downstream from Gum Branch, 2.5 mi southeast of Bridgeville, and 50.5 mi upstream from mouth.

DRAINAGE AREA.--75.4 mi^2.

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 above sea level (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.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the period. Water-quality records for some prior periods have been collected at this location. (See "Analyses of Samples Collected at Water-Quality Partial-Record Stations and Miscellaneus Sites")

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 greater than base discharge of 360 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 9	1345	451	6.75	Feb 24	1430	885	7.50
Jan 29	0630	*1,350	*8.63	Mar 9	1730	736	7.03
Feb 5	1645	1,160	8.25	Mar 19	2230	852	7.40
Feb 12	1030	492	6.51	Mar 21	1400	727	7.00

Minimum discharge, 21 ft^3/s, Sep 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	38	116	117	308	274	199	135	99	63	39	26
2	29	48	107	112	275	257	196	139	95	59	36	33
3	28	54	103	110	254	287	190	135	92	55	32	32
4	28	42	115	107	313	285	196	129	88	54	29	30
5	29	39	116	103	1020	253	205	129	83	60	28	28
6	29	40	109	102	843	232	193	129	80	59	28	27
7	28	47	104	102	611	220	186	124	78	54	29	27
8	26	215	100	109	431	255	181	155	75	63	27	29
9	27	359	97	110	349	611	198	197	71	66	29	28
10	28	236	99	102	310	482	249	173	75	60	31	26
11	27	160	101	97	288	323	211	165	76	55	50	25
12	27	135	95	94	432	277	193	212	90	51	39	23
13	27	122	94	95	345	252	184	313	88	49	35	23
14	27	150	92	94	293	239	180	241	88	46	33	24
15	30	175	89	96	263	225	179	210	80	44	30	24
16	30	152	88	130	245	210	173	193	80	45	30	24
17	29	137	87	120	248	200	192	183	91	45	30	24
18	30	128	85	113	293	225	207	173	79	44	33	25
19	36	124	83	108	266	507	189	163	75	41	34	24
20	34	120	82	106	242	656	188	154	73	39	33	24
21	31	115	80	101	229	606	178	147	75	40	30	24
22	30	157	78	97	213	556	170	140	72	37	29	25
23	29	160	84	124	281	385	167	130	71	34	27	25
24	29	143	80	213	845	318	162	125	69	34	28	24
25	31	132	89	178	646	283	155	126	65	34	27	23
26	33	128	88	158	402	261	150	120	62	37	27	22
27	40	125	89	147	328	250	150	113	123	36	30	22
28	34	117	106	478	296	237	143	112	88	31	35	21
29	32	115	107	1140	---	225	138	108	73	33	32	21
30	31	113	150	576	---	214	135	101	68	32	29	22
31	31	---	136	373	---	205	---	96	---	38	28	---
TOTAL	931	3826	3049	5712	10869	9810	5437	4770	2422	1438	977	755
MEAN	30.0	128	98.4	184	388	316	181	154	80.7	46.4	31.5	25.2
MAX	40	359	150	1140	1020	656	249	313	123	66	50	33
MIN	26	38	78	94	213	200	135	96	62	31	27	21
CFSM	.40	1.69	1.30	2.44	5.15	4.20	2.40	2.04	1.07	.62	.42	.33
IN.	.46	1.89	1.50	2.82	5.36	4.84	2.68	2.35	1.19	.71	.48	.37

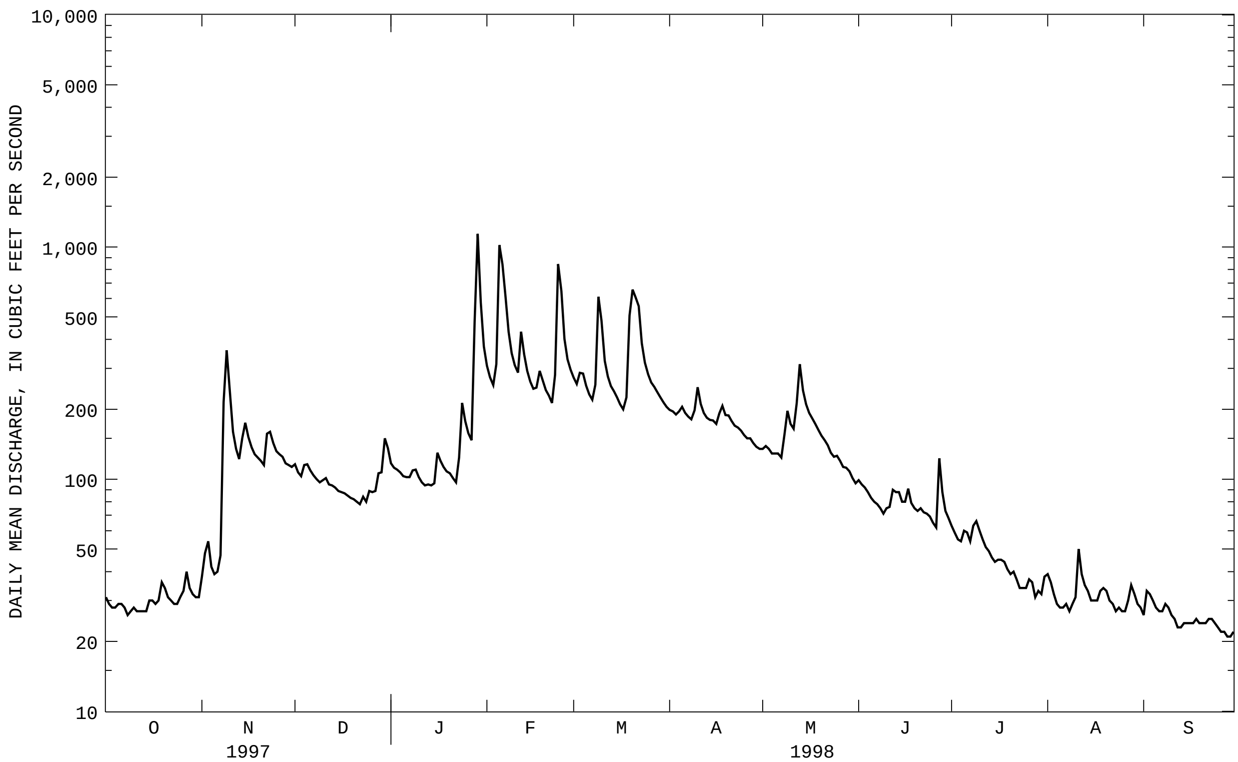
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	45.2	60.1	88.6	120	138	163	139	103	75.0	57.8	61.9	45.6
MAX	137	192	294	311	388	421	300	219	298	210	412	234
(WY)	1980	1957	1949	1978	1998	1994	1958	1990	1948	1959	1967	1960
MIN	17.9	21.2	23.9	23.8	50.9	61.5	47.8	45.8	29.3	17.5	13.6	10.1
(WY)	1944	1988	1944	1966	1950	1977	1985	1951	1986	1944	1943	1943

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1998	
ANNUAL TOTAL	39052		49996			
ANNUAL MEAN	107		137		91.6	
HIGHEST ANNUAL MEAN					170	1958
LOWEST ANNUAL MEAN					43.8	1985
HIGHEST DAILY MEAN	359	Nov 9	1140	Jan 29	2880	Feb 26 1979
LOWEST DAILY MEAN	20	(a)	21	(b)	6.6	Sep 29 1943
ANNUAL SEVEN-DAY MINIMUM	21	Aug 11	22	Sep 24	7.8	Sep 23 1943
INSTANTANEOUS PEAK FLOW			1350	Jan 29	3020	Feb 26 1979
INSTANTANEOUS PEAK STAGE			8.63	Jan 29	10.31	Feb 26 1979
INSTANTANEOUS LOW FLOW			21	Sep 29	(c)6.3	Sep 29 1943
ANNUAL RUNOFF (CFSM)	1.42		1.82		1.22	
ANNUAL RUNOFF (INCHES)	19.27		24.67		16.51	
10 PERCENT EXCEEDS	186		282		176	
50 PERCENT EXCEEDS	104		99		66	
90 PERCENT EXCEEDS	29		28		26	

a Aug. 13, 17.
b Sept. 28, 29.
c Minimum discharge observed.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level. 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 for estimated daily discharges (partially plugged intake), which are poor. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

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 greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0930	589	5.42	Feb 12	0430	451	4.86
Nov 9	0815	1,170	7.37	Feb 24	0730	1,620	8.65
Jan 23	2315	894	6.48	Mar 9	1300	1,180	7.39
Jan 28	2145	*2,530	*11.01	Mar 19	1915	1,280	7.70
Feb 5	0530	2,070	9.82	Mar 21	0915	1,120	7.21

Minimum discharge, 7.9 ft^3/s, Aug 23-25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	27	64	72	172	132	83	47	30	28	12	9.4
2	18	33	58	67	146	122	78	47	27	25	13	e8.0
3	18	36	55	63	131	194	71	47	27	24	11	e14
4	18	30	59	60	327	168	72	44	26	24	11	e12
5	17	27	61	58	1550	132	78	42	25	29	10	e10
6	17	28	57	56	472	115	72	42	23	23	10	e9.0
7	17	31	54	56	316	111	66	40	22	22	11	e8.5
8	16	283	51	61	216	287	64	45	21	26	11	e9.0
9	16	686	49	64	173	894	100	55	21	29	11	e14
10	16	163	52	61	147	311	143	51	22	26	14	11
11	16	101	52	54	136	178	98	50	22	23	17	e10
12	15	82	49	52	308	135	84	143	26	21	14	e9.5
13	15	71	49	52	176	112	74	168	26	21	12	e9.0
14	15	140	48	52	143	102	71	104	26	19	12	e9.0
15	16	142	45	55	122	90	68	83	25	19	11	e8.5
16	16	99	46	118	111	79	65	70	28	20	9.4	e8.5
17	15	82	45	86	117	73	70	62	159	18	9.8	e9.0
18	16	73	43	76	157	116	76	56	54	18	11	11
19	17	68	42	70	128	627	71	51	39	18	11	e9.5
20	17	65	41	66	113	339	105	47	35	17	11	e9.0
21	15	61	41	61	104	668	84	44	32	16	11	e8.5
22	15	178	40	60	95	366	75	42	30	16	11	e8.5
23	15	125	43	223	357	215	68	40	29	15	9.0	e8.5
24	15	98	42	382	1170	168	62	39	32	14	9.1	e8.0
25	16	83	61	192	384	143	58	38	31	14	8.1	e8.0
26	17	78	60	140	221	126	55	37	29	13	9.6	e7.5
27	20	73	57	119	175	116	54	35	87	14	11	e7.5
28	18	66	76	1420	149	106	50	34	47	15	12	e7.5
29	18	64	79	1260	---	99	47	33	34	14	11	e7.0
30	19	62	134	334	---	92	47	32	31	14	11	e7.5
31	22	---	93	220	---	84	---	31	---	13	9.7	---
TOTAL	519	3155	1746	5710	7816	6500	2209	1699	1066	608	344.7	276.4
MEAN	16.7	105	56.3	184	279	210	73.6	54.8	35.5	19.6	11.1	9.21
MAX	22	686	134	1420	1550	894	143	168	159	29	17	14
MIN	15	27	40	52	95	73	47	31	21	13	8.1	7.0
CFSM	.38	2.40	1.28	4.20	6.36	4.78	1.68	1.25	.81	.45	.25	.21
IN.	.44	2.67	1.48	4.84	6.62	5.51	1.87	1.44	.90	.52	.29	.23

e Estimated

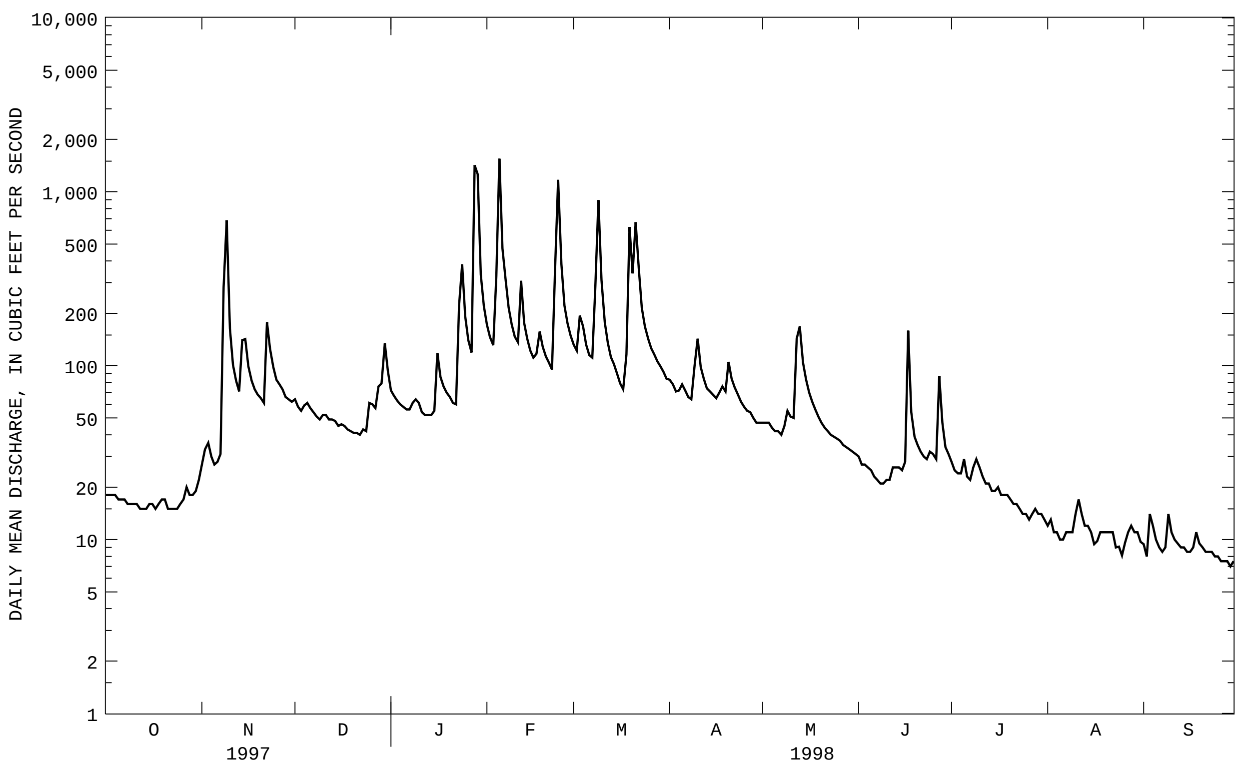
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1969, 1972 - 1998, BY WATER YEAR (WY)

MEAN	19.5	35.5	61.0	85.4	91.7	111	77.0	53.6	35.9	34.7	36.7	19.4
MAX	101	190	219	258	279	284	226	178	156	297	340	126
(WY)	1972	1957	1997	1978	1998	1994	1983	1989	1948	1975	1967	1960
MIN	3.46	4.95	3.22	4.30	27.8	27.8	21.7	15.5	7.32	4.58	2.83	2.78
(WY)	1966	1966	1966	1966	1966	1966	1985	1957	1965	1944	1964	1964

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1969 1972 - 1998	
ANNUAL TOTAL	25654		31649.1			
ANNUAL MEAN	70.3		86.7		55.6	
HIGHEST ANNUAL MEAN					111	1958
LOWEST ANNUAL MEAN					16.2	1966
HIGHEST DAILY MEAN	2420	Aug 21	1550	Feb 5	2710	Aug 5 1967
LOWEST DAILY MEAN	11	Aug 9	7.0	Sep 29	1.2	(a)
ANNUAL SEVEN-DAY MINIMUM	13	Aug 7	7.6	Sep 24	1.3	Sep 5 1964
INSTANTANEOUS PEAK FLOW			2530	Jan 28	(b)3700	Jul 13 1975
INSTANTANEOUS PEAK STAGE			11.01	Jan 28	13.98	Aug 5 1967
INSTANTANEOUS LOW FLOW			UNKNOWN		1.0	(c)
ANNUAL RUNOFF (CFSM)	1.60		1.98		1.27	
ANNUAL RUNOFF (INCHES)	21.74		26.82		17.20	
10 PERCENT EXCEEDS	122		168		116	
50 PERCENT EXCEEDS	48		47		29	
90 PERCENT EXCEEDS	16		11		7.5	

a Sept. 9, 10, 1964.
b From rating curve extended above 3,300 ft^3/s.
c Sept. 9, 10, 1964; Aug. 20, 1965.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

LOCATION.--Lat 38°59'50", long 75°47'10", 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^2.

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 above sea level.

REMARKS.--Water-discharge records good. Diversions for irrigation of about 500 acres upstream from station.

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 greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 24	2030	1,160	6.95	Mar 10	0145	1,710	8.08
Jan 29	1000	*3,120	*10.26	Mar 20	0815	1,250	7.16
Feb 5	2200	2,330	9.13	Mar 22	0045	1,980	8.56
Feb 24	2000	2,070	8.72				

Minimum discharge, 4.5 ft^3/s, Aug 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	28	85	157	468	328	192	95	61	44	13	14
2	20	40	82	128	356	297	183	101	56	36	11	22
3	18	35	77	119	316	506	170	100	52	31	8.9	44
4	18	30	79	120	309	716	168	99	50	27	5.7	54
5	16	26	84	105	1480	545	181	95	47	30	6.6	43
6	14	25	82	102	1630	390	173	93	45	26	9.7	31
7	16	28	78	105	818	307	160	89	39	25	13	25
8	14	95	75	120	574	320	151	94	37	35	5.5	49
9	15	275	71	139	447	1060	156	105	37	47	7.2	45
10	13	338	71	138	346	1330	204	108	38	41	8.3	36
11	13	182	79	123	294	653	215	113	40	37	86	30
12	13	106	78	113	459	442	181	168	53	27	422	26
13	14	80	76	107	552	331	159	376	68	21	220	24
14	15	108	75	103	399	284	145	406	65	19	84	23
15	16	162	73	103	297	255	138	264	58	18	46	20
16	18	164	71	170	253	232	132	199	68	18	34	18
17	17	128	71	231	248	209	142	159	64	20	28	16
18	20	106	69	194	393	230	191	135	51	18	32	17
19	26	94	67	158	438	561	183	120	46	16	52	17
20	27	88	66	142	336	1090	175	107	44	14	44	17
21	23	84	65	131	277	1460	174	97	42	14	34	17
22	20	108	63	122	243	1580	160	88	39	17	29	16
23	18	142	72	191	282	877	143	80	58	15	26	18
24	17	145	76	898	1500	573	133	76	66	15	23	16
25	26	120	90	834	1430	440	124	72	54	19	22	15
26	29	107	110	531	737	344	115	70	51	15	19	16
27	42	100	113	356	509	299	112	64	107	11	20	13
28	34	95	121	769	405	268	107	71	86	11	24	14
29	28	89	129	2710	---	246	100	58	62	9.8	20	15
30	25	86	147	1250	---	227	97	55	49	13	22	15
31	23	---	181	644	---	207	---	55	---	13	18	---
TOTAL	629	3214	2676	11113	15796	16607	4664	3812	1633	702.8	1393.9	726
MEAN	20.3	107	86.3	358	564	536	155	123	54.4	22.7	45.0	24.2
MAX	42	338	181	2710	1630	1580	215	406	107	47	422	54
MIN	13	25	63	102	243	207	97	55	37	9.8	5.5	13
CFSM	.18	.95	.76	3.17	4.99	4.74	1.38	1.09	.48	.20	.40	.21
IN.	.21	1.06	.88	3.66	5.20	5.47	1.54	1.25	.54	.23	.46	.24

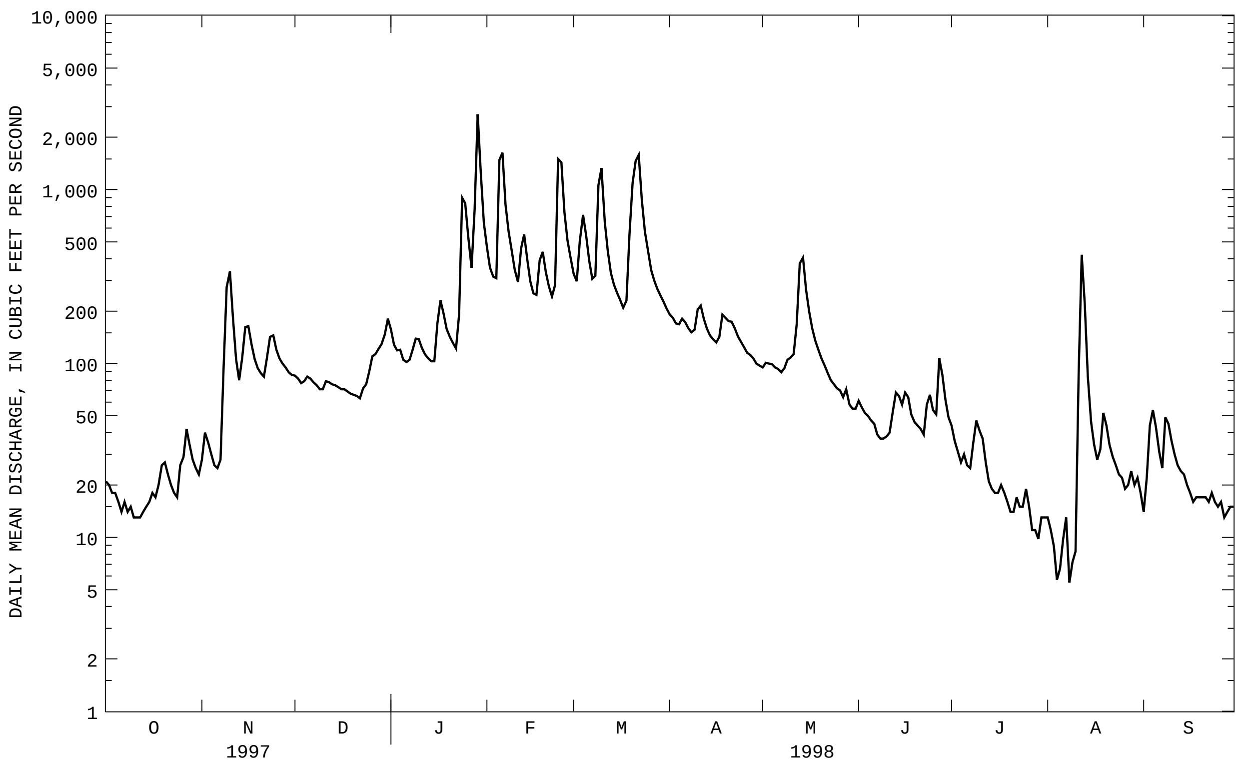
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.0	88.9	153	203	227	269	201	135	95.2	58.4	83.9	45.7
MAX	402	476	680	559	646	826	649	457	381	421	829	323
(WY)	1972	1957	1997	1978	1979	1994	1983	1989	1996	1975	1967	1960
MIN	9.85	10.9	13.3	17.9	42.8	43.7	47.2	30.3	19.5	9.49	5.31	9.38
(WY)	1966	1966	1966	1966	1966	1966	1966	1977	1986	1977	1966	1987

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1948 - 1998	
ANNUAL TOTAL	51763.1		62966.7			
ANNUAL MEAN	142		173		133	
HIGHEST ANNUAL MEAN					237	1972
LOWEST ANNUAL MEAN					26.6	1966
HIGHEST DAILY MEAN	1270	May 26	2710	Jan 29	6160	Aug 4 1967
LOWEST DAILY MEAN	7.7	Aug 17	5.5	Aug 8	1.5	Aug 29 1966
ANNUAL SEVEN-DAY MINIMUM	9.1	Aug 12	8.0	Aug 4	2.2	Aug 26 1966
INSTANTANEOUS PEAK FLOW			3120	Jan 29	(a)6970	Aug 4 1967
INSTANTANEOUS PEAK STAGE			10.26	Jan 29	14.47	Aug 4 1967
INSTANTANEOUS LOW FLOW			4.5	(b)	1.2	(c)
ANNUAL RUNOFF (CFSM)	1.26		1.53		1.18	
ANNUAL RUNOFF (INCHES)	17.04		20.73		16.03	
10 PERCENT EXCEEDS	309		405		290	
50 PERCENT EXCEEDS	93		80		73	
90 PERCENT EXCEEDS	17		16		16	

a From rating curve extended above 3,600 ft^3/s.
b Aug. 7, 8.
c Aug. 29, 1966, Sept. 3, 1987.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981, October 1984 to September 1991.
WATER TEMPERATURE: October 1974 to September 1991.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1991.

REMARKS.--On May 5 and Nov. 15, 1994 samples were collected and analyzed using ultraclean methodologies. Data on trace metals for these dates are available from the University of Delaware. Data on organics for these dates are available from George Mason University.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1975-81, 1988, 1990-91): Maximum daily, 313 microsiemens, Dec. 20, 1987; minimum daily, 40 microsiemens, Jan. 31, 1980.
WATER TEMPERATURE (water years 1975-81, 1985, 1988-91): Maximum daily, 28.5°C, Aug. 14, 1988; minimum daily, 0.0°C, on many days during winter periods.
SEDIMENT CONCENTRATION: Maximun daily mean, 107 mg/L, Dec. 26, 1986; minimum daily mean, 1 mg/L, on many days during water years 1982-91.
SEDIMENT LOAD: Maximum daily, 448 tons, Dec. 26, 1986; minimum daily, 0.02 ton, Aug. 30, Sept. 7, 1982, July 25, 1986, Oct. 16, 23, 26, 27, 1987, Sept. 23, 1988.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
OCT 1997									
28...	1100	34	172	7.2	9.0	11.0	763	8.7	79
NOV									
20...	1215	87	153	6.8	13.5	5.5	764	11.0	87
DEC									
10...	1200	70	152	6.7	6.5	5.0	756	11.4	90
JAN 1998									
22...	1115	122	135	6.5	4.0	3.0	772	12.3	90
29...	1400	2980	50	6.8	11.0	4.0	756	10.7	82
FEB									
03...	1300	296	103	6.4	8.0	5.5	765	10.6	84
06...	1330	1470	60	5.9	2.0	4.0	759	10.6	82
07...	0930	839	70	6.2	5.0	4.5	762	10.8	83
25...	1145	1400	58	6.2	12.0	6.5	755	9.6	78
MAR									
10...	1345	1230	63	6.1	7.5	11.0	757	7.7	70
APR									
22...	1200	160	111	7.0	21.0	16.0	764	8.6	86
MAY									
26...	1015	70	127	6.8	27.5	20.0	768	7.1	77
JUN									
09...	1045	38	132	7.0	24.0	17.0	768	8.1	83
JUL									
06...	1000	27	134	6.7	28.0	23.0	765	6.8	79
AUG									
04...	0945	6.6	152	6.5	30.5	20.5	767	--	--

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 1997									
28...	23	28	13	1.5	5.8	.005	1.31	1.31	.035
NOV									
20...	13	16	19	1.8	6.9	.004	1.57	1.57	<.020
DEC									
10...	15	18	20	1.8	6.9	.004	1.57	1.57	<.020
JAN 1998									
22...	--	--	20	1.8	7.1	.010	1.62	1.62	<.020
29...	7	9	5.0	1.2	1.7	.004	.396	.396	.082
FEB									
03...	7	9	16	1.8	6.0	.005	1.37	1.37	.030
06...	6	7	6.3	1.2	2.2	.004	.501	.501	.043
07...	5	6	9.6	1.3	3.2	.005	.733	.733	.038
25...	8	10	6.8	1.3	2.1	.005	.489	.489	<.020
MAR									
10...	11	13	6.5	1.2	2.1	.008	.484	.484	.080
APR									
22...	--	--	12	1.4	4.2	.016	--	.966	.052
MAY									
26...	--	--	--	1.6	5.6	.008	--	1.27	<.020
JUN									
09...	--	--	17	1.5	5.6	.003	--	1.27	.050
JUL									
06...	19	23	12	1.7	5.5	.003	--	1.24	.031
AUG									
04...	26	32	12	1.7	6.5	.002	--	1.48	<.020

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1997									
28...	.19	.14	.018	.012	.007	4.4	2	.15	--
NOV									
20...	.23	.22	.020	.009	.005	3.7	5	1.2	--
DEC									
10...	.21	.17	.017	.008	.005	2.9	3	.55	--
JAN 1998									
22...	.22	.15	.016	.008	.007	4.0	3	1.1	--
29...	.83	.57	.183	.051	.036	12	62	499	97
FEB									
03...	.41	.36	.040	.022	.017	8.4	6	4.8	65
06...	.72	.47	.111	.048	.033	12	19	75	79
07...	.56	.48	.067	.036	.023	12	15	34	60
25...	.79	.52	.103	.053	.036	14	20	76	95
MAR									
10...	.71	.55	.136	.057	.034	13	26	86	95
APR									
22...	.44	.38	.064	.025	.019	8.4	5	2.2	--
MAY									
26...	.34	.30	.076	.017	.011	5.6	4	.66	--
JUN									
09...	.25	.29	.037	.016	.013	4.2	3	.31	--
JUL									
06...	.45	.29	.024	.017	.009	4.6	3	.22	--
AUG									
04...	.27	.21	.012	.013	.008	3.3	2	.04	--

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.--19.7 mi^2.

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

REVISED RECORDS.--WSP 1382: 1952(P). WRD MD-DE-95-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low and medium flow by Unicorn Lake Dam upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 24	1100	197	3.63	Mar 19	2130	225	3.80
Jan 29	0400	307	4.18	Mar 21	1615	*510	*4.80
Feb 24	1530	218	3.76	Aug 11	0500	280	4.08
Mar 9	2045	267	4.03				

Minimum discharge, 3.7 ft^3/s, Feb 17, 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	14	37	23	52	47	46	23	16	11	8.8	8.0
2	8.0	15	33	15	50	45	44	27	15	10	8.0	18
3	7.6	12	12	9.5	50	105	40	27	14	11	8.3	13
4	6.8	11	12	9.8	48	129	42	27	14	11	8.6	10
5	6.8	10	12	22	90	78	42	26	14	12	7.9	10
6	7.1	10	12	23	119	57	39	30	14	10	7.0	9.7
7	8.3	12	14	17	76	49	37	26	14	10	6.6	10
8	7.4	32	17	17	58	64	35	33	13	17	7.1	12
9	7.4	30	16	18	53	187	45	41	14	15	7.3	9.8
10	7.5	22	16	18	51	166	55	41	14	12	41	9.5
11	7.6	16	16	20	48	87	44	40	14	11	169	8.9
12	7.7	14	16	23	48	60	37	74	20	11	22	9.0
13	8.0	13	16	20	50	51	34	125	22	9.9	14	9.1
14	8.1	20	16	15	49	47	32	62	21	9.0	13	9.1
15	8.7	21	15	14	47	42	31	44	16	10	12	8.8
16	8.4	18	14	21	42	38	30	35	16	10	12	8.8
17	8.6	16	12	23	24	35	44	28	14	9.1	13	9.0
18	16	15	10	36	37	46	57	25	13	9.5	14	10
19	12	14	10	46	56	128	44	23	13	9.8	14	9.2
20	11	14	10	31	46	166	50	21	14	9.4	12	8.5
21	9.3	15	10	17	39	315	43	20	14	10	9.8	8.8
22	8.8	23	10	18	34	240	35	18	13	8.6	10	9.0
23	8.7	20	13	29	47	131	31	18	15	8.2	9.5	8.8
24	8.8	18	16	140	183	91	29	18	15	8.1	10	8.9
25	13	16	16	107	149	71	26	18	14	8.0	9.9	8.8
26	13	15	22	64	85	62	26	18	17	8.2	9.8	9.0
27	15	15	31	47	60	57	27	18	15	9.1	9.8	8.8
28	12	14	19	87	51	52	23	16	13	8.7	9.4	8.1
29	10	14	10	234	---	48	22	15	12	8.1	9.9	8.1
30	10	14	21	113	---	46	22	15	12	7.7	9.9	8.1
31	9.7	---	27	70	---	46	---	15	---	9.9	8.8	---
TOTAL	289.6	493	511	1347.3	1742	2786	1112	967	445	312.3	512.4	286.8
MEAN	9.34	16.4	16.5	43.5	62.2	89.9	37.1	31.2	14.8	10.1	16.5	9.56
MAX	16	32	37	234	183	315	57	125	22	17	169	18
MIN	6.8	10	10	9.5	24	35	22	15	12	7.7	6.6	8.0
CFSM	.47	.84	.84	2.21	3.16	4.57	1.88	1.59	.75	.51	.84	.49
IN.	.55	.93	.97	2.55	3.29	5.27	2.10	1.83	.84	.59	.97	.54

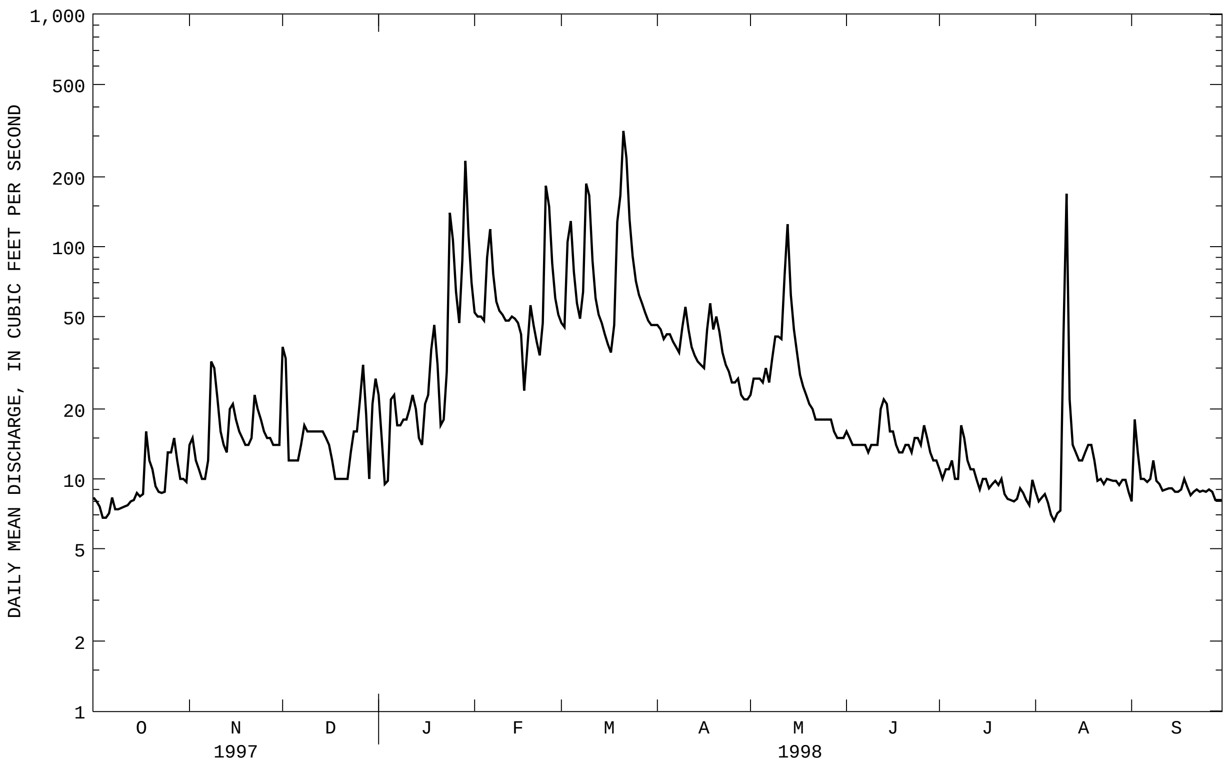
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.5	17.2	25.9	33.0	37.2	43.9	36.5	26.8	21.2	16.4	17.6	14.3
MAX	91.5	65.4	124	83.7	83.7	105	109	66.8	86.9	52.5	62.5	92.1
(WY)	1972	1972	1997	1978	1961	1994	1983	1989	1996	1972	1967	1960
MIN	5.27	4.99	5.32	5.80	12.1	9.29	10.7	8.64	4.51	5.22	3.15	4.79
(WY)	1966	1966	1966	1966	1966	1966	1966	1977	1966	1977	1966	1977

01493000 UNICORN BRANCH NEAR MILLINGTON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1948 - 1998	
ANNUAL TOTAL	9926.4		10804.4			
ANNUAL MEAN	27.2		29.6		25.3	
HIGHEST ANNUAL MEAN					51.8	1972
LOWEST ANNUAL MEAN					7.08	1966
HIGHEST DAILY MEAN	192	Mar 4	315	Mar 21	856	Dec 14 1996
LOWEST DAILY MEAN	5.3	(a)	6.6	Aug 7	.10	Jun 9 1965
ANNUAL SEVEN-DAY MINIMUM	6.1	Aug 11	7.3	Oct 4	.14	Jun 8 1965
INSTANTANEOUS PEAK FLOW			510	Mar 21	(b)1160	Dec 14 1996
INSTANTANEOUS PEAK STAGE			4.80	Mar 21	7.17	Sep 12 1960
INSTANTANEOUS LOW FLOW			3.7	Feb 17	.00	(d)
ANNUAL RUNOFF (CFSM)	1.38		1.50	(c)	1.28	
ANNUAL RUNOFF (INCHES)	18.76		20.42		17.44	
10 PERCENT EXCEEDS	52		57		48	
50 PERCENT EXCEEDS	17		16		16	
90 PERCENT EXCEEDS	8.6		8.7		7.3	

a Aug. 11, 12.
b From rating curve extended above 600 ft^3/s.
c Feb. 17, 18.
d No flow for part of each day June 13, 14, 1965 and Jan. 6, 7, 10, 13-16, 20, 21, 23, 24, 27, 31, Feb. 2, 3, 14, 20, 1997, caused by regulation at Unicorn Lake Dam.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level.

REMARKS.--Records good except those for estimated daily discharges (backwater from storm tides), which are fair. Several measurements of water temperature were made during the year. Water-quality data for 1998 and some prior years have been collected at this location. (See "Analyses of Samples Collected at Water-Quality Partial-Record Stations and Miscellaneus Sites")

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 24	0245	212	4.21	Jun 13	1100	*356	*5.32

Minimum discharge, 3.4 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	e12	9.4	7.4	10	10	11	8.4	8.7	6.4	8.6	4.0
2	6.2	e13	8.1	7.9	9.5	10	20	12	7.2	6.1	6.1	e28
3	7.0	11	8.0	8.2	9.2	57	11	10	e7.0	6.2	5.7	25
4	6.0	8.7	9.9	8.0	12	e43	11	14	6.6	6.2	5.2	7.9
5	5.7	7.7	9.5	7.6	e25	16	11	10	6.6	6.4	5.1	5.9
6	6.1	7.7	8.3	7.6	e16	12	9.8	11	6.4	5.8	5.0	5.7
7	6.0	10	8.1	8.2	e12	11	9.7	10	6.2	5.8	4.8	6.3
8	5.9	e55	7.9	12	10	e25	10	19	6.6	18	5.0	12
9	6.1	e35	7.7	11	e9.5	e95	24	19	6.3	16	5.0	7.6
10	6.4	17	8.0	8.7	9.3	38	34	14	6.5	7.6	11	5.1
11	6.6	11	9.1	7.7	9.6	15	14	17	7.1	6.6	28	4.7
12	6.2	9.8	8.6	7.5	13	12	11	e50	18	5.8	9.9	4.9
13	6.6	9.0	7.5	7.8	9.9	11	10	e40	190	5.6	6.5	4.3
14	6.7	14	6.9	7.7	9.1	11	10	e13	e70	e6.0	5.8	4.3
15	6.7	14	7.0	e12	8.6	10	9.9	e11	24	5.6	5.8	e4.3
16	7.1	11	7.2	e35	8.6	9.9	9.7	9.5	14	6.0	5.8	4.3
17	8.2	9.5	7.3	e14	e11	9.7	16	9.1	9.8	6.0	13	4.3
18	21	9.5	7.1	11	e17	16	15	8.2	8.0	5.9	27	4.3
19	12	9.3	7.1	9.4	12	e68	11	7.9	7.5	5.8	11	5.7
20	8.8	9.6	7.3	8.7	10	35	12	7.5	7.9	5.8	5.7	4.7
21	7.1	11	6.9	8.2	9.8	e105	10	7.5	20	6.9	5.3	4.6
22	e6.6	24	7.2	8.0	9.4	e45	9.5	7.5	9.1	8.6	5.3	6.2
23	6.6	15	11	60	26	21	9.0	7.4	8.6	8.7	4.4	5.6
24	6.7	12	9.3	130	e100	14	e9.0	7.4	8.5	11	4.5	4.4
25	e17	10	18	30	40	12	8.3	7.5	7.7	7.3	4.7	4.6
26	14	10	12	13	17	12	8.3	7.4	8.9	6.1	4.6	6.1
27	e15	9.3	9.7	10	12	12	11	7.3	13	6.2	4.7	5.1
28	10	9.3	12	62	11	11	8.7	7.5	7.6	5.8	4.5	4.1
29	8.4	9.6	9.3	e75	---	11	7.5	7.4	e7.4	5.7	e4.3	3.7
30	7.8	9.4	e13	e22	---	11	7.2	7.2	7.1	5.2	4.4	3.5
31	7.9	---	9.3	12	---	10	---	6.9	---	17	4.1	---
TOTAL	259.1	403.4	277.7	637.6	456.5	778.6	358.6	381.6	522.3	232.1	230.8	201.2
MEAN	8.36	13.4	8.96	20.6	16.3	25.1	12.0	12.3	17.4	7.49	7.45	6.71
MAX	21	55	18	130	100	105	34	50	190	18	28	28
MIN	5.7	7.7	6.9	7.4	8.6	9.7	7.2	6.9	6.2	5.2	4.1	3.5
CFSM	.66	1.06	.71	1.62	1.28	1.98	.94	.97	1.37	.59	.59	.53
IN.	.76	1.18	.81	1.87	1.34	2.28	1.05	1.12	1.53	.68	.68	.59

e Estimated

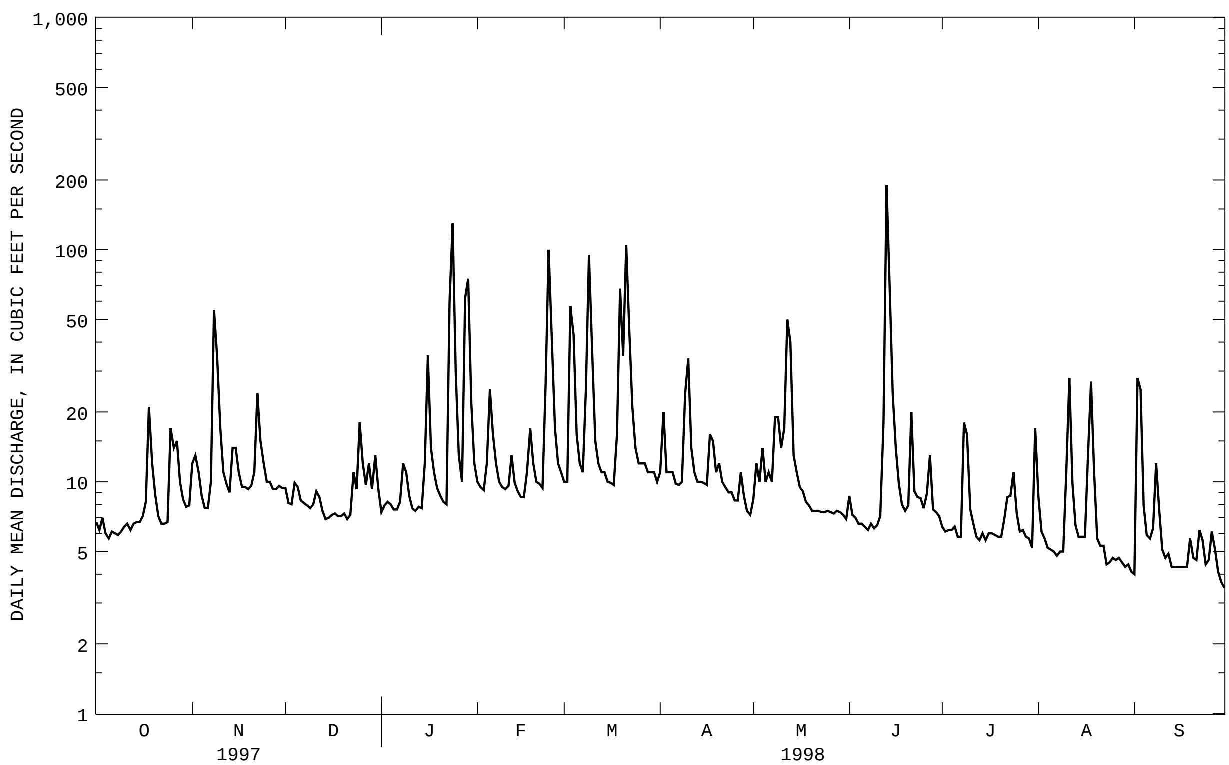
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.67	9.24	12.2	14.0	14.3	14.4	11.0	9.46	13.4	8.66	8.64	7.71
MAX	32.3	30.7	51.3	45.6	47.1	36.7	29.5	20.6	113	26.9	27.8	32.4
(WY)	1972	1973	1997	1978	1979	1994	1983	1990	1972	1989	1971	1960
MIN	2.98	3.14	3.21	3.74	5.09	4.47	4.49	3.77	1.96	1.11	1.41	2.07
(WY)	1964	1966	1966	1966	1968	1966	1966	1955	1966	1966	1966	1967

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	4644.5		4739.5			
ANNUAL MEAN	12.7		13.0		10.9	
HIGHEST ANNUAL MEAN					24.2	1972
LOWEST ANNUAL MEAN					3.67	1966
HIGHEST DAILY MEAN	141	Mar 4	190	Jun 13	2810	Jun 22 1972
LOWEST DAILY MEAN	5.0	Jul 20	3.5	Sep 30	.70	(a)
ANNUAL SEVEN-DAY MINIMUM	5.5	Jul 15	4.4	Aug 26	.71	Sep 7 1966
INSTANTANEOUS PEAK FLOW			356	Jun 13	(b)7500	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.32	Jun 13	13.07	Jun 22 1972
INSTANTANEOUS LOW FLOW			3.4	Sep 30	.60	(c)
ANNUAL RUNOFF (CFSM)	1.00		1.02		.86	
ANNUAL RUNOFF (INCHES)	13.60		13.88		11.66	
10 PERCENT EXCEEDS	21		20		17	
50 PERCENT EXCEEDS	9.5		8.9		6.4	
90 PERCENT EXCEEDS	6.0		5.5		3.2	

a July 21, Aug. 28-31, Sept. 4, 8-13, 1966.
b From rating curve extended above 640 ft^3/s on basis of culvert and flow-over-road measurement of peak flow.
c Aug. 28, 29, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 (State Highway 277), 3.5 mi north of Elkton, and 7 mi upstream from confluence with Little Elk Creek.

DRAINAGE AREA.--52.6 mi^2.

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, 1919-40(M), 1942(M), 1943-51, 1952-53(P).

GAGE.--Water-stage recorder. Datum of gage is 68.69 ft above sea level. Prior to May 17, 1946, nonrecording gage at bridge 100 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Slight diurnal fluctuation caused by mills upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 23	1915	*1,380	*5.39	No peak greater than base discharge.			

Minimum discharge, 12 ft^3/s, Oct 11, 12, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	37	27	31	55	69	78	63	53	41	30	18
2	17	59	26	32	51	65	303	81	44	35	23	20
3	e17	48	25	29	50	198	102	112	45	34	22	29
4	e17	28	28	27	51	162	90	89	41	33	22	22
5	e16	24	29	27	84	92	84	75	40	33	21	18
6	e16	22	27	26	68	77	79	70	39	31	20	17
7	e15	26	25	27	53	72	76	68	38	30	19	17
8	e15	60	25	46	49	98	76	95	37	106	19	24
9	e14	52	25	52	46	451	172	118	36	68	20	19
10	e14	41	27	34	44	161	195	120	37	41	105	17
11	13	30	38	30	44	87	100	167	39	35	82	16
12	12	26	30	28	176	74	87	367	135	32	30	16
13	13	24	27	27	71	68	81	165	124	31	25	15
14	15	35	26	26	57	66	79	95	203	30	24	15
15	19	56	26	29	51	62	79	79	63	30	23	14
16	26	35	24	107	48	58	76	71	55	31	23	15
17	19	29	24	47	70	56	81	66	47	30	28	14
18	24	27	24	37	141	72	81	62	43	30	103	16
19	27	26	23	34	79	300	80	58	41	28	32	15
20	20	25	23	31	65	118	111	55	41	27	24	15
21	18	26	23	29	60	446	80	53	42	28	22	15
22	18	92	22	28	54	190	73	50	40	37	21	20
23	17	43	33	441	121	145	71	49	41	31	20	19
24	17	31	34	238	332	121	69	48	46	40	20	15
25	34	28	90	99	196	101	65	50	41	28	20	15
26	33	26	47	67	93	95	65	50	46	26	19	17
27	46	27	35	57	78	93	71	46	57	25	37	15
28	29	26	38	210	71	88	63	45	39	24	25	14
29	22	26	33	143	---	83	61	45	37	24	20	14
30	21	26	60	76	---	80	61	46	40	23	19	12
31	20	---	43	62	---	78	---	43	---	33	18	---
TOTAL	622	1061	987	2177	2358	3926	2789	2601	1630	1075	936	508
MEAN	20.1	35.4	31.8	70.2	84.2	127	93.0	83.9	54.3	34.7	30.2	16.9
MAX	46	92	90	441	332	451	303	367	203	106	105	29
MIN	12	22	22	26	44	56	61	43	36	23	18	12
CFSM	.38	.67	.61	1.34	1.60	2.41	1.77	1.60	1.03	.66	.57	.32
IN.	.44	.75	.70	1.54	1.67	2.78	1.97	1.84	1.15	.76	.66	.36

e Estimated

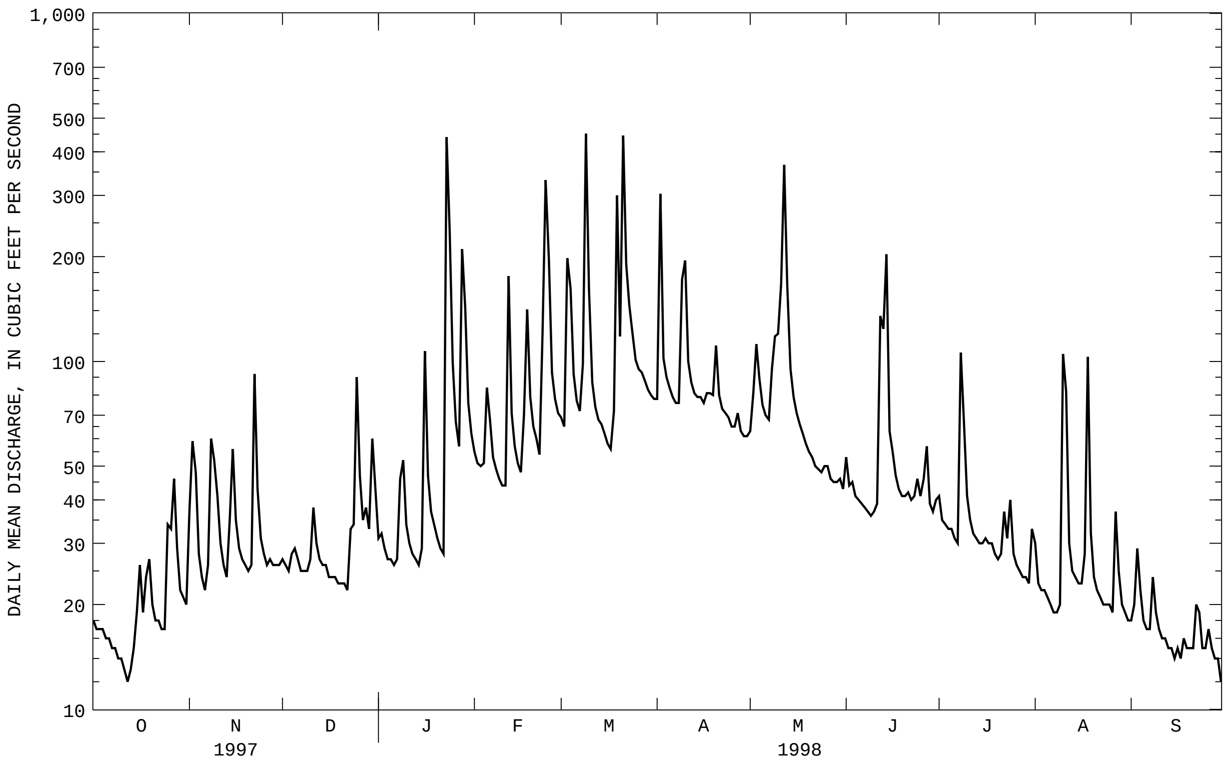
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	42.1	55.3	69.6	87.5	98.6	102	90.6	77.2	59.1	56.8	52.1	43.4
MAX	152	125	276	283	236	247	191	160	216	248	241	134
(WY)	1997	1997	1997	1979	1936	1994	1993	1958	1972	1975	1933	1960
MIN	11.1	17.1	18.7	19.2	41.4	35.6	34.5	26.8	21.4	10.5	8.32	9.95
(WY)	1964	1966	1966	1966	1947	1981	1963	1955	1963	1963	1966	1932

01495000 BIG ELK CREEK AT ELK MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	24034		20670			
ANNUAL MEAN	65.8		56.6		69.6	
HIGHEST ANNUAL MEAN					109	1972
LOWEST ANNUAL MEAN					35.4	1966
HIGHEST DAILY MEAN	783	Jan 25	451	Mar 9	3260	Jan 19 1996
LOWEST DAILY MEAN	12	Oct 12	12	(a)	4.8	(b)
ANNUAL SEVEN-DAY MINIMUM	14	Oct 7	14	Oct 7	4.9	Sep 7 1966
INSTANTANEOUS PEAK FLOW			1380	Jan 23	(c)10600	Jul 5 1937
INSTANTANEOUS PEAK STAGE			5.39	Jan 23	(d)14.50	Jul 5 1937
INSTANTANEOUS LOW FLOW			12	(f)	4.5	(g)
ANNUAL RUNOFF (CFSM)	1.25		1.08		1.32	
ANNUAL RUNOFF (INCHES)	17.00		14.62		17.97	
10 PERCENT EXCEEDS	118		102		115	
50 PERCENT EXCEEDS	43		37		47	
90 PERCENT EXCEEDS	18		18		20	

a Oct 12, Sept 30.
b Sept. 8-10, 1966.
c From rating curve extended above 1,700 ft^3/s on basis of velocity-area and conveyance studies.
d From floodmarks.
f Oct 11, 12, 1997, Sept 30, 1998.
g Result of freezeup.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 September 1998 (Discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1981 to November 1985, October 1986 to September 1998 (Discontinued).
WATER TEMPERATURE: October 1981 to November 1985, October 1986 to September 1998 (Discontinued).

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

REMARKS.--Records for water temperature are good for periods of recorded data. Many missing days during the months of December to June due to malfunctioning instrumentation. Records for conductance are good for periods of recorded data. Missing or questionable record during the period of December to September. Probes are attached to southeast side of bulkhead of wharf; prior to Oct. 1986, probes were attached to bulkhead on the north side of the wharf.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1982-85, 1987-89, 1991-97): Maximum, 19,900 microsiemens, Oct. 26, 1982; minimum, 117 microsiemens, July 21-23, 28, 1984.
WATER TEMPERATURE (water years 1982-85, 1987-97): Maximum, 33.0°C, Aug. 6, 1988; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, unknown; minimum, unknown.
WATER TEMPERATURE: Maximum, 31.6°C, July 22; minimum, unknown.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	5390	5210	5300	10300	7020	7930	1290	1170	1230	---	---	---
2	6250	5200	5380	8520	7310	7830	1540	699	1190	---	---	---
3	5530	4750	5120	7620	7320	7460	1150	592	789	---	---	---
4	4820	4460	4650	7420	7020	7170	725	469	571	---	---	---
5	4510	4330	4450	7020	6750	6930	---	---	---	---	---	---
6	4510	4360	4410	6820	6500	6670	---	---	---	---	---	---
7	4480	4370	4430	11100	6720	8960	---	---	---	---	---	---
8	4460	4400	4430	12500	10300	11400	---	---	---	---	---	---
9	4430	4390	4420	13100	12400	12800	---	---	---	---	---	---
10	4440	4380	4410	13200	7860	10500	---	---	---	---	---	---
11	4400	4350	4370	9670	6270	7530	---	---	---	---	---	---
12	4470	4360	4430	7150	4490	5820	---	---	---	---	---	---
13	4510	4420	4450	6240	4630	5400	---	---	---	---	---	---
14	4780	4460	4560	12200	6200	9110	---	---	---	---	---	---
15	5200	4580	4780	11900	6840	9890	---	---	---	---	---	---
16	11300	5200	8110	7650	5510	6400	---	---	---	---	---	---
17	11800	9390	10900	5820	3470	4290	---	---	---	---	---	---
18	12800	10200	11000	4730	3260	3640	---	---	---	---	---	---
19	13400	11100	12000	4250	3380	3700	---	---	---	---	---	---
20	13200	11900	12700	3860	2520	3220	---	---	---	---	---	---
21	12800	10800	11600	2850	2400	2610	---	---	---	---	---	---
22	---	---	---	2640	2450	2510	---	---	---	---	---	---
23	9740	9090	9290	3560	2320	2630	---	---	---	---	---	---
24	9700	7510	8270	3450	1810	2600	---	---	---	---	---	---
25	7640	7320	7450	3010	1640	1980	---	---	---	---	---	---
26	9750	7340	8310	1750	950	1380	---	---	---	---	---	---
27	10800	8630	9420	1630	638	1030	---	---	---	---	---	---
28	8770	7810	8240	1440	896	1080	---	---	---	---	---	---
29	7910	6740	7170	1540	895	1050	---	---	---	---	---	---
30	7000	6600	6770	2030	1030	1240	---	---	---	---	---	---
31	7830	6670	6940	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	13200	638	5490	---	---	---	---	---	---

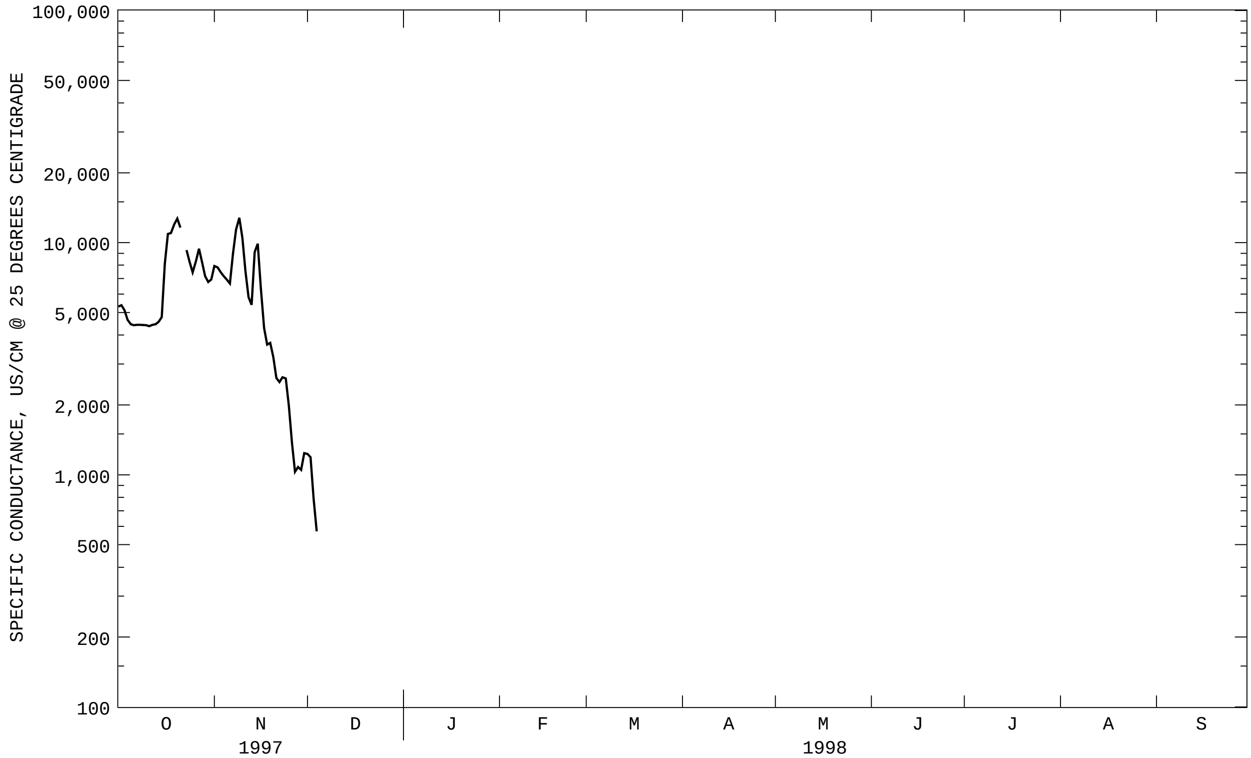
01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued



MEAN DAILY SPECIFIC CONDUCTANCE - 1998 WATER YEAR

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

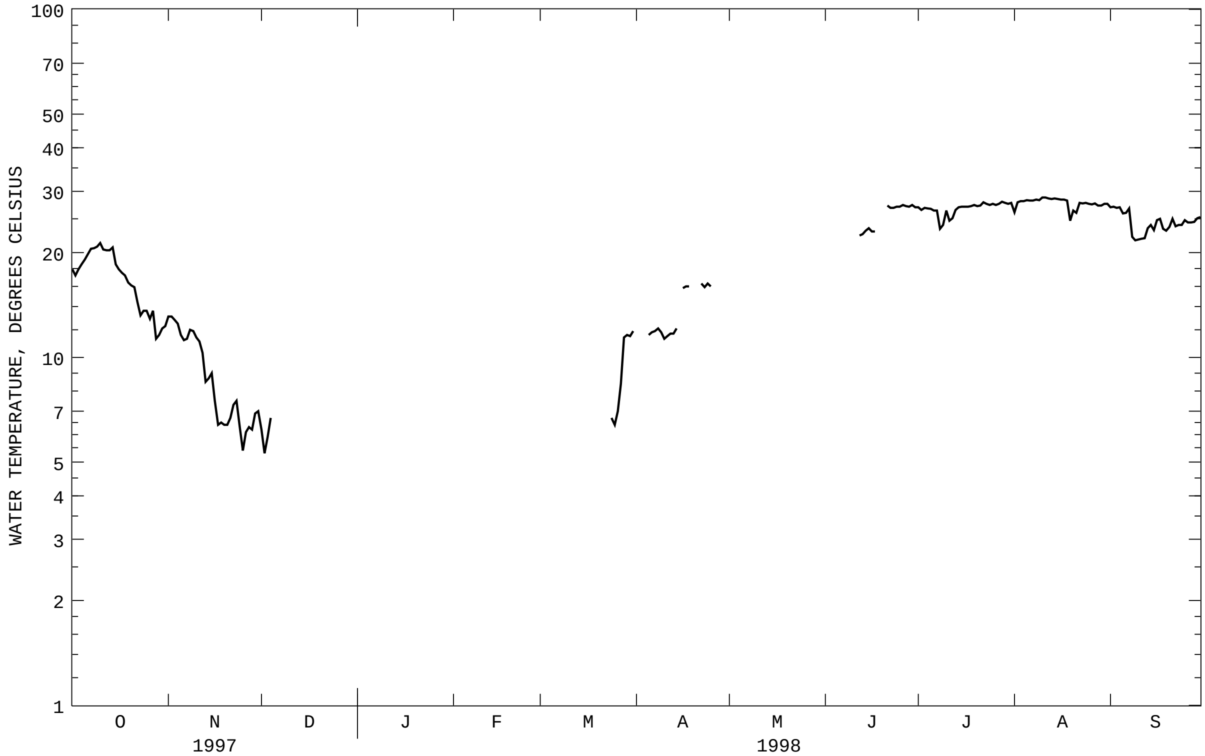
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.8	17.1	17.9	13.6	12.7	13.1	7.0	5.2	6.2	---	---	---
2	18.8	15.9	17.2	13.5	12.8	13.1	6.2	4.5	5.3	---	---	---
3	18.5	17.1	17.9	13.4	12.3	12.8	6.5	5.3	5.9	---	---	---
4	19.6	17.5	18.5	13.2	11.6	12.5	7.2	6.1	6.7	---	---	---
5	20.2	18.2	19.1	12.5	10.7	11.6	---	---	---	---	---	---
6	20.9	19.0	19.8	11.7	10.6	11.2	---	---	---	---	---	---
7	21.7	19.5	20.5	11.8	10.9	11.3	---	---	---	---	---	---
8	21.3	19.8	20.6	12.5	11.6	12.0	---	---	---	---	---	---
9	21.7	19.9	20.8	12.2	11.6	11.9	---	---	---	10.2	8.3	9.2
10	22.4	20.5	21.3	12.0	11.0	11.4	---	---	---	---	---	---
11	21.4	19.4	20.4	11.8	10.6	11.1	---	---	---	---	---	---
12	21.5	19.4	20.3	11.2	9.0	10.3	---	---	---	---	---	---
13	21.2	19.5	20.3	9.2	8.1	8.5	---	---	---	---	---	---
14	21.3	20.1	20.7	10.0	7.7	8.7	---	---	---	---	---	---
15	20.4	17.3	18.5	9.7	8.4	9.0	---	---	---	---	---	---
16	19.1	16.4	17.9	8.6	6.4	7.5	---	---	---	---	---	---
17	18.0	16.7	17.5	7.1	5.6	6.4	---	---	---	---	---	---
18	18.0	16.2	17.2	7.3	5.5	6.5	---	---	---	---	---	---
19	17.0	16.1	16.4	7.2	5.4	6.4	---	---	---	---	---	---
20	16.7	15.3	16.1	6.9	5.8	6.4	---	---	---	---	---	---
21	16.4	15.3	15.9	7.5	6.1	6.7	---	---	---	---	---	---
22	15.3	12.8	14.4	7.8	6.9	7.3	---	---	---	---	---	---
23	14.2	12.0	13.2	7.8	7.2	7.5	---	---	---	---	---	---
24	14.4	13.0	13.6	7.3	5.4	6.3	---	---	---	---	---	---
25	14.0	13.1	13.6	6.2	4.0	5.4	---	---	---	---	---	---
26	13.6	12.3	12.9	6.9	5.6	6.1	---	---	---	---	---	---
27	14.1	12.3	13.6	6.9	5.6	6.3	---	---	---	---	---	---
28	12.3	10.4	11.3	6.6	5.8	6.2	---	---	---	---	---	---
29	12.6	10.5	11.6	7.5	6.4	6.9	---	---	---	---	---	---
30	13.1	10.9	12.1	7.2	6.8	7.0	---	---	---	---	---	---
31	13.0	11.4	12.3	---	---	---	---	---	---	---	---	---
MONTH	22.4	10.4	16.9	13.6	4.0	8.9	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	12.6	10.6	11.6	---	---	---
6	---	---	---	---	---	---	12.6	11.0	11.8	---	---	---
7	---	---	---	---	---	---	12.5	10.6	11.9	---	---	---
8	---	---	---	---	---	---	12.6	11.3	12.1	---	---	---
9	---	---	---	---	---	---	12.6	10.8	11.8	---	---	---
10	---	---	---	---	---	---	12.4	10.6	11.3	---	---	---
11	---	---	---	---	---	---	12.2	10.6	11.5	---	---	---
12	---	---	---	---	---	---	12.5	10.6	11.7	---	---	---
13	---	---	---	---	---	---	12.5	10.6	11.7	---	---	---
14	---	---	---	---	---	---	12.4	11.5	12.1	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	16.4	15.5	15.8	---	---	---
17	---	---	---	---	---	---	16.5	15.7	16.0	---	---	---
18	---	---	---	---	---	---	17.3	15.5	16.0	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	17.4	15.5	16.3	---	---	---
23	---	---	---	---	---	---	16.3	15.5	15.9	---	---	---
24	---	---	---	7.6	5.8	6.7	17.5	15.5	16.3	---	---	---
25	---	---	---	7.6	5.6	6.4	17.1	15.5	16.0	---	---	---
26	---	---	---	7.6	5.7	7.0	---	---	---	---	---	---
27	---	---	---	11.7	5.9	8.4	---	---	---	---	---	---
28	---	---	---	12.6	10.7	11.4	---	---	---	---	---	---
29	---	---	---	12.6	10.9	11.6	17.4	13.1	15.7	---	---	---
30	---	---	---	12.5	10.7	11.5	---	---	---	---	---	---
31	---	---	---	12.5	11.3	11.9	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	27.9	26.0	27.0	28.8	22.2	26.1	28.1	26.2	27.0
2	---	---	---	27.8	25.9	26.5	28.8	27.1	27.9	27.8	26.1	27.1
3	---	---	---	27.8	26.0	26.9	29.0	27.1	28.1	28.0	26.1	26.9
4	---	---	---	27.7	25.8	26.8	29.1	27.1	28.1	28.0	26.2	27.0
5	---	---	---	27.5	25.7	26.7	29.1	27.2	28.3	27.6	21.7	25.9
6	---	---	---	27.5	25.6	26.4	29.2	27.4	28.2	27.7	21.6	26.0
7	---	---	---	27.5	25.7	26.4	29.3	27.3	28.2	27.7	26.0	26.8
8	---	---	---	26.9	20.6	23.4	29.4	27.5	28.4	26.6	20.7	22.2
9	---	---	---	27.2	20.6	24.0	29.4	27.6	28.3	22.7	20.6	21.7
10	---	---	---	27.6	25.8	26.4	29.5	27.5	28.8	22.5	20.6	21.8
11	---	---	---	27.3	20.8	24.7	29.4	27.5	28.8	22.5	21.1	21.9
12	22.5	22.3	22.4	27.7	21.0	25.1	29.5	27.6	28.6	23.0	21.0	22.0
13	23.5	22.3	22.6	27.8	21.8	26.5	29.4	27.6	28.5	26.8	21.1	23.5
14	24.1	22.3	23.1	27.9	25.9	27.0	29.3	27.4	28.6	26.8	21.6	24.0
15	24.1	22.9	23.5	28.0	26.2	27.1	29.4	27.4	28.5	27.3	21.5	23.2
16	24.0	22.1	23.0	27.7	26.1	27.1	29.2	27.3	28.4	27.9	21.8	24.8
17	23.9	22.1	23.0	28.1	26.1	27.1	29.2	27.3	28.4	28.0	22.0	25.0
18	---	---	---	28.2	26.2	27.2	28.9	27.3	28.2	27.2	22.0	23.4
19	---	---	---	28.2	26.2	27.4	28.4	22.3	24.7	24.1	22.4	23.1
20	---	---	---	28.0	26.4	27.2	28.7	22.3	26.4	27.5	22.3	23.7
21	28.4	26.7	27.3	28.3	26.3	27.3	28.5	22.4	26.0	28.2	22.6	25.0
22	27.1	26.6	26.9	31.6	26.5	27.9	28.9	27.0	27.8	27.8	22.9	23.8
23	27.6	26.6	26.9	28.4	26.5	27.6	28.5	26.8	27.7	24.9	22.8	24.0
24	27.9	26.5	27.1	28.4	26.6	27.4	28.8	26.8	27.8	24.9	23.1	24.0
25	28.1	26.7	27.1	28.5	26.5	27.6	28.6	26.7	27.6	25.2	23.3	24.8
26	28.2	26.3	27.4	28.4	26.6	27.4	28.6	26.7	27.5	25.1	23.5	24.4
27	28.2	26.2	27.2	28.6	26.6	27.6	28.6	26.6	27.7	25.1	23.6	24.4
28	28.1	26.3	27.1	28.6	26.7	28.0	28.4	26.5	27.3	25.7	23.8	24.5
29	28.1	26.7	27.4	28.8	26.8	27.8	28.3	26.5	27.3	25.7	23.9	25.1
30	27.8	26.0	27.0	28.8	27.0	27.6	28.4	26.3	27.6	26.0	24.0	25.3
31	---	---	---	28.8	26.9	27.8	28.2	26.4	27.6	---	---	---
MONTH	---	---	---	31.6	20.6	26.8	29.5	22.2	27.8	28.2	20.6	24.4



MEAN DAILY WATER TEMPERATURE - 1998 WATER YEAR

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD

LOCATION.--Lat 39°39'28", long 76°10'29", 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^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 5.00 ft above sea level.

REMARKS.--No estimated daily discharges. 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 upstream from station to augment municipal supply of city of Baltimore. Records of diversion available from Baltimore Department of Public Works.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 372,000 ft^3/s, Jan 10, gage height, 25.55 ft; minimum discharge, 823 ft^3/s, Dec 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

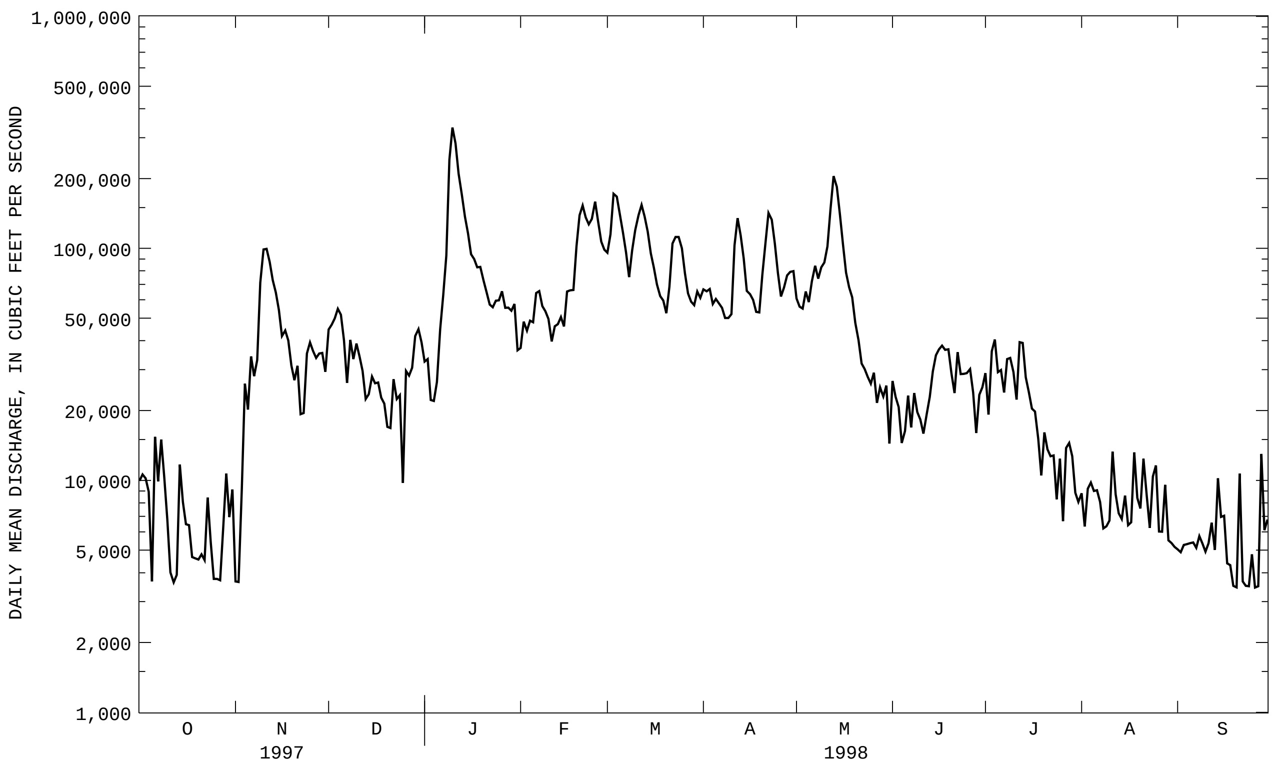
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9960	3670	44700	32500	37200	95700	66600	60900	26800	29000	8800	5040
2	10600	3650	46900	33300	48300	115000	65300	56100	22900	19200	6320	4900
3	10200	9280	49900	22200	44200	172000	66800	55000	20700	36000	9200	5270
4	8930	26100	54900	22000	48800	167000	57600	65200	14500	40500	9790	5310
5	3670	20200	51800	26500	48000	140000	60500	58700	16300	29300	9000	5360
6	15400	34200	40200	44800	64200	117000	57900	72100	23200	29900	9060	5400
7	9890	28100	26300	62800	65400	96200	55400	84100	16900	23900	8070	5120
8	15000	33000	40300	93000	56400	75200	50100	74100	23800	33300	6210	5750
9	10300	71100	33300	241000	53600	98200	50100	82900	19700	33700	6340	5350
10	6760	98900	38900	332000	49600	120000	52000	86900	18300	29300	6710	4930
11	4010	99500	34200	283000	39700	139000	103000	102000	15900	22300	13300	5360
12	3630	87400	29600	210000	46200	154000	135000	148000	19300	39400	8720	6570
13	3910	72900	22400	170000	47100	137000	114000	205000	22900	39100	7210	5010
14	11700	64600	23500	137000	50600	118000	90400	184000	29500	27800	6810	10200
15	8080	54300	28000	116000	46100	95200	65500	140000	34600	24000	8600	6960
16	6470	41900	26200	94400	65200	82500	63400	104000	36700	20400	6410	7040
17	6410	44300	26400	90000	65900	69900	59900	78600	38100	19800	6600	4390
18	4670	40100	22700	82800	66200	62300	53300	68000	36500	15100	13200	4310
19	4610	31300	21400	83100	102000	59600	53000	61500	36700	10500	8410	3510
20	4560	27000	17000	72600	139000	52500	77100	47800	28900	16100	7560	3460
21	4800	31200	16800	64500	153000	68400	105000	40200	23800	13600	12400	10700
22	4530	19300	27300	57300	136000	105000	142000	31900	35700	12700	8590	3670
23	8440	19500	22400	55700	127000	112000	133000	30200	28700	12800	6240	3510
24	5420	35200	23300	59500	134000	112000	105000	27900	28800	8290	10400	3500
25	3760	39300	9740	59700	159000	100000	78400	26100	29000	12400	11600	4800
26	3760	36100	29600	65300	130000	78000	62000	29100	30200	6670	6020	3450
27	3710	33700	28300	55400	107000	64000	67800	21600	23900	13800	6010	3500
28	6240	35200	30600	55500	98800	58900	76500	25200	16000	14500	9560	13000
29	10700	35400	41900	53900	---	56900	79100	23000	23400	12700	5510	6100
30	6940	29400	44900	57600	---	65200	79700	25600	25200	8850	5370	6780
31	9140	---	39300	36400	---	61200	---	14400	---	8070	5170	---
TOTAL	226200	1205800	992740	2869800	2228500	3047900	2325400	2130100	766900	662980	253190	168250
MEAN	7297	40190	32020	92570	79590	98320	77510	68710	25560	21390	8167	5608
MAX	15400	99500	54900	332000	159000	172000	142000	205000	38100	40500	13300	13000
MIN	3630	3650	9740	22000	37200	52500	50100	14400	14500	6670	5170	3450
CFSM	.27	1.48	1.18	3.42	2.94	3.63	2.86	2.54	.94	.79	.30	.21
IN.	.31	1.66	1.36	3.94	3.06	4.18	3.19	2.92	1.05	.91	.35	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23790	37050	50560	43620	53530	74750	80170	49150	35410	20170	13940	16180
MAX	81800	73170	113700	122500	115800	147800	250100	108200	208000	59050	48580	88450
(WY)	1977	1978	1997	1996	1984	1994	1993	1989	1972	1972	1994	1975
MIN	5557	9803	14630	7164	13050	28320	33850	23220	8656	6107	5927	3476
(WY)	1970	1981	1990	1981	1980	1969	1995	1995	1991	1991	1991	1995

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1968 - 1998	
ANNUAL TOTAL	10842380		16877760			
ANNUAL MEAN	29710		46240		41430	
HIGHEST ANNUAL MEAN					61090	1978
LOWEST ANNUAL MEAN					26570	1981
HIGHEST DAILY MEAN	118000	Mar 8	332000	Jan 10	1120000	Jun 24 1972
LOWEST DAILY MEAN	3620	Sep 21	3450	Sep 26	269	Jul 13 1969
ANNUAL SEVEN-DAY MINIMUM	4920	Oct 21	4670	Sep 18	1810	Sep 24 1980
INSTANTANEOUS PEAK FLOW			372000	Jan 10	1130000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			25.55	Jan 10	36.83	Jun 24 1972
INSTANTANEOUS LOW FLOW			823	Dec 14	144	Mar 2 1969
ANNUAL RUNOFF (CFSM)	1.10		1.71		1.53	
ANNUAL RUNOFF (INCHES)	14.88		23.17		20.77	
10 PERCENT EXCEEDS	66600		105000		86500	
50 PERCENT EXCEEDS	25700		31300		27800	
90 PERCENT EXCEEDS	5000		5390		6020	



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1979 to April 1981, July 1984 to September 1992.
WATER TEMPERATURE: June 1979 to April 1981, July 1984 to September 1992.
SUSPENDED-SEDIMENT DISCHARGE: October 1979 to April 1981, July 1984 to September 1992.

REMARKS.--During the period Oct. 1994 to Jan. 1995, monthly samples were collected and analyzed using ultraclean methodologies. Data on trace metals for this period are available from the University of Delaware. Data on organics for this period are available from George Mason University.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1980, 1985-89, 1991-92): Maximum daily, 475 microsiemens, Nov. 13-15, 1980 and Aug. 31, 1991; minimum daily, 100 microsiemens, May 1, 1991.
WATER TEMPERATURE (water years 1980, 1985-89, 1991-92): Maximum daily, 30.5°C, Aug. 18, 1988; minimum daily, 1.0°C, Feb. 5, 6, 9, 1980, Feb. 12, 1988.
SEDIMENT CONCENTRATION: Maximun daily mean, 207 mg/L, Mar. 17, 1986; minimum daily mean, 1 mg/L, June 27, 1987, May 27, 28, 30, Nov. 1-3, 10, 11, Dec. 22-24, 27, 30, 31, 1991.
SEDIMENT LOAD: Maximum daily, 197,000 tons, Mar. 16, 17, 1986; minimum daily, 4.4 tons, Feb. 10, 1985.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 1997											
07...	1200	6060	322	7.0	30.0	28.0	766	5.4	69	110	29
NOV											
24...	1315	42800	213	7.2	5.0	6.5	764	12.5	101	77	21
DEC											
29...	1315	51200	276	7.3	2.5	4.5	760	13.1	102	94	26
JAN 1998											
10...	0945	345000	136	6.8	5.5	8.5	765	11.8	100	47	13
12...	1045	239000	122	6.7	2.5	6.5	770	12.7	102	--	--
FEB											
11...	1130	62600	217	7.3	8.5	4.5	765	12.7	98	76	21
MAR											
11...	1245	150000	175	8.0	2.5	7.0	766	12.2	100	66	18
24...	1145	119000	174	7.4	10.5	6.0	766	12.6	101	--	--
APR											
13...	1000	119000	154	7.1	18.0	11.5	768	11.4	104	--	--
28...	1245	68100	174	7.6	17.0	15.0	771	11.9	116	63	18
MAY											
14...	1345	185000	132	7.1	22.0	16.0	763	40.1	406	50	14
28...	1315	46400	216	8.1	30.0	23.0	762	9.3	108	--	--
JUN											
10...	0830	5730	271	7.7	17.0	22.0	764	7.1	82	--	--
24...	0830	6300	232	7.6	30.5	25.0	762	6.0	73	--	--
JUL											
09...	0930	52800	221	7.4	24.0	16.0	758	6.3	65	79	22
AUG											
06...	0730	6500	267	7.6	25.0	29.0	766	6.1	79	100	27
SEP											
10...	0730	4910	364	7.5	16.0	10.0	763	5.2	46	130	34

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, TOTAL (MG/L AS N) (00600)
OCT 1997											
07...	9.8	15	2.8	49	60	53	22	.11	1.8	182	1.5
NOV											
24...	6.0	7.6	1.9	40	49	31	12	<.10	4.7	120	1.5
DEC											
29...	7.1	13	1.7	--	--	38	20	<.10	1.7	146	1.4
JAN 1998											
10...	3.2	5.6	2.0	25	31	15	9.4	<.10	4.6	82	2.1
12...	--	--	--	21	26	--	--	--	4.4	--	1.4
FEB											
11...	5.6	9.3	1.6	37	46	26	15	<.10	5.4	119	2.0
MAR											
11...	4.9	6.4	1.4	36	44	22	10	<.10	5.0	99	1.7
24...	--	--	--	37	45	--	--	--	4.5	--	1.7
APR											
13...	--	--	--	--	--	--	--	--	4.3	--	1.2
28...	4.7	5.6	1.2	33	40	23	9.1	<.10	4.4	101	1.3
MAY											
14...	3.6	4.4	1.4	33	40	16	6.6	<.10	4.5	87	1.3
28...	--	--	--	--	--	--	--	--	2.7	--	1.3
JUN											
10...	--	--	--	57	70	--	--	--	.78	--	1.5
24...	--	--	--	48	58	--	--	--	2.6	--	1.7
JUL											
09...	5.8	9.6	1.9	46	56	25	14	<.10	3.6	143	1.6
AUG											
06...	8.0	11	2.4	77	64	34	15	<.10	3.6	145	1.6
SEP											
10...	11	16	2.6	73	89	52	25	.10	1.6	209	1.7

DATE	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	IRON, DISSOLVED (UG/L AS FE) (01046)
OCT 1997											
07...	4.9	.082	1.19	1.19	.040	.29	.24	.057	<.010	<.010	<3.0
NOV											
24...	5.8	.005	1.32	1.32	<.020	.19	.11	<.010	.011	.007	22
DEC											
29...	5.6	.009	1.26	1.26	<.020	.15	.13	.034	.005	.003	65
JAN 1998											
10...	5.3	.008	1.20	1.20	.028	.86	.29	.166	.015	.006	63
12...	4.1	.003	.934	.934	<.020	.47	.19	.091	.014	.008	--
FEB											
11...	7.7	.009	1.76	1.76	.062	.23	.19	.040	.020	.014	27
MAR											
11...	6.2	.012	1.40	1.40	.052	.29	.17	.063	.024	.019	37
24...	6.5	.010	--	1.47	.054	.27	.19	.040	.023	.017	--
APR											
13...	4.1	.009	--	.941	.077	.26	.20	.047	.010	.005	--
28...	4.7	.007	--	1.07	.030	.23	<.10	.019	.008	.004	40
MAY											
14...	4.1	.008	--	.932	.044	.37	.19	.058	.018	.011	28
28...	4.6	.009	--	1.05	.107	.29	.16	.017	.004	<.001	--
JUN											
10...	4.2	.015	--	.966	.139	.52	.29	.019	.007	.001	--
24...	5.6	.018	--	1.29	.077	.44	.22	.037	.005	.009	--
JUL											
09...	--	<.001	--	1.22	.055	.37	.25	.054	.020	<.001	17
AUG											
06...	4.9	.043	--	1.14	.193	.49	.35	.012	.158	.001	<10
SEP											
10...	5.0	.117	--	1.25	.136	.42	.32	.023	.010	.007	<10

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ACETOCHLOR, WATER FLTRD REC (UG/L) (49260)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	BENFLURALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYLATE, WATER, DISS, REC (UG/L) (04028)	CARBARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBOFURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORPYRIFOS DISSOLVED (UG/L) (38933)
OCT 1997											
07...	16	199	3.2	--	--	--	--	--	--	--	--
NOV											
24...	43	115	2.8	--	--	--	--	--	--	--	--
DEC											
29...	70	140	2.3	--	--	--	--	--	--	--	--
JAN 1998											
10...	216	65	9.3	--	--	--	--	--	--	--	--
12...	--	--	6.3	--	--	--	--	--	--	--	--
FEB											
11...	89	107	2.5	--	--	--	--	--	--	--	--
MAR											
11...	61	85	3.8	--	--	--	--	--	--	--	--
24...	--	--	4.1	--	--	--	--	--	--	--	--
APR											
13...	--	--	3.6	--	--	--	--	--	--	--	--
28...	81	81	2.5	<.0020	<.002	.019	<.0020	<.0020	E.0028	<.0030	<.0040
MAY											
14...	41	66	4.0	.0076	E.003	.112	<.0020	<.0020	E.0072	E.0077	<.0040
28...	--	--	2.8	--	--	--	--	--	--	--	--
JUN											
10...	--	--	3.2	.0121	.006	.119	<.0020	<.0020	<.0030	<.0030	<.0040
24...	--	--	4.5	--	--	--	--	--	--	--	--
JUL											
09...	18	105	3.9	<.0020	.005	.350	<.0020	<.0020	<.0030	<.0030	<.0040
AUG											
06...	89	141	3.3	--	--	--	--	--	--	--	--
SEP											
10...	<4.0	202	--	<.0020	<.002	.070	<.0020	<.0020	<.0030	<.0030	<.0040

DATE	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DIAZINON, DISSOLVED (UG/L) (39572)	DIELDRIN DISSOLVED (UG/L) (39381)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHALFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHOPROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)
OCT 1997											
07...	--	--	--	--	--	--	--	--	--	--	--
NOV											
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
29...	--	--	--	--	--	--	--	--	--	--	--
JAN 1998											
10...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
FEB											
11...	--	--	--	--	--	--	--	--	--	--	--
MAR											
11...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
28...	<.0040	<.0020	<.0060	E.0101	<.002	<.001	<.0030	<.0170	<.0020	<.0040	<.0030
MAY											
14...	.0107	<.0020	<.0060	E.0152	<.002	<.001	<.0030	<.0170	<.0020	<.0040	<.0030
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	.0189	<.0020	<.0060	E.0484	<.002	<.001	<.0030	<.0170	<.0020	<.0040	<.0030
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	.0255	<.0020	<.0060	E.0515	<.002	<.001	<.0030	<.0170	<.0020	<.0040	<.0030
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	<.0040	<.0020	<.0060	E.0648	<.002	<.001	<.0030	<.0170	<.0020	<.0040	<.0030

E Estimated

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)
OCT 1997											
07...	--	--	--	--	--	--	--	--	--	--	--
NOV											
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
29...	--	--	--	--	--	--	--	--	--	--	--
JAN 1998											
10...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
FEB											
11...	--	--	--	--	--	--	--	--	--	--	--
MAR											
11...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
28...	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.012	<.004	<.0040	<.0030	<.004
MAY											
14...	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.072	<.004	<.0040	<.0030	<.004
28...	--	--	--	--	--	--	--	--	--	--	--
JUN											
10...	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.095	<.004	<.0040	<.0030	<.004
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
09...	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.181	<.004	<.0040	<.0030	<.004
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	<.0030	<.004	<.0020	<.005	<.0010	<.0060	.025	<.004	<.0040	<.0030	<.004

DATE	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)
OCT 1997										
07...	--	--	--	--	--	--	--	--	--	--
NOV										
24...	--	--	--	--	--	--	--	--	--	--
DEC										
29...	--	--	--	--	--	--	--	--	--	--
JAN 1998										
10...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
FEB										
11...	--	--	--	--	--	--	--	--	--	--
MAR										
11...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
APR										
13...	--	--	--	--	--	--	--	--	--	--
28...	<.0040	<.0040	<.0050	<.0020	E.0043	<.0030	<.0070	<.0130	<.0040	.0142
MAY										
14...	<.0040	<.0040	<.0050	<.0020	E.0074	<.0030	<.0070	<.0130	<.0040	.0260
28...	--	--	--	--	--	--	--	--	--	--
JUN										
10...	<.0040	<.0040	<.0050	<.0020	.0183	<.0030	<.0070	<.0130	<.0040	.0314
24...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	<.0040	<.0040	<.0050	<.0020	E.0064	<.0030	<.0070	<.0130	<.0040	.0276
AUG										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	<.0040	<.0040	<.0050	<.0020	.0199	<.0030	<.0070	<.0130	<.0040	.0203

E Estimated

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1997										
07...	--	--	--	--	--	--	--	5	88	--
NOV										
24...	--	--	--	--	--	--	--	8	890	--
DEC										
29...	--	--	--	--	--	--	--	3	401	--
JAN 1998										
10...	--	--	--	--	--	--	--	123	115000	98
12...	--	--	--	--	--	--	--	82	52900	99
FEB										
11...	--	--	--	--	--	--	--	9	1550	--
MAR										
11...	--	--	--	--	--	--	--	32	13000	97
24...	--	--	--	--	--	--	--	39	12500	98
APR										
13...	--	--	--	--	--	--	--	25	8030	99
28...	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	<.0020	17	3130	97
MAY										
14...	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	<.0020	25	12500	99
28...	--	--	--	--	--	--	--	9	1130	97
JUN										
10...	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	<.0020	16	248	96
24...	--	--	--	--	--	--	--	17	289	95
JUL										
09...	<.0100	<.0070	<.0130	<.0020	<.0010	<.0020	<.0020	14	2000	--
AUG										
06...	--	--	--	--	--	--	--	7	123	92
SEP										
10...	E.0049	<.0070	<.0130	<.0020	<.0010	<.0020	<.0020	5	66	88

E Estimated

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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^2.

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 above sea level (Baltimore City bench mark).

REMARKS.--Records good except those for estimated daily discharges (Sutron failure and backwater from beaverdam), which are fair. Prior to 1965, some regulation at low flow by mills upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	1100	1,940	5.94	Apr 1	2000	1,910	5.90
Mar 21	0600	*2,470	*6.77				

Minimum discharge, 31 ft^3/s, Oct 11-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	45	57	e76	125	182	574	186	181	121	78	54
2	35	70	55	e75	117	166	519	302	156	109	70	131
3	35	63	53	e75	112	325	279	267	152	106	68	75
4	35	50	55	e79	122	248	253	230	147	105	68	62
5	35	45	55	e76	348	207	235	224	144	105	65	57
6	34	43	54	e72	215	185	220	477	141	100	63	55
7	33	83	53	e72	162	175	210	277	137	99	62	54
8	33	396	52	e200	144	208	205	416	137	247	62	61
9	32	151	49	e130	132	812	463	345	132	150	62	55
10	32	102	50	e110	124	358	395	302	135	118	311	53
11	31	78	57	e93	121	262	257	346	138	105	240	51
12	31	68	54	e85	186	229	231	640	230	100	95	51
13	32	62	51	e81	135	211	218	436	480	97	79	49
14	33	79	51	e78	122	203	212	338	298	95	77	49
15	37	92	e49	e120	114	191	209	301	175	94	75	49
16	39	71	e48	e250	e111	179	199	274	161	95	72	49
17	35	64	e48	e150	e175	170	199	252	200	95	118	48
18	57	61	e47	e110	414	189	209	237	151	90	88	50
19	47	58	e47	e95	207	367	231	225	144	85	76	51
20	39	57	e46	e84	166	233	365	214	144	85	70	53
21	36	60	e45	e76	153	1020	221	207	133	82	67	58
22	36	111	e46	e76	138	403	202	199	129	79	65	76
23	35	79	e65	356	187	318	195	193	134	97	65	e55
24	36	67	e55	267	723	272	190	187	298	90	63	e48
25	67	62	e150	158	296	244	182	186	145	78	61	e55
26	56	60	e95	126	222	234	178	179	135	79	64	e65
27	77	58	e85	112	195	227	179	173	132	78	72	e55
28	51	56	e75	495	182	217	168	167	118	75	60	e48
29	44	55	e75	268	---	208	164	163	116	73	58	e44
30	42	54	e90	172	---	202	164	160	118	71	56	e44
31	40	---	e80	144	---	194	---	157	---	90	55	---
TOTAL	1241	2400	1892	4361	5448	8639	7526	8260	5041	3093	2585	1705
MEAN	40.0	80.0	61.0	141	195	279	251	266	168	99.8	83.4	56.8
MAX	77	396	150	495	723	1020	574	640	480	247	311	131
MIN	31	43	45	72	111	166	164	157	116	71	55	44
CFSM	.42	.85	.65	1.49	2.06	2.95	2.66	2.82	1.78	1.06	.88	.60
IN.	.49	.95	.75	1.72	2.15	3.40	2.97	3.25	1.99	1.22	1.02	.67

e Estimated

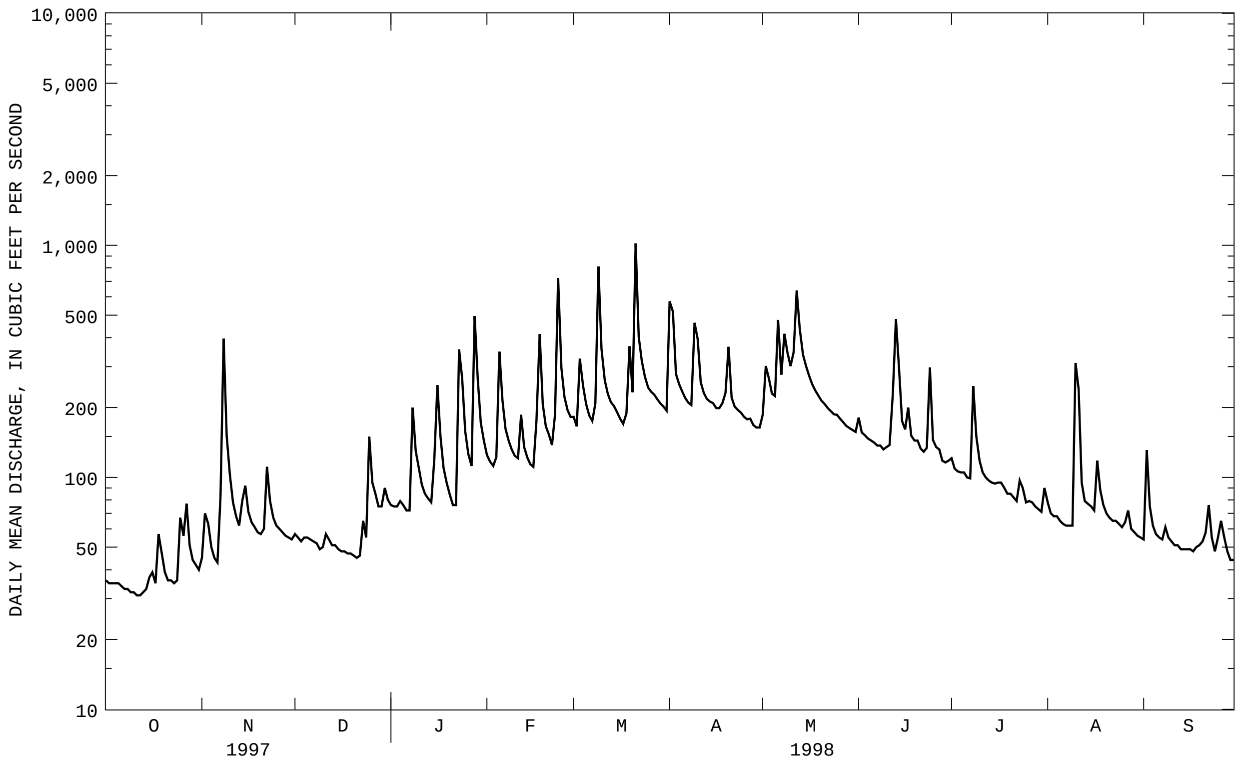
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	84.2	104	118	144	164	172	170	151	125	105	95.5	87.0
MAX	317	266	392	422	415	486	379	421	576	279	362	345
(WY)	1980	1927	1997	1996	1979	1994	1984	1989	1972	1972	1933	1975
MIN	26.0	32.5	37.8	41.7	60.2	62.2	63.2	50.9	42.8	21.0	17.4	29.0
(WY)	1964	1932	1966	1966	1932	1981	1963	1963	1966	1966	1966	1986

01580000 DEER CREEK AT ROCKS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1927 - 1998	
ANNUAL TOTAL	42007		52191			
ANNUAL MEAN	115		143		126	
HIGHEST ANNUAL MEAN					224	1972
LOWEST ANNUAL MEAN					58.2	1966
HIGHEST DAILY MEAN	841	Jan 25	1020	Mar 21	6610	Jun 22 1972
LOWEST DAILY MEAN	31	(a)	31	(a)	8.6	(b)
ANNUAL SEVEN-DAY MINIMUM	32	Oct 7	32	Oct 7	9.0	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2470	Mar 21	(c)13600	Aug 23 1933
INSTANTANEOUS PEAK STAGE			6.77	Mar 21	(d)17.70	Aug 23 1933
INSTANTANEOUS LOW FLOW			31	(f)	8.0	(g)
ANNUAL RUNOFF (CFSM)	1.22		1.51		1.34	
ANNUAL RUNOFF (INCHES)	16.55		20.57		18.20	
10 PERCENT EXCEEDS	207		273		213	
50 PERCENT EXCEEDS	85		105		94	
90 PERCENT EXCEEDS	39		48		45	

a Oct. 11, 12.
b Sept. 11, 12, 1966.
c From rating curve extended above 3,000 ft^3/s, on basis of slope-area measurements at gage heights 13.3 ft and 17.7 ft.
d From floodmarks.
f Oct. 11-13.
g Dec. 16, 1930, Jan. 26, 1939, result of regulation.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 195 ft above sea level, from topographic map.

REMARKS.--Records good below 200 ft^3/s and fair above except those for estimated daily discharges (dead battery and backwater from pipe installation), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0845	1,030	4.44	Jun 13	0200	1,090	4.55
Mar 21	0430	*1,520	*5.29				

Minimum discharge, 10 ft^3/s, Oct 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	29	22	e26	47	59	111	119	69	45	29	17
2	12	51	21	e25	44	58	213	131	47	40	26	60
3	13	33	19	e25	43	174	87	85	46	39	e24	27
4	12	26	24	e26	61	88	81	97	45	39	e23	21
5	12	21	22	e25	136	69	74	84	44	40	e23	18
6	12	21	20	e25	72	63	71	168	42	38	e21	17
7	11	76	19	e30	55	60	68	104	42	37	17	18
8	11	219	e19	e47	49	104	68	174	42	92	18	25
9	12	69	19	e36	46	384	193	114	41	55	18	20
10	11	45	22	e30	44	103	144	111	42	45	64	16
11	10	34	26	e28	47	77	86	122	45	39	51	16
12	10	29	22	e27	89	70	75	237	99	37	26	16
13	12	24	20	e26	52	66	72	129	315	35	21	14
14	13	53	19	e25	47	65	70	95	113	33	21	15
15	14	46	20	e40	44	62	68	82	74	33	21	15
16	14	34	18	e70	42	60	66	74	68	36	20	15
17	13	e28	19	e46	75	59	67	69	64	33	181	14
18	19	24	18	e42	131	73	63	64	56	32	48	14
19	17	22	19	e34	66	175	80	62	56	30	29	14
20	14	22	18	e30	56	86	112	59	55	31	24	16
21	13	30	19	e27	52	521	71	58	52	30	23	16
22	14	73	19	e40	48	178	66	55	50	30	22	24
23	13	36	30	267	149	138	64	54	51	32	21	17
24	13	28	23	93	331	115	61	53	65	30	20	14
25	41	25	61	60	94	118	58	53	50	27	20	16
26	32	23	33	47	70	107	58	51	55	27	21	19
27	40	21	30	43	64	103	64	50	54	27	35	16
28	22	22	29	289	61	76	57	50	46	26	19	14
29	19	21	25	95	---	74	56	48	46	25	18	13
30	19	22	41	62	---	72	56	52	47	24	18	14
31	19	---	29	52	---	72	---	47	---	56	17	---
TOTAL	500	1207	745	1738	2115	3529	2480	2751	1921	1143	939	551
MEAN	16.1	40.2	24.0	56.1	75.5	114	82.7	88.7	64.0	36.9	30.3	18.4
MAX	41	219	61	289	331	521	213	237	315	92	181	60
MIN	10	21	18	25	42	58	56	47	41	24	17	13
CFSM	.46	1.16	.69	1.61	2.17	3.27	2.38	2.55	1.84	1.06	.87	.53
IN.	.53	1.29	.80	1.86	2.26	3.77	2.65	2.94	2.05	1.22	1.00	.59

e Estimated

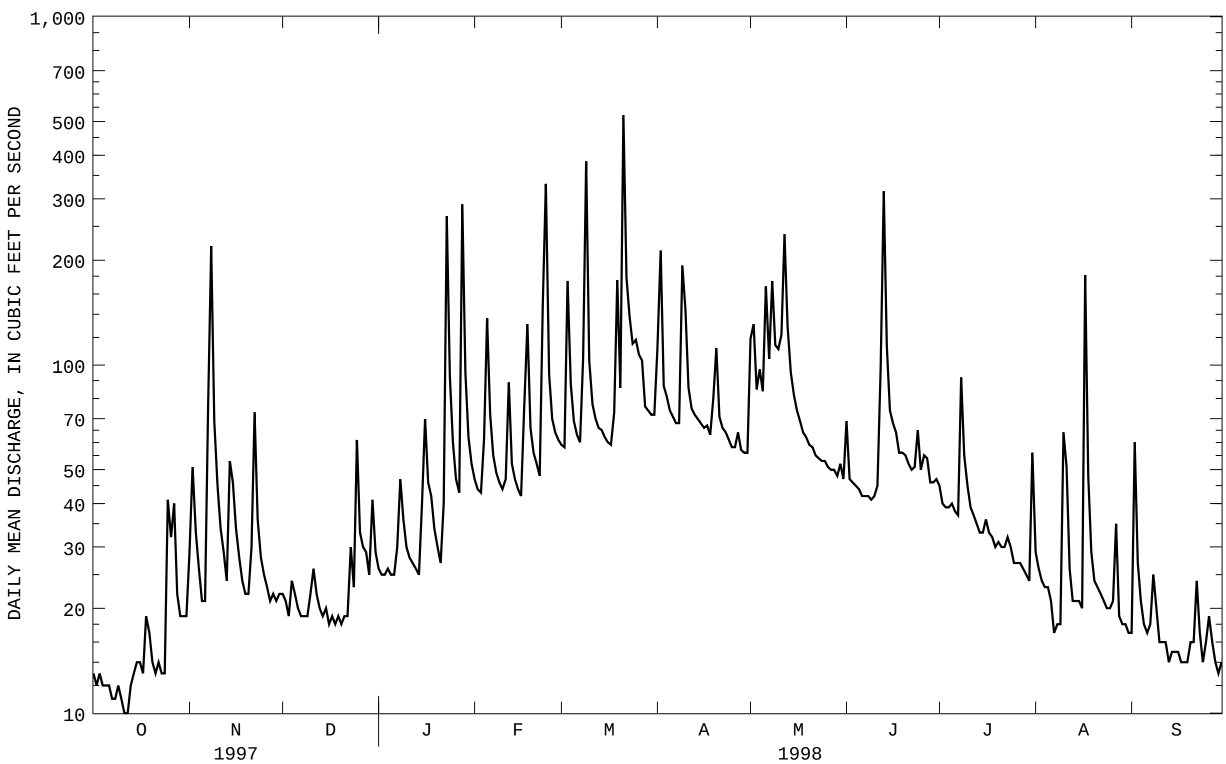
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.1	47.2	55.9	65.8	70.1	70.8	65.0	61.5	52.8	44.7	38.1	40.0
MAX	94.0	93.5	149	167	151	163	134	162	204	133	137	140
(WY)	1980	1997	1997	1996	1979	1994	1983	1989	1972	1975	1971	1975
MIN	13.4	12.5	18.2	16.9	28.1	22.5	28.8	17.9	12.9	11.3	11.6	10.4
(WY)	1970	1982	1981	1981	1992	1981	1969	1969	1969	1986	1981	1986

01581700 WINTERS RUN NEAR BENSON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1967 - 1998	
ANNUAL TOTAL	17027		19619			
ANNUAL MEAN	46.6		53.8		53.7	
HIGHEST ANNUAL MEAN					86.0	1972
LOWEST ANNUAL MEAN					22.9	1981
HIGHEST DAILY MEAN	220	Jan 25	521	Mar 21	3000	Jun 22 1972
LOWEST DAILY MEAN	10	(a)	10	(b)	6.3	(c)
ANNUAL SEVEN-DAY MINIMUM	11	Oct 6	11	Oct 6	7.5	Sep 2 1995
INSTANTANEOUS PEAK FLOW			1520	Mar 21	7600	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.29	Mar 21	11.60	Jun 22 1972
INSTANTANEOUS LOW FLOW			10	(d)	3.0	(f)
ANNUAL RUNOFF (CFSM)	1.34		1.54		1.54	
ANNUAL RUNOFF (INCHES)	18.20		20.97		20.99	
10 PERCENT EXCEEDS	82		103		89	
50 PERCENT EXCEEDS	34		41		39	
90 PERCENT EXCEEDS	13		16		16	

a Aug. 17, Sept. 5, Oct. 11, 12.
b Oct. 11, 12.
c Aug. 28, 29, 1981, Sept. 7, 1995.
d Oct. 11, 12.
f Result of freezeup.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

REVISED RECORDS.--WSP 111: 1944(M), 1945-47(P). WDR MD-DE-85-1: 1984(P).

GAGE.--Water-stage recorders. Elevation of gage is 305 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Slight diurnal fluctuation at low flow caused by mill upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	1045	1,260	4.63	Apr 1	1715	*1,410	*4.93

Minimum discharge, 17 ft^3/s, Oct 10-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	30	33	e36	63	90	377	112	96	72	44	29
2	20	41	29	36	58	82	227	157	81	62	41	86
3	20	36	29	36	56	162	160	128	79	60	40	38
4	20	29	30	37	76	122	150	121	78	59	39	34
5	19	27	29	35	179	107	136	126	76	59	38	32
6	18	26	28	34	101	94	128	130	75	56	37	31
7	18	86	27	34	80	88	122	118	75	56	37	30
8	18	192	27	94	71	116	120	173	74	125	37	35
9	18	71	27	67	65	436	241	155	71	74	37	31
10	18	48	29	49	61	196	179	137	73	64	144	29
11	17	40	34	42	60	145	140	160	77	58	77	29
12	18	36	29	39	89	126	128	257	136	55	46	28
13	19	33	28	38	64	115	122	186	327	54	42	28
14	20	48	28	35	58	111	121	152	140	53	41	28
15	23	46	27	45	55	103	118	136	100	52	40	27
16	23	38	26	111	53	97	114	126	104	52	39	27
17	21	34	26	57	68	93	113	120	117	52	51	27
18	43	32	26	53	179	108	107	113	85	50	43	27
19	26	32	26	47	93	208	149	108	84	48	39	27
20	23	31	26	43	80	132	168	104	81	47	37	28
21	22	32	25	40	73	392	120	101	76	46	36	29
22	22	63	26	39	66	198	113	97	74	45	35	31
23	21	41	37	183	106	161	108	95	84	66	35	29
24	23	36	33	114	298	139	104	93	107	51	34	27
25	46	34	74	81	136	126	100	93	76	45	33	29
26	34	33	43	64	107	121	99	91	82	50	33	30
27	45	31	39	57	95	116	99	88	77	46	34	27
28	29	30	37	236	89	112	93	86	68	44	31	26
29	26	30	34	122	---	107	92	84	67	43	30	25
30	25	30	42	85	---	101	92	84	68	42	30	25
31	24	---	37	72	---	99	---	82	---	57	29	---
TOTAL	739	1316	991	2061	2579	4403	4140	3813	2808	1743	1309	929
MEAN	23.8	43.9	32.0	66.5	92.1	142	138	123	93.6	56.2	42.2	31.0
MAX	46	192	74	236	298	436	377	257	327	125	144	86
MIN	17	26	25	34	53	82	92	82	67	42	29	25
CFSM	.45	.83	.60	1.26	1.74	2.68	2.61	2.33	1.77	1.06	.80	.59
IN.	.52	.93	.70	1.45	1.81	3.10	2.91	2.68	1.97	1.23	.92	.65

e Estimated

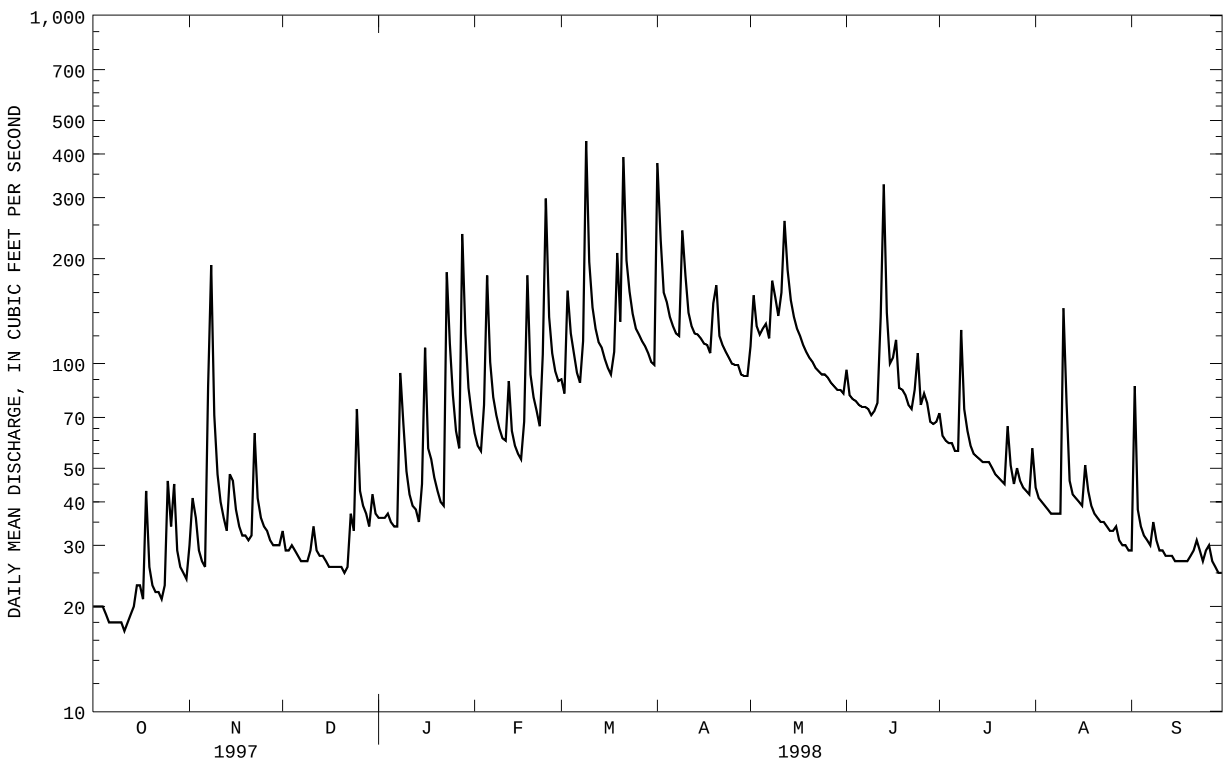
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	45.9	56.7	66.1	77.6	88.9	94.6	93.0	84.9	70.6	57.9	47.5	47.5
MAX	203	129	198	190	187	261	194	202	353	158	159	227
(WY)	1980	1972	1997	1996	1979	1994	1952	1952	1972	1972	1971	1975
MIN	16.7	22.8	20.9	22.1	37.9	40.3	38.4	29.4	24.3	12.2	9.44	17.2
(WY)	1964	1982	1966	1981	1967	1981	1963	1969	1966	1966	1966	1986

01582000 LITTLE FALLS AT BLUE MOUNT, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1998	
ANNUAL TOTAL	22612		26831			
ANNUAL MEAN	62.0		73.5		69.2	
HIGHEST ANNUAL MEAN					132	1972
LOWEST ANNUAL MEAN					31.8	1966
HIGHEST DAILY MEAN	324	Jan 25	436	Mar 9	4730	Jun 22 1972
LOWEST DAILY MEAN	17	Oct 11	17	Oct 11	4.5	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	18	Oct 6	18	Oct 6	4.8	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1410	Apr 1	(a)8280	Jun 22 1972
INSTANTANEOUS PEAK STAGE			4.93	Apr 1	18.54	Jun 22 1972
INSTANTANEOUS LOW FLOW			17	(b)	1.9	Aug 26 1966
ANNUAL RUNOFF (CFSM)	1.17		1.39		1.31	
ANNUAL RUNOFF (INCHES)	15.90		18.87		17.78	
10 PERCENT EXCEEDS	117		136		119	
50 PERCENT EXCEEDS	44		55		52	
90 PERCENT EXCEEDS	20		26		25	

a From rating curve extended above 1,300 ft^3/s on basis of contracted-opening measurement of peak flow.
b Oct. 10-12.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01582500 GUNPOWDER FALLS AT GLENCOE, MD

LOCATION.--Lat 39°32´59", long 76°38´11", Baltimore County, Hydrologic Unit 02060003, on right downstream wingwall of bridge on Glencoe Road at intersection of Upper Glencoe Road and Lower Glencoe Road in Glencoe, and 0.7 mi upstream from Piney Creek.

DRAINAGE AREA.--160 mi^2.

PERIOD OF RECORD.--October 1977 to June 1980, December 1982 to current year.

REVISED RECORDS.--WDR MD-DE-89-1: 1985(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 250 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Flow regulated by Prettyboy Reservoir, 12 mi upstream, beginning Apr. 10, 1933, for water supply of Baltimore City (usable capacity, 20,000,000,000 gal; dead storage, 1,080,000,000 gal). Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,280 ft^3/s, Apr 1, gage height, 8.06 ft; minimum discharge, 73 ft^3/s, Dec 15-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	182	84	e90	127	163	742	270	277	189	120	99
2	83	196	81	e90	120	152	868	423	241	173	111	185
3	101	191	79	91	116	258	538	402	232	169	106	115
4	140	181	80	92	131	216	454	370	221	167	103	107
5	140	168	80	90	274	192	411	347	212	167	102	104
6	148	146	78	89	183	173	372	394	209	163	103	103
7	167	206	77	88	150	165	347	367	202	162	102	102
8	168	336	77	146	137	190	336	473	203	258	102	111
9	171	155	77	138	128	655	516	501	193	195	102	104
10	172	120	79	116	123	331	562	442	194	178	233	101
11	175	106	85	107	120	251	440	446	197	167	268	100
12	176	99	81	102	161	224	384	639	298	161	193	100
13	177	95	79	100	128	208	352	614	644	159	158	99
14	178	112	76	97	120	202	338	499	497	157	145	98
15	181	116	74	108	115	192	335	435	345	157	143	100
16	181	103	73	205	112	183	321	395	297	153	141	124
17	179	97	73	129	126	177	314	366	373	121	157	123
18	211	95	73	122	282	195	306	340	291	117	121	126
19	189	93	74	115	172	329	341	333	254	114	115	145
20	183	92	79	109	150	226	489	326	241	113	111	147
21	181	93	79	104	141	590	380	305	223	111	110	130
22	180	137	79	101	132	333	337	287	209	110	109	107
23	180	108	94	271	160	283	315	270	204	136	108	103
24	181	99	90	228	456	314	303	261	274	119	107	98
25	217	96	139	169	236	359	288	259	230	110	106	107
26	199	85	106	141	192	370	275	258	217	114	104	161
27	217	83	96	117	174	373	282	248	219	113	106	158
28	192	82	95	368	164	362	263	241	191	109	103	158
29	186	82	90	229	---	354	252	234	183	108	102	176
30	184	82	102	163	---	339	249	237	182	106	101	179
31	182	---	95	140	---	323	---	228	---	130	100	---
TOTAL	5304	3836	2624	4255	4630	8682	11710	11210	7753	4506	3892	3670
MEAN	171	128	84.6	137	165	280	390	362	258	145	126	122
MAX	217	336	139	368	456	655	868	639	644	258	268	185
MIN	83	82	73	88	112	152	249	228	182	106	100	98
(†)	14057	12033	12203	13776	16228	20035	20204	20143	20445	19876	19948	19677

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1980, 1983 - 1998, BY WATER YEAR (WY)

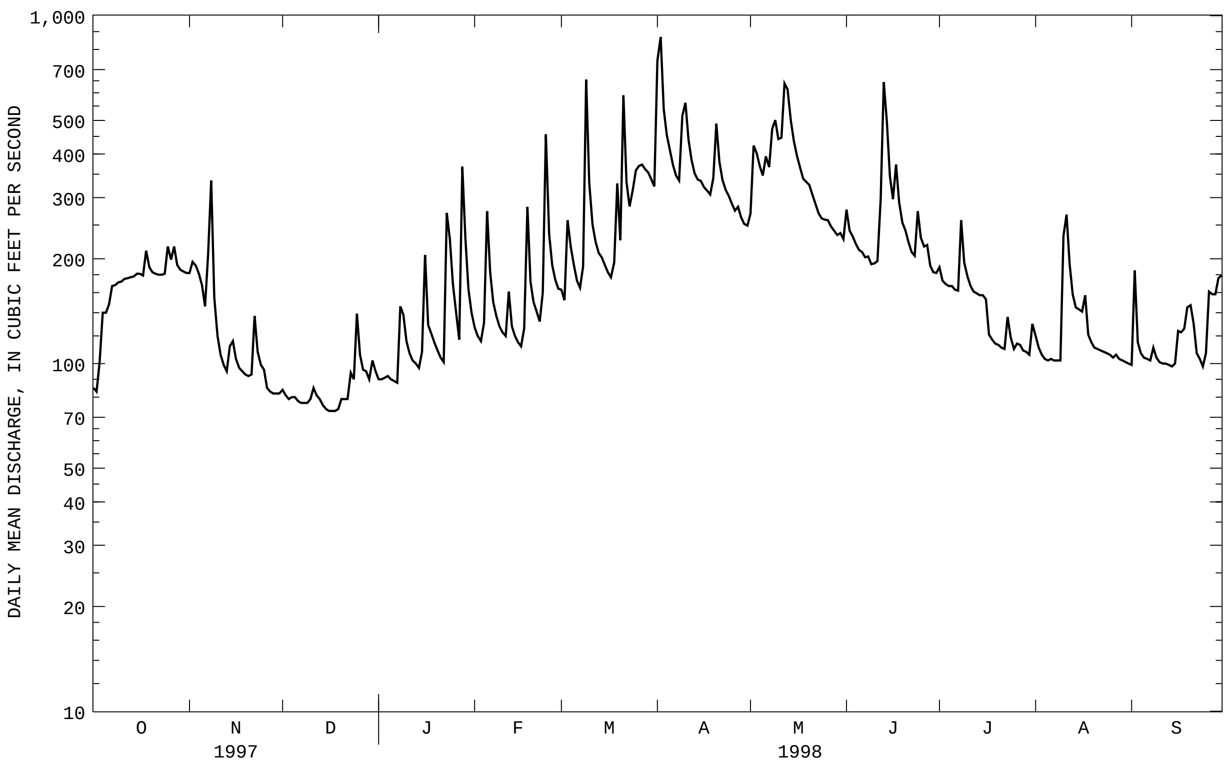
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	167	174	200	241	245	284	281	269	189	174	153	164
MAX	603	342	604	625	598	755	586	476	284	280	267	512
(WY)	1980	1997	1997	1979	1979	1994	1993	1989	1989	1986	1996	1979
MIN	52.4	81.6	84.6	63.3	85.8	127	114	85.5	82.4	94.8	70.8	69.6
(WY)	1987	1993	1998	1983	1983	1992	1992	1992	1992	1985	1985	1983

(†) Monthend contents, in millions of gallons, in Prettyboy Reservoir (contents on Sept. 30, 1997, 14,660,000,000 gal). Records furnished by Baltimore Department of Public Works.

01582500 GUNPOWDER FALLS AT GLENCOE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1978 - 1980 1983 - 1998	
ANNUAL TOTAL	76055		72072			
ANNUAL MEAN	208		197		213	
HIGHEST ANNUAL MEAN					314	1980
LOWEST ANNUAL MEAN					118	1987
HIGHEST DAILY MEAN	801	Jan 25	868	Apr 2	4500	Sep 6 1979
LOWEST DAILY MEAN	73	(a)	73	(a)	38	Oct 25 1977
ANNUAL SEVEN-DAY MINIMUM	75	Dec 13	75	Dec 13	42	Oct 20 1977
INSTANTANEOUS PEAK FLOW			2280	Apr 1	6110	Sep 6 1979
INSTANTANEOUS PEAK STAGE			8.06	Apr 1	15.30	Sep 6 1979
INSTANTANEOUS LOW FLOW			73	(b)	(c)35	Jan 4 1983
ANNUAL RUNOFF (CFSM)	1.30		1.23		1.33	
ANNUAL RUNOFF (INCHES)	17.68		16.76		18.06	
10 PERCENT EXCEEDS	335		364		370	
50 PERCENT EXCEEDS	183		163		169	
90 PERCENT EXCEEDS	92		91		83	

a Dec. 16 - 18.
b Dec. 15 - 19.
c Result of freezeup.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--May 1982 to February 1988. October 1996 to current year.

REVISED RECORDS.--WDR MD-DE-87-1: 1984-86(P).

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0845	*655	*5.41	Apr 1	1545	390	4.53
Mar 21	0345	460	4.79	Apr 1	1700	469	4.82

Minimum discharge, 5.2 ft^3/s, Oct 5-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	13	8.6	e9.6	17	23	108	29	24	16	11	7.7
2	5.5	15	8.0	9.6	15	20	50	37	20	15	10	24
3	5.6	11	8.0	9.7	14	40	33	35	19	14	10	9.5
4	5.5	8.8	8.1	9.8	20	31	31	28	19	14	9.9	7.9
5	5.4	8.0	8.0	9.7	47	28	29	27	18	14	9.6	7.3
6	5.4	8.0	8.0	9.5	25	24	28	36	18	14	9.3	7.2
7	5.2	70	8.0	9.9	21	22	26	29	17	13	9.1	7.0
8	5.2	52	8.1	28	18	32	26	63	17	30	9.1	9.7
9	5.2	20	8.0	18	17	144	51	38	17	18	9.1	8.3
10	5.3	13	8.1	13	15	42	34	33	17	15	44	7.4
11	5.3	11	8.6	11	15	31	29	34	18	13	17	6.9
12	5.4	9.9	7.8	10	23	28	27	51	29	13	12	6.7
13	5.5	9.5	7.5	10	17	26	26	36	31	12	11	6.5
14	5.6	14	7.3	9.7	16	25	26	30	24	12	10	6.6
15	7.0	13	7.3	14	14	24	25	28	21	12	10	6.6
16	6.5	11	7.3	25	14	23	25	27	26	12	9.9	6.6
17	6.4	10	7.3	15	19	23	25	25	24	12	13	6.6
18	12	9.7	7.3	14	60	27	24	24	19	12	12	6.6
19	7.4	9.3	7.3	12	26	56	33	23	21	12	11	6.6
20	6.7	9.1	7.3	11	22	32	34	23	20	12	9.7	6.6
21	6.5	9.6	7.3	10	20	109	26	22	18	11	9.5	6.7
22	6.4	21	7.4	10	18	42	25	22	19	11	9.2	13
23	6.3	13	11	61	36	34	25	21	21	14	9.0	8.7
24	6.7	11	9.3	29	88	30	24	21	21	12	8.9	7.5
25	13	10	23	19	33	29	23	21	18	10	8.7	7.7
26	9.9	10	12	16	27	28	23	21	18	11	8.4	7.9
27	12	9.7	11	14	24	27	24	20	17	11	8.5	7.3
28	8.1	9.2	11	82	22	26	22	19	16	10	8.2	7.0
29	7.6	8.7	9.8	32	---	25	21	19	16	10	8.0	6.4
30	7.4	8.7	11	22	---	25	22	21	16	10	7.9	6.6
31	7.3	---	10	19	---	24	---	19	---	18	7.9	---
TOTAL	212.8	436.2	278.7	572.5	703	1100	925	882	599	413	340.9	241.1
MEAN	6.86	14.5	8.99	18.5	25.1	35.5	30.8	28.5	20.0	13.3	11.0	8.04
MAX	13	70	23	82	88	144	108	63	31	30	44	24
MIN	5.2	8.0	7.3	9.5	14	20	21	19	16	10	7.9	6.4
CFSM	.56	1.18	.73	1.50	2.04	2.88	2.51	2.31	1.62	1.08	.89	.65
IN.	.64	1.32	.84	1.73	2.13	3.33	2.80	2.67	1.81	1.25	1.03	.73

e Estimated

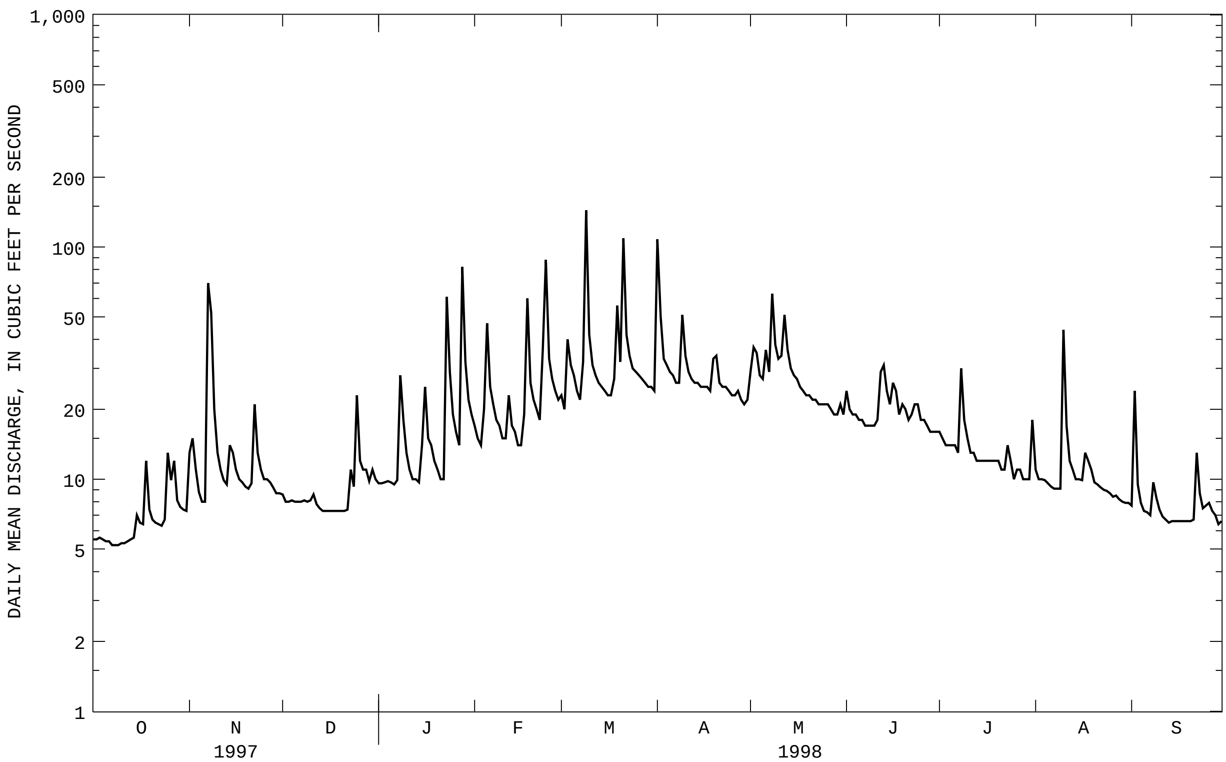
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1988, 1997 - 1998 BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.6	14.8	18.9	16.3	22.3	21.5	23.1	19.1	13.8	11.4	8.26	8.59
MAX	26.0	28.7	49.8	31.1	37.9	35.5	36.1	28.5	20.0	25.7	18.2	21.3
(WY)	1997	1997	1997	1997	1985	1998	1983	1998	1998	1984	1984	1987
MIN	4.68	7.98	7.89	8.26	11.4	12.5	11.7	8.82	5.57	4.91	5.05	3.95
(WY)	1987	1983	1983	1983	1987	1985	1985	1986	1986	1986	1986	1986

01583100 PINEY RUN AT DOVER, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1988 1997 - 1998	
ANNUAL TOTAL	5606.3		6704.2			
ANNUAL MEAN	15.4		18.4		15.8	
HIGHEST ANNUAL MEAN					21.6	1997
LOWEST ANNUAL MEAN					9.56	1986
HIGHEST DAILY MEAN	70	Nov 7	144	Mar 9	599	Feb 12 1985
LOWEST DAILY MEAN	5.1	Sep 7	5.2	(a)	2.6	Aug 15 1986
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 3	5.3	Oct 5	3.0	Aug 9 1986
INSTANTANEOUS PEAK FLOW			655	Mar 9	3220	Sep 8 1987
INSTANTANEOUS PEAK STAGE			5.41	Mar 9	8.28	Sep 8 1987
INSTANTANEOUS LOW FLOW			5.2	(b)	2.4	Aug 15 1986
ANNUAL RUNOFF (CFSM)	1.25		1.49		1.29	
ANNUAL RUNOFF (INCHES)	16.96		20.28		17.48	
10 PERCENT EXCEEDS	27		31		27	
50 PERCENT EXCEEDS	12		14		11	
90 PERCENT EXCEEDS	5.5		7.0		5.5	

a Oct. 7-9.
b Oct. 5-12.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 down- stream 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^2.

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 above sea level (Baltimore County bench mark).

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	1100	*1,960	*5.94	Apr 2	0115	1,230	4.72
Mar 21	0630	1,110	4.50				

Minimum discharge, 20 ft^3/s, Oct 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	38	40	44	80	103	346	121	101	64	42	26
2	22	54	37	43	74	95	360	166	83	58	37	61
3	22	44	36	45	72	201	169	167	81	56	36	37
4	22	33	38	45	91	154	156	135	79	55	36	31
5	22	30	37	43	198	128	142	137	77	56	35	27
6	21	29	35	42	120	111	134	161	76	53	33	26
7	21	180	35	43	95	103	127	132	74	53	33	26
8	21	225	35	79	85	137	124	243	74	110	33	37
9	21	85	35	69	78	651	213	180	72	70	33	31
10	21	61	37	54	74	207	180	155	76	60	109	28
11	21	52	41	50	73	157	143	159	79	54	79	26
12	21	46	37	47	112	140	130	232	118	52	44	26
13	22	42	35	46	80	132	124	183	107	51	41	25
14	23	61	35	43	73	128	123	149	106	50	38	25
15	24	60	34	54	69	119	120	135	84	50	37	25
16	24	49	34	117	67	114	117	126	85	50	36	25
17	23	45	34	68	84	111	116	120	108	50	46	25
18	43	42	33	64	241	132	112	113	76	48	49	25
19	28	40	32	57	118	246	140	107	81	45	44	25
20	25	39	33	54	101	154	177	102	82	45	36	25
21	24	40	32	51	91	434	125	100	71	44	34	26
22	24	80	33	49	83	209	117	96	71	43	34	35
23	24	54	46	206	125	176	113	95	77	49	33	36
24	25	47	39	137	351	155	109	93	76	46	32	27
25	48	43	81	93	158	143	103	94	68	41	30	28
26	36	42	55	74	123	136	102	91	70	41	29	30
27	51	40	49	68	110	132	108	89	72	41	32	27
28	33	39	48	336	103	128	99	87	64	40	28	25
29	28	39	44	162	---	123	96	85	64	38	27	24
30	27	39	55	109	---	119	96	90	63	37	27	24
31	27	---	48	90	---	116	---	84	---	55	27	---
TOTAL	816	1718	1243	2482	3129	5194	4321	4027	2415	1605	1210	864
MEAN	26.3	57.3	40.1	80.1	112	168	144	130	80.5	51.8	39.0	28.8
MAX	51	225	81	336	351	651	360	243	118	110	109	61
MIN	21	29	32	42	67	95	96	84	63	37	27	24
CFSM	.44	.96	.67	1.34	1.87	2.80	2.41	2.17	1.35	.87	.65	.48
IN.	.51	1.07	.77	1.54	1.95	3.23	2.69	2.51	1.50	1.00	.75	.54

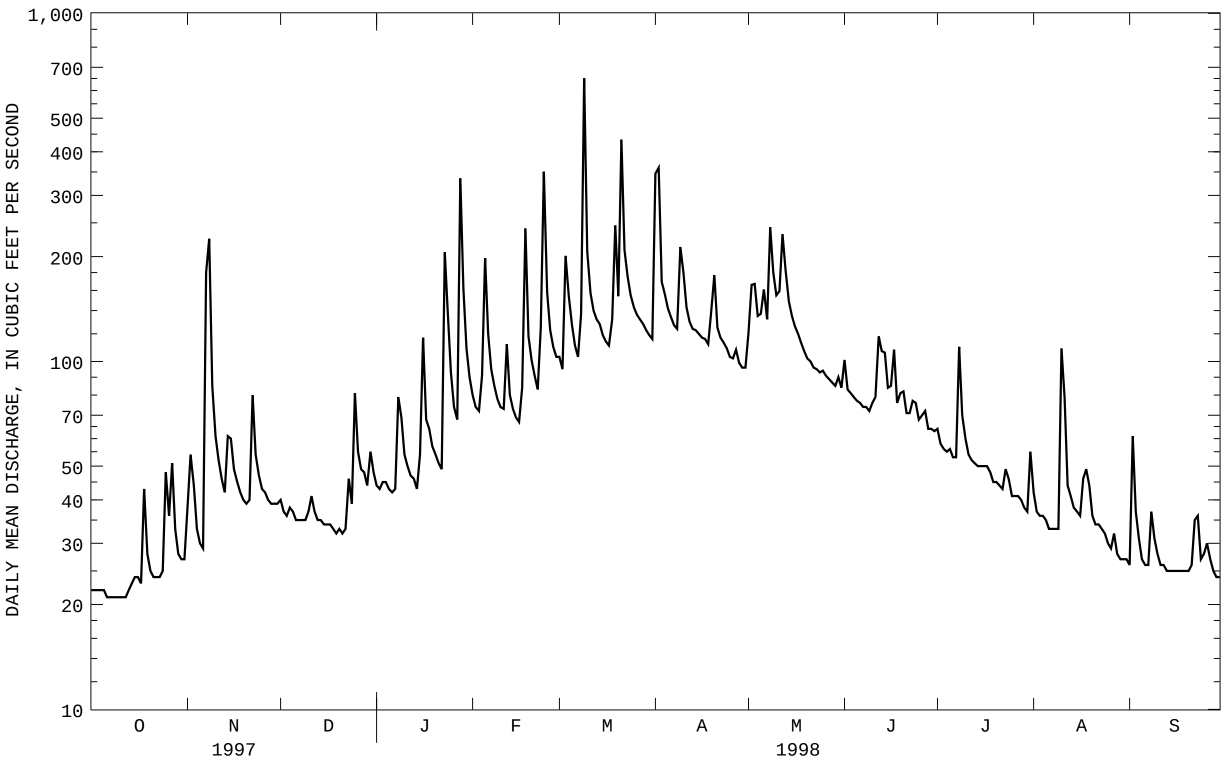
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	46.1	57.6	69.0	82.2	93.1	97.4	91.3	83.4	71.3	56.4	49.0	47.4
MAX	209	143	217	222	241	237	209	227	395	164	183	261
(WY)	1980	1997	1997	1979	1979	1994	1952	1952	1972	1972	1971	1975
MIN	16.4	20.4	19.0	20.5	34.4	45.9	39.8	31.5	21.1	11.3	7.78	14.8
(WY)	1964	1966	1966	1966	1967	1981	1963	1963	1966	1966	1966	1963

01583500 WESTERN RUN AT WESTERN RUN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1998	
ANNUAL TOTAL	24513		29024			
ANNUAL MEAN	67.2		79.5		70.3	
HIGHEST ANNUAL MEAN					138	1972
LOWEST ANNUAL MEAN					28.9	1966
HIGHEST DAILY MEAN	352	Jan 25	651	Mar 9	7000	Jun 22 1972
LOWEST DAILY MEAN	20	(a)	21	(b)	2.5	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	21	Sep 3	21	Oct 6	3.8	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1960	Mar 9	(c)38000	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.94	Mar 9	(d)26.00	Jun 22 1972
INSTANTANEOUS LOW FLOW			21	(f)	2.4	Sep 12 1966
ANNUAL RUNOFF (CFSM)	1.12		1.33		1.17	
ANNUAL RUNOFF (INCHES)	15.25		18.06		15.96	
10 PERCENT EXCEEDS	122		151		120	
50 PERCENT EXCEEDS	52		56		52	
90 PERCENT EXCEEDS	22		26		24	

a Aug. 9-12, 17, Sept. 4-7.
b Oct. 6-12.
c From rating curve extended above 3,200 ft^3/s, on basis of slope-area measurement and contracted-opening measurement of peak flow.
d From floodmarks.
f Oct. 10, 11.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD

LOCATION.--Lat 39°29'08", long 76°38'45", Baltimore County, Hydrologic Unit 02060003, on left bank of bridge on Maryland Route 45 at Cockeysville, and 0.45 mi upstream from mouth.

DRAINAGE AREA.--20.9 mi^2.

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

REVISED RECORDS.--WDR MD-DE-88: 1983-87.

GAGE.--Water-stage recorder. Datum of gage is 240.42 ft above sea level. Previously operated as a low-flow site during water years 1955-59 and 1962-64 at same site. Dec. 15, 1982 to June 15, 1993, water-stage recorder 600 ft downstream and 50 ft upstream from bridge on Beaverdam Run Lane at datum 1.38 ft lower.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1815	683	5.25	Mar 9	1015	*868	*6.14

Minimum discharge, 7.2 ft^3/s, Oct 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	44	16	17	30	35	88	80	56	20	16	11
2	7.6	39	14	16	27	34	91	94	28	18	15	91
3	8.1	18	16	18	26	140	42	81	25	19	14	17
4	7.8	15	18	17	76	56	43	66	26	19	13	14
5	7.7	13	15	15	106	45	39	87	24	19	13	14
6	8.2	13	15	15	45	39	35	57	25	17	13	13
7	8.9	261	15	23	36	38	34	52	22	17	12	22
8	9.7	116	15	34	36	86	33	110	21	99	13	24
9	9.7	57	14	22	27	344	163	56	20	25	13	13
10	9.8	26	21	19	27	70	61	57	23	20	50	12
11	11	18	15	18	42	52	43	66	28	19	21	11
12	15	17	14	16	70	e48	39	126	60	19	14	12
13	12	17	16	16	30	e45	38	61	51	18	13	12
14	13	65	13	14	26	43	38	48	31	17	13	11
15	18	27	12	74	24	40	36	41	26	17	13	11
16	9.9	22	12	66	24	37	33	40	26	17	14	11
17	15	18	14	27	81	32	33	37	24	18	65	11
18	33	15	14	28	116	60	32	31	24	17	33	12
19	11	17	14	20	45	137	80	30	33	16	17	13
20	10	17	14	19	38	62	59	29	28	16	14	13
21	9.9	38	15	17	34	240	37	29	24	15	13	12
22	9.8	57	19	17	31	85	34	26	32	16	13	33
23	9.9	23	25	181	121	58	32	28	27	17	14	14
24	14	18	22	68	191	51	31	28	26	16	12	12
25	41	18	59	44	56	43	29	29	22	15	12	13
26	44	17	20	27	43	44	30	27	63	15	22	13
27	23	17	23	26	39	43	34	26	31	14	61	13
28	13	15	19	271	39	41	28	25	24	14	16	12
29	16	17	21	62	---	40	29	27	24	14	15	12
30	12	17	39	40	---	38	27	31	24	17	14	12
31	14	---	21	33	---	37	---	29	---	38	12	---
TOTAL	439.7	1072	580	1280	1486	2163	1371	1554	898	638	593	494
MEAN	14.2	35.7	18.7	41.3	53.1	69.8	45.7	50.1	29.9	20.6	19.1	16.5
MAX	44	261	59	271	191	344	163	126	63	99	65	91
MIN	7.6	13	12	14	24	32	27	25	20	14	12	11
CFSM	.68	1.71	.90	1.98	2.54	3.34	2.19	2.40	1.43	.98	.92	.79
IN.	.78	1.91	1.03	2.28	2.64	3.85	2.44	2.77	1.60	1.14	1.06	.88

e Estimated

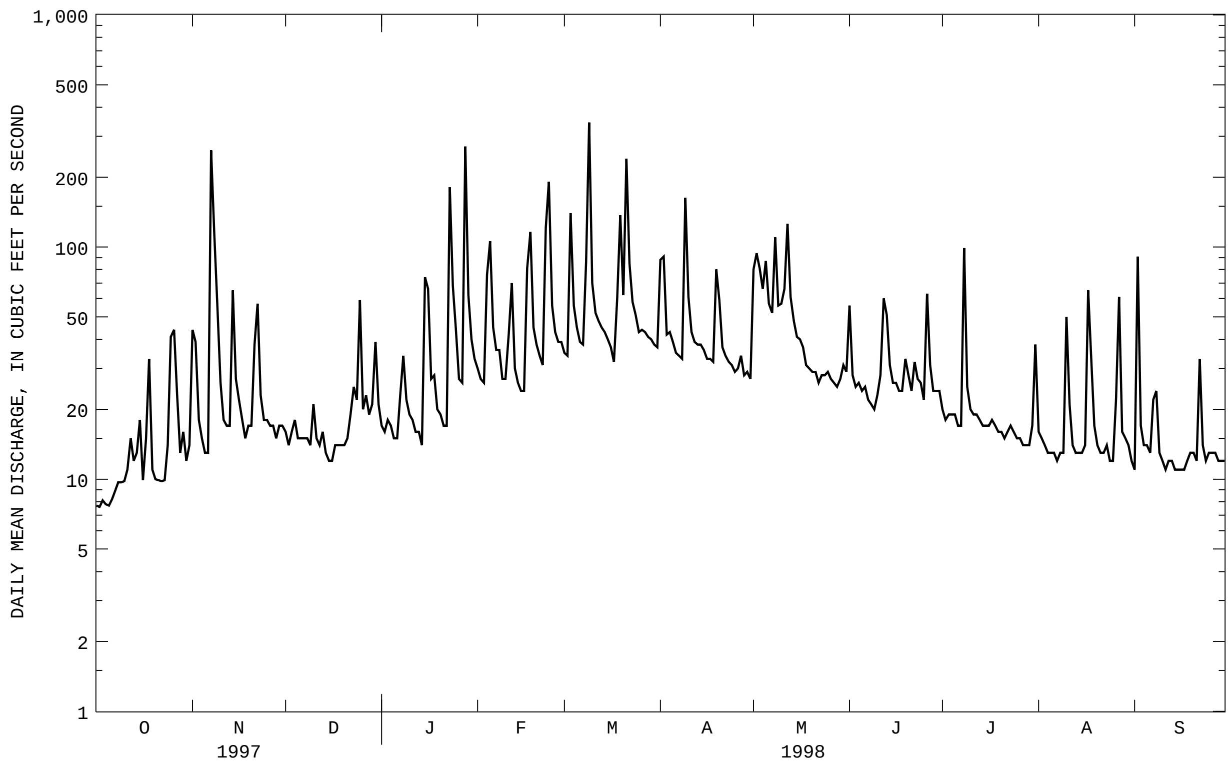
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.0	30.9	32.3	33.8	34.9	44.3	39.0	39.0	26.7	27.3	20.9	20.6
MAX	45.3	55.4	91.0	69.5	57.5	90.2	81.6	80.5	50.7	72.7	46.0	40.9
(WY)	1997	1997	1997	1996	1994	1994	1983	1989	1996	1996	1996	1996
MIN	10.4	14.8	15.0	16.9	18.5	21.4	18.5	14.5	9.23	8.94	10.0	7.29
(WY)	1983	1983	1983	1992	1992	1985	1985	1986	1986	1986	1985	1986

01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	10553.8		12568.7			
ANNUAL MEAN	28.9		34.4		30.9	
HIGHEST ANNUAL MEAN					45.8	1996
LOWEST ANNUAL MEAN					17.2	1986
HIGHEST DAILY MEAN	261	Nov 7	344	Mar 9	903	Jan 19 1996
LOWEST DAILY MEAN	7.6	Oct 2	7.6	Oct 2	5.5	(a)
ANNUAL SEVEN-DAY MINIMUM	8.0	Oct 1	8.0	Oct 1	5.8	Aug 10 1986
INSTANTANEOUS PEAK FLOW			868	Mar 9	(b)3360	Jul 1 1984
INSTANTANEOUS PEAK STAGE			6.14	Mar 9	(c)12.10	Jul 1 1984
INSTANTANEOUS LOW FLOW			7.2	Oct 2	4.1	Oct 1 1986
ANNUAL RUNOFF (CFSM)	1.38		1.65		1.48	
ANNUAL RUNOFF (INCHES)	18.78		22.37		20.07	
10 PERCENT EXCEEDS	49		65		53	
50 PERCENT EXCEEDS	21		24		22	
90 PERCENT EXCEEDS	10		12		11	

a Aug. 16, 1986, Sept. 1, 1992.
b From rating curve extended above 1,000 ft^3/s.
c From floodmarks.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01583980 MINEBANK RUN AT LOCH RAVEN, MD

LOCATION.--Lat 39°24'59", long 76°32'48", Baltimore County, Hydrologic Unit 02060003, on left bank 15 ft downtream from bridge on lane leading to Cromwell Valley Park-Willow Grove Farm, 0.3 mi off Cromwell Bridge Road, 0.4 mi west of Loch Raven, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--2.90 mi^2.

PERIOD OF RECORD.--October 1996 to September 1998.

GAGE.--Water-stage recorder. Elevation of gage is 185 ft above sea level, from topographic map.

REMARKS.--Records good except those above 150 ft^3/s and estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8, 1997	1620	599	4.94	Jun 13, 1998	1625	*1,700	*7.47
Sep 2, 1997	1830	*1,960	*7.94	Sep 2, 1998	0650	819	5.35
Sep 11, 1997	0140	551	4.79				

1997 Water Year Minimum discharge, 0.45 ft^3/s, Aug 26-28.

1998 Water Year Minimum discharge, 0.60 ft^3/s, Oct 12-15, 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.5	2.6	30	3.6	2.8	10	6.9	5.7	e6.0	2.0	e.57	1.7
2	e7.0	2.0	19	3.6	2.5	4.2	4.5	4.7	29	2.1	e.57	76
3	e2.0	1.8	5.5	3.6	2.4	33	3.9	7.5	e10	1.4	e.90	2.6
4	e1.4	1.7	4.5	3.4	4.6	7.8	3.8	4.8	e3.0	1.2	.77	1.1
5	e1.4	1.7	4.5	3.4	6.8	6.4	3.6	4.5	e2.3	1.0	.72	.87
6	e1.4	1.7	28	3.3	3.3	5.7	4.8	3.7	e2.1	.93	.65	.79
7	e1.4	1.7	15	3.2	3.9	4.5	5.6	3.4	e2.0	.91	.60	.90
8	e14	53	7.3	3.2	5.1	4.2	5.2	3.3	e1.9	.87	.55	.87
9	e2.5	6.1	5.6	4.2	5.0	4.0	5.0	5.5	e1.8	.85	.51	.78
10	e1.5	2.7	4.9	4.5	3.7	7.1	4.9	2.8	e1.7	.82	.49	2.3
11	1.5	2.2	7.0	3.8	3.6	4.0	4.8	2.5	e1.6	.80	.49	22
12	1.5	2.1	5.0	3.3	3.4	3.8	8.2	2.4	e1.6	.77	.49	3.8
13	1.5	2.1	71	3.2	3.3	3.6	4.1	2.3	e1.8	.77	.49	1.6
14	1.5	2.0	15	3.1	8.6	16	3.3	2.2	e1.7	.74	.49	1.2
15	1.5	1.9	8.3	3.1	13	5.6	2.9	2.1	1.6	.72	.49	1.1
16	1.5	1.9	7.1	9.9	5.6	4.5	2.9	2.1	1.5	.70	.49	1.0
17	1.5	1.8	6.6	3.6	4.8	4.3	5.0	2.0	1.5	e.70	6.8	.96
18	17	1.8	5.7	3.3	4.4	6.4	3.3	2.0	1.5	e.70	1.4	.93
19	22	1.7	7.5	3.1	4.2	10	3.1	2.1	1.6	.72	.69	.93
20	3.4	1.6	5.2	3.2	4.0	6.4	3.0	2.0	1.4	.71	23	.92
21	2.9	1.5	4.6	3.2	3.9	6.6	3.3	1.9	1.3	.64	1.6	.89
22	2.8	1.5	4.5	4.6	3.9	6.3	3.2	1.8	1.2	.62	.78	.88
23	2.7	1.5	4.4	4.0	3.7	5.9	3.1	1.8	1.2	.62	.69	.82
24	2.6	1.5	5.7	24	3.6	4.9	3.2	e1.8	1.1	3.4	.61	.77
25	2.4	1.5	4.5	17	3.6	5.1	2.9	e3.0	1.1	.92	.51	.74
26	2.3	23	4.1	4.7	4.7	8.5	2.7	e3.5	1.4	.82	.48	.73
27	2.2	3.9	4.1	3.9	4.0	4.5	5.0	e2.5	1.3	.81	.45	.72
28	2.7	3.3	3.9	9.3	3.6	4.3	9.5	e2.2	1.1	.73	9.3	2.1
29	2.1	2.9	3.9	3.8	---	4.7	3.6	e2.0	1.0	.64	1.0	2.5
30	2.0	3.7	3.7	3.2	---	4.4	4.4	e1.8	1.0	.60	.61	.87
31	1.8	---	3.6	3.0	---	13	---	e1.7	---	.57	.55	---
TOTAL	114.5	138.4	309.7	156.3	126.0	219.7	129.7	91.6	87.3	29.78	57.74	133.37
MEAN	3.69	4.61	9.99	5.04	4.50	7.09	4.32	2.95	2.91	.96	1.86	4.45
MAX	22	53	71	24	13	33	9.5	7.5	29	3.4	23	76
MIN	1.4	1.5	3.6	3.0	2.4	3.6	2.7	1.7	1.0	.57	.45	.72
CFSM	1.27	1.59	3.44	1.74	1.55	2.44	1.49	1.02	1.00	.33	.64	1.53
IN.	1.47	1.78	3.97	2.00	1.62	2.82	1.66	1.18	1.12	.38	.74	1.71

e Estimated

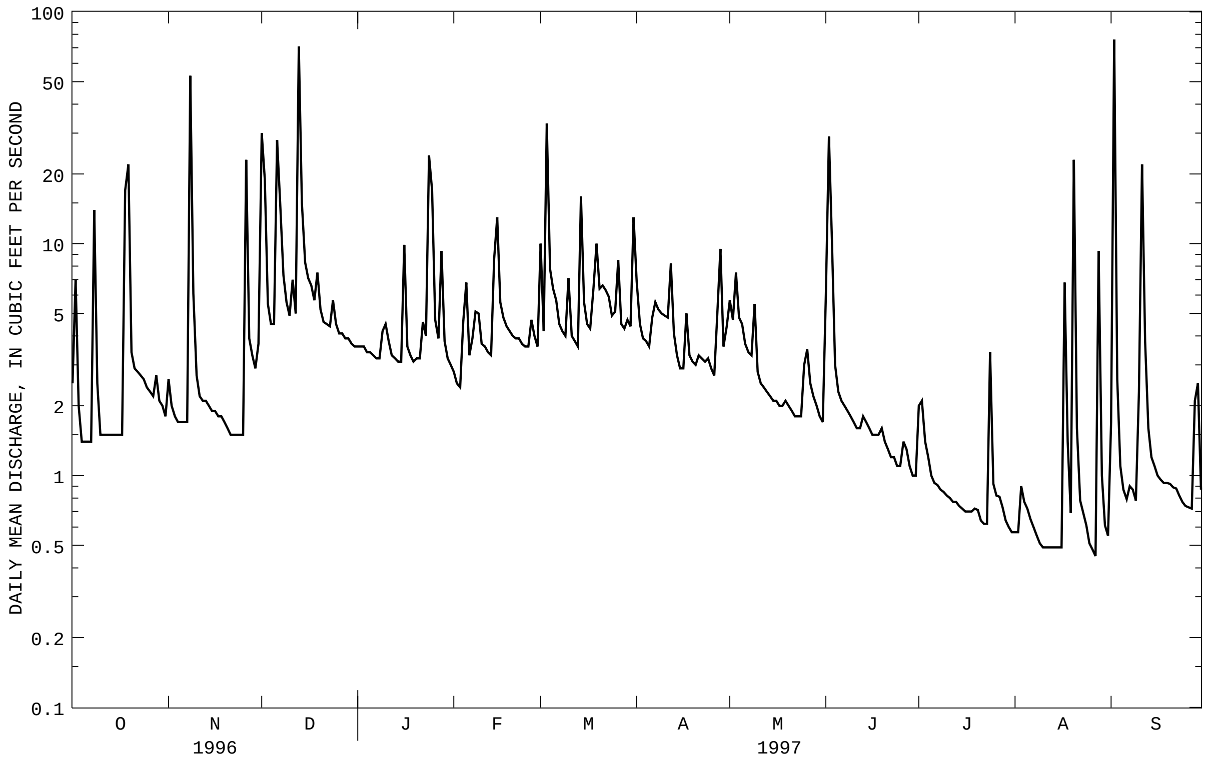
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.69	4.61	9.99	5.04	4.50	7.09	4.32	2.95	2.91	.96	1.86	4.45
MAX	3.69	4.61	9.99	5.04	4.50	7.09	4.32	2.95	2.91	.96	1.86	4.45
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	3.69	4.61	9.99	5.04	4.50	7.09	4.32	2.95	2.91	.96	1.86	4.45
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

01583980 MINEBANK RUN AT LOCH RAVEN, MD--Continued

SUMMARY STATISTICS	FOR 1997 WATER YEAR	
ANNUAL TOTAL	1594.09	
ANNUAL MEAN	4.37	
HIGHEST DAILY MEAN	76	Sep 2
LOWEST DAILY MEAN	.45	Aug 27
ANNUAL SEVEN-DAY MINIMUM	.49	Aug 10
INSTANTANEOUS PEAK FLOW	(a)1960	Sep 2
INSTANTANEOUS PEAK STAGE	7.94	Sep 2
INSTANTANEOUS LOW FLOW	(b).45	Aug 26
ANNUAL RUNOFF (CFSM)	1.51	
ANNUAL RUNOFF (INCHES)	20.45	
10 PERCENT EXCEEDS	7.2	
50 PERCENT EXCEEDS	2.8	
90 PERCENT EXCEEDS	.73	

a From rating curve extended above 150 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
b Aug. 26-28, 1997.



DAILY MEAN DISCHARGE - 1997 WATER YEAR

01583980 MINEBANK RUN AT LOCH RAVEN, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	5.7	1.4	1.6	3.3	4.7	7.8	14	7.8	1.8	1.1	.88
2	.78	5.3	1.3	1.5	2.8	5.5	5.1	5.4	7.6	1.5	1.0	22
3	.74	.99	1.3	1.4	2.6	21	4.1	4.4	2.7	1.5	e.95	1.2
4	.71	.81	2.3	1.3	12	7.9	4.8	5.7	2.1	1.8	e.90	1.2
5	.71	.77	1.5	1.2	19	6.2	3.9	6.0	1.9	1.9	e.90	1.1
6	.70	.74	1.3	1.2	6.5	5.4	3.8	5.4	1.8	1.8	e.85	.99
7	.68	45	1.3	2.9	4.9	5.0	3.6	4.2	1.8	1.5	e.85	3.3
8	.67	14	1.2	4.0	4.0	14	3.5	12	1.8	16	e.90	3.3
9	.66	9.7	1.3	2.2	3.3	33	17	4.7	1.7	1.9	.99	1.3
10	.66	3.1	3.3	1.5	2.9	8.2	5.0	5.6	2.0	1.5	9.7	1.2
11	.65	2.3	1.5	1.3	7.8	6.4	3.9	7.9	2.3	1.2	2.1	1.1
12	.63	1.9	1.2	1.3	8.1	5.7	3.6	20	7.9	1.2	1.1	.88
13	.60	2.0	1.2	1.3	3.7	5.2	3.6	6.7	65	1.1	.99	.78
14	.60	12	1.3	1.2	3.1	4.9	3.5	5.2	e10	1.0	.99	.69
15	1.9	2.9	1.1	16	2.7	4.3	3.4	4.4	e3.0	1.0	.94	.77
16	.72	2.4	1.1	10	2.6	4.1	3.3	3.8	e2.6	1.0	.86	.79
17	.77	2.0	1.0	3.3	18	3.9	4.4	3.4	e2.3	1.1	13	.69
18	4.3	1.8	1.0	4.2	22	8.1	3.0	3.0	2.1	1.0	1.4	.78
19	.75	1.6	.97	2.3	6.7	21	6.1	2.7	3.4	1.0	1.0	.83
20	.68	1.6	.93	2.0	5.5	8.5	4.2	2.6	2.1	1.1	.99	.83
21	.65	11	.93	1.7	4.6	35	2.9	2.5	1.8	1.0	.99	.83
22	.63	8.6	1.5	1.6	4.4	11	2.6	2.5	1.8	1.0	.99	14
23	.62	2.5	3.6	41	28	7.1	2.6	2.5	2.8	4.7	.87	1.1
24	.60	2.0	2.7	9.6	28	6.2	2.6	2.4	2.2	1.4	.83	.99
25	6.3	1.9	11	5.6	8.8	5.8	2.5	2.3	1.6	1.0	.89	1.1
26	6.7	1.7	1.9	3.4	6.6	5.8	3.8	2.2	13	.93	10	1.1
27	1.9	1.6	4.0	3.1	5.7	5.7	4.5	2.2	2.8	.93	2.7	.91
28	.78	1.6	2.2	36	5.0	5.4	2.6	2.1	1.8	.91	1.1	.83
29	.73	1.5	3.9	7.7	---	5.1	2.6	2.2	2.1	.85	.99	.83
30	.71	1.4	6.8	5.1	---	5.0	2.6	3.2	3.5	7.7	.93	.83
31	.69	---	2.1	4.3	---	4.9	---	1.8	---	5.3	.83	---
TOTAL	39.03	150.41	68.13	180.8	232.6	280.0	126.9	153.0	165.3	67.62	62.63	67.13
MEAN	1.26	5.01	2.20	5.83	8.31	9.03	4.23	4.94	5.51	2.18	2.02	2.24
MAX	6.7	45	11	41	28	35	17	20	65	16	13	22
MIN	.60	.74	.93	1.2	2.6	3.9	2.5	1.8	1.6	.85	.83	.69
CFSM	.43	1.73	.76	2.01	2.86	3.11	1.46	1.70	1.90	.75	.70	.77
IN.	.50	1.93	.87	2.32	2.98	3.59	1.63	1.96	2.12	.87	.80	.86

e Estimated

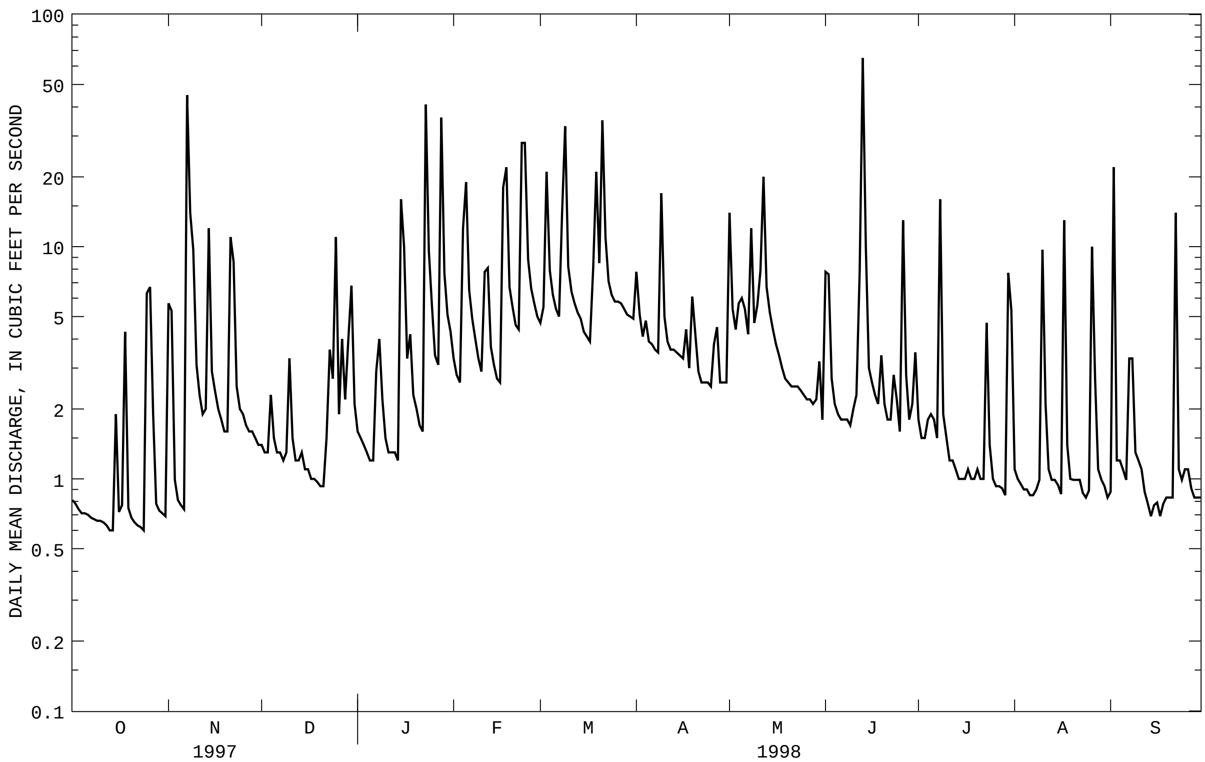
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.48	4.81	6.09	5.44	6.40	8.06	4.28	3.95	4.21	1.57	1.94	3.34
MAX	3.69	5.01	9.99	5.83	8.31	9.03	4.32	4.94	5.51	2.18	2.02	4.45
(WY)	1997	1998	1997	1998	1998	1998	1997	1998	1998	1998	1998	1997
MIN	1.26	4.61	2.20	5.04	4.50	7.09	4.23	2.95	2.91	.96	1.86	2.24
(WY)	1998	1997	1998	1997	1997	1997	1998	1997	1997	1997	1997	1998

01583980 MINEBANK RUN AT LOCH RAVEN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1997 - 1998	
ANNUAL TOTAL	1289.06		1593.55			
ANNUAL MEAN	3.53		4.37		4.37	
HIGHEST ANNUAL MEAN					4.37	1997
LOWEST ANNUAL MEAN					4.37	1998
HIGHEST DAILY MEAN	76	Sep 2	65	Jun 13	76	Sep 2 1997
LOWEST DAILY MEAN	.45	Aug 27	.60	(a)	.45	Aug 27 1997
ANNUAL SEVEN-DAY MINIMUM	.49	Aug 10	.64	Oct 8	.49	Aug 10 1997
INSTANTANEOUS PEAK FLOW			1700	Jun 13	(b)1960	Sep 2 1997
INSTANTANEOUS PEAK STAGE			7.47	Jun 13	7.94	Sep 2 1997
INSTANTANEOUS LOW FLOW			.60	(c)	.45	(d)
ANNUAL RUNOFF (CFSM)	1.22		1.51		1.51	
ANNUAL RUNOFF (INCHES)	16.54		20.44		20.46	
10 PERCENT EXCEEDS	6.5		9.1		8.1	
50 PERCENT EXCEEDS	2.1		2.2		2.5	
90 PERCENT EXCEEDS	.68		.83		.78	

a Oct. 13, 14, 24.
b From rating curve extended above 150 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
c Oct. 12-15, 23, 24.
d Aug. 26-28, 1997.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 230 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0815	372	3.72	Jun 13	1800	341	3.63
Mar 21	0400	*394	*3.78				

Minimum discharge, 2.3 ft^3/s, Oct 4-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.7	4.4	5.7	12	15	24	17	16	7.3	5.3	3.8
2	2.8	6.8	4.2	5.6	11	15	24	16	11	6.6	4.8	19
3	2.7	4.3	4.1	5.1	11	56	16	13	10	6.5	4.6	5.4
4	2.5	3.5	4.2	5.0	19	23	16	15	9.6	6.5	4.5	4.6
5	2.3	3.2	4.2	4.7	40	18	15	13	9.1	6.5	4.5	4.3
6	2.3	3.1	4.2	4.7	18	17	14	19	8.8	6.1	4.1	3.9
7	2.3	16	4.0	4.9	14	16	14	16	8.5	6.3	4.0	4.2
8	2.3	23	4.0	7.0	12	30	14	24	8.7	15	4.0	5.3
9	2.3	10	4.0	6.3	12	100	37	17	8.4	8.6	4.0	4.1
10	2.3	6.7	4.7	5.4	11	26	20	17	8.6	7.3	9.3	3.8
11	2.3	5.5	4.9	5.0	12	19	16	20	8.8	6.3	6.9	3.7
12	2.3	4.9	4.5	4.8	24	17	15	42	17	6.1	5.1	3.6
13	2.3	4.5	4.2	4.7	12	17	14	21	61	6.0	4.6	3.6
14	2.3	11	4.2	4.5	11	16	14	16	17	5.9	4.6	3.7
15	2.9	8.4	4.0	13	9.4	15	14	15	12	5.8	4.5	3.5
16	2.6	6.6	4.0	22	9.4	15	13	14	11	5.9	4.6	3.6
17	2.5	5.9	4.0	9.1	30	14	13	13	9.9	6.0	27	3.7
18	3.6	5.6	3.8	9.4	41	19	12	12	9.0	5.8	8.2	3.7
19	2.7	5.1	3.8	8.1	20	54	15	11	9.2	5.3	6.1	3.6
20	2.7	4.4	3.8	7.4	15	23	16	11	8.9	5.7	5.1	3.7
21	2.5	6.1	3.8	6.8	14	115	13	11	8.3	5.6	4.7	3.7
22	2.5	15	3.9	6.5	13	32	13	10	8.2	4.9	4.6	6.5
23	2.5	7.1	5.8	69	58	23	13	10	11	6.6	4.6	4.1
24	2.5	5.8	4.7	21	89	20	13	9.9	12	6.3	4.6	3.5
25	5.4	5.3	12	15	23	19	12	10	8.3	5.0	4.3	3.7
26	5.0	5.0	6.8	11	18	18	12	9.8	9.7	5.1	4.1	3.9
27	5.4	4.5	6.4	10	17	18	12	9.6	8.7	4.9	7.0	3.7
28	3.2	4.5	6.5	89	16	17	11	9.6	7.6	4.5	4.4	3.3
29	2.9	4.5	5.9	22	---	16	11	9.3	7.5	4.5	4.1	3.2
30	2.9	4.5	10	16	---	16	11	10	7.4	5.2	4.0	3.4
31	2.9	---	6.8	13	---	16	---	9.2	---	8.2	3.9	---
TOTAL	88.5	205.5	155.8	421.7	591.8	835	457	450.4	351.2	196.3	176.1	133.8
MEAN	2.85	6.85	5.03	13.6	21.1	26.9	15.2	14.5	11.7	6.33	5.68	4.46
MAX	5.4	23	12	89	89	115	37	42	61	15	27	19
MIN	2.3	3.1	3.8	4.5	9.4	14	11	9.2	7.4	4.5	3.9	3.2
CFSM	.30	.73	.53	1.45	2.25	2.87	1.62	1.55	1.25	.67	.60	.47
IN.	.35	.81	.62	1.67	2.34	3.30	1.81	1.78	1.39	.78	.70	.53

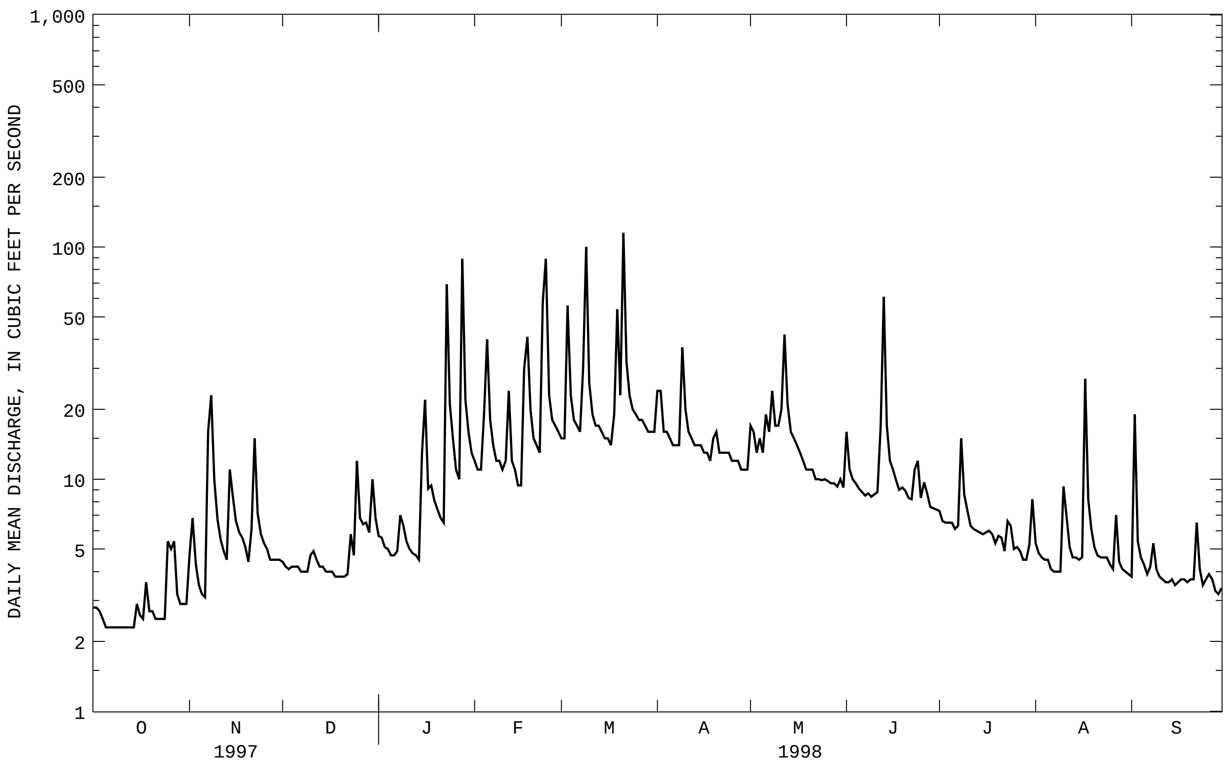
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.93	9.27	12.0	15.2	15.0	17.5	14.5	13.3	10.4	9.27	7.82	7.66
MAX	25.1	18.0	33.0	38.4	39.3	39.2	35.3	28.1	18.5	28.0	26.9	32.2
(WY)	1980	1980	1997	1979	1979	1994	1983	1989	1996	1989	1978	1979
MIN	2.85	3.05	4.04	3.67	6.16	6.02	7.37	5.94	3.85	2.49	2.87	2.41
(WY)	1998	1982	1981	1981	1992	1981	1981	1986	1986	1986	1995	1986

01584050 LONG GREEN CREEK AT GLEN ARM, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1976 - 1998	
ANNUAL TOTAL	3746.9		4063.1			
ANNUAL MEAN	10.3		11.1		11.7	
HIGHEST ANNUAL MEAN					18.1	1979
LOWEST ANNUAL MEAN					5.33	1981
HIGHEST DAILY MEAN	79	Jan 25	115	Mar 21	408	Jan 26 1978
LOWEST DAILY MEAN	2.3	(a)	2.3	(a)	1.5	Aug 15 1986
ANNUAL SEVEN-DAY MINIMUM	2.3	Oct 5	2.3	Oct 5	1.6	Aug 10 1986
INSTANTANEOUS PEAK FLOW			394	Mar 21	(b)3250	Jul 1 1984
INSTANTANEOUS PEAK STAGE			3.78	Mar 21	6.70	Jul 1 1984
INSTANTANEOUS LOW FLOW			2.3	(c)	(d)1.0	Jan 29 1977
ANNUAL RUNOFF (CFSM)	1.09		1.18		1.24	
ANNUAL RUNOFF (INCHES)	14.83		16.08		16.84	
10 PERCENT EXCEEDS	18		19		18	
50 PERCENT EXCEEDS	8.3		7.1		8.5	
90 PERCENT EXCEEDS	2.9		3.6		3.6	

a Oct. 5-14.
b From rating curve extended above 1,300 ft^3/s.
c Oct. 4-15.
d Result of freezeup.



MEAN DAILY DISCHARGE - 1998 WATER YEAR

01585090 WHITEMARSH RUN NEAR FULLERTON, MD

LOCATION.--Lat 39°22'46", long 76°29'46", Baltimore County, Hydrologic Unit 02060003, on right bank 200 ft downstream of Route 43 bridge, 1.0 mi west of White Marsh. and 5.0 mi upstream from mouth.

DRAINAGE AREA.--2.73 mi^2.

PERIOD OF RECORD.--January 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 125 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jun 13	1630	*2,280	*5.32	Sep 2	0700	1,690	4.90

Minimum discharge, 0.19 ft^3/s, Oct 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	7.6	1.5	1.2	2.0	2.3	3.9	27	9.3	1.4	.71	.33
2	.27	8.8	1.2	1.1	1.9	3.7	2.8	6.8	14	.84	.53	51
3	.28	.95	1.2	1.1	1.8	49	2.0	3.5	2.3	.81	.51	1.1
4	.29	.64	2.9	1.1	26	4.8	3.3	6.1	1.2	.85	.54	.53
5	.30	.60	1.5	1.0	46	3.0	2.0	5.8	1.0	.90	.48	.42
6	.28	.54	1.0	1.0	5.4	2.4	1.9	5.9	.99	.85	.46	.37
7	.26	80	.97	3.2	2.9	2.4	1.9	3.1	.94	.86	.47	3.1
8	.25	27	.93	4.8	2.2	32	2.0	20	.90	27	.48	2.8
9	.25	13	1.1	1.9	1.9	70	32	3.9	.77	1.4	.47	.54
10	.31	2.1	5.3	1.2	1.7	5.6	4.5	4.3	1.1	.90	14	.32
11	.24	1.4	1.6	1.1	16	3.3	2.5	12	1.9	.71	2.5	.29
12	.23	1.2	1.0	.99	15	2.8	2.2	46	9.7	.65	.68	.29
13	.25	1.7	.89	.95	2.4	2.6	2.0	5.2	69	.63	.53	.29
14	.27	22	.84	.81	1.9	2.4	2.0	2.8	4.0	.62	.62	.38
15	2.4	2.8	.76	36	1.7	2.3	2.0	2.2	3.5	.61	.57	.38
16	.35	1.9	.78	14	1.6	2.2	1.9	1.9	4.4	.62	.56	.42
17	.38	1.4	.76	2.8	41	2.3	7.8	1.7	2.0	.62	7.3	.61
18	6.8	1.2	.72	4.5	26	12	2.3	1.5	1.3	.54	3.4	.49
19	.45	1.1	.72	1.9	4.9	53	11	1.4	1.8	.50	.82	.37
20	.34	1.1	.72	1.6	3.4	15	5.0	1.4	1.3	.52	.49	.41
21	.32	22	.65	1.4	2.3	88	2.4	1.3	1.0	.47	.44	.37
22	.32	14	1.4	1.3	2.0	17	2.0	1.3	1.1	.44	.43	13
23	.28	2.2	4.1	106	66	5.6	1.8	1.3	2.4	2.9	.48	.61
24	.53	1.5	4.2	13	47	4.3	1.7	1.2	1.8	1.2	.46	.33
25	13	1.3	19	5.3	4.9	3.7	1.5	1.2	.99	.65	.40	.77
26	12	1.3	1.7	2.8	3.2	3.0	4.2	1.2	17	.61	3.2	.46
27	2.1	1.3	4.8	2.8	2.7	2.8	5.1	1.1	1.9	.58	3.2	.33
28	.64	1.5	2.5	88	2.5	2.9	1.7	1.1	.99	.53	.53	.38
29	.40	1.4	5.0	6.5	---	2.4	1.6	1.2	1.6	.47	.40	.23
30	.35	1.3	8.6	3.1	---	2.5	1.6	2.7	4.8	6.2	.37	.27
31	.32	---	1.7	2.2	---	2.2	---	1.1	---	7.0	.47	---
TOTAL	44.73	224.83	80.04	314.65	336.3	407.5	118.6	177.2	164.98	62.88	46.50	81.19
MEAN	1.44	7.49	2.58	10.1	12.0	13.1	3.95	5.72	5.50	2.03	1.50	2.71
MAX	13	80	19	106	66	88	32	46	69	27	14	51
MIN	.23	.54	.65	.81	1.6	2.2	1.5	1.1	.77	.44	.37	.23
CFSM	.53	2.75	.95	3.72	4.40	4.82	1.45	2.09	2.01	.74	.55	.99
IN.	.61	3.06	1.09	4.29	4.58	5.55	1.62	2.41	2.25	.86	.63	1.11

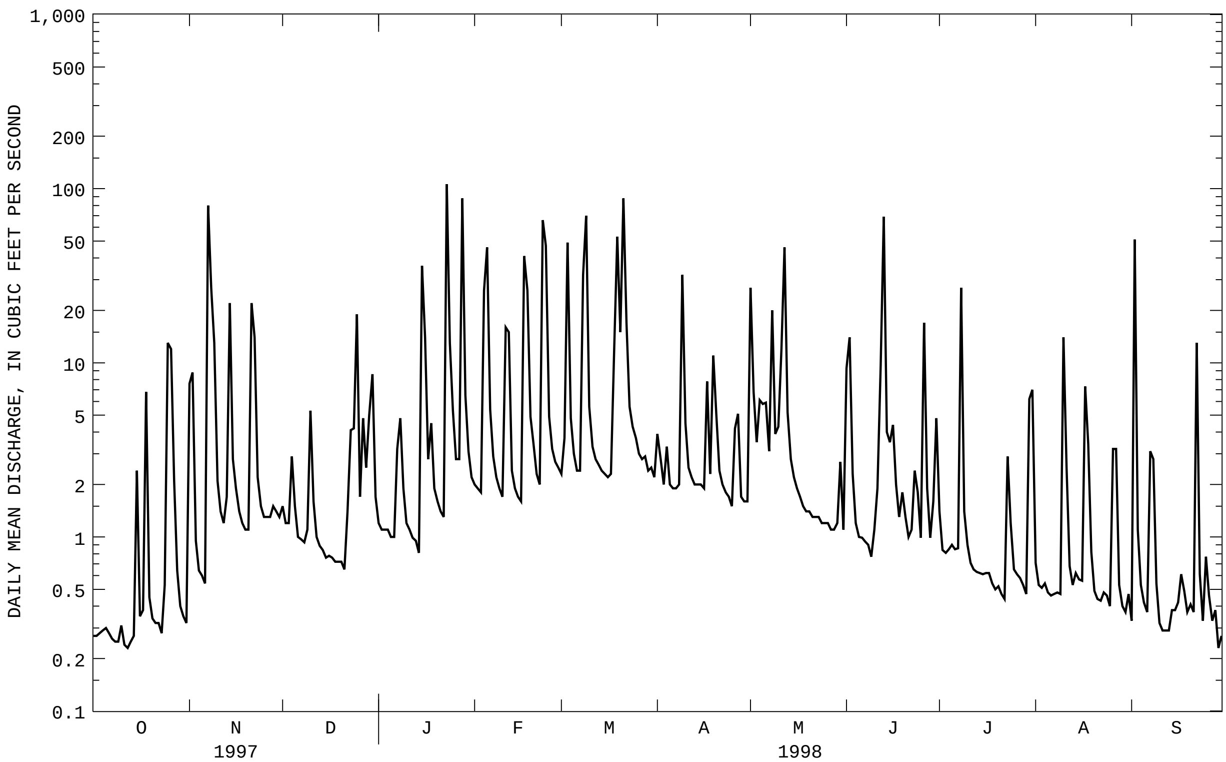
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.86	6.41	6.15	8.93	6.19	7.94	4.05	4.62	5.73	2.78	2.53	3.32
MAX	10.8	7.49	12.6	13.2	12.0	13.1	6.58	6.88	13.5	7.22	5.04	5.61
(WY)	1996	1998	1997	1996	1998	1998	1996	1996	1996	1996	1996	1996
MIN	1.44	5.36	2.58	5.47	2.95	4.61	1.99	1.64	1.44	.41	.96	2.41
(WY)	1998	1997	1998	1997	1995	1995	1995	1997	1995	1997	1995	1995

01585090 WHITEMARSH RUN NEAR FULLERTON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	1350.42		2059.40			
ANNUAL MEAN	3.70		5.64		5.90	
HIGHEST ANNUAL MEAN					7.35	1996
LOWEST ANNUAL MEAN					4.71	1997
HIGHEST DAILY MEAN	80	Nov 7	106	Jan 23	201	Jan 19 1996
LOWEST DAILY MEAN	.19	Sep 6	.23	(a)	.01	(b)
ANNUAL SEVEN-DAY MINIMUM	.24	Aug 6	.26	Oct 7	.02	Aug 23 1995
INSTANTANEOUS PEAK FLOW			2280	Jun 13	(c)2960	Jun 17 1996
INSTANTANEOUS PEAK STAGE			5.32	Jun 13	5.75	Jun 17 1996
INSTANTANEOUS LOW FLOW			.19	(d)	.00	Aug 26 1995
ANNUAL RUNOFF (CFSM)	1.36		2.07		2.16	
ANNUAL RUNOFF (INCHES)	18.40		28.06		29.38	
10 PERCENT EXCEEDS	8.0		13		12	
50 PERCENT EXCEEDS	1.4		1.6		1.8	
90 PERCENT EXCEEDS	.30		.38		.37	

a Oct. 12, Sept. 29.
b Aug. 25-27, 1995.
c From rating curve extended above 120 ft^3/s.
d Oct. 11, 12.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01585095 NORTH FORK WHITEMARSH RUN NEAR WHITE MARSH, MD

LOCATION.--Lat 39°23'07", long 76°28'09", Baltimore County, Hydrologic Unit 02060003, on left bank 100 ft upstream of culverts under Baconsfield Drive, 0.6 mi upstream from confluence with Whitemarsh Run, 0.9 mi southeast of Perry Hall, and 2.1 mi east of White Marsh.

DRAINAGE AREA.--1.34 mi^2.

PERIOD OF RECORD.--April 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 75 ft above sea level.

REMARKS.--Records good above 0.5 ft^3/s and fair below except those for estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug 10	1645	*282	*3.45	No other peak greater than base discharge.			

Minimum discharge, 0.04 ft^3/s, Oct 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	4.4	1.6	.90	.77	.93	.98	12	3.4	.37	.30	e.13
2	.04	3.7	1.4	.88	.66	2.6	.80	2.5	2.0	.19	.22	e18
3	.05	.45	1.4	.88	.61	21	.65	2.0	.38	.18	.21	e.60
4	.05	.28	2.4	.81	11	2.8	1.3	3.6	.23	.15	.22	e.20
5	.06	.21	.97	.80	20	1.3	.78	1.7	.24	.16	.21	e.14
6	.12	.26	.73	.80	3.0	.97	.72	3.1	.22	.13	.16	e.12
7	.06	30	.68	2.7	1.3	.95	.72	2.3	.30	.12	.15	e1.7
8	.06	13	.62	3.8	.95	16	.72	8.8	.26	11	.20	e1.6
9	.06	5.8	.72	1.3	.82	36	13	2.1	.20	.36	.16	e.36
10	.10	1.0	3.5	.93	.97	3.0	1.7	1.8	.28	.26	12	e.11
11	.06	.70	.58	.79	6.2	1.3	1.1	7.6	.93	.20	1.1	e.09
12	.04	.57	.31	.72	7.0	1.1	.93	22	6.4	.20	.23	e.09
13	.05	1.1	.25	.70	.98	.97	.88	2.5	16	.20	.17	e.09
14	.07	12	.23	.65	.67	.93	.88	1.3	2.3	.20	.17	e.12
15	.73	1.6	.22	17	.54	.77	.84	1.0	2.4	.20	.16	e.13
16	.09	1.2	.20	6.8	.50	.72	.80	.96	2.1	.21	.14	e.14
17	.26	.84	.20	1.6	14	.81	3.5	.88	1.3	.20	8.2	e.21
18	4.0	.80	.20	2.7	5.9	6.6	.98	.77	1.1	.20	e2.3	e.16
19	.21	.75	.20	.63	2.5	25	5.9	.65	1.3	.18	e.80	e.12
20	.20	.65	.20	.57	1.4	9.8	2.2	.62	.90	.23	e.20	e.13
21	.17	9.5	.20	.46	.94	42	.97	.58	.80	.18	e.14	e.12
22	.17	7.1	.88	.37	.72	8.5	.88	.52	.80	.18	e.14	e5.5
23	.16	1.3	2.8	44	27	1.7	.86	.50	7.5	1.7	e.18	e.70
24	.78	.92	2.7	5.4	18	1.1	.80	.50	2.0	.40	e.17	e.10
25	5.8	.83	11	2.7	2.8	.89	.80	.47	.67	.14	e.14	e.29
26	5.7	.75	1.3	1.2	1.4	.83	2.4	.38	10	.16	e1.9	e.17
27	1.2	.93	4.0	1.6	1.1	.77	2.2	.35	.86	.16	e1.9	e.09
28	.26	.97	1.8	36	.99	.72	.72	.32	.28	.16	e.30	e.13
29	.13	1.0	2.4	3.6	---	.72	.72	.55	.36	.20	e.13	e.08
30	.11	1.2	4.0	1.5	---	.71	.69	.62	1.4	3.1	e.12	.07
31	.11	---	1.2	1.0	---	.65	---	.28	---	3.3	e.16	---
TOTAL	20.95	103.81	48.89	143.79	132.72	192.14	50.42	83.25	66.91	24.62	32.58	31.49
MEAN	.68	3.46	1.58	4.64	4.74	6.20	1.68	2.69	2.23	.79	1.05	1.05
MAX	5.8	30	11	44	27	42	13	22	16	11	12	18
MIN	.04	.21	.20	.37	.50	.65	.65	.28	.20	.12	.12	.07
CFSM	.50	2.58	1.18	3.46	3.54	4.63	1.25	2.00	1.66	.59	.78	.78
IN.	.58	2.88	1.36	3.99	3.68	5.33	1.40	2.31	1.86	.68	.90	.87

e Estimated

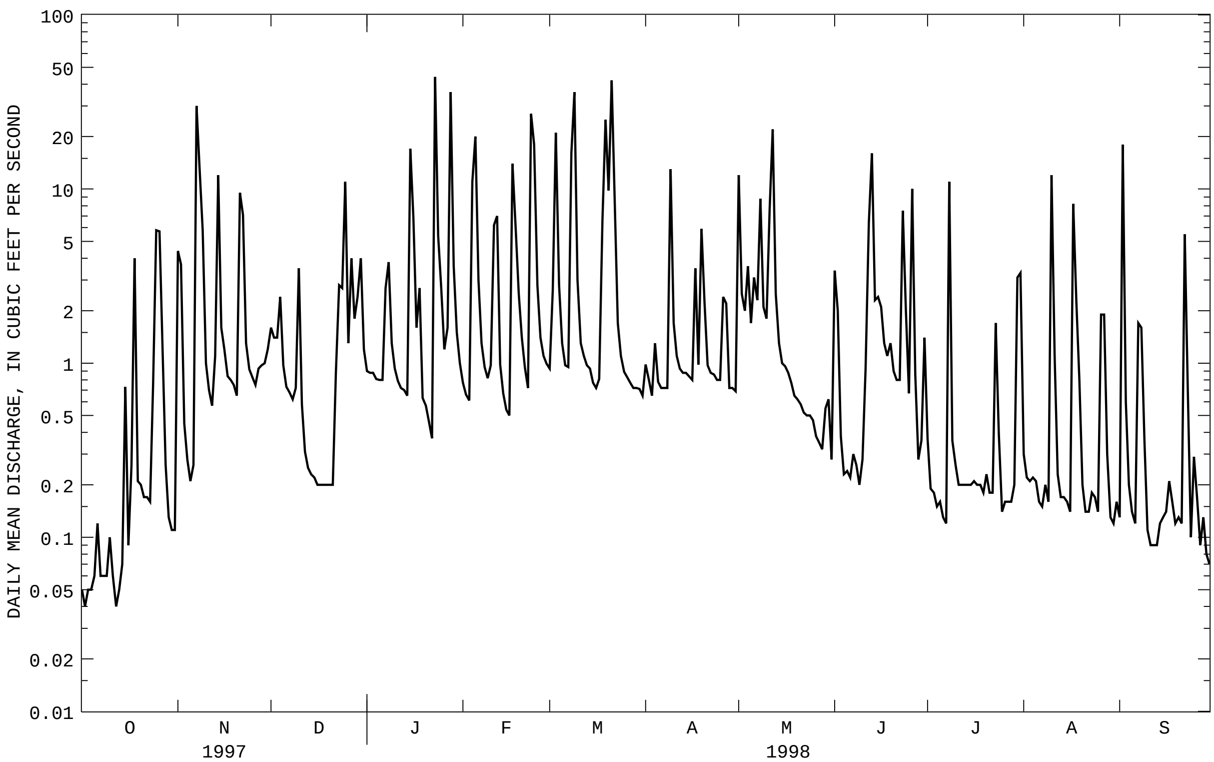
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.79	2.82	3.04	3.82	2.91	4.77	2.11	1.93	1.67	1.66	1.44	1.61
MAX	4.75	3.46	6.03	5.39	4.74	6.79	3.61	3.11	4.72	3.82	3.67	3.56
(WY)	1996	1998	1997	1996	1998	1993	1996	1996	1996	1996	1994	1996
MIN	.68	1.94	1.52	2.25	1.53	2.38	.92	.74	.59	.14	.43	.82
(WY)	1998	1995	1996	1993	1995	1996	1995	1997	1994	1997	1992	1997

01585095 NORTH FORK WHITEMARSH RUN NEAR WHITE MARSH, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	620.21		931.57			
ANNUAL MEAN	1.70		2.55		2.49	
HIGHEST ANNUAL MEAN					3.39	1996
LOWEST ANNUAL MEAN					1.63	1995
HIGHEST DAILY MEAN	34	Mar 3	44	Jan 23	80	Jan 19 1996
LOWEST DAILY MEAN	.03	Aug 16	.04	(a)	.03	Aug 16 1997
ANNUAL SEVEN-DAY MINIMUM	.05	Aug 10	.06	Oct 1	.05	Aug 10 1997
INSTANTANEOUS PEAK FLOW			282	Aug 10	502	Jun 19 1996
INSTANTANEOUS PEAK STAGE			3.45	Aug 10	5.05	Jun 19 1996
INSTANTANEOUS LOW FLOW			.04	(b)	.02	(c)
ANNUAL RUNOFF (CFSM)	1.27		1.90		1.86	
ANNUAL RUNOFF (INCHES)	17.22		25.86		25.28	
10 PERCENT EXCEEDS	4.0		6.5		5.7	
50 PERCENT EXCEEDS	.58		.79		.71	
90 PERCENT EXCEEDS	.07		.13		.17	

a Oct. 2, 12.
b Oct. 12, 13.
c Aug. 16, 17, 1997.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--February 1959 to September 1989, March 1992 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 above sea level.

REMARKS.--Records good except those for estimated daily discharges (backwater), which are fair. Low flow affected by operations of sand and gravel plant in vicinity of gage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1445	925	5.00	Jun 13	1745	922	4.99
Mar 9	0815	896	4.89	Sep 2	0815	1,180	6.24
Mar 21	0345	*1,230	*6.48				

Minimum discharge, 0.70 ft^3/s, Sep 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	19	3.1	3.6	6.5	6.9	7.6	46	16	4.3	2.8	1.1
2	1.2	21	2.6	3.4	5.9	10	8.8	24	19	2.1	1.8	116
3	1.3	4.6	2.6	3.4	5.7	104	5.3	9.1	7.0	1.9	1.6	6.5
4	1.4	2.6	7.1	3.1	51	18	9.5	21	2.8	1.9	1.6	2.6
5	1.4	2.4	3.9	3.0	101	9.9	5.4	11	2.4	1.9	1.4	1.4
6	e1.3	2.5	2.5	3.1	22	7.8	4.9	19	2.4	1.7	1.2	1.1
7	e1.3	172	2.3	8.3	10	7.1	4.8	11	2.4	1.7	1.2	4.8
8	e1.2	87	2.3	16	8.1	75	5.0	41	2.4	64	1.4	10
9	e1.3	36	2.6	7.1	6.5	207	70	11	2.2	5.2	1.3	1.9
10	e1.5	8.1	11	4.1	5.8	20	16	10	3.0	2.9	32	1.0
11	e1.3	5.0	4.9	3.4	20	10	7.4	26	4.9	2.2	13	.90
12	e1.2	3.9	2.8	3.1	52	8.1	5.9	98	25	1.9	3.0	.93
13	e1.3	4.5	2.6	3.1	9.1	7.3	5.3	17	88	1.9	1.9	.86
14	e1.5	54	2.4	3.0	6.9	6.8	5.5	8.3	15	1.9	1.8	.96
15	6.1	10	2.3	73	5.7	6.0	5.4	5.9	9.1	2.1	1.7	1.0
16	1.6	6.1	2.3	48	5.3	5.8	5.3	4.9	8.2	2.1	1.3	1.1
17	1.7	3.9	2.3	9.6	85	5.4	17	4.4	5.2	2.2	37	1.2
18	18	3.4	2.3	16	46	27	7.3	3.7	2.9	1.9	14	1.5
19	2.2	3.2	2.3	6.1	17	155	23	3.5	3.9	1.8	3.9	1.2
20	1.7	3.2	2.3	5.1	10	27	19	3.2	3.0	2.0	1.8	1.4
21	1.5	35	2.2	4.4	7.5	274	6.6	3.1	2.4	1.9	1.5	1.5
22	1.5	47	3.4	4.2	6.1	43	5.6	2.9	2.4	1.7	1.4	24
23	1.5	7.6	12	283	161	16	4.5	2.8	27	10	1.3	2.8
24	2.4	4.4	7.2	42	123	11	4.2	2.8	19	5.1	1.3	1.3
25	30	3.7	53	21	18	9.0	3.7	2.8	3.5	1.8	1.2	2.5
26	26	3.4	6.9	9.9	10	8.2	8.9	2.7	39	1.6	3.8	1.9
27	12	2.9	15	9.5	8.3	7.7	13	2.6	8.2	1.6	13	1.3
28	3.1	3.0	10	217	7.5	7.5	4.0	2.5	2.9	1.9	1.7	1.2
29	2.1	3.0	6.4	26	---	6.7	3.7	2.6	4.0	1.6	1.2	1.0
30	2.0	3.0	23	12	---	6.5	3.6	5.3	7.2	7.1	1.1	1.1
31	1.9	---	5.5	8.1	---	6.0	---	2.5	---	25	1.1	---
TOTAL	133.8	565.4	211.1	862.6	820.9	1119.7	296.2	410.6	340.4	166.9	154.3	196.05
MEAN	4.32	18.8	6.81	27.8	29.3	36.1	9.87	13.2	11.3	5.38	4.98	6.54
MAX	30	172	53	283	161	274	70	98	88	64	37	116
MIN	1.2	2.4	2.2	3.0	5.3	5.4	3.6	2.5	2.2	1.6	1.1	.86
CFSM	.57	2.48	.89	3.66	3.85	4.75	1.30	1.74	1.49	.71	.65	.86
IN.	.65	2.76	1.03	4.22	4.01	5.47	1.45	2.01	1.66	.82	.75	.96

e Estimated

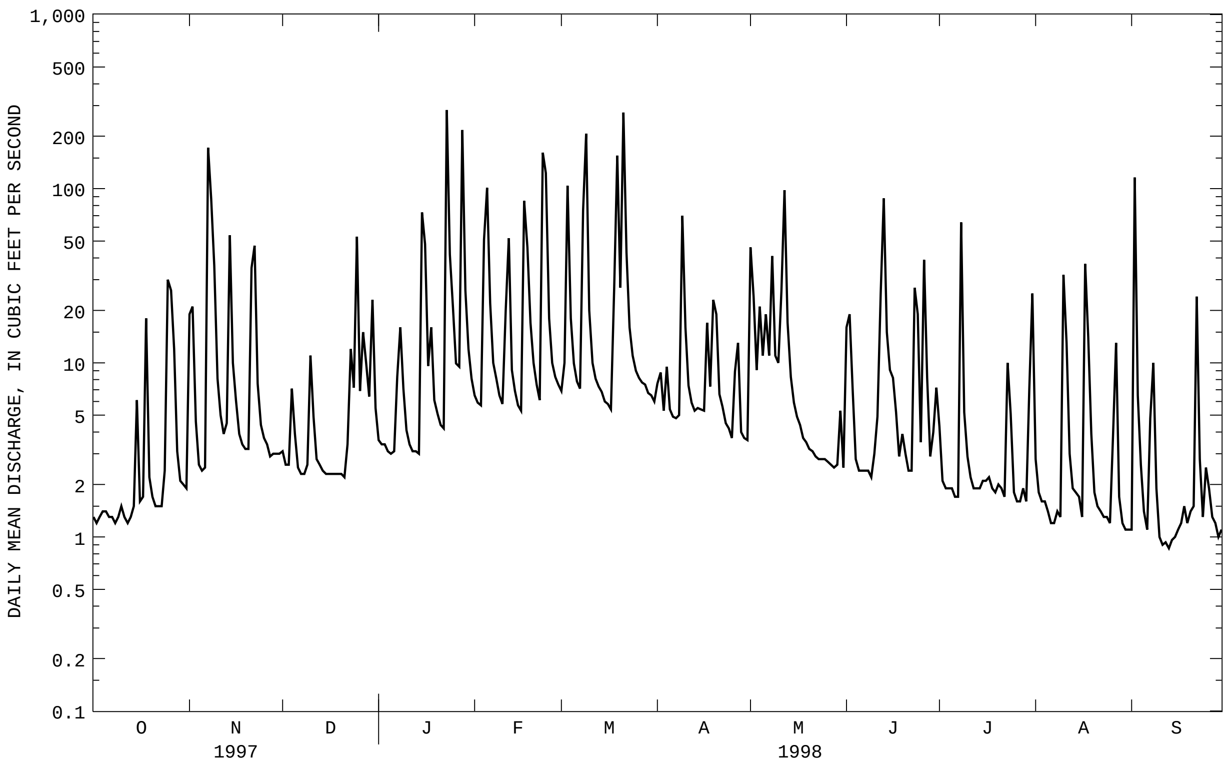
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1989, 1992 - 1998 BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.56	10.8	13.5	14.5	15.9	17.2	13.0	11.5	9.34	8.90	10.1	9.74
MAX	27.2	31.8	41.5	45.2	42.7	43.2	43.5	43.7	44.5	45.4	90.1	36.3
(WY)	1972	1973	1984	1978	1979	1993	1983	1989	1972	1989	1971	1971
MIN	1.92	1.82	1.69	1.82	4.11	4.66	4.35	2.24	2.01	1.34	1.18	1.41
(WY)	1970	1966	1966	1981	1968	1969	1985	1969	1986	1966	1962	1980

01585100 WHITEMARSH RUN AT WHITE MARSH, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1959 - 1989 1992 - 1998	
ANNUAL TOTAL	3491.05		5277.95			
ANNUAL MEAN	9.56		14.5		12.1	
HIGHEST ANNUAL MEAN					21.0	1971
LOWEST ANNUAL MEAN					4.27	1969
HIGHEST DAILY MEAN	172	Nov 7	283	Jan 23	820	Jun 22 1972
LOWEST DAILY MEAN	.83	Aug 9	.86	Sep 13	.10	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	1.0	Aug 7	.96	Sep 10	.39	Sep 1 1966
INSTANTANEOUS PEAK FLOW			1230	Mar 21	(a)8000	Aug 1 1971
INSTANTANEOUS PEAK STAGE			6.48	Mar 21	14.05	Aug 1 1971
INSTANTANEOUS LOW FLOW			.70	(b)	(c).00	Mar 20 1965
ANNUAL RUNOFF (CFSM)	1.26		1.90		1.59	
ANNUAL RUNOFF (INCHES)	17.07		25.80		21.59	
10 PERCENT EXCEEDS	20		28		21	
50 PERCENT EXCEEDS	3.8		4.4		4.1	
90 PERCENT EXCEEDS	1.3		1.4		1.5	

a From rating curve extended above 1,300 ft^3/s on the basis of a culvert measurement at a gage height of 10.04 ft and on the basis of a culvert and flow-over-road measurement of peak flow.
b Sept. 13, 14.
c Result of constuction work upstream from station.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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, 1.0 mi upstream from mouth, and 1.3 mi east of State Highway 45.

DRAINAGE AREA.--2.13 mi^2.

PERIOD OF RECORD.--July 1957 to May 1965, January 1966 to September 1987, October 1996 to current year.

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

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant upstream from station. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 290 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jun 13	1605	*1,520	*6.45	Aug 26	1600	332	3.61
Jul 30	2230	314	3.54	Sep 2	0640	752	4.91
Aug 17	0225	304	3.50	Sep 22	0315	384	3.81

Minimum discharge, 0.19 ft^3/s, Oct 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	8.0	.76	1.5	1.8	2.2	5.9	14	7.1	2.2	2.6	1.3
2	.38	5.0	.65	1.4	1.7	6.5	2.6	2.9	7.2	2.3	2.1	19
3	.46	.69	.67	1.3	1.9	22	2.2	4.2	1.3	2.0	1.8	1.9
4	.36	.56	2.2	1.4	16	3.5	3.1	4.5	.89	1.6	1.5	1.7
5	.38	.50	.84	.87	19	2.7	2.0	9.2	2.5	2.0	1.1	1.7
6	.34	.50	.71	.84	3.2	2.4	2.1	3.2	.83	1.3	1.3	1.6
7	.33	53	.69	3.1	2.3	2.2	1.9	3.2	.80	1.3	1.3	4.9
8	.33	11	.73	3.1	2.0	14	1.9	15	.76	20	.98	3.1
9	.30	7.5	.88	1.7	1.8	32	18	2.7	.76	2.2	.86	1.2
10	.31	2.1	3.4	1.0	1.7	4.4	2.7	4.1	1.2	1.5	9.5	1.2
11	.29	2.3	1.1	1.1	10	3.3	2.1	5.8	1.9	1.3	1.8	1.1
12	.45	1.4	1.0	.76	5.2	3.0	1.9	22	6.6	1.2	1.3	.97
13	.70	1.5	1.1	.95	1.9	2.8	1.9	3.4	46	1.6	1.5	.98
14	.74	10	.87	.93	1.8	2.8	1.9	2.5	3.1	2.2	1.5	1.0
15	3.5	1.5	.87	20	1.6	2.6	1.7	2.2	3.4	2.1	1.5	2.8
16	.73	1.4	.72	6.0	1.5	2.5	1.8	2.1	4.5	2.0	1.8	.81
17	1.5	.92	.67	2.2	21	2.4	3.9	2.3	2.4	1.6	16	1.3
18	4.6	.85	.67	2.6	17	8.5	1.8	3.2	2.3	1.1	2.7	1.5
19	.38	.81	.64	1.4	3.1	22	7.6	3.1	4.2	1.0	2.3	1.2
20	.34	.78	.61	1.4	2.6	7.0	2.6	3.0	2.2	1.1	2.3	1.4
21	.33	14	.80	1.4	2.0	31	2.0	2.6	2.1	1.2	2.1	1.6
22	.30	5.0	1.9	.96	1.8	7.2	1.6	1.3	2.2	.96	2.2	17
23	.29	1.3	2.8	42	29	3.6	1.6	1.3	4.5	5.4	2.2	1.1
24	.98	.98	3.5	6.3	22	3.1	2.1	1.2	2.5	1.0	2.3	.91
25	8.0	.97	11	2.8	5.5	2.8	2.3	1.2	2.2	1.3	2.6	1.7
26	7.9	.92	1.4	1.8	5.0	2.7	4.0	1.2	12	1.9	10	1.0
27	1.3	.72	3.6	2.2	4.7	2.6	3.5	1.2	2.3	2.3	5.0	.98
28	.47	.76	1.9	41	2.4	2.4	1.4	1.1	2.0	2.1	2.3	.85
29	.43	.74	5.1	3.8	---	2.3	1.4	2.0	3.3	1.9	1.6	.68
30	.41	.77	4.6	2.5	---	2.2	1.4	1.9	5.3	11	1.5	.73
31	.40	---	1.7	2.0	---	2.7	---	1.1	---	5.1	1.4	---
TOTAL	37.77	136.47	58.08	160.31	189.5	211.4	90.9	128.7	138.34	85.76	88.94	77.21
MEAN	1.22	4.55	1.87	5.17	6.77	6.82	3.03	4.15	4.61	2.77	2.87	2.57
MAX	8.0	53	11	42	29	32	18	22	46	20	16	19
MIN	.29	.50	.61	.76	1.5	2.2	1.4	1.1	.76	.96	.86	.68
MED	.41	1.1	.88	1.7	2.5	2.8	2.0	2.7	2.3	1.9	1.8	1.3
AC-FT	75	271	115	318	376	419	180	255	274	170	176	153
CFSM	.57	2.14	.88	2.43	3.18	3.20	1.42	1.95	2.16	1.30	1.35	1.21
IN.	.66	2.38	1.01	2.80	3.31	3.69	1.59	2.25	2.42	1.50	1.55	1.35

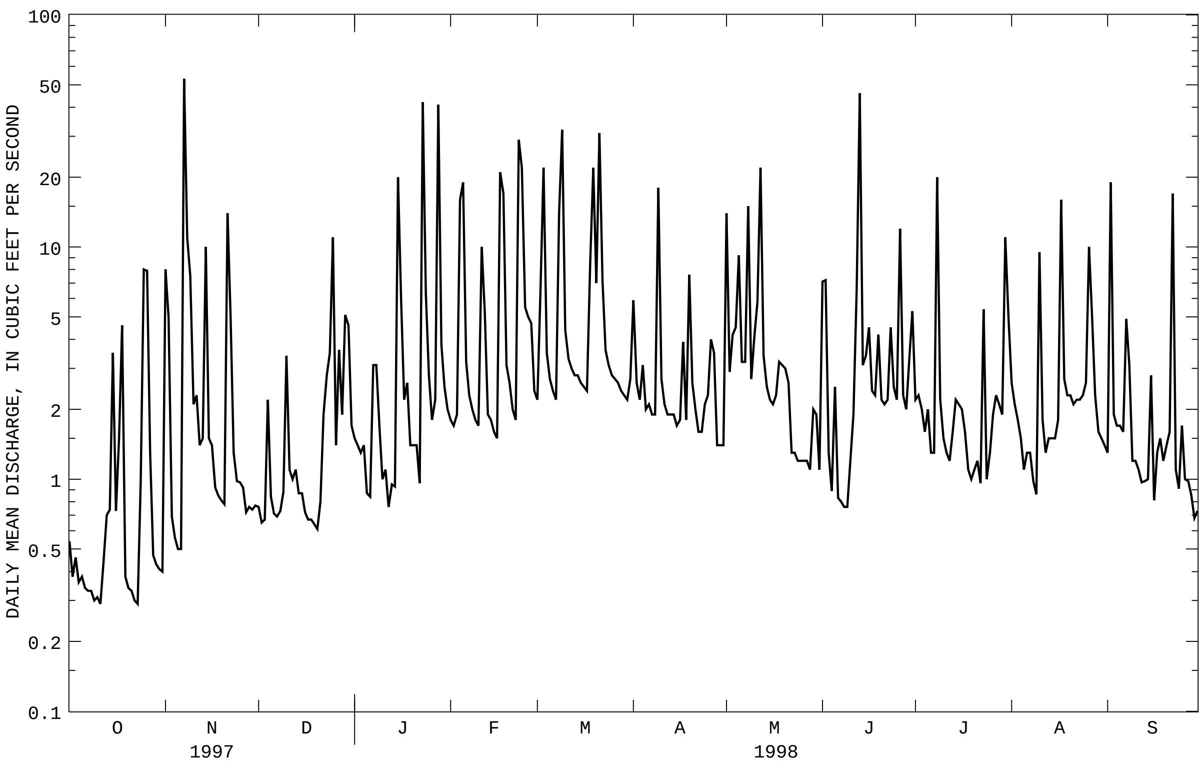
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1987, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.81	2.34	2.80	2.69	3.17	3.35	3.07	2.70	2.48	2.10	2.26	2.40
MAX	5.74	6.59	6.71	9.14	7.41	6.82	7.80	5.06	9.61	5.64	12.2	7.59
(WY)	1972	1973	1997	1979	1979	1998	1983	1984	1972	1975	1971	1971
MIN	.49	.43	.51	.26	1.12	1.06	1.12	.88	.79	.38	.40	.41
(WY)	1964	1982	1981	1981	1968	1981	1985	1963	1966	1966	1966	1970

01585200 WEST BRANCH HERRING RUN AT IDLEWYLDE, MD--Continued

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1957 - 1987 1997 - 1998	
ANNUAL TOTAL	1403.38			
ANNUAL MEAN	3.84		2.64	
HIGHEST ANNUAL MEAN			4.26	1972
LOWEST ANNUAL MEAN			1.42	1959
HIGHEST DAILY MEAN	53	Nov 7	137	Jun 22 1972
LOWEST DAILY MEAN	.29	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.33	Oct 5	.00	Aug 14 1957
INSTANTANEOUS PEAK FLOW	1520	Jun 13	(c)1740	Sep 11 1971
INSTANTANEOUS PEAK STAGE	6.45	Jun 13	6.80	Sep 11 1971
INSTANTANEOUS LOW FLOW	.19	Oct 9	.00	(b)
ANNUAL RUNOFF (AC-FT)	2780		1920	
ANNUAL RUNOFF (CFSM)	1.81		1.24	
ANNUAL RUNOFF (INCHES)	24.51		16.87	
10 PERCENT EXCEEDS	8.0		5.2	
50 PERCENT EXCEEDS	1.9		1.1	
90 PERCENT EXCEEDS	.72		.40	

a Oct. 11, 23.
b Aug. 14-24, 1957.
c From rating curve extended above 90 3ft/s on basis of slope-area measurement at gage height of 6.37 ft.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01585225 MOORES RUN TRIBUTARY NEAR TODD AVE AT BALTIMORE, MD

LOCATION.--Lat 39°20'12", long 76°32'27", Baltimore City, Hydrologic Unit 02060003, on left bank at upstream side of culvert inlet off of Todd Ave, at Baltimore, and 20 ft upstream from mouth.

DRAINAGE AREA.--0.21 mi^2.

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those below 0.20 ft^3/s and above 20 ft^3/s, which are poor. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jul 23	1925	51	1.62	Sep 2	0640	*247	*5.38
Jul 30	2210	75	2.07	Sep 22	1325	89	2.31

Minimum discharge, 0.00 ft^3/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.84	.04	.05	.19	.18	.16	1.0	.72	.03	.05	.00
2	.01	.52	.02	.05	.07	.28	.11	.23	.16	.02	.05	2.6
3	.02	.04	.07	.05	.05	1.3	.10	.36	.07	.01	.05	.03
4	.02	.02	.13	.08	1.5	.26	.20	.28	.05	.01	.05	.02
5	.01	.02	.04	.09	2.0	.18	.18	.45	.05	.02	.04	.02
6	.00	.07	.05	.05	.30	.15	.18	.18	.05	.02	.02	.03
7	.01	4.6	.05	.20	.28	.13	.14	.25	.05	.02	.02	.39
8	.02	.78	.03	.23	.24	.99	.08	.88	.05	1.4	.02	.20
9	.01	.52	.03	.06	.18	1.8	.86	.23	.05	.04	.02	.05
10	.01	.10	.34	.05	.18	.58	.22	.20	.07	.02	.63	.05
11	.00	.10	.05	.05	1.0	.51	.18	.30	.17	.02	.03	.03
12	.02	.10	.05	.06	.43	.39	.18	1.9	.54	.02	.00	.02
13	.01	.32	.05	.05	.18	.39	.18	.31	.91	.02	.00	.02
14	.03	1.0	.05	.03	.16	.33	.18	.28	.18	.02	.00	.02
15	.27	.19	.05	1.3	.10	.28	.13	.28	.27	.02	.00	.02
16	.03	.19	.03	.31	.10	.28	.10	.19	.14	.01	.00	.02
17	.16	.15	.02	.23	1.8	.18	.38	.18	.08	.00	.25	.02
18	.44	.11	.02	.16	.83	.18	.18	.18	.05	.00	.33	.02
19	.02	.10	.02	.10	.15	.38	.62	.13	.21	.00	.05	.02
20	.02	.07	.02	.08	.17	.29	.24	.10	.18	.00	.05	.02
21	.02	1.1	.02	.04	.18	.28	.13	.10	.10	.00	.04	.02
22	.01	.47	.19	.03	.18	.28	.10	.10	.10	.00	.02	.83
23	.01	.18	.12	4.0	2.6	.28	.10	.10	.24	.75	.02	.05
24	.17	.18	.38	.49	1.8	.22	.10	.10	.05	.02	.02	.04
25	.67	.18	.64	.21	.58	.13	.10	.10	.05	.00	.02	.07
26	.74	.18	.08	.18	.38	.10	.34	.10	.05	.00	.11	.03
27	.11	.14	.31	.32	.28	.10	.27	.10	.05	.00	.12	.02
28	.04	.07	.11	3.6	.18	.10	.18	.08	.05	.00	.00	.02
29	.02	.05	.38	.31	---	.15	.18	.05	.30	.00	.00	.01
30	.02	.06	.24	.28	---	.18	.13	.11	.07	1.4	.00	.00
31	.02	---	.10	.28	---	.18	---	.10	---	.41	.00	---
TOTAL	2.96	12.45	3.73	13.02	16.09	11.06	6.23	8.95	5.11	4.28	2.01	4.69
MEAN	.095	.41	.12	.42	.57	.36	.21	.29	.17	.14	.065	.16
MAX	.74	4.6	.64	4.0	2.6	1.8	.86	1.9	.91	1.4	.63	2.6
MIN	.00	.02	.02	.03	.05	.10	.08	.05	.05	.00	.00	.00
CFSM	.45	1.98	.57	2.00	2.74	1.70	.99	1.37	.81	.66	.31	.74
IN.	.52	2.21	.66	2.31	2.85	1.96	1.10	1.59	.91	.76	.36	.83

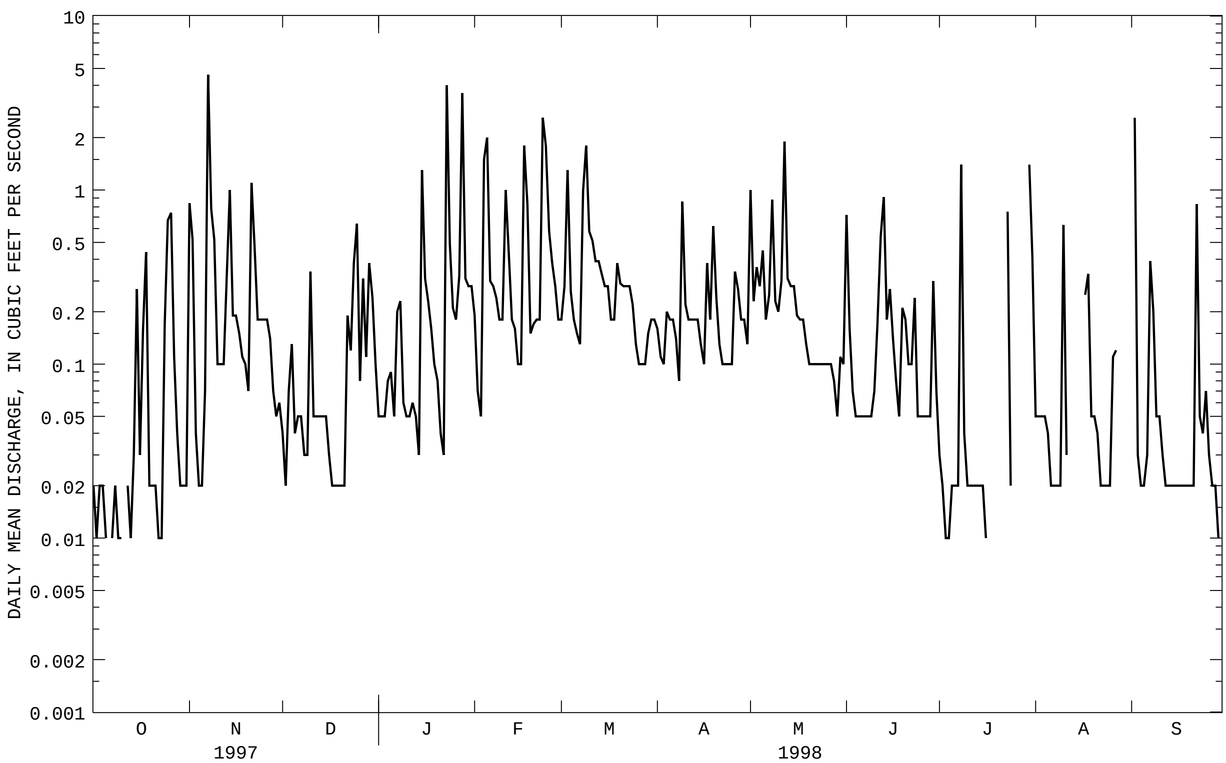
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.16	.32	.28	.32	.40	.38	.19	.19	.17	.081	.16	.16
MAX	.22	.41	.44	.42	.57	.40	.21	.29	.17	.14	.20	.24
(WY)	1997	1998	1997	1998	1998	1997	1998	1998	1998	1998	1996	1996
MIN	.095	.22	.12	.23	.22	.36	.18	.091	.16	.025	.065	.092
(WY)	1998	1997	1998	1997	1997	1998	1997	1997	1997	1997	1998	1997

01585225 MOORES RUN TRIBUTARY NEAR TODD AVE AT BALTIMORE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	67.60		90.58			
ANNUAL MEAN	.19		.25		.23	
HIGHEST ANNUAL MEAN					.25	1998
LOWEST ANNUAL MEAN					.21	1997
HIGHEST DAILY MEAN	4.6	Nov 7	4.6	Nov 7	4.6	Nov 7 1997
LOWEST DAILY MEAN	.00	(a)	.00	(a)	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 3	.00	Jul 16	.00	Jul 16 1998
INSTANTANEOUS PEAK FLOW			247	Sep 2	247	Sep 2 1998
INSTANTANEOUS PEAK STAGE			5.38	Sep 2	5.38	Sep 2 1998
INSTANTANEOUS LOW FLOW			.00	(a)	.00	(b)
ANNUAL RUNOFF (CFSM)	.88		1.18		1.08	
ANNUAL RUNOFF (INCHES)	11.97		16.05		14.72	
10 PERCENT EXCEEDS	.50		.56		.54	
50 PERCENT EXCEEDS	.09		.10		.09	
90 PERCENT EXCEEDS	.01		.02		.01	

a Many days.
b No flow at times in 1997-98.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01585230 MOORES RUN AT RADECKE AVE AT BALTIMORE, MD

LOCATION.--Lat 39°19'49", long 76°32'07", Baltimore City, Hydrologic Unit 02060003, on right downstream side of bridge on Radecke Avenue, at Baltimore, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--3.52 mi^2.

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 45 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (missing record) and discharges above 500 ft^3/s, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0705	615	4.91	Aug 10	1620	696	5.10
Jul 23	1930	648	4.99	Aug 18	1545	619	4.92
Jul 30	2225	1,030	5.74	Sep 2	0650	*3,660	*8.32

Minimum discharge, 0.15 ft^3/s, Oct 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	14	.70	.72	1.1	1.5	3.3	20	4.5	.75	.57	.52
2	.17	8.5	.54	.73	1.0	4.2	1.5	2.9	1.9	.58	.51	46
3	.20	.48	.64	.72	.95	42	1.4	3.9	.73	.57	.47	.68
4	e.20	.38	2.6	.80	33	3.4	3.0	4.1	.95	.58	.57	.61
5	e.18	.41	.63	.90	49	2.0	1.5	6.7	.67	.53	.58	.63
6	e.18	.46	.52	.65	4.3	1.7	1.6	2.3	.68	.49	.46	.63
7	e.18	102	.49	3.4	2.1	1.9	1.1	2.8	.64	.49	.43	8.2
8	e.20	16	.47	4.2	1.6	37	1.2	16	.66	27	.43	3.2
9	e.18	10	.70	1.3	e1.2	54	30	2.4	.65	.69	.46	.60
10	e.18	1.1	5.7	.73	e.90	3.4	1.8	2.5	1.1	.60	17	.57
11	e.18	.67	.78	.66	e17	2.1	1.3	4.7	2.4	.58	1.0	.57
12	e.20	.54	.58	.64	e9.0	1.6	1.2	44	8.0	.57	.52	.57
13	e.18	2.5	.51	1.3	e1.0	1.5	1.2	3.1	18	.51	.52	.73
14	.86	19	.47	.55	e.80	1.4	2.0	1.7	1.0	.50	.56	.57
15	4.1	2.3	.47	36	e.50	1.3	1.9	1.4	2.8	.49	.50	.52
16	.30	1.6	.44	8.4	e.40	1.2	1.6	1.2	2.5	.52	.47	.52
17	2.1	.92	.42	3.6	e40	1.3	5.5	1.1	.78	.52	6.8	.55
18	8.6	.94	.42	3.5	e20	11	1.3	1.0	.71	.50	8.4	.57
19	.23	.94	.44	1.2	4.0	52	11	.95	3.2	.50	.57	.57
20	.21	.87	.43	1.1	2.7	17	2.5	.85	1.0	.49	.49	.60
21	.19	23	.42	.86	1.8	80	1.6	.78	.76	.48	.45	.69
22	.22	8.7	2.8	.79	1.4	12	1.6	.78	.74	.48	.42	14
23	.24	1.2	2.9	103	74	3.2	1.5	.78	3.3	13	.42	.60
24	1.8	.76	6.4	9.8	45	2.7	1.1	.75	.79	.73	.43	.73
25	14	.60	16	3.7	3.8	1.7	1.0	.71	.58	.52	.45	1.3
26	13	.58	1.1	1.7	2.3	1.8	3.6	.71	2.8	.47	.69	.59
27	1.4	.58	6.1	3.1	1.9	1.5	3.3	.66	.64	.47	2.0	.57
28	.31	.58	1.7	90	1.8	1.4	.96	.73	.58	.47	.90	.58
29	.31	.58	7.2	4.6	---	1.4	.86	1.6	4.2	.47	.52	.58
30	.30	.63	5.0	2.2	---	1.4	.86	1.4	1.9	24	.52	.57
31	.75	---	1.1	1.5	---	1.4	---	.74	---	6.4	.52	---
TOTAL	51.32	220.82	68.67	292.35	322.55	350.0	92.28	133.24	69.16	84.95	48.63	87.62
MEAN	1.66	7.36	2.22	9.43	11.5	11.3	3.08	4.30	2.31	2.74	1.57	2.92
MAX	14	102	16	103	74	80	30	44	18	27	17	46
MIN	.17	.38	.42	.55	.40	1.2	.86	.66	.58	.47	.42	.52
CFSM	.47	2.09	.63	2.68	3.27	3.21	.87	1.22	.65	.78	.45	.83
IN.	.54	2.33	.73	3.09	3.41	3.70	.98	1.41	.73	.90	.51	.93

e Estimated

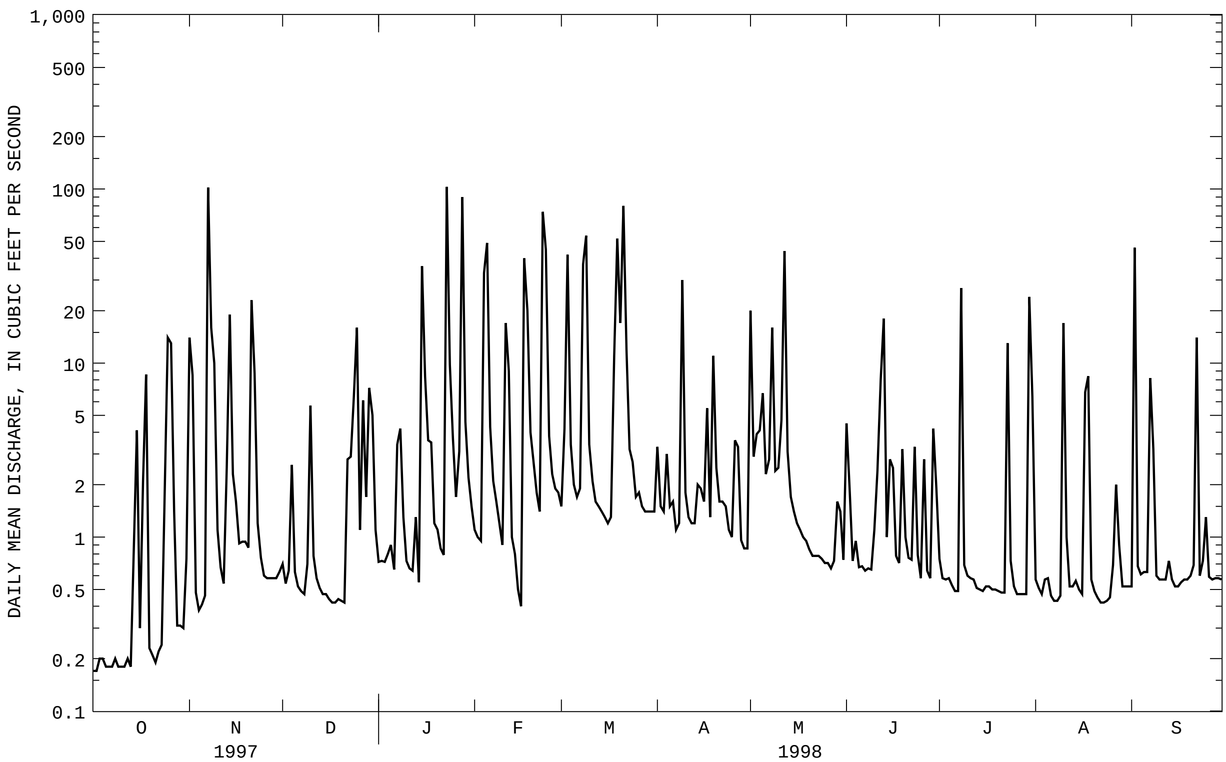
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.91	5.87	6.38	6.67	7.70	9.40	2.75	2.68	2.27	1.55	3.09	2.91
MAX	4.16	7.36	10.5	9.43	11.5	11.3	3.08	4.30	2.31	2.74	4.61	4.24
(WY)	1997	1998	1997	1998	1998	1998	1998	1998	1998	1998	1996	1996
MIN	1.66	4.38	2.22	3.90	3.89	7.51	2.42	1.06	2.24	.36	1.57	1.56
(WY)	1998	1997	1998	1997	1997	1997	1997	1997	1997	1997	1998	1997

01585230 MOORES RUN AT RADECKE AVE AT BALTIMORE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	1130.38		1821.59			
ANNUAL MEAN	3.10		4.99		4.38	
HIGHEST ANNUAL MEAN					4.99	1998
LOWEST ANNUAL MEAN					3.77	1997
HIGHEST DAILY MEAN	102	Nov 7	103	Jan 23	131	Dec 13 1996
LOWEST DAILY MEAN	.17	(a)	.17	(a)	.17	(a)
ANNUAL SEVEN-DAY MINIMUM	.18	Oct 1	.18	Oct 1	.18	Oct 1 1997
INSTANTANEOUS PEAK FLOW			3660	Sep 2	3660	Sep 2 1998
INSTANTANEOUS PEAK STAGE			8.32	Sep 2	8.32	Sep 2 1998
INSTANTANEOUS LOW FLOW			.15	Oct 20	.15	Oct 20 1997
ANNUAL RUNOFF (CFSM)	.88		1.42		1.24	
ANNUAL RUNOFF (INCHES)	11.95		19.25		16.91	
10 PERCENT EXCEEDS	8.6		11		9.9	
50 PERCENT EXCEEDS	.70		.95		.90	
90 PERCENT EXCEEDS	.19		.45		.27	

a Oct. 1, 2, 1997.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--October 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. Elevation of gage is 670 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mi upstream from station since August 1957, capacity, 113,700,000 gal. Beginning October l972 occasional large diversions past the gaging station from the reservoir through a 30-inch pipe. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 24	0400	97	2.87	Jun 16	1915	145	3.12
Mar 9	0815	82	2.77	Jun 23	2030	*707	*4.78
Mar 21	0245	162	3.20	Aug 10	1645	101	2.89

Minimum discharge, 0.20 ft^3/s, Oct 4, 5, 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	1.6	.58	.39	.86	5.6	20	6.0	4.7	3.0	2.4	.43
2	.24	1.3	.53	.39	.88	4.9	10	7.2	3.6	1.3	.77	6.9
3	.24	.38	.53	1.1	.75	8.5	6.7	6.8	1.9	1.3	.65	1.4
4	.23	.34	.53	.85	4.6	8.4	5.4	5.8	1.5	1.3	.67	.64
5	.25	.34	.53	.70	13	5.7	4.8	8.5	1.9	1.4	.63	.60
6	.24	.34	.47	.39	4.1	3.9	6.2	7.9	1.9	1.2	.61	.56
7	.33	18	.39	.67	1.1	5.6	6.0	3.2	2.1	.98	.60	.55
8	.34	9.4	.39	18	.93	9.7	5.8	18	1.9	8.5	.61	.61
9	.39	3.0	.39	5.0	.82	24	13	9.0	1.8	3.7	.63	.53
10	.39	.68	.79	1.6	.82	7.3	7.3	8.1	1.5	1.4	14	.50
11	.34	.78	.61	.67	1.9	4.2	6.3	10	1.6	1.1	2.6	.46
12	.28	.42	.39	.63	7.0	6.8	5.9	15	6.0	1.2	1.1	.46
13	.32	.39	.51	.60	1.5	6.3	5.7	7.9	7.7	.92	.65	.56
14	.22	.68	.39	.53	.84	6.3	5.6	3.8	4.7	.84	.65	.65
15	.25	.50	.35	3.8	1.0	5.8	5.5	3.9	4.0	.83	.63	.67
16	.24	.40	.34	6.6	1.6	5.2	5.2	3.6	18	1.3	.60	.65
17	.25	.39	.34	3.4	3.6	5.0	4.9	4.8	6.6	.95	2.0	.67
18	.33	.39	.34	2.3	13	7.9	4.7	2.4	4.2	1.0	1.5	.65
19	.29	.39	.34	.76	4.4	22	9.5	2.3	5.6	.82	.64	.82
20	.29	.39	.34	.63	1.5	8.8	8.0	2.9	5.4	.76	.60	.82
21	.30	.88	.34	.60	1.1	40	5.5	1.7	2.8	.71	.57	.82
22	.29	3.8	.36	.60	.94	10	5.2	1.9	3.2	.72	.53	.93
23	.28	1.6	.79	16	10	5.0	5.2	1.5	61	3.2	.53	.74
24	.29	.53	.56	5.6	29	6.3	4.9	1.6	9.9	1.6	.50	.53
25	.42	.53	5.3	4.0	8.2	8.2	4.2	1.2	4.5	.75	.53	.56
26	.38	.52	1.5	2.1	2.4	7.8	4.2	1.7	3.7	1.1	.60	.53
27	.37	.46	.50	.71	3.4	7.2	4.9	2.2	4.1	.71	.49	.46
28	.29	.46	.45	27	5.8	6.8	4.1	1.8	2.7	.65	.48	.39
29	.29	.52	.59	7.2	---	6.5	3.7	1.7	1.6	.64	.46	.39
30	.29	.49	.46	2.5	---	6.0	3.7	3.5	2.9	.64	.46	.40
31	.63	---	.41	1.3	---	5.9	---	2.8	---	4.3	.43	---
TOTAL	9.53	49.90	20.34	116.62	125.04	271.6	192.1	158.7	183.0	48.82	38.12	24.88
MEAN	.31	1.66	.66	3.76	4.47	8.76	6.40	5.12	6.10	1.57	1.23	.83
MAX	.63	18	5.3	27	29	40	20	18	61	8.5	14	6.9
MIN	.22	.34	.34	.39	.75	3.9	3.7	1.2	1.5	.64	.43	.39
CFSM	.09	.51	.20	1.14	1.36	2.66	1.95	1.56	1.85	.48	.37	.25
IN.	.11	.56	.23	1.32	1.41	3.07	2.17	1.79	2.07	.55	.43	.28

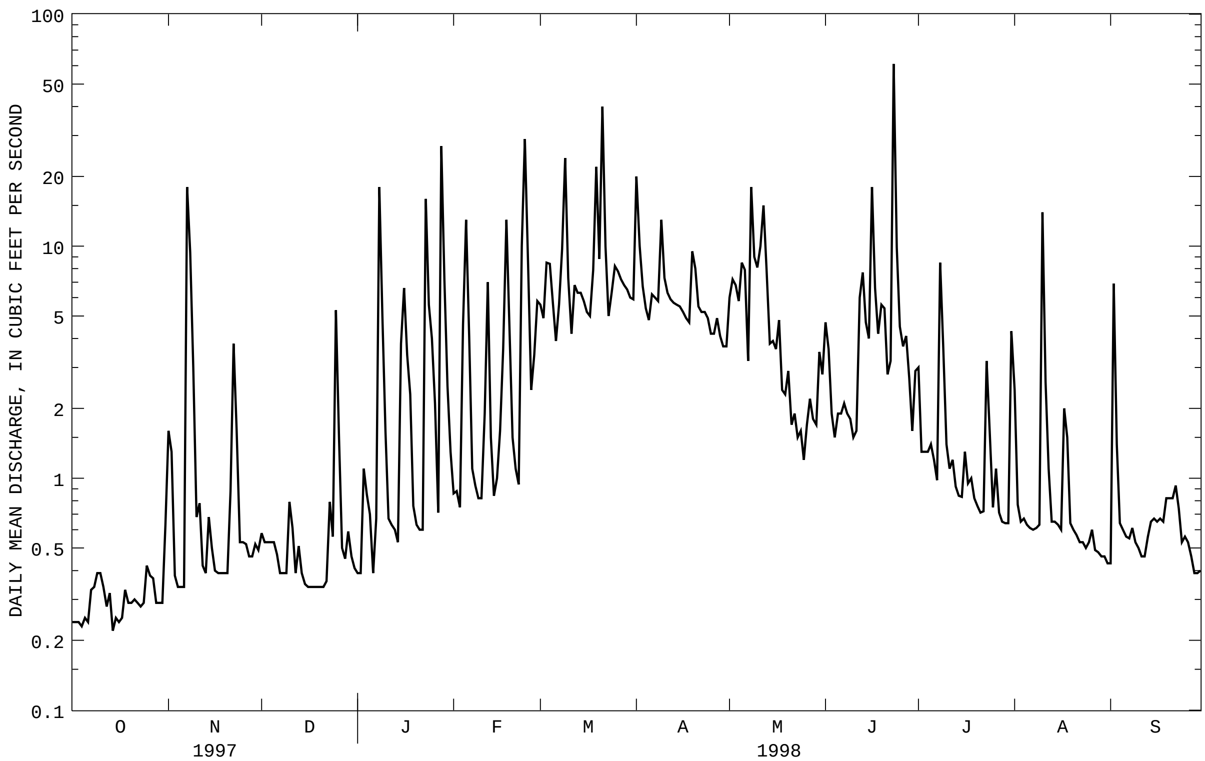
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.16	2.53	3.18	3.63	4.48	4.80	4.71	4.15	3.64	2.75	2.13	2.33
MAX	9.96	6.66	11.4	13.2	10.7	12.9	12.3	11.3	29.5	11.1	6.91	21.7
(WY)	1980	1953	1997	1996	1974	1994	1993	1952	1972	1972	1955	1975
MIN	.31	.53	.66	.56	.70	.77	.89	.88	.64	.46	.36	.30
(WY)	1998	1974	1998	1992	1992	1981	1992	1986	1986	1997	1986	1977

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1950 - 1998	
ANNUAL TOTAL	834.82		1238.65			
ANNUAL MEAN	(a)2.29		(a)3.39		(a)3.37	
HIGHEST ANNUAL MEAN					7.82	1972
LOWEST ANNUAL MEAN					.86	1992
HIGHEST DAILY MEAN	18	Nov 7	61	Jun 23	440	Jun 22 1972
LOWEST DAILY MEAN	.22	Sep 22	.22	Oct 14	.01	(b)
ANNUAL SEVEN-DAY MINIMUM	.24	Sep 22	.25	Oct 1	.01	Sep 6 1995
INSTANTANEOUS PEAK FLOW			707	Jun 23	(c)2220	Sep 26 1975
INSTANTANEOUS PEAK STAGE			4.78	Jun 23	7.47	Sep 26 1975
INSTANTANEOUS LOW FLOW			(d).20	(f)	(d).00	(g)
ANNUAL RUNOFF (CFSM)	.70		1.03		1.02	
ANNUAL RUNOFF (INCHES)	9.44		14.01		13.90	
10 PERCENT EXCEEDS	5.4		7.9		6.0	
50 PERCENT EXCEEDS	.82		1.2		2.3	
90 PERCENT EXCEEDS	.29		.37		.71	

a Unadjusted for storage and diversions.
b Sept. 6-16, 1995.
c From rating curve extended above 200 ft^3/s on the basis of culvert measurement at gage heights 5.54 ft and 7.47 ft.
d Result of regulation.
f Oct. 4, 5, 14, 15.
g Sept. 5-11, 13-16, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 420.70 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Slight diurnal fluctuation at low and medium flow caused by mill upstream from station. Low flow affected slightly by Cranberry Reservoir since August 1957, capacity, 113,700,000 gal. Records do not include a mean discharge of 3.10 ft^3/s diverted upstream from station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	2045	1,300	4.74	Mar 21	0500	*2,010	*6.07
Feb 24	0630	1,230	4.59	Apr 1	1830	1,410	4.95
Mar 9	0945	1,650	5.43	Jun 24	0030	1,130	4.37

Minimum discharge, 11 ft^3/s, Oct 9, 13, 15, Jan 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	53	31	27	86	116	403	108	94	75	44	21
2	15	68	26	30	78	102	236	166	74	55	34	145
3	15	39	24	36	74	163	155	145	70	52	31	39
4	15	23	26	38	103	151	145	116	64	50	30	28
5	14	21	26	34	250	136	129	183	64	50	29	25
6	13	20	24	31	130	116	122	180	63	45	28	24
7	13	340	24	32	102	106	117	122	63	45	27	24
8	12	293	23	272	90	152	114	319	61	143	28	35
9	12	105	23	118	81	578	241	195	57	77	27	27
10	13	56	26	71	76	203	163	160	63	56	165	24
11	12	41	36	54	77	149	127	175	64	48	96	23
12	12	33	27	46	137	130	117	253	120	46	41	23
13	12	29	25	43	86	121	112	185	227	44	33	22
14	12	58	24	37	75	116	109	145	119	43	31	22
15	18	49	23	57	68	108	108	131	84	42	31	21
16	17	35	22	135	65	100	104	121	124	41	30	20
17	16	29	23	73	90	91	104	115	149	43	55	20
18	41	27	22	69	278	117	97	107	76	42	42	21
19	22	27	22	55	122	358	134	101	88	37	34	21
20	18	27	22	49	103	155	171	97	101	35	28	22
21	17	29	22	44	93	743	106	94	72	34	28	24
22	17	86	22	41	83	244	98	90	80	32	27	31
23	17	45	40	309	183	184	96	88	173	66	27	28
24	19	32	29	145	538	159	94	85	254	46	25	22
25	48	28	108	102	182	144	89	87	88	34	25	24
26	31	28	52	80	137	135	87	82	79	41	26	26
27	48	28	39	68	120	129	92	80	79	36	25	23
28	25	27	37	507	115	123	83	76	70	32	24	21
29	21	26	31	174	---	118	80	73	62	31	23	19
30	19	27	38	122	---	111	78	83	64	30	23	20
31	18	---	32	100	---	106	---	73	---	87	22	---
TOTAL	597	1729	949	2999	3622	5464	3911	4035	2846	1538	1139	845
MEAN	19.3	57.6	30.6	96.7	129	176	130	130	94.9	49.6	36.7	28.2
MAX	48	340	108	507	538	743	403	319	254	143	165	145
MIN	12	20	22	27	65	91	78	73	57	30	22	19
CFSM	.34	1.02	.54	1.71	2.29	3.11	2.30	2.30	1.68	.88	.65	.50
IN.	.39	1.14	.62	1.97	2.38	3.59	2.57	2.65	1.87	1.01	.75	.56

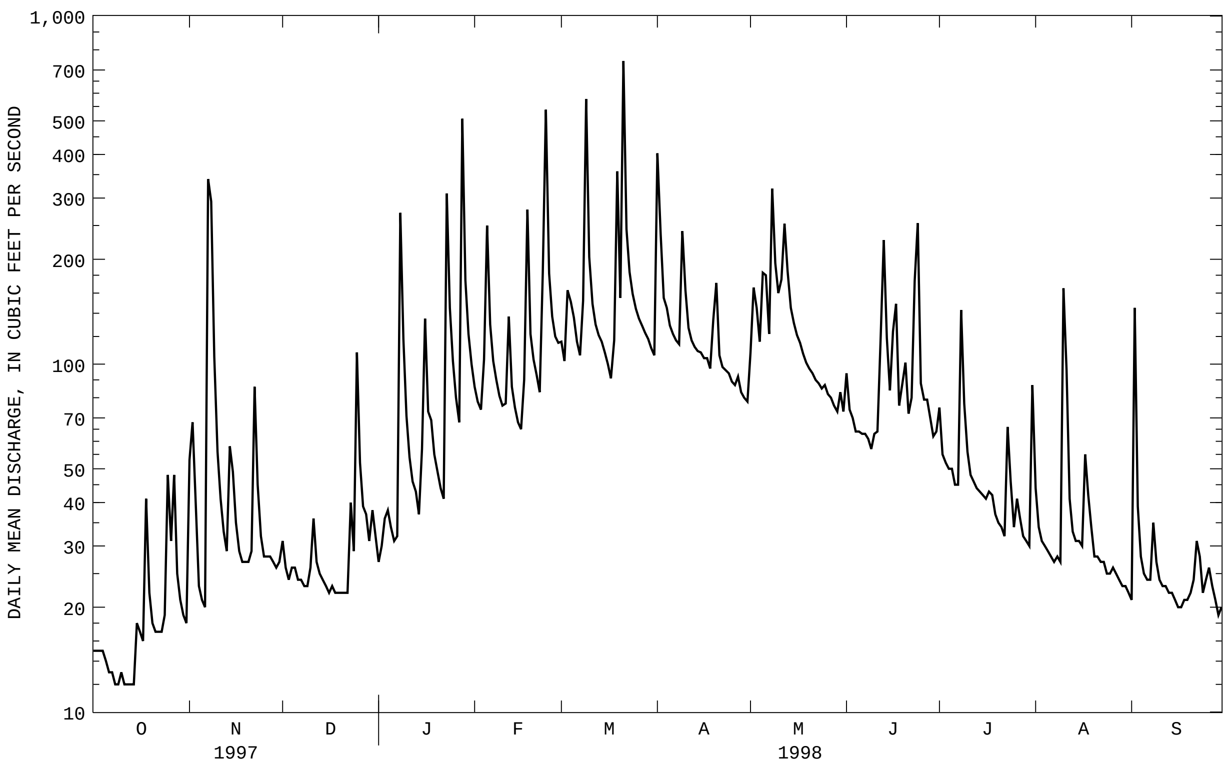
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	42.0	52.0	63.6	76.0	87.6	96.8	87.9	77.4	64.9	50.1	42.2	42.0
MAX	214	114	240	225	212	243	213	201	390	149	165	356
(WY)	1980	1953	1997	1996	1979	1994	1993	1952	1972	1972	1955	1975
MIN	11.8	15.8	15.5	17.6	36.4	37.1	36.3	26.3	19.5	9.72	6.91	12.4
(WY)	1964	1966	1966	1966	1992	1959	1969	1969	1969	1966	1966	1964

01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	19816		29674			
ANNUAL MEAN	54.3		81.3		64.7	
HIGHEST ANNUAL MEAN					121	1972
LOWEST ANNUAL MEAN					30.1	1966
HIGHEST DAILY MEAN	340	Nov 7	743	Mar 21	6000	Jun 22 1972
LOWEST DAILY MEAN	12	(a)	12	(b)	3.1	(c)
ANNUAL SEVEN-DAY MINIMUM	12	Oct 8	12	Oct 8	3.5	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2010	Mar 21	(d)27800	Jun 22 1972
INSTANTANEOUS PEAK STAGE			6.07	Mar 21	(f)20.75	Jun 22 1972
INSTANTANEOUS LOW FLOW			11	(g)	(h)1.3	(i)
ANNUAL RUNOFF (CFSM)	.96		1.44		1.14	
ANNUAL RUNOFF (INCHES)	13.02		19.50		15.53	
10 PERCENT EXCEEDS	104		159		115	
50 PERCENT EXCEEDS	39		56		44	
90 PERCENT EXCEEDS	15		22		19	

a Aug. 11, 12, Oct. 8, 9, 11-14.
b Oct. 8, 9, 11-14.
c Sept. 10, 12, 1996.
d From rating curve extended above 4,100 ft^3/s on basis of contracted-opening measurement of peak flow.
f From high-water mark in well.
g Oct. 9, 13, 15, 1997 and Jan. 4, 1998.
h Result of regulation.
i Sept. 17, 1983 and Aug. 10, 1985.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01586210 BEAVER RUN NEAR FINKSBURG, MD

LOCATION.--Lat 39°29'22", long 76°54'l2", 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^2.

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

GAGE.--Water-stage recorder. Datum of gage is 428.70 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (backwater from leaves and ice effect), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 21	0415	567	3.47	Jun 23	2330	*627	*3.61

Minimum discharge, 2.9 ft^3/s, Oct 10-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.1	13	7.8	e7.6	22	28	100	26	23	17	8.9	6.4
2	e2.9	14	7.3	8.0	20	25	57	40	20	14	7.8	13
3	e3.0	7.9	7.1	8.4	19	40	42	35	21	13	7.3	7.9
4	e3.0	5.6	7.0	8.4	29	34	39	28	18	13	7.1	7.2
5	e2.9	4.9	6.9	8.0	57	31	35	71	17	13	6.8	6.9
6	e2.8	4.6	6.8	7.6	30	28	33	48	17	12	6.5	6.7
7	e2.7	61	6.7	8.1	25	26	31	40	16	12	6.4	6.8
8	e2.7	46	6.5	48	23	38	31	94	16	29	6.4	10
9	e2.6	23	6.4	23	21	112	56	56	16	16	6.3	7.4
10	e2.6	14	6.8	16	19	48	40	48	17	14	19	7.0
11	e2.5	11	7.9	13	20	38	33	49	17	12	13	6.9
12	e2.6	9.2	7.0	12	30	34	31	61	26	11	8.5	6.6
13	e2.8	7.8	6.5	11	20	32	29	48	26	11	7.5	6.4
14	e2.9	12	6.4	10	19	30	28	42	21	10	7.4	6.4
15	3.7	11	6.4	16	17	28	27	39	17	10	7.2	6.4
16	3.4	9.2	6.4	27	17	26	26	36	18	10	7.0	6.3
17	3.2	8.3	6.4	16	22	24	27	33	20	9.7	8.2	6.2
18	7.1	7.8	6.2	15	48	30	25	31	15	9.4	7.4	6.3
19	4.1	7.5	5.9	13	27	71	35	30	15	8.9	6.5	5.9
20	3.9	7.3	5.7	12	25	40	36	28	22	8.8	6.0	5.9
21	3.8	8.0	5.7	11	22	165	26	27	15	8.5	5.8	6.3
22	3.6	19	5.8	11	21	62	24	25	19	8.2	5.6	7.4
23	3.5	10	9.1	65	38	51	24	24	42	11	5.5	6.8
24	3.6	8.6	7.7	32	89	46	23	23	45	8.7	5.7	6.3
25	9.8	8.0	24	24	40	42	22	23	22	7.5	5.8	6.5
26	6.1	7.9	12	19	33	39	21	22	20	7.5	6.0	7.0
27	9.6	7.7	9.9	17	29	38	23	21	18	7.4	6.1	6.8
28	4.9	7.5	9.8	71	27	36	21	21	20	7.2	6.1	6.3
29	4.4	7.5	8.8	40	---	34	20	19	17	7.0	6.1	5.8
30	4.1	7.2	9.6	30	---	32	20	20	17	6.7	6.2	5.7
31	4.0	---	8.5	25	---	31	---	18	---	17	6.4	---
TOTAL	121.9	376.5	245.0	633.1	809	1339	985	1126	613	350.5	226.5	207.5
MEAN	3.93	12.6	7.90	20.4	28.9	43.2	32.8	36.3	20.4	11.3	7.31	6.92
MAX	9.8	61	24	71	89	165	100	94	45	29	19	13
MIN	2.5	4.6	5.7	7.6	17	24	20	18	15	6.7	5.5	5.7
CFSM	.28	.90	.56	1.46	2.06	3.09	2.35	2.59	1.46	.81	.52	.49
IN.	.32	1.00	.65	1.68	2.15	3.56	2.62	2.99	1.63	.93	.60	.55

e Estimated

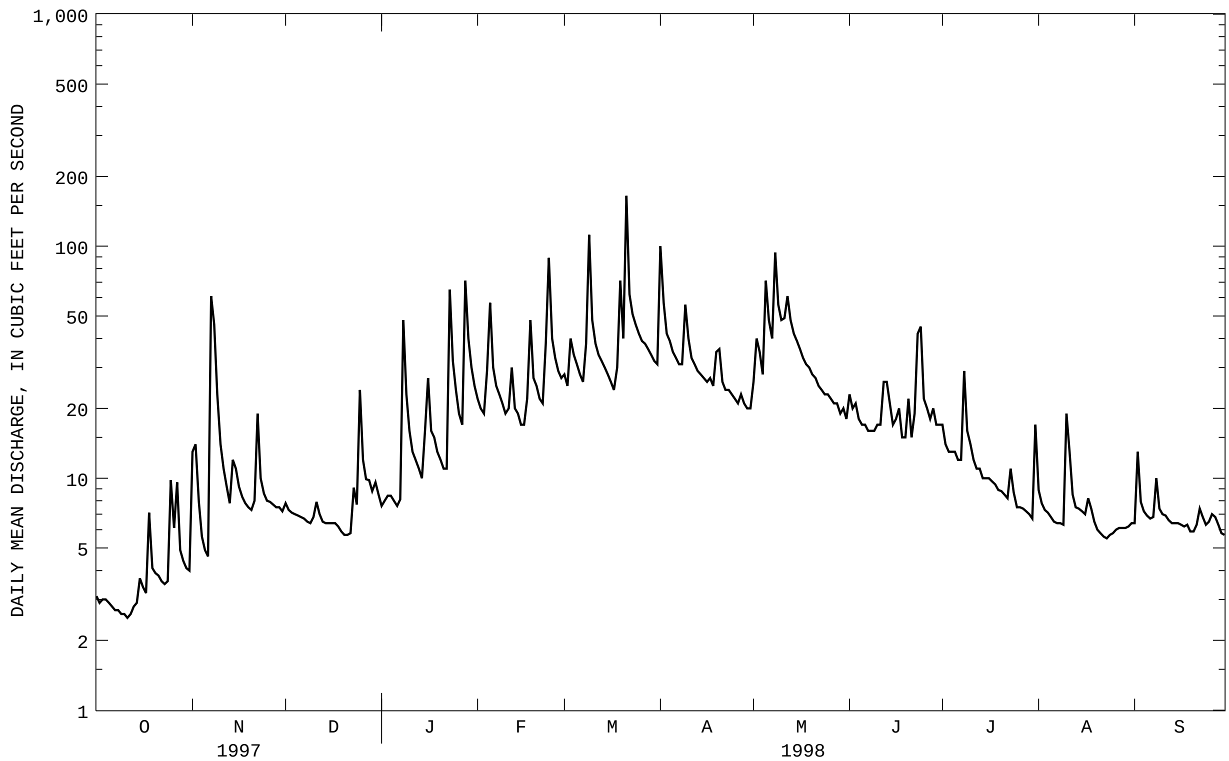
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.2	14.8	19.1	20.5	22.9	27.5	25.8	23.3	13.7	11.2	9.97	8.31
MAX	30.0	27.5	56.0	49.6	41.4	62.0	54.7	51.9	25.3	32.4	29.9	25.1
(WY)	1997	1997	1997	1996	1994	1993	1993	1989	1989	1996	1984	1996
MIN	3.73	7.75	7.90	8.41	10.7	13.8	11.9	10.1	5.50	4.30	4.00	2.78
(WY)	1987	1983	1998	1983	1992	1990	1985	1986	1986	1991	1997	1986

01586210 BEAVER RUN NEAR FINKSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	5092.0		7033.0			
ANNUAL MEAN	14.0		19.3		17.2	
HIGHEST ANNUAL MEAN					25.2	1996
LOWEST ANNUAL MEAN					9.92	1986
HIGHEST DAILY MEAN	61	Nov 7	165	Mar 21	528	Jan 19 1996
LOWEST DAILY MEAN	(e)2.5	Oct 11	(e)2.5	Oct 11	2.1	(a)
ANNUAL SEVEN-DAY MINIMUM	2.6	Oct 6	2.6	Oct 6	2.2	Sep 15 1986
INSTANTANEOUS PEAK FLOW			627	Jun 23	(b)2150	May 6 1989
INSTANTANEOUS PEAK STAGE			3.61	Jun 23	(c)5.70	May 6 1989
INSTANTANEOUS LOW FLOW			2.9	(d)	2.0	(f)
ANNUAL RUNOFF (CFSM)	1.00		1.38		1.23	
ANNUAL RUNOFF (INCHES)	13.53		18.69		16.73	
10 PERCENT EXCEEDS	27		40		31	
50 PERCENT EXCEEDS	10		13		13	
90 PERCENT EXCEEDS	3.3		5.8		5.2	

e Estimated
a Sept. 17, 18, 1986.
b From rating curve extended above 600 ft^3/s.
c From floodmarks.
d Oct. 10-13.
f Sept. 12, 1983, Sept. 17, 18, 1986.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

REVISED RECORDS.--WRD MD-DE-84: 1983(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 430 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jun 23	2100	*1,110	*5.00	No other peak greater than base discharge.			

Minimum discharge, 5.0 ft^3/s, Oct 9-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	21	14	e13	48	e69	e260	56	e44	27	17	8.2
2	5.7	23	13	e14	44	e71	e150	77	e40	24	15	15
3	5.8	15	12	e15	42	e60	e98	81	e40	23	14	9.5
4	5.7	11	13	e15	59	e85	87	62	e35	22	14	9.1
5	5.7	10	12	e14	119	e77	77	e140	e35	23	13	8.4
6	5.4	9.9	12	e13	70	e72	72	e100	e33	21	13	8.0
7	5.3	103	11	e20	58	e63	68	e77	e33	21	12	8.1
8	5.2	98	11	e98	53	e130	65	e190	e33	42	12	15
9	5.1	41	12	e50	50	e300	119	e120	e31	27	12	9.5
10	5.1	24	13	e35	45	122	88	e95	36	23	32	8.9
11	5.0	18	14	e25	44	100	73	e98	36	22	22	8.4
12	5.1	16	12	e24	64	88	67	e120	45	21	15	8.2
13	5.4	15	12	e22	48	81	63	e100	40	20	14	7.8
14	5.6	25	11	e20	44	79	62	e84	37	20	13	7.7
15	7.2	22	11	33	41	73	61	e78	34	20	13	7.8
16	6.8	17	11	59	40	68	60	e71	36	20	13	7.7
17	6.3	15	11	36	48	64	58	e65	38	19	15	7.7
18	12	14	11	33	96	e85	56	e62	30	18	14	8.8
19	8.0	14	e11	29	62	e150	68	e59	34	17	12	7.8
20	7.1	14	e10	26	57	e90	79	e56	33	17	11	8.0
21	7.0	15	e10	23	53	e360	57	e54	28	16	11	8.2
22	6.8	37	e11	22	48	e140	54	e50	30	15	10	12
23	6.7	20	e16	135	74	e120	53	e48	142	16	10	9.2
24	7.3	16	e13	69	230	e105	51	e45	88	15	9.8	7.9
25	16	15	e48	50	101	e97	48	e45	37	14	9.4	8.7
26	12	14	e21	41	80	e89	48	e42	33	16	9.2	9.5
27	16	14	e17	39	72	e88	49	e42	30	15	9.1	8.3
28	9.8	13	e17	278	67	e86	45	e39	28	14	8.7	7.4
29	8.9	13	e15	98	---	e81	44	e37	28	14	8.5	7.0
30	8.6	13	e17	69	---	e77	45	e37	28	13	8.6	7.1
31	8.5	---	e15	56	---	e74	---	e35	---	31	8.5	---
TOTAL	231.1	695.9	437	1474	1857	3244	2225	2265	1195	626	398.8	264.9
MEAN	7.45	23.2	14.1	47.5	66.3	105	74.2	73.1	39.8	20.2	12.9	8.83
MAX	16	103	48	278	230	360	260	190	142	42	32	15
MIN	5.0	9.9	10	13	40	60	44	35	28	13	8.5	7.0
CFSM	.27	.83	.50	1.70	2.37	3.74	2.65	2.61	1.42	.72	.46	.32
IN.	.31	.92	.58	1.96	2.47	4.31	2.96	3.01	1.59	.83	.53	.35

e Estimated

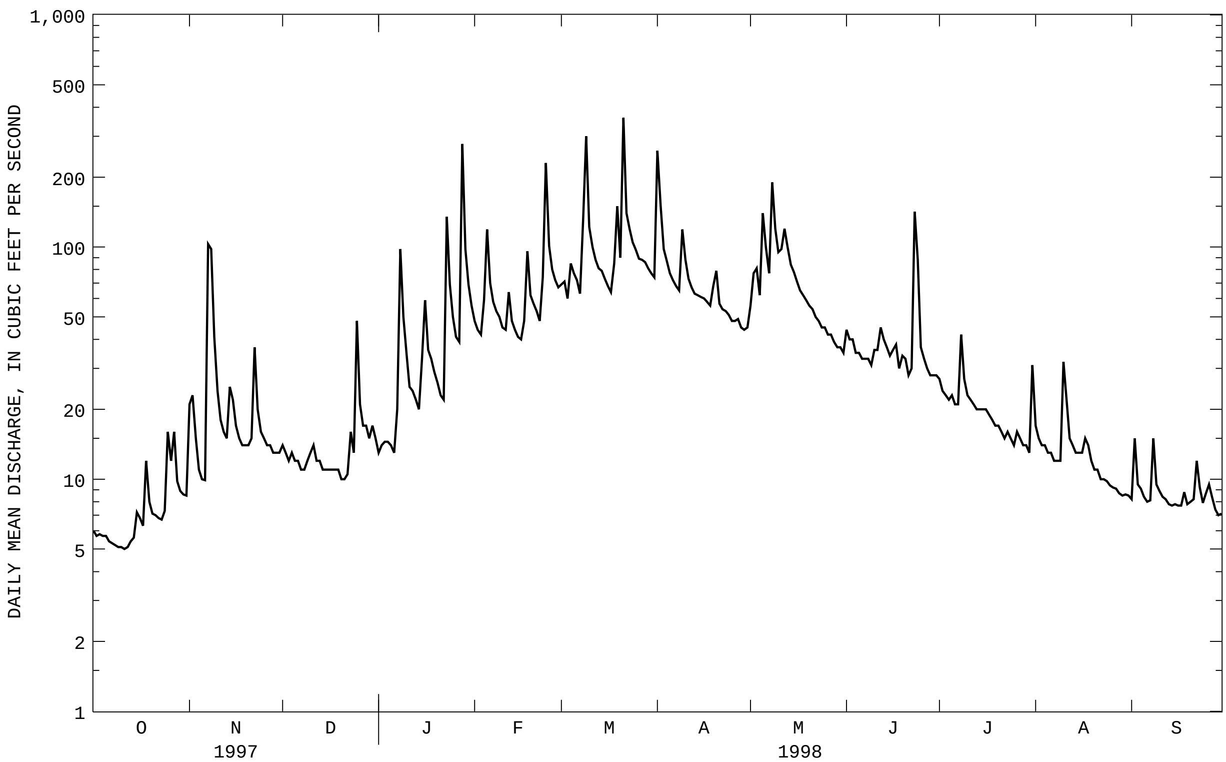
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.2	28.6	40.3	44.1	46.9	62.6	58.0	48.1	30.0	22.3	19.1	17.3
MAX	65.7	63.0	132	117	91.2	154	141	111	71.4	71.8	59.0	77.8
(WY)	1997	1997	1997	1996	1984	1993	1993	1989	1996	1996	1996	1996
MIN	5.69	13.7	14.1	17.0	20.6	29.1	27.0	20.5	11.5	7.47	6.48	5.15
(WY)	1987	1992	1998	1992	1992	1985	1985	1986	1986	1986	1986	1986

01586610 MORGAN RUN NEAR LOUISVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	10554.8		14913.7			
ANNUAL MEAN	28.9		40.9		36.4	
HIGHEST ANNUAL MEAN					58.3	1996
LOWEST ANNUAL MEAN					19.5	1986
HIGHEST DAILY MEAN	147	Mar 3	360	Mar 21	1370	Jan 19 1996
LOWEST DAILY MEAN	5.0	Oct 11	5.0	Oct 11	4.0	(a)
ANNUAL SEVEN-DAY MINIMUM	5.2	Oct 6	5.2	Oct 6	4.2	Sep 17 1986
INSTANTANEOUS PEAK FLOW			1110	Jun 23	(b)3550	Jan 19 1996
INSTANTANEOUS PEAK STAGE			5.00	Jun 23	8.45	Jan 19 1996
INSTANTANEOUS LOW FLOW			5.0	(c)	4.2	Aug 18 1991
ANNUAL RUNOFF (CFSM)	1.03		1.46		1.30	
ANNUAL RUNOFF (INCHES)	14.02		19.81		17.67	
10 PERCENT EXCEEDS	59		88		70	
50 PERCENT EXCEEDS	19		24		25	
90 PERCENT EXCEEDS	7.0		8.2		9.7	

a Sept. 18-20, 1986.
b From rating curve extended above 1,900 ft^3/s.
c Oct. 9-12.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--February 1957 to September 1988, October 1996 to current year.

REVISED RECORDS.--WDR MD-DE-83: 1981-82(P). WDR MD-DE-84: 1981(P).

GAGE.--Water-stage recorder. Datum of gage is 361.32 ft above sea level (Baltimore County bench mark). 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 above 10 ft^3/s and fair below except those for estimated daily discharges which are fair. Slight diurnal fluctuation at times from unknown source upstream from station. Small diversion for irrigation upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collecteda at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21, 1956, reached a stage of 12.6 ft, discharge, 5,270 ft^3/s on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	2245	1,210	5.70	Mar 21	0415	1,020	5.20
Jan 28	1415	1,220	5.72	Jun 13	1630	1,080	5.36
Mar 9	0800	*1,820	*7.13				

Minimum discharge, 6.5 ft^3/s, Oct 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	133	24	23	35	44	71	134	84	33	17	e9.5
2	10	70	21	22	32	45	124	126	28	21	13	107
3	10	30	20	24	32	265	45	98	32	20	12	19
4	9.7	22	27	23	173	91	50	91	25	19	14	e14
5	10	19	22	22	368	61	42	102	24	19	14	e12
6	10	17	20	21	89	49	39	136	24	18	13	e11
7	e9.0	472	19	25	48	44	37	59	23	18	12	14
8	e9.0	329	19	80	41	135	37	373	24	130	13	53
9	e9.0	115	20	45	37	708	241	93	23	31	13	16
10	9.5	44	32	29	35	96	87	65	34	23	38	13
11	11	32	29	25	53	57	50	84	29	19	31	12
12	10	27	21	23	145	48	43	305	68	18	15	11
13	10	25	20	23	44	44	41	94	181	17	13	11
14	9.8	113	19	22	38	43	40	56	59	17	12	11
15	19	49	18	115	34	41	38	47	35	16	12	10
16	12	35	19	141	33	40	36	42	37	16	12	e10
17	12	27	19	38	146	39	40	39	43	17	23	e11
18	72	26	18	40	326	92	37	36	25	17	18	e11
19	16	25	18	28	67	303	124	33	26	15	12	e11
20	13	24	18	26	50	83	124	31	58	15	10	e11
21	12	56	18	23	43	443	47	31	25	15	10	e12
22	11	147	21	22	38	114	41	30	31	14	11	31
23	11	38	45	401	237	66	38	30	39	39	12	16
24	12	30	26	105	416	53	37	29	92	20	12	e9.5
25	69	26	119	60	86	48	34	29	30	13	e11	11
26	53	26	33	37	53	47	39	27	31	13	e10	12
27	48	24	37	36	47	45	50	27	33	13	15	e11
28	19	23	35	683	44	44	34	25	36	13	11	e10
29	15	22	30	110	---	42	32	26	29	12	10	e10
30	15	22	65	52	---	41	31	34	33	27	11	e10
31	14	---	32	41	---	39	---	24	---	61	11	---
TOTAL	562.0	2048	884	2365	2790	3310	1729	2356	1261	739	441	510.0
MEAN	18.1	68.3	28.5	76.3	99.6	107	57.6	76.0	42.0	23.8	14.2	17.0
MAX	72	472	119	683	416	708	241	373	181	130	38	107
MIN	9.0	17	18	21	32	39	31	24	23	12	10	9.5
CFSM	.56	2.10	.88	2.35	3.07	3.29	1.77	2.34	1.29	.73	.44	.52
IN.	.64	2.34	1.01	2.71	3.19	3.79	1.98	2.70	1.44	.85	.50	.58

e Estimated

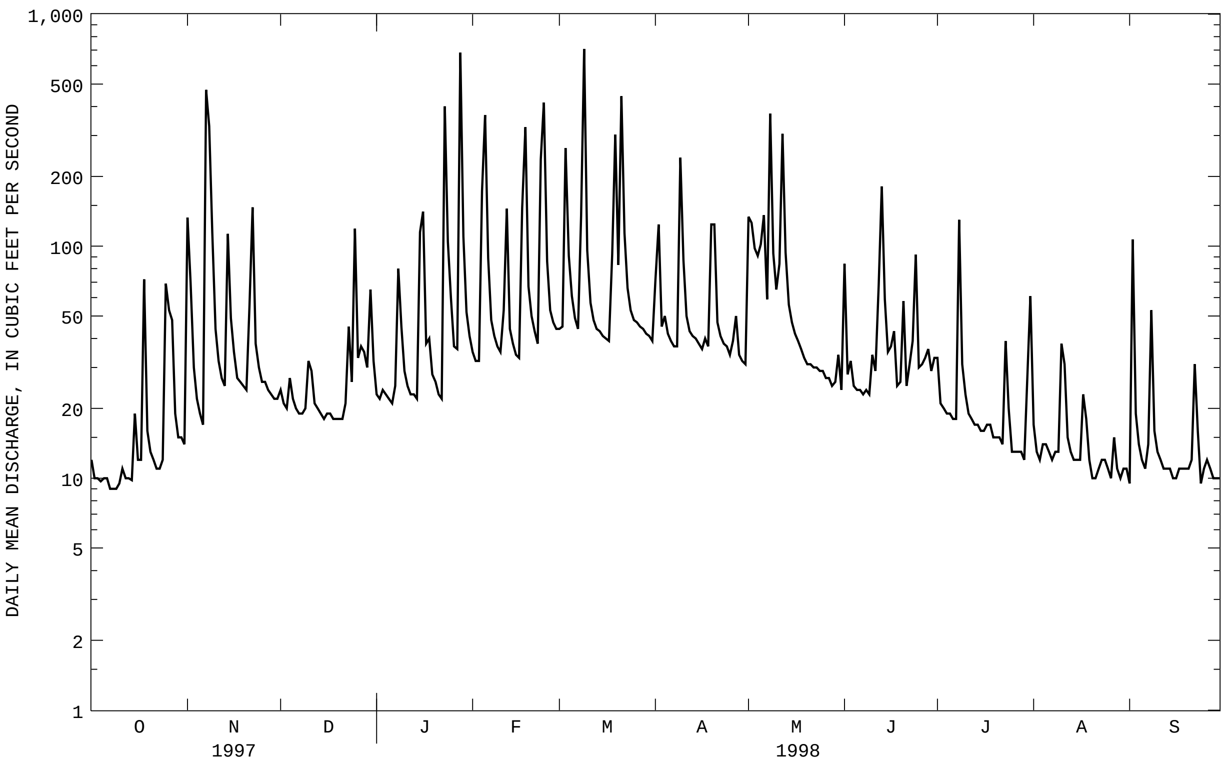
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1988, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	26.3	34.5	42.4	44.5	53.7	55.6	50.0	43.0	36.3	25.6	28.8	31.3
MAX	111	82.1	135	146	130	107	129	78.9	244	79.5	186	173
(WY)	1980	1997	1997	1979	1979	1998	1973	1983	1972	1975	1984	1979
MIN	7.10	10.4	9.18	10.5	23.0	21.4	20.7	14.4	8.95	6.37	5.02	7.35
(WY)	1964	1966	1966	1981	1969	1981	1963	1969	1986	1966	1966	1986

01589300 GWYNNS FALLS AT VILLA NOVA, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1957 - 1988 1997 - 1998	
ANNUAL TOTAL	14260.7		18995.0			
ANNUAL MEAN	39.1		52.0		39.5	
HIGHEST ANNUAL MEAN					76.8	1972
LOWEST ANNUAL MEAN					20.5	1959
HIGHEST DAILY MEAN	472	Nov 7	708	Mar 9	5000	Jun 22 1972
LOWEST DAILY MEAN	(e)9.0	(a)	(e)9.0	(a)	1.7	(b)
ANNUAL SEVEN-DAY MINIMUM	9.5	Oct 4	9.5	Oct 4	2.1	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1820	Mar 9	(c)16200	Jun 22 1972
INSTANTANEOUS PEAK STAGE			7.13	Mar 9	(d)21.50	Jun 22 1972
INSTANTANEOUS LOW FLOW			6.5	(f)	1.7	Sep 7 1966
ANNUAL RUNOFF (CFSM)	1.20		1.60		1.21	
ANNUAL RUNOFF (INCHES)	16.32		21.74		16.51	
10 PERCENT EXCEEDS	62		108		66	
50 PERCENT EXCEEDS	26		30		22	
90 PERCENT EXCEEDS	12		11		9.5	

e estimated
a Oct. 7-9.
b Sept. 7, 8, 1966.
c From rating curve extended above 4,200 ft^3/s on basis of contracted-opening measurement of peak flow.
d From floodmarks.
f Oct. 7, 8.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--Annual maximum, water years 1958-66. April 1966 to September 1988, October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 240 ft above sea level, from topographic map. January 1958 to April 1966, non-recording gage at site 450 ft upstream at same gage datum.

REMARKS.--Records good except those for estimated daily discharges (recorder malfunction), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1815	873	7.22	Mar 21	0330	758	6.93
Jan 28	1500	670	6.69	Jun 13	1645	808	7.06
Mar 9	1245	*1,340	*8.22	Sep 2	0715	709	6.80

Minimum discharge, 7.3 ft^3/s, Oct 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	40	18	19	37	43	e58	67	58	27	14	8.6
2	9.5	29	17	19	34	42	e72	76	34	23	13	81
3	9.3	18	17	19	32	142	e50	70	32	22	13	13
4	9.1	15	19	18	80	67	e47	69	28	21	12	11
5	9.1	13	19	17	150	50	e45	73	26	21	11	11
6	9.0	13	17	17	61	44	e43	67	25	19	11	11
7	8.1	309	17	19	46	42	e40	50	25	19	11	14
8	8.1	153	16	27	40	83	e40	132	25	90	11	26
9	7.8	51	16	24	36	472	e160	64	24	28	11	13
10	8.1	28	20	19	34	91	e72	57	29	22	17	12
11	8.7	23	20	18	41	67	e50	65	29	20	18	11
12	9.0	20	17	17	83	59	44	153	53	18	13	10
13	9.3	19	17	17	39	56	41	64	113	17	11	10
14	9.4	48	16	16	35	55	40	46	50	17	11	9.6
15	11	30	16	48	32	52	39	40	36	16	11	9.2
16	9.4	24	16	76	31	49	38	37	34	17	12	9.0
17	9.3	20	15	32	74	47	38	34	32	16	40	9.2
18	25	19	15	30	158	68	37	31	29	15	14	9.0
19	12	18	16	25	55	156	64	29	30	15	12	9.1
20	11	18	16	23	46	68	70	28	37	15	11	10
21	11	27	15	21	40	264	41	27	29	14	11	9.9
22	10	61	16	20	36	92	38	26	27	13	11	23
23	10	26	25	209	120	67	37	25	38	35	11	12
24	11	22	19	76	253	58	36	25	40	19	10	9.2
25	26	20	47	57	71	52	34	25	27	14	9.5	11
26	24	20	23	37	53	50	36	24	54	14	9.1	11
27	23	19	23	32	47	48	40	23	38	13	16	9.9
28	13	18	22	359	45	47	33	23	28	13	10	9.4
29	12	18	20	81	---	45	32	22	30	12	9.7	8.6
30	12	18	34	50	---	44	32	28	29	18	9.6	8.6
31	11	---	22	43	---	42	---	22	---	33	9.2	---
TOTAL	364.8	1157	606	1485	1809	2562	1447	1522	1089	656	393.1	409.3
MEAN	11.8	38.6	19.5	47.9	64.6	82.6	48.2	49.1	36.3	21.2	12.7	13.6
MAX	26	309	47	359	253	472	160	153	113	90	40	81
MIN	7.8	13	15	16	31	42	32	22	24	12	9.1	8.6
CFSM	.47	1.53	.78	1.90	2.56	3.28	1.91	1.95	1.44	.84	.50	.54
IN.	.54	1.71	.89	2.19	2.67	3.78	2.14	2.25	1.61	.97	.58	.60

e Estimated

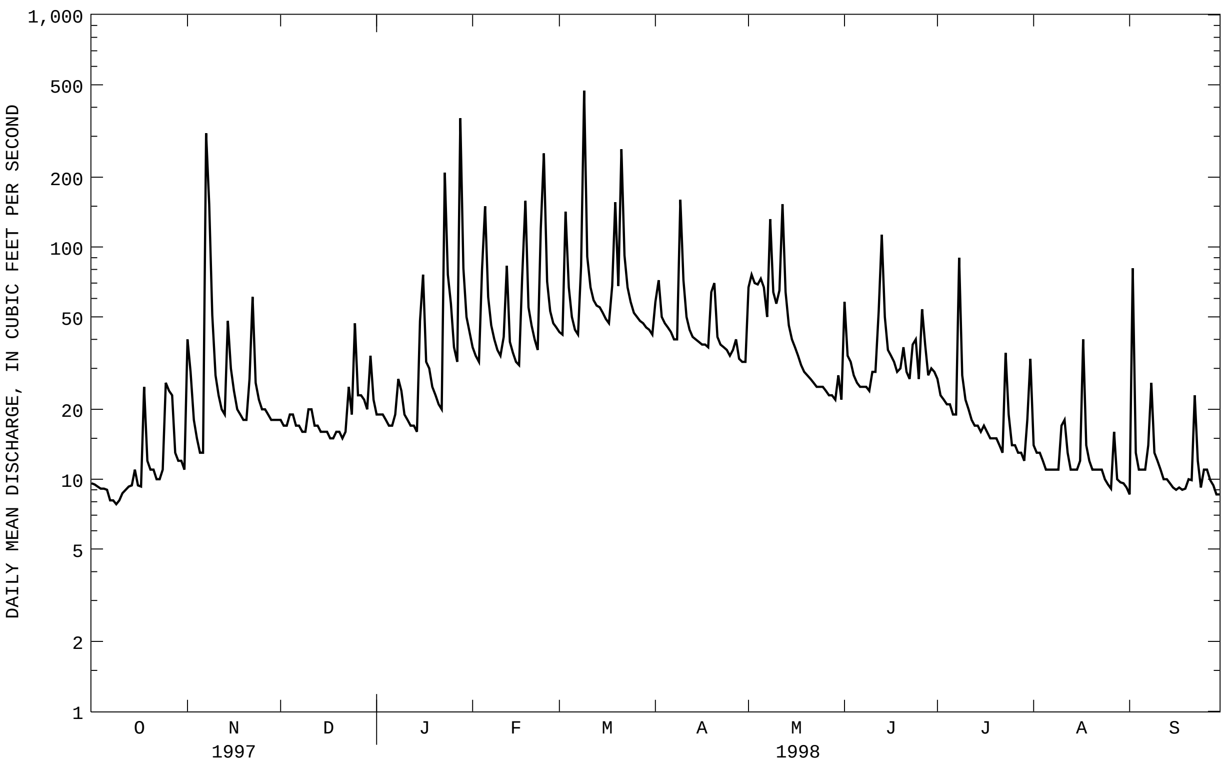
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1988, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.5	28.0	35.1	36.2	41.5	43.5	41.2	35.4	31.4	25.1	22.9	26.0
MAX	100	60.4	94.9	105	97.9	82.6	95.7	66.7	150	73.0	72.3	132
(WY)	1980	1973	1997	1979	1979	1998	1973	1973	1972	1984	1971	1979
MIN	6.47	10.2	11.3	9.92	18.5	17.5	18.7	13.0	7.98	4.74	3.85	6.26
(WY)	1987	1982	1981	1981	1969	1981	1969	1969	1986	1966	1966	1986

01589440 JONES FALLS AT SORRENTO, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1988, 1997 - 1998	
ANNUAL TOTAL	11502.4		13500.2			
ANNUAL MEAN	31.5		37.0		32.9	
HIGHEST ANNUAL MEAN					62.5	1972
LOWEST ANNUAL MEAN					17.0	1986
HIGHEST DAILY MEAN	309	Nov 7	472	Mar 9	2600	Jun 22 1972
LOWEST DAILY MEAN	7.8	Oct 9	7.8	Oct 9	2.1	(a)
ANNUAL SEVEN-DAY MINIMUM	8.4	Oct 6	8.4	Oct 6	2.2	Aug 28 1966
INSTANTANEOUS PEAK FLOW			1340	Mar 9	(b)13800	Jun 22 1972
INSTANTANEOUS PEAK STAGE			8.22	Mar 9	(c)18.11	Jun 22 1972
INSTANTANEOUS LOW FLOW			7.3	Oct 10	1.8	(d)
ANNUAL RUNOFF (CFSM)	1.25		1.47		1.30	
ANNUAL RUNOFF (INCHES)	16.98		19.93		17.72	
10 PERCENT EXCEEDS	51		68		54	
50 PERCENT EXCEEDS	24		25		22	
90 PERCENT EXCEEDS	9.9		10		9.6	

a Sept. 2, 3, 7, 1966.
b From rating curve extended above 1,400 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Sept. 7, 8, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 mi southeast of State Highway 3, and 0.5 mi northwest of Glen Burnie.

DRAINAGE AREA.--4.97 mi^2.

PERIOD OF RECORD.--May 1944 to September 1952. Annual maximum, water years 1965-70. September 1983 to current year.

REVISED RECORDS.--WDR MD-DE-89-1: 1984-88.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 26.07 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (missing record),which are fair. Low flow affected by ground-water diversions from Anne Arundel County municipal well fields upstream from station. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1933 reached a stage of about 14 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1945	53	2.94	Feb 23	2030	44	2.79
Jan 23	1500	57	3.02	Mar 9	0845	43	2.77
Jan 28	1615	45	2.80	Mar 19	0545	30	2.52
Feb 5	0445	44	2.79	Mar 21	0400	*60	*3.09

Minimum discharge, 1.3 ft^3/s, Sep 2, 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	6.3	3.9	e3.8	5.4	7.2	8.4	8.8	6.4	4.7	4.1	4.0
2	3.0	6.0	3.8	e3.7	5.1	7.1	10	9.2	5.6	4.4	3.7	2.8
3	3.0	4.2	3.8	e3.6	4.8	16	8.2	7.8	5.5	4.4	3.7	4.0
4	2.9	3.7	4.4	e3.5	17	10	10	9.2	5.4	4.4	3.6	3.4
5	2.9	3.3	4.0	e3.5	31	7.5	8.8	7.6	5.3	4.4	3.5	2.7
6	2.8	3.2	3.8	e3.7	15	6.9	8.0	7.8	5.3	4.2	3.5	2.9
7	2.7	23	3.6	e4.2	8.4	6.8	7.9	7.8	5.1	4.2	3.5	3.1
8	2.7	21	3.6	e5.3	6.7	14	7.9	17	5.1	11	3.6	4.5
9	2.7	18	3.7	e5.0	6.2	28	14	10	5.7	6.2	3.6	3.3
10	2.7	8.4	4.2	e4.1	5.9	14	13	8.5	5.8	4.9	4.1	3.4
11	2.7	5.3	4.2	e4.0	6.5	9.1	8.5	9.1	6.9	4.4	4.7	3.0
12	2.8	4.6	3.7	e4.0	10	8.1	7.9	18	9.3	4.2	3.7	2.9
13	2.8	4.4	3.6	e4.0	6.6	7.4	7.5	13	9.0	4.2	3.6	2.9
14	2.9	10	3.6	e5.0	5.9	7.4	7.7	8.1	8.0	4.2	5.0	2.9
15	3.4	6.8	3.4	e13	5.6	7.2	7.7	7.4	6.3	4.1	3.0	2.9
16	3.1	4.8	3.4	e9.8	5.4	6.9	7.5	7.0	6.0	4.2	3.3	2.9
17	3.7	4.2	3.4	4.9	13	6.8	12	6.7	5.5	4.2	5.5	2.9
18	11	4.1	3.3	4.3	17	11	10	6.5	5.1	4.1	5.4	3.4
19	4.2	4.1	3.2	3.8	10	23	9.7	6.3	6.6	4.0	3.2	3.1
20	3.5	4.1	3.2	3.7	7.4	13	12	6.1	8.6	4.0	3.3	3.1
21	3.1	4.9	3.2	3.5	6.7	32	8.1	6.1	5.8	3.8	4.2	3.1
22	3.0	8.6	3.5	3.4	6.2	17	7.5	5.9	5.2	3.8	3.1	6.1
23	2.9	5.0	4.9	22	17	11	7.5	5.8	5.3	3.7	3.3	3.5
24	3.1	4.2	3.9	15	28	9.7	7.4	5.9	6.0	3.6	3.3	3.0
25	10	4.1	8.4	8.6	12	8.8	7.0	6.1	5.0	3.5	3.1	3.1
26	7.3	4.1	4.7	5.4	8.4	8.6	7.1	5.9	4.9	3.7	3.2	3.2
27	8.1	3.9	4.6	4.7	7.5	8.6	7.9	5.8	4.9	3.7	4.4	3.0
28	4.1	3.8	5.0	31	7.2	8.5	6.9	5.8	4.8	3.6	2.9	3.0
29	3.6	3.8	e3.8	18	---	8.3	6.8	5.7	5.2	3.7	3.1	4.0
30	3.6	3.9	e4.6	8.1	---	8.2	6.8	5.5	5.0	3.6	3.1	2.7
31	3.2	---	e3.9	6.0	---	8.2	---	5.4	---	5.4	3.1	---
TOTAL	120.6	195.8	124.3	222.6	285.9	346.3	259.7	245.8	178.6	136.5	114.4	98.8
MEAN	3.89	6.53	4.01	7.18	10.2	11.2	8.66	7.93	5.95	4.40	3.69	3.29
MAX	11	23	8.4	31	31	32	14	18	9.3	11	5.5	6.1
MIN	2.7	3.2	3.2	3.4	4.8	6.8	6.8	5.4	4.8	3.5	2.9	2.7
CFSM	.78	1.31	.81	1.44	2.05	2.25	1.74	1.60	1.20	.89	.74	.66
IN.	.90	1.47	.93	1.67	2.14	2.59	1.94	1.84	1.34	1.02	.86	.74

e Estimated

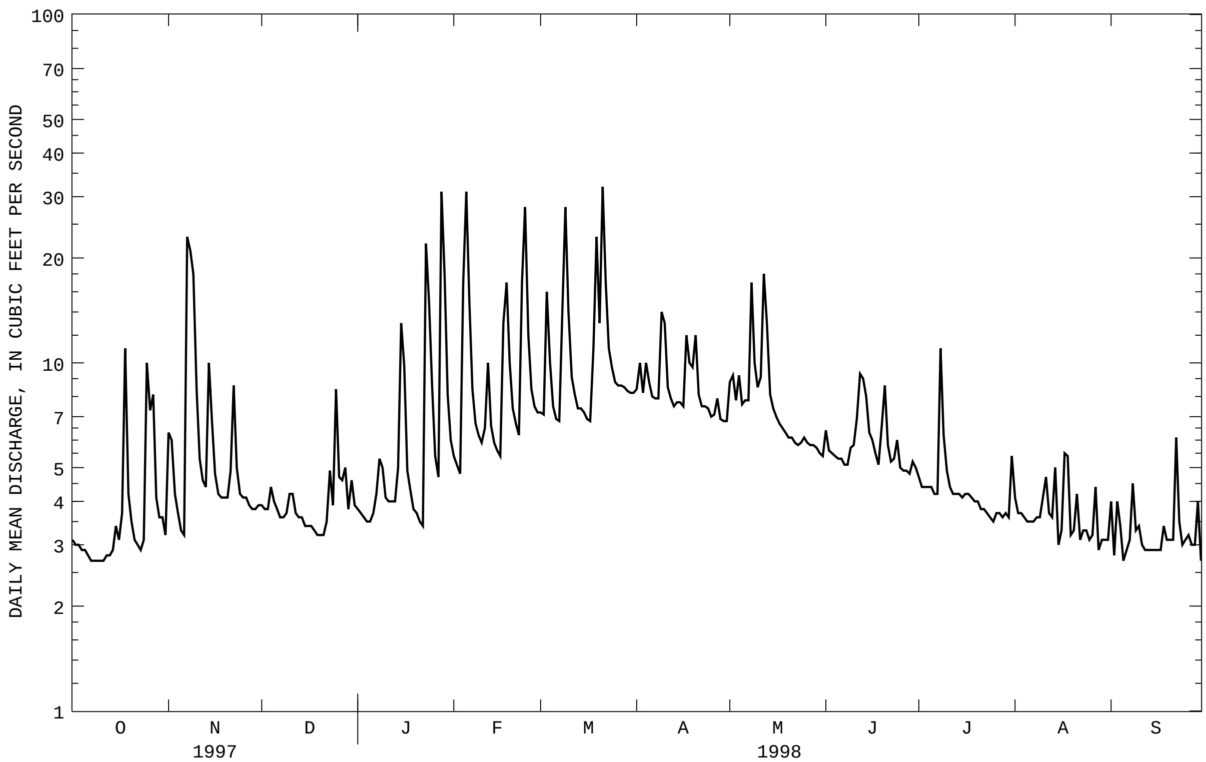
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1952, 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.67	4.33	4.74	5.11	5.28	6.20	5.78	5.81	5.04	4.58	4.49	4.33
MAX	9.03	10.3	13.0	14.4	14.4	13.5	13.8	13.3	11.4	9.45	12.4	13.1
(WY)	1949	1952	1949	1949	1949	1949	1952	1952	1948	1952	1948	1952
MIN	.030	.19	.13	.30	.76	.76	.75	.11	.081	.10	.15	.024
(WY)	1987	1987	1989	1989	1989	1986	1985	1986	1986	1985	1986	1986

01589500 SAWMILL CREEK AT GLEN BURNIE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1952 1983 - 1998	
ANNUAL TOTAL	2250.4		2329.3			
ANNUAL MEAN	6.17		6.38		4.94	
HIGHEST ANNUAL MEAN					11.0	1949
LOWEST ANNUAL MEAN					.43	1986
HIGHEST DAILY MEAN	27	Mar 3	32	Mar 21	84	Sep 1 1952
LOWEST DAILY MEAN	2.7	(a)	2.7	(a)	.01	(b)
ANNUAL SEVEN-DAY MINIMUM	2.7	Oct 6	2.7	Oct 6	.01	Jul 25 1986
INSTANTANEOUS PEAK FLOW			60	Mar 21	(c)178	Aug 29 1989
INSTANTANEOUS PEAK STAGE			3.09	Mar 21	5.12	Aug 29 1989
INSTANTANEOUS LOW FLOW			1.3	(d)	.00	(f)
ANNUAL RUNOFF (CFSM)	1.24		1.28		.99	
ANNUAL RUNOFF (INCHES)	16.84		17.43		13.51	
10 PERCENT EXCEEDS	8.8		10		9.4	
50 PERCENT EXCEEDS	5.6		5.0		4.3	
90 PERCENT EXCEEDS	3.2		3.1		.44	

a Oct. 7-11, 1997, Sept. 5,30, 1998.
b Many days in 1985-1987.
c From rating curve extended above 157 ft^3/s on basis of contracted-opening measurement at gage height 4.77 ft.
d Sept. 2, 29, 20.
f Part of each day Sept. 6, 7, 1985, July 29, Aug. 2, 1986.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01589501 SAWMILL CREEK TRIBUTARY AT BWI AIRPORT NEAR FERNDALE, MD

LOCATION.--Lat 39°10'39", long 76°39'05", Anne Arundel County, Hydrologic Unit 02060003, on right bank 2,000 ft upstream from culvert on Hammond Ferry Road, 1.2 mi southwest of Ferndale.

DRAINAGE AREA.--0.58 mi^2.

PERIOD OF RECORD.--Nonvember 1994 to September 1995. October 1996 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 100 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (backwater),which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0715	54	1.84	Mar 21	0145	*55	*1.85

Minimum discharge, 0.14 ft^3/s, Oct 2-8, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	5.4	e.40	.24	.45	1.6	.79	3.8	.87	.29	.36	.27
2	.17	2.1	e.34	.24	.40	1.3	.85	1.2	.30	.29	.26	.27
3	.14	.32	.43	.24	.41	1.6	e.70	1.4	.24	.28	.24	.27
4	.14	.22	1.0	.24	4.5	1.6	e.80	1.7	.24	.29	.24	.29
5	.14	.19	.29	.24	17	1.5	e.70	1.0	.24	.29	.24	.28
6	.14	.21	e.25	.24	9.4	1.3	e.64	.48	.24	.28	.24	.29
7	.14	15	e.28	.61	6.3	1.2	e.60	.96	.24	.29	.24	1.5
8	.14	19	.35	1.1	1.8	4.9	.57	7.4	.24	5.8	.24	1.3
9	e.14	9.7	.42	.38	.54	15	6.6	.91	.46	.58	.24	.29
10	e.14	1.3	1.3	.27	.51	1.6	2.7	1.5	.47	.34	1.7	.24
11	e.16	.36	.40	.24	1.5	1.0	.67	2.6	1.2	.26	.96	.24
12	.19	.35	.26	.24	5.0	.91	.47	9.4	2.8	.24	.33	.24
13	.22	1.2	.22	.26	1.1	.86	.38	1.6	4.1	.24	.26	e.24
14	.29	7.0	.19	.24	.46	.86	.40	.60	.83	.24	.24	e.24
15	1.2	.81	.19	4.7	.41	.86	.38	.41	.75	.24	.27	e.24
16	.17	.40	.19	6.3	.41	.86	.35	.32	.55	.24	.29	e.24
17	2.3	.31	.19	.66	2.9	.77	4.3	.29	.37	.24	2.0	e.25
18	5.9	.29	.19	.73	6.6	.85	.85	.29	.29	.24	.31	e.30
19	.20	.26	e.19	.30	5.1	12	2.7	.29	1.3	.24	.24	e.28
20	.19	.24	e.19	.31	3.5	2.8	1.2	.29	1.5	.24	.24	e.27
21	.19	2.3	.24	.29	2.2	15	.49	.29	.41	e.24	.24	.26
22	.19	3.9	1.3	.28	.98	3.2	.41	.29	.35	e.24	.24	2.7
23	.19	.48	1.4	9.8	2.5	1.1	.41	.28	.54	e.24	.24	.32
24	.48	.31	1.5	12	12	.92	.37	.27	.49	e.24	.24	.21
25	6.6	.31	5.1	5.3	3.4	.86	.35	.30	.31	e.24	.24	.21
26	5.5	e.31	.50	.64	2.3	.83	.35	.24	.29	e.25	.24	.24
27	1.9	e.29	2.2	.65	2.1	.70	1.2	.24	.29	e.25	.25	.24
28	.24	e.28	.74	13	1.7	.67	.39	.24	.36	e.25	.28	.24
29	.20	e.28	.96	9.7	---	.70	.41	.26	.37	e.35	.26	.24
30	.19	e.28	1.9	6.5	---	.75	.50	.24	.29	e.70	.26	.24
31	.19	---	.35	1.9	---	.75	---	.25	---	2.4	.27	---
TOTAL	28.17	73.40	23.46	77.84	95.47	78.85	31.53	39.34	20.93	16.55	11.90	12.44
MEAN	.91	2.45	.76	2.51	3.41	2.54	1.05	1.27	.70	.53	.38	.41
MAX	6.6	19	5.1	13	17	15	6.6	9.4	4.1	5.8	2.0	2.7
MIN	.14	.19	.19	.24	.40	.67	.35	.24	.24	.24	.24	.21
CFSM	1.57	4.22	1.30	4.33	5.88	4.39	1.81	2.19	1.20	.92	.66	.71
IN.	1.81	4.71	1.50	4.99	6.12	5.06	2.02	2.52	1.34	1.06	.76	.80

e Estimated

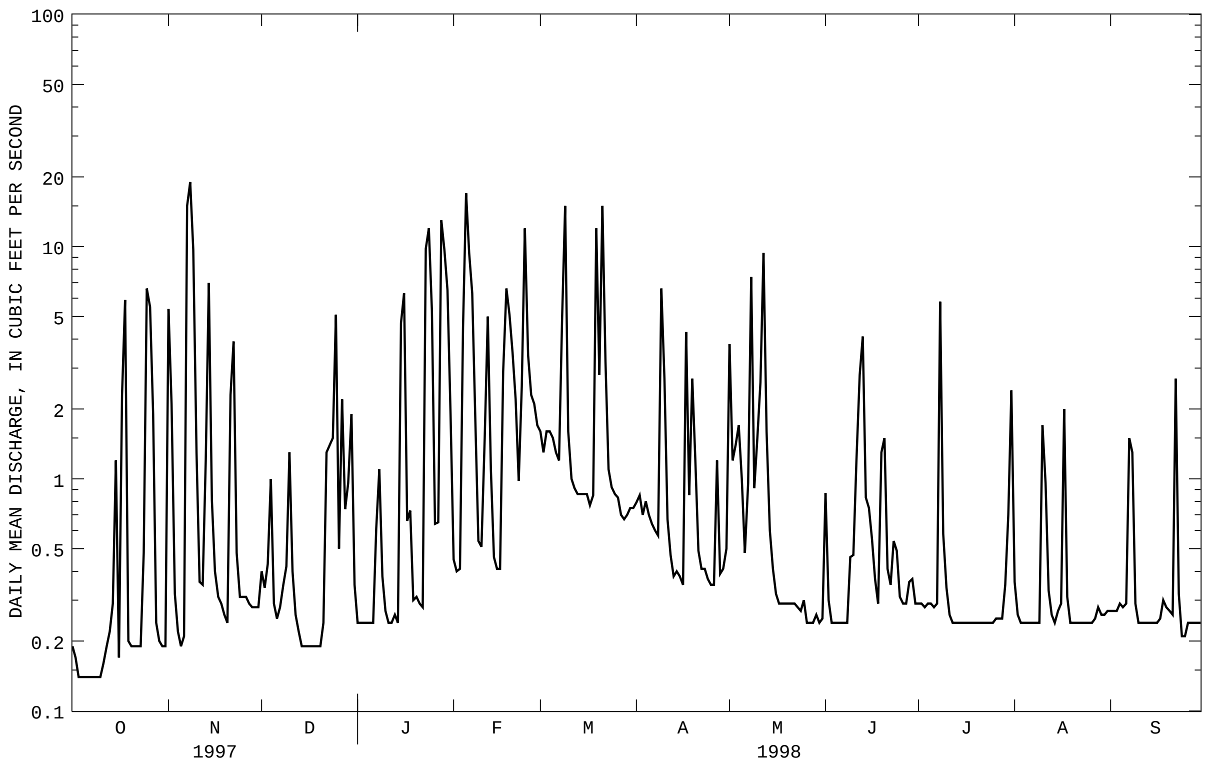
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.33	1.93	1.56	1.80	1.72	2.08	.92	1.10	.82	.60	.90	.62
MAX	1.75	2.45	3.23	2.51	3.41	2.54	1.05	1.27	1.30	.83	1.49	.95
(WY)	1997	1998	1997	1998	1998	1998	1998	1998	1997	1995	1997	1995
MIN	.91	1.41	.69	1.28	.44	1.18	.71	.89	.45	.43	.38	.41
(WY)	1998	1997	1995	1997	1995	1995	1995	1997	1995	1997	1998	1998

01589501 SAWMILL CREEK TRIBUTARY AT BWI AIRPORT NEAR FERNDALE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 1997 - 1998	
ANNUAL TOTAL	450.57		509.88			
ANNUAL MEAN	1.23		1.40		1.41	
HIGHEST ANNUAL MEAN					1.43	1997
LOWEST ANNUAL MEAN					1.40	1998
HIGHEST DAILY MEAN	19	Nov 8	19	Nov 8	26	Jan 20 1995
LOWEST DAILY MEAN	.14	(a)	.14	(a)	.06	(b)
ANNUAL SEVEN-DAY MINIMUM	.14	Oct 3	.14	Oct 3	.08	Aug 20 1995
INSTANTANEOUS PEAK FLOW			55	Mar 21	147	Aug 6 1995
INSTANTANEOUS PEAK STAGE			1.85	Mar 21	2.62	Aug 6 1995
INSTANTANEOUS LOW FLOW			.14	(c)	.06	(d)
ANNUAL RUNOFF (CFSM)	2.13		2.41		2.44	
ANNUAL RUNOFF (INCHES)	28.90		32.70		33.12	
10 PERCENT EXCEEDS	2.6		3.8		2.7	
50 PERCENT EXCEEDS	.35		.35		.35	
90 PERCENT EXCEEDS	.19		.24		.19	

a Oct. 3-10.
b Mar. 4, 5, 1995.
c Oct. 2-8, 16.
d Mar. 4-6, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01589795 SOUTH FORK JABEZ BRANCH AT MILLERSVILLE, MD

LOCATION.--Lat 39°04'05", long 76°39'07", Anne Arundel County, Hydrologic Unit 02060004, on left bank 300 ft upstream from the confluence with the West Branch Jabez Branch, 0.5 mi northwest of Millersville, 1.0 mi west of Gambrills, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--1.0 mi^2.

PERIOD OF RECORD.--August 1989 to September 1990, July 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 60 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR 1990 & 1998 WATER YEARS.--Peak discharges greater than base discharge of 20 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 29, 1990	1145	*21	*5.08	No other peak greater than base discharge.			
Jan 23, 1998	1450	22	5.11	Feb 5, 1998	0515	36	5.22
Jan 28, 1998	1250	*56	5.53	Mar 9, 1998	0900	32	5.32
Feb 4, 1998	2020	38	5.26	Mar 21, 1998	0305	56	*5.70

1990 Water Year Minimum discharge, 0.27 ft^3/s, Mar. 12-16, Apr. 27-29, June 12, 21-30, July 1-12, Aug. 13, 17.

1998 Water Year Minimum discharge, 0.27 ft^3/s, Mar 1.

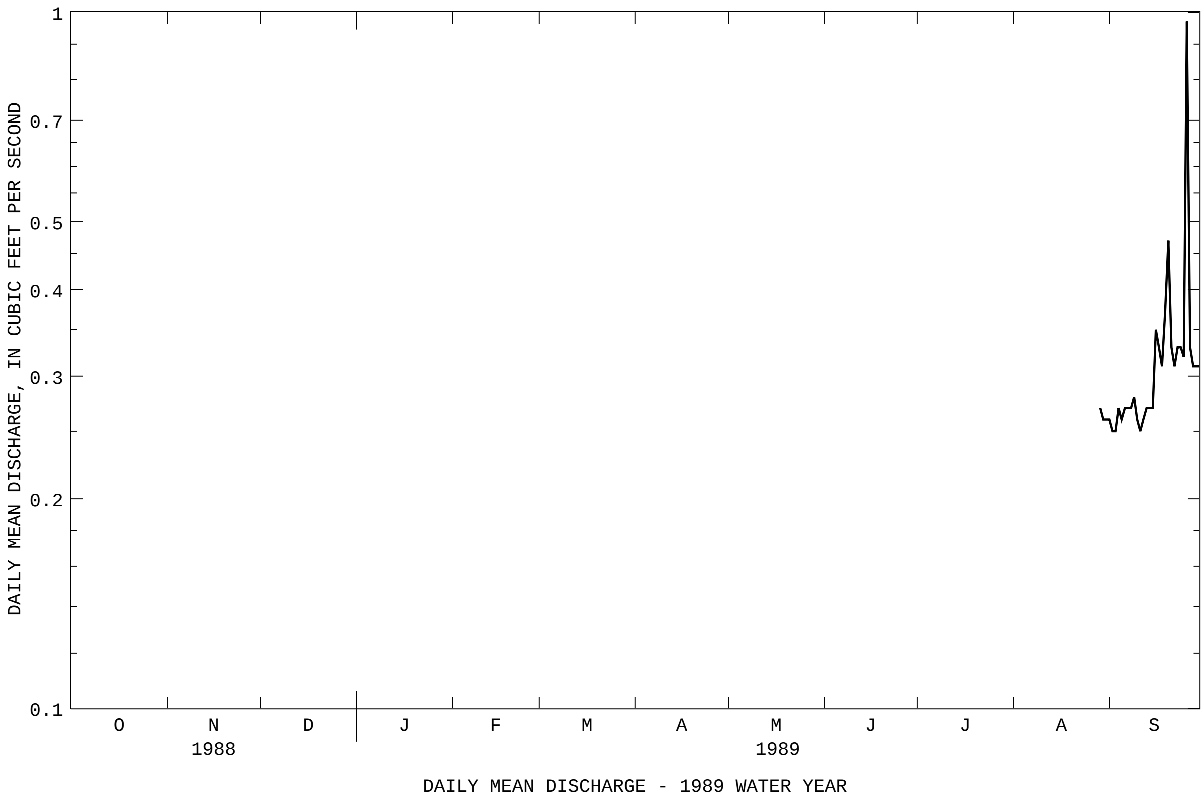
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	.26
2	---	---	---	---	---	---	---	---	---	---	---	.25
3	---	---	---	---	---	---	---	---	---	---	---	.25
4	---	---	---	---	---	---	---	---	---	---	---	.27
5	---	---	---	---	---	---	---	---	---	---	---	.26
6	---	---	---	---	---	---	---	---	---	---	---	.27
7	---	---	---	---	---	---	---	---	---	---	---	.27
8	---	---	---	---	---	---	---	---	---	---	---	.27
9	---	---	---	---	---	---	---	---	---	---	---	.28
10	---	---	---	---	---	---	---	---	---	---	---	.26
11	---	---	---	---	---	---	---	---	---	---	---	.25
12	---	---	---	---	---	---	---	---	---	---	---	.26
13	---	---	---	---	---	---	---	---	---	---	---	.27
14	---	---	---	---	---	---	---	---	---	---	---	.27
15	---	---	---	---	---	---	---	---	---	---	---	.27
16	---	---	---	---	---	---	---	---	---	---	---	.35
17	---	---	---	---	---	---	---	---	---	---	---	.33
18	---	---	---	---	---	---	---	---	---	---	---	.31
19	---	---	---	---	---	---	---	---	---	---	---	.37
20	---	---	---	---	---	---	---	---	---	---	---	.47
21	---	---	---	---	---	---	---	---	---	---	---	.33
22	---	---	---	---	---	---	---	---	---	---	---	.31
23	---	---	---	---	---	---	---	---	---	---	---	.33
24	---	---	---	---	---	---	---	---	---	---	---	.33
25	---	---	---	---	---	---	---	---	---	---	---	.32
26	---	---	---	---	---	---	---	---	---	---	---	.97
27	---	---	---	---	---	---	---	---	---	---	---	.33
28	---	---	---	---	---	---	---	---	---	---	---	.31
29	---	---	---	---	---	---	---	---	---	---	.27	.31
30	---	---	---	---	---	---	---	---	---	---	.26	.31
31	---	---	---	---	---	---	---	---	---	---	.26	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	9.64
MEAN	---	---	---	---	---	---	---	---	---	---	---	.32
MAX	---	---	---	---	---	---	---	---	---	---	---	.97
MIN	---	---	---	---	---	---	---	---	---	---	---	.25
CFSM	---	---	---	---	---	---	---	---	---	---	---	.32
IN.	---	---	---	---	---	---	---	---	---	---	---	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1989, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	---	---	---	.32
MAX	---	---	---	---	---	---	---	---	---	---	---	.32
(WY)	---	---	---	---	---	---	---	---	---	---	---	1989
MIN	---	---	---	---	---	---	---	---	---	---	---	.32
(WY)	---	---	---	---	---	---	---	---	---	---	---	1989

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued



01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.38	.40	2.7	.36	.34	.37	.37	.42	.28	.31	.34
2	1.5	.36	.40	.42	.36	.31	1.3	.34	.40	.29	.31	.35
3	.38	.40	.40	.38	.36	.31	1.1	.31	.38	.27	.31	.36
4	.34	.38	.40	.36	.42	.31	.38	.33	.36	.27	.31	.36
5	.31	.36	.40	.38	.36	.31	.36	.63	.36	.27	.36	.36
6	.31	.36	.40	.36	.36	.31	.45	.37	.36	.27	.82	.36
7	.31	.36	.40	.36	.36	.31	.83	.36	.36	.27	.34	.36
8	.31	.53	.43	.49	.36	.31	.37	.33	.66	.27	.31	.37
9	.31	.46	.45	.65	.36	.31	.36	.31	.45	.27	1.7	.40
10	.31	.40	.45	.49	.51	.31	.33	e4.2	.36	.28	.48	.38
11	.31	.38	.43	.36	.37	.31	.33	.79	.31	.29	.34	.36
12	.31	.36	.40	.36	.36	.29	.31	.40	.30	1.4	.31	.36
13	.31	.36	.36	.36	.34	.29	.31	.43	.31	1.0	.30	.38
14	.31	.36	.36	.36	.31	.29	.31	.41	.31	.64	.31	.40
15	.31	.36	.36	.36	.31	.28	1.2	.38	1.3	.46	.31	.38
16	.31	.68	.36	.36	.34	.28	.36	.36	.33	.40	.31	.70
17	.36	.41	.36	.34	.33	.92	.36	.39	.31	.36	.30	.39
18	.37	.38	.36	.31	.31	.55	.36	.37	.31	.34	.31	.36
19	1.7	.36	.36	.31	.31	.36	.33	.36	.31	.31	.31	.36
20	3.0	.36	.36	.31	.31	.36	.31	.36	.31	.32	.35	.34
21	.48	.36	.36	.31	.31	.36	.33	.36	.29	.46	.32	.35
22	.38	.36	.36	.31	.32	.33	.33	.36	.29	.42	.45	.43
23	.36	.40	.36	.31	.36	.31	.31	.36	.30	.36	.47	.38
24	.36	.40	.36	.31	.36	.33	.31	.38	.29	.36	.36	.36
25	.36	.40	.33	1.2	.36	.36	.31	.38	.27	.36	.36	.34
26	.40	.40	.31	3.0	.36	.33	.31	2.1	.27	.34	.34	.35
27	.40	.40	.31	.50	.36	.31	.29	.56	.27	.31	.31	.34
28	.40	.40	.31	.41	.36	.31	.29	.54	.27	.31	.31	.34
29	.40	.40	.31	.92	---	.31	.78	e6.5	.27	.31	.31	.34
30	.40	.40	.31	1.3	---	.36	1.0	.98	.27	.31	.33	.34
31	.41	---	.49	.40	---	1.2	---	.47	---	.31	.35	---
TOTAL	16.04	11.92	11.65	18.99	9.89	11.57	14.29	24.79	11.00	12.11	12.31	11.24
MEAN	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.37
MAX	3.0	.68	.49	3.0	.51	1.2	1.3	6.5	1.3	1.4	1.7	.70
MIN	.31	.36	.31	.31	.31	.28	.29	.31	.27	.27	.30	.34
CFSM	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.37
IN.	.60	.44	.43	.71	.37	.43	.53	.92	.41	.45	.46	.42

e Estimated

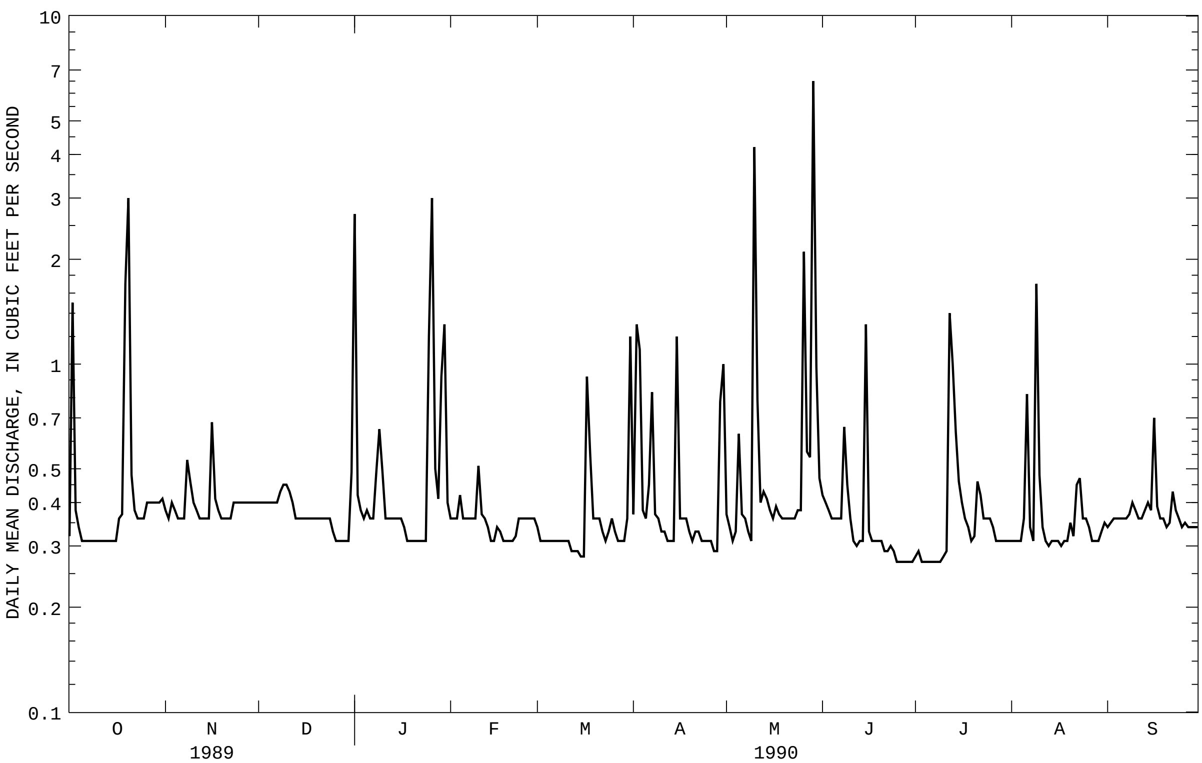
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.35
MAX	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.37
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990
MIN	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.32
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1989

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1990 WATER YEAR		WATER YEARS 1989 - 1990	
ANNUAL TOTAL	165.80			
ANNUAL MEAN	.45		.45	
HIGHEST ANNUAL MEAN			.45	1990
LOWEST ANNUAL MEAN			.45	1990
HIGHEST DAILY MEAN	6.5	May 29	6.5	May 29 1990
LOWEST DAILY MEAN	.27	(a)	.25	(b)
ANNUAL SEVEN-DAY MINIMUM	.27	Jul 3	.26	Aug 30 1989
INSTANTANEOUS PEAK FLOW	21	May 29	21	May 29 1990
INSTANTANEOUS PEAK STAGE	5.08	May 29	5.08	May 29 1990
INSTANTANEOUS LOW FLOW	.27	(c)	.24	(d)
ANNUAL RUNOFF (CFSM)	.45		.45	
ANNUAL RUNOFF (INCHES)	6.17		6.17	
10 PERCENT EXCEEDS	.52		.49	
50 PERCENT EXCEEDS	.36		.36	
90 PERCENT EXCEEDS	.31		.29	

a June 25-30, July 3-9.
b Sept. 1, 2, 11, 1989.
c Mar. 12-16, Apr. 27-29, June 12, 21-30, July 1-12, Aug. 13, 17.
d Aug. 29-31, Sept. 1-5, 10-12, 1989.



DAILY MEAN DISCHARGE - 1990 WATER YEAR

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.48	.44	.48
2	---	---	---	---	---	---	---	---	---	.51	.45	.47
3	---	---	---	---	---	---	---	---	---	.47	.44	.48
4	---	---	---	---	---	---	---	---	---	.45	.45	.45
5	---	---	---	---	---	---	---	---	---	.45	.43	.45
6	---	---	---	---	---	---	---	---	---	.45	.40	.45
7	---	---	---	---	---	---	---	---	---	.45	.40	.45
8	---	---	---	---	---	---	---	---	---	.45	.40	.45
9	---	---	---	---	---	---	---	---	---	.50	.42	.45
10	---	---	---	---	---	---	---	---	---	.53	.40	.45
11	---	---	---	---	---	---	---	---	---	.49	.42	.45
12	---	---	---	---	---	---	---	---	---	.45	.41	.43
13	---	---	---	---	---	---	---	---	---	.45	.42	.42
14	---	---	---	---	---	---	---	---	---	.45	.42	.42
15	---	---	---	---	---	---	---	---	---	.45	.42	.40
16	---	---	---	---	---	---	---	---	---	.45	.40	.41
17	---	---	---	---	---	---	---	---	---	.45	.45	.41
18	---	---	---	---	---	---	---	---	---	.45	.45	.43
19	---	---	---	---	---	---	---	---	.49	.45	.42	.43
20	---	---	---	---	---	---	---	---	.45	.45	2.9	.40
21	---	---	---	---	---	---	---	---	.45	.43	.57	.42
22	---	---	---	---	---	---	---	---	.45	.41	.48	.40
23	---	---	---	---	---	---	---	---	.45	.45	.45	.40
24	---	---	---	---	---	---	---	---	.45	.45	.45	.40
25	---	---	---	---	---	---	---	---	.45	.45	.45	.41
26	---	---	---	---	---	---	---	---	.51	.45	.46	.41
27	---	---	---	---	---	---	---	---	.48	.45	.46	.40
28	---	---	---	---	---	---	---	---	.45	.45	.47	.45
29	---	---	---	---	---	---	---	---	.45	.45	.48	.47
30	---	---	---	---	---	---	---	---	.45	.45	.45	.42
31	---	---	---	---	---	---	---	---	---	.45	.45	---
TOTAL	---	---	---	---	---	---	---	---	---	14.17	16.11	12.96
MEAN	---	---	---	---	---	---	---	---	---	.46	.52	.43
MAX	---	---	---	---	---	---	---	---	---	.53	2.9	.48
MIN	---	---	---	---	---	---	---	---	---	.41	.40	.40
CFSM	---	---	---	---	---	---	---	---	---	.46	.52	.43
IN.	---	---	---	---	---	---	---	---	---	.53	.60	.48

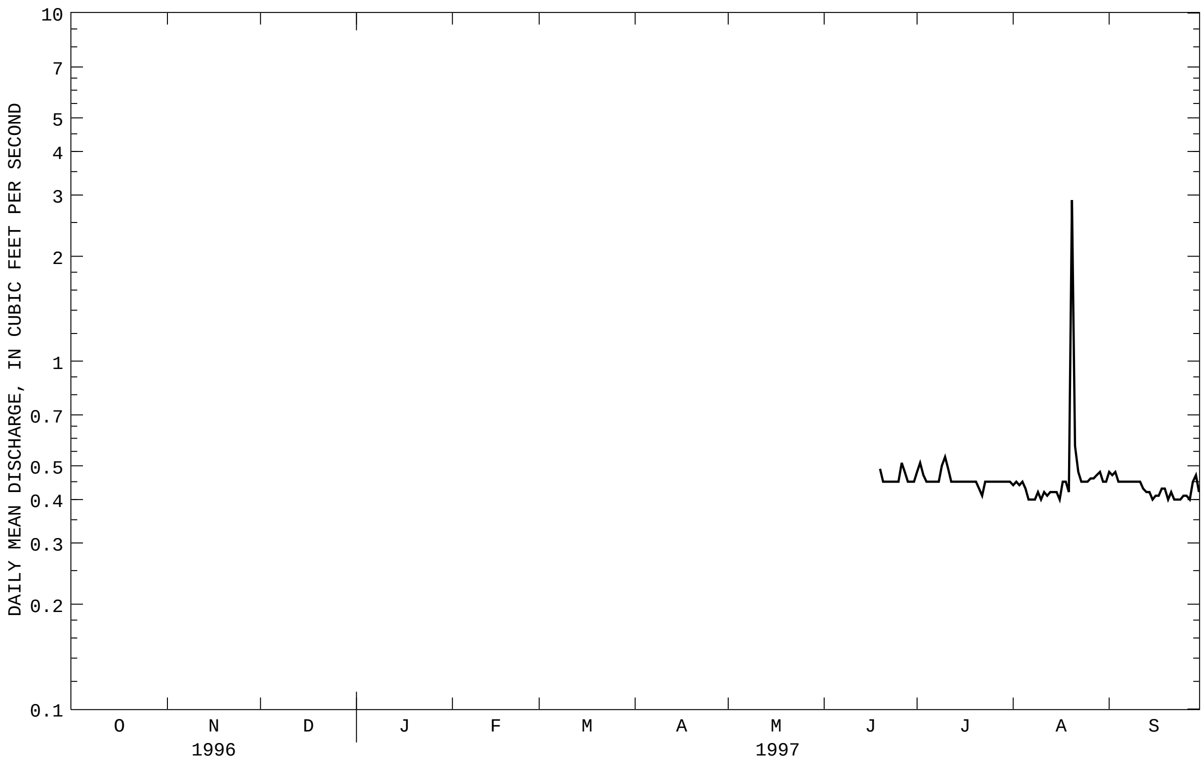
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1990, 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.52	.40	.38	.61	.35	.37	.48	.80	.37	.42	.46	.38
MAX	.52	.40	.38	.61	.35	.37	.48	.80	.37	.46	.52	.43
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1997	1997	1997
MIN	.52	.40	.38	.61	.35	.37	.48	.80	.37	.39	.40	.32
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1989

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

SUMMARY STATISTICS	WATER YEARS 1989 - 1997	
ANNUAL MEAN	.45	
HIGHEST ANNUAL MEAN	.45	1990
LOWEST ANNUAL MEAN	.45	1990
HIGHEST DAILY MEAN	6.5	May 29 1990
LOWEST DAILY MEAN	.25	(a)
ANNUAL SEVEN-DAY MINIMUM	.26	Aug 30 1989
INSTANTANEOUS PEAK FLOW	14	Aug 20 1997
INSTANTANEOUS PEAK STAGE	4.90	Aug 20 1997
INSTANTANEOUS LOW FLOW	.24	(b)
ANNUAL RUNOFF (CFSM)	.45	
ANNUAL RUNOFF (INCHES)	6.17	
10 PERCENT EXCEEDS	.49	
50 PERCENT EXCEEDS	.36	
90 PERCENT EXCEEDS	.31	

a Sept. 2, 3, 11, 1989.
b Aug. 29-31, Sept. 1-5, 10-12, 1989.



DAILY MEAN DISCHARGE - 1997 WATER YEAR

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.66	.45	.40	e.40	.28	.58	.37	.40	.40	.35	.36
2	.40	.76	.42	.40	e.37	.33	.88	.36	.40	.42	.36	.36
3	.36	.73	.40	.40	e.37	1.2	.47	.42	.40	.40	.36	.36
4	.36	.73	.40	.40	11	e.39	1.2	.53	.41	.40	.34	.36
5	.36	.76	.40	.40	15	e.30	.65	.40	.43	.40	.34	.36
6	.37	.81	.40	.40	1.5	e.30	.50	.40	.43	.40	.34	.36
7	.40	3.7	.40	.40	e.55	e.37	.46	.42	.43	.40	.34	.36
8	.41	1.6	.40	.41	e.45	1.4	.45	1.1	.43	.58	.34	.40
9	.43	2.8	.40	.38	e.39	9.8	2.2	.54	.44	.46	.33	.37
10	.42	.62	.42	.36	e.36	2.0	.97	.50	.48	.43	.37	.36
11	.45	.56	.45	.36	e.40	.43	.52	.54	.46	.40	.36	.36
12	.45	.47	.45	.36	.80	.33	.50	2.6	.53	.40	.36	.36
13	.45	.42	.43	.39	e.42	.31	.47	.84	.64	.40	.36	.33
14	.45	.83	.37	.36	e.39	.36	.45	.50	.49	.38	.36	.31
15	.50	.55	.36	.71	e.37	.36	.45	.47	.48	.39	.36	.31
16	.50	.46	.36	.71	e.36	.38	.45	.45	.47	.39	.36	.31
17	.56	.45	.36	.41	3.5	.40	.55	.45	.45	.39	.40	.41
18	.95	.45	.36	.39	2.5	.88	.47	.45	.45	.38	.38	.42
19	.52	.45	.36	.36	.76	3.9	.48	.45	.49	.38	.36	.40
20	.50	.45	.36	.36	.51	1.1	.57	.43	.59	.38	.36	.39
21	.50	.53	.36	.36	.50	14	.40	.40	.45	.36	.36	.36
22	.50	.65	.40	.36	.45	2.2	.38	.40	.45	.31	.36	.49
23	.50	.45	.41	6.6	5.0	.79	.36	.40	.45	.31	.36	.38
24	.51	.45	.41	1.6	8.2	.56	.36	.40	.44	.31	.36	.36
25	.77	.45	.58	.94	.67	.52	.36	.41	.42	.31	.36	.36
26	.82	.45	.41	.51	.41	.50	.36	.40	.41	.31	.36	.36
27	.57	.45	.45	.50	.40	.47	.36	.40	.43	.31	.36	.36
28	.50	.45	.45	27	.39	.45	.36	.40	.45	.32	.36	.36
29	.50	.45	.42	2.4	---	.45	.36	.40	.44	.32	.36	.36
30	.50	.45	.52	e.60	---	.45	.36	.40	.42	.32	.36	.35
31	.50	---	.40	e.47	---	.45	---	.40	---	.39	.36	---
TOTAL	15.41	23.04	12.76	49.70	56.42	45.66	16.93	16.63	13.66	11.75	11.09	10.99
MEAN	.50	.77	.41	1.60	2.01	1.47	.56	.54	.46	.38	.36	.37
MAX	.95	3.7	.58	27	15	14	2.2	2.6	.64	.58	.40	.49
MIN	.36	.42	.36	.36	.36	.28	.36	.36	.40	.31	.33	.31
CFSM	.50	.77	.41	1.60	2.01	1.47	.56	.54	.46	.38	.36	.37
IN.	.57	.86	.47	1.85	2.10	1.70	.63	.62	.51	.44	.41	.41

e Estimated

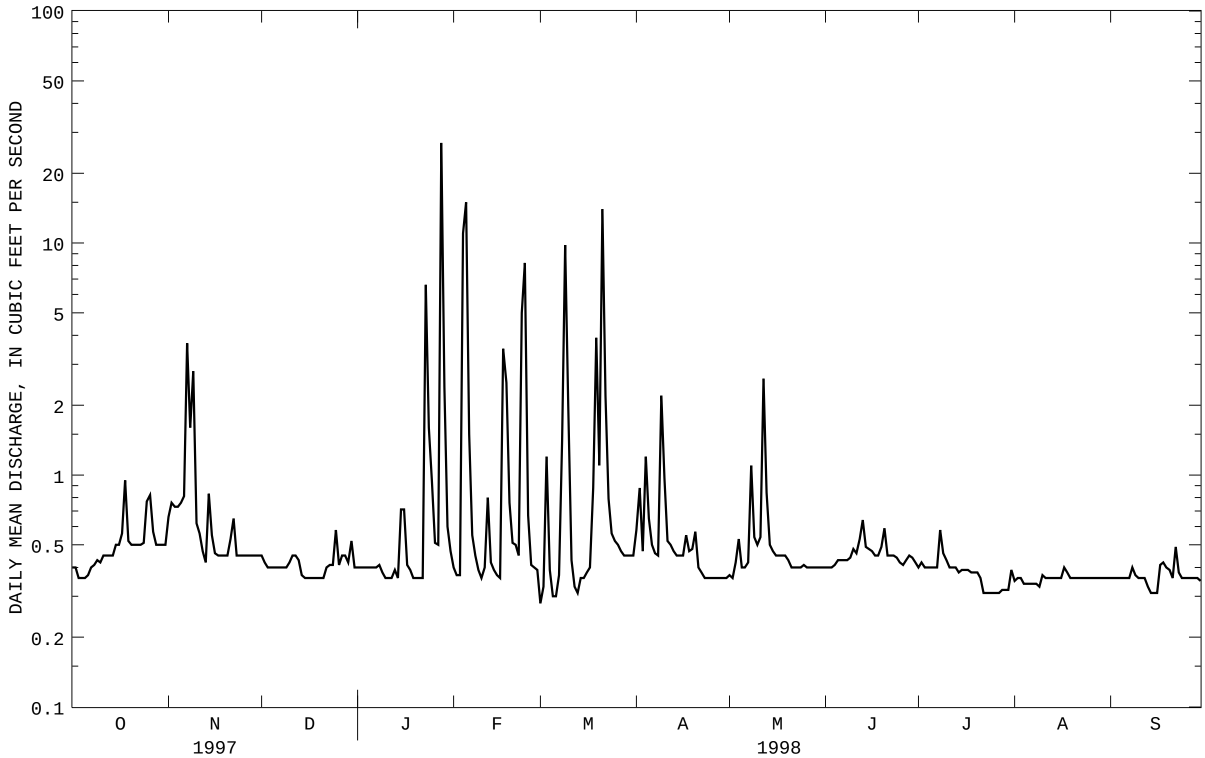
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1990, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.51	.58	.39	1.11	1.18	.92	.52	.67	.41	.41	.42	.37
MAX	.52	.77	.41	1.60	2.02	1.47	.56	.80	.46	.46	.52	.43
(WY)	1990	1998	1998	1998	1998	1998	1998	1990	1998	1997	1997	1997
MIN	.50	.40	.38	.61	.35	.37	.48	.54	.37	.38	.36	.32
(WY)	1998	1990	1990	1990	1990	1990	1990	1998	1990	1998	1998	1989

01589795 SOUTH BRANCH JABEZ BRANCH AT MILLERSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1989 - 1990 1997 - 1998	
ANNUAL TOTAL	284.04			
ANNUAL MEAN	.78		.62	
HIGHEST ANNUAL MEAN			.78	1998
LOWEST ANNUAL MEAN			.45	1990
HIGHEST DAILY MEAN	27	Jan 28	27	Jan 28 1998
LOWEST DAILY MEAN	.28	Mar 1	.25	(a)
ANNUAL SEVEN-DAY MINIMUM	.31	Jul 22	.26	Aug 30 1989
INSTANTANEOUS PEAK FLOW	56	Jan 28	56	Jan 28 1998
INSTANTANEOUS PEAK STAGE	5.53	Jan 28	5.53	Jan 28 1998
INSTANTANEOUS LOW FLOW	.27	Mar 1	.24	(b)
ANNUAL RUNOFF (CFSM)	.78		.62	
ANNUAL RUNOFF (INCHES)	10.57		8.37	
10 PERCENT EXCEEDS	.79		.59	
50 PERCENT EXCEEDS	.41		.40	
90 PERCENT EXCEEDS	.36		.31	

a Sept. 1, 2, 11, 1989.
b Aug. 29-31, Sept. 1-5, 10-12, 1989.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

WATER-DISCHARGE RECORDS

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 above sea level (Washington Suburban Sanitary Commission bench mark). Prior to Aug. 14, 1946, non-recording gage at same site and datum.

REMARKS.--No estimated daily discharges. Water-discharge records good.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 770 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 28	1630	877	5.70	May 8	1730	845	5.62
Mar 21	0800	*1,890	*7.60	Jun 23	2145	975	5.94

Minimum discharge, 4.6 ft^3/s, Oct 13, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	13	18	20	53	68	86	51	36	28	18	6.0
2	6.4	24	16	18	47	64	117	66	35	25	15	12
3	6.3	18	16	19	44	119	79	60	35	24	14	7.6
4	6.3	12	17	20	116	86	80	60	33	24	14	7.1
5	6.1	11	16	19	284	71	72	73	32	24	13	6.4
6	5.8	11	15	19	114	65	68	82	32	22	13	6.0
7	5.4	84	15	20	82	62	65	79	30	22	12	5.9
8	5.4	133	15	41	69	84	64	349	30	41	12	8.3
9	5.2	39	15	40	60	206	129	167	30	32	13	6.8
10	5.1	28	16	29	54	109	102	106	36	27	22	6.5
11	4.9	22	18	26	52	85	76	94	36	23	25	6.2
12	5.1	20	16	24	70	77	69	168	45	22	15	5.9
13	5.1	18	15	23	53	72	65	121	121	21	14	5.6
14	5.4	30	15	21	48	70	63	90	60	20	14	5.4
15	6.7	30	14	32	44	64	61	77	42	19	13	5.4
16	6.4	23	14	88	42	61	57	69	43	18	13	5.4
17	6.4	20	14	42	62	58	58	63	40	18	14	5.4
18	11	19	14	40	183	84	56	58	34	16	20	5.8
19	9.3	18	14	34	85	261	68	55	43	14	13	5.4
20	7.9	18	14	30	71	116	92	52	46	14	11	5.6
21	7.3	19	14	27	63	764	63	51	35	14	11	5.5
22	7.2	44	14	26	56	188	57	48	33	15	10	5.6
23	7.1	28	19	169	89	136	55	46	136	14	9.5	5.7
24	7.7	23	17	91	268	114	52	46	88	16	8.8	5.3
25	16	20	37	55	111	100	49	47	42	14	7.9	6.0
26	13	20	27	44	88	93	49	43	34	13	7.9	7.3
27	17	18	23	39	78	88	52	43	31	14	7.6	6.4
28	11	18	23	443	72	83	46	41	29	14	7.1	5.5
29	10	18	21	138	---	78	44	38	29	13	6.9	5.0
30	9.8	18	22	81	---	73	44	37	28	13	6.7	4.8
31	9.8	---	20	63	---	71	---	36	---	41	6.4	---
TOTAL	243.0	817	544	1781	2458	3670	2038	2416	1324	635	387.8	185.8
MEAN	7.84	27.2	17.5	57.5	87.8	118	67.9	77.9	44.1	20.5	12.5	6.19
MAX	17	133	37	443	284	764	129	349	136	41	25	12
MIN	4.9	11	14	18	42	58	44	36	28	13	6.4	4.8
CFSM	.23	.78	.50	1.65	2.52	3.40	1.95	2.24	1.27	.59	.36	.18
IN.	.26	.87	.58	1.90	2.63	3.92	2.18	2.58	1.42	.68	.41	.20

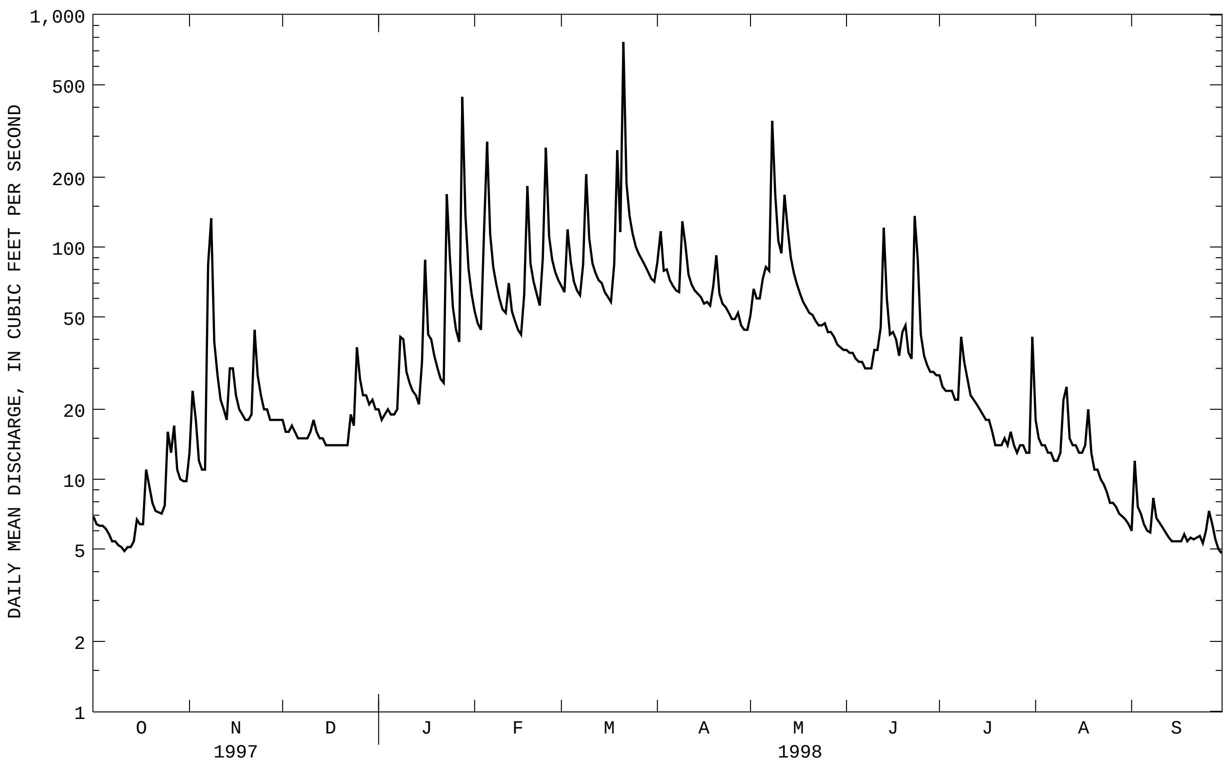
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.1	29.4	41.0	48.1	55.6	63.1	58.6	50.0	36.7	26.4	22.1	26.5
MAX	150	82.8	155	139	152	173	158	141	206	102	120	214
(WY)	1980	1953	1997	1996	1979	1993	1993	1952	1972	1956	1971	1971
MIN	4.19	9.09	8.51	10.0	19.6	23.9	21.6	15.2	8.75	4.15	2.79	4.51
(WY)	1987	1966	1966	1966	1947	1981	1963	1963	1986	1966	1966	1986

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1998	
ANNUAL TOTAL	12234.1		16499.6			
ANNUAL MEAN	33.5		45.2		39.9	
HIGHEST ANNUAL MEAN					82.3	1972
LOWEST ANNUAL MEAN					19.8	1981
HIGHEST DAILY MEAN	295	Mar 3	764	Mar 21	2590	Sep 26 1975
LOWEST DAILY MEAN	4.9	Oct 11	4.8	Sep 30	.20	(a)
ANNUAL SEVEN-DAY MINIMUM	5.2	Oct 7	5.2	Oct 7	.40	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1890	Mar 21	(b)21800	Sep 11 1971
INSTANTANEOUS PEAK STAGE			7.60	Mar 21	18.60	Sep 11 1971
INSTANTANEOUS LOW FLOW			4.6	(c)	.20	(d)
ANNUAL RUNOFF (CFSM)	.96		1.30		1.15	
ANNUAL RUNOFF (INCHES)	13.08		17.64		15.59	
10 PERCENT EXCEEDS	68		88		72	
50 PERCENT EXCEEDS	22		27		26	
90 PERCENT EXCEEDS	6.9		6.4		9.0	

a Sept. 10, 11, 1966.
b From rating curve extended above 1,500 ft^3/s on basis of slope-area measurement at gage height 13.00 ft.
c Oct. 13, and Sept. 30.
d Sept. 10-12, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1985 to current year.

REMARKS.--Water-quality data available through September 1997 only at time of publication.
Chenical analyses were performed at the Maryland Department of Health and Mental Hygiene laboratory (DHMH), Baltimore, MD.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
OCT 1996										
08...	2045	386	--	--	--	--	83	--	12	--
15...	1020	40	119	7.2	11.5	12.0	1.9	10.2	--	--
19...	0015	806	--	--	--	--	410	--	20	--
19...	0330	1150	--	--	--	--	--	--	--	--
19...	0500	1180	--	--	--	--	--	--	--	--
19...	0745	1050	--	--	--	--	51	--	12	--
19...	1015	386	--	--	--	--	9.4	--	<10	--
29...	0900	56	119	6.5	10.5	9.0	3.0	--	<10	<2.0
NOV										
08...	1800	849	--	--	--	--	150	--	18	--
08...	1945	1130	--	--	--	--	240	--	20	--
08...	2100	1240	--	--	--	--	49	--	<10	--
08...	2215	1260	--	--	--	--	42	--	12	--
08...	2345	1230	--	--	--	--	24	--	12	--
09...	0115	869	--	--	--	--	20	--	11	--
12...	1050	73	119	7.3	5.3	2.5	4.6	11.7	--	--
20...	1145	57	114	6.4	6.5	6.5	2.8	--	<10	.3
26...	0820	416	--	--	--	--	91	--	<10	--
26...	1020	398	--	--	--	--	68	--	<10	--
DEC										
01...	1600	663	--	--	--	--	--	--	--	--
01...	1830	653	--	--	--	--	--	--	--	--
02...	0215	674	--	--	--	--	--	--	--	--
02...	0415	929	--	--	--	--	--	--	--	--
02...	0600	889	--	--	--	--	--	--	--	--
03...	1245	126	115	6.9	6.2	9.0	10	11.4	--	--
06...	0430	508	--	--	--	--	39	--	<10	--
06...	0745	417	--	--	--	--	19	--	<10	--
07...	2000	533	--	--	--	--	51	--	<10	--
13...	1430	1160	--	--	--	--	140	--	<10	--
13...	1715	1280	--	--	--	--	89	--	<10	--
17...	1430	130	107	6.4	7.5	11.0	5.4	--	<10	<.3
JAN 1997										
08...	0920	59	116	7.1	3.1	-3.0	2.1	12.5	--	--
22...	0930	52	115	6.1	.5	3.5	2.8	--	<10	<2.0
25...	0145	437	--	--	--	--	120	--	<10	--
25...	0800	145	--	--	--	--	25	--	13	--
FEB										
10...	1200	57	150	7.6	2.7	2.0	3.4	13.1	--	--
19...	1430	63	119	6.3	8.0	21.0	2.6	--	<10	<.8
MAR										
03...	1530	408	--	--	--	--	160	--	<10	--
03...	2015	822	--	--	--	--	230	--	<10	--
03...	2230	540	--	--	--	--	43	--	<10	--
17...	1150	62	114	7.5	6.7	9.0	6.3	11.9	--	--
25...	1730	60	112	6.0	8.0	10.5	1.8	--	--	<.9
APR										
07...	1125	56	110	7.2	15.1	19.5	2.9	10.0	--	--
30...	1815	43	107	6.4	15.5	18.5	3.6	--	<10	<.7
MAY										
05...	0950	39	108	7.2	11.9	15.5	3.1	10.6	--	--
28...	1115	26	110	6.5	14.0	18.5	3.3	--	<10	--
JUN										
03...	0940	41	113	7.1	13.8	10.0	9.0	9.3	--	--
12...	1415	22	108	6.5	18.0	24.0	--	--	<10	<.8
JUL										
07...	0645	11	105	7.1	19.4	20.5	9.7	7.7	--	--
16...	0900	8.9	106	6.6	21.5	29.5	7.9	--	<10	<.9
AUG										
05...	0827	9.8	112	7.2	19.0	20.0	12	7.8	--	--
13...	0730	6.9	103	6.6	21.0	25.0	9.8	--	<10	<.6
SEP										
03...	0835	6.9	107	7.1	20.2	17.0	5.9	7.6	--	--
15...	1030	8.0	112	6.3	17.0	23.0	5.2	--	<10	1.3

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L) (32218)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L) (32230)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L) (32231)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L) (32232)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
OCT 1996									
08...	--	11	178	1.55	--	--	--	--	2.1
15...	19	--	3	--	--	--	--	--	3.1
19...	--	7.2	795	1.80	--	--	--	--	4.1
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	11	156	1.95	--	--	--	--	2.4
19...	--	12	27	2.19	--	--	--	--	2.6
29...	18	8.4	4	2.61	--	.071	.000	.000	2.8
NOV									
08...	--	8.6	380	1.68	--	--	--	--	3.2
08...	--	7.5	505	1.40	--	--	--	--	3.3
08...	--	12	120	1.23	--	--	--	--	1.7
08...	--	11	72	1.57	--	--	--	--	2.1
08...	--	12	43	1.80	--	--	--	--	2.2
09...	--	13	55	2.52	--	--	--	--	3.0
12...	17	--	6	--	--	--	--	--	3.0
20...	15	8.1	2	3.16	--	.105	.013	.027	3.2
26...	--	9.8	370	1.50	--	--	--	--	2.3
26...	--	11	160	1.43	--	--	--	--	2.1
DEC									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
03...	15	--	1	--	--	--	--	--	2.8
06...	--	9.6	97	1.22	--	--	--	--	1.6
06...	--	10	48	1.21	--	--	--	--	1.5
07...	--	10	112	1.22	--	--	--	--	1.6
13...	--	7.9	298	.988	--	--	--	--	1.9
13...	--	9.1	166	1.08	--	--	--	--	1.7
17...	12	8.1	9	3.02	.007	.052	.000	.000	3.2
JAN 1997									
08...	14	--	11	--	--	--	--	--	3.7
22...	11	7.6	3	3.51	--	.090	.000	.039	3.5
25...	--	9.8	310	1.27	--	--	--	--	2.4
25...	--	17	43	1.09	--	--	--	--	1.5
FEB									
10...	13	--	11	--	--	--	--	--	3.4
19...	11	7.3	6	3.29	.025	.208	.041	.000	3.6
MAR									
03...	--	9.6	405	1.59	--	--	--	--	2.5
03...	--	9.5	455	1.63	--	--	--	--	2.8
03...	--	11	89	1.78	--	--	--	--	2.4
17...	14	--	11	--	--	--	--	--	3.3
25...	11	7.2	12	3.24	--	.132	.000	.000	3.5
APR									
07...	--	--	2	--	--	--	--	--	3.4
30...	14	6.8	11	2.79	.089	.173	.026	.000	3.0
MAY									
05...	16	--	3	--	--	--	--	--	3.4
28...	16	8.4	5	3.30	--	.100	.000	.000	3.8
JUN									
03...	19	--	13	--	--	--	--	--	2.5
12...	16	8.9	6	2.97	.083	.156	.005	.024	3.6
JUL									
07...	19	--	10	--	--	--	--	--	2.9
16...	19	8.8	15	2.37	.205	.241	.028	.000	2.8
AUG									
05...	19	--	17	--	--	--	--	--	2.8
13...	20	7.7	17	2.07	.257	.276	.000	.000	2.3
SEP									
03...	21	--	40	--	--	--	--	--	2.3
15...	21	8.5	24	1.95	.091	.206	.000	.000	2.2

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1996									
08...	6.9	.005	.02	1.56	.008	.01	.49	.03	.50
15...	--	--	--	2.85	--	--	--	--	.20
19...	8.0	.011	.04	1.81	.008	.01	2.3	.27	2.3
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	8.6	.006	.02	1.95	<.006	--	--	--	.47
19...	9.7	.005	.02	2.20	<.004	--	--	--	.43
29...	12	.006	.02	2.61	.008	.01	.22	.13	.22
NOV									
08...	7.4	.006	.02	1.68	<.007	--	--	--	1.6
08...	6.2	.005	.02	1.41	.010	.01	1.9	.39	1.9
08...	5.4	.004	.01	1.23	<.004	--	--	--	.45
08...	6.9	.004	.01	1.57	<.005	--	--	--	.54
08...	8.0	.004	.01	1.81	<.005	--	--	--	.39
09...	11	.003	.01	2.52	.008	.01	.47	.18	.48
12...	--	--	--	2.67	--	--	--	--	.34
20...	14	.003	.01	3.16	.045	.06	.01	.01	.06
26...	6.7	.002	.01	1.51	.017	.02	.73	.16	.75
26...	6.3	.004	.01	1.43	.034	.04	.62	.14	.66
DEC									
01...	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--
03...	--	--	--	2.48	--	--	--	--	.34
06...	5.4	.003	.01	1.22	.009	.01	.39	.20	.40
06...	5.3	.002	.01	1.21	.010	.01	.24	.16	.25
07...	5.4	.003	.01	1.22	.017	.02	.41	.17	.43
13...	4.4	.006	.02	.994	.025	.03	.84	.26	.86
13...	4.8	.006	.02	1.09	.016	.02	.61	.21	.62
17...	13	.003	.01	3.02	.014	.02	.18	.13	.19
JAN 1997									
08...	--	--	--	3.61	--	--	--	--	<.10
22...	16	.006	.02	3.51	.011	.01	--	--	<.00
25...	5.6	.004	.01	1.27	.046	.06	1.1	.29	1.2
25...	4.8	.003	.01	1.09	.017	.02	.42	.53	.44
FEB									
10...	--	--	--	3.33	--	--	--	--	<.10
19...	15	.005	.02	3.30	.020	.03	.25	.11	.27
MAR									
03...	7.1	.004	.01	1.60	.037	.05	.87	.09	.91
03...	7.2	.005	.02	1.63	.041	.05	1.1	.17	1.2
03...	7.9	.003	.01	1.78	.014	.02	.57	.44	.59
17...	--	--	--	3.19	--	--	--	--	.15
25...	14	.006	.02	3.24	.011	.01	.21	--	.22
APR									
07...	--	--	--	3.25	--	--	--	--	.10
30...	12	.007	.02	2.79	.014	.02	.17	.08	.19
MAY									
05...	--	--	--	2.78	--	--	--	--	.61
28...	15	.009	.03	3.31	.021	.03	.42	.34	.44
JUN									
03...	--	--	--	2.18	--	--	--	--	.33
12...	13	.011	.04	2.99	.034	.04	.61	.20	.64
JUL									
07...	--	--	--	2.54	--	--	--	--	.34
16...	10	.007	.02	2.38	.028	.04	.40	.06	.43
AUG									
05...	--	--	--	2.26	--	--	--	--	.57
13...	9.2	.006	.02	2.08	.023	.03	.19	.09	.21
SEP									
03...	--	--	--	2.03	--	--	--	--	.25
15...	8.6	.007	.02	1.96	.017	.02	.21	.15	.23

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1996									
08...	.00	1.6	.167	.044	.036	3.8	3.8	189	197
15...	--	--	.012	--	--	1.9	--	--	--
19...	.28	2.1	.640	.044	.039	7.8	7.8	761	1660
19...	--	--	--	--	--	--	--	290	901
19...	--	--	--	--	--	--	--	209	665
19...	.25	2.2	.148	.042	.037	4.7	--	134	378
19...	.41	2.6	.042	.023	.025	4.7	--	24	25
29...	.14	2.8	.010	<.008	.013	2.2	--	3	.45
NOV									
08...	.39	2.1	.450	.067	.039	7.8	7.8	392	898
08...	.40	1.8	.604	.084	.059	8.2	--	535	1630
08...	.12	1.4	.150	.066	.040	4.0	4.4	115	385
08...	.19	1.8	.154	.059	.041	5.1	5.3	69	236
08...	.22	2.0	.095	.043	.045	4.9	--	39	131
09...	.19	2.7	.100	.023	.035	4.9	4.9	48	114
12...	--	--	.016	--	--	2.2	--	--	--
20...	.10	3.2	.007	.012	<.004	1.4	--	2	.28
26...	.18	1.7	.226	.039	.032	4.1	--	201	226
26...	.18	1.6	.215	.067	.046	4.4	--	139	150
DEC									
01...	--	--	--	--	--	--	--	302	540
01...	--	--	--	--	--	--	--	153	270
02...	--	--	--	--	--	--	--	236	430
02...	--	--	--	--	--	--	--	462	1160
02...	--	--	--	--	--	--	--	117	282
03...	--	--	.037	--	--	2.1	--	--	--
06...	.20	1.4	.109	.025	.023	3.4	--	124	171
06...	.17	1.4	.080	.030	.020	2.9	--	54	60
07...	.19	1.4	.152	.037	.040	2.3	--	125	180
13...	.29	1.3	.321	.087	.045	12	7.7	317	994
13...	.22	1.3	.217	.071	.029	8.6	6.7	156	538
17...	.14	3.2	.040	.022	.016	1.7	--	5	1.8
JAN 1997									
08...	--	--	<.010	--	--	1.6	--	--	--
22...	--	--	.061	.012	.015	.80	--	2	.29
25...	.34	1.6	.229	.028	.023	3.0	3.4	320	378
25...	.55	1.6	.032	.004	.021	1.5	--	45	18
FEB									
10...	--	--	.037	--	--	1.5	--	--	--
19...	.13	3.4	.010	.010	.004	1.2	--	1	.22
MAR									
03...	.12	1.7	.324	.041	.017	3.3	3.6	425	468
03...	.21	1.8	.340	.035	.024	3.4	--	436	967
03...	.46	2.2	.089	.018	.021	2.6	--	98	142
17...	--	--	.018	--	--	1.5	--	--	--
25...	<.00	--	<.018	.018	<.004	1.4	--	2	.34
APR									
07...	--	--	<.010	--	--	1.5	--	--	--
30...	.10	2.9	.011	<.007	.008	1.5	--	5	.52
MAY									
05...	--	--	.016	--	--	1.9	--	--	--
28...	.36	3.7	.017	.020	.007	5.0	--	5	.35
JUN									
03...	--	--	.036	--	--	4.4	--	--	--
12...	.24	3.2	.024	.016	.009	4.1	--	5	.32
JUL									
07...	--	--	.083	--	--	3.1	--	--	--
16...	.10	2.5	.054	.014	.011	2.0	--	8	.18
AUG									
05...	--	--	.041	--	--	2.3	--	--	--
13...	.11	2.2	.029	.008	.011	2.2	2.2	13	.23
SEP									
03...	--	--	.038	--	--	2.5	--	--	--
15...	.17	2.1	.027	.021	.015	1.9	1.7	16	.34

01591400 CATTAIL CREEK NEAR GLENWOOD, MD

LOCATION (REVISED).--Lat 39°15'21", long 77°03'05", Howard County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 1.2 mi upstream from mouth.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--June 1978 to September 1983 (published as "at Roxbury Mills Road at Roxbury Mills, MD"), October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above sea level, from topographic map. Prior to Dec. 28, 1983, at site 800 ft upstream at datum 1.76 ft lower.

REMARKS.--Records good except those for estimated daily discharges (recorder malfunction, ice effect and backwater), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 28	1530	797	4.52	Mar 21	0315	1,840	6.10
Mar 19	0430	526	3.90	May 8	1830	*2,810	*7.12

Minimum discharge, 4.5 ft^3/s, Sep 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5.5	11	e12	e12	25	31	e42	30	27	19	16	6.5
2	e5.2	16	e11	12	24	30	e63	39	26	18	12	10
3	e5.2	12	e11	13	23	67	e38	36	26	16	11	8.0
4	e5.4	8.9	e11	13	72	41	e38	39	25	16	11	7.3
5	e5.0	8.0	e11	13	146	33	e37	44	25	16	10	6.2
6	e4.9	7.7	e10	12	49	31	e36	63	24	15	9.5	6.2
7	e4.7	85	e10	13	36	30	e36	52	23	15	9.2	6.2
8	e4.7	88	e10	26	31	45	e35	723	23	28	9.2	9.0
9	e4.6	29	e11	22	28	114	e70	88	22	21	8.9	6.8
10	e4.5	20	e11	17	26	45	e55	56	22	18	22	e6.4
11	e4.4	15	e12	15	26	35	e42	55	24	16	19	e6.2
12	e4.5	14	e11	14	37	32	e38	114	34	15	13	e5.7
13	e4.5	e12	e10	14	27	31	e35	66	38	14	10	e5.5
14	e4.6	e19	e10	12	24	31	e34	49	34	14	9.9	e5.4
15	e5.5	e20	e10	25	23	29	e34	43	25	14	9.9	e5.3
16	e4.9	e16	e10	44	22	28	e31	39	37	13	9.3	5.2
17	5.1	e12	e10	22	39	28	33	37	38	13	17	5.3
18	10	e12	e10	22	93	46	33	34	26	13	17	5.5
19	6.7	e12	10	18	39	143	45	33	24	11	12	5.5
20	6.1	e11	10	16	32	52	56	32	27	12	9.9	5.5
21	5.8	e12	10	15	29	e394	35	31	23	12	9.8	5.5
22	6.1	e29	10	15	27	e95	32	30	21	11	8.8	5.5
23	6.4	e19	12	96	59	e65	30	30	27	11	8.3	5.5
24	6.8	e14	13	44	143	e55	29	30	43	15	7.4	5.5
25	13	e13	32	30	48	e47	27	30	25	12	7.3	6.0
26	9.8	e13	18	23	37	e44	27	30	21	11	7.1	7.3
27	14	e12	15	21	34	e42	30	29	20	11	6.7	6.0
28	8.4	e12	16	326	32	e39	26	29	19	11	e6.3	5.7
29	7.3	e12	14	58	---	e37	25	29	19	11	e6.0	4.6
30	7.1	e11	15	35	---	e34	25	28	19	9.7	e5.7	4.5
31	7.0	---	14	28	---	e33	---	27	---	49	e5.5	---
TOTAL	197.7	575.6	380	1046	1231	1807	1117	1995	787	480.7	324.7	183.8
MEAN	6.38	19.2	12.3	33.7	44.0	58.3	37.2	64.4	26.2	15.5	10.5	6.13
MAX	14	88	32	326	146	394	70	723	43	49	22	10
MIN	4.4	7.7	10	12	22	28	25	27	19	9.7	5.5	4.5
CFSM	.28	.84	.54	1.47	1.92	2.55	1.63	2.81	1.15	.68	.46	.27
IN.	.32	.94	.62	1.70	2.00	2.94	1.81	3.24	1.28	.78	.53	.30

e Estimated

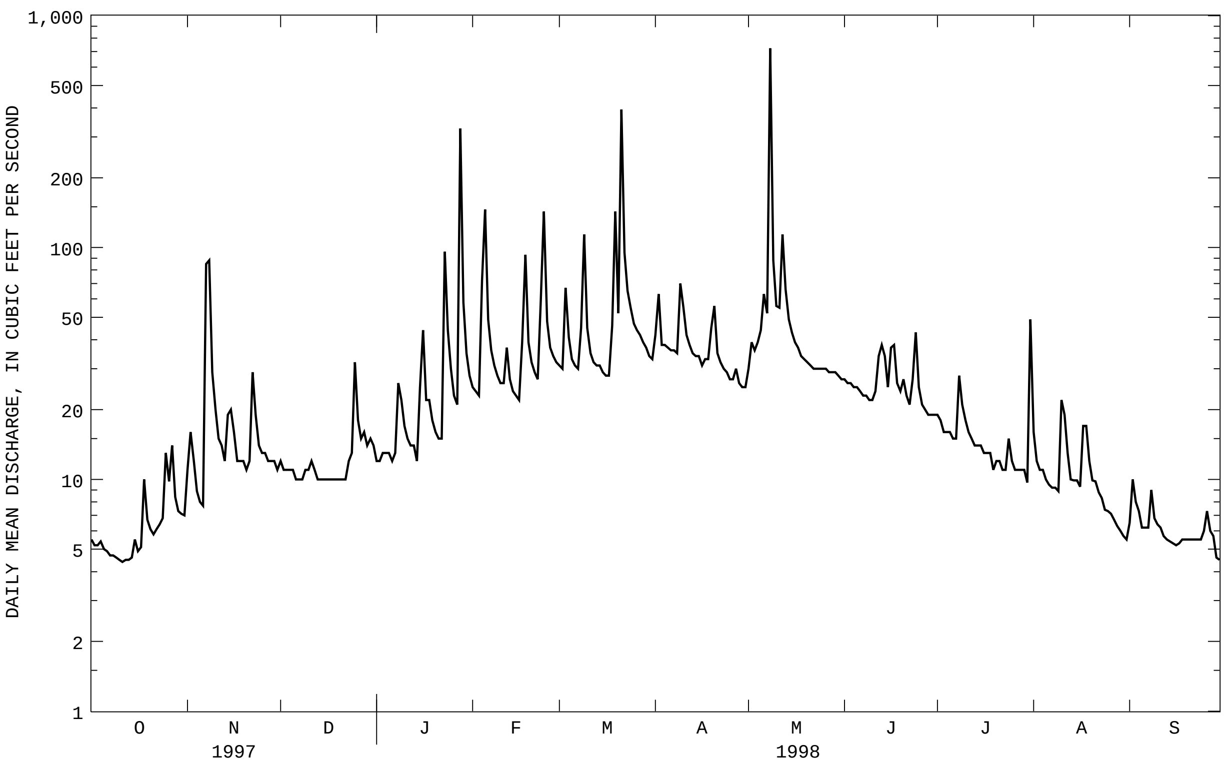
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.9	23.3	30.2	35.0	39.5	40.8	37.2	33.5	22.5	17.1	13.5	16.5
MAX	76.6	62.8	103	113	103	109	112	92.5	49.3	55.1	41.5	81.6
(WY)	1980	1994	1997	1996	1979	1993	1993	1989	1996	1996	1996	1979
MIN	3.73	5.96	9.24	8.38	14.6	14.5	14.9	14.1	6.96	4.23	4.63	3.81
(WY)	1987	1982	1982	1981	1992	1981	1985	1986	1986	1986	1991	1995

01591400 CATTAIL CREEK NEAR GLENWOOD, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1978 - 1998	
ANNUAL TOTAL	8153.3		10125.5			
ANNUAL MEAN	22.3		27.7		27.4	
HIGHEST ANNUAL MEAN					45.7	1996
LOWEST ANNUAL MEAN					13.1	1981
HIGHEST DAILY MEAN	282	Mar 3	723	May 8	2100	Jan 19 1996
LOWEST DAILY MEAN	4.3	Sep 6	4.4	Oct 11	1.9	Sep 3 1995
ANNUAL SEVEN-DAY MINIMUM	4.5	Sep 3	4.5	Oct 8	2.0	Sep 2 1995
INSTANTANEOUS PEAK FLOW			2810	May 8	5210	Jan 19 1996
INSTANTANEOUS PEAK STAGE			7.12	May 8	8.96	Jan 19 1996
INSTANTANEOUS LOW FLOW			4.5	(a)	1.7	Aug 19 1991
ANNUAL RUNOFF (CFSM)	.98		1.21		1.20	
ANNUAL RUNOFF (INCHES)	13.24		16.45		16.26	
10 PERCENT EXCEEDS	42		45		43	
50 PERCENT EXCEEDS	15		18		18	
90 PERCENT EXCEEDS	5.2		5.9		6.5	

a From rating curve extended above 175 ft^3/s on basis of contracted-opening and flow-over-road measurement at gage height of 8.41 ft.
b Sept. 29, 30.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD

LOCATION.--Lat 39°11'32", long 77°00'17", 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^2.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 310 ft above sea level, from topographic map. June 1978 to October 1980, nonrecording gage 300 ft upstream on left bank at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Triadelphia Reservoir, 500 ft upstream, usable capacity, 6,200,000,000 gal; no dead storage. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a discharge of 17,800 ft^3/s. Data provided by Washington Suburban Sanitary Commission.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 566 ft^3/s, May 9, gage height, 3.34 ft; minimum discharge, 12 ft^3/s, Sep 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	44	35	40	48	87	169	96	101	105	103	50
2	44	44	35	40	48	89	167	94	99	105	102	50
3	44	44	35	40	48	144	165	99	100	105	102	50
4	44	44	35	40	48	161	165	100	99	105	101	39
5	44	44	34	40	48	127	163	100	100	105	100	14
6	44	46	33	39	47	178	160	99	100	105	100	26
7	44	46	33	39	47	178	153	100	100	104	100	50
8	44	47	33	40	47	178	152	301	98	105	99	50
9	44	47	33	41	46	178	153	528	96	105	100	49
10	44	47	33	40	46	175	152	419	94	105	74	50
11	44	46	32	41	46	168	152	287	92	105	15	47
12	44	46	32	43	46	167	151	211	106	105	15	15
13	44	45	34	43	42	163	147	213	117	103	16	15
14	43	44	34	43	41	162	147	214	69	103	40	42
15	43	44	33	43	39	245	145	214	96	103	58	52
16	43	42	33	43	37	290	146	214	96	103	62	52
17	44	40	33	43	46	264	147	214	101	103	62	52
18	43	40	33	43	72	231	149	215	103	103	62	52
19	43	40	37	43	82	214	148	212	104	103	61	33
20	43	45	40	44	96	211	148	165	108	103	60	15
21	43	44	41	44	92	344	147	102	107	103	47	15
22	44	44	41	46	75	397	147	100	107	104	15	14
23	44	43	39	81	152	397	148	99	107	105	15	14
24	44	40	37	55	252	246	126	99	69	103	33	13
25	46	38	37	50	252	178	96	100	20	80	50	13
26	46	38	37	52	252	176	96	98	20	48	50	13
27	46	37	39	51	250	175	96	98	20	33	50	14
28	46	34	42	52	158	175	96	99	18	103	47	14
29	46	34	42	54	---	171	96	98	46	102	14	14
30	46	34	42	50	---	168	96	103	104	103	14	14
31	45	---	41	48	---	168	---	103	---	103	40	---
TOTAL	1370	1271	1118	1411	2503	6205	4223	5194	2597	3070	1807	941
MEAN	44.2	42.4	36.1	45.5	89.4	200	141	168	86.6	99.0	58.3	31.4
MAX	46	47	42	81	252	397	169	528	117	105	103	52
MIN	43	34	32	39	37	87	96	94	18	33	14	13
(†)	2300	2900	3050	4630	6400	6230	6200	6200	6330	5350	4750	4550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

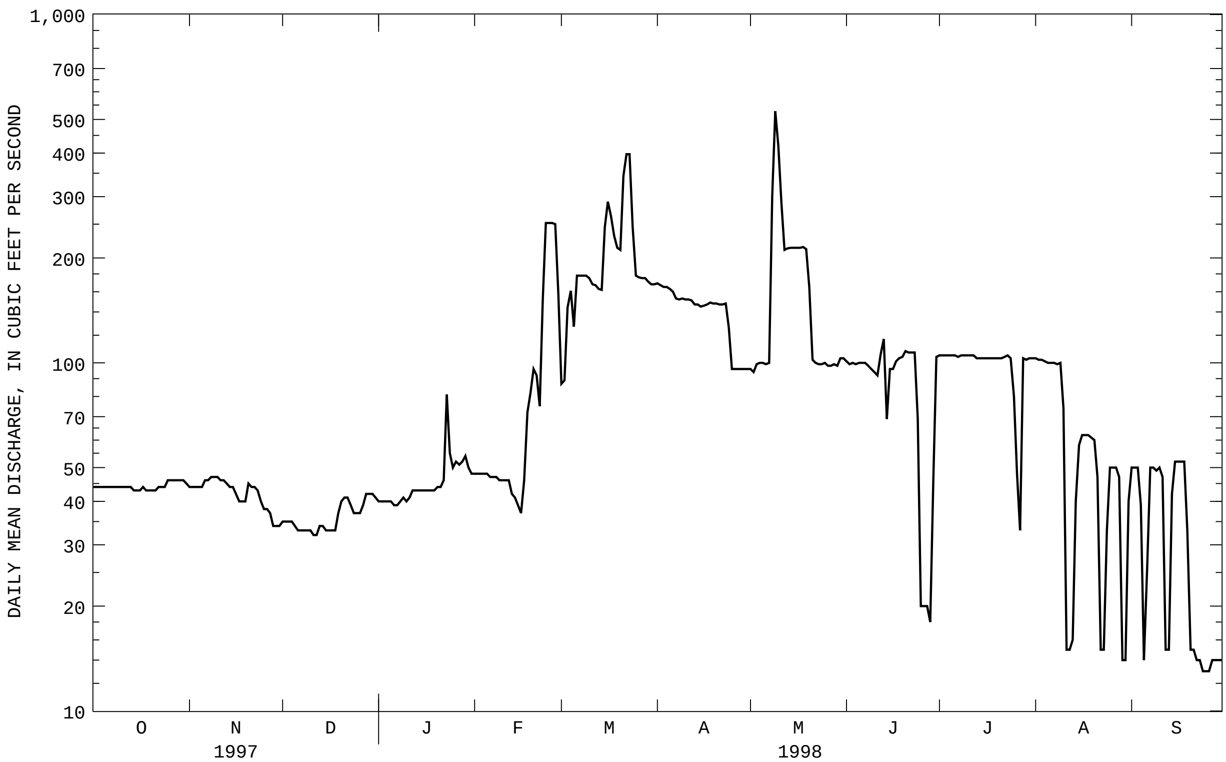
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.8	58.3	89.3	80.4	86.9	125	131	100	76.2	62.2	68.2	79.5
MAX	138	166	373	183	256	320	304	229	170	135	143	219
(WY)	1997	1997	1984	1991	1994	1993	1993	1989	1989	1996	1996	1996
MIN	7.87	17.1	14.9	9.33	10.1	8.90	8.49	8.63	22.4	30.3	18.1	26.1
(WY)	1987	1989	1992	1982	1987	1981	1981	1981	1981	1995	1987	1991

† Monthend contents, in millions of gallons, in Triadelphia Reservoir (contents on Sept. 30, 1997, 2,700,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1981 - 1998	
ANNUAL TOTAL	33653		31710			
ANNUAL MEAN	92.2		86.9		85.0	
ANNUAL MEAN≠	78.9		79.1		83.2	
HIGHEST ANNUAL MEAN					134	1984
LOWEST ANNUAL MEAN					47.5	1992
HIGHEST DAILY MEAN	383	Mar 7	528	May 9	1730	May 6 1989
LOWEST DAILY MEAN	11	May 31	13	(a)	2.1	(b)
ANNUAL SEVEN-DAY MINIMUM	16	Jun 7	14	Sep 22	4.0	Oct 16 1980
INSTANTANEOUS PEAK FLOW			566	May 9	2650	May 6 1989
INSTANTANEOUS PEAK STAGE			3.34	May 9	10.26	May 6 1985
INSTANTANEOUS LOW FLOW			12	Sep 24	1.2	Dec 3 1985
ANNUAL RUNOFF (CFSM)	1.17		1.11		1.08	
ANNUAL RUNOFF (CFSM)≠	1.00		1.01		1.06	
ANNUAL RUNOFF (INCHES)	15.93		15.01		14.70	
ANNUAL RUNOFF (INCHES)≠	13.63		13.66		14.38	
10 PERCENT EXCEEDS	235		170		185	
50 PERCENT EXCEEDS	56		51		55	
90 PERCENT EXCEEDS	35		33		9.5	

≠ Adjusted for change in reservoir contents.
a Sept. 24-26.
b Jan. 27, 28, 1983



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--June 1978 to current year.

REMARKS--Records good except those for estimated daily discharges (backwater and missing or doubtful gage height record), which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 28	1645	741	4.60	May 8	1645	816	4.81
Mar 21	0800	1,230	5.88	Jun 23	2345	*3,860	*8.55

Minimum discharge, 2.2 ft^3/s, Oct 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.4	19	e18	17	38	43	37	38	22	25	12	4.8
2	e4.0	31	e15	17	33	41	56	60	27	22	9.9	6.5
3	e3.9	23	e12	18	31	97	40	52	28	20	8.9	6.2
4	e3.8	15	e13	18	128	60	42	55	21	20	8.0	5.4
5	e3.8	12	e12	17	243	47	40	61	20	20	7.6	5.0
6	e3.6	11	e11	16	92	42	37	91	19	18	7.6	4.5
7	e3.6	124	e11	18	59	40	36	70	18	18	7.2	4.5
8	e3.5	166	e12	30	46	66	35	308	19	45	7.1	6.8
9	e3.5	64	e11	28	39	179	88	111	19	32	7.0	6.3
10	e3.4	35	e13	22	35	77	73	71	26	24	11	5.7
11	e3.3	23	e18	20	35	55	48	64	25	18	20	5.4
12	e3.4	18	e15	18	67	46	41	120	37	17	9.4	5.2
13	e3.4	e16	e13	18	42	43	38	88	146	16	7.9	5.1
14	e3.5	e30	e11	16	37	42	36	59	76	15	7.5	5.1
15	e4.2	e32	e11	36	33	39	36	50	39	15	7.0	5.4
16	e3.7	e24	e11	80	32	38	34	43	37	15	6.6	5.4
17	e4.0	e18	e12	35	71	36	46	39	32	15	7.4	9.0
18	20	e16	e11	34	199	64	49	36	24	14	7.9	14
19	8.9	e15	e11	28	75	185	50	34	30	12	6.7	6.8
20	6.2	e13	11	24	56	82	85	31	33	12	6.2	6.2
21	5.9	e16	11	22	47	591	46	28	24	14	5.6	6.2
22	5.8	e55	12	20	41	110	40	27	90	20	5.4	7.0
23	7.0	e31	22	137	88	75	36	26	412	14	5.1	7.6
24	9.5	e23	19	83	192	61	34	26	727	12	4.9	6.2
25	24	e20	50	47	77	53	32	30	67	11	4.6	5.9
26	18	e18	29	34	58	48	29	27	45	10	16	6.2
27	24	e17	24	30	49	46	34	26	38	10	30	6.2
28	13	e15	25	401	45	45	29	25	32	9.7	7.2	6.0
29	10	e15	22	120	---	43	33	25	30	9.3	5.8	5.1
30	8.8	e16	22	63	---	40	35	24	27	9.2	5.4	4.5
31	7.4	---	21	45	---	37	---	22	---	22	5.1	---
TOTAL	231.5	931	509	1512	1988	2471	1295	1767	2190	534.2	268.0	184.2
MEAN	7.47	31.0	16.4	48.8	71.0	79.7	43.2	57.0	73.0	17.2	8.65	6.14
MAX	24	166	50	401	243	591	88	308	727	45	30	14
MIN	3.3	11	11	16	31	36	29	22	18	9.2	4.6	4.5
CFSM	.28	1.15	.61	1.81	2.63	2.95	1.60	2.11	2.70	.64	.32	.23
IN.	.32	1.28	.70	2.08	2.74	3.40	1.78	2.43	3.02	.74	.37	.25

e Estimated

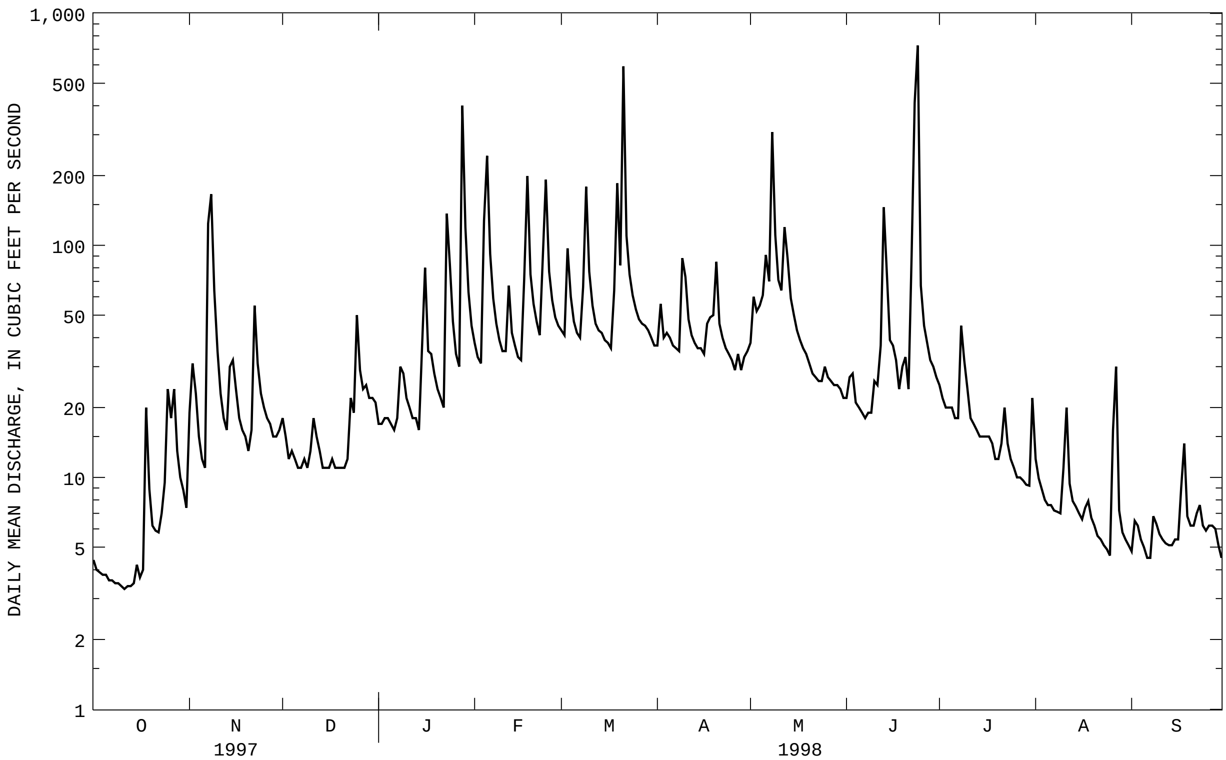
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.2	29.8	34.6	39.8	45.2	50.1	41.7	37.7	29.2	17.3	13.2	16.9
MAX	129	68.8	104	115	112	116	90.7	94.3	73.0	52.4	36.6	90.2
(WY)	1980	1994	1997	1996	1979	1993	1993	1989	1998	1996	1996	1996
MIN	2.68	7.27	11.8	9.31	20.3	18.8	18.5	15.1	6.21	4.72	3.98	3.11
(WY)	1987	1982	1981	1981	1992	1981	1995	1986	1986	1986	1987	1986

01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1978 - 1998	
ANNUAL TOTAL	9752.5		13880.9			
ANNUAL MEAN	26.7		38.0		31.3	
HIGHEST ANNUAL MEAN					52.9	1996
LOWEST ANNUAL MEAN					16.0	1986
HIGHEST DAILY MEAN	308	Mar 3	727	Jun 24	1840	Jan 19 1996
LOWEST DAILY MEAN	3.3	Oct 11	3.3	Oct 11	1.7	(a)
ANNUAL SEVEN-DAY MINIMUM	3.4	Oct 8	3.4	Oct 8	1.8	Sep 10 1995
INSTANTANEOUS PEAK FLOW			3860	Jun 23	(b)5180	Jan 19 1996
INSTANTANEOUS PEAK STAGE			8.55	Jun 23	9.24	Jan 19 1996
INSTANTANEOUS LOW FLOW			2.2	Oct 20	(c).75	Jan 30 1981
ANNUAL RUNOFF (CFSM)	.99		1.41		1.16	
ANNUAL RUNOFF (INCHES)	13.44		19.12		15.76	
10 PERCENT EXCEEDS	50		72		52	
50 PERCENT EXCEEDS	18		23		19	
90 PERCENT EXCEEDS	4.3		5.5		5.7	

a Sept. 11-13, 1995.
b From rating curve extended above 1,300 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
c Result of freezeup.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

REVISED RECORDS.--WDR MD-DE-78-1: 1976(M). WDR MD-DE-89-1: 1978(M), 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 153.5 ft above sea level (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 except those for estimated daily discharges (plugged orifice), which are fair. Records do not include diversion at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Flow regulated by Triadelphia Reservoir, and since March 1954 by T. Howard Duckett Reservoir, combined usable capacity, 11,800,000,000 gal; dead storage, 80,000,000 gal. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,420 ft^3/s, Mar 23, gage height, 8.19 ft; minimum discharge, 9.5 ft^3/s, Dec 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	19	20	20	20	216	168	25	28	90	21	20
2	20	19	19	19	20	215	216	26	27	41	20	20
3	20	19	19	19	81	138	219	26	26	21	20	19
4	20	19	19	19	110	21	218	26	26	21	20	18
5	20	19	19	19	84	21	220	27	26	22	21	16
6	20	19	19	20	44	21	221	27	26	23	20	15
7	20	19	19	19	21	21	221	26	26	22	20	17
8	20	19	19	19	21	52	198	42	26	22	20	15
9	19	19	19	19	21	232	203	122	26	21	20	18
10	20	19	19	19	21	280	212	306	25	22	20	20
11	19	19	19	19	22	238	213	392	25	22	20	20
12	19	20	18	19	22	212	213	494	25	23	20	20
13	19	19	19	19	21	161	210	548	24	23	20	19
14	19	19	19	19	21	212	211	397	24	23	20	19
15	20	19	19	19	21	214	185	208	84	22	20	19
16	20	19	18	19	21	207	211	207	150	21	20	19
17	19	19	18	19	66	213	211	208	153	21	20	19
18	19	19	19	19	108	159	214	209	187	22	20	19
19	19	19	19	19	192	e210	215	211	193	22	20	19
20	19	19	18	19	214	e330	212	212	67	22	20	19
21	19	19	19	19	215	e1560	216	213	20	22	20	19
22	19	19	19	19	216	e1820	216	180	20	22	20	19
23	19	19	18	20	215	e1380	212	158	20	22	20	19
24	19	19	18	20	200	553	212	156	506	22	20	20
25	19	19	18	19	191	155	214	155	717	22	20	20
26	19	19	18	19	150	181	215	111	220	22	20	19
27	19	19	19	19	177	193	212	89	218	22	20	19
28	19	19	19	20	216	214	185	49	220	22	20	20
29	19	19	19	20	---	216	113	25	217	21	20	20
30	19	19	19	22	---	202	47	25	126	20	20	19
31	19	---	19	19	---	173	---	27	---	20	20	---
TOTAL	600	571	582	598	2731	10020	6033	4927	3478	763	622	564
MEAN	19.4	19.0	18.8	19.3	97.5	323	201	159	116	24.6	20.1	18.8
MAX	20	20	20	22	216	1820	221	548	717	90	21	20
MIN	19	19	18	19	20	21	47	25	20	20	20	15
(†)	6700	7300	6450	8970	11810	11670	10340	11570	11400	10590	8890	7350
(≠)	89.7	82.1	68.9	68.4	82.3	77.3	83.6	89.2	85.2	92.8	93.4	89.5

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	45.1	50.2	79.3	107	119	140	142	114	86.9	59.9	49.9	65.0
MAX	379	272	457	480	462	557	444	397	822	280	226	587
(WY)	1980	1953	1997	1978	1979	1993	1952	1989	1972	1945	1971	1979
MIN	7.76	7.21	8.45	7.84	7.92	7.88	7.47	9.04	7.88	7.81	5.72	4.91
(WY)	1968	1985	1966	1966	1966	1966	1966	1985	1967	1967	1966	1966

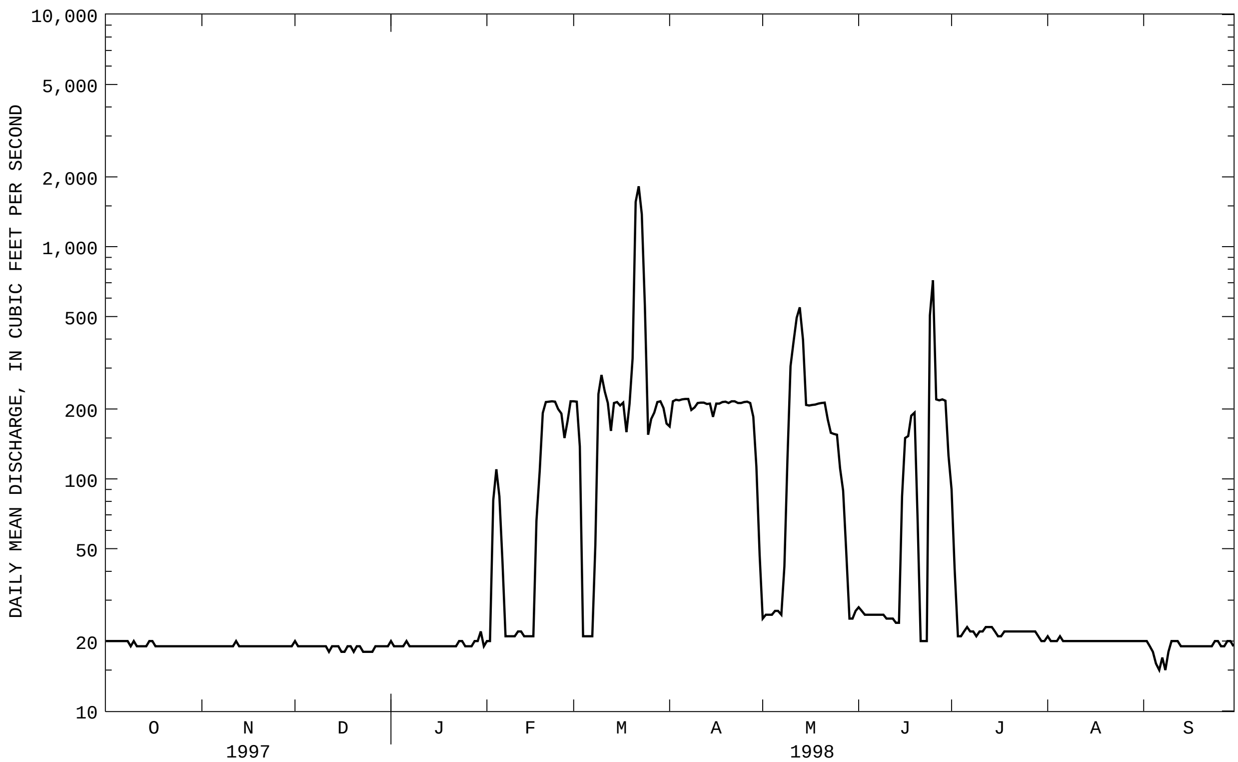
† Combined month-end total contents, in millions of gallons, in Tridelphia and T. Howard Duckett Reservoirs (contents on Sept. 30, 1997, 7,690,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

≠ Diversions, in cubic feet per second, upstream from station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records provided by Washington Suburban Sanitary Commission.

01592500 PATUXENT RIVER NEAR LAUREL, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	30632		31489			
ANNUAL MEAN	83.9		86.3		87.9	
ANNUAL MEAN≠	75.6		83.8			
HIGHEST ANNUAL MEAN					241	1972
LOWEST ANNUAL MEAN					9.09	1966
HIGHEST DAILY MEAN	607	Mar 5	(e)1820	Mar 22	13000	Jun 22 1972
LOWEST DAILY MEAN	18	Dec 12	15	Sep 6	1.1	Jun 26 1956
ANNUAL SEVEN-DAY MINIMUM	18	Dec 20	17	Sep 3	3.7	Aug 29 1966
INSTANTANEOUS PEAK FLOW			(e)1990	Mar 21	(a)26000	Jun 22 1972
INSTANTANEOUS PEAK STAGE			(e)8.86	Mar 21	(b)25.00	Jun 22 1972
INSTANTANEOUS LOW FLOW			9.5	Dec 12	(c).05	Jul 18 1985
ANNUAL RUNOFF (CFSM)	.64		.65		.67	
ANNUAL RUNOFF (INCHES)	8.63		8.87		9.05	
10 PERCENT EXCEEDS	206		214		195	
50 PERCENT EXCEEDS	21		20		22	
90 PERCENT EXCEEDS	19		19		12	

≠ Adjusted for diversions.
e Estimated
a From ratinmg curve extended above 6,600 ft^3/s on basis of contracted-opening measurement of peak flow.
b From floodmarks.
c Valve closed for repair.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 Guilford Road (formerly 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^2.

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 above sea level. Prior to June 25, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges (missing record, backwater from beaverdam), which are fair. Low flow affected by regulation from unknown source. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	2030	852	6.31	Mar 9	1030	*1,570	*8.91
Jan 23	1530	884	6.47	Mar 21	0400	1,020	7.09
Jan 28	1800	1,140	7.55				

Minimum discharge, 5.4 ft^3/s, Oct 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	58	19	28	45	50	47	e52	35	24	e25	7.4
2	7.4	56	18	26	41	46	58	e92	25	20	e13	39
3	6.9	32	22	25	39	154	45	e80	24	18	e11	18
4	7.0	21	23	25	237	78	56	e90	22	18	e10	12
5	6.5	18	22	23	534	57	47	e110	21	18	e9.5	8.9
6	6.1	16	20	22	116	49	43	e260	21	15	e8.7	8.1
7	5.8	305	19	25	68	46	40	e80	21	15	e8.5	8.9
8	5.8	314	18	52	55	109	41	338	21	110	e8.5	26
9	5.7	108	18	47	47	843	205	117	21	43	e9.0	11
10	5.8	48	24	30	43	124	116	79	34	26	e15	e8.6
11	5.5	30	27	26	50	70	59	93	41	20	e50	e7.4
12	5.4	24	20	23	138	59	e50	275	70	17	24	e6.7
13	5.9	22	19	23	61	55	e45	130	164	16	e10	e6.2
14	6.0	92	18	21	48	54	e44	74	175	15	e8.6	e5.7
15	9.1	61	18	78	43	47	e43	60	46	14	e8.6	e5.5
16	9.1	34	18	130	40	45	e40	52	42	14	e8.6	e5.5
17	9.3	27	18	46	106	49	e100	45	37	14	e9.0	e5.5
18	66	24	17	41	357	102	e78	40	30	13	e14	e5.5
19	21	22	17	33	99	347	e90	37	47	11	e11	e5.5
20	14	21	18	30	67	93	e180	34	82	11	7.6	e5.5
21	11	34	19	26	57	599	e65	33	37	10	7.5	6.5
22	10	140	22	25	48	140	e47	31	29	9.8	7.9	e18
23	8.0	43	49	432	194	90	e43	31	31	8.2	7.6	e9.0
24	8.7	27	28	143	392	72	e40	30	71	18	7.8	e6.8
25	54	21	102	69	95	64	e38	33	33	11	7.6	e6.7
26	45	21	42	44	64	60	e35	30	32	8.0	6.8	e8.7
27	54	19	38	39	56	60	e62	28	26	8.1	38	e8.1
28	21	18	43	714	52	56	e35	27	29	7.7	12	e7.0
29	17	18	32	225	---	53	e34	27	30	7.0	9.9	e6.0
30	14	18	64	72	---	46	e34	28	26	14	8.5	e6.0
31	13	---	36	55	---	45	---	25	---	e105	8.2	---
TOTAL	472.8	1692	868	2598	3192	3762	1860	2461	1323	658.8	391.4	289.7
MEAN	15.3	56.4	28.0	83.8	114	121	62.0	79.4	44.1	21.3	12.6	9.66
MAX	66	314	102	714	534	843	205	338	175	110	50	39
MIN	5.4	16	17	21	39	45	34	25	21	7.0	6.8	5.5
CFSM	.40	1.48	.74	2.21	3.00	3.19	1.63	2.09	1.16	.56	.33	.25
IN.	.46	1.66	.85	2.54	3.12	3.68	1.82	2.41	1.30	.64	.38	.28

e Estimated

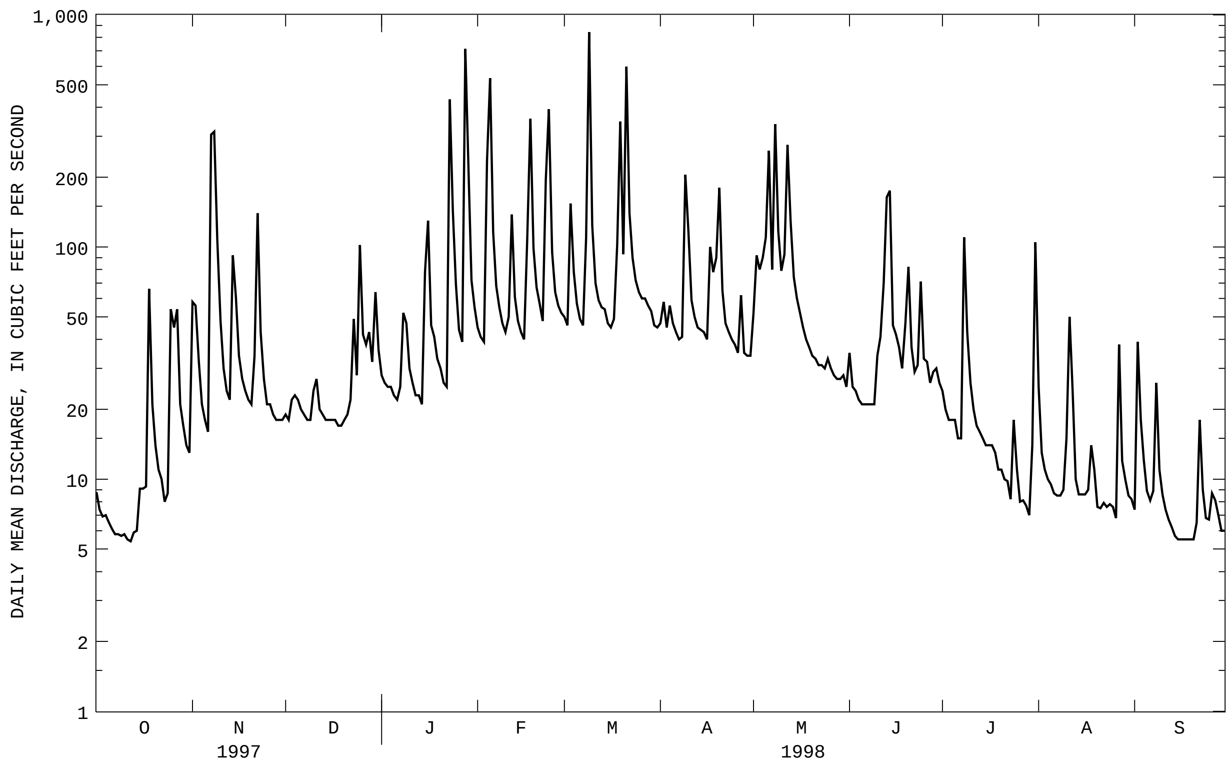
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

MEAN	26.7	38.4	45.5	53.7	61.4	66.6	58.9	50.0	39.0	29.9	27.8	30.6
MAX	107	108	130	145	147	181	160	197	265	119	130	214
(WY)	1980	1973	1997	1978	1979	1993	1973	1989	1972	1945	1955	1975
MIN	5.90	9.31	11.6	12.9	19.7	24.9	21.0	15.7	9.32	6.66	4.91	3.88
(WY)	1942	1942	1966	1955	1947	1981	1947	1955	1986	1966	1957	1932

01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	14685.8		19568.7			
ANNUAL MEAN	40.2		53.6		43.9	
HIGHEST ANNUAL MEAN					93.7	1972
LOWEST ANNUAL MEAN					17.7	1932
HIGHEST DAILY MEAN	500	Jan 25	843	Mar 9	4680	Jun 22 1972
LOWEST DAILY MEAN	5.3	Aug 16	5.4	Oct 12	.00	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	5.5	Aug 10	5.5	Sep 14	.73	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1570	Mar 9	(a)12400	Jun 22 1972
INSTANTANEOUS PEAK STAGE			8.91	Mar 9	(b)18.38	Jun 22 1972
INSTANTANEOUS LOW FLOW			.15	Oct 12	.00	(c)
ANNUAL RUNOFF (CFSM)	1.06		1.41		1.16	
ANNUAL RUNOFF (INCHES)	14.38		19.16		15.70	
10 PERCENT EXCEEDS	69		105		72	
50 PERCENT EXCEEDS	28		30		26	
90 PERCENT EXCEEDS	6.6		7.7		10	

a From rating curve extended above 1,800 ft^3/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.
b From high-water mark in well.
c Sept. 6-12, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD

LOCATION.--Lat 39°08'06", long 76°48'58", Howard County, Hydrologic Unit 02060006, on left bank 20 ft downstream from bridge on southbound lanes of U.S. Highway 1, 0.4 mi southeast of Savage, 0.9 mi downstream from Middle Patuxent River, and 16.2 mi upstream from mouth.

DRAINAGE AREA.--98.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1958. Annual maximums, water years 1959-66, 68, 72, 75. October 1975 to September 1980. May 1985 to current year. Prior to December 1939 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WRD MD-DE-89: 1985, 1987-88(P).

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above sea level, from topographic maps. Prior to October 1958, water-stage recorder at site 400 ft downstream at same datum. October 1958 to September 1972, crest-stage gage at site 400 ft downstream on right bank at same datum. October 1975 to September 1980, water-stage recorder at site 500 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Some diurnal fluctuation at low flow caused by plant 0.5 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0045	1,510	7.97	Feb 18	0630	1,650	8.20
Jan 23	1745	1,650	8.20	Mar 9	1145	*5,460	*12.40
Jan 28	1700	3,140	10.19	Mar 21	0615	3,710	10.80

Minimum discharge, 14 ft^3/s, Oct 11, 12, Sep 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	98	54	69	128	149	153	121	97	68	66	18
2	21	114	50	68	116	142	181	202	81	59	42	69
3	20	77	53	64	110	421	145	184	79	57	35	45
4	20	48	59	63	446	237	158	219	75	55	32	25
5	19	41	58	61	1140	171	145	269	73	56	29	21
6	17	38	51	60	352	152	134	642	73	50	27	19
7	17	479	49	63	196	146	132	200	69	48	26	19
8	16	666	48	119	158	292	132	814	70	200	26	50
9	16	235	47	123	139	2270	395	433	68	104	26	27
10	16	119	57	80	127	392	329	222	96	71	51	21
11	15	77	75	68	133	221	173	235	104	59	89	19
12	15	62	55	63	348	186	149	615	160	52	41	18
13	17	55	51	62	160	171	140	377	363	49	30	16
14	18	179	49	59	131	168	138	208	348	47	26	15
15	23	154	48	147	118	156	137	172	119	45	26	16
16	25	84	48	368	112	148	128	153	110	46	26	16
17	24	66	48	130	237	150	214	139	111	46	27	16
18	128	59	46	112	883	270	182	127	87	43	36	17
19	49	55	46	91	264	787	201	119	97	37	26	16
20	30	52	46	82	181	273	406	111	155	37	23	16
21	25	61	45	74	157	1730	170	106	91	35	21	18
22	24	320	47	72	137	431	144	100	78	32	21	37
23	22	112	90	737	334	267	134	98	78	30	21	25
24	23	78	65	412	839	216	127	97	166	55	20	18
25	106	65	238	185	276	194	117	104	89	37	19	17
26	84	61	107	127	185	183	112	97	78	32	17	23
27	120	58	88	110	164	177	148	91	73	33	74	21
28	49	54	103	1620	153	169	114	92	71	31	27	18
29	36	53	78	556	---	161	109	89	78	28	22	16
30	32	52	129	203	---	155	108	88	70	30	20	16
31	31	---	86	151	---	151	---	82	---	199	19	---
TOTAL	1080	3672	2114	6199	7724	10736	5055	6606	3307	1771	991	688
MEAN	34.8	122	68.2	200	276	346	169	213	110	57.1	32.0	22.9
MAX	128	666	238	1620	1140	2270	406	814	363	200	89	69
MIN	15	38	45	59	110	142	108	82	68	28	17	15
CFSM	.35	1.24	.69	2.03	2.80	3.52	1.71	2.17	1.12	.58	.32	.23
IN.	.41	1.39	.80	2.34	2.92	4.06	1.91	2.50	1.25	.67	.37	.26

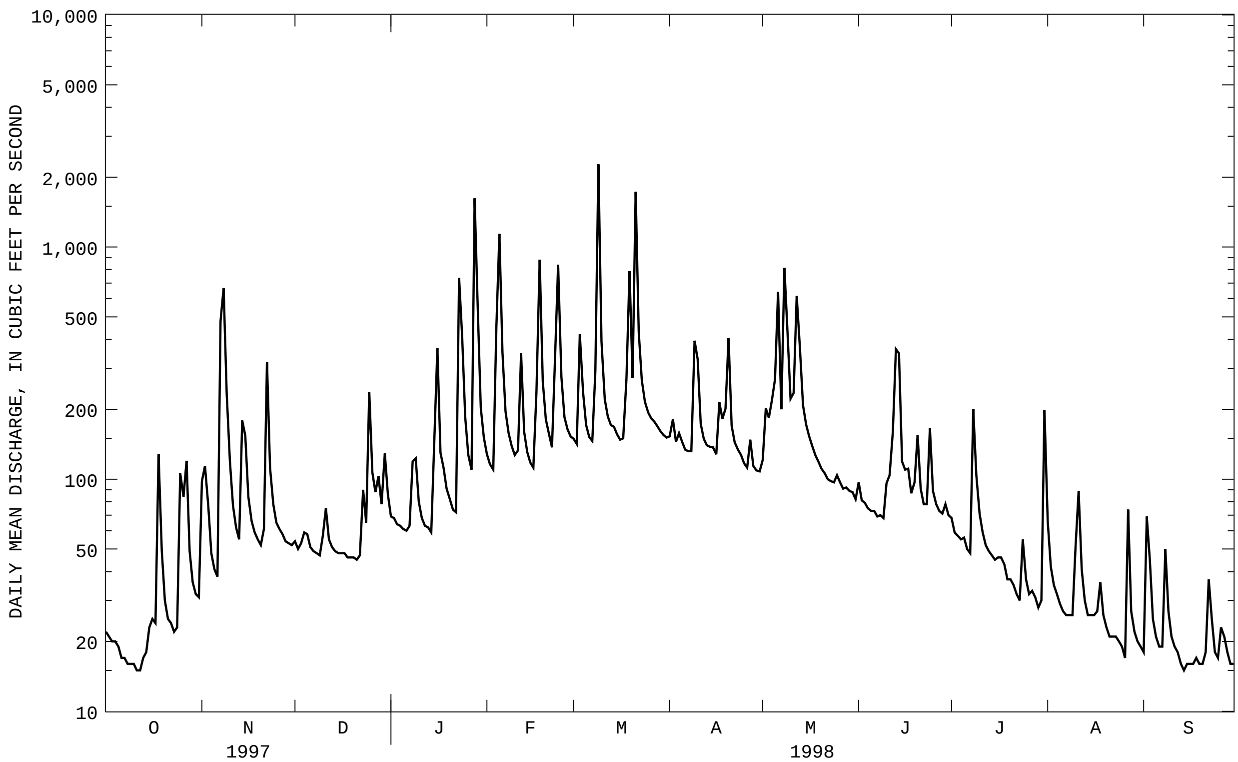
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1958, 1985 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	73.1	102	121	150	146	171	141	129	95.4	76.8	64.2	66.5
MAX	336	260	386	386	375	368	351	367	294	312	315	432
(WY)	1980	1997	1997	1979	1979	1994	1952	1989	1951	1945	1955	1979
MIN	14.7	22.5	35.8	34.0	57.7	85.3	60.0	39.5	25.5	21.9	15.1	12.8
(WY)	1942	1942	1942	1942	1942	1947	1947	1955	1986	1957	1957	1986

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1958 1985 - 1998	
ANNUAL TOTAL	39247		49943			
ANNUAL MEAN	108		137		111	
HIGHEST ANNUAL MEAN					196	1979
LOWEST ANNUAL MEAN					59.3	1942
HIGHEST DAILY MEAN	1220	Jan 25	2270	Mar 9	5250	Sep 6 1979
LOWEST DAILY MEAN	15	(a)	15	(a)	7.0	Sep 19 1943
ANNUAL SEVEN-DAY MINIMUM	16	Oct 6	16	Oct 6	8.7	Oct 6 1986
INSTANTANEOUS PEAK FLOW			5460	Mar 9	(b)35400	Jun 22 1972
INSTANTANEOUS PEAK STAGE			12.40	Mar 9	(c)25.40	Jun 22 1972
INSTANTANEOUS LOW FLOW			14	(d)	1.6	Aug 26 1944
ANNUAL RUNOFF (CFSM)	1.09		1.39		1.13	
ANNUAL RUNOFF (INCHES)	14.84		18.88		15.39	
10 PERCENT EXCEEDS	190		268		189	
50 PERCENT EXCEEDS	77		78		73	
90 PERCENT EXCEEDS	22		21		27	

a Oct. 11, 12, 1997, Sept. 14, 1998.
b From rating curve extended above 11,000 ft^3/s on basis of contracted-opening measurement of peak flow.
c From floodmarks.
d Oct. 11, 12, 1997, Sept. 29, 1998.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1985-92, October 1992 to current year.

REMARKS.--Water-quality data available through September 1997 only at time of publication. Chemical analyses were performed at the Maryland Department of Health and Mental Hygiene laboratory (DHMH), Baltimore, MD.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	TUR-BID-ITY (NTU) (00076)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 1996												
19...	0100	1900	--	--	--	--	--	--	--	--	6.1	--
19...	0825	2700	--	--	--	--	320	17	--	--	6.1	650
19...	0910	2430	--	--	--	--	260	24	--	--	4.9	540
19...	1115	1870	--	--	--	--	--	--	--	--	--	--
29...	1100	108	260	7.0	12.5	14.5	1.5	10	<2.0	55	15	6
NOV												
20...	0900	114	256	6.7	6.5	7.0	3.8	<10	1.4	49	14	3
26...	0925	780	--	--	--	--	210	13	--	--	8.4	380
26...	1205	1010	--	--	--	--	350	17	--	--	7.7	735
26...	1415	927	--	--	--	--	300	21	--	--	7.6	535
DEC												
06...	0645	2130	--	--	--	--	400	<10	--	--	5.7	790
06...	0920	1750	--	--	--	--	320	15	--	--	5.2	485
13...	1435	3830	--	--	--	--	350	11	--	--	4.9	780
13...	1615	4480	--	--	--	--	330	12	--	--	4.4	810
13...	1745	4780	--	--	--	--	310	<10	--	--	4.3	905
17...	1600	234	221	6.7	8.0	9.0	8.7	<10	<.0	43	14	6
JAN 1997												
22...	1130	136	292	6.4	.0	6.5	2.9	<10	<2.0	43	14	3
25...	0145	1970	--	--	--	--	650	11	--	--	6.1	1420
25...	1100	1150	--	--	--	--	310	<10	--	--	5.9	950
28...	1330	883	--	--	--	--	--	--	--	--	--	--
FEB												
05...	0745	409	--	--	--	--	73	<10	--	--	11	240
19...	1245	165	331	6.8	7.0	19.0	3.3	<10	<1.0	45	13	4
MAR												
03...	2000	2980	--	--	--	--	490	<10	--	--	5.3	890
03...	2130	2930	--	--	--	--	480	<10	--	--	4.9	1220
03...	2315	2430	--	--	--	--	340	<10	--	--	4.8	8000
04...	0115	1850	--	--	--	--	290	10	--	--	5.2	735
04...	0415	1190	--	--	--	--	--	--	--	--	--	--
04...	0915	650	--	--	--	--	--	--	--	--	--	--
25...	1615	141	265	6.9	9.0	11.0	1.7	--	<.9	46	13	6
31...	1255	548	--	--	--	--	100	--	--	--	8.4	60
APR												
28...	0915	595	--	--	--	--	110	12	--	--	8.0	78
30...	1445	120	249	7.3	18.0	27.0	2.1	<10	<1.3	47	8.9	7
MAY												
28...	0830	76	263	7.0	14.0	14.5	2.7	<10	--	53	13	3
JUN												
12...	1300	67	263	7.2	21.0	24.0	--	<10	<1.5	53	14	3
JUL												
16...	0730	25	279	7.2	24.0	30.0	1.2	<10	<1.2	62	14	16
AUG												
13...	0900	18	274	7.2	23.0	25.0	1.4	<10	2.0	65	11	6
20...	1015	403	--	--	--	--	280	64	--	--	6.2	432
20...	1630	957	--	--	--	--	420	73	--	--	5.8	768
20...	2115	733	--	--	--	--	310	53	--	--	6.4	512
SEP												
15...	1215	26	257	7.5	19.5	23.0	1.6	<10	<1.7	60	12	16

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L) (32218)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L) (32230)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L) (32231)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L) (32232)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)
OCT 1996												
19...	1.06	--	--	--	--	--	4.7	.011	.04	1.07	<.007	--
19...	.824	--	--	--	--	3.1	3.6	.014	.05	.838	<.007	--
19...	.811	--	--	--	--	2.5	3.6	.014	.05	.825	.010	.01
19...	--	--	--	--	--	--	--	--	--	--	--	--
29...	1.78	.021	.227	.000	.000	2.0	7.9	.007	.02	1.78	<.007	--
NOV												
20...	2.29	.012	.143	.009	.030	2.5	10	.005	.02	2.30	<.007	--
26...	1.43	--	--	--	--	3.2	6.3	.014	.05	1.45	.080	.10
26...	1.30	--	--	--	--	3.6	5.7	.013	.04	1.31	.134	.17
26...	1.46	--	--	--	--	3.6	6.5	.016	.05	1.48	.082	.11
DEC												
06...	1.10	--	--	--	--	3.6	4.9	.010	.03	1.11	.087	.11
06...	.904	--	--	--	--	2.9	4.0	.009	.03	.913	.096	.12
13...	.832	--	--	--	--	2.4	3.7	.011	.04	.843	.033	.04
13...	.696	--	--	--	--	2.2	3.1	.011	.04	.707	.031	.04
13...	.646	--	--	--	--	2.2	2.9	.011	.04	.657	.041	.05
17...	2.30	.010	.113	.000	.000	2.6	10	.006	.02	2.30	.019	.02
JAN 1997												
22...	2.60	.038	.381	.059	.045	2.7	12	.008	.03	2.61	.013	.02
25...	1.30	--	--	--	--	5.3	5.8	.013	.04	1.32	.111	.14
25...	1.21	--	--	--	--	3.6	5.3	.013	.04	1.22	.220	.28
28...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	2.04	--	--	--	--	2.7	9.0	.011	.04	2.05	.047	.06
19...	2.69	.061	.427	.040	.084	3.2	12	.007	.02	2.70	.015	.02
MAR												
03...	.901	--	--	--	--	4.1	4.0	.011	.04	.912	.070	.09
03...	.839	--	--	--	--	3.6	3.7	.012	.04	.851	.071	.09
03...	.895	--	--	--	--	3.1	4.0	.014	.05	.909	.089	.11
04...	.915	--	--	--	--	2.9	4.1	.013	.04	.928	.071	.09
04...	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
25...	2.36	.083	.682	.058	.169	2.4	10	.007	.02	2.37	<.005	--
31...	1.67	--	--	--	--	3.0	7.4	.013	.04	1.68	.024	.03
APR												
28...	1.24	--	--	--	--	2.8	5.5	.012	.04	1.25	.037	.05
30...	1.78	.131	.408	.046	.093	1.9	7.9	.009	.03	1.79	<.007	--
MAY												
28...	2.02	--	.192	.017	.000	2.5	8.9	.017	.06	2.03	.020	.03
JUN												
12...	1.99	.203	.315	.030	.203	2.8	8.8	.018	.06	2.01	.018	.02
JUL												
16...	1.81	.119	.265	.043	.000	2.0	8.0	.011	.04	1.82	.011	.01
AUG												
13...	1.50	.308	.485	.034	.017	1.8	6.6	.009	.03	1.51	.008	.01
20...	.739	--	--	--	--	3.2	3.3	.011	.04	.750	.035	.05
20...	.652	--	--	--	--	3.5	2.9	.010	.03	.662	.051	.07
20...	.717	--	--	--	--	2.8	3.2	.011	.04	.728	.080	.10
SEP												
15...	1.39	.094	.269	.000	.004	1.7	6.2	.010	.03	1.40	.010	.01

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1996												
19...	--	--	--	.38	1.5	--	.036	.025	--	--	4	20
19...	--	--	2.3	.38	1.2	.618	.069	.058	8.1	8.2	656	4780
19...	1.7	.46	1.7	.47	1.3	.490	.073	.059	8.0	8.1	488	3200
19...	--	--	--	--	--	--	--	--	--	--	439	2220
29...	--	--	.23	.19	2.0	.015	.011	.013	3.1	--	6	1.7
NOV												
20...	--	--	.16	.19	2.5	.002	.017	<.004	2.3	--	4	1.1
26...	1.7	.24	1.7	.32	1.8	.480	.043	.030	6.7	6.7	503	1060
26...	2.1	.42	2.3	.55	1.9	.722	.110	.049	7.2	--	684	1870
26...	2.1	.45	2.1	.54	2.0	.687	.070	.053	8.2	--	569	1420
DEC												
06...	2.4	.59	2.5	.68	1.8	.939	.092	.050	6.8	--	767	4410
06...	1.9	.55	1.9	.65	1.6	.776	.114	.060	7.4	--	588	2780
13...	1.6	.24	1.6	.27	1.1	.648	.065	.024	18	10	905	9360
13...	1.4	.30	1.5	.33	1.0	.601	.121	.021	17	8.5	778	9410
13...	1.5	.17	1.6	.21	.87	.900	.056	.025	17	8.6	895	11600
17...	.26	.26	.28	.28	2.6	.061	.053	.017	4.3	4.2	8	4.7
JAN 1997												
22...	.06	.09	.08	.10	2.7	.020	.017	.016	1.3	--	4	1.3
25...	3.8	.27	4.0	.38	1.7	1.60	<.004	.018	4.2	--	2010	10700
25...	2.2	.55	2.4	.77	2.0	.536	.004	.028	5.1	--	750	2330
28...	--	--	--	--	--	--	--	--	--	--	1030	2450
FEB												
05...	.63	.15	.68	.20	2.3	.134	<.004	.017	2.9	--	231	255
19...	.45	.61	.46	.62	3.3	.015	.010	.018	1.7	--	3	1.2
MAR												
03...	3.1	.34	3.1	.41	1.3	1.20	.021	.021	5.3	--	1300	10500
03...	2.6	.40	2.7	.47	1.3	1.10	.064	.022	6.0	6.2	1190	9430
03...	2.1	.32	2.2	.41	1.3	.900	.062	.028	5.7	--	892	5850
04...	1.9	.37	2.0	.44	1.4	.900	.039	.026	5.5	--	850	4240
04...	--	--	--	--	--	--	--	--	--	--	609	1960
04...	--	--	--	--	--	--	--	--	--	--	282	494
25...	--	--	<.00	.10	2.4	.024	.030	<.004	2.0	--	2	.76
31...	1.3	.06	1.3	.10	1.8	.316	.019	.011	4.6	4.9	332	491
APR												
28...	1.5	.34	1.6	.38	1.6	.354	.039	.009	5.0	4.6	294	472
30...	--	--	.13	.10	1.9	.012	<.007	.009	2.3	--	5	1.5
MAY												
28...	.45	.18	.47	.20	2.2	.064	.041	.009	13	13	3	.51
JUN												
12...	.74	--	.75	<.10	--	.027	.018	.011	13	13	1	.20
JUL												
16...	.18	.11	.19	.12	1.9	.026	.021	.015	2.5	--	3	.22
AUG												
13...	.26	.16	.27	.17	1.7	.021	.011	.009	2.2	--	2	.07
20...	2.4	.17	2.5	.20	.95	.593	.034	.021	6.0	4.7	433	471
20...	2.7	.16	2.8	.21	.87	.900	.041	.018	6.4	5.0	804	2080
20...	2.0	.18	2.1	.26	.99	.800	.042	.029	6.1	--	545	1080
SEP												
15...	.26	.26	.27	.27	1.7	.035	.023	.013	2.8	2.5	22	1.5

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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^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1955 to June 1977 (gage heights and discharge measurements only), June 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 13.10 ft above sea level. Prior to June 27, 1977, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges (manometer malfunction), which are fair. Flow regulated by T. Howard Duckett Reservoir, usable capacity 5,600,000,000 gal, 21 mi upstream from station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,840 ft^3/s, Mar 10; minimum discharge, 94 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	214	198	231	415	617	531	300	237	252	239	99
2	116	433	186	212	365	592	817	429	241	229	138	102
3	115	321	180	213	342	917	670	491	293	166	124	147
4	e113	205	196	205	729	1030	727	658	230	155	120	117
5	114	167	206	201	3320	496	771	492	219	153	117	105
6	e113	156	190	196	2550	392	609	1200	214	149	115	100
7	111	512	182	196	871	356	569	863	208	147	113	101
8	110	2650	179	243	548	477	548	1030	205	284	113	123
9	110	1790	175	331	434	1740	690	1620	200	397	113	128
10	111	868	186	248	383	3780	1510	839	235	202	116	108
11	111	376	242	210	363	1340	841	862	255	167	193	103
12	109	274	205	200	799	979	640	1240	390	153	153	99
13	111	236	184	194	648	891	585	2010	371	147	124	100
14	114	466	180	190	400	674	558	1250	948	145	122	99
15	129	669	176	214	343	620	554	921	412	144	119	97
16	147	343	173	936	320	580	505	625	389	142	119	e100
17	129	261	173	574	466	558	613	565	390	141	132	e101
18	616	230	168	330	1620	762	875	531	364	141	140	122
19	299	211	172	284	1370	1590	624	498	396	133	124	107
20	168	199	169	258	815	1750	1010	478	553	133	115	104
21	141	200	167	232	693	2380	785	465	320	128	112	104
22	131	630	168	218	611	3440	592	452	216	126	107	180
23	132	513	250	690	683	2140	551	395	204	125	107	154
24	128	283	238	2610	2210	1750	520	382	280	125	109	113
25	375	235	534	1090	1600	1250	496	396	688	136	108	105
26	323	220	485	526	821	697	479	386	826	123	106	105
27	559	210	280	372	620	633	520	323	449	122	116	109
28	253	197	364	1450	601	639	494	313	371	122	133	105
29	171	193	278	4110	---	618	421	258	378	122	110	102
30	156	193	363	1240	---	598	351	238	369	117	107	97
31	147	---	315	569	---	561	---	233	---	236	105	---
TOTAL	5584	13455	7162	18773	24940	34847	19456	20743	10851	5062	3869	3336
MEAN	180	449	231	606	891	1124	649	669	362	163	125	111
MAX	616	2650	534	4110	3320	3780	1510	2010	948	397	239	180
MIN	109	156	167	190	320	356	351	233	200	117	105	97
CFSM	.52	1.29	.66	1.74	2.56	3.23	1.86	1.92	1.04	.47	.36	.32
IN.	.60	1.44	.77	2.01	2.67	3.73	2.08	2.22	1.16	.54	.41	.36

e Estimated

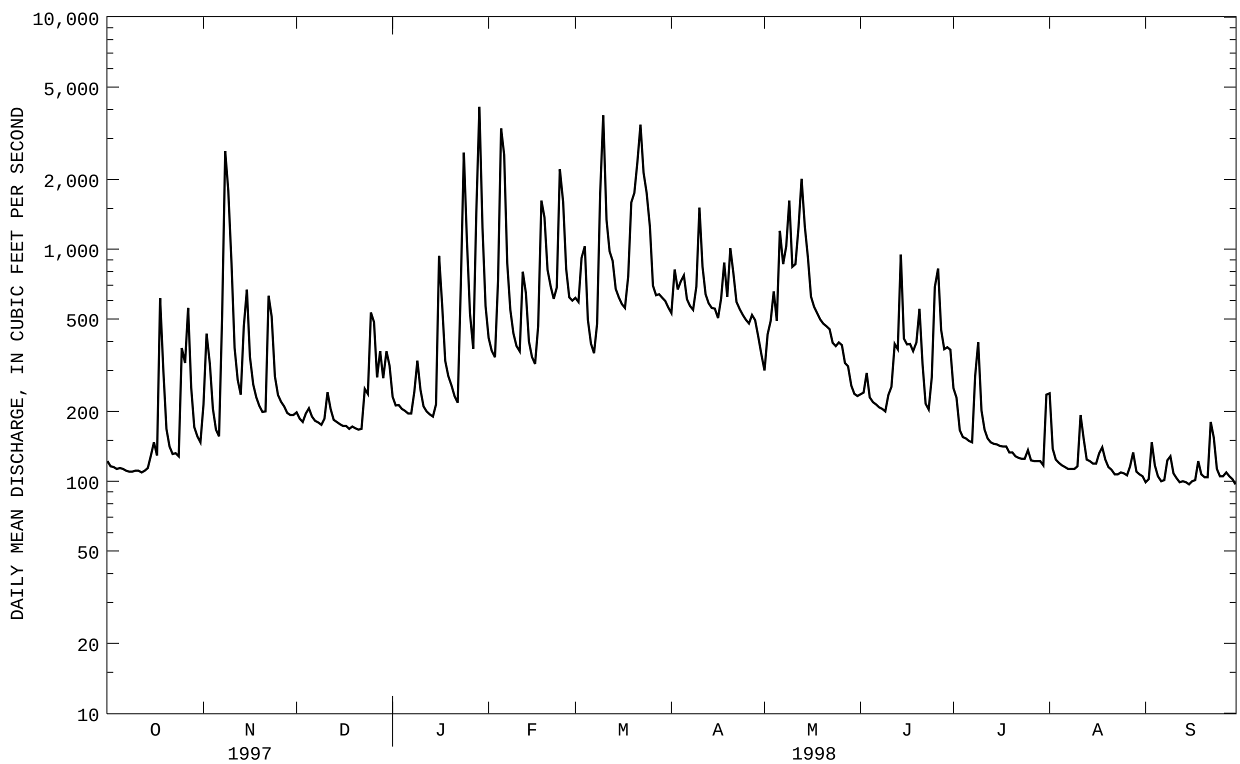
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

MEAN	254	316	416	514	491	629	522	488	334	215	205	232
MAX	1093	747	1357	1316	1232	1358	1247	1291	846	579	532	1358
(WY)	1980	1997	1997	1978	1979	1993	1983	1989	1989	1996	1979	1979
MIN	80.4	108	136	119	228	173	167	154	115	102	86.1	65.2
(WY)	1987	1982	1981	1981	1995	1981	1985	1986	1991	1986	1987	1986

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1977 - 1998	
ANNUAL TOTAL	144012		168078			
ANNUAL MEAN	395		460		386	
HIGHEST ANNUAL MEAN					637	1979
LOWEST ANNUAL MEAN					175	1981
HIGHEST DAILY MEAN	3330	Mar 4	4110	Jan 29	8860	Jan 27 1978
LOWEST DAILY MEAN	100	Aug 11	97	(a)	56	(b)
ANNUAL SEVEN-DAY MINIMUM	101	Aug 9	100	Sep 11	57	Sep 15 1986
INSTANTANEOUS PEAK FLOW			4840	Mar 10	(c)31100	Jun 22 1972
INSTANTANEOUS PEAK STAGE			13.04	Mar 10	(d)27.90	Jun 22 1972
INSTANTANEOUS LOW FLOW			94	Sep 30	32	Aug 9 1966
ANNUAL RUNOFF (CFSM)	1.13		1.32		1.11	
ANNUAL RUNOFF (INCHES)	15.39		17.97		15.05	
10 PERCENT EXCEEDS	787		919		802	
50 PERCENT EXCEEDS	246		252		225	
90 PERCENT EXCEEDS	113		111		101	

a Sept. 15, 30.
b Sept. 17-19, 1986.
c On basis of contracted-opening measurement of peak flow.
d From floodmarks.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-80, 1985 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1977 to September 1980, October 1984 to September 1991.
WATER TEMPERATURE: December 1977 to September 1980, October 1984 to September 1991.
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to September 1991.

REMARKS.--Water-quality samples are collected from bridge on Governor Bridge Road located 0.3 mi downstream from U.S. Highway 50 (John Hanson Highway). On May 6 and Nov. 16, 1994 samples were collected and analyzed using ultraclean methodologies. Data on trace metals for these dates are available from the University of Delaware. Data on organics for these dates are available from George Mason University.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1985-91): Maximum daily, 954 microsiemens, Dec. 15, 1989; minimum daily, 100 microsiemens, May 7, 1989.
WATER TEMPERATURE (water years 1985-91): Maximum daily, 29.0°C, July 25, 1987; minimum daily, 0.0°C, on many days during winter periods.
SEDIMENT CONCENTRATION: Maximun daily mean, 700 mg/L, June 3, 1985; minimum daily mean, 1 mg/L, Jan. 22,1990.
SEDIMENT LOAD: Maximum daily, 4,050 tons, May 7, 1989; minimum daily, 0.55 ton, Jan. 22, 1990.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
OCT 1997									
27...	1245	664	217	7.3	15.5	12.0	751	8.7	82
NOV									
08...	1000	2680	147	6.8	11.0	10.0	752	8.0	72
DEC									
09...	1015	171	295	7.2	2.5	5.5	758	10.2	81
JAN 1998									
13...	1100	189	295	7.0	9.0	7.0	762	10.1	83
24...	1130	3200	146	7.1	10.0	6.0	756	10.7	87
FEB									
10...	1130	376	227	7.1	11.5	5.0	768	11.3	88
MAR									
26...	1030	682	187	7.3	18.0	8.5	771	10.7	90
APR									
14...	1030	555	176	7.1	18.0	14.0	757	9.4	92
27...	0930	494	183	7.1	15.0	14.0	763	8.4	81
MAY									
29...	0745	256	238	7.0	22.5	19.5	762	7.4	81
JUN									
11...	0900	250	268	7.1	21.0	17.0	764	7.8	81
JUL									
08...	0915	185	267	6.9	20.0	22.0	758	6.9	79
AUG									
05...	0915	114	282	6.9	26.5	21.5	766	6.4	72

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 1997									
27...	29	35	5.0	1.3	--	<.010	.892	.892	<.015
NOV									
08...	23	29	4.7	1.2	2.3	.020	.542	.542	.079
DEC									
09...	--	--	9.1	2.0	--	<.010	1.59	1.59	.106
JAN 1998									
13...	48	58	9.1	2.0	7.2	.013	1.65	1.65	.051
24...	22	27	4.9	1.3	3.1	.019	.712	.712	.038
FEB									
10...	768	41	10	1.7	--	<.010	1.40	1.40	.101
MAR									
26...	30	37	8.3	1.9	5.9	.020	1.35	1.35	.144
APR									
14...	34	41	5.2	1.6	5.5	.020	--	1.27	.087
27...	35	43	<.10	1.9	6.5	.016	--	1.47	.099
MAY									
29...	42	51	8.1	2.0	7.3	.024	--	1.67	.102
JUN									
11...	47	57	9.6	2.1	6.9	.147	--	1.70	.080
JUL									
08...	--	--	8.9	2.2	--	<.010	--	1.76	.040
AUG									
05...	53	64	9.7	2.1	7.4	.015	--	1.69	.035

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1997									
27...	.42	.23	.211	.096	.103	6.7	41	74	--
NOV									
08...	.65	.39	.141	.081	.071	11	84	608	78
DEC									
09...	.44	.40	.035	.021	.024	3.4	4	1.9	--
JAN 1998									
13...	.35	.27	.029	.012	.020	3.6	4	2.1	--
24...	.61	.37	.166	.021	.018	10	101	873	80
FEB									
10...	.33	.35	.053	.015	.026	3.4	9	9.1	--
MAR									
26...	.53	.15	.042	<.010	.017	3.9	16	30	--
APR									
14...	.28	.27	.038	.016	.019	3.9	12	18	--
27...	.42	.30	.056	<.010	.017	4.0	13	17	--
MAY									
29...	.33	.29	.054	.058	.015	3.7	14	9.6	--
JUN									
11...	.44	.35	.047	.027	.022	4.0	15	10	--
JUL									
08...	.44	.33	.096	.021	.036	4.5	17	8.5	--
AUG									
05...	.44	.42	.083	.031	.036	4.1	15	4.6	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD

LOCATION.--Lat 38°48'50", long 76°44'50", Prince Georges County, Hydrologic Unit 02060006, on left bank 1000 ft upstream from bridge on Water street, 0.2 mi south of Upper Marlboro, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--89.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to April 1989, April 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5 ft above sea level, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily discharges (missing record), which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1130	1,570	11.08	Feb 5	1330	*2,660	*12.62
Jan 24	0315	1,270	10.08	Mar 9	2200	1,520	10.96
Jan 29	0200	2,160	12.16	Mar 21	1415	1,790	11.58

Minimum discharge, 3.0 ft^3/s, Sep 15-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	85	53	55	146	126	104	96	42	23	17	4.7
2	11	105	44	50	126	130	215	170	37	20	12	4.6
3	9.4	77	51	48	113	459	135	216	81	19	10	4.5
4	8.8	47	53	46	477	242	317	380	39	18	9.4	5.0
5	8.9	34	49	44	2090	151	294	e250	35	18	9.1	4.4
6	8.2	28	43	43	1020	128	148	e150	33	19	9.0	4.2
7	8.9	355	38	44	350	118	122	e120	29	17	9.0	4.0
8	8.9	1370	36	68	211	239	108	e600	e28	82	9.1	12
9	8.9	933	36	77	166	1000	311	e320	e26	91	9.3	8.7
10	9.8	390	45	57	143	957	543	e160	e24	40	11	6.1
11	9.1	146	66	48	134	253	199	e150	e42	27	42	4.8
12	8.6	98	49	43	286	172	136	e600	e170	22	16	4.4
13	9.0	79	41	44	171	146	116	e440	e90	19	10	4.2
14	9.3	221	37	42	130	135	109	e160	e150	17	7.9	3.8
15	24	187	35	77	112	121	102	e120	e100	16	7.3	3.1
16	22	107	35	306	105	111	94	e100	e360	19	7.3	3.1
17	17	77	34	130	249	107	212	e90	93	17	54	3.2
18	484	63	33	99	616	287	170	e80	60	16	106	5.9
19	155	57	32	79	293	658	129	e75	51	14	22	5.2
20	57	52	32	77	170	538	214	e70	109	13	15	4.3
21	e32	53	31	60	142	1330	128	64	71	13	11	4.3
22	e25	232	32	54	122	853	103	58	48	31	9.1	127
23	e21	126	71	487	246	310	93	56	43	15	7.9	79
24	e18	88	52	996	820	210	85	57	45	19	7.6	24
25	e70	63	218	404	414	171	79	67	38	12	7.4	14
26	e60	57	122	185	186	149	74	57	33	10	6.8	11
27	e180	52	88	136	150	140	83	53	30	10	6.2	8.6
28	78	50	133	980	134	131	73	52	29	10	7.2	6.9
29	44	47	87	1580	---	121	67	48	28	9.7	8.6	5.8
30	33	48	108	407	---	113	67	45	26	10	6.5	6.4
31	27	---	80	197	---	107	---	42	---	24	5.9	---
TOTAL	1476.8	5327	1864	6963	9322	9713	4630	4946	1990	690.7	476.6	387.2
MEAN	47.6	178	60.1	225	333	313	154	160	66.3	22.3	15.4	12.9
MAX	484	1370	218	1580	2090	1330	543	600	360	91	106	127
MIN	8.2	28	31	42	105	107	67	42	24	9.7	5.9	3.1
CFSM	.53	1.98	.67	2.50	3.71	3.49	1.72	1.78	.74	.25	.17	.14
IN.	.61	2.21	.77	2.89	3.87	4.03	1.92	2.05	.83	.29	.20	.16

e Estimated

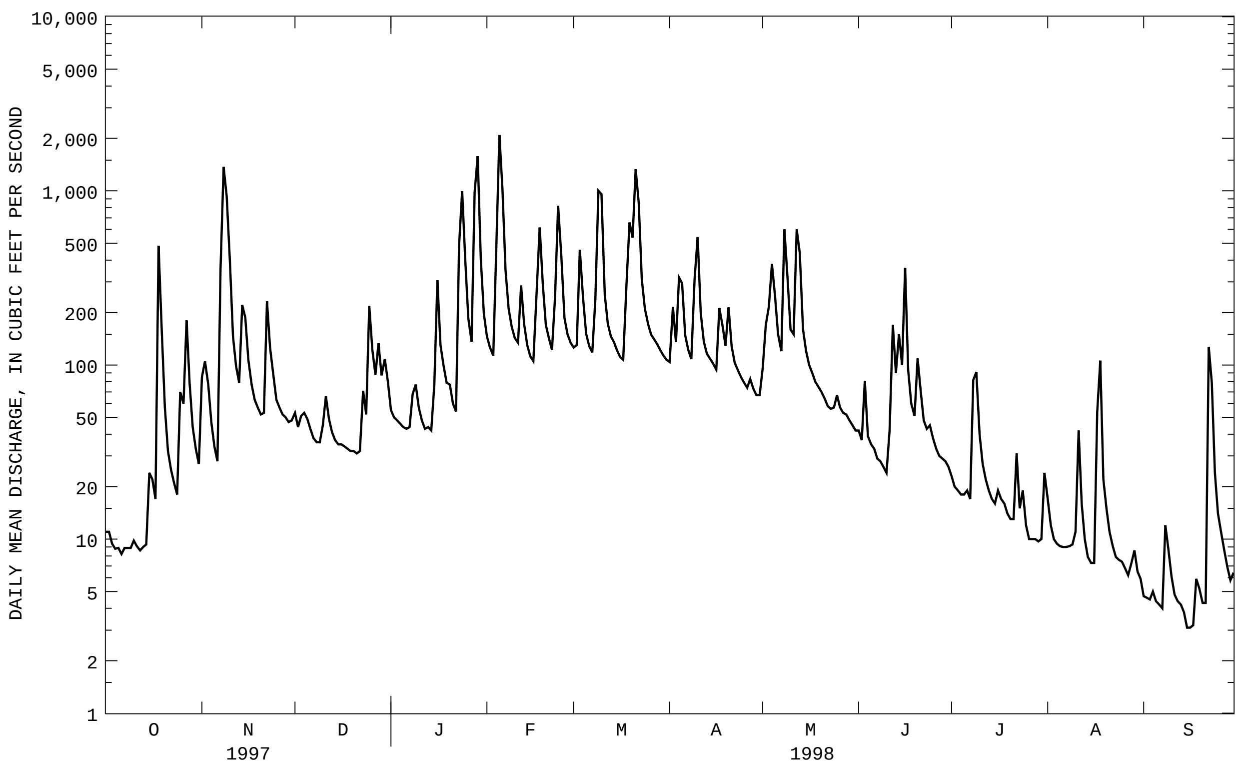
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1989, 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	52.8	98.0	103	135	149	198	115	94.8	52.5	46.4	40.2	35.6
MAX	145	178	261	260	333	445	191	164	118	108	95.5	90.4
(WY)	1996	1998	1997	1996	1998	1994	1993	1996	1996	1996	1994	1996
MIN	10.9	37.9	38.4	54.5	71.0	76.8	49.1	23.3	9.42	12.3	9.74	9.35
(WY)	1987	1995	1989	1986	1995	1986	1995	1986	1986	1987	1995	1986

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1989 1992 - 1998	
ANNUAL TOTAL	34895.1		47786.3			
ANNUAL MEAN	95.6		131		96.3	
HIGHEST ANNUAL MEAN					133	1996
LOWEST ANNUAL MEAN					54.8	1986
HIGHEST DAILY MEAN	1370	Nov 8	2090	Feb 5	2100	Mar 3 1994
LOWEST DAILY MEAN	7.9	(a)	3.1	(b)	2.1	(c)
ANNUAL SEVEN-DAY MINIMUM	8.3	Aug 7	3.8	Sep 11	2.4	Sep 7 1995
INSTANTANEOUS PEAK FLOW			2660	Feb 5	3630	Jan 19 1996
INSTANTANEOUS PEAK STAGE			12.62	Feb 5	13.20	Jan 19 1996
INSTANTANEOUS LOW FLOW			3.0	(d)	1.9	(c)
ANNUAL RUNOFF (CFSM)	1.07		1.46		1.07	
ANNUAL RUNOFF (INCHES)	14.47		19.82		14.59	
10 PERCENT EXCEEDS	185		299		194	
50 PERCENT EXCEEDS	62		57		52	
90 PERCENT EXCEEDS	10		8.6		10	

a July 21, 22, Aug. 10, 11.
b Sept. 15, 16.
c Sept. 11, 12 1995.
d Sept. 15-19.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

REMARKS.--Water-quality records available through September 1997 only at time of publication.
Chenical analyses were performed at the Maryland Department of Health and Mental Hygiene laboratory (DHMH), Baltimore, MD.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
OCT 1996										
01...	0946	45	243	7.4	17.1	22.5	--	8.7	--	--
09...	0530	734	--	--	--	--	110	--	18	--
09...	1000	731	--	--	--	--	81	--	18	--
09...	1445	619	--	--	--	--	75	--	17	--
17...	1015	37	274	7.4	15.1	23.0	--	9.0	--	--
19...	0530	714	--	--	--	--	--	--	--	--
19...	1000	825	--	--	--	--	--	--	--	--
19...	1345	959	--	--	--	--	100	--	21	--
19...	1700	1010	--	--	--	--	84	--	19	--
19...	2015	968	--	--	--	--	--	--	--	--
19...	2400	857	--	--	--	--	71	--	21	--
20...	0415	724	--	--	--	--	--	--	--	--
20...	0930	554	--	--	--	--	--	--	--	--
29...	1245	55	265	7.0	14.0	15.5	4.9	--	13	<2.0
NOV										
08...	2330	750	--	--	--	--	--	--	--	--
09...	0330	875	--	--	--	--	150	--	24	--
09...	0945	1160	--	--	--	--	93	--	24	--
09...	1545	1040	--	--	--	--	73	--	24	--
09...	2230	962	--	--	--	--	--	--	--	--
14...	0855	78	237	7.1	5.3	1.0	--	11.6	--	--
21...	0845	62	255	6.6	6.0	3.0	11	--	10	.9
26...	1310	441	--	--	--	--	230	--	21	--
DEC										
07...	1915	464	--	--	--	--	87	--	14	--
08...	0145	524	--	--	--	--	70	--	13	--
13...	2145	1650	--	--	--	--	150	--	11	--
14...	0015	1980	--	--	--	--	130	--	10	--
14...	0300	1620	--	--	--	--	110	--	10	--
16...	1145	206	191	7.4	7.6	7.0	--	10.2	--	--
18...	0930	144	212	6.4	8.0	10.0	18	--	<10	<.3
JAN 1997										
22...	1345	71	353	6.4	1.0	9.5	9.6	--	<10	<2.0
27...	1100	108	309	7.4	1.8	2.0	--	12.3	--	--
FEB										
05...	1445	612	--	--	--	--	220	--	<10	--
19...	1030	127	370	6.6	6.0	18.0	11	--	<10	<1.4
24...	0927	88	339	7.5	6.6	7.0	--	11.2	--	--
MAR										
11...	1030	118	301	7.5	8.1	15.0	--	10.6	--	--
25...	1038	85	244	7.1	8.7	10.5	--	11.4	--	--
25...	1430	84	268	6.6	8.5	11.5	5.6	--	--	<.9
APR										
08...	0930	75	225	7.3	13.1	12.0	--	10.1	--	--
22...	0918	80	259	7.2	10.8	10.0	--	10.2	--	--
28...	1315	633	--	--	--	--	95	--	23	--
30...	1230	111	233	6.7	15.0	23.5	14	--	11	<1.6
MAY										
06...	0855	59	253	7.4	15.6	19.0	--	9.4	--	--
22...	0955	27	250	7.8	16.4	16.5	--	11.4	--	--
26...	0415	759	--	--	--	--	820	--	19	--
26...	0815	877	--	--	--	--	250	--	22	--
26...	1130	1170	--	--	--	--	200	--	22	--
29...	1230	81	224	6.7	16.0	18.5	19	--	15	--
JUN										
05...	0855	113	210	7.3	14.8	17.0	--	8.6	--	--
12...	1130	39	262	6.9	19.0	28.5	--	--	10	<1.5
19...	0857	366	152	7.0	21.4	25.0	--	6.3	--	--
JUL										
07...	0955	19	279	8.0	24.0	27.5	--	11.5	--	--
15...	0715	9.4	316	6.9	22.0	27.5	9.2	--	14	<1.9
21...	0915	7.7	349	7.4	23.7	27.5	--	7.3	--	--
AUG										
04...	0930	7.9	344	7.7	23.8	28.5	--	9.2	--	--
13...	1100	9.4	370	7.1	23.5	26.0	7.9	--	15	<.9
19...	1000	39	267	7.1	22.6	22.0	--	6.9	--	--
20...	1015	408	--	--	--	--	500	--	120	--
20...	1530	731	--	--	--	--	--	--	--	--
20...	1945	814	--	--	--	--	190	--	45	--
20...	2345	872	--	--	--	--	--	--	--	--
21...	0330	877	--	--	--	--	110	--	34	--
21...	0730	797	--	--	--	--	--	--	--	--
SEP										
02...	1020	16	328	7.9	25.2	30.0	--	10.5	--	--
15...	1400	14	302	7.2	22.0	26.0	7.2	--	12	2.4
18...	0900	14	303	7.4	21.1	24.0	--	8.2	--	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
OCT 1996									
01...	--	11	5	--	--	--	--	--	--
09...	--	6.1	220	.381	--	--	--	--	1.2
09...	--	6.1	158	.342	--	--	--	--	1.1
09...	--	6.9	120	.330	--	--	--	--	.94
17...	--	15	2	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	5.6	184	.406	--	--	--	--	1.1
19...	--	5.7	158	.369	--	--	--	--	1.3
19...	--	--	--	--	--	--	--	--	--
19...	--	6.0	110	.336	--	--	--	--	.79
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
29...	54	16	3	.193	.098	.152	.000	.000	.46
NOV									
08...	--	--	--	--	--	--	--	--	--
09...	--	6.1	375	.295	--	--	--	--	1.7
09...	--	5.9	160	.198	--	--	--	--	1.2
09...	--	6.1	116	.115	--	--	--	--	.95
09...	--	--	--	--	--	--	--	--	--
14...	--	15	8	--	--	--	--	--	--
21...	46	15	2	.379	.053	.275	.001	.054	.58
26...	--	7.0	400	.398	--	--	--	--	2.1
DEC									
07...	--	9.9	194	.489	--	--	--	--	1.2
08...	--	7.7	186	.429	--	--	--	--	1.2
13...	--	4.6	254	.380	--	--	--	--	1.3
14...	--	4.6	172	.340	--	--	--	--	1.2
14...	--	5.0	130	.369	--	--	--	--	1.1
16...	--	12	21	--	--	--	--	--	--
18...	30	14	17	.658	.047	.151	.000	.000	1.1
JAN 1997									
22...	36	15	9	.763	--	.176	.000	.000	1.5
27...	--	12	15	--	--	--	--	--	--
FEB									
05...	--	6.6	375	.629	--	--	--	--	2.1
19...	30	13	12	.737	.073	.256	.000	.010	1.6
24...	--	14	3	--	--	--	--	--	--
MAR									
11...	--	12	6	--	--	--	--	--	--
25...	--	12	3	--	--	--	--	--	--
25...	33	13	8	.531	.034	.396	.045	.016	.71
APR									
08...	--	9.7	5	--	--	--	--	--	--
22...	--	10	5	--	--	--	--	--	--
28...	--	5.3	162	.629	--	--	--	--	1.7
30...	35	11	24	.353	.168	.585	.081	.150	.63
MAY									
06...	--	13	5	--	--	--	--	--	--
22...	--	13	2	--	--	--	--	--	--
26...	--	4.5	1670	.632	--	--	--	--	5.3
26...	--	4.9	600	.570	--	--	--	--	2.3
26...	--	--	190	--	--	--	--	--	--
29...	36	13	17	.368	.002	.396	.096	.111	.90
JUN									
05...	--	12	19	--	--	--	--	--	--
12...	49	16	10	.481	--	.424	.037	.041	1.4
19...	--	7.6	164	--	--	--	--	--	--
JUL									
07...	--	14	6	--	--	--	--	--	--
15...	77	14	14	.215	.121	.411	.033	.029	.57
21...	--	12	4	--	--	--	--	--	--
AUG									
04...	--	13	4	--	--	--	--	--	--
13...	92	13	6	.207	.139	.460	.033	.008	.55
19...	--	9.3	16	--	--	--	--	--	--
20...	--	--	772	.367	--	--	--	--	3.7
20...	--	--	--	--	--	--	--	--	--
20...	--	--	252	.772	--	--	--	--	2.4
20...	--	--	--	--	--	--	--	--	--
21...	--	--	170	.740	--	--	--	--	1.6
21...	--	--	--	--	--	--	--	--	--
SEP									
02...	--	11	10	--	--	--	--	--	--
15...	72	10	14	.524	.053	.380	.019	.020	.88
18...	--	10	4	--	--	--	--	--	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 1996									
01...	--	--	--	.240	.048	.06	--	--	--
09...	1.7	.010	.03	.391	.056	.07	.77	.31	.83
09...	1.5	.009	.03	.351	.042	.05	.70	.08	.75
09...	1.5	.036	.12	.366	.070	.09	.50	--	.57
17...	--	--	--	.336	.024	.03	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	1.8	.016	.05	.422	.008	.01	.65	.05	.66
19...	1.6	.011	.04	.380	.010	.01	.91	.39	.92
19...	--	--	--	--	--	--	--	--	--
19...	1.5	.010	.03	.346	<.007	--	--	--	.45
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
29...	.85	.005	.02	.198	.015	.02	.24	.22	.26
NOV									
08...	--	--	--	--	--	--	--	--	--
09...	1.3	.004	.01	.299	.013	.02	1.4	.19	1.4
09...	.88	.004	.01	.202	.011	.01	.99	.32	1.0
09...	.51	.004	.01	.119	.012	.02	.82	.32	.83
09...	--	--	--	--	--	--	--	--	--
14...	--	--	--	.412	.064	.08	--	--	--
21...	1.7	.006	.02	.385	.020	.03	.18	--	.20
26...	1.8	.019	.06	.417	.046	.06	1.7	.37	1.7
DEC									
07...	2.2	.007	.02	.496	.040	.05	.65	.24	.69
08...	1.9	.009	.03	.438	.045	.06	.69	.34	.74
13...	1.7	.010	.03	.390	.027	.03	.89	.29	.92
14...	1.5	.009	.03	.349	.029	.04	.84	.32	.87
14...	1.6	.011	.04	.380	.037	.05	.71	.42	.74
16...	--	--	--	.585	.065	.08	--	--	--
18...	2.9	.008	.03	.666	.059	.08	.33	.23	.39
JAN 1997									
22...	3.4	.009	.03	.772	.120	.15	.57	.46	.69
27...	--	--	--	.697	.136	.18	--	--	--
FEB									
05...	2.8	.014	.05	.643	.093	.12	1.4	.25	1.5
19...	3.3	.010	.03	.747	.063	.08	.81	.62	.87
24...	--	--	--	.682	.031	.04	--	--	--
MAR									
11...	--	--	--	.677	.046	.06	--	--	--
25...	--	--	--	.501	.023	.03	--	--	--
25...	2.4	.006	.02	.537	.020	.03	.16	.13	.18
APR									
08...	--	--	--	.292	.021	.03	--	--	--
22...	--	--	--	.401	.018	.02	--	--	--
28...	2.8	.011	.04	.640	.112	.14	.99	.30	1.1
30...	1.6	.008	.03	.361	.057	.07	.21	.10	.27
MAY									
06...	--	--	--	.351	.044	.06	--	--	--
22...	--	--	--	.404	.033	.04	--	--	--
26...	2.8	.025	.08	.657	.126	.16	4.5	.79	4.6
26...	2.5	.028	.09	.598	.118	.15	1.6	.75	1.7
26...	--	--	--	--	--	--	--	--	1.3
29...	1.6	.012	.04	.380	.110	.14	.41	.47	.52
JUN									
05...	--	--	--	.389	.094	.12	--	--	--
12...	2.1	.017	.06	.498	.048	.06	.81	.15	.86
19...	--	--	--	.444	.081	.10	--	--	--
JUL									
07...	--	--	--	.301	.018	.02	--	--	--
15...	.95	.009	.03	.224	.042	.05	.31	.21	.35
21...	--	--	--	.259	.063	.08	--	--	--
AUG									
04...	--	--	--	.244	.035	.05	--	--	--
13...	.92	.008	.03	.215	.020	.03	.31	.23	.33
19...	--	--	--	.437	.087	.11	--	--	--
20...	1.6	.014	.05	.381	.069	.09	3.2	.20	3.3
20...	--	--	--	--	--	--	--	--	--
20...	3.4	.021	.07	.793	.099	.13	1.5	.28	1.6
20...	--	--	--	--	--	--	--	--	--
21...	3.3	.020	.07	.760	.082	.11	.81	.24	.89
21...	--	--	--	--	--	--	--	--	--
SEP									
02...	--	--	--	.280	.046	.06	--	--	--
15...	2.3	.010	.03	.534	.028	.04	.32	.32	.35
18...	--	--	--	.466	.033	.04	--	--	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1996									
01...	--	--	.084	.044	.027	--	--	--	--
09...	.36	.75	.384	.022	.025	7.4	--	292	578
09...	.12	.47	.244	.023	.027	7.0	6.8	172	339
09...	--	--	.228	--	.144	6.9	--	96	160
17...	--	--	.057	.023	.019	--	--	--	--
19...	--	--	--	--	--	--	--	553	1070
19...	--	--	--	--	--	--	--	311	693
19...	.10	.48	.327	.025	.025	8.1	--	283	732
19...	.40	.78	.274	.026	.023	7.8	--	226	616
19...	--	--	--	--	--	--	--	161	422
19...	.39	.73	.194	.029	.025	7.7	--	128	297
20...	--	--	--	--	--	--	--	122	239
20...	--	--	--	--	--	--	--	122	183
29...	.23	.43	.072	.042	.019	4.6	--	7	1.1
NOV									
08...	--	--	--	--	--	--	--	802	1620
09...	.21	.51	.693	.037	.031	9.6	--	491	1160
09...	.33	.53	.364	.054	.031	9.7	--	271	850
09...	.34	.45	.278	.044	.032	10	--	151	425
09...	--	--	--	--	--	--	--	152	394
14...	--	--	.074	.022	.015	--	--	--	--
21...	--	--	.049	.031	.013	4.0	--	8	1.3
26...	.41	.83	.990	.043	.029	9.5	--	468	557
DEC									
07...	.28	.78	.381	.031	.027	5.2	--	233	292
08...	.38	.82	.320	.037	.029	5.8	--	236	333
13...	.31	.70	.534	.067	.016	14	11	325	1450
14...	.35	.70	.428	.062	.016	13	9.7	235	1260
14...	.46	.84	.346	.071	.017	13	9.4	166	724
16...	--	--	.091	.025	.017	--	--	--	--
18...	.29	.95	.099	.023	.015	5.3	4.7	25	9.6
JAN 1997									
22...	.57	1.3	.056	.021	.013	2.4	--	12	2.3
27...	--	--	.064	.021	.014	--	--	--	--
FEB									
05...	.34	.98	1.20	.010	.018	5.9	--	450	743
19...	.68	1.4	.048	.010	.015	2.6	--	15	5.2
24...	--	--	.040	.014	.013	--	--	--	--
MAR									
11...	--	--	.046	.020	.012	--	--	--	--
25...	--	--	.038	.016	.010	--	--	--	--
25...	.15	.69	.035	.018	.012	3.1	--	5	1.2
APR									
08...	--	--	.044	.020	.011	--	--	--	--
22...	--	--	.040	.017	.006	--	--	--	--
28...	.41	1.1	.392	.023	.017	6.4	--	207	353
30...	.15	.51	.076	.016	.015	4.8	--	19	5.7
MAY									
06...	--	--	.053	.025	.016	--	--	--	--
22...	--	--	.051	.020	.008	--	--	--	--
26...	.92	1.6	3.60	<.017	.025	9.1	9.2	1570	3210
26...	.87	1.5	.810	.017	.020	14	14	350	830
26...	--	--	.700	--	--	12	--	156	492
29...	.58	.96	.118	.051	.021	9.0	--	20	4.4
JUN									
05...	--	--	.095	.047	.030	--	--	--	--
12...	.20	.70	.083	.034	.022	9.9	--	9	.93
19...	--	--	.415	.064	.032	--	--	--	--
JUL									
07...	--	--	.078	.027	.016	--	--	--	--
15...	.25	.47	.067	.019	.016	5.0	4.8	5	.13
21...	--	--	.075	.033	.016	--	--	--	--
AUG									
04...	--	--	.060	.026	.014	--	--	--	--
13...	.25	.47	.049	.010	.010	4.0	--	2	.05
19...	--	--	.126	.052	.029	--	--	--	--
20...	.27	.65	2.10	.056	.028	7.5	7.6	1050	1160
20...	--	--	--	--	--	--	--	1070	2100
20...	.38	1.2	.900	.037	.023	7.9	7.4	527	1160
20...	--	--	--	--	--	--	--	435	1020
21...	.32	1.1	.385	.081	.023	7.0	7.0	514	1220
21...	--	--	--	--	--	--	--	441	948
SEP									
02...	--	--	.057	.024	.008	--	--	--	--
15...	.35	.88	.065	.082	.013	4.5	4.3	8	.29
18...	--	--	.058	.022	.014	--	--	--	--

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD

LOCATION.--Lat 38°35'02", long 76°36'20", Calvert County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on MD Rte. 263, 200 ft east of intersection of MD Rte. 4, 2.4 mi south of Huntingtown, and 0.1 mi upstream from Sewell Branch.

DRAINAGE AREA.--9.38 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to June 1998 (discontinued).

REVISED RECORDS.--WDR MD-DE-98-1: 1997.

GAGE.--Water-stage recorder and timber control. Elevation of gage is 10 ft above sea level, from topographic map.

REMARKS.--No estimated daily discahrges. Water-discharge records good above 1.0 ft^3/s and poor below due to leakage around and under control.

EXTREMES FOR WATER YEARS 1997 & 1998.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug 20, 1997	1830	*124	*7.18	No peak greater than base discharge.			
Feb 5, 1998	0300	*477	*9.19	No other peak greater than base discharge.			

1997 Water Year Minimum discharge, 0.05 ft^3/s, Aug 12, 1997.

1998 Water Year Minimum discharge, 0.33 ft^3/s, Oct 1, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	7.4	17	13	13	21	20	12	7.8	1.9	.46	.44
2	2.9	7.4	63	13	12	22	17	11	18	12	.31	.83
3	3.4	7.5	22	12	12	29	16	11	16	7.7	.32	8.6
4	2.7	7.1	15	12	12	34	16	9.7	11	3.1	1.9	2.8
5	2.4	6.9	13	12	35	22	16	8.7	6.7	2.2	2.1	1.4
6	2.3	7.7	29	12	23	25	17	e8.3	4.9	1.9	8.3	.87
7	2.3	8.6	23	11	18	20	19	e8.1	4.3	1.6	2.1	.74
8	43	11	31	11	20	19	14	e7.8	4.1	1.5	1.3	.54
9	41	28	19	13	21	18	13	e9.0	3.6	1.5	.68	.45
10	22	14	16	20	19	20	13	e11	3.1	5.7	.32	.38
11	10	9.4	15	16	17	19	13	e9.0	2.7	2.3	.17	.36
12	7.2	8.2	14	12	16	17	16	e8.0	2.4	1.6	.06	1.1
13	6.2	7.7	45	11	16	16	21	e7.2	8.4	1.3	.06	1.1
14	5.7	7.5	52	10	24	19	15	e6.7	13	.75	.43	.58
15	4.9	7.8	22	11	38	19	13	e6.3	7.0	.53	.40	.42
16	4.2	7.6	20	22	24	15	13	e6.0	3.7	.40	.24	.38
17	4.2	7.4	19	17	21	14	14	e5.7	2.9	.36	.19	.32
18	5.0	7.4	17	e10	20	15	16	e5.3	3.7	.43	.17	.42
19	59	8.3	e21	9.7	19	34	13	e5.0	22	.70	.27	.51
20	23	8.0	e17	9.8	18	25	12	e4.7	7.5	.63	54	.56
21	16	7.3	15	11	17	20	12	e4.4	3.8	.57	39	2.7
22	11	7.1	15	13	19	18	13	e4.2	2.6	.44	8.9	1.6
23	10	6.6	15	18	16	16	15	e4.1	2.2	.70	3.2	.90
24	9.3	6.4	15	14	16	15	26	e4.1	1.9	4.3	2.1	.47
25	8.4	6.4	18	15	15	15	18	e4.6	1.6	3.5	1.5	.44
26	7.9	16	14	12	15	31	14	e21	6.0	2.1	1.3	.41
27	7.8	14	17	11	20	22	14	e8.0	16	1.6	1.2	.36
28	7.8	8.8	15	20	17	19	36	4.9	3.8	1.3	.96	1.3
29	7.8	7.8	14	18	---	18	18	3.9	2.3	2.4	1.1	3.6
30	7.8	7.6	13	13	---	19	14	3.6	1.9	1.3	.98	1.5
31	7.7	---	14	13	---	24	---	3.6	---	.74	.68	---
TOTAL	355.9	272.9	655	415.5	533	640	487	226.9	194.9	67.05	134.70	36.08
MEAN	11.5	9.10	21.1	13.4	19.0	20.6	16.2	7.32	6.50	2.16	4.35	1.20
MAX	59	28	63	22	38	34	36	21	22	12	54	8.6
MIN	2.3	6.4	13	9.7	12	14	12	3.6	1.6	.36	.06	.32
CFSM	1.22	.97	2.25	1.43	2.03	2.20	1.73	.78	.69	.23	.46	.13
IN.	1.41	1.08	2.60	1.65	2.11	2.54	1.93	.90	.77	.27	.53	.14

e Estimated

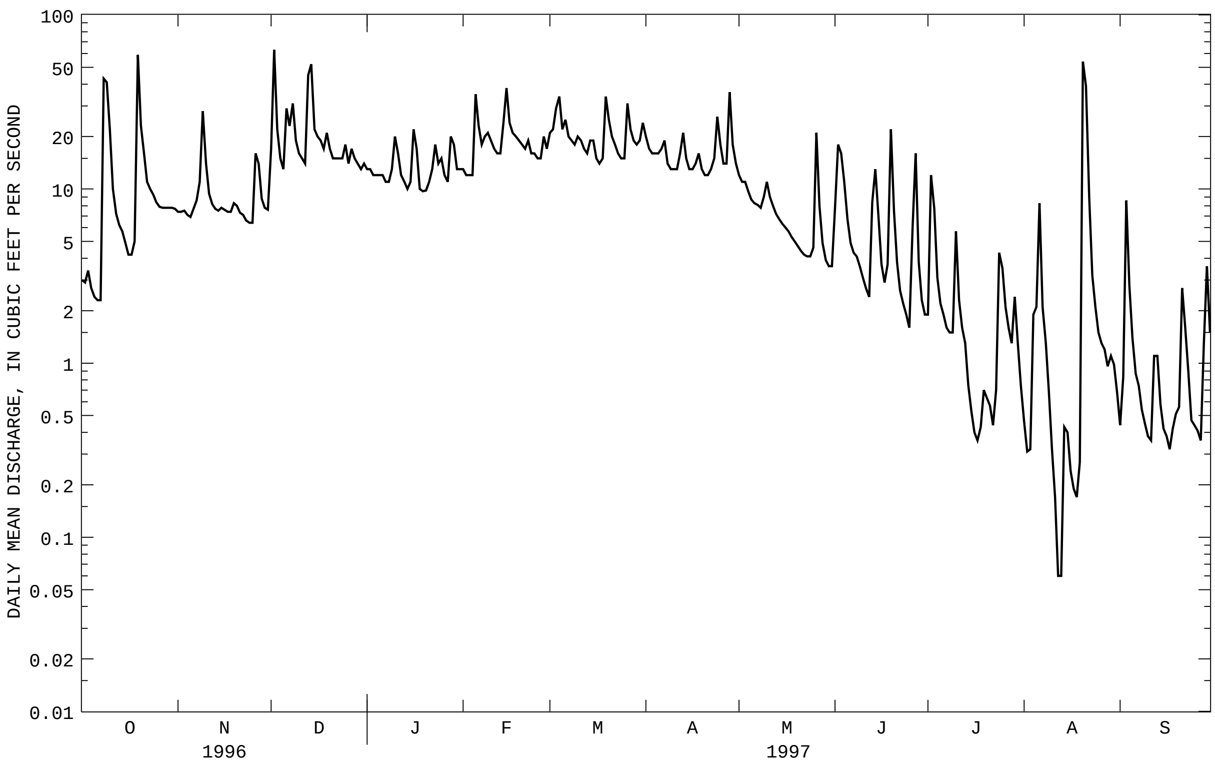
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.19	6.90	9.12	12.5	12.6	20.7	16.6	14.3	11.1	7.05	5.36	4.36
MAX	11.5	11.4	21.1	18.6	22.8	45.5	27.4	28.8	31.0	24.0	14.2	12.8
(WY)	1997	1990	1997	1990	1994	1994	1993	1990	1989	1989	1990	1994
MIN	.52	1.43	3.80	4.77	5.54	9.66	7.74	6.82	2.19	.93	.20	.068
(WY)	1989	1992	1989	1992	1992	1995	1995	1992	1991	1993	1995	1995

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1989 - 1997	
ANNUAL TOTAL	4582.8		4018.93			
ANNUAL MEAN	12.5		11.0		10.5	
HIGHEST ANNUAL MEAN					14.7	1990
LOWEST ANNUAL MEAN					5.79	1992
HIGHEST DAILY MEAN	137	Jan 19	63	Dec 2	274	Mar 3 1994
LOWEST DAILY MEAN	1.1	Sep 3	.06	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 29	.22	Aug 11	.00	Aug 27 1993
INSTANTANEOUS PEAK FLOW			124	Aug 20	568	Jun 15 1990
INSTANTANEOUS PEAK STAGE			7.18	Aug 20	9.54	Jun 15 1990
INSTANTANEOUS LOW FLOW			.05	(a)	.00	(c)
ANNUAL RUNOFF (CFSM)	1.33		1.17		1.12	
ANNUAL RUNOFF (INCHES)	18.17		15.94		15.17	
10 PERCENT EXCEEDS	22		21		22	
50 PERCENT EXCEEDS	10		9.0		7.0	
90 PERCENT EXCEEDS	2.6		.66		.79	

a Aug. 12, 13.
b Sept. 12, 16, 17, 19-23, 1991, Aug. 31, Sept. 1-16, 21, 1995.
c Sept. 10-24, 1991, Aug. 26, 27, 31, Sept. 1-16, 21, 22, 1995.



DAILY MEAN DISCHARGE - 1997 WATER YEAR

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	7.5	11	8.3	24	31	25	17	13	---	---	---
2	.88	11	9.0	8.6	21	32	24	23	7.5	---	---	---
3	.81	8.9	8.2	8.9	20	49	22	26	6.4	---	---	---
4	.76	5.9	11	8.6	103	33	39	24	---	---	---	---
5	.67	4.4	11	8.4	281	29	30	17	---	---	---	---
6	.61	4.1	9.1	8.3	83	27	24	16	---	---	---	---
7	.57	71	8.4	9.1	59	26	22	15	---	---	---	---
8	.56	108	7.9	14	43	44	22	21	---	---	---	---
9	.53	56	7.9	15	37	61	32	17	---	---	---	---
10	.53	23	8.7	9.5	34	38	31	16	---	---	---	---
11	.53	13	11	8.3	32	31	23	17	---	---	---	---
12	.53	11	8.8	8.0	36	29	21	30	---	---	---	---
13	.46	9.2	8.2	8.4	30	28	20	28	---	---	---	---
14	.46	26	7.9	8.9	27	27	20	18	---	---	---	---
15	.46	18	7.6	10	26	25	20	15	---	---	---	---
16	.46	12	7.5	19	25	24	19	13	---	---	---	---
17	.59	9.7	7.7	12	43	23	48	12	---	---	---	---
18	13	9.3	7.5	10	45	37	32	11	---	---	---	---
19	9.7	9.0	7.4	9.7	30	79	24	10	---	---	---	---
20	7.2	8.6	7.4	9.8	27	43	25	9.4	---	---	---	---
21	4.3	8.4	7.2	8.9	26	122	21	10	---	---	---	---
22	3.0	19	7.9	8.6	24	59	19	9.7	---	---	---	---
23	2.6	13	15	45	60	41	18	8.5	---	---	---	---
24	2.6	11	10	63	110	37	18	8.9	---	---	---	---
25	6.3	9.2	21	28	47	34	16	12	---	---	---	---
26	7.2	9.2	13	20	37	32	16	9.3	---	---	---	---
27	13	9.1	11	18	34	31	16	8.2	---	---	---	---
28	5.4	8.8	15	129	32	29	15	8.5	---	---	---	---
29	2.9	8.7	11	79	---	28	15	7.6	---	---	---	---
30	2.6	8.9	13	36	---	26	14	7.0	---	---	---	---
31	2.4	---	10	28	---	25	---	6.3	---	---	---	---
TOTAL	92.42	530.9	307.3	666.3	1396	1180	691	451.4	---	---	---	---
MEAN	2.98	17.7	9.91	21.5	49.9	38.1	23.0	14.6	---	---	---	---
MAX	13	108	21	129	281	122	48	30	---	---	---	---
MIN	.46	4.1	7.2	8.0	20	23	14	6.3	---	---	---	---
CFSM	.32	1.89	1.06	2.29	5.32	4.06	2.46	1.55	---	---	---	---
IN.	.37	2.11	1.22	2.64	5.54	4.68	2.74	1.79	---	---	---	---

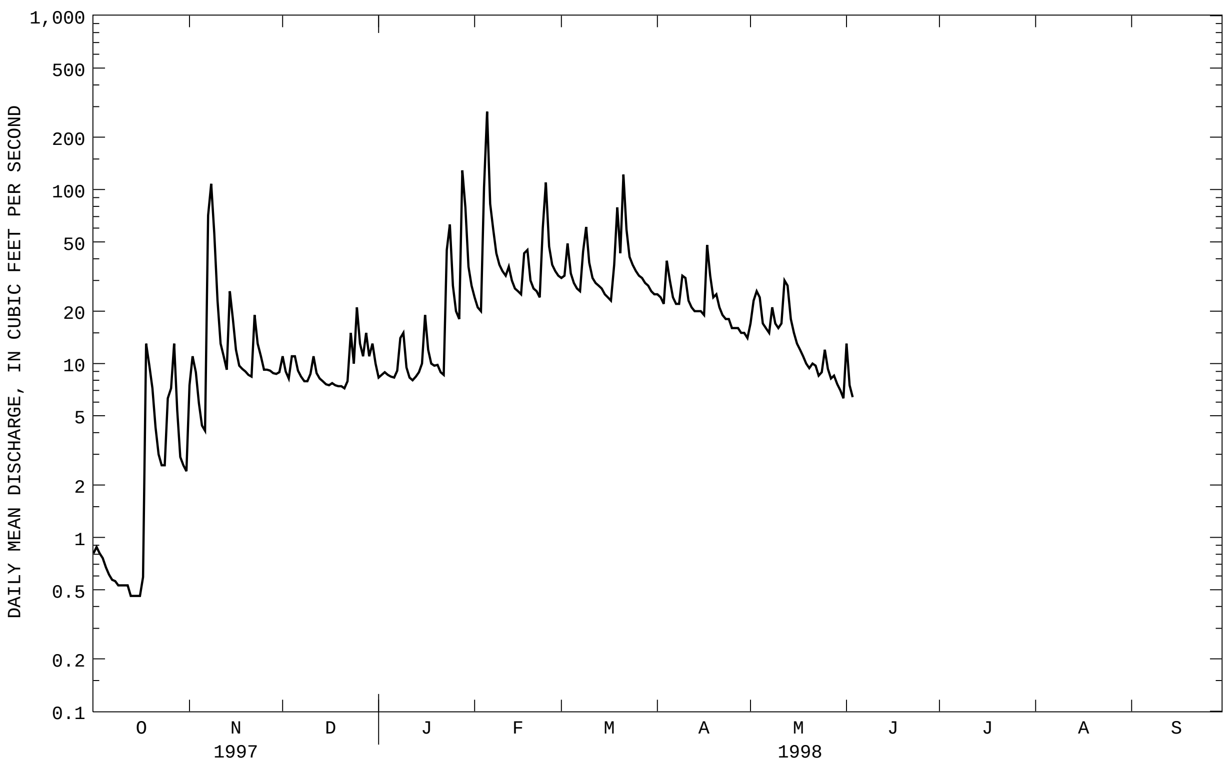
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.97	7.98	9.20	13.4	16.3	22.5	17.3	14.3	11.1	7.05	5.36	4.36
MAX	11.5	17.7	21.1	21.5	49.9	45.5	27.4	28.8	31.0	24.0	14.2	12.8
(WY)	1997	1998	1997	1998	1998	1994	1993	1990	1989	1989	1990	1994
MIN	.52	1.43	3.80	4.77	5.54	9.66	7.74	6.82	2.19	.93	.20	.068
(WY)	1989	1992	1989	1992	1992	1995	1995	1992	1991	1993	1995	1995

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		WATER YEARS 1989 - 1998	
ANNUAL TOTAL	3665.75			
ANNUAL MEAN	10.0		10.5	
HIGHEST ANNUAL MEAN			14.7	1990
LOWEST ANNUAL MEAN			5.79	1992
HIGHEST DAILY MEAN	108	Nov 8	281	Feb 5 1998
LOWEST DAILY MEAN	.06	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.22	Aug 11	.00	Aug 27 1993
INSTANTANEOUS PEAK FLOW			568	Jun 15 1990
INSTANTANEOUS PEAK STAGE			9.54	Jun 15 1990
INSTANTANEOUS LOW FLOW			.00	(c)
ANNUAL RUNOFF (CFSM)	1.07		1.12	
ANNUAL RUNOFF (INCHES)	14.54		15.17	
10 PERCENT EXCEEDS	20		23	
50 PERCENT EXCEEDS	8.7		7.4	
90 PERCENT EXCEEDS	.53		.80	

a Aug. 12, 13.
b Sept. 12, 16, 17, 19-23, 1991, Aug. 31, Sept. 1-16, 21, 1995.
c Sept. 10-24, 1991, Aug. 26, 27, 31, Sept. 1-16, 21, 22, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986, 1988 to current year.

REMARKS.--Water-quality data available through September 1997 only at time of publication.
Chenical analyses were performed at the Maryland Department of Health and Mental Hygiene laboratory (DHMH), Baltimore, MD.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	TUR-BID-ITY (NTU) (00076)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 1996												
09...	1000	35	--	--	--	--	24	21	--	--	11	23
19...	0245	30	--	--	--	--	120	13	--	--	16	28
19...	0630	97	--	--	--	--	32	17	--	--	12	46
19...	0915	95	--	--	--	--	40	20	--	--	9.1	32
19...	1430	66	--	--	--	--	27	23	--	--	10	18
28...	1215	7.8	166	6.7	15.5	22.0	8.1	17	<2.0	49	17	3
NOV												
09...	0130	28	--	--	--	--	34	23	--	--	14	64
09...	0800	36	--	--	--	--	20	26	--	--	13	22
21...	1015	7.4	155	6.5	4.5	5.0	10	13	.5	36	15	2
DEC												
02...	0715	80	--	--	--	--	--	--	--	--	--	--
02...	1000	97	--	--	--	--	--	--	--	--	--	--
02...	1245	84	--	--	--	--	--	--	--	--	--	--
02...	1600	79	--	--	--	--	--	--	--	--	--	--
06...	0915	41	--	--	--	--	--	--	--	--	--	--
07...	2230	41	--	--	--	--	17	<10	--	--	13	27
08...	0330	41	--	--	--	--	18	<10	--	--	13	10
13...	1815	98	--	--	--	--	29	10	--	--	11	23
13...	2045	109	--	--	--	--	30	<10	--	--	10	20
13...	2315	106	--	--	--	--	27	10	--	--	10	14
18...	1115	17	131	6.3	8.0	9.0	7.3	<10	<.0	27	19	6
JAN 1997												
21...	1345	11	159	6.4	1.0	5.0	4.9	<10	<2.0	31	17	2
FEB												
05...	1400	45	--	--	--	--	19	<10	--	--	13	17
18...	1615	20	138	6.4	7.0	16.0	4.4	<10	<1.2	23	16	2
MAR												
25...	0945	15	142	6.6	7.0	9.5	4.1	--	<1.5	31	14	8
26...	1445	47	--	--	--	--	20	<10	--	--	12	19
APR												
28...	0900	54	--	--	--	--	23	16	--	--	10	50
30...	0800	13	132	6.4	12.0	16.0	5.8	<10	1.5	31	13	8
MAY												
29...	1030	3.8	158	6.4	14.5	18.5	15	11	--	42	16	8
JUN												
12...	0730	2.3	170	6.6	18.0	21.0	--	12	<1.7	49	16	6
JUL												
15...	1115	.44	210	6.6	24.0	32.5	43	27	<1.7	70	20	19
AUG												
12...	0915	.05	210	6.6	22.0	27.5	33	25	<1.4	66	19	10
20...	1445	90	--	--	--	--	73	29	--	--	8.4	44
20...	1715	119	--	--	--	--	50	30	--	--	8.3	24
20...	1930	124	--	--	--	--	46	26	--	--	8.5	16
20...	2200	117	--	--	--	--	38	26	--	--	9.2	24
21...	0030	93	--	--	--	--	33	32	--	--	9.9	50
21...	0415	59	--	--	--	--	--	--	--	--	--	--
SEP												
16...	0730	.36	206	6.3	18.0	16.0	30	22	1.4	67	19	28

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L) (32218)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L) (32230)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L) (32231)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L) (32232)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)
OCT 1996												
09...	.055	--	--	--	--	.38	.24	.003	.01	.058	<.006	--
19...	.048	--	--	--	--	.39	.21	.005	.02	.053	<.006	--
19...	.011	--	--	--	--	.56	.05	.005	.02	.016	<.005	--
19...	.031	--	--	--	--	.31	.14	.005	.02	.036	.008	.01
19...	.010	--	--	--	--	.46	.04	.005	.02	.015	.011	.01
28...	.025	--	.108	.000	.000	.33	.11	.004	.01	.029	.016	.02
NOV												
09...	.009	--	--	--	--	.10	.04	.002	.01	.011	<.006	--
09...	.002	--	--	--	--	.39	.01	.004	.01	.006	<.006	--
21...	.047	.019	.087	.000	.053	.21	.21	.008	.03	.055	.040	.05
DEC												
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
07...	.141	--	--	--	--	.42	.62	.004	.01	.145	.021	.03
08...	.126	--	--	--	--	.37	.56	.004	.01	.130	.015	.02
13...	.014	--	--	--	--	.30	.06	.006	.02	.020	.011	.01
13...	.167	--	--	--	--	.45	.74	.006	.02	.173	.008	.01
13...	.137	--	--	--	--	.41	.61	.005	.02	.142	.008	.01
18...	.118	.040	.208	.000	.000	.36	.52	.005	.02	.123	.031	.04
JAN 1997												
21...	.240	--	.065	.000	.000	.49	1.1	.005	.02	.245	.051	.07
FEB												
05...	.232	--	--	--	--	.57	1.0	.010	.03	.242	.025	.03
18...	.156	.056	.128	.000	.000	.31	.69	.004	.01	.160	.020	.03
MAR												
25...	--	.031	.230	.011	.000	.10	--	<.001	--	.076	.011	.01
26...	.105	--	--	--	--	.28	.46	.004	.01	.109	.015	.02
APR												
28...	.066	--	--	--	--	.42	.29	.004	.01	.070	.020	.03
30...	.075	.104	.271	.043	.000	.21	.33	.004	.01	.079	.022	.03
MAY												
29...	.172	.050	.121	.033	.027	.40	.76	.008	.03	.180	.047	.06
JUN												
12...	.145	.049	.155	.006	.120	.82	.64	.008	.03	.153	.053	.07
JUL												
15...	.032	--	.609	.058	.031	.68	.14	.010	.03	.042	.102	.13
AUG												
12...	.033	.024	.346	.000	.000	.60	.15	.005	.02	.038	.109	.14
20...	.183	--	--	--	--	.81	.81	.009	.03	.192	.033	.04
20...	.141	--	--	--	--	.67	.62	.008	.03	.149	.023	.03
20...	.131	--	--	--	--	.60	.58	.005	.02	.136	.014	.02
20...	.103	--	--	--	--	.62	.46	.005	.02	.108	.012	.02
21...	.085	--	--	--	--	.60	.38	.004	.01	.089	.012	.02
21...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
16...	.017	.015	.137	.000	.006	.62	.08	.007	.02	.024	.113	.15

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1996												
09...	--	--	.32	.27	.33	.128	.025	.022	8.1	--	17	1.6
19...	--	--	.34	.10	.11	.102	.028	.013	5.4	--	16	1.3
19...	--	--	.54	.28	.29	.170	.025	.017	7.5	7.3	39	10
19...	.27	.20	.28	.21	.25	.180	.021	.021	8.7	--	22	5.6
19...	.44	.23	.45	.24	.25	.119	.068	.019	9.2	--	17	3.1
28...	.29	.26	.30	.28	.31	.062	.029	.021	6.4	--	7	.14
NOV												
09...	--	--	.09	.27	.28	.323	.037	.032	8.1	8.1	54	4.1
09...	--	--	.38	<.00	--	.123	.028	.030	9.5	9.0	24	2.3
21...	.11	.07	.15	.11	.17	.038	.012	.014	4.4	--	2	.04
DEC												
02...	--	--	--	--	--	--	--	--	--	--	54	12
02...	--	--	--	--	--	--	--	--	--	--	37	9.7
02...	--	--	--	--	--	--	--	--	--	--	28	6.3
02...	--	--	--	--	--	--	--	--	--	--	25	5.3
06...	--	--	--	--	--	--	--	--	--	--	20	2.2
07...	.26	.21	.28	.23	.37	.070	.064	.028	4.3	--	26	2.9
08...	.22	.20	.24	.21	.34	.094	.010	.024	4.5	--	18	2.0
13...	.27	.10	.28	.11	.13	.087	.016	.017	7.8	--	38	10
13...	.26	.16	.27	.17	.34	.144	.020	.015	8.0	--	31	9.2
13...	.26	.10	.27	.11	.25	.064	.016	.019	8.1	7.6	25	7.1
18...	.21	.16	.24	.19	.32	.048	.041	.015	5.2	5.1	4	.19
JAN 1997												
21...	.19	.11	.24	.16	.40	.055	.013	.017	2.3	--	5	.15
FEB												
05...	.31	.20	.33	.23	.47	.092	<.001	.015	4.0	--	23	2.8
18...	.13	.10	.15	.13	.28	.028	.010	.017	2.7	--	2	.11
MAR												
25...	.02	.09	.03	.10	.18	.024	.018	.017	3.2	3.4	2	.08
26...	.16	--	.17	<.00	--	.084	.021	.014	5.0	4.8	21	2.7
APR												
28...	.33	.14	.35	.16	.23	.101	.018	.014	5.9	5.8	22	3.2
30...	.11	.08	.13	.10	.18	.038	.025	.013	4.2	--	4	.14
MAY												
29...	.17	.17	.22	.22	.40	.077	.033	.023	9.3	9.5	9	.09
JUN												
12...	.62	.27	.67	.32	.48	.102	.037	.027	15	--	10	.06
JUL												
15...	.54	.35	.64	.45	.49	.150	.038	.025	9.0	8.4	18	.02
AUG												
12...	.45	.32	.56	.43	.47	.115	.039	.033	8.3	8.7	14	.00
20...	.59	.14	.62	.17	.36	.226	.028	.022	8.2	6.9	56	14
20...	.50	.19	.52	.21	.36	.192	.027	.014	8.9	7.8	44	14
20...	.45	.20	.46	.21	.35	.179	.036	.014	7.6	7.9	32	11
20...	.50	.19	.51	.20	.31	.152	.031	.015	8.2	8.3	20	6.4
21...	.50	.20	.51	.21	.30	.167	.041	.015	9.7	8.9	28	6.9
21...	--	--	--	--	--	--	--	--	--	--	55	8.8
SEP												
16...	.49	.41	.60	.52	.54	.117	.038	.026	8.0	7.7	24	.02

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01594710 KILLPECK CREEK AT HUNTERSVILLE, MD

LOCATION.--Lat 38 28'37", long 76 44'08", St Marys County, Hydrologic Unit 02060006, on left bank at private footbridge, 600 ft upstream from culvert on All Faith Church Road, 0.65 mi north of Huntersville, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--3.26 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to February 1998 (discontinued).

REVISED RECORDS.--WRD MD-DE-95: Drainage area. WDR MD-DE-97: 1994-95 (P).

GAGE.--Water-stage recorder and concrete block control. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Water-discharge records good.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1715	*170	*4.14	Feb 4	1800	150	3.79
Jan 23	1900	120	3.22	Feb 4	2400	157	3.91
Jan 28	1345	147	3.73	Feb 23	2330	112	3.08

Minimum discharge, 0.46 ft^3/s, Oct 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	4.4	3.8	3.0	8.2	---	---	---	---	---	---	---
2	.76	4.1	3.1	2.8	7.7	---	---	---	---	---	---	---
3	.83	2.2	2.9	2.7	7.6	---	---	---	---	---	---	---
4	.83	1.7	5.0	2.7	64	---	---	---	---	---	---	---
5	.83	1.7	3.4	2.7	58	---	---	---	---	---	---	---
6	.71	1.7	3.1	2.8	23	---	---	---	---	---	---	---
7	.69	44	3.0	3.7	16	---	---	---	---	---	---	---
8	.61	13	3.0	7.2	10	---	---	---	---	---	---	---
9	.57	20	2.7	4.7	8.2	---	---	---	---	---	---	---
10	.57	5.5	3.5	4.0	6.9	---	---	---	---	---	---	---
11	.57	4.1	3.2	3.9	6.8	---	---	---	---	---	---	---
12	.57	3.7	2.9	3.7	7.8	---	---	---	---	---	---	---
13	.57	4.8	2.7	4.3	5.5	---	---	---	---	---	---	---
14	.57	12	3.0	3.8	4.9	---	---	---	---	---	---	---
15	.63	4.5	2.9	6.1	4.3	---	---	---	---	---	---	---
16	.84	3.5	2.5	6.1	4.2	---	---	---	---	---	---	---
17	.81	3.1	2.4	4.6	25	---	---	---	---	---	---	---
18	6.4	2.8	2.4	4.3	14	---	---	---	---	---	---	---
19	1.7	2.7	2.4	4.3	9.4	---	---	---	---	---	---	---
20	1.4	2.7	2.4	4.1	8.0	---	---	---	---	---	---	---
21	.96	4.0	2.4	3.9	6.6	---	---	---	---	---	---	---
22	.79	8.3	3.4	3.9	5.3	---	---	---	---	---	---	---
23	.75	4.7	4.3	42	27	---	---	---	---	---	---	---
24	.71	4.1	3.5	14	36	---	---	---	---	---	---	---
25	2.2	3.9	8.8	8.7	12	---	---	---	---	---	---	---
26	3.5	3.8	3.8	6.8	---	---	---	---	---	---	---	---
27	2.3	3.6	4.0	8.6	---	---	---	---	---	---	---	---
28	1.7	3.6	4.1	70	---	---	---	---	---	---	---	---
29	1.7	3.4	3.4	18	---	---	---	---	---	---	---	---
30	1.7	3.8	4.2	12	---	---	---	---	---	---	---	---
31	1.7	---	3.4	9.5	---	---	---	---	---	---	---	---
TOTAL	39.33	185.4	105.6	278.9	---	---	---	---	---	---	---	---
MEAN	1.27	6.18	3.41	9.00	---	---	---	---	---	---	---	---
MAX	6.4	44	8.8	70	---	---	---	---	---	---	---	---
MIN	.57	1.7	2.4	2.7	---	---	---	---	---	---	---	---
CFSM	.39	1.90	1.04	2.76	---	---	---	---	---	---	---	---
IN.	.45	2.12	1.21	3.18	---	---	---	---	---	---	---	---

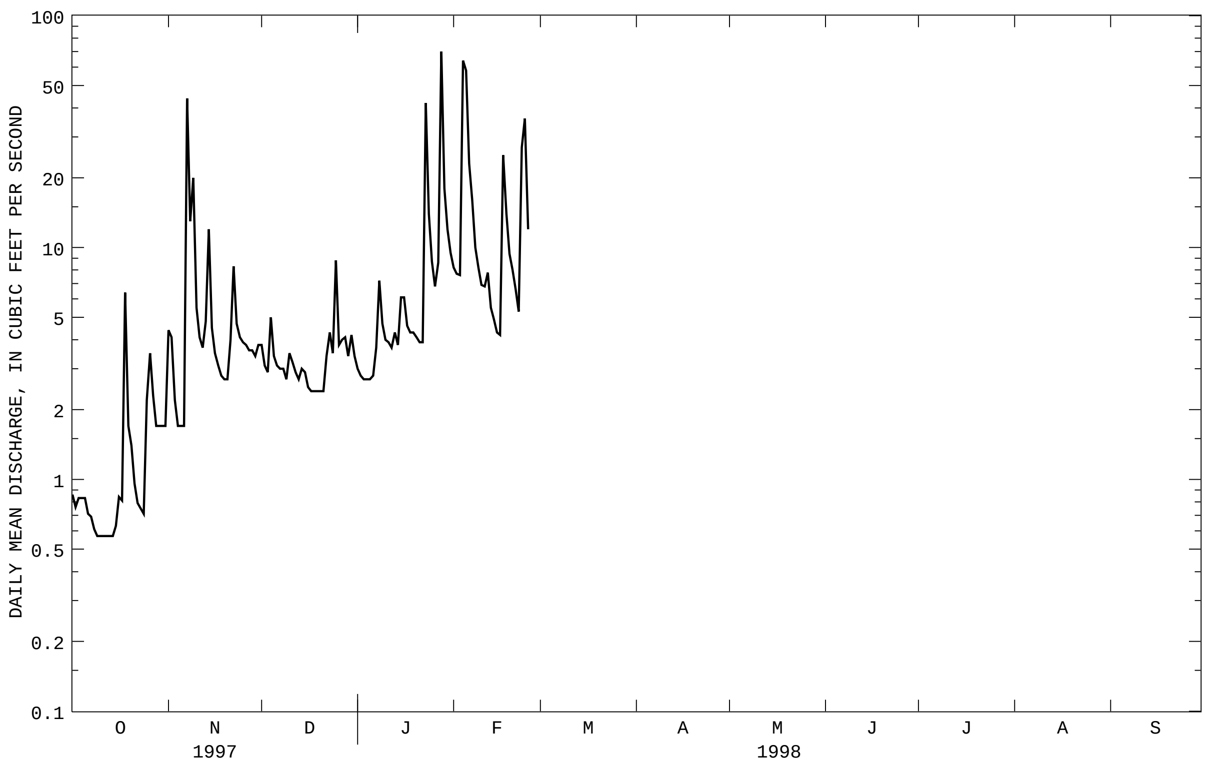
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.49	3.59	4.00	5.20	5.03	6.82	5.47	4.63	3.20	2.64	2.09	1.98
MAX	4.97	7.20	8.69	9.00	8.07	14.1	7.81	9.43	8.10	6.73	4.49	5.46
(WY)	1997	1986	1997	1998	1994	1994	1994	1990	1990	1996	1990	1992
MIN	.83	.94	2.09	2.45	2.27	3.71	2.97	1.93	.98	.76	.42	.50
(WY)	1989	1992	1989	1992	1992	1995	1992	1986	1986	1991	1995	1995

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	1549.19			
ANNUAL MEAN	4.24		3.89	
HIGHEST ANNUAL MEAN			5.33	1990
LOWEST ANNUAL MEAN			2.30	1995
HIGHEST DAILY MEAN	44	Nov 7	86	Mar 4 1993
LOWEST DAILY MEAN	.46	(a)	.22	(b)
ANNUAL SEVEN-DAY MINIMUM	.50	Aug 11	.28	Sep 1 1995
INSTANTANEOUS PEAK FLOW			255	May 29 1990
INSTANTANEOUS PEAK STAGE			5.50	May 29 1990
INSTANTANEOUS LOW FLOW			.13	(c)
ANNUAL RUNOFF (CFSM)	1.30		1.19	
ANNUAL RUNOFF (INCHES)	17.68		16.22	
10 PERCENT EXCEEDS	7.3		7.2	
50 PERCENT EXCEEDS	3.5		3.0	
90 PERCENT EXCEEDS	.83		.83	

a Aug. 2, 17.
b Sept. 6, 15, 1995.
c Sept. 14-16, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

REMARKS.--Water-quality data available through September 1997 only at time of publication.
Chenical analyses were performed at the Maryland Department of Health and Mental Hygiene laboratory (DHMH), Baltimore, MD.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	TUR-BID-ITY (NTU) (00076)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 1996												
08...	1545	51	--	--	--	--	220	29	--	--	5.3	385
19...	0100	87	--	--	--	--	340	27	--	--	15	740
19...	0530	28	--	--	--	--	120	27	--	--	6.5	244
28...	1000	3.3	179	6.7	15.0	20.0	4.9	10	<2.0	33	11	4
NOV												
08...	1845	117	--	--	--	--	680	28	--	--	3.7	1350
08...	2045	51	--	--	--	--	280	36	--	--	5.2	690
08...	2315	46	--	--	--	--	150	36	--	--	6.0	255
21...	1230	3.9	179	6.5	7.0	6.0	5.3	<10	.5	30	11	2
26...	1100	15	--	--	--	--	110	24	--	--	7.0	200
DEC												
01...	1600	35	--	--	--	--	--	--	--	--	--	--
02...	0230	37	--	--	--	--	--	--	--	--	--	--
02...	0500	50	--	--	--	--	--	--	--	--	--	--
06...	0200	41	--	--	--	--	--	--	--	--	--	--
07...	1715	49	--	--	--	--	170	13	--	--	4.9	395
07...	2015	36	--	--	--	--	110	17	--	--	5.6	168
13...	1215	69	--	--	--	--	340	15	--	--	4.5	605
13...	1430	55	--	--	--	--	180	17	--	--	4.7	605
13...	1730	55	--	--	--	--	130	17	--	--	5.2	316
18...	1330	6.3	151	6.4	9.5	13.0	7.4	<10	<.0	24	11	6
JAN 1997												
21...	1130	4.8	172	6.5	1.5	5.0	6.8	<10	<2.0	23	9.8	2
FEB												
05...	0915	42	--	--	--	--	540	10	--	--	5.1	1290
18...	1445	5.5	158	6.5	8.0	16.5	6.2	<10	<1.7	22	9.4	8
MAR												
03...	1720	53	--	--	--	--	320	21	--	--	5.0	605
03...	1820	43	--	--	--	--	210	18	--	--	5.5	435
25...	1230	5.1	155	6.5	9.0	12.0	5.8	--	<1.2	23	9.3	11
26...	0800	87	--	--	--	--	640	25	--	--	4.6	1560
26...	1045	32	--	--	--	--	210	21	--	--	5.7	32
29...	1640	35	--	--	--	--	1000	--	--	--	4.5	960
31...	0615	21	--	--	--	--	120	--	--	--	6.6	162
APR												
28...	0300	69	--	--	--	--	540	23	--	--	4.6	420
28...	0630	30	--	--	--	--	120	17	--	--	6.5	320
30...	1030	5.9	145	6.6	13.0	22.0	8.7	<10	<1.1	24	9.4	17
MAY												
29...	0900	3.3	177	6.6	11.5	17.5	6.0	<10	--	30	10	7
JUN												
12...	0930	2.7	184	6.6	16.0	24.0	--	<10	<1.2	30	10	23
JUL												
15...	0900	1.1	206	6.6	21.0	27.0	6.3	<10	<1.3	34	10	17
AUG												
12...	1100	.57	236	6.6	21.0	27.0	4.7	10	<.7	32	9.8	9
20...	1015	54	--	--	--	--	570	140	--	--	4.3	1010
20...	1200	30	--	--	--	--	250	75	--	--	--	392
20...	1330	81	--	--	--	--	760	140	--	--	--	1220
SEP												
16...	1130	1.4	260	6.6	18.0	--	3.9	<10	<1.6	34	9.9	15

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)
OCT 1996												
08...	.314	--	--	--	--	2.0	1.4	.006	.02	.320	.013	.02
19...	.303	--	--	--	--	2.1	1.3	.008	.03	.311	.010	.01
19...	.369	--	--	--	--	.87	1.6	.004	.01	.373	.017	.02
28...	1.06	--	.045	.000	.000	1.3	4.7	.006	.02	1.06	.025	.03
NOV												
08...	.025	--	--	--	--	4.8	.11	.005	.02	.030	.051	.07
08...	.006	--	--	--	--	2.6	.03	.004	.01	.010	.026	.03
08...	.004	--	--	--	--	1.6	.02	.004	.01	.008	.019	.02
21...	1.57	--	.074	.002	.029	1.7	7.0	.006	.02	1.58	<.004	--
26...	.496	--	--	--	--	1.6	2.2	.006	.02	.502	.030	.04
DEC												
01...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
07...	.413	--	--	--	--	.73	1.8	.006	.02	.419	.039	.05
07...	.358	--	--	--	--	1.2	1.6	.006	.02	.364	.022	.03
13...	.527	--	--	--	--	2.6	2.3	.008	.03	.535	.037	.05
13...	.351	--	--	--	--	1.5	1.6	.007	.02	.358	.009	.01
13...	.372	--	--	--	--	1.2	1.6	.006	.02	.378	.008	.01
18...	1.33	--	.039	.000	.000	1.6	5.9	.007	.02	1.34	.038	.05
JAN 1997												
21...	1.67	--	.083	.000	.000	1.9	7.4	.009	.03	1.68	.088	.11
FEB												
05...	.724	--	--	--	--	3.9	3.2	.012	.04	.736	.087	.11
18...	1.41	--	.122	.000	.000	1.7	6.2	.008	.03	1.42	.055	.07
MAR												
03...	.454	--	--	--	--	3.5	2.0	.008	.03	.462	.125	.16
03...	.397	--	--	--	--	2.4	1.8	.007	.02	.404	.107	.14
25...	1.52	.031	.231	.002	.000	1.7	6.7	.008	.03	1.53	.032	.04
26...	.548	--	--	--	--	5.3	2.4	.010	.03	.558	.104	.13
26...	.542	--	--	--	--	2.0	2.4	.008	.03	.550	.069	.09
29...	.814	--	--	--	--	5.5	3.6	.010	.03	.824	.050	.06
31...	.906	--	--	--	--	1.7	4.0	.010	.03	.916	.057	.07
APR												
28...	.392	--	--	--	--	3.9	1.7	.010	.03	.402	.241	.31
28...	.460	--	--	--	--	1.6	2.0	.009	.03	.469	.066	.08
30...	1.25	--	.251	.047	.000	1.4	5.6	.010	.03	1.26	.050	.06
MAY												
29...	1.79	--	.149	.009	.000	2.2	7.9	.017	.06	1.81	.049	.06
JUN												
12...	1.81	.018	.162	.000	.051	2.4	8.0	.020	.07	1.83	.049	.06
JUL												
15...	2.28	.003	.063	.000	.000	2.6	10	.012	.04	2.29	.041	.05
AUG												
12...	2.31	.055	.095	.000	.000	2.6	10	.009	.03	2.32	.028	.04
20...	.384	--	--	--	--	4.3	1.7	.012	.04	.396	.056	.07
20...	.430	--	--	--	--	2.6	1.9	.011	.04	.441	.055	.07
20...	.373	--	--	--	--	5.1	1.7	.011	.04	.384	.061	.08
SEP												
16...	1.95	--	.056	.001	.000	2.2	8.6	.008	.03	1.96	.028	.04

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1996												
08...	1.6	.35	1.7	.36	.68	.670	.042	.031	12	9.4	552	76
19...	1.8	.35	1.8	.36	.67	.792	.053	.036	12	11	1250	295
19...	.47	.41	.49	.42	.80	.268	.044	.034	12	--	267	20
28...	.24	.22	.26	.25	1.3	.055	.027	.027	4.1	--	11	.10
NOV												
08...	4.8	.44	4.8	.50	.52	2.30	.024	.026	11	10	1710	542
08...	2.6	.45	2.6	.48	.49	.916	.036	.026	14	13	852	117
08...	1.6	.43	1.6	.45	.46	.512	.056	.027	14	14	144	18
21...	--	--	.12	.10	1.6	.035	.013	.016	3.2	3.2	849	8.9
26...	1.1	.47	1.1	.50	1.0	.331	.058	.036	12	--	404	16
DEC												
01...	--	--	--	--	--	--	--	--	--	--	789	75
02...	--	--	--	--	--	--	--	--	--	--	565	56
02...	--	--	--	--	--	--	--	--	--	--	640	86
06...	--	--	--	--	--	--	--	--	--	--	403	45
07...	.27	.30	.31	.34	.76	.140	.032	.034	7.1	--	571	76
07...	.77	.37	.79	.39	.75	.294	.027	.032	8.3	--	324	31
13...	2.1	.23	2.1	.27	.80	1.20	.046	.022	20	10	1690	315
13...	1.1	.24	1.2	.25	.61	.480	.026	.019	16	9.0	914	136
13...	.84	.28	.85	.29	.67	.411	.024	.023	16	11	894	133
18...	.27	.14	.31	.18	1.5	.072	.029	.016	4.5	--	14	.24
JAN 1997												
21...	.13	--	.22	<.10	--	.037	.026	.017	2.2	--	14	.17
FEB												
05...	3.1	.28	3.2	.37	1.1	1.90	.008	.020	7.0	--	1730	196
18...	.27	.13	.32	.18	1.6	.047	.022	.023	2.4	2.7	7	.10
MAR												
03...	2.9	.21	3.1	.34	.80	1.40	.025	.025	9.4	9.6	1390	198
03...	1.9	.34	2.0	.45	.85	1.00	.070	.023	8.8	8.2	882	102
25...	.13	.10	.17	.13	1.7	.064	.029	.018	2.7	--	5	.07
26...	4.6	.41	4.7	.51	1.1	2.10	.029	.022	9.4	8.7	2900	681
26...	1.4	.17	1.5	.24	.79	.600	.034	.020	9.7	8.4	522	45
29...	4.7	.38	4.7	.43	1.3	1.90	.056	.027	9.2	7.5	1340	127
31...	.70	.19	.76	.25	1.2	.333	.064	.017	7.5	--	215	12
APR												
28...	3.2	.29	3.5	.53	.93	1.90	.054	.022	9.5	8.3	1540	287
28...	1.1	.32	1.2	.38	.85	.408	.033	.018	8.9	--	355	29
30...	.09	.07	.14	.12	1.4	.053	.020	.019	3.4	--	14	.22
MAY												
29...	.38	.50	.42	.54	2.3	.057	.023	.015	6.9	6.1	8	.07
JUN												
12...	.50	.36	.55	.41	2.2	.098	.040	.029	9.2	9.4	13	.09
JUL												
15...	.26	.21	.30	.25	2.5	.072	.038	.026	3.9	--	6	.02
AUG												
12...	.22	.17	.25	.20	2.5	.061	.039	.036	3.1	3.4	3	.00
20...	3.8	.24	3.9	.30	.70	1.80	.036	.022	12	10	1140	167
20...	2.1	.34	2.2	.39	.83	.900	.041	.024	10	--	575	47
20...	4.6	.23	4.7	.29	.67	2.20	.049	.022	10	--	1780	388
SEP												
16...	.26	.31	.29	.34	2.3	.050	.105	.021	4.1	3.2	6	.02

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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^2.

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (beaver dam, ice effect), which are poor. Natural flow of stream affected by inflow from deep coal mine dewatering process. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 170 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	0615	212	4.10	Apr 19	1915	*259	*4.46
Jan 8	0715	171	3.77	May 4	2400	181	3.85
Jan 9	1145	185	3.88				

Minimum discharge, Unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7.5	16	38	e18	22	74	24	25	e10	e60	e4.3	e3.4
2	e6.5	33	30	17	21	59	21	28	e6.5	e36	e4.0	e3.3
3	e5.5	21	25	17	20	48	18	25	e6.2	e27	e3.8	e3.2
4	e5.2	16	27	31	21	40	26	44	e6.0	e23	e3.7	e3.5
5	e4.8	13	27	39	23	34	21	81	e6.5	e20	e3.6	e4.2
6	e4.4	13	22	79	23	31	19	43	e7.5	e17	e3.5	e3.3
7	e4.2	112	21	74	21	31	18	35	e6.3	e18	e3.5	e2.8
8	e4.0	56	18	138	19	45	17	34	e5.5	e25	e3.4	e3.2
9	e4.2	43	17	126	19	58	39	28	e5.5	e19	e3.4	e3.4
10	e4.2	34	41	72	19	52	45	24	e17	e15	e16	e3.4
11	e4.5	26	87	49	23	40	35	26	e15	e13	e7.0	e3.0
12	e5.0	22	45	40	52	35	28	31	e34	e11	e6.0	e2.6
13	e4.4	18	35	38	45	30	24	24	e40	e10	e7.5	e2.6
14	e4.0	38	28	32	35	28	21	21	e35	e11	e7.0	e2.3
15	e3.8	39	23	32	29	24	19	19	58	e9.5	e9.0	e2.3
16	e3.6	29	20	34	26	22	21	17	95	e8.0	e5.5	e2.4
17	e3.6	23	19	31	40	20	18	15	52	e7.0	e40	e2.6
18	3.7	20	17	29	81	50	16	14	e34	e6.2	e20	e2.6
19	3.6	17	16	26	121	59	158	13	e38	e5.7	e9.0	e2.6
20	3.8	17	16	23	88	52	128	13	e30	e5.3	8.5	e2.6
21	4.0	20	15	21	82	82	58	13	e24	e5.0	6.8	e3.4
22	e3.8	50	16	20	56	64	42	10	e19	e4.8	6.0	e4.4
23	e3.8	39	21	48	50	47	34	e8.5	e17	e9.0	5.7	3.8
24	e4.0	31	23	49	43	40	28	e8.5	e15	e5.5	e4.8	3.1
25	5.0	25	33	38	36	37	24	e10	e13	e4.6	e5.5	e2.7
26	7.1	23	29	32	34	39	24	e8.2	e14	e4.4	e4.8	e2.5
27	8.3	22	26	28	38	35	47	e7.2	e20	e4.3	e4.2	e2.3
28	6.8	19	22	28	60	31	29	e6.7	e40	e4.2	e4.0	e2.1
29	e5.6	24	21	26	---	27	25	e6.4	e75	e4.2	e3.8	e2.0
30	e5.1	33	e20	30	---	24	24	e7.5	e85	e4.3	e3.6	e5.5
31	e3.9	---	e19	25	---	22	---	e6.5	---	e5.0	e3.4	---
TOTAL	147.9	892	817	1290	1147	1280	1051	652.5	830.0	402.0	221.3	91.1
MEAN	4.77	29.7	26.4	41.6	41.0	41.3	35.0	21.0	27.7	13.0	7.14	3.04
MAX	8.3	112	87	138	121	82	158	81	95	60	40	5.5
MIN	3.6	13	15	17	19	20	16	6.4	5.5	4.2	3.4	2.0
CFSM	.58	3.61	3.20	5.06	4.98	5.02	4.26	2.56	3.36	1.58	.87	.37
IN.	.67	4.03	3.69	5.83	5.18	5.79	4.75	2.95	3.75	1.82	1.00	.41

e Estimated.

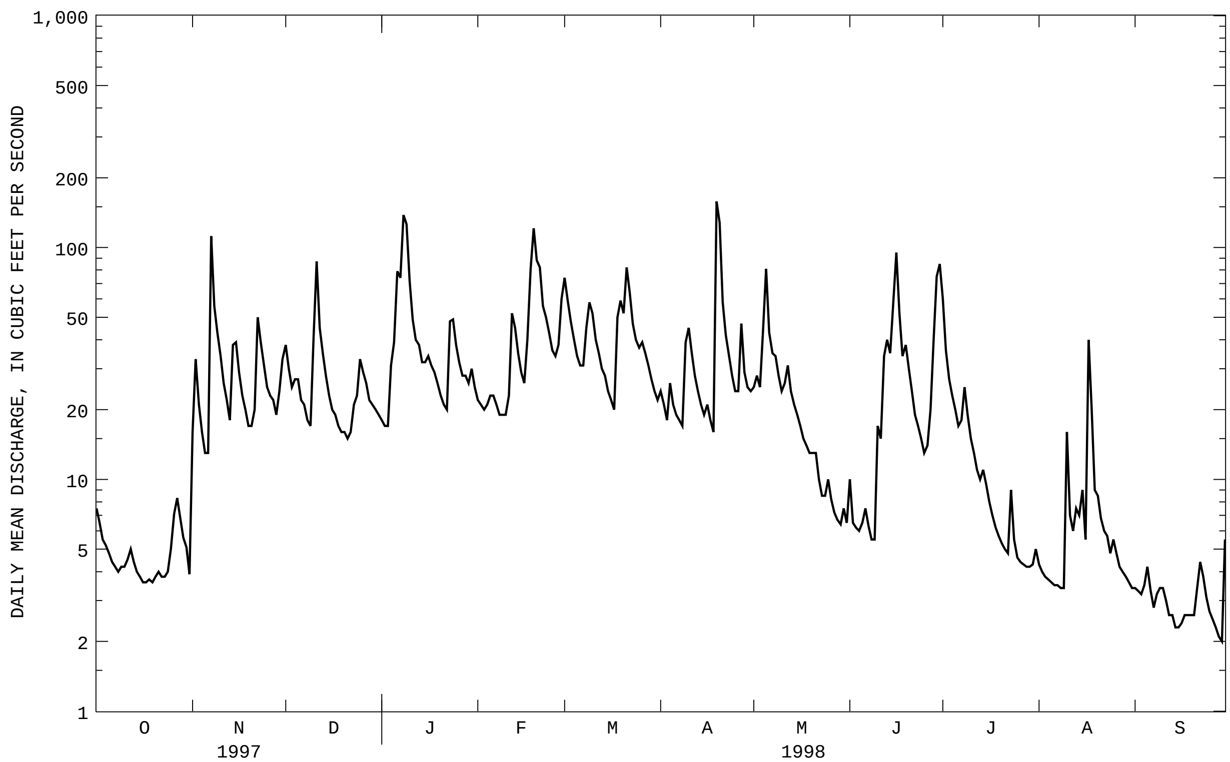
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.1	21.0	30.7	27.5	36.6	40.9	31.6	29.8	19.0	17.8	12.4	8.44
MAX	26.2	42.8	51.9	51.2	68.5	71.6	61.0	69.8	62.8	42.8	40.2	41.3
(WY)	1997	1987	1985	1996	1994	1994	1984	1996	1981	1992	1980	1996
MIN	3.27	6.21	16.8	8.85	7.24	13.9	9.60	9.35	6.36	2.88	2.30	2.99
(WY)	1992	1992	1990	1981	1993	1990	1995	1991	1991	1988	1993	1991

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1980 - 1998	
ANNUAL TOTAL	7413.4		8821.8			
ANNUAL MEAN	20.3		24.2		23.5	
HIGHEST ANNUAL MEAN					35.6	1996
LOWEST ANNUAL MEAN					16.2	1995
HIGHEST DAILY MEAN	155	May 26	158	Apr 19	492	Feb 9 1994
LOWEST DAILY MEAN	(e)1.4	Aug 11	(e)2.0	Sep 29	1.1	(a)
ANNUAL SEVEN-DAY MINIMUM	2.1	Aug 7	2.5	Sep 12	1.3	Aug 23 1993
INSTANTANEOUS PEAK FLOW			259	Apr 19	(b)863	Nov 5 1985
INSTANTANEOUS PEAK STAGE			4.46	Apr 19	10.10	Nov 5 1985
INSTANTANEOUS LOW FLOW			UNKNOWN		UNKNOWN	Aug 31 1993
ANNUAL RUNOFF (CFSM)	2.47		2.94		2.86	
ANNUAL RUNOFF (INCHES)	33.51		39.87		38.83	
10 PERCENT EXCEEDS	39		49		49	
50 PERCENT EXCEEDS	17		20		16	
90 PERCENT EXCEEDS	3.0		3.7		4.0	

e Estimated
a Aug. 15, 27, 1993.
b From rating curve extended above 450 ft^3/s on basis of runoff comparisons with nearby stations.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 northwest of Wilson-Corona Road, 0.1 mi upstream from mouth and 0.8 mi northwest of Wilson.

DRAINAGE AREA.--1.91 mi^2.

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and steel weir plate. Elevation of gage is 2,515 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Records good above 0.5 ft^3/s and fair below. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	0500	*81	*3.80	Jun 29	0030	57	3.48
Jan 8	0530	44	3.30	Jun 30	2030	57	3.49
Apr 19	1145	72	3.68				

Minimum discharge, 0.19 ft^3/s, Sep 27, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.5	8.8	e2.7	3.6	16	4.2	4.4	2.3	17	.63	.48
2	1.6	5.2	6.5	2.6	3.5	13	3.8	5.1	1.0	8.2	.44	.50
3	1.2	3.2	5.2	3.7	3.5	9.8	3.4	4.5	.86	5.6	.41	.48
4	1.2	2.6	5.6	7.8	3.7	7.3	4.7	7.5	.83	4.6	.48	.52
5	.87	2.1	5.8	8.5	4.3	6.1	3.8	12	.85	3.7	.44	.61
6	.72	1.8	4.7	15	4.9	5.3	3.3	6.6	1.0	3.0	.46	.34
7	.79	31	3.9	15	4.5	5.0	3.2	5.3	.68	2.9	.47	.32
8	.72	15	3.7	29	3.7	8.4	3.0	6.3	.58	4.2	.38	.45
9	.78	10	3.5	24	3.7	12	9.7	5.0	.97	3.0	.69	.60
10	.94	7.6	9.3	14	4.0	10	11	3.8	3.3	2.5	3.7	.60
11	.97	6.2	17	9.0	5.1	7.3	6.5	5.0	3.2	2.2	1.4	.52
12	1.1	5.1	8.4	6.7	12	6.0	5.1	6.6	6.6	1.9	.91	.44
13	1.0	4.1	6.2	6.7	9.5	5.2	4.6	4.8	12	1.7	1.2	.44
14	.86	9.4	4.8	5.4	6.7	5.0	4.3	4.1	12	1.3	1.1	.32
15	.88	9.2	4.1	5.2	5.3	4.3	3.9	3.6	13	1.3	1.5	.35
16	.62	5.7	3.8	5.8	5.0	3.8	4.1	3.2	17	1.1	.76	.36
17	.59	4.5	3.5	5.1	12	3.5	3.5	2.8	9.6	1.1	9.3	.41
18	.66	4.0	3.3	4.5	23	13	3.1	2.4	6.2	1.1	6.0	.38
19	.52	3.9	3.1	4.0	24	13	43	2.4	7.3	.83	2.7	.41
20	.53	4.0	2.9	3.8	20	11	24	2.5	5.2	.82	1.6	.37
21	.58	5.3	2.6	3.4	18	18	12	2.8	4.1	.79	1.2	.43
22	.52	14	2.6	3.3	12	13	8.1	1.8	3.5	.71	1.0	.60
23	.52	9.3	3.4	8.6	9.5	9.2	6.2	1.4	3.0	2.1	1.0	.43
24	.56	7.2	4.0	9.1	7.4	7.4	5.1	1.5	2.5	1.2	.77	.30
25	1.1	5.6	5.8	6.2	6.4	7.0	4.3	1.9	2.0	.82	.97	.39
26	1.8	5.1	4.6	5.3	6.4	7.0	4.5	1.2	1.9	.69	.80	.38
27	1.7	5.1	4.1	4.8	7.8	5.9	9.5	1.1	2.0	.59	.73	.25
28	1.3	3.9	3.8	4.4	14	5.2	5.1	1.0	5.7	.63	.66	.21
29	.74	4.3	3.4	4.7	---	4.6	4.6	.97	16	.63	.65	.24
30	.67	7.6	e3.0	5.9	---	4.1	4.3	1.1	20	.61	.52	1.3
31	.64	---	e2.8	4.2	---	3.8	---	.80	---	1.0	.46	---
TOTAL	28.38	204.5	154.2	238.4	243.5	250.2	215.9	113.47	165.17	77.82	43.33	13.43
MEAN	.92	6.82	4.97	7.69	8.70	8.07	7.20	3.66	5.51	2.51	1.40	.45
MAX	1.8	31	17	29	24	18	43	12	20	17	9.3	1.3
MIN	.52	1.8	2.6	2.6	3.5	3.5	3.0	.80	.58	.59	.38	.21
CFSM	.48	3.57	2.60	4.03	4.55	4.23	3.77	1.92	2.88	1.31	.73	.23
IN.	.55	3.98	3.00	4.64	4.74	4.87	4.20	2.21	3.22	1.52	.84	.26

e Estimated

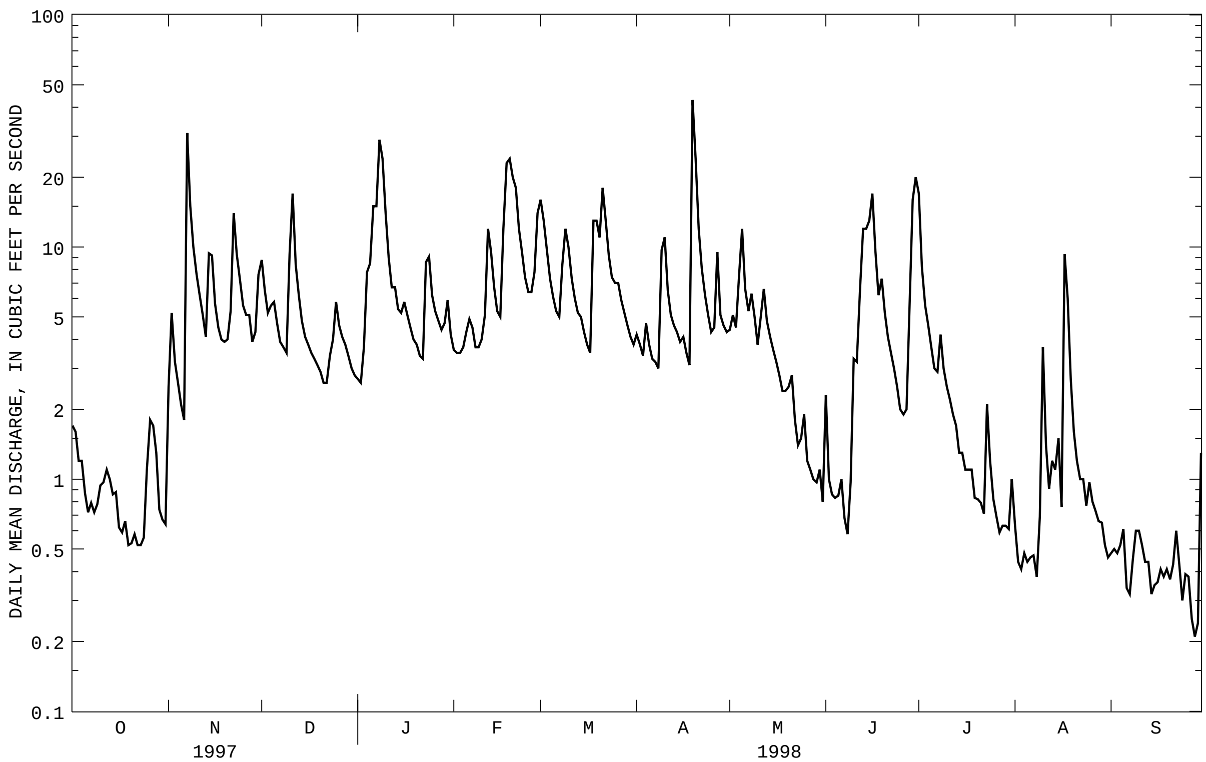
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.55	4.51	5.79	5.66	7.63	8.68	6.55	5.87	3.43	3.22	2.14	1.54
MAX	4.43	17.5	8.67	12.9	15.9	16.1	13.4	13.5	12.7	8.97	8.09	9.38
(WY)	1997	1986	1991	1996	1986	1994	1984	1996	1981	1996	1996	1996
MIN	.21	.62	2.83	1.29	1.37	2.52	2.22	1.58	.63	.28	.30	.19
(WY)	1992	1992	1990	1981	1993	1990	1995	1991	1991	1988	1983	1991

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1980 - 1998	
ANNUAL TOTAL	1399.78		1748.30			
ANNUAL MEAN	3.84		4.79		4.66	
HIGHEST ANNUAL MEAN					7.72	1996
LOWEST ANNUAL MEAN					3.43	1983
HIGHEST DAILY MEAN	31	Nov 7	43	Apr 19	141	Feb 9 1994
LOWEST DAILY MEAN	.26	Aug 11	.21	Sep 28	.09	(a)
ANNUAL SEVEN-DAY MINIMUM	.39	Aug 6	.31	Sep 23	.12	Aug 12 1988
INSTANTANEOUS PEAK FLOW			81	Nov 7	(b)895	May 31 1985
INSTANTANEOUS PEAK STAGE			3.80	Nov 7	10.47	May 31 1985
INSTANTANEOUS LOW FLOW			.19	(c)	.01	(d)
ANNUAL RUNOFF (CFSM)	2.01		2.51		2.44	
ANNUAL RUNOFF (INCHES)	27.26		34.05		33.12	
10 PERCENT EXCEEDS	8.2		11		10	
50 PERCENT EXCEEDS	3.1		3.7		2.9	
90 PERCENT EXCEEDS	.51		.52		.46	

a Aug. 22, 1985, Aug. 24, 1993.
b From rating curve extended above 90 ft^3/s on basis of contracted-opening measurement of peak-flow.
c Sept. 27, 28.
d July 18 and Aug. 9, 1988, result of beaver activity upstream.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD

LOCATION.--Lat 39°16'36", long 79°23'26", Garrett County, Hydrologic Unit 02070002, on left bank upstream side of culvert on private driveway off Wilson-Corona Road, 1.7 mi southwest of Fort Pendleton, 1.0 mi south of Bayard, WV, and 200 ft upstream from mouth.

DRAINAGE AREA.--2.30 mi^2.

PERIOD OF RECORD.--October 1986 to current year.

REVISED RECORDS.--WDR MD-DE-95-1: 1988, 1991-93 (M).

GAGE.--Water-stage recorder and sacrete bag control. Datum of gage is 2,441.94 ft above sea level (Garrett County bench mark).

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	0430	82	3.13	Apr 19	1130	72	2.94
Jan 8	0545	44	2.31	Jun 30	1915	*87	*3.22

Minimum discharge, 0.02 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.5	9.2	e2.4	e4.0	21	5.1	4.5	2.5	19	.21	.10
2	.75	4.3	6.7	2.2	3.4	17	4.3	5.0	.73	9.2	.17	.09
3	.52	2.8	5.8	2.7	3.1	14	3.7	4.5	.52	6.0	.17	.08
4	.39	2.0	5.7	6.4	3.4	10	4.7	8.0	.46	4.7	.15	.07
5	.28	1.4	5.6	8.0	3.9	8.3	4.0	14	.47	3.6	.14	.06
6	.23	1.2	4.9	15	4.3	6.9	3.5	8.4	.50	2.8	.14	.06
7	.20	33	4.4	15	3.8	6.9	3.1	6.8	.38	2.3	.12	.06
8	.18	17	3.9	31	3.4	14	3.0	7.2	.33	3.5	.11	.08
9	.16	11	3.5	28	3.3	18	9.9	6.2	.43	2.2	.25	.12
10	.16	7.9	8.2	18	3.2	15	11	5.3	1.1	1.7	1.6	.11
11	.16	5.9	17	12	3.9	11	7.9	6.3	2.2	1.4	.49	.07
12	.15	5.0	9.5	8.8	9.8	8.6	6.1	8.1	4.9	1.1	.27	.05
13	.11	4.0	7.4	7.7	8.9	7.2	5.2	6.1	11	.99	.22	.04
14	.11	7.6	5.8	6.2	6.7	6.5	4.4	5.2	12	.85	.23	.04
15	.11	8.5	4.9	5.9	5.6	5.7	3.7	4.4	12	.79	.38	.04
16	.10	5.8	4.2	6.1	5.1	5.0	3.8	3.7	17	.74	.20	.03
17	.07	4.7	3.8	5.6	13	4.6	3.1	3.1	10	.67	4.7	.03
18	.08	4.5	3.2	5.2	26	14	2.7	2.6	7.2	.53	3.6	.03
19	.08	3.6	2.8	4.9	31	18	44	2.1	8.1	.46	1.3	.04
20	.07	3.5	2.6	4.1	25	14	30	2.0	6.2	.41	.57	.04
21	.06	4.8	2.4	3.5	22	22	16	2.1	4.5	.38	.38	.12
22	.05	14	2.2	3.3	15	17	11	1.6	3.8	.31	.28	.09
23	.05	10	2.9	6.7	13	13	8.0	1.3	3.0	1.5	.23	.04
24	.07	7.5	3.6	8.5	10	10	6.2	1.3	2.5	.69	.19	.03
25	.31	6.0	5.7	6.1	8.2	8.8	5.1	1.4	2.0	.37	.19	.03
26	.83	5.5	4.8	5.1	7.4	8.9	5.3	1.0	1.7	.31	.16	.03
27	1.0	5.3	4.2	4.6	8.2	7.7	8.8	.88	1.6	.27	.14	.03
28	.48	4.6	3.8	4.5	16	6.7	5.4	.77	3.3	.24	.14	.03
29	.36	4.5	e3.4	4.6	---	5.9	4.7	.65	7.5	.21	.12	.03
30	.30	7.8	e3.0	5.5	---	5.3	4.3	.65	21	.20	.11	.24
31	.27	---	e2.7	4.7	---	4.7	---	.59	---	.42	.10	---
TOTAL	8.79	205.2	157.8	252.3	270.6	335.7	238.0	125.74	148.92	67.84	17.06	1.91
MEAN	.28	6.84	5.09	8.14	9.66	10.8	7.93	4.06	4.96	2.19	.55	.064
MAX	1.1	33	17	31	31	22	44	14	21	19	4.7	.24
MIN	.05	1.2	2.2	2.2	3.1	4.6	2.7	.59	.33	.20	.10	.03
CFSM	.12	2.97	2.21	3.54	4.20	4.71	3.45	1.76	2.16	.95	.24	.03
IN.	.14	3.32	2.55	4.08	4.38	5.43	3.85	2.03	2.41	1.10	.28	.03

e Estimated

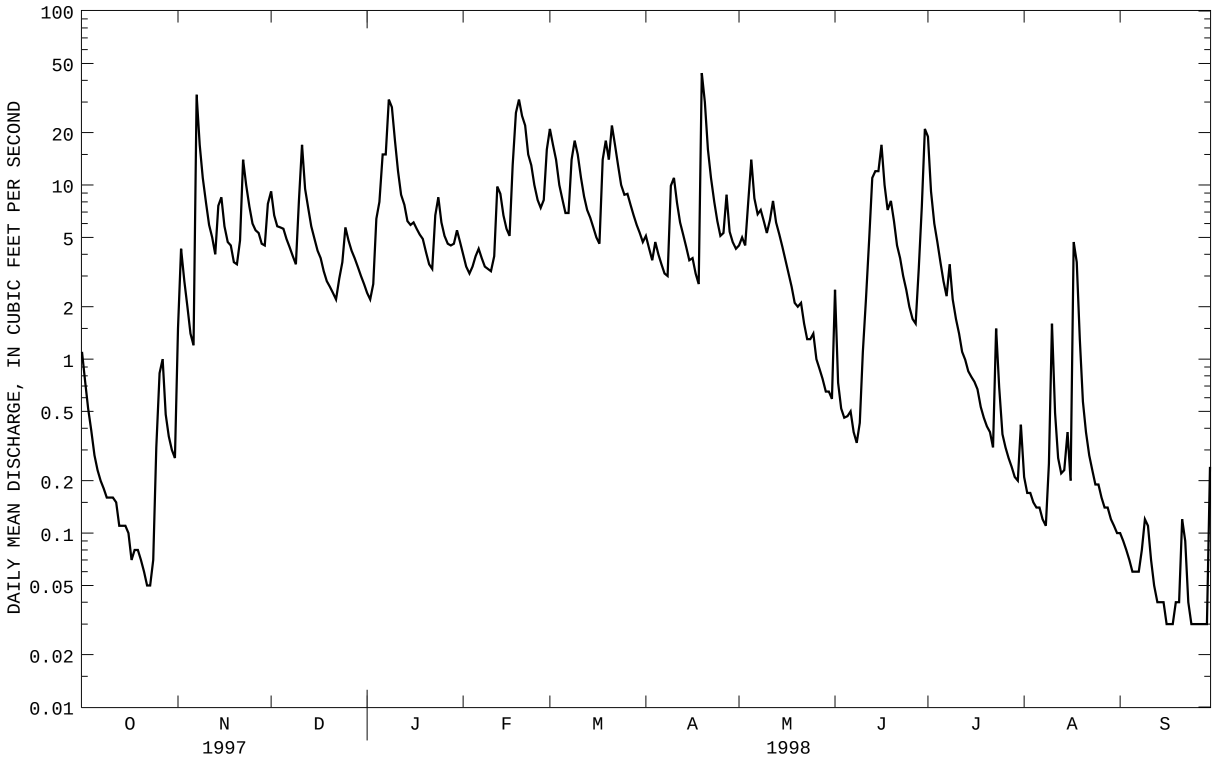
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.41	3.73	5.95	7.26	7.52	9.47	6.30	6.52	2.25	2.67	1.93	1.57
MAX	4.57	10.2	10.0	11.5	14.7	17.6	11.3	13.9	5.29	8.23	9.26	9.25
(WY)	1990	1987	1991	1990	1994	1994	1987	1996	1989	1996	1996	1996
MIN	.060	.30	3.92	4.05	1.27	3.34	1.27	1.12	.23	.14	.065	.064
(WY)	1995	1992	1990	1992	1993	1990	1995	1993	1993	1993	1993	1998

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1987 - 1998	
ANNUAL TOTAL	1330.97		1829.86			
ANNUAL MEAN	3.65		5.01		4.71	
HIGHEST ANNUAL MEAN					7.49	1996
LOWEST ANNUAL MEAN					2.91	1995
HIGHEST DAILY MEAN	33	Nov 7	44	Apr 19	110	May 26 1990
LOWEST DAILY MEAN	.03	Aug 12	.03	(a)	.02	(b)
ANNUAL SEVEN-DAY MINIMUM	.04	Sep 14	.03	Sep 23	.03	Aug 23 1993
INSTANTANEOUS PEAK FLOW			87	Jun 30	340	Feb 9 1994
INSTANTANEOUS PEAK STAGE			3.22	Jun 30	7.23	Feb 9 1994
INSTANTANEOUS LOW FLOW			.02	Sep 30	.01	(b)
ANNUAL RUNOFF (CFSM)	1.59		2.18		2.05	
ANNUAL RUNOFF (INCHES)	21.53		29.60		27.81	
10 PERCENT EXCEEDS	7.9		12		11	
50 PERCENT EXCEEDS	2.6		3.6		3.0	
90 PERCENT EXCEEDS	.08		.11		.14	

a Sept. 16-18, 24-29.
b Aug. 4, 5, Oct. 11-13, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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.--73.1 mi^2, revised.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft^3/s, from rating curve extended above 3,000 ft^3/s on basis of slope-area measurement at gage height of 10.30 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 19	1945	*1,940	*5.82	No peak greater than base discharge.			

Minimum discharge, 14 ft^3/s, Sep 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	110	324	163	145	700	180	182	106	642	51	32
2	64	230	236	138	145	551	158	221	77	242	50	38
3	55	161	202	119	146	437	142	194	65	190	46	38
4	50	106	206	239	145	337	201	342	67	164	42	29
5	33	85	212	309	169	279	183	739	70	144	36	25
6	40	76	172	567	212	237	154	364	76	121	41	24
7	44	974	141	560	187	246	144	281	71	107	38	24
8	42	575	135	1090	165	509	144	336	64	179	36	46
9	39	389	137	884	155	736	281	284	65	171	36	45
10	39	290	253	558	155	576	379	229	117	117	176	35
11	39	210	693	367	178	383	277	219	89	103	117	32
12	26	184	350	296	422	300	225	306	187	93	71	27
13	33	154	264	284	381	260	201	227	281	85	49	17
14	40	292	218	250	279	229	185	191	299	78	67	25
15	38	340	181	236	231	205	161	165	329	82	69	29
16	40	221	161	268	206	184	173	146	670	75	65	28
17	36	185	148	220	486	166	154	131	367	71	183	30
18	26	161	129	198	1060	422	138	113	277	67	164	40
19	23	143	119	176	1050	635	1160	105	400	61	107	32
20	34	141	105	174	802	490	1000	102	328	58	77	25
21	36	152	100	155	734	797	498	101	218	57	68	49
22	35	423	103	141	497	578	332	91	211	49	61	51
23	31	308	148	309	428	414	262	83	162	62	56	48
24	30	239	148	387	362	340	213	86	140	68	52	31
25	39	201	233	284	297	293	185	155	119	57	49	34
26	50	181	202	231	279	299	172	93	104	54	39	25
27	82	173	191	199	326	262	387	81	112	49	37	19
28	62	138	162	205	581	233	224	82	208	49	42	15
29	48	153	145	201	---	208	191	72	612	49	36	18
30	40	246	156	243	---	188	174	86	612	47	35	37
31	38	---	135	183	---	176	---	74	---	63	34	---
TOTAL	1301	7241	6109	9634	10223	11670	8278	5881	6503	3454	2030	948
MEAN	42.0	241	197	311	365	376	276	190	217	111	65.5	31.6
MAX	82	974	693	1090	1060	797	1160	739	670	642	183	51
MIN	23	76	100	119	145	166	138	72	64	47	34	15
CFSM	.57	3.30	2.70	4.25	4.99	5.15	3.77	2.60	2.97	1.52	.90	.43
IN.	.66	3.68	3.11	4.90	5.20	5.94	4.21	2.99	3.31	1.76	1.03	.48

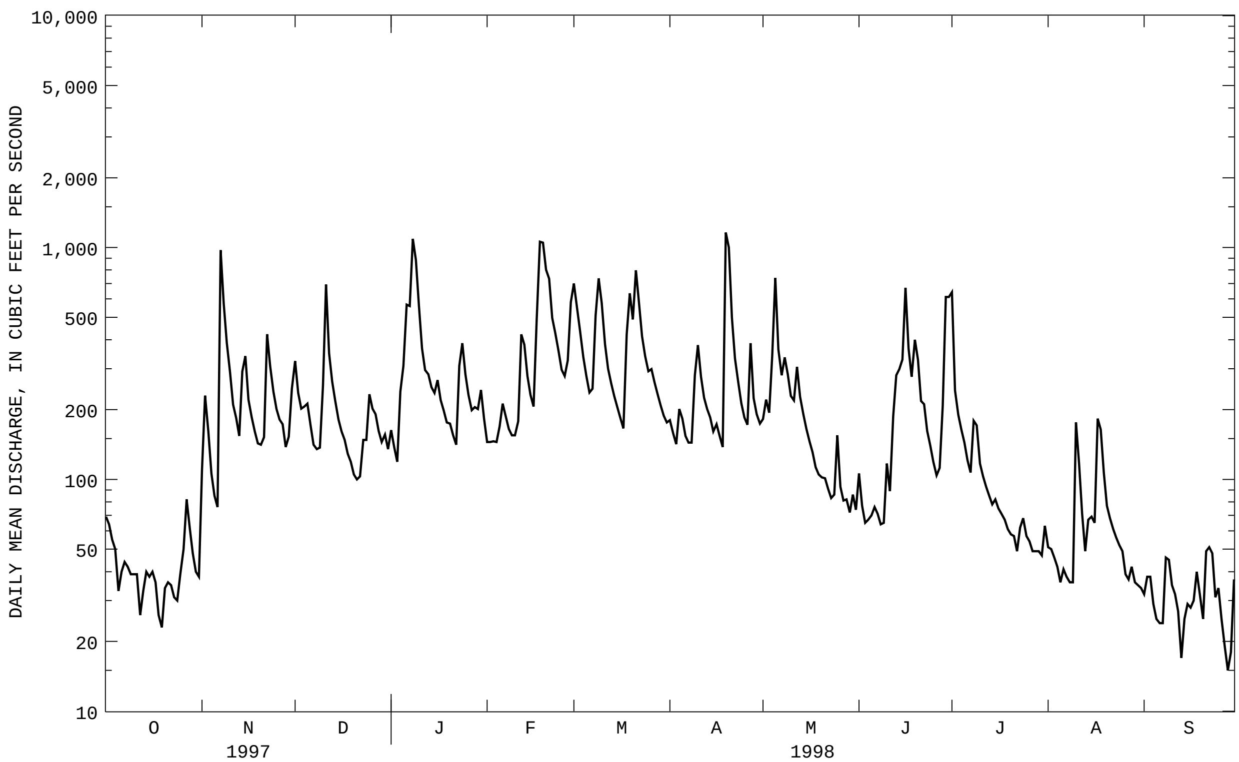
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	72.6	140	230	239	265	345	275	202	120	93.1	79.2	55.5
MAX	316	588	527	569	604	885	573	540	442	340	355	340
(WY)	1977	1986	1973	1974	1994	1963	1958	1996	1981	1978	1996	1996
MIN	12.8	26.2	56.7	41.8	65.9	112	78.2	62.5	15.5	14.3	6.72	5.99
(WY)	1964	1966	1966	1977	1993	1990	1995	1965	1965	1965	1965	1959

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1956 - 1998	
ANNUAL TOTAL	57949		73272			
ANNUAL MEAN	159		201		176	
HIGHEST ANNUAL MEAN					297	1996
LOWEST ANNUAL MEAN					115	1959
HIGHEST DAILY MEAN	974	May 26	1160	Apr 19	4530	Feb 9 1994
LOWEST DAILY MEAN	21	Jul 15	15	Sep 28	3.1	Sep 9 1965
ANNUAL SEVEN-DAY MINIMUM	29	Sep 13	26	Sep 24	3.6	Sep 23 1959
INSTANTANEOUS PEAK FLOW			1940	Apr 19	(a)11500	Nov 5 1985
INSTANTANEOUS PEAK STAGE			5.82	Apr 19	13.14	Nov 5 1985
INSTANTANEOUS LOW FLOW			14	(b)	2.9	Sep 10 1965
ANNUAL RUNOFF (CFSM)	2.17		2.75		2.40	
ANNUAL RUNOFF (INCHES)	29.49		37.29		32.63	
10 PERCENT EXCEEDS	309		422		387	
50 PERCENT EXCEEDS	124		155		106	
90 PERCENT EXCEEDS	36		36		21	

a From rating curve extended above 3,000 ft^3/s on basis of slope-area measurement at gage height of 10.30 ft.
b Sept. 28, 29.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01595200 STONY RIVER NEAR MOUNT 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 Mount Storm, and at mile 6.4.

DRAINAGE AREA.--48.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

REVISED RECORDS.--WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above sea level.

REMARKS.--No estimated daily discharges. Water-discharge records good. Prior to June 1987, flow regulated by Stony River Reservoir, 14.0 mi upstream from station. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake), 4.0 mi upstream from station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,210 ft^3/s, Nov 8, gage height, 7.36 ft; minimum discharge, 4.7 ft^3/s, Oct 17-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	67	113	54	84	488	341	96	51	145	7.2	10
2	14	71	97	49	209	425	167	114	38	130	6.1	10
3	13	34	93	49	231	399	93	101	29	182	6.2	10
4	11	42	121	83	203	205	130	111	25	360	10	9.7
5	7.4	71	107	108	196	121	117	182	22	321	9.5	6.8
6	7.2	71	70	195	184	119	100	143	22	291	8.6	5.5
7	9.6	361	63	334	115	137	91	138	19	183	8.3	5.3
8	9.8	1160	56	860	42	681	86	189	16	67	5.4	8.9
9	9.3	125	53	677	39	831	123	253	13	50	31	11
10	7.5	107	114	445	39	861	202	523	33	41	75	10
11	8.6	124	197	94	44	707	95	82	28	31	30	11
12	5.6	181	147	91	91	362	83	100	59	26	18	6.4
13	5.9	181	266	95	80	81	77	93	93	24	14	5.2
14	8.4	205	341	90	58	75	72	86	122	23	53	5.0
15	7.8	164	315	113	51	66	66	80	143	23	98	8.7
16	5.3	76	291	314	50	60	73	72	226	20	55	8.9
17	5.0	63	164	271	188	79	68	68	223	19	104	8.8
18	6.8	60	68	59	664	264	58	66	273	15	67	8.5
19	5.4	65	62	58	605	846	545	65	249	15	37	6.7
20	5.1	68	55	59	559	775	866	60	220	12	25	7.9
21	7.2	85	50	60	490	792	108	56	186	8.6	19	6.0
22	8.1	261	48	63	208	439	117	48	117	8.0	13	9.3
23	7.2	276	56	98	130	563	115	41	71	11	11	10
24	7.4	111	57	128	131	215	102	37	68	11	10	11
25	10	78	84	104	125	567	84	68	66	10	14	10
26	12	104	77	96	127	500	81	62	64	7.0	11	9.5
27	15	183	73	93	285	330	147	73	58	6.6	12	9.1
28	9.7	66	66	103	480	142	106	69	70	6.6	12	8.8
29	8.9	73	63	102	---	166	95	63	105	9.7	8.1	9.9
30	8.6	96	65	106	---	253	91	61	125	11	7.1	15
31	8.5	---	60	91	---	310	---	51	---	14	7.0	---
TOTAL	267.3	4629	3492	5142	5708	11859	4499	3251	2834	2081.5	792.5	262.9
MEAN	8.62	154	113	166	204	383	150	105	94.5	67.1	25.6	8.76
MAX	15	1160	341	860	664	861	866	523	273	360	104	15
MIN	5.0	34	48	49	39	60	58	37	13	6.6	5.4	5.0

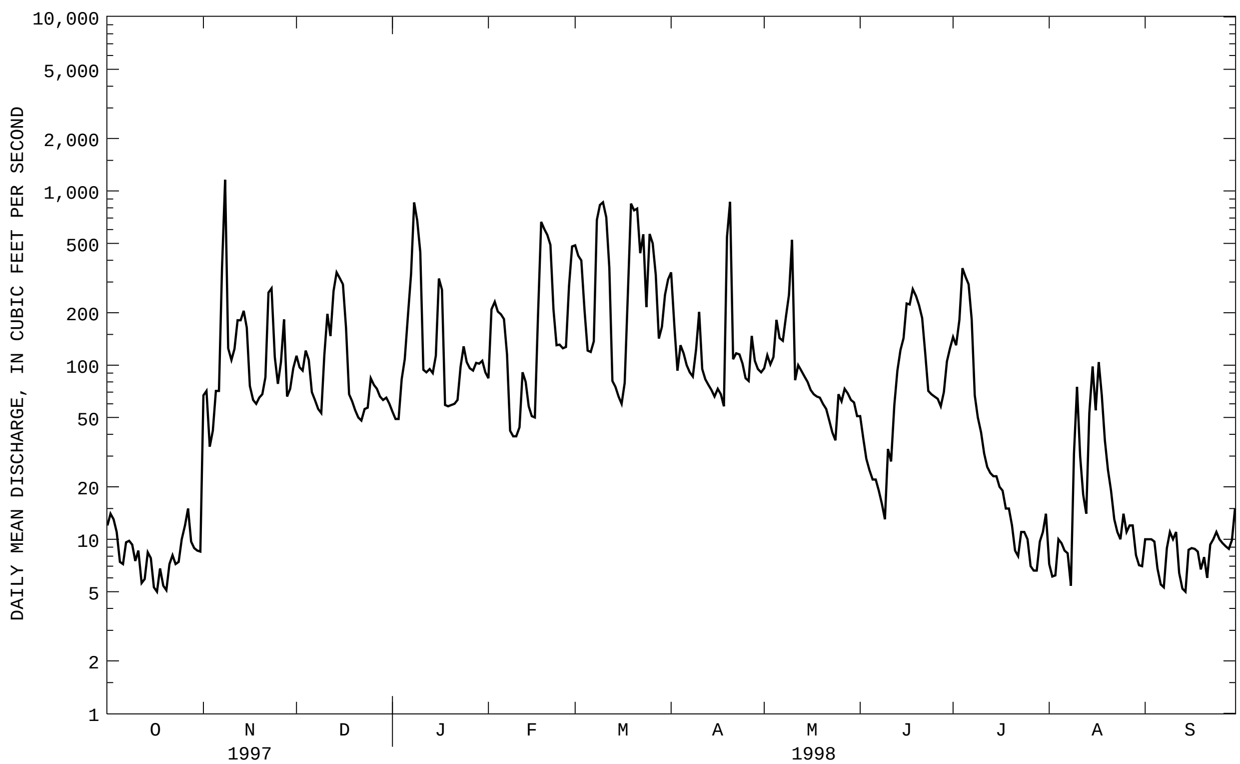
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.2	89.6	112	121	144	224	155	122	71.7	47.8	35.0	35.9
MAX	234	669	301	267	361	537	371	271	237	205	200	314
(WY)	1977	1986	1973	1996	1994	1963	1987	1988	1981	1978	1996	1996
MIN	3.36	7.00	10.8	20.9	21.3	46.9	51.8	28.3	9.91	4.36	3.92	3.89
(WY)	1992	1992	1966	1981	1978	1990	1995	1964	1964	1968	1988	1985

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	31593.1		44818.2			
ANNUAL MEAN	86.6		123		(a)100	
HIGHEST ANNUAL MEAN					166	1996
LOWEST ANNUAL MEAN					42.0	1964
HIGHEST DAILY MEAN	1160	Nov 8	1160	Nov 8	9880	Nov 5 1985
LOWEST DAILY MEAN	5.0	(b)	5.0	(b)	1.3	Aug 28 1988
ANNUAL SEVEN-DAY MINIMUM	6.1	Oct 15	6.1	Oct 15	1.7	Aug 28 1988
INSTANTANEOUS PEAK FLOW			2210	Nov 8	(c)14000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			7.36	Nov 8	(d)16.41	Nov 5 1985
INSTANTANEOUS LOW FLOW			4.7	(f)	1.3	(g)
10 PERCENT EXCEEDS	211		312		234	
50 PERCENT EXCEEDS	51		68		50	
90 PERCENT EXCEEDS	7.5		8.4		8.7	

a Unadjusted
b Oct. 17, Sept. 14.
c From rating curve extended above 7,500 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
f Oct. 17, 20.
g Aug. 22, 23, 28, 29, 1988.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 October 1995, April 1996 to current year.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol-actuated thermograph) since December 1961.

REMARKS.--Upstream reservoir regulation defined on the discharge manuscript. No temperature record Nov. 8 to Dec. 16, due to equipment malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD--
WATER TEMPERATURE: Maximum, 27.5°C, Aug. 14, 1984, July 19, 1990; minimum, 0.0°C, on many day during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 26.0°C, July 7; minimum, 2.0°C, Jan 1, 2, Feb. 15-17.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	11.0	9.5	8.5	---	---	2.5	2.0	4.0	3.5	8.5	8.0
2	11.0	10.5	9.5	9.0	---	---	2.5	2.0	8.5	4.0	9.5	8.5
3	10.5	10.5	9.0	8.0	---	---	3.5	2.5	9.5	8.5	9.5	9.0
4	13.0	10.5	8.5	8.0	---	---	3.5	3.5	9.0	8.0	9.5	6.5
5	14.5	12.0	10.0	8.0	---	---	3.5	3.0	8.0	8.0	6.5	6.0
6	14.5	14.0	11.0	10.0	---	---	5.0	3.0	8.0	8.0	6.5	6.0
7	14.0	12.5	11.0	9.0	---	---	8.5	5.0	8.0	5.0	7.0	6.5
8	14.0	12.0	---	---	---	---	10.5	8.5	5.5	3.0	10.0	7.0
9	13.5	12.5	---	---	---	---	10.5	10.0	3.0	3.0	10.5	7.5
10	15.0	13.0	---	---	---	---	10.0	6.5	3.5	2.5	9.0	7.5
11	13.5	11.5	---	---	---	---	6.5	5.0	3.5	3.5	9.0	9.0
12	12.0	10.0	---	---	---	---	5.0	5.0	3.5	3.0	9.5	6.0
13	13.0	10.0	---	---	---	---	5.5	5.0	3.0	2.5	6.0	4.0
14	12.5	11.0	---	---	---	---	5.0	4.5	2.5	2.5	4.5	4.0
15	11.0	9.5	---	---	---	---	6.0	4.5	2.5	2.0	4.5	4.0
16	9.5	9.5	---	---	---	---	9.5	6.0	2.0	2.0	4.0	3.5
17	9.5	9.5	---	---	10.0	7.5	11.0	6.5	2.5	2.0	5.0	4.0
18	9.5	9.5	---	---	7.5	6.0	6.5	4.5	8.0	2.5	7.5	5.0
19	9.5	9.0	---	---	6.0	6.0	4.5	4.5	8.5	8.0	11.5	7.5
20	9.0	9.0	---	---	6.0	5.5	4.5	4.0	9.0	8.5	11.5	10.5
21	10.5	9.0	---	---	5.5	5.5	4.0	3.5	8.5	8.5	11.5	7.5
22	10.0	8.0	---	---	5.5	5.5	4.0	3.5	8.5	6.0	10.0	7.5
23	9.0	7.5	---	---	5.5	5.5	4.0	3.5	6.0	3.5	12.0	8.0
24	7.5	7.0	---	---	5.5	5.5	4.0	4.0	4.0	3.5	9.5	7.5
25	9.0	7.0	---	---	5.5	5.5	4.0	4.0	5.0	4.0	13.0	9.5
26	9.0	9.0	---	---	5.5	5.5	4.0	4.0	5.5	5.0	14.0	12.5
27	9.0	8.0	---	---	5.5	5.0	4.5	4.0	9.0	5.5	14.0	13.5
28	9.0	7.0	---	---	5.0	4.5	4.5	3.5	9.0	8.0	13.5	12.0
29	8.0	7.0	---	---	4.5	3.5	5.0	4.5	---	---	14.0	13.5
30	8.0	7.0	---	---	3.5	3.5	5.0	5.0	---	---	17.0	14.0
31	9.0	7.5	---	---	3.5	2.5	5.0	4.0	---	---	17.0	16.0
MONTH	15.0	7.0	---	---	---	---	11.0	2.0	9.5	2.0	17.0	3.5

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.0	16.5	15.0	14.5	22.5	20.0	20.5	18.0	21.5	17.0	17.5	16.5
2	16.5	14.5	14.5	13.0	21.5	18.0	22.0	19.5	21.5	15.5	17.5	16.5
3	14.5	12.0	15.5	14.5	21.5	19.0	24.0	21.0	22.0	16.0	17.5	16.5
4	12.0	11.0	17.5	14.5	19.0	17.5	24.0	23.5	21.0	16.0	17.5	16.5
5	11.0	10.0	14.5	13.0	17.5	15.5	24.5	24.0	21.5	17.0	18.0	16.5
6	11.0	10.0	17.0	14.5	15.5	14.5	24.5	24.0	21.5	17.5	18.5	16.5
7	11.0	10.0	16.5	15.5	14.5	13.5	26.0	24.0	22.0	17.5	17.5	16.5
8	12.5	11.0	16.5	15.0	15.0	13.0	24.0	22.0	21.0	18.0	17.0	16.0
9	12.5	12.0	16.5	15.0	14.0	13.0	22.5	21.5	24.0	19.5	16.0	16.0
10	12.5	12.0	21.5	15.5	16.0	13.5	22.0	21.0	20.0	20.0	15.5	15.5
11	12.0	10.0	15.5	13.5	17.0	16.0	21.0	18.0	20.5	19.5	15.5	15.5
12	11.5	10.0	13.5	13.0	19.5	17.0	21.0	17.0	20.5	19.5	17.0	15.5
13	12.0	10.0	16.5	12.5	19.0	18.0	21.0	17.5	19.5	18.0	18.5	15.5
14	12.0	11.5	18.5	14.5	18.0	17.0	22.0	19.0	19.0	17.5	18.5	15.5
15	13.5	12.0	19.5	15.5	19.0	17.5	21.5	20.5	18.0	17.5	17.5	16.5
16	14.0	12.5	20.5	16.5	19.5	17.5	21.0	20.0	18.0	17.5	17.5	16.5
17	13.5	12.5	21.0	18.5	21.0	19.0	22.5	20.0	18.0	17.5	17.0	16.0
18	13.0	11.5	20.5	16.5	23.0	21.0	22.0	18.5	18.0	17.5	16.5	16.0
19	15.5	10.5	20.5	17.5	23.0	22.0	22.0	19.0	18.0	15.5	17.5	16.5
20	17.5	11.5	21.0	19.0	23.5	22.0	22.0	20.0	17.5	13.5	17.0	14.5
21	11.5	10.0	20.5	18.5	24.0	22.0	24.0	19.0	18.0	14.5	16.0	15.5
22	12.0	11.0	18.5	15.5	23.5	22.5	25.5	21.5	19.5	15.5	15.5	15.5
23	12.5	11.5	17.5	15.5	22.5	21.0	24.0	22.0	19.5	18.0	15.5	13.5
24	14.5	11.5	17.5	16.0	23.0	21.5	22.0	20.0	19.5	18.0	14.5	13.0
25	15.5	12.5	19.5	17.0	24.0	21.0	21.0	17.0	19.0	18.0	16.0	14.5
26	16.5	14.0	19.5	18.5	24.0	23.0	20.5	18.0	20.0	18.0	19.0	16.0
27	14.5	12.0	20.0	18.5	22.5	21.5	21.0	16.5	19.5	17.0	20.0	18.0
28	15.0	11.5	22.0	19.0	21.5	20.5	22.0	18.0	19.0	17.5	21.0	18.5
29	15.0	12.5	23.0	19.5	21.0	20.0	22.0	18.0	18.5	17.5	18.5	16.0
30	15.0	14.5	23.0	20.5	21.0	19.0	21.0	20.0	19.0	17.0	17.0	16.0
31	---	---	23.0	21.0	---	---	21.5	20.0	19.0	17.5	---	---
MONTH	17.5	10.0	23.0	12.5	24.0	13.0	26.0	16.5	24.0	13.5	21.0	13.0

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^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,603.88 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 8	1600	1,020	3.63	Apr 19	2330	904	3.47
Feb 18	0400	1,160	3.81	May 4	2400	*1,390	*4.09
Mar 8	1815	1,090	3.71				

Minimum discharge, 2.0 ft^3/s, Sep 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	64	296	54	72	573	65	87	33	59	14	5.8
2	8.6	138	200	65	72	450	60	112	22	42	8.0	5.2
3	6.9	97	140	58	68	322	53	123	18	32	5.8	4.6
4	6.1	59	113	111	66	227	56	278	17	26	4.7	4.1
5	5.4	40	94	167	93	169	53	919	14	23	4.1	3.9
6	4.9	29	77	171	147	135	47	640	13	20	3.7	3.5
7	4.7	369	66	163	144	127	43	357	11	17	3.3	3.1
8	4.1	574	58	786	129	555	42	310	11	33	2.9	4.6
9	3.7	327	53	663	119	948	129	258	11	31	3.0	5.8
10	3.4	189	55	356	116	659	484	202	15	22	8.1	5.8
11	3.4	130	84	222	128	347	328	155	16	17	25	5.2
12	3.4	95	87	155	207	214	201	140	30	14	14	4.5
13	3.4	73	83	123	257	156	142	113	30	13	10	3.9
14	3.3	71	75	96	201	127	114	95	28	13	13	3.1
15	3.3	78	64	81	151	102	93	82	22	12	30	2.8
16	3.2	69	58	78	126	82	79	79	52	11	31	2.5
17	3.2	60	53	73	313	71	68	98	62	11	43	2.3
18	3.2	51	47	67	1010	79	58	76	47	11	41	2.2
19	3.2	49	43	61	736	140	402	65	236	10	25	2.1
20	3.2	49	41	58	572	197	682	56	167	8.6	17	2.3
21	3.1	56	37	53	532	615	344	47	98	8.0	13	2.7
22	3.1	163	35	50	358	458	204	39	67	7.9	12	6.3
23	3.0	198	52	59	273	272	144	33	51	12	26	17
24	3.0	147	68	74	216	186	111	32	39	16	16	11
25	3.3	109	133	74	168	142	93	40	30	11	13	6.1
26	4.4	91	147	70	149	121	82	30	26	8.0	12	4.8
27	11	77	132	66	162	116	141	24	26	7.2	10	3.9
28	10	71	108	70	302	105	120	21	37	6.9	8.5	3.4
29	9.1	77	90	68	---	92	106	19	34	6.5	7.5	2.8
30	8.2	135	83	80	---	79	94	17	39	6.3	6.9	3.0
31	7.6	---	66	79	---	69	---	15	---	20	6.4	---
TOTAL	157.4	3735	2738	4351	6887	7935	4638	4562	1302	535.4	437.9	138.3
MEAN	5.08	125	88.3	140	246	256	155	147	43.4	17.3	14.1	4.61
MAX	11	574	296	786	1010	948	682	919	236	59	43	17
MIN	3.0	29	35	50	66	69	42	15	11	6.3	2.9	2.1
CFSM	.10	2.54	1.80	2.86	5.01	5.21	3.15	3.00	.88	.35	.29	.09
IN.	.12	2.83	2.07	3.30	5.22	6.01	3.51	3.46	.99	.41	.33	.10

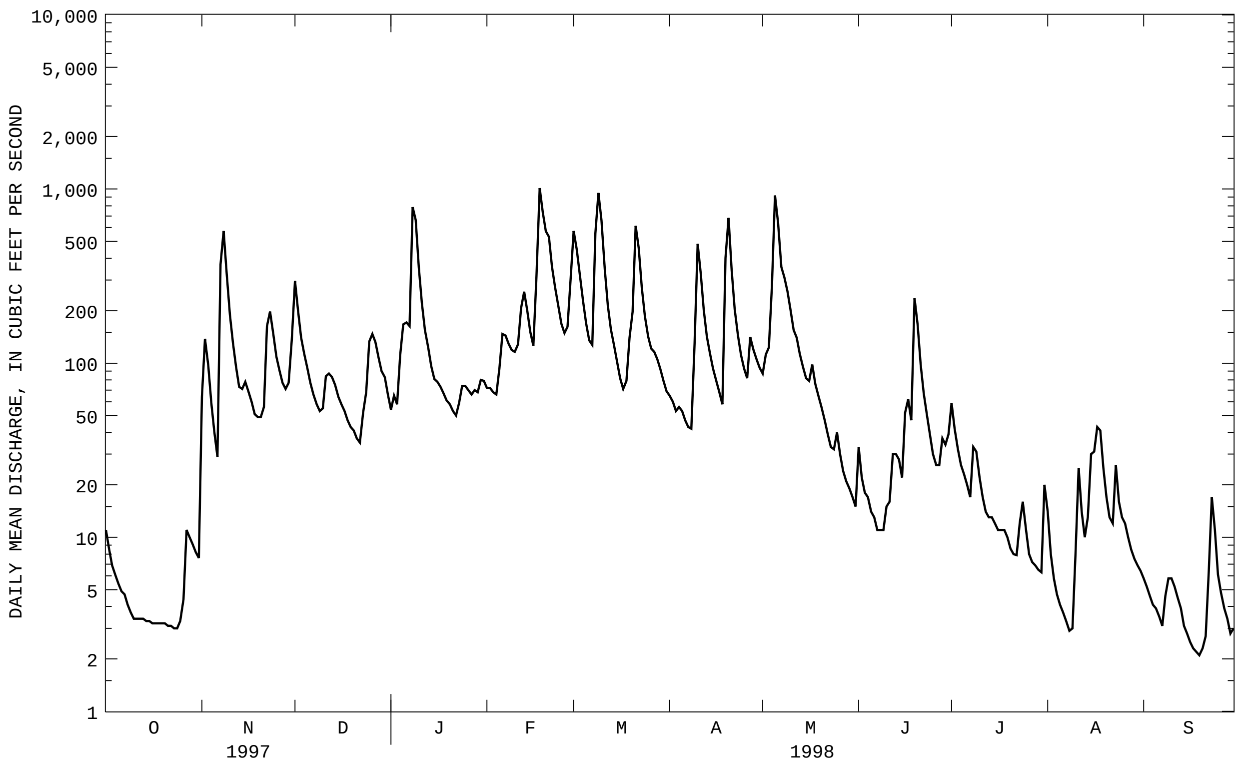
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.4	53.3	92.1	97.4	129	183	141	95.2	47.4	20.9	17.8	18.9
MAX	157	336	256	251	307	362	343	235	154	111	116	233
(WY)	1955	1986	1973	1952	1956	1994	1993	1996	1981	1989	1956	1996
MIN	1.52	2.32	5.96	13.7	19.4	30.8	33.0	21.8	5.48	2.68	2.05	1.78
(WY)	1964	1954	1954	1977	1954	1990	1968	1991	1965	1965	1966	1991

01596500 SAVAGE RIVER NEAR BARTON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1948 - 1998	
ANNUAL TOTAL	24738.8		37417.0			
ANNUAL MEAN	67.8		103		76.8	
HIGHEST ANNUAL MEAN					138	1996
LOWEST ANNUAL MEAN					34.9	1954
HIGHEST DAILY MEAN	591	Mar 6	1010	Feb 18	2180	Nov 5 1985
LOWEST DAILY MEAN	(e)2.8	Sep 9	2.1	Sep 19	.50	(a)
ANNUAL SEVEN-DAY MINIMUM	3.1	Oct 18	2.4	Sep 15	.63	Aug 29 1966
INSTANTANEOUS PEAK FLOW			1390	May 4	(b)7510	Oct 15 1954
INSTANTANEOUS PEAK STAGE			4.09	May 4	8.45	Oct 15 1954
INSTANTANEOUS LOW FLOW			2.0	Sep 19	.40	(c)
ANNUAL RUNOFF (CFSM)	1.38		2.09		1.56	
ANNUAL RUNOFF (INCHES)	18.74		28.35		21.25	
10 PERCENT EXCEEDS	170		257		189	
50 PERCENT EXCEEDS	36		56		34	
90 PERCENT EXCEEDS	3.8		3.9		4.0	

e Estimated.
a Sept. 2, 3, 12, 1966.
b From rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow.
c Sept. 3, 4, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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

REVISED RECORDS.--WSP 1432: 1955. WDR MD-DE-96-1: 1996(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from 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. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,600 ft^3/s, Apr 20, gage height, 4.76 ft; minimum discharge, 30 ft^3/s, Nov 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	52	221	223	188	147	146	179	80	101	67	68
2	53	86	223	191	188	149	105	246	73	100	67	68
3	53	159	223	173	187	194	96	278	64	99	67	68
4	53	190	223	174	188	176	96	413	64	99	67	67
5	53	190	223	175	356	151	96	1700	64	99	67	67
6	53	123	223	207	585	151	96	1250	65	99	67	67
7	53	135	223	252	578	151	96	774	60	99	67	70
8	53	177	221	717	375	156	96	638	63	100	66	67
9	53	179	221	967	343	614	99	563	63	99	66	67
10	53	180	221	963	386	1090	103	459	63	99	67	67
11	53	180	221	868	381	926	105	349	68	99	66	67
12	53	180	221	740	381	790	105	282	77	98	66	67
13	53	180	221	605	498	522	207	235	86	78	66	66
14	52	135	221	530	643	302	235	197	86	69	67	66
15	52	110	219	334	682	300	201	333	116	69	66	66
16	52	110	218	228	576	242	177	185	130	68	66	66
17	52	139	173	228	394	173	166	102	233	68	43	66
18	52	126	147	226	895	155	161	92	229	68	34	66
19	52	101	145	226	1460	192	804	109	184	68	33	66
20	52	109	145	201	1640	254	2030	105	268	68	47	66
21	51	109	145	188	1630	542	1100	95	200	68	67	66
22	51	112	145	188	1580	686	552	86	177	68	68	66
23	51	143	122	188	1370	683	398	82	176	68	68	66
24	51	199	110	188	911	679	237	82	123	68	68	65
25	51	221	112	188	542	569	181	82	101	68	68	65
26	51	221	151	188	395	440	181	81	101	68	68	65
27	51	221	185	187	228	370	182	80	101	68	68	65
28	51	221	184	188	138	367	234	80	102	68	68	65
29	51	219	184	188	---	365	259	80	101	68	68	65
30	51	220	211	188	---	230	177	80	101	68	68	64
31	51	---	225	188	---	157	---	80	---	68	68	---
TOTAL	1615	4727	5927	10295	17718	11923	8721	9397	3419	2495	1969	1990
MEAN	52.1	158	191	332	633	385	291	303	114	80.5	63.5	66.3
MAX	54	221	225	967	1640	1090	2030	1700	268	101	68	70
MIN	51	52	110	173	138	147	96	80	60	68	33	64
(†)	7350	10970	10760	9520	7890	16550	20010	19520	19300	16430	13890	10380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

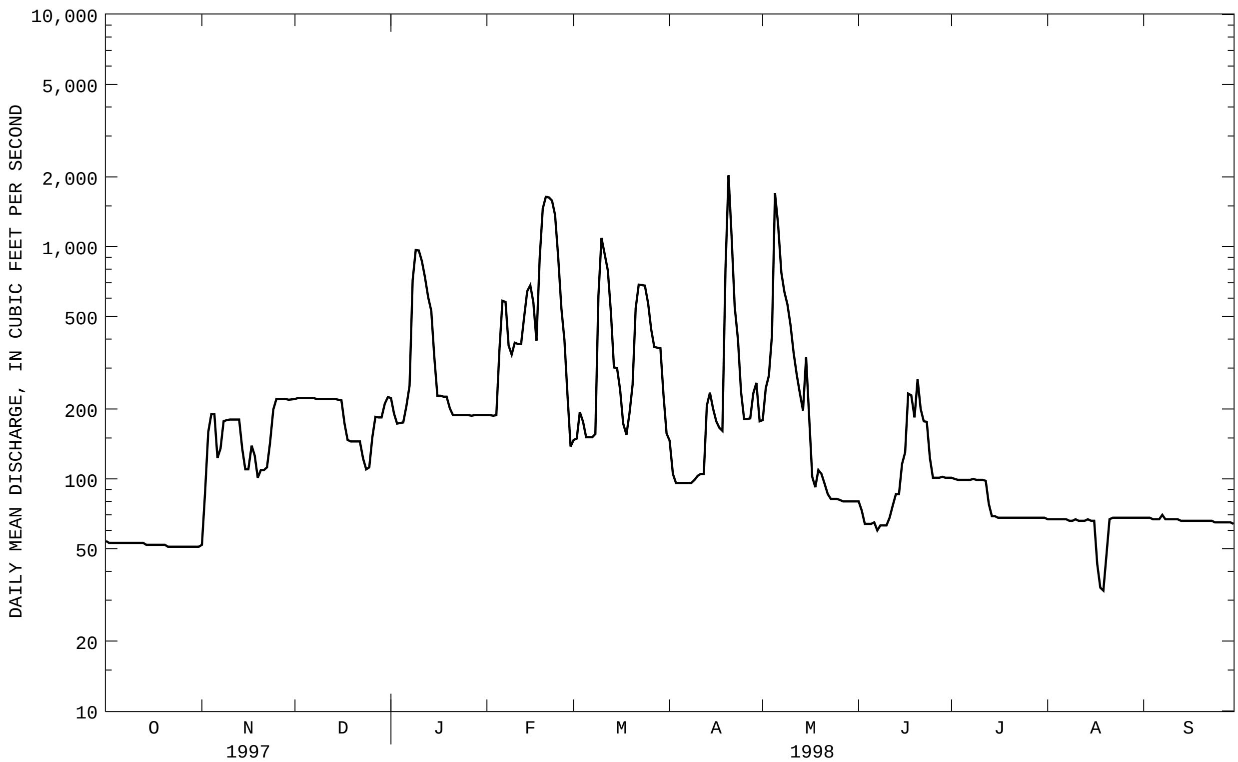
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	108	124	217	222	282	341	218	205	115	70.0	73.0	93.4
MAX	446	641	655	713	633	842	813	563	329	329	262	472
(WY)	1955	1986	1973	1952	1998	1994	1993	1996	1996	1990	1956	1996
MIN	8.14	8.88	12.7	23.7	38.7	105	11.9	18.0	15.8	23.4	6.37	11.7
(WY)	1952	1952	1954	1954	1954	1976	1954	1976	1977	1951	1951	1951

† Monthend contents, in acre-feet, in Savage River Reservoir (contents on Sept. 30, 1997, 9,950 acre-feet). Records furnished by U.S. Army Corps of Engineers.

01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	54115		80196			
ANNUAL MEAN	148		220		172	
ANNUAL MEAN≠	150		216		172	
HIGHEST ANNUAL MEAN					300	1996
LOWEST ANNUAL MEAN					69.7	1954
HIGHEST DAILY MEAN	1410	Jun 4	2030	Apr 20	4320	Sep 7 1996
LOWEST DAILY MEAN	51	(a)	33	Aug 19	.60	(b)
ANNUAL SEVEN-DAY MINIMUM	51	Oct 21	51	Aug 14	.64	Aug 4 1951
INSTANTANEOUS PEAK FLOW			2600	Apr 20	9190	Sep 7 1996
INSTANTANEOUS PEAK STAGE			4.76	Apr 20	10.09	Sep 7 1996
INSTANTANEOUS LOW FLOW			30	Nov 19	.35	Oct 27 1966
ANNUAL RUNOFF (CFSM)	1.40		2.07		1.62	
ANNUAL RUNOFF (INCHES)	18.99		28.14		22.03	
10 PERCENT EXCEEDS	234		542		422	
50 PERCENT EXCEEDS	101		123		85	
90 PERCENT EXCEEDS	53		58		23	

≠ Adjusted for change in reservoir contents since December 1950.
a Oct. 21-31.
b July 27-31, Aug. 5, 6, 9, 10, 1951.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 53.3.

DRAINAGE AREA.--406 mi^2, revised.

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 above sea level. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated prior to July 1981 by Stony River Reservoir 45 mi upstream from station, since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station. Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,720 ft^3/s, Apr 20, gage height, 8.75 ft; minimum discharge, 189 ft^3/s, Sep 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	338	1040	894	1010	1730	831	850	398	1140	332	293
2	330	359	1010	857	1000	1710	727	1090	396	882	331	306
3	348	430	1000	838	993	1650	564	1040	376	650	333	306
4	347	495	996	864	1010	1370	581	877	337	572	332	306
5	345	487	989	874	1380	1100	571	2640	336	572	331	306
6	345	430	981	916	2120	888	564	2400	334	598	313	306
7	345	817	979	1250	2080	882	561	1450	329	642	298	313
8	345	1050	974	2790	1780	1250	562	1660	333	655	299	310
9	310	975	972	3250	1590	2400	939	2040	336	579	309	306
10	280	949	907	3150	1610	3230	1510	1380	404	455	312	306
11	284	940	924	2660	1610	2990	1060	991	356	454	307	305
12	284	934	986	2150	1470	2610	803	941	383	452	302	301
13	284	929	981	2050	1360	2130	863	933	380	408	298	302
14	284	916	980	1980	1440	1430	909	760	374	366	306	303
15	284	891	977	1670	1450	1310	820	818	446	361	328	303
16	284	881	974	1430	1380	1030	706	825	784	362	309	303
17	286	898	920	1430	1450	765	713	732	897	363	299	303
18	285	885	807	1280	2440	873	919	497	757	361	267	303
19	284	850	726	1110	3520	1640	2360	444	978	361	261	301
20	283	715	726	928	4030	1720	7220	424	967	351	272	298
21	282	662	723	763	3960	2740	3450	429	732	332	303	309
22	281	897	726	761	3860	2980	1560	417	654	330	691	305
23	281	911	649	887	3690	2830	1190	413	648	334	747	300
24	288	970	582	1010	3180	2550	1000	417	570	331	291	298
25	608	996	624	1000	2730	2300	849	421	470	330	290	299
26	574	992	634	992	2250	1780	855	411	467	330	289	298
27	289	986	672	991	1880	1580	1110	408	466	330	288	297
28	284	976	664	1020	1660	1570	1110	405	478	331	287	285
29	284	974	757	956	---	1570	935	403	719	333	286	276
30	284	1020	892	978	---	1170	859	601	736	346	286	289
31	284	---	902	1030	---	841	---	601	---	347	286	---
TOTAL	9914	24553	26674	42759	57933	54619	36701	27718	15841	14258	10183	9036
MEAN	320	818	860	1379	2069	1762	1223	894	528	460	328	301
MAX	608	1050	1040	3250	4030	3230	7220	2640	978	1140	747	313
MIN	280	338	582	761	993	765	561	403	329	330	261	276
CFSM	.79	2.02	2.12	3.40	5.10	4.34	3.01	2.20	1.30	1.13	.81	.74
IN.	.91	2.25	2.44	3.92	5.31	5.00	3.36	2.54	1.45	1.31	.93	.83

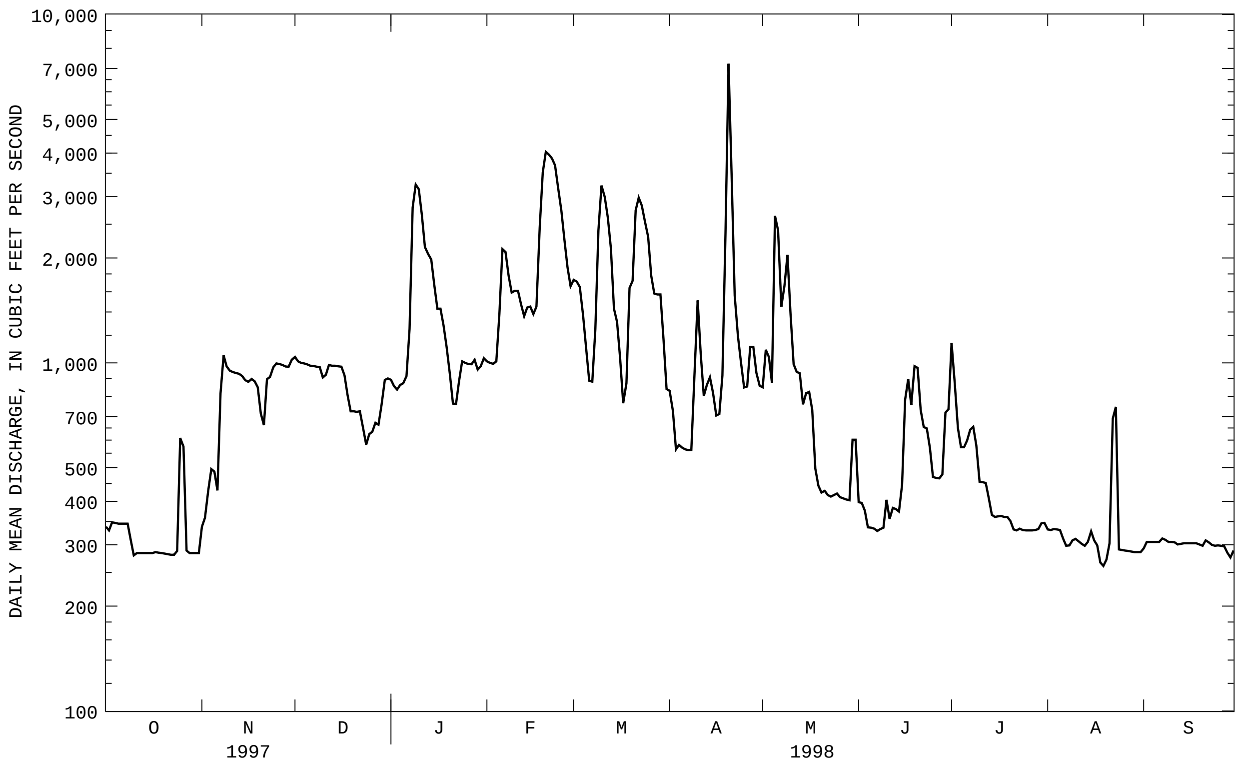
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1906, 1950 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	336	461	833	930	1104	1572	1201	911	537	344	321	285
MAX	1423	2806	2536	2368	2487	3414	3098	2484	1493	1294	1525	1998
(WY)	1955	1986	1973	1996	1994	1963	1993	1996	1981	1990	1996	1996
MIN	27.6	33.5	131	166	99.8	467	278	165	108	91.4	37.0	17.1
(WY)	1905	1905	1954	1977	1905	1988	1995	1982	1969	1953	1904	1904

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1899 - 1906 1950 - 1998	
ANNUAL TOTAL	248619		330189			
ANNUAL MEAN	681		905		737	
ANNUAL MEAN≠	685		913		738	
HIGHEST ANNUAL MEAN					1342	1996
LOWEST ANNUAL MEAN					412	1969
HIGHEST DAILY MEAN	3650	Jun 4	7220	Apr 20	18400	Aug 18 1955
LOWEST DAILY MEAN	266	Aug 27	261	Aug 19	6.0	Sep 4 1904
ANNUAL SEVEN-DAY MINIMUM	267	Aug 23	283	Oct 17	11	Aug 29 1904
INSTANTANEOUS PEAK FLOW			7220	Apr 20	(a)39400	Oct 15 1954
INSTANTANEOUS PEAK STAGE			8.75	Apr 20	17.15	Oct 15 1954
INSTANTANEOUS LOW FLOW			189	Sep 28	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.68		2.23		1.82	
ANNUAL RUNOFF (CFSM)≠	1.69		2.25		1.83	
ANNUAL RUNOFF (INCHES)	22.78		30.25		24.66	
ANNUAL RUNOFF (INCHES)≠	22.92		30.54		24.81	
10 PERCENT EXCEEDS	1140		1780		1660	
50 PERCENT EXCEEDS	507		726		414	
90 PERCENT EXCEEDS	273		298		110	

≠ Adjusted for change in reservoir contents since October 1949.
a From rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. WDR MD-DE-86-1: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 958.18 ft above sea level. 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.--No estimated daily discharges. Records good. Records include about 0.5 ft^3/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 upstream from station by Frostburg Water Co. for municipal supplies of Eckhart and Welsh 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). National Weather Service gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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 greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 17	2145	1,480	6.88	May 4	2300	*1,600	*7.06
Apr 19	1830	1,340	6.62				

Minimum discharge, 6.4 ft^3/s, Sep 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	91	179	47	134	558	110	141	57	58	31	8.2
2	11	116	108	56	120	510	100	182	49	38	20	8.1
3	9.9	62	83	64	111	436	91	152	42	29	16	8.0
4	9.5	53	74	126	122	352	106	262	38	25	14	7.8
5	9.1	42	63	141	233	283	95	767	35	25	12	7.5
6	8.6	33	56	134	273	234	84	618	34	22	11	7.5
7	8.4	370	52	164	222	216	77	390	31	20	11	8.4
8	8.4	409	49	804	197	615	78	522	30	41	10	10
9	8.5	217	46	536	183	932	248	370	30	34	11	8.8
10	8.2	134	49	347	174	745	531	286	48	24	22	8.5
11	8.0	87	79	259	183	493	319	245	41	19	44	8.1
12	7.9	63	58	206	258	355	234	270	57	17	19	7.7
13	8.0	54	54	176	263	279	185	212	53	16	13	7.2
14	8.0	85	51	144	222	236	162	173	50	16	11	7.0
15	8.2	90	48	130	193	194	139	150	42	15	13	6.7
16	8.0	62	46	133	184	161	125	196	62	16	23	6.6
17	8.3	54	45	128	571	140	113	229	59	16	20	6.6
18	9.8	48	43	112	1010	174	98	147	44	15	23	6.8
19	8.7	45	40	94	850	237	790	125	107	14	19	9.1
20	8.5	43	38	83	766	265	750	108	79	13	15	9.9
21	8.4	44	36	73	676	835	465	95	55	12	13	16
22	8.2	115	38	67	542	565	326	83	56	12	11	14
23	8.2	95	53	101	507	395	247	76	55	22	12	12
24	9.6	73	63	128	459	293	195	75	44	19	11	9.3
25	18	60	135	107	391	229	160	80	36	14	11	9.6
26	18	57	104	91	353	193	161	65	31	13	10	9.3
27	22	55	93	86	331	169	244	59	29	13	9.6	8.5
28	15	51	81	161	421	152	150	56	43	12	9.2	8.2
29	12	51	70	173	---	137	135	51	41	12	9.1	7.8
30	11	121	70	191	---	124	132	48	43	16	9.1	10
31	10	---	58	158	---	114	---	45	---	70	8.5	---
TOTAL	318.4	2880	2062	5220	9949	10621	6650	6278	1421	688	471.5	263.2
MEAN	10.3	96.0	66.5	168	355	343	222	203	47.4	22.2	15.2	8.77
MAX	22	409	179	804	1010	932	790	767	107	70	44	16
MIN	7.9	33	36	47	111	114	77	45	29	12	8.5	6.6
CFSM	.14	1.33	.92	2.33	4.91	4.73	3.06	2.80	.65	.31	.21	.12
IN.	.16	1.48	1.06	2.68	5.11	5.46	3.42	3.23	.73	.35	.24	.14

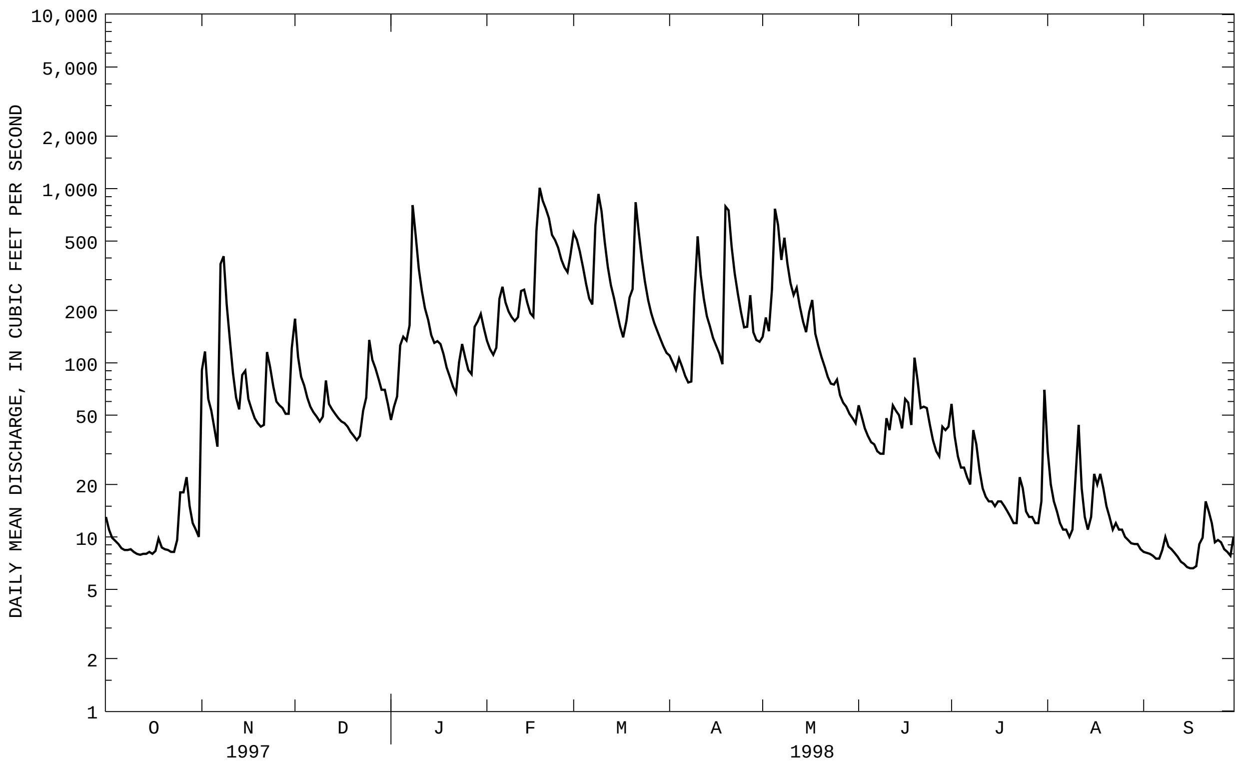
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1906, 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.7	43.7	75.7	95.0	128	209	173	122	58.7	31.0	22.9	22.8
MAX	270	355	314	371	355	682	420	294	171	185	120	277
(WY)	1943	1986	1973	1937	1998	1936	1993	1989	1995	1989	1955	1996
MIN	1.78	3.40	3.42	10.9	8.77	43.2	40.0	27.7	12.5	5.19	3.97	2.65
(WY)	1931	1931	1944	1940	1954	1990	1954	1934	1969	1930	1930	1932

01599000 GEORGES CREEK AT FRANKLIN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1905 - 1906 1930 - 1998	
ANNUAL TOTAL	26888.4		46822.1			
ANNUAL MEAN	73.7		128		83.5	
HIGHEST ANNUAL MEAN					136	1996
LOWEST ANNUAL MEAN					30.7	1969
HIGHEST DAILY MEAN	507	Jun 4	1010	Feb 18	4130	Mar 17 1936
LOWEST DAILY MEAN	7.5	Sep 27	6.6	(a)	1.6	(b)
ANNUAL SEVEN-DAY MINIMUM	8.0	Sep 21	6.9	Sep 12	1.6	Sep 29 1930
INSTANTANEOUS PEAK FLOW			1600	May 4	(c)8500	Mar 17 1936
INSTANTANEOUS PEAK STAGE			7.06	May 4	(d)9.60	Mar 17 1936
INSTANTANEOUS LOW FLOW			6.4	(a)	1.6	Sep 29 1930
ANNUAL RUNOFF (CFSM)	1.02		1.77		1.15	(f)
ANNUAL RUNOFF (INCHES)	13.82		24.06		15.67	
10 PERCENT EXCEEDS	204		349		201	
50 PERCENT EXCEEDS	48		58		38	
90 PERCENT EXCEEDS	8.9		8.7		7.2	

a Sept. 16, 17.
b Sept. 29, 30, 1930.
c From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow.
d At site then in use.
f Sept. 29 to Oct. 13, 1930.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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, 0.15 mi downstream from Braddock Run, 2.0 mi upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi^2.

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 above sea level. 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.--No estimated daily discharges. 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, 1967-82, and 1984 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. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1045	*6,140	*7.94	Apr 19	2130	5,420	7.60
Jan 8	2015	5,020	7.40	May 6	0015	4,400	7.07
Mar 21	1030	3,570	6.58				

Minimum discharge, 21 ft^3/s, Sep 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	183	1170	196	535	1520	356	730	254	149	66	28
2	62	618	876	247	488	1470	337	747	221	122	50	27
3	51	429	629	272	453	1180	294	628	305	105	44	25
4	46	257	509	384	462	928	309	680	194	97	40	26
5	41	176	413	463	999	749	289	1570	162	96	38	25
6	38	135	335	480	1170	611	260	2570	152	90	38	23
7	36	2450	282	554	968	533	247	1580	137	84	36	24
8	34	5270	244	3440	814	1250	252	2310	128	282	35	26
9	31	2140	218	2910	716	2670	862	1970	123	187	35	28
10	30	1160	227	1500	654	2300	2810	1330	145	133	53	27
11	29	742	315	1000	669	1380	1730	1040	141	107	66	27
12	29	517	278	751	1020	976	1090	1210	200	92	50	25
13	29	382	269	611	1200	765	805	1130	202	84	45	24
14	29	480	265	487	1010	663	661	967	179	77	42	23
15	28	505	247	417	794	551	571	755	180	74	84	22
16	27	409	230	405	687	459	478	610	238	74	72	21
17	27	339	217	383	1280	400	420	544	223	75	75	21
18	28	287	202	351	3180	465	356	408	207	64	97	21
19	28	259	187	306	2740	605	2610	339	420	58	61	23
20	28	244	176	283	2230	714	3590	291	388	54	48	22
21	27	237	165	258	1830	2980	1690	258	243	51	43	28
22	26	387	163	250	1390	2160	1120	231	193	49	39	41
23	26	458	201	372	1220	1320	848	208	339	59	37	33
24	29	448	224	561	1480	979	673	193	394	54	36	34
25	45	376	360	499	1170	773	548	190	242	50	36	33
26	63	332	362	460	1040	657	510	173	190	47	36	31
27	65	301	385	441	966	575	741	157	166	45	35	29
28	59	279	368	553	1070	512	586	148	163	43	33	28
29	47	311	329	585	---	456	549	139	154	41	31	26
30	40	497	321	699	---	406	609	131	150	59	30	28
31	37	---	279	619	---	367	---	130	---	100	29	---
TOTAL	1195	20608	10446	20737	32235	31374	26201	23367	6433	2702	1460	799
MEAN	38.5	687	337	669	1151	1012	873	754	214	87.2	47.1	26.6
MAX	80	5270	1170	3440	3180	2980	3590	2570	420	282	97	41
MIN	26	135	163	196	453	367	247	130	123	41	29	21
CFSM	.16	2.78	1.36	2.71	4.66	4.10	3.54	3.05	.87	.35	.19	.11
IN.	.18	3.10	1.57	3.12	4.85	4.73	3.95	3.52	.97	.41	.22	.12

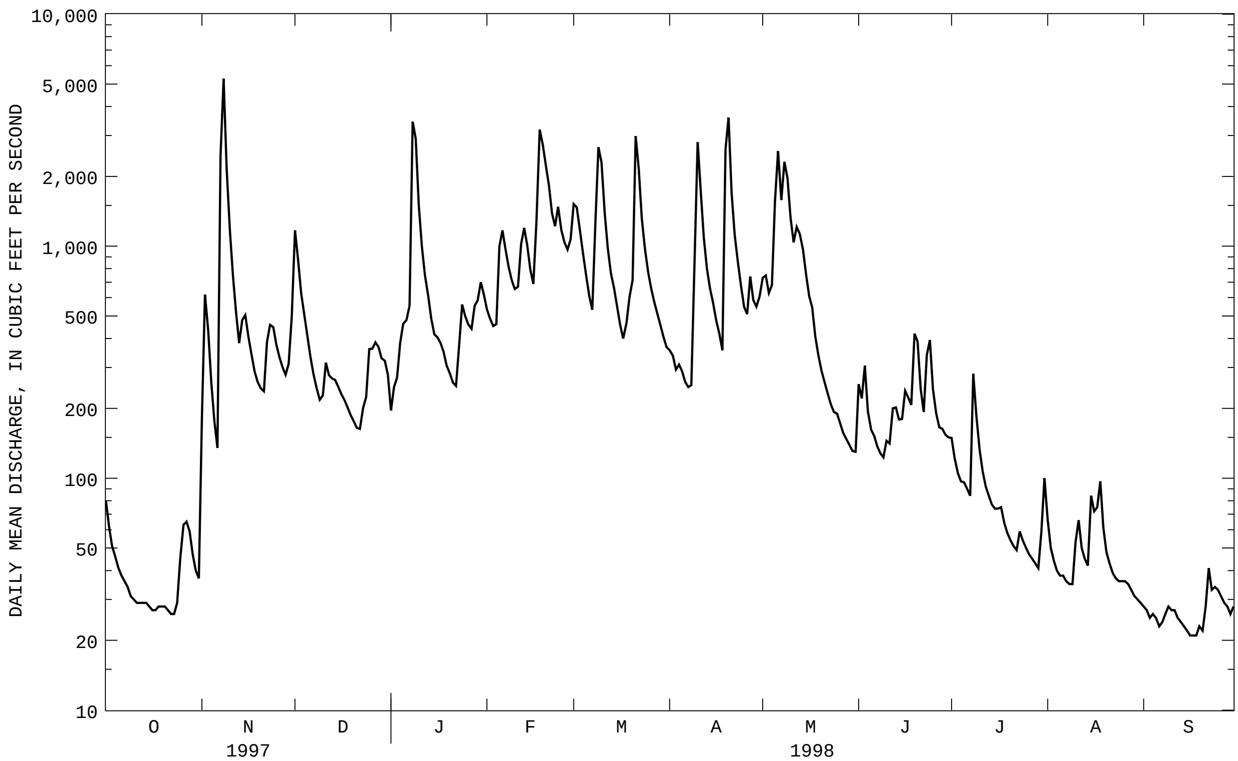
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1906, 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	138	208	334	399	521	819	678	462	233	115	90.0	86.2
MAX	1130	1520	1113	1481	1255	2410	1910	1109	967	641	674	1083
(WY)	1943	1986	1973	1996	1971	1936	1993	1989	1972	1989	1984	1996
MIN	11.9	15.5	18.4	54.2	65.8	182	184	101	51.1	24.3	16.6	12.1
(WY)	1931	1931	1944	1940	1954	1990	1968	1934	1965	1965	1930	1932

01601500 WILLS CREEK NEAR CUMBERLAND, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1905 - 1996 1930 - 1998	
ANNUAL TOTAL	116164		177557			
ANNUAL MEAN	318		486		340	
HIGHEST ANNUAL MEAN					599	1996
LOWEST ANNUAL MEAN					122	1954
HIGHEST DAILY MEAN	5270	Nov 8	5270	Nov 8	19200	Jan 19 1996
LOWEST DAILY MEAN	22	Sep 26	21	(a)	10	(b)
ANNUAL SEVEN-DAY MINIMUM	25	Sep 21	22	Sep 14	10	Oct 8 1930
INSTANTANEOUS PEAK FLOW			6140	Nov 8	(c)45900	Jan 19 1996
INSTANTANEOUS PEAK STAGE			7.94	Nov 8	(d)23.11	Jan 19 1996
INSTANTANEOUS LOW FLOW			21	Sep 16	9.0	Oct 14 1930
ANNUAL RUNOFF (CFSM)	1.29		1.97		1.38	
ANNUAL RUNOFF (INCHES)	17.50		26.74		18.69	
10 PERCENT EXCEEDS	793		1190		804	
50 PERCENT EXCEEDS	169		258		150	
90 PERCENT EXCEEDS	31		29		30	

a Sept. 16-18.
b Oct. 8-10, 1930.
c From rating curve extended above 11,000 ft^3/s on basis of slope-area measurement at gage heights of 13.45 and 20.2 ft.
d From floodmarks at present site.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 19.6.

DRAINAGE AREA.--877 mi^2, revised.

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 the National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above sea level. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi upstream from station. Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi upstream from station (see station 01597500). Flow regulated by Jennings Randolph Lake, 43 mi upstream from station 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 downstream from station. Diversion to Chesapeake and Ohio Canal prior to 1935. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft, June 1, 1889, discharge, about 89,000 ft^3/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,800 ft^3/s, Apr 20, gage height, 12.91 ft; minimum discharge, 296 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	447	597	2890	1330	2240	4710	1670	2240	1100	1530	489	337
2	428	1510	2350	1410	2090	4500	1590	2540	827	1540	430	346
3	404	1140	2000	1480	1990	4030	1300	2470	975	1100	415	353
4	418	895	1850	1830	2040	3220	1300	2190	696	827	409	352
5	412	755	1730	1930	3240	2710	1320	6020	614	820	403	348
6	406	686	1600	1900	4620	2170	1200	7340	602	799	397	348
7	403	3480	1510	2060	4250	2020	1150	4670	577	872	367	348
8	398	7150	1440	7590	3740	3400	1150	5300	557	1270	361	391
9	396	4050	1390	8430	3060	7160	2140	5890	552	1120	372	360
10	347	2650	1420	6010	3000	7760	6340	4060	771	765	442	353
11	329	2060	1510	4930	3020	6150	4280	3330	674	659	501	351
12	335	1770	1570	3630	3530	4730	2880	3250	773	636	410	347
13	336	1580	1520	3320	3640	4190	2330	3220	804	618	386	341
14	334	1820	1500	2960	3270	2840	2220	2630	743	520	379	342
15	332	1840	1470	2720	2910	2460	2030	2310	704	494	432	342
16	328	1660	1430	2210	2670	2180	1770	2210	1150	492	490	339
17	326	1510	1390	2190	3370	1740	1640	2270	1650	499	461	342
18	335	1450	1270	2120	8240	1780	1620	1730	1370	482	482	339
19	333	1340	1090	1820	8150	2750	5650	1290	1800	471	394	341
20	329	1300	1060	1740	8100	3100	13400	1170	2040	465	361	349
21	325	1030	1030	1390	7470	8620	8410	1030	1510	438	363	376
22	324	1550	1030	1340	6580	7570	4260	966	1160	421	415	417
23	324	1730	1120	1650	6370	5790	3130	896	1310	440	1210	369
24	335	1720	1010	2200	7110	4680	2650	845	1390	450	586	354
25	395	1680	1410	2080	5800	4160	2150	912	947	423	362	354
26	956	1610	1380	1970	4810	3310	2020	828	809	415	358	352
27	490	1550	1450	1930	4320	2760	2570	768	765	409	349	346
28	396	1480	1420	2420	3840	2610	2560	740	812	407	348	345
29	372	1530	1330	2570	---	2500	2150	714	868	408	345	330
30	351	1760	1530	2700	---	2330	2190	769	1280	440	344	344
31	347	---	1500	2530	---	1700	---	961	---	679	339	---
TOTAL	11991	54883	46200	84390	123470	119630	89070	75559	29830	20909	13400	10556
MEAN	387	1829	1490	2722	4410	3859	2969	2437	994	674	432	352
MAX	956	7150	2890	8430	8240	8620	13400	7340	2040	1540	1210	417
MIN	324	597	1010	1330	1990	1700	1150	714	552	407	339	330
CFSM	.44	2.09	1.70	3.10	5.03	4.40	3.39	2.78	1.13	.77	.49	.40
IN.	.51	2.33	1.96	3.58	5.24	5.07	3.78	3.21	1.27	.89	.57	.45

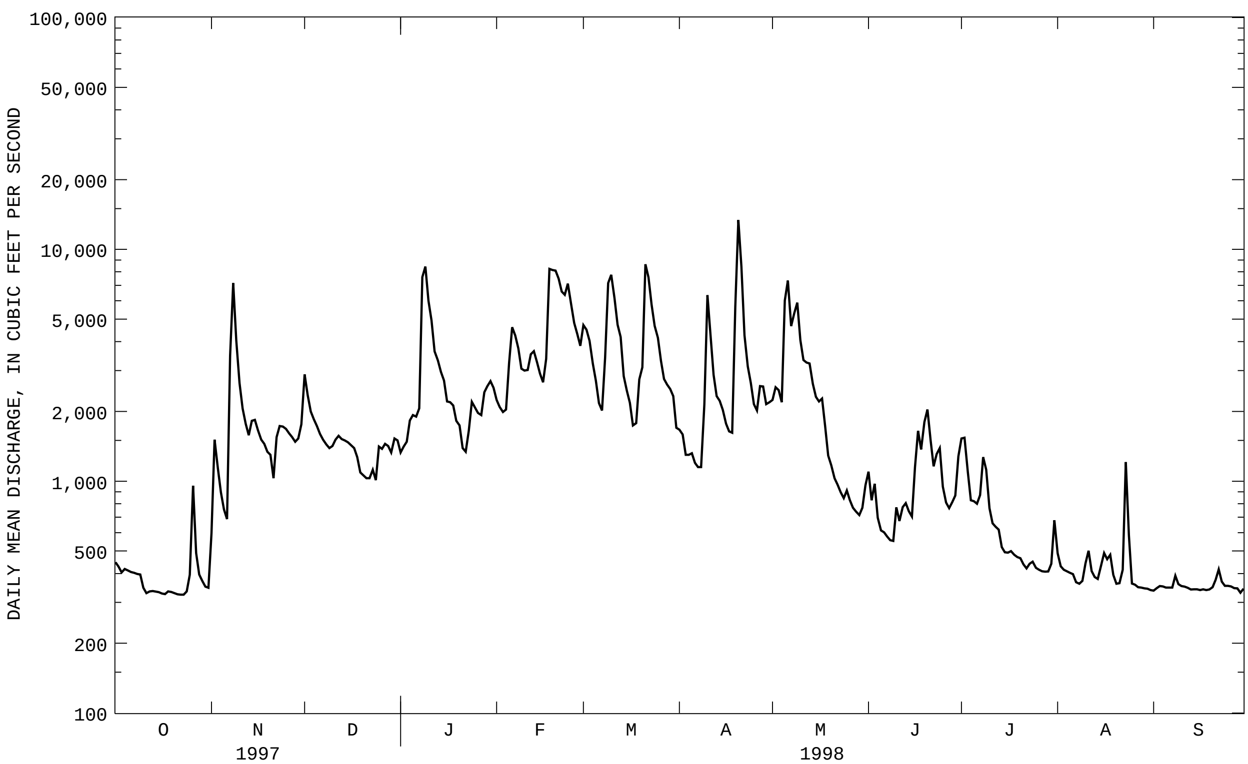
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	602	796	1324	1604	2030	2930	2350	1749	910	531	463	443
MAX	3791	5350	4652	5115	4410	8763	5866	4070	2375	2270	2152	4117
(WY)	1943	1986	1973	1937	1998	1936	1993	1996	1981	1989	1996	1996
MIN	28.9	44.8	134	269	393	789	705	374	209	89.7	57.7	40.3
(WY)	1931	1931	1931	1940	1934	1990	1995	1934	1965	1930	1930	1932

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1929 - 1998	
ANNUAL TOTAL	460515		679888			
ANNUAL MEAN	1262		1863		1309	
ANNUAL MEAN≠	1266		1871		1309	
HIGHEST ANNUAL MEAN					2390	1996
LOWEST ANNUAL MEAN					632	1969
HIGHEST DAILY MEAN	8080	Jun 4	13400	Apr 20	47400	Mar 18 1936
LOWEST DAILY MEAN	306	Sep 5	324	(a)	13	(b)
ANNUAL SEVEN-DAY MINIMUM	319	Aug 30	328	Oct 17	16	Sep 20 1932
INSTANTANEOUS PEAK FLOW			14800	Apr 20	(c)88200	Mar 17 1936
INSTANTANEOUS PEAK STAGE			12.91	Apr 20	29.10	Mar 17 1936
INSTANTANEOUS LOW FLOW			296	Sep 30	12	Sep 22 1932
ANNUAL RUNOFF (CFSM)	1.44		2.12		1.49	
ANNUAL RUNOFF (CFSM)≠	1.44		2.13		1.49	
ANNUAL RUNOFF (INCHES)	19.53		28.84		20.28	
ANNUAL RUNOFF (INCHES)≠	19.60		28.97		20.32	
10 PERCENT EXCEEDS	2680		4270		3030	
50 PERCENT EXCEEDS	912		1370		689	
90 PERCENT EXCEEDS	341		348		170	

≠ Adjusted for change in reservoir contents since October 1981.
a Oct. 22, 23.
b Sept. 21-24, 1932.
c From rating curve extended above 33,000 ft^3/s on basis of slope-area measurement of peak flow.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", Mineral County, Hydrologic Unit 02070002, on right bank 100 ft downstream from Hazel Run, 1.0 mi downstream from Cabin Run, 4.0 mi northeast of Headsville, 8.0 mi east of Keyser, and at mile 13.0.

DRAINAGE AREA.--211 mi^2.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40. WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 624.90 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 11, 1946, nonrecording gage on bridge 1.0 mi upstream at datum 6.14 ft higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges (doubtful gage heights, ice effect), which are poor. The flow from 115 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,887 acre-ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,500 ft^3/s, Mar 21, gage height, 9.59 ft; minimum discharge, 4.8 ft^3/s, Sep 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	34	118	e65	640	777	253	363	53	63	8.9	5.8
2	35	90	114	101	557	706	232	407	50	55	8.3	5.6
3	30	146	100	322	513	628	214	367	50	44	7.6	5.3
4	26	120	91	535	504	556	221	492	44	36	7.0	5.4
5	24	85	83	450	781	513	227	766	40	32	6.4	5.3
6	22	62	73	381	e1050	450	216	866	38	28	6.1	5.1
7	21	579	64	367	e910	398	209	569	37	25	5.8	5.0
8	20	917	57	1390	e760	646	207	602	35	43	5.4	5.9
9	18	570	52	1380	e690	1130	564	536	33	44	5.6	5.6
10	17	434	55	836	e680	1080	1120	475	69	32	8.4	5.8
11	16	351	68	625	e710	774	728	431	61	25	32	5.9
12	15	277	83	540	1010	618	583	438	93	21	27	5.6
13	14	203	87	493	1030	546	508	411	136	18	19	5.2
14	14	196	83	406	765	501	438	377	135	16	19	5.0
15	14	211	75	365	632	435	372	347	110	15	57	5.0
16	14	173	68	374	562	374	321	336	159	15	41	5.0
17	14	130	62	383	759	329	266	323	160	14	104	5.0
18	14	104	57	363	1320	348	207	297	126	13	104	5.3
19	15	86	53	317	1070	501	1250	235	166	12	54	5.8
20	15	74	50	263	852	595	2010	180	157	11	33	8.3
21	14	66	47	229	720	2830	991	151	103	10	21	11
22	14	96	45	203	613	1560	745	128	77	9.4	16	14
23	14	119	47	352	640	957	639	108	66	8.9	14	11
24	14	109	47	639	1340	739	572	106	88	9.1	11	10
25	17	94	68	586	1380	637	523	130	59	8.6	9.6	10
26	21	84	94	504	1240	567	489	114	46	8.2	8.6	11
27	30	75	e90	442	880	514	507	93	38	7.9	7.8	10
28	33	66	e80	702	752	448	431	78	44	7.6	7.3	10
29	31	60	e80	920	---	387	385	68	54	7.2	7.0	11
30	29	68	e75	1050	---	336	374	60	53	7.0	6.5	13
31	28	---	e70	808	---	287	---	55	---	9.5	6.1	---
TOTAL	643	5679	2236	16391	23360	21167	15802	9909	2380	655.4	674.4	221.9
MEAN	20.7	189	72.1	529	834	683	527	320	79.3	21.1	21.8	7.40
MAX	40	917	118	1390	1380	2830	2010	866	166	63	104	14
MIN	14	34	45	65	504	287	207	55	33	7.0	5.4	5.0
CFSM	.10	.90	.34	2.51	3.95	3.24	2.50	1.51	.38	.10	.10	.04
IN.	.11	1.00	.39	2.89	4.12	3.73	2.79	1.75	.42	.12	.12	.04

e Estimated

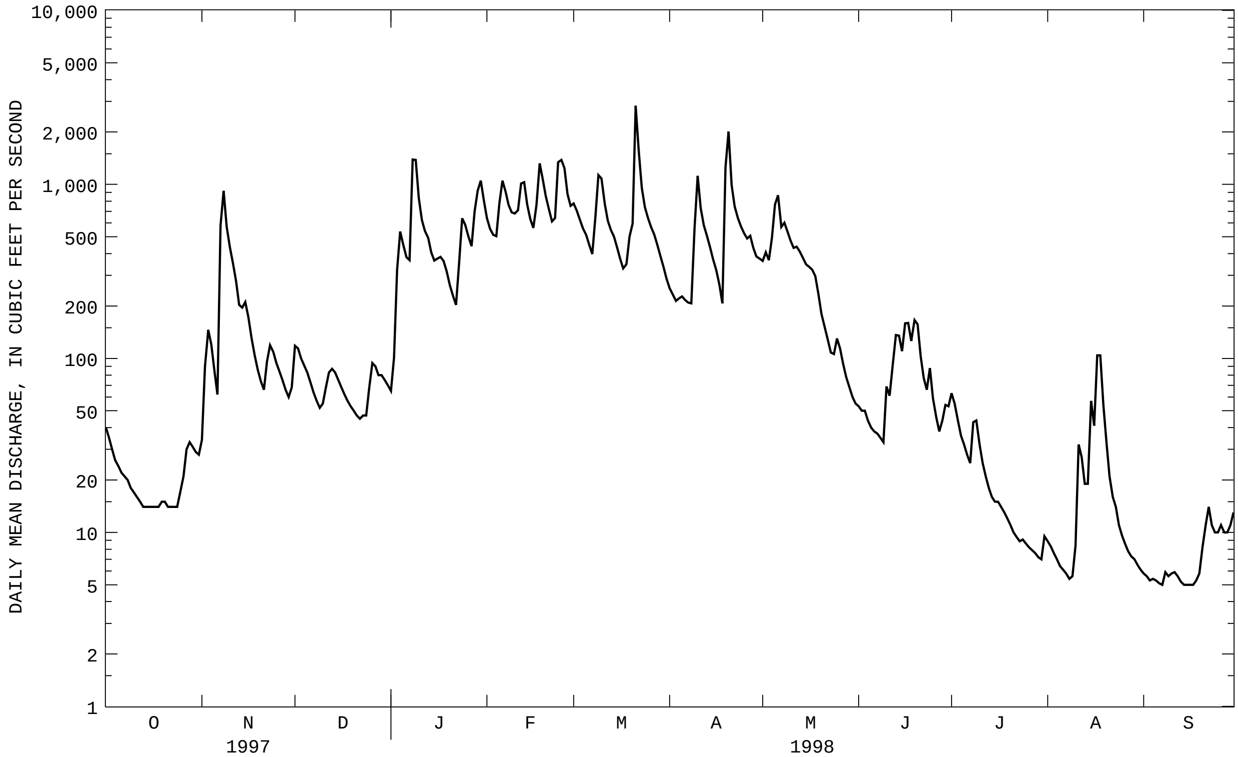
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

MEAN	74.7	85.7	166	215	316	436	317	227	108	60.0	58.2	49.4
MAX	745	901	825	908	893	1346	1085	763	379	415	586	767
(WY)	1943	1986	1973	1996	1994	1963	1993	1988	1940	1989	1996	1996
MIN	2.24	4.39	9.70	22.0	30.8	58.3	54.1	21.2	13.4	4.45	5.20	2.80
(WY)	1992	1992	1944	1981	1954	1990	1969	1969	1969	1966	1966	1991

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	54572.7		99118.7			
ANNUAL MEAN	150		272		176	
HIGHEST ANNUAL MEAN					387	1996
LOWEST ANNUAL MEAN					35.1	1969
HIGHEST DAILY MEAN	1280	Mar 4	2830	Mar 21	11100	Oct 15 1942
LOWEST DAILY MEAN	9.7	Sep 8	5.0	(a)	1.2	Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	11	Sep 3	5.2	Sep 12	1.7	Sep 5 1965
INSTANTANEOUS PEAK FLOW			3500	Mar 21	(b)16000	Aug 19 1955
INSTANTANEOUS PEAK STAGE			9.59	Mar 21	12.20	Aug 19 1955
INSTANTANEOUS LOW FLOW			4.8	(c)	1.1	(d)
ANNUAL RUNOFF (CFSM)	.71		1.29		.83	
ANNUAL RUNOFF (INCHES)	9.62		17.47		11.31	
10 PERCENT EXCEEDS	437		748		450	
50 PERCENT EXCEEDS	74		90		61	
90 PERCENT EXCEEDS	14		8.3		10	

a Sept. 7, 14-17.
b From rating curve extended above 4,900 ft^3/s on basis of contracted-opening measurement of peak flow.
c Sept. 15, 16.
d Aug. 18, 19, 1998.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION.--Lat 38°59'28", long 79°10'34", Grant County, Hydrologic Unit 02070001, on right bank 1.1 mi downstream from North Fork South Branch Potomac River, 2.6 mi west of Petersburg, and at river mile 74.7.

DRAINAGE AREA.--676 mi^2.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38. WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 968.34 ft above sea level. Prior to Dec. 4, 1928, nonrecording gage and June 1928 to Nov. 5, 1985, water-stage recorder at site 1,125 ft downstream at datum 6.34 ft lower. Nov. 5, 1985, to June 22, 1994, and October 23, 1996 to current year, water-stage recorder at present site and datum. June 22, 1994, to October 23, 1996, water-stage recorder at site 325 ft downstream at datum 2.34 ft lower.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are poor. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1877 reached a stage of 21.1 ft, from floodmarks at previous site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 8	1300	*17,300	*9.72	Mar 21	1200	15,500	9.30
Feb 18	0500	11,200	8.12	Apr 20	0400	7,130	6.85
Mar 1	0500	6,300	6.54	Jun 29	0600	6,850	6.75
Mar 9	1800	12,100	8.38				

Minimum discharge, 85 ft^3/s, Sep 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	241	173	505	e370	1340	5800	1030	813	300	1010	121	95
2	196	455	478	e410	e1070	4490	1110	1180	268	681	116	93
3	177	578	426	646	e1010	3500	933	1230	247	497	110	92
4	162	422	403	1180	1370	2680	1380	1500	232	405	105	90
5	152	358	402	1980	1420	2080	1940	3080	226	385	101	90
6	143	305	379	2560	1570	1640	1590	2760	236	330	99	89
7	137	1350	349	2750	1480	1380	1360	2090	231	284	98	88
8	134	2520	330	10400	1310	2610	1180	2140	215	264	95	103
9	130	2030	316	8040	e1130	9130	1340	2240	208	274	98	217
10	127	1360	324	4450	e1140	7350	2230	1860	254	247	122	156
11	122	963	859	2940	1790	4160	2180	1660	281	225	250	128
12	119	731	860	2070	3140	2820	1840	2070	260	199	200	115
13	118	581	701	1580	3880	2090	1530	2030	260	186	150	107
14	118	541	593	1210	3060	1680	1300	1680	339	197	135	102
15	118	737	506	1050	2280	1340	1130	1370	442	227	134	98
16	118	709	440	1290	1830	1070	1040	1130	1030	195	173	95
17	118	601	406	1360	2820	909	943	982	807	190	167	94
18	119	516	376	1260	9490	1130	840	814	655	183	186	93
19	119	458	346	1110	7050	4510	2040	690	1410	167	179	97
20	118	421	326	999	5840	5610	6020	602	2350	156	153	101
21	117	400	310	854	5310	13600	3880	545	1080	148	135	107
22	116	577	309	758	4090	7700	2760	501	742	141	124	111
23	114	883	323	1240	3720	4690	2120	444	591	144	117	112
24	117	784	353	2920	3290	3330	1780	438	462	158	112	106
25	134	654	494	2550	2810	2500	1360	452	383	151	108	101
26	159	567	615	1920	2790	1990	1120	397	331	136	106	99
27	193	536	613	1550	2920	1860	1110	362	319	130	103	97
28	203	477	584	1570	4320	1840	1010	355	632	125	101	93
29	180	435	e530	1500	---	1600	887	328	3830	122	100	92
30	160	438	e460	1880	---	1320	827	305	1730	119	98	92
31	150	---	e410	1660	---	1100	---	307	---	123	97	---
TOTAL	4429	21560	14326	66057	83270	107509	49810	36355	20351	7799	3993	3153
MEAN	143	719	462	2131	2974	3468	1660	1173	678	252	129	105
MAX	241	2520	860	10400	9490	13600	6020	3080	3830	1010	250	217
MIN	114	173	309	370	1010	909	827	305	208	119	95	88
CFSM	.21	1.06	.68	3.15	4.40	5.13	2.46	1.73	1.00	.37	.19	.16
IN.	.24	1.19	.79	3.64	4.58	5.92	2.74	2.00	1.12	.43	.22	.17

e Estimated

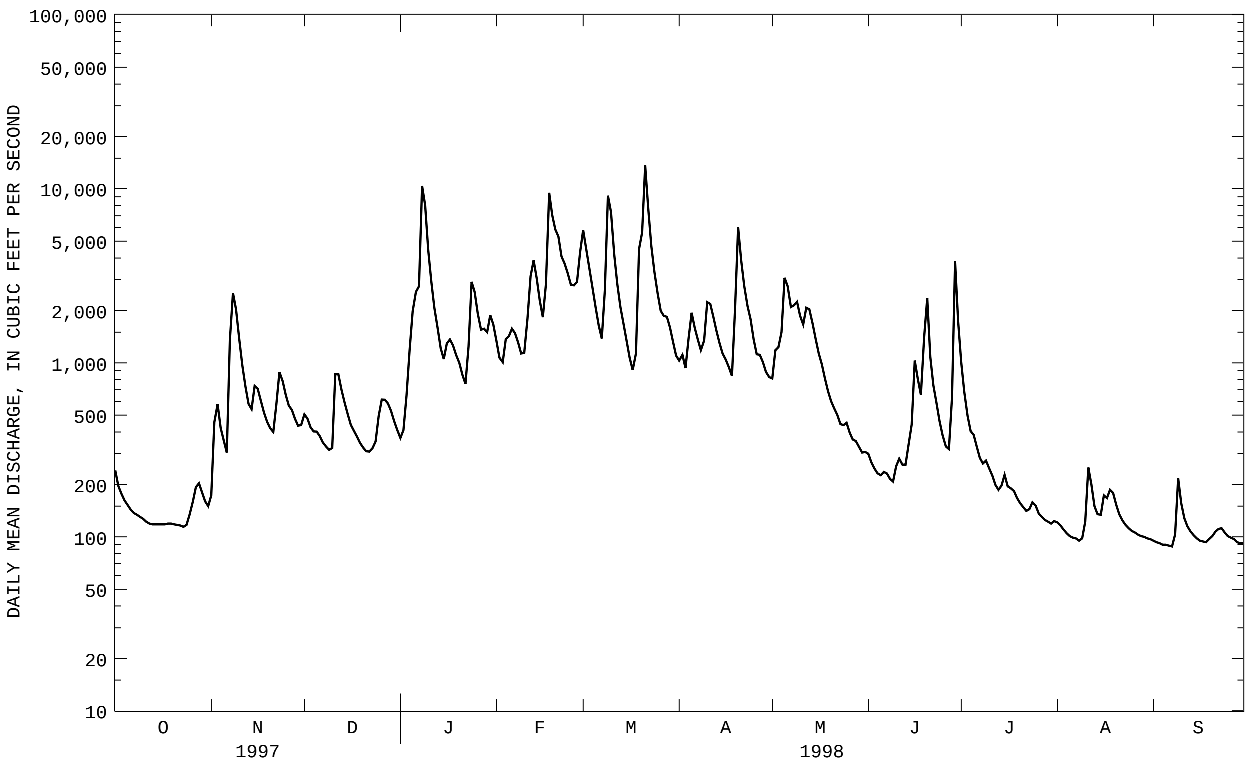
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	327	495	716	947	1176	1658	1270	1016	540	295	291	255
MAX	1863	5569	2511	3386	3519	4090	2888	3546	2175	1479	1601	2968
(WY)	1977	1986	1973	1996	1994	1936	1993	1996	1949	1949	1996	1996
MIN	49.3	62.7	95.1	143	212	543	399	233	128	70.5	54.1	52.3
(WY)	1931	1931	1966	1981	1934	1990	1986	1930	1991	1930	1930	1930

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1998	
ANNUAL TOTAL	261024		418612			
ANNUAL MEAN	715		1147		747	
HIGHEST ANNUAL MEAN					1619	1996
LOWEST ANNUAL MEAN					365	1969
HIGHEST DAILY MEAN	7650	Mar 4	13600	Mar 21	77000	Nov 5 1985
LOWEST DAILY MEAN	93	Sep 27	88	Sep 7	43	(a)
ANNUAL SEVEN-DAY MINIMUM	98	Sep 21	91	Sep 1	44	Sep 6 1966
INSTANTANEOUS PEAK FLOW			17300	Jan 8	(b)130000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			9.72	Jan 8	(c)25.40	Nov 5 1985
INSTANTANEOUS LOW FLOW			85	Sep 7	42	(d)
ANNUAL RUNOFF (CFSM)	1.06		1.70		1.10	
ANNUAL RUNOFF (INCHES)	14.36		23.04		15.01	
10 PERCENT EXCEEDS	1480		2800		1680	
50 PERCENT EXCEEDS	454		497		380	
90 PERCENT EXCEEDS	119		108		96	

a Sept. 27-29, 1959, Sept. 11, 12, 1966.
b From rating curve extended above 63,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks at former site at gage datum 962.00 ft.
d Sept. 28, 29, 1959, Sept. 11, 12, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

LOCATION.--Lat 39°00'44", long 78°57'23", Hardy County, Hydrologic Unit 02070001, on right bank 0.2 mi downstream from Stony Creek, 3.5 mi south of Moorefield, and at river mile 5.3.

DRAINAGE AREA.--277 mi^2.

PERIOD OF RECORD.--June 1928 to September 1935, August 1938 to current year.

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302: l93l(M), l935(M). WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 861.51 ft above sea level (U.S. Army Corps of Engineers datum). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi upstream at datum about 31 ft higher.

REMARKS.--Records fair except those below 100 ft^3/s and those for periods of estimated daily discharges (doubtful gage-height record, ice effect), which are poor. The flow from 92.7 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,500 ft^3/s, Feb 17, gage height, 8.05 ft; minimum discharge, Unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e44	e260	99	e82	682	2370	383	317	106	156	37	29
2	e38	e200	91	97	624	1590	431	436	101	127	33	28
3	e28	e140	85	187	602	1230	425	529	94	111	30	25
4	e24	133	80	407	821	945	564	573	87	106	28	24
5	e21	107	77	660	856	731	1250	936	85	101	27	22
6	e18	91	73	674	879	588	977	1400	85	93	26	21
7	e16	831	70	573	e800	498	738	1020	83	86	23	17
8	e17	1960	67	2320	e690	550	603	1210	79	82	24	32
9	e18	1480	64	3260	e650	1860	593	1850	76	80	26	38
10	e18	813	65	1860	e700	2170	1040	1280	80	77	40	69
11	e15	512	69	1100	989	1420	1190	870	82	70	59	64
12	e12	347	71	677	1680	919	955	683	81	67	50	54
13	e10	252	70	493	2140	691	749	607	81	63	48	48
14	e9.0	213	69	380	1530	566	622	530	84	61	47	43
15	e11	240	68	319	1060	483	540	448	88	62	54	41
16	e11	294	66	367	836	411	478	375	134	61	65	39
17	e10	260	66	495	1600	357	429	353	122	60	68	36
18	e10	212	65	541	5800	386	391	389	106	56	68	36
19	e10	178	63	472	3890	1790	450	305	102	53	89	37
20	e9.0	155	62	408	3060	1940	2310	251	141	52	72	46
21	e8.0	140	61	334	2730	5320	1580	217	155	49	67	46
22	e9.0	146	61	284	2070	3730	1020	189	129	46	63	48
23	e20	159	62	449	1820	2210	775	169	115	49	56	55
24	e25	155	62	1230	1590	1400	643	159	108	48	50	51
25	e30	141	68	1170	1490	897	535	164	99	42	46	46
26	e29	132	75	867	1540	697	456	147	92	43	42	46
27	e26	124	87	672	1490	598	433	134	84	40	39	43
28	e17	114	e91	625	1930	546	387	129	85	41	37	39
29	e15	107	e87	541	---	509	344	120	172	39	35	38
30	e50	102	e85	681	---	459	322	113	209	37	33	37
31	e240	---	e84	747	---	410	---	108	---	40	31	---
TOTAL	818.0	9998	2263	22972	44549	38271	21613	16011	3145	2098	1413	1198
MEAN	26.4	333	73.0	741	1591	1235	720	516	105	67.7	45.6	39.9
MAX	240	1960	99	3260	5800	5320	2310	1850	209	156	89	69
MIN	8.0	91	61	82	602	357	322	108	76	37	23	17
CFSM	.10	1.20	.26	2.68	5.74	4.46	2.60	1.86	.38	.24	.16	.14
IN.	.11	1.34	.30	3.09	5.98	5.14	2.90	2.15	.42	.28	.19	.16

e Estimated

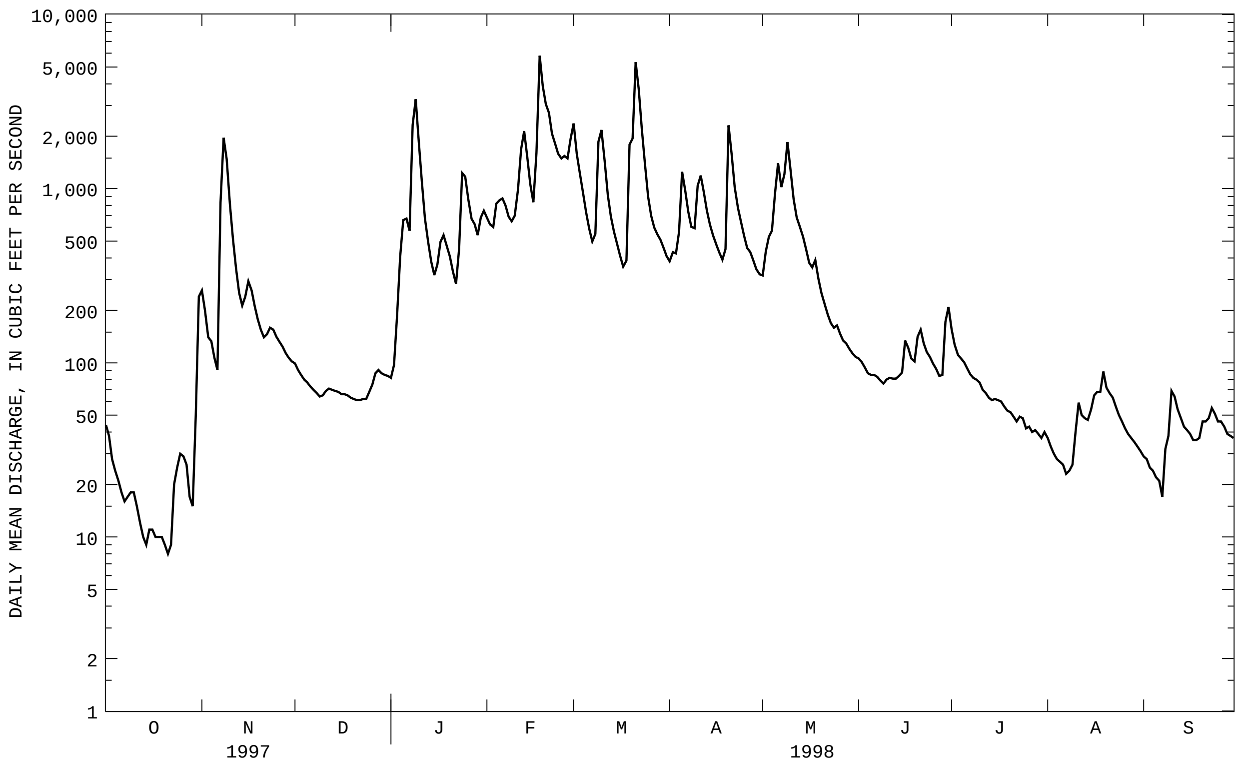
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1935, 1938 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	129	180	209	274	343	500	408	332	168	85.0	107	92.2
MAX	776	2951	879	1267	1591	1327	1787	946	1071	510	801	1341
(WY)	1977	1986	1974	1996	1998	1993	1987	1988	1949	1949	1955	1996
MIN	12.8	17.1	17.4	21.3	25.2	72.2	91.7	51.2	28.1	13.7	10.4	10.2
(WY)	1992	1932	1966	1981	1934	1981	1981	1930	1977	1966	1965	1968

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1935 1938 - 1998	
ANNUAL TOTAL	73388.0		164349.0			
ANNUAL MEAN	201		450		235	
HIGHEST ANNUAL MEAN					480	1996
LOWEST ANNUAL MEAN					85.9	1934
HIGHEST DAILY MEAN	3860	Mar 4	5800	Feb 18	28000	Nov 5 1985
LOWEST DAILY MEAN	(e)8.0	Oct 21	(e)8.0	Oct 21	4.4	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	9.6	Oct 16	9.6	Oct 16	5.3	Sep 5 1966
INSTANTANEOUS PEAK FLOW			7500	Feb 17	(a)110000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			8.05	Feb 17	(b)19.99	Nov 5 1985
INSTANTANEOUS LOW FLOW			UNKNOWN		4.4	(c)
ANNUAL RUNOFF (CFSM)	.73		1.63		.85	
ANNUAL RUNOFF (INCHES)	9.86		22.07		11.52	
10 PERCENT EXCEEDS	403		1260		518	
50 PERCENT EXCEEDS	96		115		97	
90 PERCENT EXCEEDS	26		28		21	

e Estimated.
a From rating curve extended above 39,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Sept. 10, 11, 1965, Sept. 9-11, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 13.5.

DRAINAGE AREA.--1,486 mi^2.

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). WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above sea level. 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 estimated daily discharges (ice effect), which are poor. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 9	0500	23,800	15.98	Mar 10	0700	17,300	13.04
Feb 18	1600	20,600	14.61	Mar 21	1800	*29,200	*18.09
Mar 1	1700	10,200	9.32	Apr 20	1600	13,800	11.26

Minimum discharge, 84 ft^3/s, Sep 6-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	636	329	821	e775	3690	9160	1890	1560	949	1830	250	116
2	450	535	854	806	3040	8240	2030	1870	925	1350	243	111
3	348	833	815	1570	2740	6340	1910	2370	877	1050	224	104
4	301	931	757	2400	3040	4920	1860	2310	826	870	206	100
5	272	750	725	2860	4140	3840	3670	3170	789	764	193	95
6	243	647	702	3130	5730	3100	3470	6140	775	723	180	88
7	219	2490	670	3430	5070	2590	2810	4520	781	652	171	88
8	204	6710	631	8020	4090	2630	2390	3880	774	619	160	94
9	193	5270	601	19200	3860	8610	2710	5050	750	577	169	96
10	181	3470	589	9760	3690	15200	6010	4670	792	559	251	147
11	169	2340	615	5930	4140	8990	5090	3830	817	522	613	319
12	159	1720	1050	3990	6030	5700	4100	3690	935	474	503	254
13	154	1330	1090	3000	8600	4180	3290	3980	947	440	426	209
14	150	1160	966	2370	6850	3330	2740	3520	1050	410	331	180
15	149	1180	869	1970	5040	2790	2380	2990	1030	396	319	156
16	148	1350	787	2080	3880	2330	2130	2570	1550	445	288	144
17	148	1270	725	2510	3830	2010	1970	2290	1970	438	378	134
18	148	1110	681	2620	16800	1940	1750	2080	1570	403	386	129
19	153	970	648	2380	15100	5530	3030	1860	1420	385	345	130
20	157	876	613	2090	11600	7910	12000	1640	2410	363	363	137
21	155	814	585	1830	9930	22000	8790	1500	2340	333	323	145
22	150	886	564	1600	8160	19100	5540	1380	1710	314	273	177
23	149	1120	572	2000	6710	10100	4040	1290	1410	305	236	182
24	152	1310	590	5220	7670	6640	3280	1210	1260	303	206	194
25	179	1180	699	5430	7870	4750	2700	1300	1100	311	180	188
26	216	1040	984	4130	7360	3650	2240	1330	992	313	167	171
27	248	941	1060	3250	6090	3100	2180	1160	904	289	154	166
28	298	893	1070	3370	6510	2880	2070	1090	908	263	143	150
29	329	827	1010	4000	---	2680	1800	1050	1880	250	133	145
30	329	787	e945	4900	---	2380	1650	997	3250	243	127	140
31	289	---	e860	4790	---	2080	---	955	---	254	123	---
TOTAL	7076	45069	24148	121411	181260	188700	101520	77252	37691	16448	8064	4489
MEAN	228	1502	779	3916	6474	6087	3384	2492	1256	531	260	150
MAX	636	6710	1090	19200	16800	22000	12000	6140	3250	1830	613	319
MIN	148	329	564	775	2740	1940	1650	955	750	243	123	88
CFSM	.15	1.01	.52	2.64	4.36	4.10	2.28	1.68	.85	.36	.18	.10
IN.	.18	1.13	.60	3.04	4.54	4.72	2.54	1.93	.94	.41	.20	.11

e Estimated

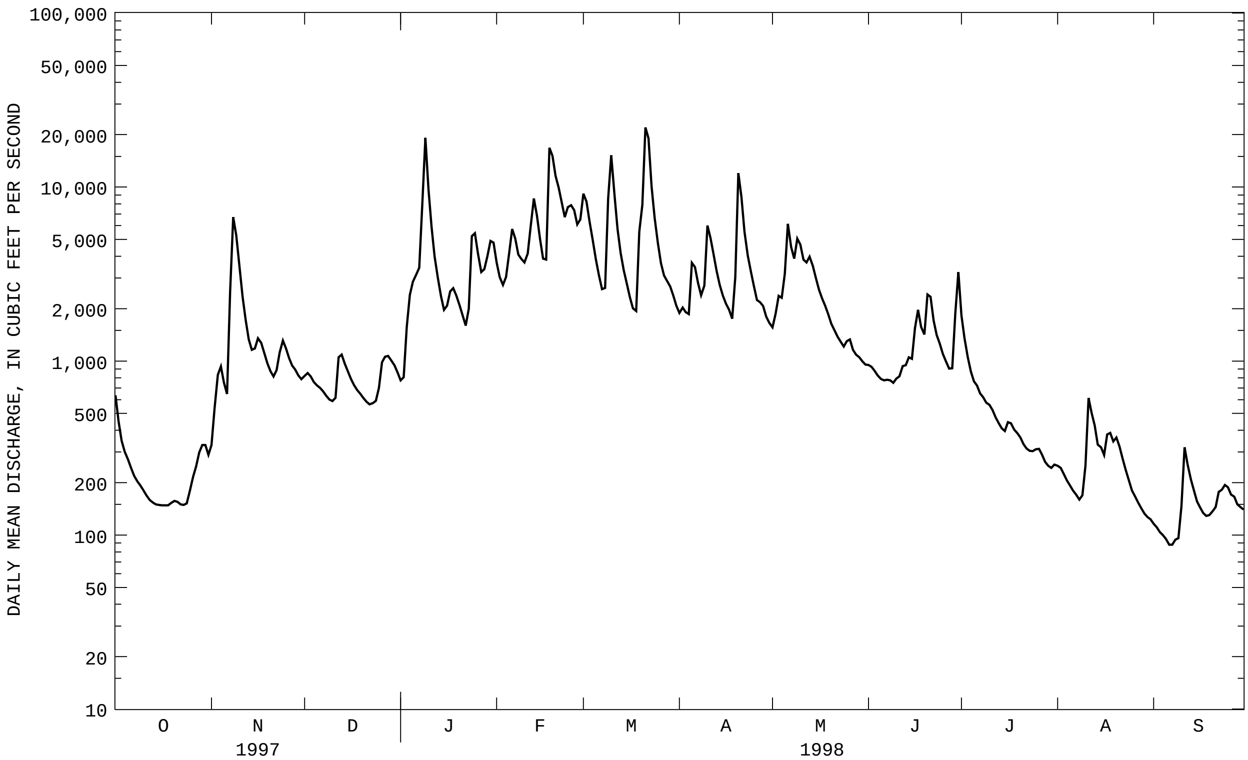
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1906, 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	625	869	1247	1669	2081	3046	2376	1838	1031	531	544	463
MAX	4629	12850	5000	6928	6474	10490	6421	5785	5231	2638	3923	6538
(WY)	1977	1986	1973	1996	1998	1936	1987	1996	1949	1949	1955	1996
MIN	79.4	82.2	147	271	362	791	829	366	225	105	73.5	76.6
(WY)	1931	1905	1966	1981	1934	1981	1976	1977	1991	1930	1930	1930

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1899 - 1906 1928 - 1998	
ANNUAL TOTAL	445738		813128			
ANNUAL MEAN	1221		2228		1357	
HIGHEST ANNUAL MEAN					2975	1996
LOWEST ANNUAL MEAN					566	1969
HIGHEST DAILY MEAN	15200	Mar 4	22000	Mar 21	145000	Nov 5 1985
LOWEST DAILY MEAN	124	(a)	88	(b)	52	(c)
ANNUAL SEVEN-DAY MINIMUM	132	Sep 22	95	Sep 3	54	Sep 7 1966
INSTANTANEOUS PEAK FLOW			29200	Mar 21	(d)240000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			18.09	Mar 21	(f)44.22	Nov 5 1985
INSTANTANEOUS LOW FLOW			84	(g)	29	(h)
ANNUAL RUNOFF (CFSM)	.82		1.50		.91	
ANNUAL RUNOFF (INCHES)	11.16		20.36		12.40	
10 PERCENT EXCEEDS	2510		5600		3050	
50 PERCENT EXCEEDS	830		1040		654	
90 PERCENT EXCEEDS	158		157		154	

a Sept. 9, 27.
b Sept. 6, 7.
c Sept. 11, 12, 1966.
d From rating curve extended above 145,000 ft^3/s on basis of slope-area measurement of peak flow.
f From floodmarks.
g Sept. 6-9.
h Jan. 28, 1956 (result of freeze-up), July 30, 1966 (result of temporary dam).



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'20", long 78°27'24", 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 river mile 277.

DRAINAGE AREA.--3,129 mi^2, revised.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above sea level. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Low flow affected by Stony River Reservoir prior to July 1981, since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft on Mar. 18, 1936, discharge, 240,000 ft^3/s, from rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1000	22,100	16.32	Mar 10	1045	30,100	19.04
Jan 9	0815	39,900	22.16	Mar 21	2300	*48,000	*24.53
Feb 18	2015	33,100	20.02	Apr 20	1515	34,500	20.50
Feb 24	1645	22,100	16.31				

Minimum discharge, 510 ft^3/s, Oct 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1260	746	4420	2690	8600	15500	4700	5530	2010	3810	1000	555
2	1030	2150	4360	2550	7270	15500	4710	5950	1770	3450	787	545
3	860	2640	3700	3560	6550	12800	4390	6590	1950	2610	720	550
4	772	2260	3300	5450	6570	10400	4020	5980	1650	2040	688	548
5	742	1910	3030	5950	11600	8550	5440	9150	1390	1770	660	540
6	705	1600	2780	6150	16000	7070	5780	17800	1300	1680	643	530
7	672	6070	2570	6310	14000	6160	5000	12800	1270	1620	625	527
8	647	20900	2380	15700	11300	6850	4510	11500	1240	1910	581	546
9	634	13900	2230	35400	9900	17200	5470	13800	1200	2290	588	579
10	620	8660	2210	20700	9210	27700	16900	11400	1250	1770	691	558
11	543	6100	2490	13800	9300	19400	13400	9100	1580	1420	1150	622
12	524	4800	2890	9910	11900	13300	9700	9030	1540	1280	1200	658
13	526	3940	3200	8110	15600	10500	7710	9540	1860	1200	1030	610
14	524	3870	2980	6900	13200	8400	6660	8170	1870	1120	899	576
15	519	4420	2760	6160	10400	7030	5990	6770	1810	998	955	561
16	518	4080	2560	5730	8580	6110	5330	5900	2210	983	1030	547
17	513	3750	2410	6070	8390	5240	4910	5780	3760	1080	1080	536
18	524	3280	2240	6260	25900	4910	4420	4870	3330	1040	1200	536
19	537	2900	2060	5750	28300	7980	9800	4010	2870	952	1060	524
20	537	2640	1910	5210	23100	12400	32800	3420	4740	911	908	539
21	533	2340	1840	4580	20100	32500	23800	3000	4540	869	855	573
22	529	2710	1790	4070	17200	37200	13400	2690	3270	809	802	686
23	519	3660	1850	4640	14900	20600	9790	2420	2670	810	1100	696
24	523	3830	1890	9390	20600	14400	8040	2220	3030	834	1350	610
25	603	3550	2330	10100	19900	11200	6720	2210	2350	802	714	608
26	848	3240	3020	8340	17700	9130	5820	2440	1870	777	645	606
27	1170	3000	3170	7090	14200	7700	6520	2090	1670	759	625	583
28	741	2780	3260	8560	12800	7020	6290	1910	1580	731	603	566
29	732	2700	3050	10700	---	6620	5520	1810	1870	708	586	557
30	720	2670	3110	11100	---	6130	5090	1720	5130	712	570	544
31	682	---	3110	10700	---	5200	---	1850	---	941	564	---
TOTAL	20807	131096	84900	267630	393070	380700	252630	191450	68580	42686	25909	17216
MEAN	671	4370	2739	8633	14040	12280	8421	6176	2286	1377	836	574
MAX	1260	20900	4420	35400	28300	37200	32800	17800	5130	3810	1350	696
MIN	513	746	1790	2550	6550	4910	4020	1720	1200	708	564	524
CFSM	.21	1.40	.88	2.76	4.49	3.92	2.69	1.97	.73	.44	.27	.18
IN.	.25	1.56	1.01	3.18	4.67	4.53	3.00	2.28	.82	.51	.31	.20

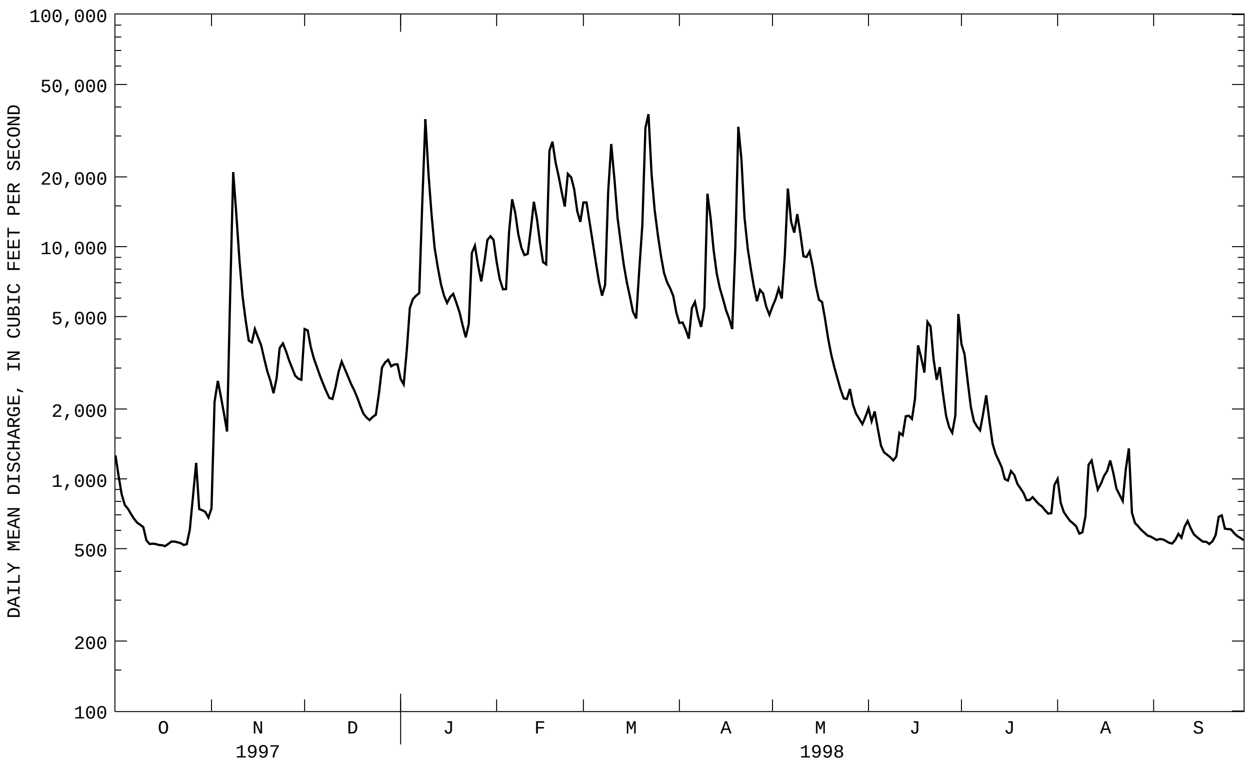
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1536	2078	3371	4088	5439	7597	6012	4550	2580	1367	1269	1151
MAX	9709	17180	12300	13040	14040	17440	15620	11210	7612	5071	6775	12080
(WY)	1977	1986	1973	1996	1998	1994	1993	1996	1972	1949	1996	1996
MIN	261	327	388	679	1116	2043	1882	1074	544	303	278	252
(WY)	1952	1966	1966	1981	1954	1990	1995	1941	1965	1966	1944	1959

01610000 POTOMAC RIVER AT PAW PAW, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1939 - 1998	
ANNUAL TOTAL	1123723		1876674			
ANNUAL MEAN	3079		5142		3410	
HIGHEST ANNUAL MEAN					6433	1996
LOWEST ANNUAL MEAN					1499	1969
HIGHEST DAILY MEAN	24600	Mar 4	37200	Mar 22	125000	Nov 6 1985
LOWEST DAILY MEAN	495	Sep 6	513	Oct 17	172	(a)
ANNUAL SEVEN-DAY MINIMUM	521	Oct 12	521	Oct 12	179	Sep 7 1966
INSTANTANEOUS PEAK FLOW			48000	Mar 21	(b)235000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			24.53	Mar 21	53.58	Nov 5 1985
INSTANTANEOUS LOW FLOW			510	(c)	164	(d)
ANNUAL RUNOFF (CFSM)	.98		1.64		1.09	
ANNUAL RUNOFF (INCHES)	13.36		22.31		14.81	
10 PERCENT EXCEEDS	6590		13200		7750	
50 PERCENT EXCEEDS	2060		2780		1820	
90 PERCENT EXCEEDS	584		578		445	

a Sept. 10, 12, 13, 1966.
b From rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.
c Oct. 16, 17.
d Sept 10, 11, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

LOCATION.--Lat 39°34'43", long 78°18'34", Morgan County, Hydrologic Unit 02070003, on left bank at Rock Ford 3.0 mi southwest of Great Cacapon, and at mile 6.5.

DRAINAGE AREA.--675 mi^2.

PERIOD OF RECORD.--December 1922 to September 1995, October 1996 to current year.

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37. WSP 1552: 1925-26(M), 1928, 1929(M), 1932. WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges (ice effect), which are poor. High end of rating is not confirmed above 3,000 ft^3/s since cableway removed in July 1992. National Weather Service gage-height telemeter at the station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of about 24.7 ft, from floodmarks, discharge, 57,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0400	*12,300	*11.81	Feb 26	0800	5,480	8.01
Jan 9	0800	7,870	9.53	Mar 19	2200	4,160	7.02
Feb 6	0600	4,940	7.62	Mar 21	2200	9,030	10.18
Feb 13	1400	4,590	7.36	Apr 20	1800	5,020	7.68
Feb 18	1300	11,900	11.63				

Minimum discharge, 62 ft^3/s, Sep 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	158	302	e320	2000	3520	799	704	315	313	133	73
2	199	230	301	358	1690	3080	985	870	318	304	111	72
3	146	450	289	459	1500	2510	938	1150	340	261	101	69
4	118	438	269	1240	1550	2120	808	1020	282	229	94	68
5	105	325	253	1790	2840	1810	1230	1640	257	209	90	67
6	96	248	248	1540	4540	1570	1420	3200	243	197	86	65
7	91	770	240	1210	3330	1350	1200	2130	229	188	84	65
8	90	10200	229	1550	2470	1280	1040	1840	223	199	82	76
9	86	5060	218	6620	2190	2030	1010	3100	215	212	82	70
10	85	2240	216	4020	2040	2810	2180	2710	217	201	86	72
11	81	1440	219	2350	2060	2420	2670	2090	255	194	94	81
12	75	957	230	1740	2870	1910	2020	2010	297	176	117	75
13	75	687	242	1380	4230	1600	1630	2510	371	158	110	72
14	76	573	239	1110	3300	1380	1350	2090	858	147	101	72
15	81	629	228	901	2360	1220	1160	1740	807	139	108	70
16	80	670	221	994	1920	1050	1020	1420	1470	138	211	68
17	78	573	215	1500	1880	902	920	1300	1740	135	256	67
18	79	472	210	1620	8630	854	815	1120	998	137	226	66
19	81	402	206	1490	6620	2240	1060	853	680	136	216	65
20	82	357	202	1270	4500	3200	3950	703	705	126	174	66
21	82	332	197	1060	3550	5850	3210	601	746	119	141	74
22	82	359	195	886	2900	6540	2070	526	533	116	121	94
23	80	479	197	934	2430	3330	1650	470	421	114	113	100
24	81	525	204	2510	3160	2210	1380	430	677	118	109	87
25	91	458	241	2510	4130	1820	1150	418	633	107	96	82
26	99	404	368	2020	4930	1540	968	523	406	105	91	78
27	106	369	499	1670	3610	1340	969	501	326	103	86	77
28	109	342	503	1870	3320	1190	1020	408	291	101	83	76
29	110	317	468	2470	---	1050	835	370	312	99	80	72
30	114	301	e415	2460	---	938	735	342	328	100	77	78
31	110	---	e365	2420	---	840	---	315	---	127	74	---
TOTAL	3075	30765	8429	54272	90550	65504	42192	39104	15493	5008	3633	2217
MEAN	99.2	1026	272	1751	3234	2113	1406	1261	516	162	117	73.9
MAX	207	10200	503	6620	8630	6540	3950	3200	1740	313	256	100
MIN	75	158	195	320	1500	840	735	315	215	99	74	65
CFSM	.15	1.52	.40	2.59	4.79	3.13	2.08	1.87	.77	.24	.17	.11
IN.	.17	1.70	.46	2.99	4.99	3.61	2.33	2.16	.85	.28	.20	.12

e Estimated

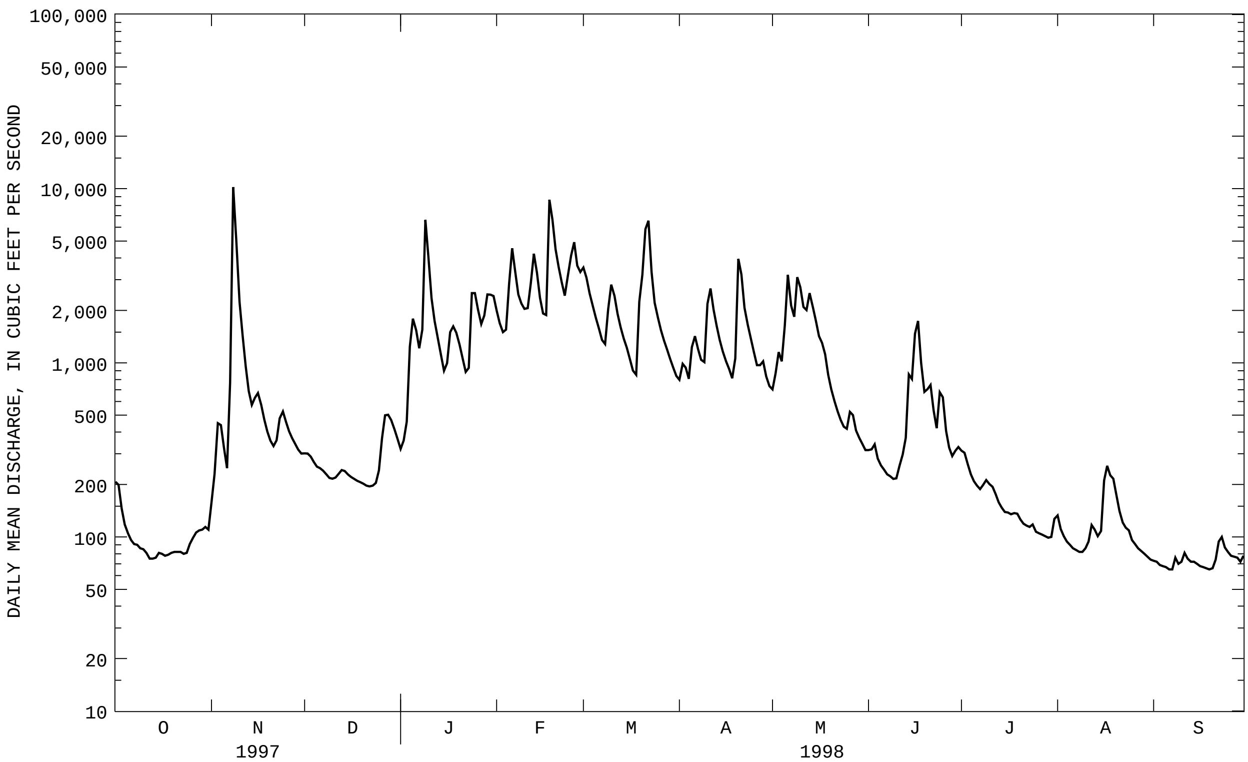
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1995, 1997 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	332	375	523	654	906	1298	1124	871	434	195	232	174
MAX	2976	2577	2121	1751	3234	5708	2976	3565	3525	936	2791	1636
(WY)	1943	1986	1973	1998	1998	1936	1987	1924	1972	1972	1955	1975
MIN	44.8	51.1	56.5	69.6	89.1	247	242	157	77.0	56.4	39.8	39.4
(WY)	1931	1966	1966	1956	1934	1990	1947	1969	1969	1930	1966	1932

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1923 - 1995, 1997 - 1998	
ANNUAL TOTAL	170276		360242			
ANNUAL MEAN	467		987		595	
HIGHEST ANNUAL MEAN					1135	1972
LOWEST ANNUAL MEAN					180	1969
HIGHEST DAILY MEAN	10200	Nov 8	10200	Nov 8	67900	Mar 18 1936
LOWEST DAILY MEAN	75	(a)	65	(b)	26	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	78	Oct 12	68	Sep 14	28	Sep 7 1966
INSTANTANEOUS PEAK FLOW			12300	Nov 8	(c)87600	Mar 18 1936
INSTANTANEOUS PEAK STAGE			11.81	Nov 8	30.10	Mar 18 1936
INSTANTANEOUS LOW FLOW			62	Sep 6	26	(d)
ANNUAL RUNOFF (CFSM)	.69		1.46		.88	
ANNUAL RUNOFF (INCHES)	9.38		19.85		11.98	
10 PERCENT EXCEEDS	889		2510		1350	
50 PERCENT EXCEEDS	299		371		245	
90 PERCENT EXCEEDS	86		81		67	

a Oct. 12, 13.
b Sept. 6, 7, 19.
c From rating curve extended above 52,000 ft^3/s.
d Sept. 11-13, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 239.

DRAINAGE AREA.--4,090 mi^2, revised.

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 above sea level. 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.--No estimated daily discharges. Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981, since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1030	36,800	16.96	Mar 10	1730	31,300	15.53
Jan 9	1500	46,200	19.24	Mar 22	0515	*55,000	*21.08
Feb 6	0530	23,800	13.35	Apr 20	1800	39,900	17.73
Feb 18	2400	40,100	17.78	May 6	1700	23,900	13.40
Feb 25	0115	27,700	14.55				

Minimum discharge, 563 ft^3/s, Oct 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1350	958	3740	3460	11600	17500	5570	6030	2270	4650	1130	621
2	1450	1610	5080	3060	9520	19000	5520	6510	2460	3900	1090	606
3	1160	3350	4380	3420	8320	15900	5450	7580	2200	3360	887	595
4	975	3160	3870	5620	7950	13300	4860	7210	2280	2650	810	596
5	881	2690	3570	7470	14900	10800	5360	8880	1850	2170	775	592
6	838	2170	3300	7550	22900	9050	7170	20700	1630	1960	743	585
7	793	5620	3060	7290	19300	7720	6270	17800	1540	1870	718	581
8	758	31900	2860	13000	15200	7280	5580	13800	1500	2100	698	586
9	727	22200	2680	40200	12900	15300	5650	17700	1460	2830	660	594
10	707	12600	2590	28700	11600	28200	16700	16100	1440	2500	706	629
11	685	8390	2750	17600	11200	23900	18200	12300	1650	1940	843	610
12	603	6270	3010	12700	13600	16400	13000	11400	1900	1620	1310	677
13	574	5040	3490	9840	19000	12600	9980	13000	2090	1450	1270	722
14	578	4450	3460	8380	17700	10400	8290	11400	2610	1360	1120	672
15	580	5250	3240	7270	13600	8520	7380	9140	2980	1250	1150	636
16	573	5150	3030	6830	10900	7390	6590	7650	3120	1140	1230	615
17	567	4750	2850	7240	10200	6440	5930	7020	4910	1190	1360	600
18	566	4190	2710	7780	26500	5760	5400	6280	4680	1230	1400	585
19	578	3730	2520	7480	36300	7290	8050	5190	3980	1150	1460	584
20	585	3350	2310	6670	28100	14800	34600	4360	4380	1070	1220	573
21	589	3120	2190	5990	23600	28300	31000	3850	5590	1020	1050	601
22	585	3030	2120	5190	20400	48300	17900	3430	4370	973	973	680
23	580	4060	2090	5260	17200	26800	12400	3130	3720	965	912	774
24	577	4430	2210	10300	22900	17900	9820	2880	4220	932	1310	767
25	616	4320	2440	13300	26200	13700	8290	2720	3870	929	1340	693
26	684	3970	3330	11300	24300	11100	7040	2920	2770	895	810	683
27	1010	3670	3800	9310	19200	9280	7110	2920	2270	869	731	672
28	1190	3410	3950	9840	16500	8200	7560	2520	2060	851	698	647
29	835	3210	3830	14700	---	7660	6750	2320	2020	823	675	620
30	828	3140	3700	14000	---	7120	5970	2190	3820	808	656	614
31	814	---	3730	14200	---	6400	---	2060	---	913	635	---
TOTAL	23836	173188	97890	324950	491590	442310	299390	240990	85640	51368	30370	19010
MEAN	769	5773	3158	10480	17560	14270	9980	7774	2855	1657	980	634
MAX	1450	31900	5080	40200	36300	48300	34600	20700	5590	4650	1460	774
MIN	566	958	2090	3060	7950	5760	4860	2060	1440	808	635	573
CFSM	.19	1.41	.77	2.56	4.29	3.49	2.44	1.90	.70	.41	.24	.15
IN.	.22	1.58	.89	2.96	4.47	4.02	2.72	2.19	.78	.47	.28	.17

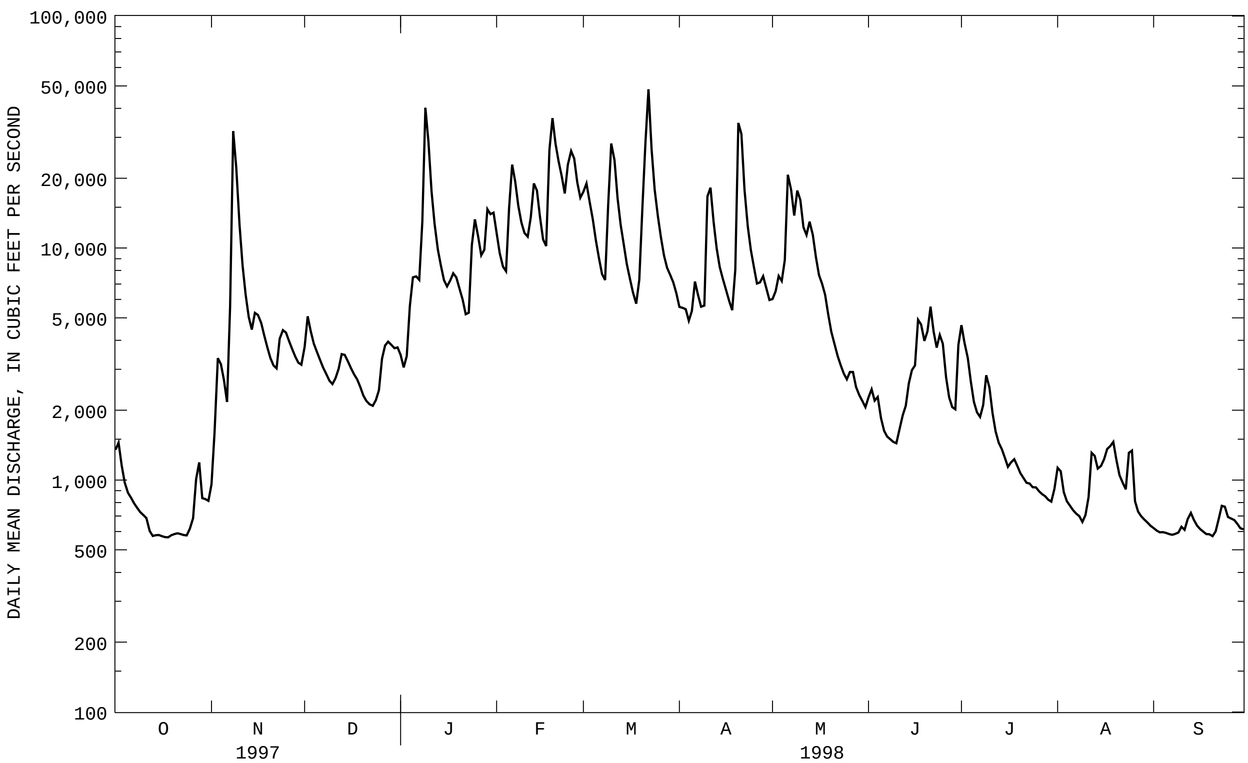
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2036	2554	4067	5248	6697	9510	7667	5600	3122	1598	1598	1439
MAX	13270	20090	15160	17180	17560	32280	19170	13260	13390	6677	9479	15100
(WY)	1977	1986	1973	1996	1998	1936	1993	1988	1972	1949	1955	1996
MIN	309	399	463	751	1041	2311	2286	1344	622	357	342	329
(WY)	1942	1966	1966	1956	1934	1990	1995	1941	1969	1966	1944	1946

01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1933 - 1998	
ANNUAL TOTAL	1331831		2280532			
ANNUAL MEAN	3649		6248		4249	
HIGHEST ANNUAL MEAN					7932	1996
LOWEST ANNUAL MEAN					1770	1969
HIGHEST DAILY MEAN	31900	Nov 8	48300	Mar 22	261000	Mar 18 1936
LOWEST DAILY MEAN	554	Sep 7	566	Oct 18	184	Oct 3 1932
ANNUAL SEVEN-DAY MINIMUM	574	Oct 13	574	Oct 13	215	Sep 7 1966
INSTANTANEOUS PEAK FLOW			55000	Mar 22	(a)340000	Mar 18 1936
INSTANTANEOUS PEAK STAGE			21.08	Mar 22	47.60	Mar 18 1936
INSTANTANEOUS LOW FLOW			563	(b)	180	Oct 4 1932
ANNUAL RUNOFF (CFSM)	.89		1.53		1.04	
ANNUAL RUNOFF (INCHES)	12.11		20.74		14.12	
10 PERCENT EXCEEDS	7840		16400		9730	
50 PERCENT EXCEEDS	2530		3420		2200	
90 PERCENT EXCEEDS	678		652		541	

a From rating curve extended above 120,000 ft^3/s on basis of slope-area measurement of peak flow.
b Oct. 16-18.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01614500 CONOCOCHEAGUE 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^2.

WATER-DISCHARGE RECORDS

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 above sea level. 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.--No estimated daily discharges. Water-discharge records good. Low flow partly regulated by small powerplants near Mercersburg, Pennsylvania. National Weather Service gage-height telemeter at station.

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^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1700	*13,600	*13.60	Feb 24	2330	9,150	11.08
Jan 9	1300	7,170	9.78	Mar 21	2330	8,910	10.93
Jan 28	2100	4,940	8.08	Apr 20	0730	5,980	8.91
Feb 5	1845	6,730	9.47	May 9	0230	8,880	10.91

Minimum discharge, 86 ft^3/s, Oct 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	157	764	453	1610	2300	1020	952	597	372	319	150
2	165	1180	749	445	1410	2060	1150	1420	563	338	235	148
3	148	1320	646	527	1280	2050	943	2160	466	307	210	142
4	137	801	603	775	1190	2080	871	1570	428	291	193	140
5	130	666	571	827	4740	1750	816	1360	402	283	184	136
6	123	481	523	767	4850	1540	762	1340	390	273	176	131
7	118	1950	482	775	2890	1400	726	1190	375	261	172	129
8	123	11900	450	3380	2180	1510	699	4170	362	665	170	129
9	112	7680	427	6740	1790	3220	894	7000	352	802	168	131
10	107	2720	427	4440	1550	3750	1590	3420	348	488	264	130
11	108	1830	605	2610	1390	2690	1170	2560	359	375	663	126
12	107	1420	571	1950	1550	2040	986	3330	500	326	411	124
13	106	1160	524	1600	1510	1710	888	3500	616	300	292	120
14	108	1210	491	1350	1370	1530	831	2520	682	283	249	121
15	111	1340	455	1200	1250	1370	820	2010	527	270	310	121
16	112	1120	426	1800	1140	1210	782	1680	476	270	351	119
17	107	949	406	1760	1340	1100	725	1450	447	271	358	115
18	106	823	388	1570	2920	1130	671	1250	468	267	490	124
19	107	741	369	1360	2920	1390	1880	1090	439	247	423	118
20	114	679	354	1210	2370	1310	5360	980	861	232	307	115
21	103	627	340	1070	2010	6810	2860	890	818	222	252	122
22	102	913	327	977	1680	7330	2000	808	549	214	229	136
23	101	988	344	1480	1630	3630	1630	747	489	243	211	155
24	96	818	356	2800	7290	2490	1410	695	965	226	198	135
25	122	711	646	2240	6830	2000	1210	671	622	212	199	127
26	147	655	786	1740	3510	1690	1100	630	484	201	179	133
27	166	621	662	1490	2710	1500	1410	586	434	198	178	129
28	165	569	630	2940	2340	1350	1140	551	398	194	168	125
29	145	553	556	3440	---	1230	981	520	375	188	163	122
30	132	534	574	2350	---	1120	915	496	368	185	160	120
31	121	---	539	1930	---	1030	---	476	---	337	154	---
TOTAL	3859	47116	15991	57996	69250	67320	38240	52022	15160	9341	8036	3873
MEAN	124	1571	516	1871	2473	2172	1275	1678	505	301	259	129
MAX	210	11900	786	6740	7290	7330	5360	7000	965	802	663	155
MIN	96	157	327	445	1140	1030	671	476	348	185	154	115
CFSM	.25	3.18	1.04	3.79	5.01	4.40	2.58	3.40	1.02	.61	.52	.26
IN.	.29	3.55	1.20	4.37	5.21	5.07	2.88	3.92	1.14	.70	.61	.29

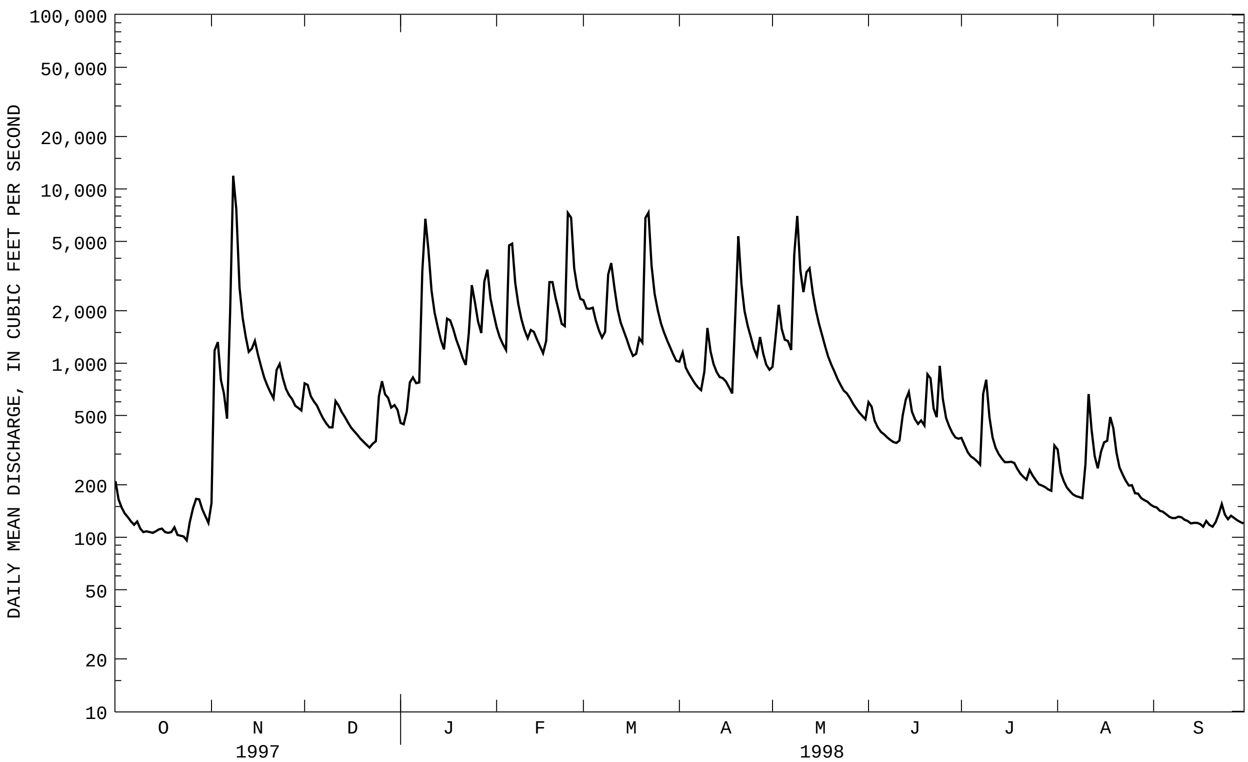
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	334	462	634	696	862	1205	1064	750	513	330	234	262
MAX	2177	1571	1926	2404	2473	3725	2991	1736	3278	1358	921	1886
(WY)	1977	1998	1997	1996	1998	1994	1993	1989	1972	1928	1942	1996
MIN	42.3	45.4	61.2	88.8	151	274	304	218	120	62.2	48.0	54.6
(WY)	1931	1931	1931	1931	1931	1990	1995	1941	1965	1966	1966	1930

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1998	
ANNUAL TOTAL	200801		388204			
ANNUAL MEAN	550		1064		610	
HIGHEST ANNUAL MEAN					1183	1996
LOWEST ANNUAL MEAN					301	1954
HIGHEST DAILY MEAN	11900	Nov 8	11900	Nov 8	26700	Jun 23 1972
LOWEST DAILY MEAN	85	Sep 7	96	Oct 24	25	Nov 28 1930
ANNUAL SEVEN-DAY MINIMUM	93	Sep 3	104	Oct 18	28	Sep 7 1966
INSTANTANEOUS PEAK FLOW			13600	Nov 8	(a)32400	Jun 23 1972
INSTANTANEOUS PEAK STAGE			13.60	Nov 8	(b)24.50	Jun 23 1972
INSTANTANEOUS LOW FLOW			86	Oct 24	21	(c)
ANNUAL RUNOFF (CFSM)	1.11		2.15		1.24	
ANNUAL RUNOFF (INCHES)	15.12		29.23		16.79	
10 PERCENT EXCEEDS	1110		2360		1340	
50 PERCENT EXCEEDS	367		621		338	
90 PERCENT EXCEEDS	111		128		104	

a from rating curve extended above 15,000 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
b From floodmarks.
c Aug. 8, Sept. 12, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-83, 1992 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1966 to September 1980.
SUSPENDED SEDIMENT DISCHARGE: October 1966 to September 1980.

REMARKS.--Water temperatures were measured in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum daily, 30.0°C, July 17, 1969; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATION: Maximum daily mean, 1,050 mg/L, Oct. 25, 1971; minimum daily mean, 1 mg/L, on many days.
SEDIMENT LOAD: Maximum daily, 73,000 tons, June 23, 1972; minimum daily, 0.17 ton, Nov. 24, 26, 27, 1966.

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
OCT 1997											
16...	1500	109	474	8.6	16.0	15.0	759	14.0	140	4.5	18
NOV											
07...	1631	1990	--	--	--	--	--	--	--	5.1	14
07...	2001	4690	--	--	--	--	--	--	--	--	--
07...	2105	5470	--	--	--	--	--	--	--	7.1	14
07...	2109	5540	--	--	--	--	--	--	--	--	--
07...	2134	5790	--	--	--	--	--	--	--	5.5	13
07...	2200	6070	--	--	--	--	--	--	--	--	--
07...	2202	6430	--	--	--	--	--	--	--	5.9	13
07...	2331	6990	--	--	--	--	--	--	--	--	--
10...	1730	2380	--	--	--	--	--	--	--	4.6	18
18...	1500	804	342	7.6	6.0	5.0	760	12.0	94	5.2	--
DEC											
18...	1245	386	359	8.4	5.0	3.0	757	13.9	104	4.2	--
JAN 1998											
06...	1345	759	312	8.3	17.0	8.0	756	13.6	116	3.8	--
08...	0758	1930	--	--	--	--	--	--	--	3.8	12
08...	0833	2020	277	--	--	--	--	--	--	--	--
08...	1250	3420	--	--	--	--	--	--	--	4.7	11
08...	1529	4590	220	--	--	--	--	--	--	--	--
08...	1742	5190	--	--	--	--	--	--	--	3.8	11
08...	1943	5610	215	--	--	--	--	--	--	--	--
08...	2136	5960	--	--	--	--	--	--	--	4.3	11
08...	2324	6200	208	--	--	--	--	--	--	--	--
09...	0109	6310	--	--	--	--	--	--	--	3.8	11
09...	0251	6460	202	--	--	--	--	--	--	--	--
09...	0431	6610	--	--	--	--	--	--	--	3.4	10
10...	1224	4220	219	--	--	--	--	--	--	--	--
10...	1509	3890	--	--	--	--	--	--	--	3.6	13
10...	1600	3770	225	7.6	9.5	8.0	756	11.3	96	3.5	13
10...	1808	3550	223	--	--	--	--	--	--	3.6	13
10...	2124	3300	226	--	--	--	--	--	--	--	--
11...	0055	3080	230	--	--	--	--	--	--	3.6	14
11...	0440	2890	235	--	--	--	--	--	--	--	--
11...	0842	2710	237	--	--	--	--	--	--	3.6	14
11...	1303	2550	241	--	--	--	--	--	--	--	--
11...	1737	2390	245	--	--	--	--	--	--	3.7	14
11...	2231	2250	249	--	--	--	--	--	--	--	--
12...	0343	2120	251	--	--	--	--	--	--	3.7	15
12...	0913	1990	256	--	--	--	--	--	--	--	--
23...	1828	1990	--	--	--	--	--	--	--	3.9	14
23...	2145	2740	274	--	--	--	--	--	--	--	--
24...	0130	3050	--	--	--	--	--	--	--	3.8	13
24...	0511	2960	270	--	--	--	--	--	--	--	--
24...	0900	2850	--	--	--	--	--	--	--	3.7	13
24...	1257	2750	253	--	--	--	--	--	--	--	--
24...	1705	2640	--	--	--	--	--	--	--	3.7	14
24...	2119	2630	256	--	--	--	--	--	--	--	--
25...	0136	2580	--	--	--	--	--	--	--	3.8	15
25...	0608	2420	270	--	--	--	--	--	--	--	--
25...	1057	2250	--	--	--	--	--	--	--	3.8	15
25...	1604	2110	274	--	--	--	--	--	--	--	--
25...	2134	1980	--	--	--	--	--	--	--	3.9	--
26...	0321	1880	282	--	--	--	--	--	--	--	--
28...	0914	1980	--	--	--	--	--	--	--	3.8	14
28...	1102	2300	262	--	--	--	--	--	--	--	--
28...	1500	3390	--	--	--	--	--	--	--	3.5	14
28...	1749	4440	242	--	--	--	--	--	--	--	--
28...	2010	4880	--	--	--	--	--	--	--	3.2	12
28...	2226	4900	223	--	--	--	--	--	--	--	--
29...	0045	4670	--	--	--	--	--	--	--	3.5	13
29...	0313	4300	235	--	--	--	--	--	--	--	--
29...	0555	3940	--	--	--	--	--	--	--	3.8	14
29...	0854	3560	255	--	--	--	--	--	--	--	--
29...	1208	3310	--	--	--	--	--	--	--	3.9	15
29...	1536	3060	261	--	--	--	--	--	--	--	--
29...	1922	2830	--	--	--	--	--	--	--	3.8	16
29...	2330	2660	273	--	--	--	--	--	--	--	--
30...	0354	2540	--	--	--	--	--	--	--	4.0	16
30...	0831	2410	283	--	--	--	--	--	--	--	--
30...	1320	2300	--	--	--	--	--	--	--	4.0	17
30...	1512	2280	292	--	--	--	--	--	--	--	--

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT 1997											
16...	.012	4.14	<.015	.33	.31	.206	.194	.171	3.6	3	.85
NOV											
07...	.023	3.27	.123	1.8	.46	.487	.085	.103	--	--	--
07...	--	--	--	--	--	--	--	--	--	653	8270
07...	.026	3.18	.131	4.0	.56	1.06	.107	.118	--	--	--
07...	--	--	--	--	--	--	--	--	--	599	8960
07...	.025	3.01	.062	2.5	.60	.775	.111	.127	--	--	--
07...	--	--	--	--	--	--	--	--	--	625	10200
07...	.028	3.02	.075	2.9	.51	.902	.102	.124	--	--	--
07...	--	--	--	--	--	--	--	--	--	500	9440
10...	.022	4.04	.137	.59	.24	.097	.036	.053	--	42	271
18...	<.010	4.98	<.020	.19	.11	.048	.018	.022	2.4	9	20
DEC											
18...	<.010	4.05	<.020	.15	.22	.048	.030	.054	2.3	7	7.5
JAN 1998											
06...	<.010	3.56	<.020	.24	.23	.057	.047	.031	2.9	10	21
08...	.036	2.77	<.020	1.0	.38	.288	.045	.043	--	--	--
08...	--	--	--	--	--	--	--	--	--	162	884
08...	.034	2.45	<.020	2.2	.50	.592	.092	.091	--	--	--
08...	--	--	--	--	--	--	--	--	--	385	4770
08...	.029	2.42	.029	1.3	.53	.421	.076	.079	--	--	--
08...	--	--	--	--	--	--	--	--	--	288	4360
08...	.028	2.41	.042	1.9	.54	.544	.098	.099	--	--	--
08...	--	--	--	--	--	--	--	--	--	242	4050
09...	.029	2.43	<.020	1.4	.49	.372	.077	.086	--	--	--
09...	--	--	--	--	--	--	--	--	--	185	3230
09...	.031	2.39	<.020	1.0	.38	.295	.075	.080	--	--	--
10...	--	--	--	--	--	--	--	--	--	62	702
10...	.022	2.99	<.020	.57	.30	.115	.034	.037	--	--	--
10...	.023	2.97	<.020	.58	.19	.111	.034	.040	--	53	537
10...	.020	3.02	<.020	.56	.25	.103	.026	.033	--	--	--
10...	--	--	--	--	--	--	--	--	--	48	423
11...	.019	3.08	<.020	.48	.24	.094	.028	.030	--	--	--
11...	--	--	--	--	--	--	--	--	--	41	323
11...	.019	3.18	<.020	.43	.25	.078	.026	.032	--	--	--
11...	--	--	--	--	--	--	--	--	--	35	242
11...	.019	3.28	<.020	.38	.24	.064	.023	.030	--	--	--
11...	--	--	--	--	--	--	--	--	--	29	173
12...	.018	3.33	<.020	.35	.18	.075	.027	.031	--	--	--
12...	--	--	--	--	--	--	--	--	--	26	139
23...	.013	3.22	<.020	.64	.21	.118	.030	.037	--	--	--
23...	--	--	--	--	--	--	--	--	--	88	653
24...	.017	2.88	.036	.96	.29	.185	.045	.062	--	--	--
24...	--	--	--	--	--	--	--	--	--	80	635
24...	.015	3.02	.020	.66	.30	.169	.070	.092	--	--	--
24...	--	--	--	--	--	--	--	--	--	49	360
24...	.013	3.20	<.020	.46	.21	.091	.060	.049	--	--	--
24...	--	--	--	--	--	--	--	--	--	41	290
25...	.011	3.30	<.020	.46	.19	.096	.036	.045	--	--	--
25...	--	--	--	--	--	--	--	--	--	34	225
25...	.012	3.43	<.020	.42	.19	.075	.022	.037	--	--	--
25...	--	--	--	--	--	--	--	--	--	27	154
25...	<.010	3.61	<.020	.32	.20	.072	.032	.038	--	--	--
26...	--	--	--	--	--	--	--	--	--	20	103
28...	.019	3.22	.059	.61	.22	.112	.035	.035	--	--	--
28...	--	--	--	--	--	--	--	--	--	86	535
28...	.018	3.09	.101	.44	.29	.097	.057	.058	--	--	--
28...	--	--	--	--	--	--	--	--	--	130	1560
28...	.014	2.72	.094	.44	.34	.092	.051	.058	--	--	--
28...	--	--	--	--	--	--	--	--	--	148	1960
29...	.013	2.84	.080	.65	.30	.158	.067	.058	--	--	--
29...	--	--	--	--	--	--	--	--	--	92	1070
29...	.015	3.19	.082	.61	.28	.134	.040	.045	--	--	--
29...	--	--	--	--	--	--	--	--	--	66	634
29...	.016	3.49	.063	.45	.24	.086	.026	.025	--	--	--
29...	--	--	--	--	--	--	--	--	--	46	380
29...	.015	3.61	.043	.20	.16	.046	.021	.023	--	--	--
29...	--	--	--	--	--	--	--	--	--	38	270
30...	.013	3.74	.033	.27	.17	.054	.032	.012	--	--	--
30...	--	--	--	--	--	--	--	--	--	32	211
30...	.016	3.78	.040	.25	.35	.055	.019	<.010	--	--	--
30...	--	--	--	--	--	--	--	--	--	30	182

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
FEB 1998											
05...	0334	1990	--	--	--	--	--	--	--	3.8	<.010
05...	0555	2870	266	--	--	--	--	--	--	--	--
05...	0859	4320	--	--	--	--	--	--	--	3.8	<.010
05...	1118	5210	213	--	--	--	--	--	--	--	--
05...	1318	5830	--	--	--	--	--	--	--	3.7	<.010
05...	1508	6310	202	--	--	--	--	--	--	--	--
05...	1650	6620	--	--	--	--	--	--	--	3.3	<.010
05...	1829	6710	189	--	--	--	--	--	--	--	--
05...	2008	6680	--	--	--	--	--	--	--	3.1	<.010
05...	2148	6510	191	--	--	--	--	--	--	--	--
05...	2332	6280	--	--	--	--	--	--	--	3.1	<.010
06...	0121	6000	203	--	--	--	--	--	--	--	--
06...	0314	5770	--	--	--	--	--	--	--	3.2	<.010
06...	0512	5550	211	--	--	--	--	--	--	--	--
06...	0715	5310	--	--	--	--	--	--	--	3.2	<.010
06...	0923	5120	224	--	--	--	--	--	--	--	--
06...	1135	4920	--	--	--	--	--	--	--	3.3	<.010
06...	1353	4730	226	--	--	--	--	--	--	--	--
06...	1617	4450	--	--	--	--	--	--	--	3.3	<.010
06...	1853	4090	230	--	--	--	--	--	--	--	--
06...	2143	3720	--	--	--	--	--	--	--	3.3	<.010
07...	0051	3410	238	--	--	--	--	--	--	--	--
07...	0413	3190	--	--	--	--	--	--	--	3.5	<.010
07...	0748	3010	247	--	--	--	--	--	--	--	--
07...	1400	2800	253	7.6	7.0	6.0	732	12.0	100	3.6	<.010
07...	1532	2740	--	--	--	--	--	--	--	3.4	<.010
07...	1947	2590	262	--	--	--	--	--	--	--	--
08...	0019	2440	--	--	--	--	--	--	--	3.5	<.010
08...	0506	2320	266	--	--	--	--	--	--	--	--
08...	1006	2210	--	--	--	--	--	--	--	3.2	<.010
08...	1516	2100	272	--	--	--	--	--	--	--	--
08...	2042	2010	--	--	--	--	--	--	--	3.2	<.010
09...	0228	1920	277	--	--	--	--	--	--	--	--
24...	1400	8460	164	7.4	6.0	4.0	743	11.5	90	3.0	<.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
FEB 1998										
05...	3.21	.021	.60	.26	.125	.035	.056	--	--	--
05...	--	--	--	--	--	--	--	--	97	752
05...	2.60	.071	1.2	.35	.282	.066	.092	--	--	--
05...	--	--	--	--	--	--	--	--	204	2870
05...	2.26	.089	1.5	.42	.371	.082	.099	--	--	--
05...	--	--	--	--	--	--	--	--	199	3390
05...	2.19	.058	1.1	.34	.285	.063	.085	--	--	--
05...	--	--	--	--	--	--	--	--	136	2460
05...	2.24	.050	.85	.33	.199	.056	.073	--	--	--
05...	--	--	--	--	--	--	--	--	92	1610
05...	2.42	.052	.73	.28	.152	.050	.061	--	--	--
06...	--	--	--	--	--	--	--	--	81	1310
06...	2.55	.062	.62	.25	.110	.041	.056	--	--	--
06...	--	--	--	--	--	--	--	--	71	1060
06...	2.66	.046	.58	.26	.117	.039	.048	--	--	--
06...	--	--	--	--	--	--	--	--	62	856
06...	2.74	.042	.53	.20	.104	.029	.044	--	--	--
06...	--	--	--	--	--	--	--	--	57	722
06...	2.83	.039	.44	.21	.091	.026	.041	--	--	--
06...	--	--	--	--	--	--	--	--	48	526
06...	2.96	.026	.34	.20	.062	.022	.036	--	--	--
07...	--	--	--	--	--	--	--	--	42	382
07...	3.13	.048	.34	.19	.065	.023	.034	--	--	--
07...	--	--	--	--	--	--	--	--	35	283
07...	3.36	.024	.29	.13	.058	.040	.035	3.5	28	209
07...	3.11	<.020	.26	<.10	.040	.024	.032	--	--	--
07...	--	--	--	--	--	--	--	--	27	185
08...	3.23	<.020	.29	.11	.045	.029	.036	--	--	--
08...	--	--	--	--	--	--	--	--	24	152
08...	2.98	<.020	.23	.12	.065	.044	.035	--	--	--
08...	--	--	--	--	--	--	--	--	22	122
08...	2.94	<.020	.22	<.10	.044	.043	.028	--	--	--
09...	--	--	--	--	--	--	--	--	18	93
24...	1.79	.057	1.2	.38	.343	.094	.089	8.4	161	3680

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
MAR 1998											
08...	2114	2000	--	--	--	--	--	--	--	3.3	--
08...	2322	2300	268	--	--	--	--	--	--	--	--
09...	0402	2440	--	--	--	--	--	--	--	3.2	11
09...	0837	2580	234	--	--	--	--	--	--	--	--
09...	1228	3300	--	--	--	--	--	--	--	3.1	--
09...	1534	3800	220	--	--	--	--	--	--	--	--
09...	1823	3990	--	--	--	--	--	--	--	3.1	--
09...	2107	4100	212	--	--	--	--	--	--	--	--
09...	2348	4140	--	--	--	--	--	--	--	3.3	10
10...	0229	4120	211	--	--	--	--	--	--	--	--
10...	0512	4070	--	--	--	--	--	--	--	3.2	--
10...	0757	3980	212	--	--	--	--	--	--	--	--
10...	1046	3860	--	--	--	--	--	--	--	2.9	--
10...	1343	3690	214	--	--	--	--	--	--	--	--
10...	1647	3530	--	--	--	--	--	--	--	2.8	--
10...	2000	3370	212	--	--	--	--	--	--	--	--
10...	2322	3230	--	--	--	--	--	--	--	3.1	--
11...	0254	3080	213	--	--	--	--	--	--	--	--
11...	0637	2900	--	--	--	--	--	--	--	2.7	10
11...	1036	2700	218	--	--	--	--	--	--	--	--
11...	1453	2540	--	--	--	--	--	--	--	2.8	--
11...	1700	2480	230	7.7	-1.5	5.0	759	12.4	98	3.1	--
21...	1615	8470	--	--	--	--	--	--	--	2.7	7.4
21...	1733	8590	171	--	--	--	--	--	--	--	--
21...	1850	8670	--	--	--	--	--	--	--	3.0	8.5
21...	2007	8780	174	--	--	--	--	--	--	--	--
21...	2123	8830	--	--	--	--	--	--	--	2.9	8.9
21...	2239	8850	180	--	--	--	--	--	--	--	--
21...	2355	8860	--	--	--	--	--	--	--	2.9	9.3
22...	0112	8830	178	--	--	--	--	--	--	--	--
22...	0228	8810	--	--	--	--	--	--	--	2.9	9.2
22...	0344	8740	176	--	--	--	--	--	--	--	--
22...	0501	8720	--	--	--	--	--	--	--	2.5	9.1
22...	0618	8590	173	--	--	--	--	--	--	--	--
22...	0736	8500	--	--	--	--	--	--	--	2.7	8.9
22...	0855	8380	172	--	--	--	--	--	--	--	--
22...	1015	8160	--	--	--	--	--	--	--	2.7	9.0
22...	1138	7760	176	--	--	--	--	--	--	--	--
22...	1306	7390	--	--	--	--	--	--	--	2.6	9.3
22...	1438	6940	181	--	--	--	--	--	--	--	--
22...	1616	6500	--	--	--	--	--	--	--	2.7	9.8
22...	1801	6060	191	--	--	--	--	--	--	--	--
22...	1955	5610	--	--	--	--	--	--	--	2.8	10
22...	2157	5220	200	--	--	--	--	--	--	--	--
23...	0009	4840	--	--	--	--	--	--	--	2.7	--
23...	0231	4490	207	--	--	--	--	--	--	--	--
23...	1600	3260	227	7.5	5.5	6.5	753	11.9	98	3.1	12
APR											
08...	1345	647	343	8.5	19.0	13.5	748	13.1	128	3.8	16
APR											
19-20	1558	--	207	--	--	--	--	--	--	3.6	8.5
APR											
20-20	0442	--	182	--	--	--	--	--	--	2.8	7.9
APR											
20-22	1447	--	204	--	--	--	--	--	--	2.6	--
MAY											
11...	1300	2500	237	7.7	16.0	13.5	746	9.5	93	2.8	--
JUN											
17...	1530	432	385	8.0	24.0	21.0	752	8.9	101	4.5	--
JUL											
14...	1315	284	444	8.2	30.0	24.0	755	10.7	129	5.1	21
AUG											
10...	1530	197	459	7.9	23.0	24.0	751	7.2	87	5.2	21
SEP											
09...	1100	132	513	8.0	19.0	17.5	752	9.7	103	5.8	24

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
MAR 1998											
08...	<.010	2.85	<.020	.44	.21	.045	<.010	.014	--	--	--
08...	--	--	--	--	--	--	--	--	--	40	251
09...	.011	2.47	<.020	.77	.29	.163	.031	.034	--	--	--
09...	--	--	--	--	--	--	--	--	--	54	379
09...	<.010	2.48	.032	.59	.25	.149	.036	.033	--	--	--
09...	--	--	--	--	--	--	--	--	--	82	836
09...	<.010	2.23	.045	.89	.35	.184	.046	.047	--	--	--
09...	--	--	--	--	--	--	--	--	--	86	954
09...	.010	2.29	.047	.97	.36	.229	.042	.042	--	--	--
10...	--	--	--	--	--	--	--	--	--	72	804
10...	<.010	2.49	.027	.68	.22	.138	.025	.031	--	--	--
10...	--	--	--	--	--	--	--	--	--	54	580
10...	<.010	2.39	<.020	.48	.26	.101	.023	.026	--	--	--
10...	--	--	--	--	--	--	--	--	--	39	391
10...	<.010	2.42	<.020	.40	.21	.103	.041	.026	--	--	--
10...	--	--	--	--	--	--	--	--	--	36	324
10...	<.010	2.29	.020	.84	.19	.066	.011	.021	--	--	--
11...	--	--	--	--	--	--	--	--	--	29	238
11...	.081	2.38	.024	.29	.18	.058	<.010	.018	--	--	--
11...	--	--	--	--	--	--	--	--	--	24	174
11...	<.010	2.60	.024	.20	.13	.035	<.010	.018	--	--	--
11...	<.010	2.86	.023	.23	.13	.049	.011	.028	2.3	16	106
21...	.014	1.68	.080	1.0	.41	.265	.103	.073	--	--	--
21...	--	--	--	--	--	--	--	--	--	134	3110
21...	.014	1.94	.087	1.1	.38	.274	.090	.067	--	--	--
21...	--	--	--	--	--	--	--	--	--	90	2120
21...	.012	2.02	.079	.90	.36	.233	.060	.064	--	--	--
21...	--	--	--	--	--	--	--	--	--	113	2690
21...	.012	2.11	.073	.82	.32	.202	.064	.049	--	--	--
22...	--	--	--	--	--	--	--	--	--	95	2250
22...	.012	2.10	.073	.80	.32	.197	.044	.043	--	--	--
22...	--	--	--	--	--	--	--	--	--	94	2220
22...	.012	2.06	.068	.48	.34	.099	.038	.044	--	--	--
22...	--	--	--	--	--	--	--	--	--	94	2180
22...	.011	2.01	.049	.69	.28	.158	.034	.036	--	--	--
22...	--	--	--	--	--	--	--	--	--	71	1620
22...	.011	2.05	.064	.67	.27	.149	.030	.034	--	--	--
22...	--	--	--	--	--	--	--	--	--	59	1230
22...	.010	2.10	.059	.49	.24	.102	.032	.032	--	--	--
22...	--	--	--	--	--	--	--	--	--	45	841
22...	.010	2.23	.056	.46	.24	.103	.040	.031	--	--	--
22...	--	--	--	--	--	--	--	--	--	47	769
22...	.011	2.38	.047	.45	.21	.096	.034	.026	--	--	--
22...	--	--	--	--	--	--	--	--	--	38	541
23...	<.010	2.38	.092	.34	.19	.076	.014	.031	--	--	--
23...	--	--	--	--	--	--	--	--	--	39	474
23...	.011	2.83	.048	.24	.14	.051	.025	.019	2.9	25	216
APR											
08...	.012	3.59	.027	.21	<.10	.030	.019	.019	2.3	5	8.7
APR											
19-20	.024	1.95	.065	1.7	.55	.372	.069	.052	--	205	--
APR											
20-20	.023	1.82	.055	.97	.39	.228	.045	.051	--	137	--
APR											
20-22	<.010	2.17	.046	.40	.29	.080	.037	.030	--	55	--
MAY											
11...	<.010	2.48	.074	.29	.19	.059	.029	.024	3.4	35	236
JUN											
17...	<.010	4.11	.051	.35	.22	.106	.086	.081	2.6	<14	--
JUL											
14...	.020	4.84	.057	.28	.20	.082	.067	.070	2.1	9	6.9
AUG											
10...	.023	4.77	.046	.42	.23	.161	.110	.123	3.0	10	5.3
SEP											
09...	.012	5.50	.027	.30	.26	.171	.173	.153	2.6	6	2.1

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01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

LOCATION.--Lat 39°25'25", long 77°56'20", Berkeley County, Hydrologic Unit 02070004, on right bank 300 ft upstream from Evans Run, 2.3 mi upstream from Tuscarora Creek, 3.0 mi southeast of Martinsburg, and at mile 11.6.

DRAINAGE AREA.--273 mi^2.

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

REVISED RECORDS.--WSP 1702: 1959. See revisions and estimates of peak discharges in Appendix of WV-97-1. WDR MD-DE-97-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 354.89 ft above sea level. Prior to July 1906, nonrecording gage at approximately the same site at different datum. July 23, 1947 to July 22, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are poor. Some diurnal fluctuaation at low flow caused by upstream mills in Virginia and since July 18, 1988, by wastewater treatment plant, 1,000 ft upstream from Opequon Creek near Berryville, VA (01615000); drainage area 57.4 mi^2. National Weather Service gage-height telemeter at the station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 17.5 ft, from information by local residents, estimated discharge, 19,100 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1200	5,440	12.16	Feb 18	1000	2,650	9.95
Jan 9	0400	3,190	10.57	Feb 24	1800	4,320	11.47
Jan 24	0400	2,050	8.62	Mar 19	1800	3,110	10.49
Jan 29	0900	5,300	12.08	Mar 21	1800	*10,100	*14.41
Feb 6	0200	7,170	13.09				

Minimum discharge, 58 ft^3/s, Oct 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	119	209	e220	660	728	603	327	226	203	130	89
2	75	283	197	227	586	648	899	576	214	184	116	87
3	72	212	183	360	537	609	594	584	231	174	111	85
4	70	126	180	531	629	551	552	526	217	166	111	84
5	67	96	174	458	4120	505	584	455	207	164	108	82
6	65	79	165	369	5170	471	498	480	200	163	106	80
7	64	1090	155	334	1760	453	458	429	194	158	105	83
8	63	4160	148	1130	1190	562	435	692	194	171	104	87
9	62	1040	144	2300	948	1480	534	1040	191	173	105	88
10	63	595	145	1080	802	1170	952	707	203	158	114	83
11	62	426	150	650	716	782	650	594	212	150	174	80
12	61	346	147	493	865	642	529	736	249	145	147	79
13	62	287	142	409	748	570	472	964	315	142	117	75
14	62	380	136	353	644	538	443	687	581	138	112	77
15	64	516	131	367	580	489	420	552	299	137	142	77
16	65	389	129	921	535	449	397	477	299	137	136	73
17	63	314	127	867	701	420	378	428	367	138	138	76
18	63	274	125	666	2050	533	368	383	275	134	147	76
19	63	249	121	562	1160	2270	457	349	261	125	120	77
20	63	231	119	486	892	1450	1310	327	248	126	111	75
21	62	222	114	427	782	7420	773	308	219	127	108	78
22	61	348	116	387	662	3820	576	292	202	125	107	78
23	59	398	128	877	694	1470	499	279	220	123	103	81
24	60	317	132	1580	3250	1090	452	272	325	123	102	77
25	65	271	279	870	2110	924	405	298	238	116	97	75
26	73	254	375	643	1080	808	375	281	207	115	95	77
27	89	233	305	554	883	734	386	258	193	115	96	75
28	94	214	308	2060	770	667	361	250	220	114	94	71
29	78	205	290	4000	---	609	335	240	261	112	92	74
30	71	198	290	1130	---	559	326	229	220	113	89	73
31	69	---	e240	810	---	524	---	228	---	143	89	---
TOTAL	2098	13872	5604	26121	35524	33945	16021	14248	7488	4412	3526	2372
MEAN	67.7	462	181	843	1269	1095	534	460	250	142	114	79.1
MAX	94	4160	375	4000	5170	7420	1310	1040	581	203	174	89
MIN	59	79	114	220	535	420	326	228	191	112	89	71
CFSM	.25	1.69	.66	3.09	4.65	4.01	1.96	1.68	.91	.52	.42	.29
IN.	.29	1.89	.76	3.56	4.84	4.63	2.18	1.94	1.02	.60	.48	.32

e Estimated

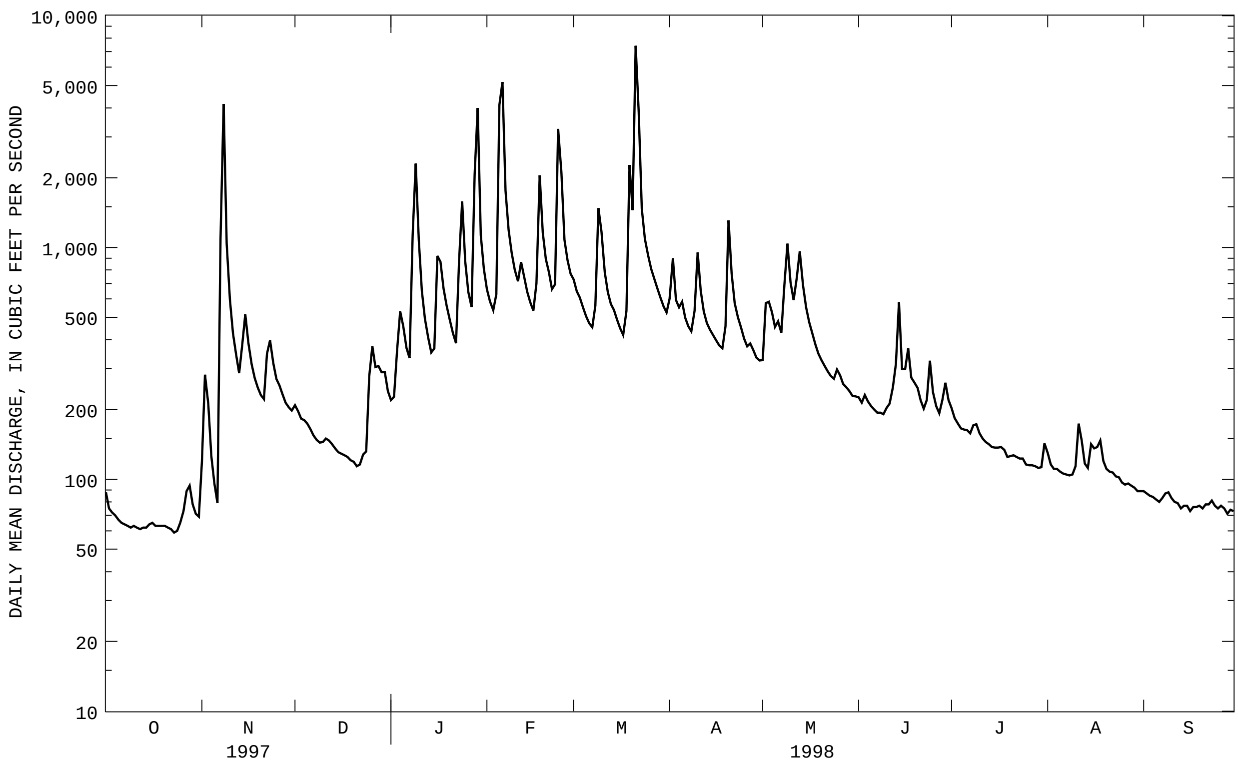
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	150	177	247	294	357	458	384	282	213	141	138	129
MAX	788	609	821	1337	1269	1461	1199	1091	1190	456	772	970
(WY)	1977	1997	1973	1996	1998	1993	1984	1988	1972	1972	1996	1996
MIN	30.5	35.1	33.7	39.6	76.6	119	97.8	86.0	65.4	49.4	36.6	35.2
(WY)	1948	1966	1966	1966	1954	1959	1954	1969	1969	1966	1966	1947

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	78853		165231			
ANNUAL MEAN	216		453		247	
HIGHEST ANNUAL MEAN					581	1996
LOWEST ANNUAL MEAN					85.7	1954
HIGHEST DAILY MEAN	4160	Nov 8	7420	Mar 21	(e)15000	Jan 20 1996
LOWEST DAILY MEAN	58	Sep 27	59	Oct 23	26	Oct 25 1947
ANNUAL SEVEN-DAY MINIMUM	61	Sep 22	62	Oct 18	27	Sep 7 1966
INSTANTANEOUS PEAK FLOW			10100	Mar 21	(a)23400	Jan 20 1996
INSTANTANEOUS PEAK STAGE			14.41	Mar 21	18.76	Jan 20 1996
INSTANTANEOUS LOW FLOW			58	(b)	25	Oct 25 1947
ANNUAL RUNOFF (CFSM)	.79		1.66		.91	
ANNUAL RUNOFF (INCHES)	10.74		22.51		12.30	
10 PERCENT EXCEEDS	383		887		484	
50 PERCENT EXCEEDS	148		240		141	
90 PERCENT EXCEEDS	65		76		57	

e Estimated
a From rating curve extended above 7,100 ft^3/s.
b Oct. 23, 24.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.72 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (recorder malfunction), which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 5	1015	85	2.20	Apr 19	2230	62	1.98
Feb 24	0645	83	2.18	May 8	1715	77	2.13
Mar 21	1300	*192	*3.02	Aug 6	1245	111	2.42

Minimum discharge, 0.55 ft^3/s, Oct 31, Nov 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	4.0	6.8	8.1	26	35	43	23	21	e16	e9.5	5.6
2	1.3	6.1	6.1	7.2	25	33	39	31	18	e15	e8.5	5.4
3	1.3	3.7	5.9	8.3	24	37	34	26	18	e14	e8.5	5.2
4	1.3	2.7	6.1	9.8	27	32	35	23	17	e13	e8.5	4.8
5	1.2	2.3	5.8	9.6	68	30	32	22	17	e13	e8.0	4.4
6	1.3	2.2	5.6	9.4	45	29	30	24	17	e12	e7.5	3.5
7	1.2	15	5.6	9.5	37	28	29	22	17	e12	7.0	4.0
8	1.3	36	5.5	20	34	33	29	51	17	e13	6.8	5.1
9	1.3	16	5.3	26	31	48	36	49	16	e19	7.3	5.0
10	1.4	12	5.9	19	30	42	35	36	17	e13	7.3	4.8
11	1.4	10	6.2	17	29	35	28	35	17	e12	8.6	4.6
12	.94	7.2	6.2	16	32	33	26	43	18	e11	7.6	4.6
13	1.0	6.6	6.5	16	28	32	25	39	18	e10	9.4	4.6
14	1.0	9.8	6.3	15	26	32	25	33	18	e10	9.2	4.4
15	1.3	10	6.1	16	25	30	25	31	16	e10	8.3	3.7
16	1.3	8.6	6.3	27	24	28	24	29	e17	e10	6.6	3.8
17	1.4	7.9	6.3	21	28	28	24	27	e24	e11	6.9	3.4
18	1.5	7.6	5.7	20	31	33	24	25	e18	e11	7.2	4.3
19	1.4	7.4	4.3	18	28	48	38	24	e20	e10	7.0	5.2
20	1.5	7.3	3.6	18	26	38	45	24	e22	e9.5	7.2	4.0
21	1.4	7.4	4.1	17	25	165	31	22	e17	e9.0	7.2	4.1
22	1.3	9.5	4.8	17	24	83	28	21	e16	e9.0	7.2	4.5
23	1.2	8.1	5.9	33	30	64	26	21	e15	e9.5	7.1	4.0
24	2.5	7.4	5.5	32	70	57	25	22	e23	e10	6.6	4.1
25	5.0	7.2	8.4	25	46	52	24	21	e19	e10	6.4	4.3
26	4.6	7.2	7.4	22	40	48	24	20	e16	e9.5	6.2	4.4
27	4.8	6.7	7.7	21	37	45	25	20	e15	e9.0	6.2	3.6
28	1.6	6.3	7.7	43	36	42	22	19	e14	e9.0	6.1	2.7
29	1.5	6.3	7.3	39	---	39	21	19	e13	e8.5	6.1	2.4
30	3.2	6.4	8.1	32	---	37	22	18	e13	e8.5	5.9	2.5
31	.98	---	7.2	28	---	36	---	18	---	e11	5.8	---
TOTAL	53.62	254.9	190.2	619.9	932	1352	874	838	524	347.5	227.7	127.0
MEAN	1.73	8.50	6.14	20.0	33.3	43.6	29.1	27.0	17.5	11.2	7.35	4.23
MAX	5.0	36	8.4	43	70	165	45	51	24	19	9.5	5.6
MIN	.94	2.2	3.6	7.2	24	28	21	18	13	8.5	5.8	2.4
CFSM	.09	.45	.32	1.06	1.76	2.31	1.54	1.43	.92	.59	.39	.22
IN.	.11	.50	.37	1.22	1.83	2.66	1.72	1.65	1.03	.68	.45	.25

e Estimated

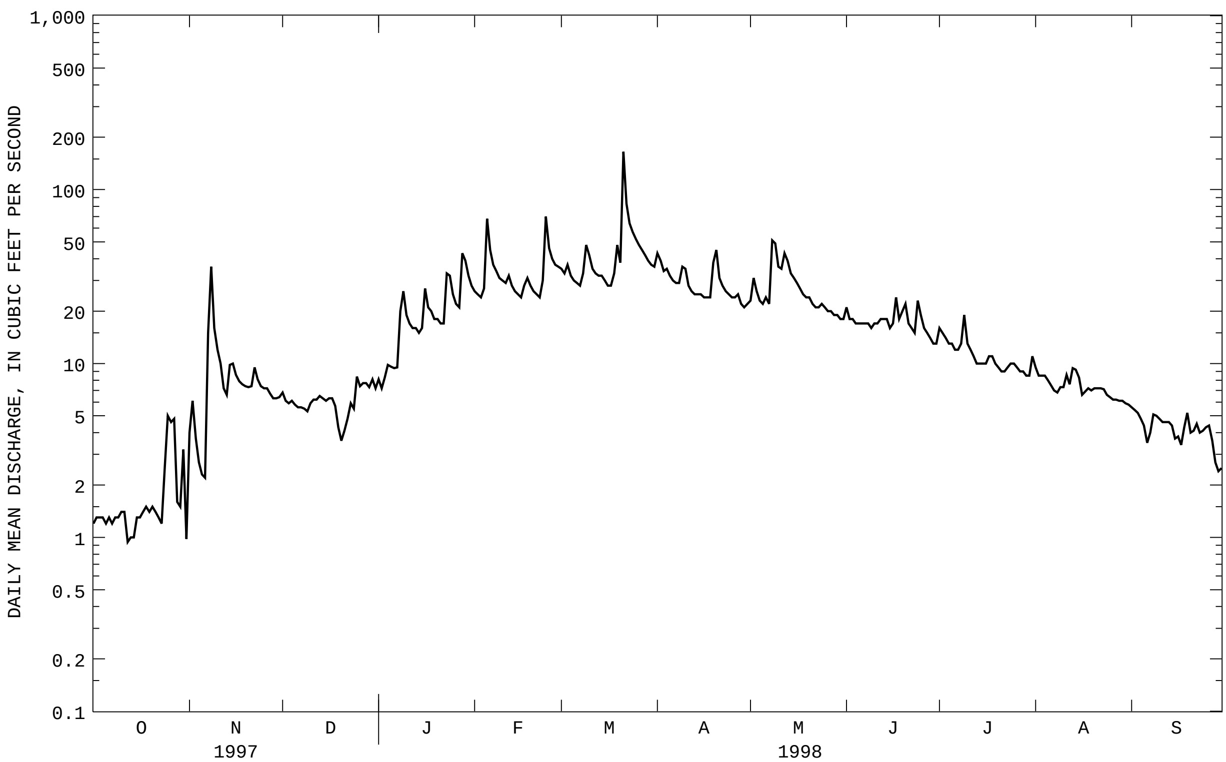
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.09	8.21	11.3	13.1	15.6	19.8	19.7	16.4	13.6	9.99	7.65	6.63
MAX	39.5	29.3	39.9	30.1	33.3	48.6	49.8	36.2	48.2	32.4	24.2	31.8
(WY)	1977	1997	1997	1979	1998	1994	1984	1972	1972	1972	1996	1975
MIN	.83	1.71	1.60	2.24	4.14	5.08	4.45	3.65	2.74	2.13	1.51	1.05
(WY)	1987	1992	1989	1981	1989	1990	1969	1969	1969	1991	1995	1995

01617800 MARSH RUN AT GRIMES, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	3746.38		6340.82			
ANNUAL MEAN	10.3		17.4		12.7	
HIGHEST ANNUAL MEAN					23.9	1972
LOWEST ANNUAL MEAN					4.31	1969
HIGHEST DAILY MEAN	36	Nov 8	165	Mar 21	223	Jun 23 1972
LOWEST DAILY MEAN	.47	Sep 8	.94	Oct 12	(a).00	Oct 1 1977
ANNUAL SEVEN-DAY MINIMUM	.67	Sep 4	1.2	Oct 8	.60	Oct 21 1986
INSTANTANEOUS PEAK FLOW			192	Mar 21	(b)459	Feb 12 1985
INSTANTANEOUS PEAK STAGE			3.02	Mar 21	4.45	Feb 12 1985
INSTANTANEOUS LOW FLOW			.55	(c)	(a).00	Oct 1 1977
ANNUAL RUNOFF (CFSM)	.54		.92		.67	
ANNUAL RUNOFF (INCHES)	7.37		12.48		9.10	
10 PERCENT EXCEEDS	21		36		25	
50 PERCENT EXCEEDS	7.4		13		9.3	
90 PERCENT EXCEEDS	1.4		3.6		3.0	

a Result of regulation caused by construction work upstream from station.
b From rating curve extended above 220 ft^3/s.
c Oct. 31, Nov. 1.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01619320 ALBERT POWELL FISH HATCHERY SPRING AT BEAVER CREEK, MD

LOCATION.--Lat 39°35'22", long 77°38'19", Washington County, Hydrologic Unit 02070004, on left bank at spring outlet, 0.2 mi upstream from Beaver Creek, and 0.4 mi north of the town of Beaver Creek.

PERIOD OF RECORD.--April 1987 to September 1998 (discontinued).

GAGE.--Water-stage recorder and steel weir plate. Datum of gage is 505 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft^3/s, Mar 21, gage height, 1.79 ft; minimum discharge, 5.5 ft^3/s, Oct 31, Nov 1, 2, 6, 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	5.5	7.9	7.0	12	12	11	11	11	9.6	8.5	7.7
2	6.2	5.8	7.7	7.0	12	12	11	11	11	9.5	8.5	7.7
3	6.2	6.0	7.7	7.1	12	12	11	12	11	9.5	8.5	7.7
4	6.2	5.9	7.7	7.2	12	12	11	12	11	9.5	8.5	7.7
5	6.2	5.7	7.7	7.3	14	12	11	12	11	9.5	8.5	7.7
6	6.2	5.6	7.7	7.4	13	11	11	12	10	9.5	8.5	7.7
7	6.1	6.5	7.7	7.5	13	11	11	12	10	9.3	8.5	7.6
8	6.0	10	7.7	9.1	13	11	11	15	10	9.2	8.5	7.3
9	6.0	9.3	7.7	10	13	11	11	15	10	9.2	8.5	7.2
10	6.0	8.9	7.7	9.9	12	12	11	15	10	9.2	8.5	7.2
11	6.0	8.6	7.7	9.7	12	12	11	15	9.8	9.2	8.5	7.2
12	6.0	8.4	7.5	9.5	12	11	11	14	9.7	9.2	8.4	7.2
13	6.0	7.7	7.5	9.4	12	11	11	13	9.7	9.2	8.2	7.2
14	6.0	7.7	7.5	9.2	12	11	11	13	9.7	9.2	8.2	7.2
15	6.0	7.7	7.4	9.2	12	11	11	13	9.7	9.2	8.2	7.2
16	6.0	8.1	7.3	9.6	11	11	10	13	9.7	9.2	8.2	7.2
17	6.0	8.1	7.2	9.7	11	11	10	12	9.9	9.2	8.1	7.2
18	6.0	7.9	7.2	9.6	12	11	11	12	10	9.2	8.0	7.2
19	6.0	7.7	7.2	9.5	11	12	11	12	10	9.2	8.0	7.2
20	6.0	7.9	7.2	9.4	11	12	11	12	10	9.1	8.0	7.2
21	5.9	7.8	7.2	10	11	18	11	12	10	9.1	8.0	7.2
22	5.7	7.7	7.0	11	11	15	11	11	10	9.0	8.0	7.2
23	5.7	7.8	7.0	11	12	14	11	11	10	9.0	7.8	7.1
24	5.7	7.9	7.0	11	14	14	11	11	10	9.0	7.8	7.0
25	5.7	8.0	7.2	10	13	14	11	11	10	9.0	7.7	7.0
26	5.7	8.0	7.3	10	12	13	11	11	10	9.0	7.7	7.0
27	5.7	8.0	7.2	10	12	12	11	11	10	9.0	7.7	7.0
28	5.7	8.0	7.2	12	12	12	11	11	9.7	9.0	7.7	7.0
29	5.7	8.0	7.0	12	---	12	11	11	9.7	8.6	7.7	7.0
30	5.7	8.0	7.0	12	---	12	11	11	9.7	8.5	7.7	7.0
31	5.6	---	7.0	12	---	12	---	11	---	8.5	7.7	---
TOTAL	184.1	228.2	229.0	295.3	339	377	328	378	302.3	283.6	252.3	218.0
MEAN	5.94	7.61	7.39	9.53	12.1	12.2	10.9	12.2	10.1	9.15	8.14	7.27
MAX	6.2	10	7.9	12	14	18	11	15	11	9.6	8.5	7.7
MIN	5.6	5.5	7.0	7.0	11	11	10	11	9.7	8.5	7.7	7.0

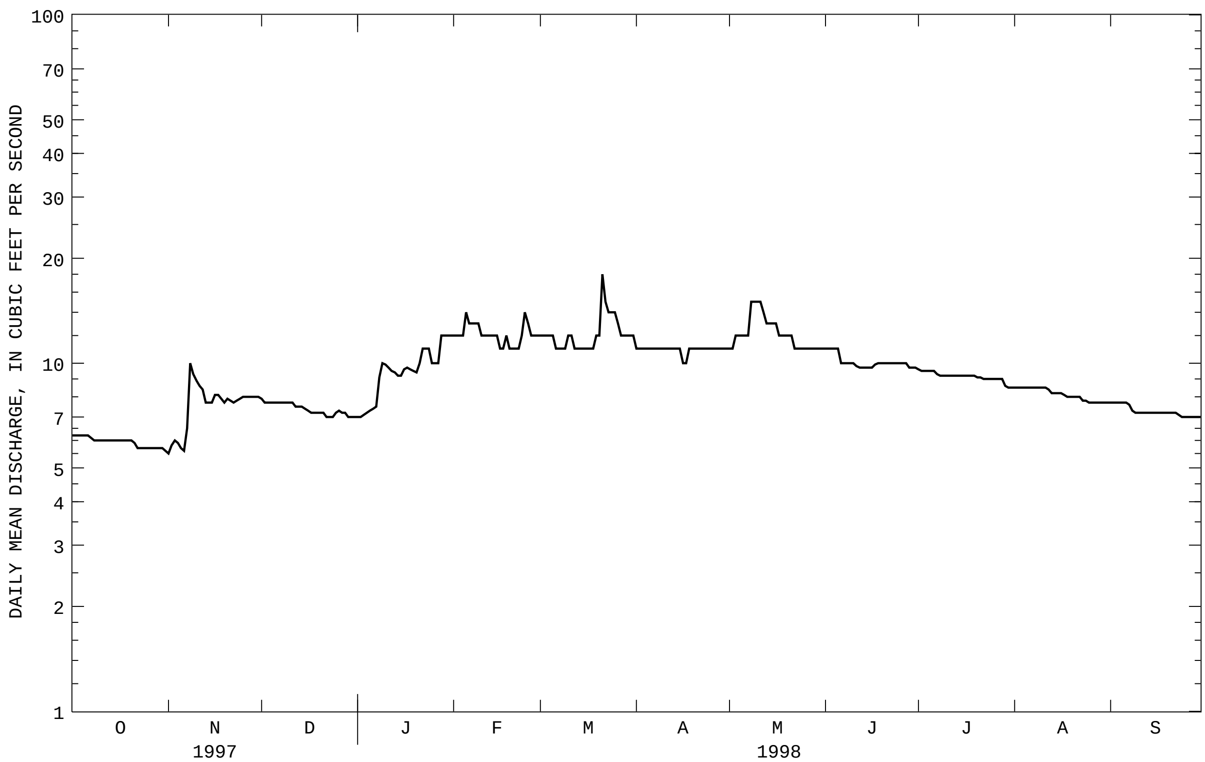
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.02	6.92	7.92	8.54	8.75	9.57	9.48	9.42	8.77	7.99	7.42	7.16
MAX	11.5	10.9	11.7	10.8	12.1	14.1	13.4	12.2	11.1	10.6	10.7	11.7
(WY)	1997	1997	1997	1996	1998	1994	1993	1998	1996	1996	1996	1996
MIN	5.64	5.32	5.30	5.63	5.54	6.40	6.14	7.17	7.49	6.76	6.22	6.08
(WY)	1989	1988	1989	1989	1989	1988	1988	1990	1997	1997	1991	1988

01619320 ALBERT POWELL FISH HATCHERY SPRING AT BEAVER CREEK, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1987 - 1998	
ANNUAL TOTAL	2915.4		3414.8			
ANNUAL MEAN	7.99		9.36		8.13	
HIGHEST ANNUAL MEAN					9.68	1996
LOWEST ANNUAL MEAN					6.51	1988
HIGHEST DAILY MEAN	11	Jan 1	18	Mar 21	25	Jan 19 1996
LOWEST DAILY MEAN	5.5	Nov 1	5.5	Nov 1	5.0	(a)
ANNUAL SEVEN-DAY MINIMUM	5.7	Oct 26	5.7	Oct 26	5.1	Dec 13 1988
INSTANTANEOUS PEAK FLOW			22	Mar 21	(b)22	Mar 21 1998
INSTANTANEOUS PEAK STAGE			1.79	Mar 21	(c)2.45	Jan 19 1996
INSTANTANEOUS LOW FLOW			5.5	(d)	4.9	(a)
10 PERCENT EXCEEDS	10		12		11	
50 PERCENT EXCEEDS	7.7		9.2		7.7	
90 PERCENT EXCEEDS	6.2		6.2		6.0	

a Dec. 18, 19, 1988.
b May have been greater during period of backwater from Beaver Creek on Jan. 19, 1996.
c Affected by backwater from Beaver Creek.
d Oct 31, Nov. 1, 2, 6, 7.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level. 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 except those for estimated daily discharges (backwater), which are fair. Some diurnal fluctuation caused by powerplant upstream from station. Since 1928 records include pumpage from the Potomac River for municipal supply of Hagerstown. This water later enters Antietam Creek upstream from station as sewage. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1315	2,720	6.80	Feb 24	2015	2,790	6.89
Jan 8	1530	1,660	5.31	Mar 10	0245	1,830	5.56
Jan 29	0045	2,200	6.09	Mar 21	2030	*4,870	*9.39
Feb 5	2300	2,860	6.99	May 3	0115	1,540	5.11
Feb 18	1245	2,000	5.81	May 8	2200	3,270	7.51

Minimum discharge, 105 ft^3/s, Oct 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e150	163	270	239	929	1160	855	568	498	339	256	157
2	e135	342	258	232	839	1040	887	864	441	302	210	154
3	131	291	247	247	780	1130	737	1120	411	289	201	152
4	129	204	240	284	843	1110	706	827	399	281	196	151
5	127	170	237	302	2410	978	674	726	392	277	193	150
6	125	155	231	300	2180	898	639	774	386	269	189	147
7	123	489	225	306	1490	846	609	690	371	264	185	147
8	121	2430	220	908	1260	886	593	1680	364	353	181	175
9	119	1020	220	1510	1110	1340	668	2010	358	451	179	150
10	124	646	228	1200	993	1690	811	1360	368	313	197	146
11	122	503	252	886	910	1320	643	1230	366	282	298	145
12	116	432	244	743	970	1150	591	1380	391	266	220	141
13	113	389	227	655	879	1040	569	1370	402	259	197	138
14	113	418	224	586	802	973	554	1170	405	255	190	139
15	123	430	213	578	747	893	546	1050	368	250	192	138
16	121	385	210	896	704	822	526	955	374	247	190	139
17	116	354	209	804	761	768	522	866	535	281	218	139
18	115	334	207	733	1680	797	529	792	391	290	254	145
19	113	319	204	671	1320	1190	655	731	409	258	205	139
20	111	307	202	623	1100	1010	1270	681	510	236	191	136
21	110	301	199	579	1010	4000	885	645	456	231	183	139
22	109	343	199	547	880	2900	766	602	373	226	178	153
23	107	334	216	841	880	1830	706	577	361	232	174	168
24	108	303	208	1170	2370	1510	663	556	511	250	172	153
25	130	290	265	923	1950	1340	619	540	385	225	169	151
26	131	287	286	801	1470	1170	590	521	347	214	182	150
27	147	274	258	736	1300	1060	634	498	335	209	174	139
28	134	266	256	1340	1200	981	567	483	320	208	166	140
29	120	262	246	1770	---	907	530	465	316	204	160	141
30	113	261	258	1250	---	840	521	456	316	203	158	144
31	111	---	254	1060	---	790	---	439	---	287	158	---
TOTAL	3767	12702	7213	23720	33767	38369	20065	26626	11859	8251	6016	4406
MEAN	122	423	233	765	1206	1238	669	859	395	266	194	147
MAX	150	2430	286	1770	2410	4000	1270	2010	535	451	298	175
MIN	107	155	199	232	704	768	521	439	316	203	158	136
(†)	-14.8	-14.2	-13.5	-13.7	-12.9	-12.8	-11.3	-12.9	-13.6	-14.0	-15.2	-15.9
MEAN≠	107	409	219	751	1193	1225	658	846	381	252	179	131
CFSM≠	0.38	1.46	0.78	2.67	4.25	4.36	2.34	3.01	1.36	0.90	0.64	0.47
IN≠	0.44	1.63	0.90	3.08	4.43	5.03	2.61	3.47	1.52	1.04	0.74	0.52

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1998, BY WATER YEAR (WY)

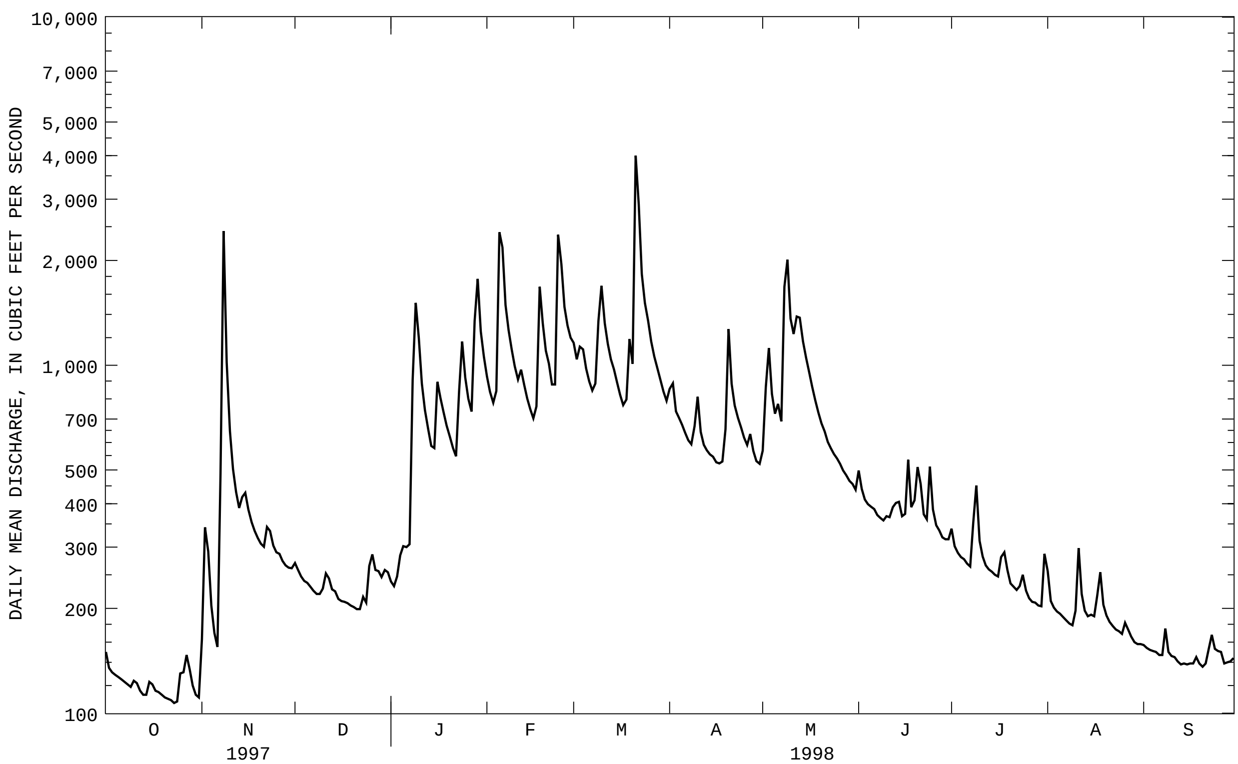
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	178	197	261	307	366	474	470	380	292	216	176	173
MAX	916	628	964	943	1206	1299	1201	859	1278	604	531	1090
(WY)	1977	1997	1997	1996	1998	1994	1993	1998	1972	1996	1996	1975
MIN	65.5	65.6	61.5	57.3	72.5	101	163	139	109	86.7	65.0	69.4
(WY)	1964	1966	1966	1966	1931	1931	1969	1931	1966	1954	1966	1963

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

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1931 - 1998	
ANNUAL TOTAL	104348		196761			
ANNUAL MEAN	286		539		290	
ANNUAL MEAN≠	271		525		281	
HIGHEST ANNUAL MEAN					554	1996
LOWEST ANNUAL MEAN					124	1966
HIGHEST DAILY MEAN	2430	Nov 8	4000	Mar 21	8970	Sep 26 1975
LOWEST DAILY MEAN	97	(a)	107	Oct 23	37	Jan 30 1966
ANNUAL SEVEN-DAY MINIMUM	99	Sep 3	110	Oct 18	49	Jan 26 1966
INSTANTANEOUS PEAK FLOW			4870	Mar 21	(b)12600	Jul 20 1956
INSTANTANEOUS PEAK STAGE			9.39	Mar 21	16.73	Jul 20 1956
INSTANTANEOUS LOW FLOW			105	(c)	(d)9.4	Nov 22 1957
ANNUAL RUNOFF (CFSM)	1.02		1.92		1.03	
ANNUAL RUNOFF (CFSM)≠	0.96		1.87		1.00	
ANNUAL RUNOFF (INCHES)	13.81		26.05		14.04	
ANNUAL RUNOFF (INCHES)≠	13.09		25.39		13.58	
10 PERCENT EXCEEDS	500		1160		560	
50 PERCENT EXCEEDS	240		347		209	
90 PERCENT EXCEEDS	113		139		99	

≠ Adjusted for inflow since January 1930.
a Sept. 5-7.
b From rating curve extended above 7,300 ft^3/s on basis of contracted-opening measurement of peak flow.
c Oct. 23, 24.
d Result of regulation caused by construction work upstream from station.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 4.7.

DRAINAGE AREA.--3,022 mi^2.

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). WDR MD-DE-97-1: Drainage area.

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

REMARKS.--No estimated daily discharges. Records good. Some regulation by upstream hydroelectric plants, including that of Potomac Light and Power Company, 0.5 mi upstream from station. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	2130	22,100	9.97	Feb 25	0500	18,700	9.17
Jan 9	2030	*52,200	*15.34	Mar 10	2300	18,500	9.13
Jan 29	1900	28,600	11.35	Mar 22	1245	33,700	12.31
Feb 6	0700	48,000	14.70	Apr 21	1215	15,200	8.27
Feb 13	1200	20,200	9.53	May 10	0300	15,200	8.26
Feb 19	0600	50,800	15.13				

Minimum discharge, 649 ft^3/s, Oct 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	964	1770	1850	13900	10500	5350	3820	2510	1930	998	736
2	1270	1420	1740	1800	10900	10600	5240	4000	2390	2070	973	693
3	1050	1580	1690	1810	9180	10300	5180	4430	2330	1860	935	701
4	954	1550	1660	2010	8740	9680	4970	5050	2160	1730	922	704
5	879	1730	1620	2540	25300	8380	5280	5510	2080	1680	910	701
6	831	1500	1570	3050	43000	7350	6410	8850	2020	1710	898	687
7	778	3090	1520	3490	26900	6600	6400	8160	1940	1630	882	680
8	781	19200	1450	10300	19000	6150	5780	8020	1910	1600	862	702
9	795	18600	1400	38700	15200	7860	5520	10800	1890	1580	847	721
10	733	11400	1500	36000	13300	15400	7210	14600	1960	1540	855	716
11	736	7170	1390	17000	11600	16800	9020	11800	2070	1470	943	740
12	711	5150	1450	11400	12300	12400	8960	9530	2100	1450	1080	807
13	687	4180	1440	8650	18600	9730	7660	9060	2240	1410	1060	828
14	687	3590	1470	6970	18100	8160	6590	8330	2710	1370	1020	760
15	708	3450	1420	5980	14200	7120	5820	7100	2450	1310	1040	727
16	727	3280	1400	5990	11400	6300	5310	6110	4440	1270	1010	722
17	698	3100	1380	7170	10600	5640	4900	5480	4280	1270	977	707
18	681	2800	1390	7580	33400	5430	4610	5460	3520	1260	1020	694
19	685	2550	1380	6730	44400	8850	4580	6060	3200	1240	1100	719
20	701	2390	1360	5940	25100	17800	7200	5130	2910	1390	1080	722
21	676	2280	1320	5270	19200	25500	13400	4460	2430	1270	1350	693
22	707	2290	1260	4790	16100	31200	11100	4020	2820	1190	1110	715
23	679	2300	1280	4980	13800	22700	8460	3710	2510	1130	1010	742
24	661	2230	1290	8160	15900	15300	7040	3390	2830	1120	942	722
25	672	2140	1390	11900	17900	11800	6060	3320	2600	1040	921	709
26	713	2040	1480	10300	14800	9710	5390	3430	2370	1050	888	720
27	814	1960	1570	8580	12700	8300	4910	3200	2220	1030	858	718
28	846	1860	1740	11400	11200	7360	4570	3000	2060	1030	841	717
29	908	1820	1800	26400	---	6610	4280	2820	2000	999	831	712
30	893	1800	1870	23000	---	6060	4030	2850	1960	1000	799	692
31	912	---	1920	17100	---	5640	---	2720	---	1050	782	---
TOTAL	24673	119414	46920	316840	506720	341230	191230	184220	74910	42679	29744	21607
MEAN	796	3980	1514	10220	18100	11010	6374	5943	2497	1377	959	720
MAX	1270	19200	1920	38700	44400	31200	13400	14600	4440	2070	1350	828
MIN	661	964	1260	1800	8740	5430	4030	2720	1890	999	782	680
CFSM	.26	1.32	.50	3.38	5.99	3.64	2.11	1.97	.83	.46	.32	.24
IN.	.30	1.47	.58	3.90	6.24	4.20	2.35	2.27	.92	.53	.37	.27

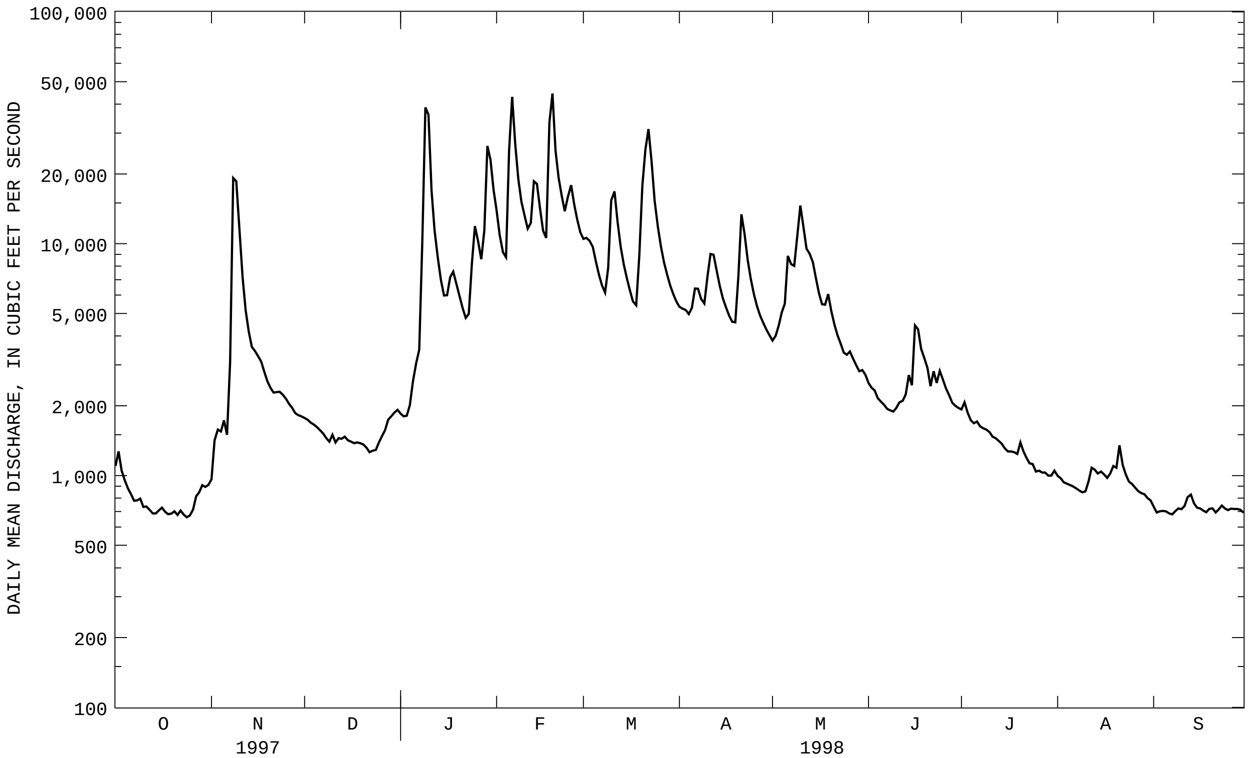
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1909, 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1954	1882	2511	3293	3988	5102	4409	3387	2418	1459	1647	1458
MAX	16250	13350	8164	13470	18100	17540	12840	8701	10380	4809	10390	14780
(WY)	1943	1986	1973	1996	1998	1936	1901	1901	1972	1972	1955	1996
MIN	343	388	410	503	542	929	992	1001	660	402	388	411
(WY)	1931	1932	1966	1966	1931	1931	1981	1969	1977	1966	1930	1963

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1895 - 1909 1928 - 1998	
ANNUAL TOTAL	967886		1900187			
ANNUAL MEAN	2652		5206		2786	
HIGHEST ANNUAL MEAN					5618	1996
LOWEST ANNUAL MEAN					1111	1981
HIGHEST DAILY MEAN	20200	Mar 5	44400	Feb 19	192000	Oct 16 1942
LOWEST DAILY MEAN	643	Sep 9	661	Oct 24	194	Jul 24 1930
ANNUAL SEVEN-DAY MINIMUM	683	Oct 19	683	Oct 19	240	Sep 7 1966
INSTANTANEOUS PEAK FLOW			52300	Jan 9	230000	Oct 16 1942
INSTANTANEOUS PEAK STAGE			15.35	Jan 9	(a)32.40	Oct 16 1942
INSTANTANEOUS LOW FLOW			649	Oct 24	59	Oct 4 1930
ANNUAL RUNOFF (CFSM)	.88		1.72		.92	
ANNUAL RUNOFF (INCHES)	11.91		23.39		12.53	
10 PERCENT EXCEEDS	4680		12900		5630	
50 PERCENT EXCEEDS	1860		2220		1620	
90 PERCENT EXCEEDS	792		722		613	

a From floodmarks.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. Elevation of gage is 385 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (plugged intake), which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0045	1,520	4.79	Feb 4	1930	1,500	4.77
Jan 8	1315	4,130	7.87	Mar 21	0230	4,100	7.84
Jan 28	1500	1,910	5.34	May 8	1445	*5,770	*9.42

Minimum discharge, Unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.8	29	40	35	270	260	240	95	92	40	22	e2.3
2	e3.4	106	34	45	223	225	202	304	55	27	10	e2.3
3	e3.4	58	30	49	194	296	152	199	48	21	e7.5	2.3
4	e3.4	25	30	66	551	245	145	200	44	16	e7.0	2.3
5	e3.0	16	29	93	1270	223	133	172	39	15	e6.5	1.9
6	e2.8	12	27	84	740	199	119	188	35	14	e5.5	1.8
7	e2.7	258	25	84	502	184	109	154	35	13	e5.0	2.0
8	e2.6	636	24	1580	375	214	105	2080	33	40	e5.5	6.9
9	e2.9	158	22	885	299	451	191	891	33	44	e5.0	5.5
10	e2.6	101	23	461	249	409	199	546	39	27	e11	4.2
11	e2.4	73	34	312	223	309	140	453	43	18	e18	3.5
12	e2.4	58	33	236	233	261	125	538	55	13	e11	2.8
13	e2.3	49	30	197	187	227	115	427	60	e12	e7.5	2.4
14	e2.3	68	27	159	165	209	110	342	63	e11	e6.5	2.1
15	e2.6	81	24	207	146	182	108	283	42	e11	e7.5	2.1
16	e2.8	60	23	426	134	161	101	236	69	e10	e6.5	2.0
17	e2.6	49	23	269	267	146	110	198	131	e10	e14	1.9
18	e6.0	43	22	258	547	175	98	167	52	e10	e11	3.4
19	e4.0	39	21	208	342	436	229	145	74	e9.5	e6.5	3.9
20	e3.4	36	21	179	295	339	361	127	116	e9.2	e5.5	3.6
21	e3.0	36	20	154	256	2010	214	112	62	e9.0	e5.0	3.0
22	e2.8	79	20	138	210	720	183	99	47	e8.7	e4.6	3.1
23	e2.7	66	27	392	255	483	163	89	44	e8.3	e4.0	3.1
24	e2.9	53	30	356	869	372	146	83	57	e8.0	e3.6	3.2
25	e15	45	78	282	583	310	128	80	41	e7.5	e3.2	3.6
26	10	43	71	231	432	260	117	72	33	e7.0	e2.9	3.7
27	e23	40	60	208	341	225	122	65	29	e7.0	e2.7	3.6
28	e16	37	58	1230	286	199	101	62	27	e6.5	e2.7	3.2
29	e13	35	52	685	---	177	93	57	28	e6.0	e2.5	2.8
30	e11	35	56	468	---	159	90	56	29	e6.0	e2.5	2.4
31	8.4	---	49	343	---	144	---	52	---	44	e2.4	---
TOTAL	169.2	2424	1063	10320	10444	10210	4449	8572	1555	488.7	215.1	90.9
MEAN	5.46	80.8	34.3	333	373	329	148	277	51.8	15.8	6.94	3.03
MAX	23	636	78	1580	1270	2010	361	2080	131	44	22	6.9
MIN	2.3	12	20	35	134	144	90	52	27	6.0	2.4	1.8
CFSM	.08	1.21	.51	4.98	5.58	4.92	2.22	4.13	.77	.24	.10	.05
IN.	.09	1.35	.59	5.74	5.81	5.68	2.47	4.77	.86	.27	.12	.05

e Estimated

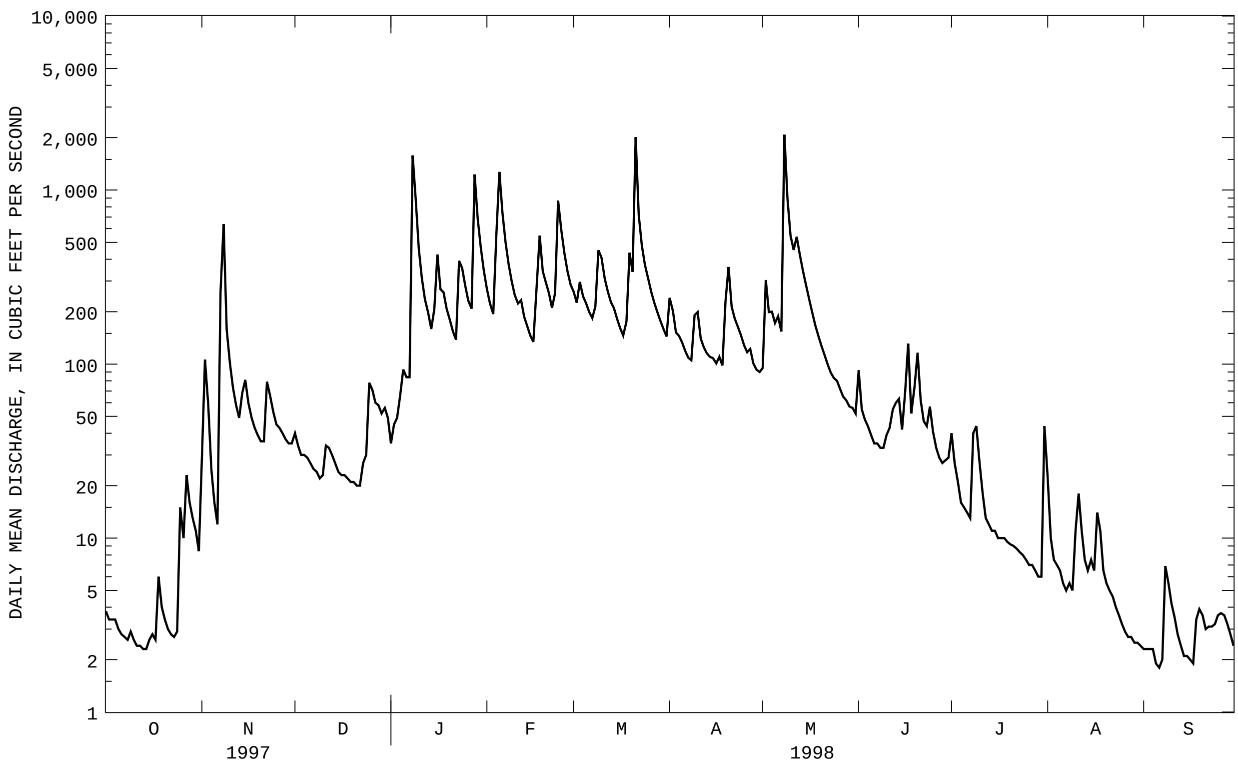
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	36.3	50.5	87.5	106	126	157	140	102	60.3	34.1	22.7	27.1
MAX	399	162	318	333	373	407	360	391	439	214	208	284
(WY)	1977	1986	1993	1998	1998	1994	1993	1988	1972	1949	1955	1975
MIN	2.62	3.61	3.80	4.25	28.8	46.3	40.1	29.2	13.5	4.86	2.04	1.68
(WY)	1964	1966	1966	1966	1954	1969	1995	1963	1954	1966	1966	1965

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	18672.2		50000.9			
ANNUAL MEAN	51.2		137		78.9	
HIGHEST ANNUAL MEAN					164	1996
LOWEST ANNUAL MEAN					29.7	1954
HIGHEST DAILY MEAN	636	Nov 8	2080	May 8	4880	Oct 9 1976
LOWEST DAILY MEAN	1.2	Sep 9	1.8	Sep 6	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 3	2.1	Sep 1	.00	Aug 27 1966
INSTANTANEOUS PEAK FLOW			5770	May 8	(b)12000	Oct 9 1976
INSTANTANEOUS PEAK STAGE			9.42	May 8	14.13	Oct 9 1976
INSTANTANEOUS LOW FLOW			UNKNOWN		.00	(a)
ANNUAL RUNOFF (CFSM)	.76		2.05		1.18	
ANNUAL RUNOFF (INCHES)	10.38		27.80		16.03	
10 PERCENT EXCEEDS	119		341		180	
50 PERCENT EXCEEDS	31		49		39	
90 PERCENT EXCEEDS	2.6		3.0		5.6	

a Aug. 27 to Sept. 12, 1966.
b From rating curve extended above 2,600 ft^3/s on basis of slope-area measurement of peak flow.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 river mile 159.5.

DRAINAGE AREA.--9,651 mi^2.

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 above sea level. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--No estimated daily discharges. Records good. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir; since December 1950 by Savage River Reservoir (see station 01597500); and since July 1981 by Jennings Randolph Lake. Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft^3/s from rating curve extended as explained in footnotes.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 9	0230	99,100	17.37	Mar 2	2030	39,600	9.26
Jan 10	0330	122,000	20.07	Mar 11	0730	62,300	12.64
Jan 25	1330	36,000	8.68	Mar 22	1600	*123,000	*20.24
Jan 29	2100	65,200	13.04	Apr 11	1300	38,700	9.12
Feb 6	1330	104,000	17.99	Apr 21	1100	70,200	13.71
Feb 14	1000	46,100	10.28	May 7	0730	39,800	9.30
Feb 19	1200	106,000	18.23	May 10	0200	51,600	11.10
Feb 25	1200	74,700	14.30	May 13	1830	35,300	8.57

Minimum discharge, 1,500 ft^3/s, Sep 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2790	2430	6400	7380	36700	37000	16900	13400	6570	6390	2850	1980
2	3480	3340	7030	6810	29400	38300	16500	14400	6610	8200	2850	1970
3	2950	5920	8680	6540	24700	37900	16000	17300	6580	6980	2930	1860
4	2780	7430	7740	7330	23500	33900	14900	19200	6020	6330	2780	1610
5	2480	6760	7100	11600	43900	29000	14100	17800	5930	5510	2480	1730
6	2090	5830	6600	14300	96600	24600	15600	24900	5530	4980	2360	1670
7	2100	6750	6170	14600	73000	21500	17400	38200	5080	4610	2270	1740
8	1950	55300	5770	28400	51300	19700	15800	35200	4870	4610	2190	1850
9	1850	85000	5480	79900	40200	24800	15700	45500	4740	5150	2160	1970
10	1930	45400	5300	105000	34600	48200	19900	48700	4830	6040	2150	1820
11	1780	27100	5180	56100	30600	59400	36500	38200	4930	5510	2340	1710
12	1730	18900	5610	37200	30300	44400	32600	31800	5070	4750	2930	1940
13	1730	14500	5840	27900	40200	33300	25800	33900	5960	4190	3110	1820
14	1770	12100	6060	22500	45100	27500	21300	32900	7090	3960	3290	1910
15	1650	11600	6130	19400	37700	23600	18600	27100	7550	3670	3120	2060
16	1610	12600	5880	19800	30200	20300	16900	22400	8860	3450	2880	1800
17	1630	11500	5570	21100	26300	18000	15400	19100	10200	3350	3190	1800
18	1720	10200	5280	22100	52300	16800	14100	17700	10600	3380	3460	1820
19	1680	9070	5150	20900	99500	21400	13600	16700	9870	3280	3500	1750
20	1680	8130	4950	18800	74400	35100	36400	14400	9300	3260	3480	1650
21	1690	7540	4690	16600	57100	69000	67600	12300	9110	3300	3430	1700
22	1650	7340	4430	14800	47900	113000	48600	11000	10500	2960	3100	1870
23	1640	7780	4430	15700	41200	89000	32600	9940	8980	2900	2800	1800
24	1650	8870	4460	23200	50300	53600	25400	9170	8660	3010	2610	1820
25	1630	8900	4800	34800	72000	39500	21300	8700	10500	2810	2490	2080
26	1760	8370	5710	32400	60200	31800	18400	8600	8610	2700	2930	2010
27	1970	7800	7160	26900	50200	26900	16500	8310	6920	2500	2710	1910
28	2150	7220	7650	31100	41000	23400	16600	8160	6460	2540	2260	1860
29	2650	6740	7800	57400	---	20900	16000	7440	5680	2510	2150	1690
30	2350	6520	7870	54600	---	19300	14600	7130	5450	2490	2060	1740
31	2240	---	7630	42800	---	17800	---	6840	---	2920	2010	---
TOTAL	62760	436940	188550	897960	1340400	1118900	671600	626390	217060	128240	84870	54940
MEAN	2025	14560	6082	28970	47870	36090	22390	20210	7235	4137	2738	1831
MAX	3480	85000	8680	105000	99500	113000	67600	48700	10600	8200	3500	2080
MIN	1610	2430	4430	6540	23500	16800	13600	6840	4740	2490	2010	1610
CFSM	.21	1.51	.63	3.00	4.96	3.74	2.32	2.09	.75	.43	.28	.19
IN.	.24	1.68	.73	3.46	5.17	4.31	2.59	2.41	.84	.49	.33	.21

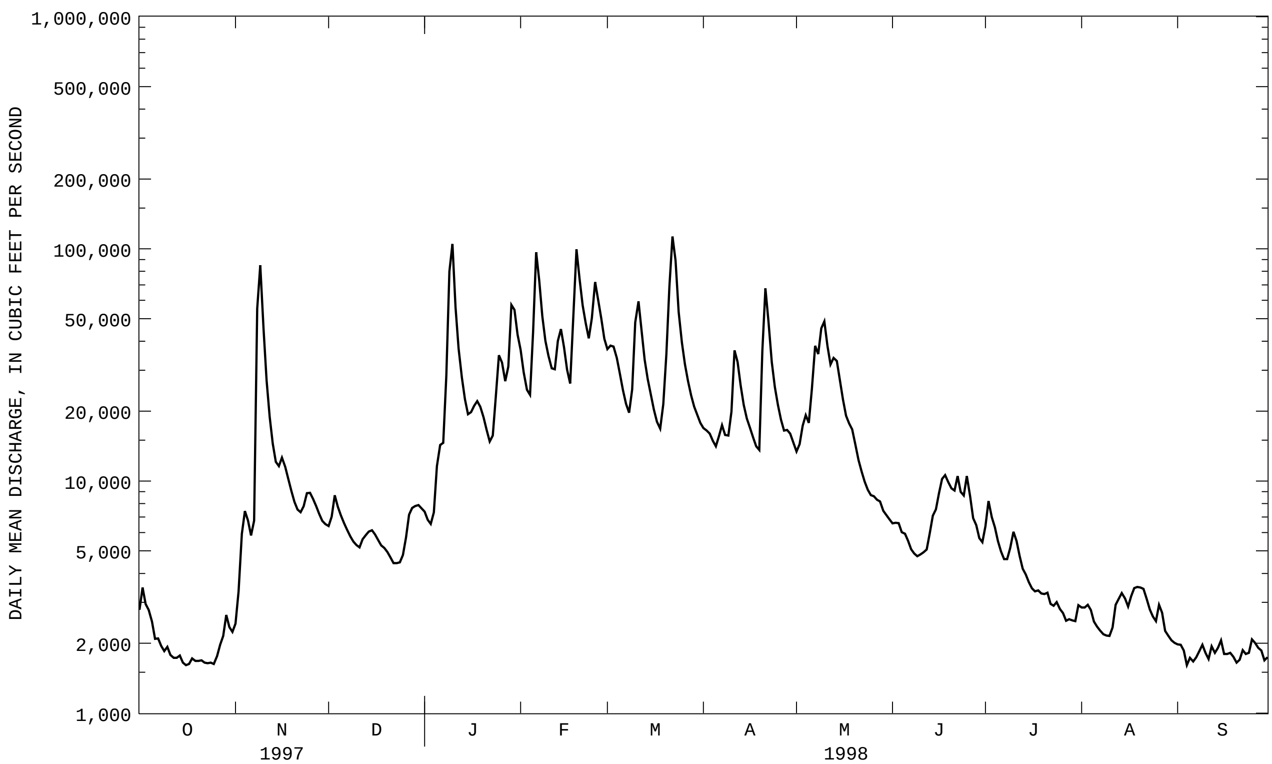
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5056	5722	8652	11650	14600	19900	16540	12410	8023	4545	4299	3774
MAX	37030	39000	32610	42160	47870	68360	43840	41970	40400	16000	23580	38300
(WY)	1943	1986	1973	1996	1998	1936	1993	1924	1972	1949	1955	1996
MIN	706	840	1253	1703	2661	5400	4368	3276	1932	1056	771	834
(WY)	1931	1931	1966	1981	1934	1931	1915	1930	1969	1966	1930	1930

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1895 - 1998	
ANNUAL TOTAL	3089020		5828610			
ANNUAL MEAN	8463		15970		9582	
HIGHEST ANNUAL MEAN					18750	1996
LOWEST ANNUAL MEAN					4366	1969
HIGHEST DAILY MEAN	85000	Nov 9	113000	Mar 22	434000	Mar 19 1936
LOWEST DAILY MEAN	1560	(a)	1610	(b)	540	Sep 10 1914
ANNUAL SEVEN-DAY MINIMUM	1600	Sep 3	1660	Oct 19	593	Sep 6 1966
INSTANTANEOUS PEAK FLOW			123000	Mar 22	(c)480000	Mar 19 1936
INSTANTANEOUS PEAK STAGE			20.24	Mar 22	41.03	Mar 19 1936
INSTANTANEOUS LOW FLOW			1500	Sep 4	530	(d)
ANNUAL RUNOFF (CFSM)	.88		1.65		.99	
ANNUAL RUNOFF (INCHES)	11.91		22.47		13.49	
10 PERCENT EXCEEDS	17700		40500		20900	
50 PERCENT EXCEEDS	5940		7440		5430	
90 PERCENT EXCEEDS	1830		1860		1690	

a Sept. 5, 9.
b Oct. 16, 1997, Sept. 4, 1998.
c From rating curve extended above 300,000 ft^3/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.
d Sept. 11, 12, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level (levels by U.S. Army Corps of Engineers). Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mi downstream at datum 0.98 ft lower.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some periods have been collected at this location.

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^3/s. Stage exceeded that of June 1889, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0700	5,690	11.46	Feb 18	0715	8,010	13.73
Jan 8	1930	*9,890	*15.38	Feb 24	0615	5,750	11.52
Jan 23	2030	6,050	11.83	Mar 21	0945	8,550	14.22
Feb 5	1315	5,450	11.20				

Minimum discharge, 2.1 ft^3/s, Sep 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	12	92	110	288	363	296	133	56	22	64	4.7
2	13	119	90	107	248	286	421	635	61	22	27	5.0
3	11	158	89	141	225	893	191	438	42	18	18	4.4
4	9.8	66	66	244	270	759	155	435	36	15	14	4.2
5	8.1	42	60	177	3520	451	134	1360	33	14	12	4.1
6	7.0	29	55	168	951	323	111	1260	32	14	9.9	3.7
7	6.5	338	50	195	500	275	99	462	32	14	6.8	3.5
8	6.3	3520	47	5560	375	1000	92	1710	30	129	7.2	3.3
9	5.9	608	44	3060	300	2850	1140	1040	29	163	7.3	2.8
10	5.3	311	45	874	257	986	1160	553	28	59	15	2.7
11	4.8	190	102	518	238	500	354	655	32	35	59	2.4
12	4.5	135	104	383	855	366	235	2250	105	24	34	2.4
13	4.3	104	98	316	385	297	179	1210	109	20	19	4.0
14	4.0	334	78	248	275	273	152	541	87	17	14	4.8
15	4.1	563	67	245	229	233	141	377	61	15	12	3.5
16	6.6	235	59	1840	199	197	121	287	48	24	12	2.6
17	9.7	152	56	673	407	173	121	227	107	122	55	2.4
18	9.8	132	53	815	4510	207	141	174	68	39	88	2.2
19	9.1	113	50	455	1010	1320	492	139	48	27	51	2.1
20	7.9	105	48	322	629	549	1690	115	54	21	34	2.3
21	6.7	98	46	242	527	5190	419	102	53	16	20	3.1
22	6.6	273	43	207	360	1350	279	90	37	14	14	6.9
23	6.1	264	57	2320	786	685	221	81	30	12	12	12
24	5.7	168	100	1910	3670	473	184	75	30	16	10	8.6
25	7.7	127	743	825	845	412	145	74	31	18	8.6	7.0
26	24	114	367	523	491	323	123	69	27	14	7.3	6.7
27	36	109	211	392	380	273	242	60	23	11	8.0	6.2
28	43	99	210	2220	327	232	149	55	23	9.9	7.9	6.0
29	25	74	161	1120	---	198	111	51	22	9.0	7.9	5.0
30	18	66	168	555	---	168	100	49	26	8.5	7.8	4.6
31	14	---	167	368	---	149	---	46	---	41	5.8	---
TOTAL	350.5	8658	3626	27133	23057	21754	9398	14753	1400	983.4	668.5	133.2
MEAN	11.3	289	117	875	823	702	313	476	46.7	31.7	21.6	4.44
MAX	43	3520	743	5560	4510	5190	1690	2250	109	163	88	12
MIN	4.0	12	43	107	199	149	92	46	22	8.5	5.8	2.1
CFSM	.07	1.67	.68	5.06	4.76	4.06	1.81	2.75	.27	.18	.12	.03
IN.	.08	1.86	.78	5.83	4.96	4.68	2.02	3.17	.30	.21	.14	.03

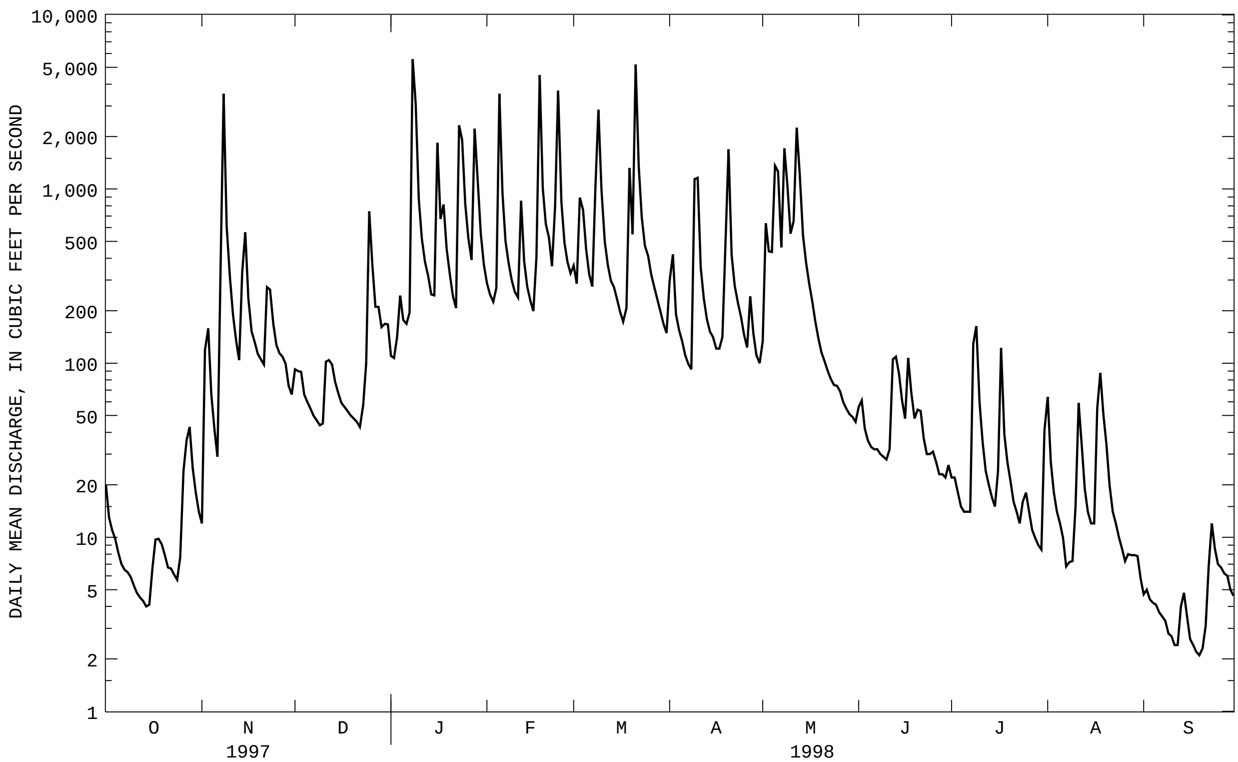
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	95.0	184	273	308	385	460	298	215	135	82.6	59.8	83.5
MAX	906	513	780	1214	1029	1606	1029	964	1065	598	613	1027
(WY)	1977	1986	1997	1996	1961	1994	1983	1989	1972	1949	1942	1975
MIN	3.24	10.4	13.7	13.8	51.0	94.7	58.1	41.2	10.5	2.68	2.40	2.34
(WY)	1964	1954	1966	1981	1980	1949	1995	1969	1966	1966	1944	1943

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998	
ANNUAL TOTAL	46469.3		111914.6			
ANNUAL MEAN	127		307		213	
HIGHEST ANNUAL MEAN					447	1996
LOWEST ANNUAL MEAN					76.8	1954
HIGHEST DAILY MEAN	3520	Nov 8	5560	Jan 8	16700	Jun 22 1972
LOWEST DAILY MEAN	2.4	Sep 9	2.1	Sep 19	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	3.1	Sep 3	2.6	Sep 15	.04	Jul 22 1966
INSTANTANEOUS PEAK FLOW			9890	Jan 8	(b)24400	Jun 19 1996
INSTANTANEOUS PEAK STAGE			15.38	Jan 8	25.42	Jun 19 1996
INSTANTANEOUS LOW FLOW			2.1	Sep 19	.00	(c)
ANNUAL RUNOFF (CFSM)	.74		1.77		1.23	
ANNUAL RUNOFF (INCHES)	9.99		24.06		16.75	
10 PERCENT EXCEEDS	285		749		452	
50 PERCENT EXCEEDS	57		92		65	
90 PERCENT EXCEEDS	5.1		6.4		8.2	

a July 25-28, 1966.
b From rating curve extended above 14,000 ft^3/s on basis of slope-conveyence study.
c July 24-29, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01639140 PINEY CREEK NEAR TANEYTOWN, MD

LOCATION.--Lat 39°39'38", long 77°13'16", Carroll County, Hydrologic Unit 02070009, on left bank at downstream side of bridge on Roop Road, 2.4 mi west of Taneytown, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--31.3 mi^2.

PERIOD OF RECORD.--May 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 383.22 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 8	1245	*2,220	*7.29	Mar 21	0430	1,970	6.93
Jan 23	1445	1,300	5.73	Apr 9	1730	1,370	5.90
Feb 18	0215	1,670	6.47				

Minimum discharge, 0.48 ft^3/s, Oct 14, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.80	2.7	13	18	59	73	146	19	12	8.7	6.2	.70
2	e.64	6.6	11	13	50	54	97	61	8.2	6.8	3.7	.87
3	e.64	9.4	8.3	26	45	170	49	53	7.3	6.3	2.7	.81
4	e.64	5.7	7.8	34	80	128	41	86	6.9	5.8	2.1	2.0
5	e.64	3.2	7.6	22	309	101	32	157	6.7	5.6	1.6	1.4
6	e.60	2.0	6.9	19	128	75	27	125	6.5	5.2	1.6	.94
7	e.60	69	6.2	25	84	62	22	68	6.4	4.6	1.6	.78
8	e.60	174	6.2	982	66	211	19	204	6.1	25	1.6	1.1
9	e.58	36	6.1	199	53	395	400	113	5.6	11	1.9	.86
10	e.56	19	6.6	99	44	136	143	76	6.0	7.3	29	.79
11	e.56	12	11	67	50	87	72	123	6.5	6.1	12	.73
12	e.56	10	10	50	161	67	51	310	20	5.3	5.2	.71
13	e.56	9.3	9.1	44	65	56	41	158	39	5.0	3.5	.70
14	e.58	24	8.4	34	49	53	35	85	36	4.8	2.8	.79
15	.58	38	7.5	67	39	43	31	61	11	4.2	2.5	.75
16	.60	19	7.0	238	34	37	26	47	11	4.4	2.3	.68
17	.61	13	6.8	99	84	32	53	38	20	16	7.7	.67
18	.63	11	6.5	124	632	47	47	30	10	6.5	8.2	.66
19	.63	9.9	6.3	72	143	281	132	25	10	5.3	5.2	.60
20	.63	9.2	6.0	57	107	120	177	21	30	4.6	3.5	.63
21	.62	9.5	6.0	44	85	873	67	18	10	4.1	2.5	.68
22	.62	43	5.9	39	62	210	48	14	8.2	3.5	2.1	.70
23	.63	26	11	463	222	123	39	12	35	3.1	1.9	.70
24	.71	14	15	166	426	93	32	11	81	3.5	1.8	.62
25	2.0	11	118	116	131	80	25	11	17	3.6	1.5	.67
26	1.9	9.0	50	86	90	64	20	11	11	2.7	1.4	1.2
27	3.3	8.9	32	74	72	54	22	9.4	10	2.6	1.2	.93
28	1.8	8.3	33	458	65	45	16	8.8	8.1	2.3	1.3	.72
29	1.2	7.9	25	159	---	38	14	8.0	8.2	1.7	1.1	.79
30	2.2	7.9	26	102	---	32	13	8.1	7.8	1.8	.96	.69
31	2.0	---	24	76	---	29	---	7.8	---	8.1	.86	---
TOTAL	29.22	628.5	504.2	4072	3435	3869	1937	1979.1	461.5	185.5	121.52	24.87
MEAN	.94	21.0	16.3	131	123	125	64.6	63.8	15.4	5.98	3.92	.83
MAX	3.3	174	118	982	632	873	400	310	81	25	29	2.0
MIN	.56	2.0	5.9	13	34	29	13	7.8	5.6	1.7	.86	.60
CFSM	.03	.67	.52	4.20	3.92	3.99	2.06	2.04	.49	.19	.13	.03
IN.	.03	.75	.60	4.84	4.08	4.60	2.30	2.35	.55	.22	.14	.03

e Estimated

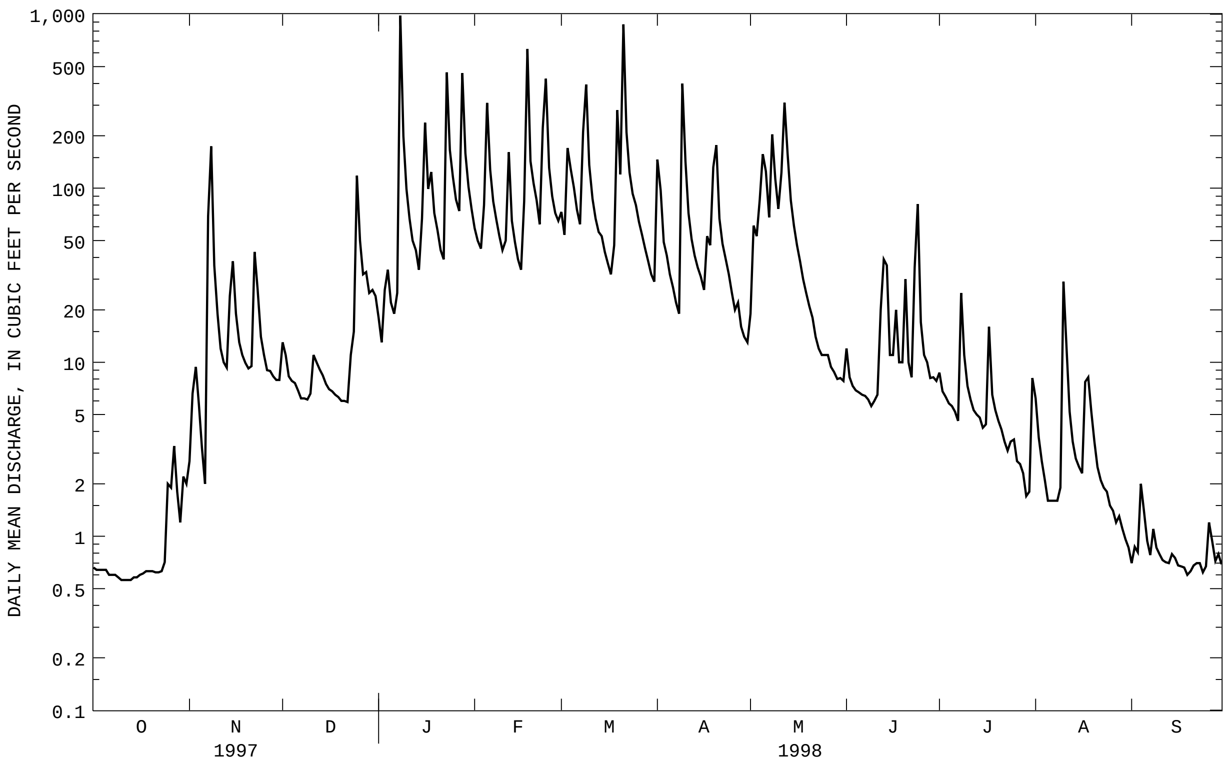
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.1	43.6	69.2	83.0	54.3	111	56.5	27.8	17.0	21.6	10.8	14.2
MAX	73.2	73.3	134	200	123	237	183	63.8	62.0	101	43.5	77.3
(WY)	1997	1997	1997	1996	1998	1993	1993	1998	1996	1996	1996	1996
MIN	.94	7.84	16.3	18.8	27.1	31.1	10.7	9.04	1.99	.57	.74	.67
(WY)	1998	1992	1998	1992	1991	1995	1995	1997	1991	1991	1997	1997

01639140 PINEY CREEK NEAR TANEYTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998	
ANNUAL TOTAL	6794.23		17247.41			
ANNUAL MEAN	18.6		47.3		44.0	
HIGHEST ANNUAL MEAN					68.5	1996
LOWEST ANNUAL MEAN					24.3	1992
HIGHEST DAILY MEAN	272	Mar 14	982	Jan 8	2770	Jan 19 1996
LOWEST DAILY MEAN	.08	Aug 9	(e).56	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.19	Aug 6	.57	Oct 9	.03	Aug 2 1991
INSTANTANEOUS PEAK FLOW			2220	Jan 8	7520	Jan 19 1996
INSTANTANEOUS PEAK STAGE			7.29	Jan 8	(c)11.41	Jan 19 1996
INSTANTANEOUS LOW FLOW			.48	(d)	.00	Aug 3 1991
ANNUAL RUNOFF (CFSM)	.59		1.51		1.41	
ANNUAL RUNOFF (INCHES)	8.07		20.50		19.12	
10 PERCENT EXCEEDS	47		123		88	
50 PERCENT EXCEEDS	7.6		11		16	
90 PERCENT EXCEEDS	.35		.71		1.7	

e Estimated.
a Oct. 10-13.
b Aug. 4, 5, Sept. 2, 3, 1991.
c From floodmarks.
d Oct. 14-15.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. Datum of gage is 336.88 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Occasional diversion for irrigation upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0200	1,650	5.22	Mar 9	1000	1,640	5.20
Jan 8	1100	3,420	8.54	Mar 19	0500	1,830	5.57
Jan 23	1430	1,800	5.51	Mar 21	0400	*3,860	*9.23
Jan 28	1500	1,970	5.84	Apr 9	1730	1,990	5.89
Feb 18	0230	2,780	7.42	Jun 23	2330	2,680	7.24
Feb 24	0700	1,910	5.73				

Minimum discharge, 14 ft^3/s, Oct 9-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	25	55	66	170	206	467	127	121	103	58	30
2	17	58	46	65	152	187	464	220	97	78	46	43
3	17	57	40	77	143	424	250	213	91	73	42	45
4	17	35	42	85	206	355	231	213	87	71	41	34
5	17	29	45	75	718	295	211	369	83	72	39	31
6	16	26	43	69	321	236	193	408	83	67	37	29
7	16	271	41	73	223	211	181	247	79	65	35	28
8	16	780	38	1540	187	465	175	632	80	155	36	33
9	15	143	37	548	163	1070	673	427	74	106	35	32
10	15	92	38	225	147	452	435	289	79	78	253	29
11	15	65	50	162	147	292	254	344	84	68	316	29
12	15	52	46	132	346	243	218	723	160	63	67	28
13	15	44	44	118	176	218	194	526	199	60	52	27
14	16	88	42	101	150	209	183	333	230	57	48	26
15	16	109	40	151	132	188	177	280	108	56	47	26
16	17	66	38	487	125	173	162	249	123	58	45	26
17	18	52	37	200	198	161	166	226	297	60	78	25
18	21	45	36	220	1300	199	175	199	112	58	76	27
19	28	42	37	154	349	1020	248	179	107	52	54	25
20	20	40	36	133	262	394	443	165	160	50	44	26
21	19	39	36	114	221	2100	224	156	99	48	42	27
22	19	119	36	105	181	660	191	142	86	47	41	27
23	18	76	55	778	473	410	174	135	353	47	39	41
24	18	56	59	415	1340	326	162	128	809	54	37	29
25	29	47	238	256	429	280	145	131	155	45	35	28
26	35	46	125	194	294	246	138	122	114	44	38	33
27	41	44	91	167	246	226	141	116	108	46	38	30
28	33	41	90	1170	219	208	124	111	93	42	33	27
29	25	41	76	484	---	189	118	104	90	40	32	26
30	24	44	80	272	---	176	117	109	91	39	32	25
31	23	---	74	206	---	164	---	100	---	87	31	---
TOTAL	629	2672	1791	8842	9018	11983	7034	7723	4452	1989	1847	892
MEAN	20.3	89.1	57.8	285	322	387	234	249	148	64.2	59.6	29.7
MAX	41	780	238	1540	1340	2100	673	723	809	155	316	45
MIN	15	25	36	65	125	161	117	100	74	39	31	25
CFSM	.20	.87	.57	2.80	3.16	3.79	2.30	2.44	1.45	.63	.58	.29
IN.	.23	.97	.65	3.22	3.29	4.37	2.57	2.82	1.62	.73	.67	.33

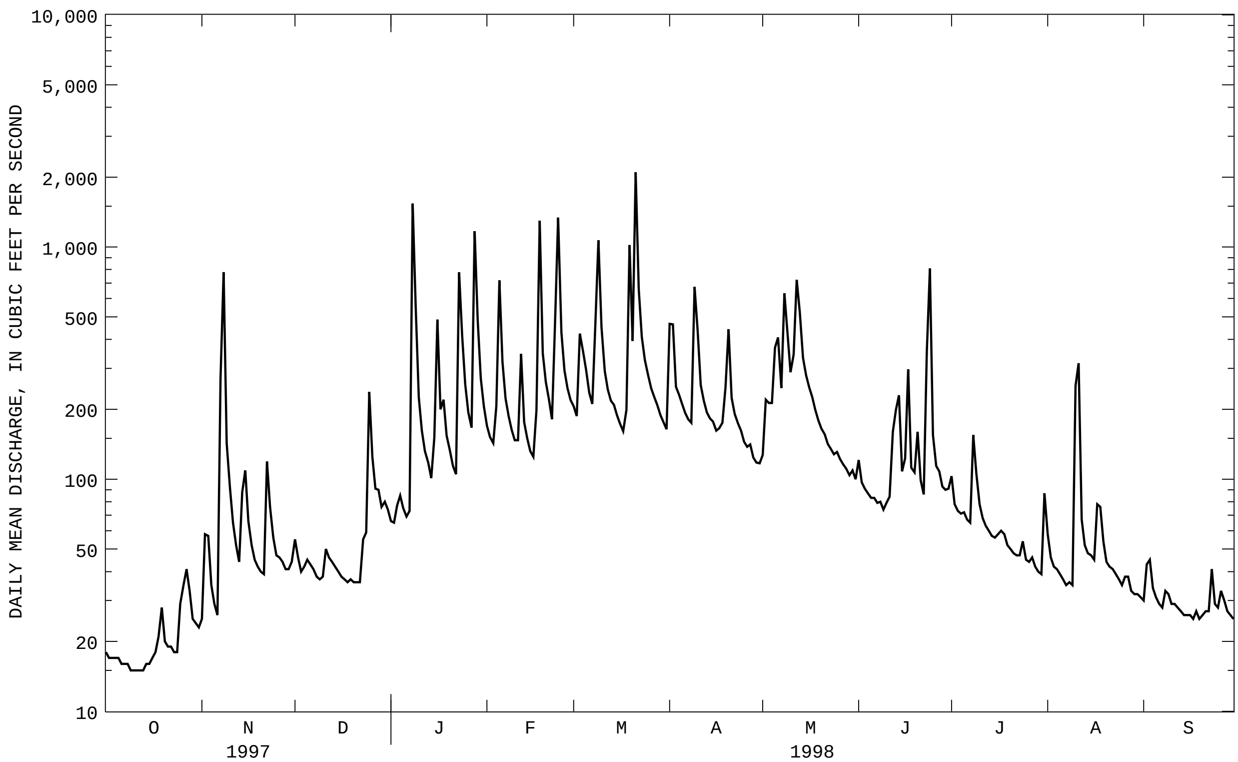
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.6	88.6	127	154	178	200	166	123	100	72.9	55.1	65.0
MAX	390	289	453	492	387	613	514	383	891	295	212	730
(WY)	1980	1948	1997	1996	1979	1994	1993	1989	1972	1949	1955	1975
MIN	14.9	16.7	18.9	22.5	58.1	71.4	61.3	38.6	19.8	10.4	4.39	13.0
(WY)	1964	1966	1966	1966	1954	1981	1965	1965	1966	1966	1966	1963

01639500 BIG PIPE CREEK AT BRUCEVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1948 - 1998	
ANNUAL TOTAL	32640		58872			
ANNUAL MEAN	89.4		161		116	
HIGHEST ANNUAL MEAN					227	1972
LOWEST ANNUAL MEAN					50.8	1966
HIGHEST DAILY MEAN	780	Nov 8	2100	Mar 21	14400	Jun 22 1972
LOWEST DAILY MEAN	13	Sep 7	15	(a)	1.0	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	15	Aug 7	15	Oct 7	1.4	Sep 7 1966
INSTANTANEOUS PEAK FLOW			3860	Mar 21	(b)28000	Sep 26 1975
INSTANTANEOUS PEAK STAGE			9.23	Mar 21	18.98	Sep 26 1975
INSTANTANEOUS LOW FLOW			14	(c)	1.0	Sep 12 1966
ANNUAL RUNOFF (CFSM)	.88		1.58		1.13	
ANNUAL RUNOFF (INCHES)	11.90		21.47		15.41	
10 PERCENT EXCEEDS	187		351		218	
50 PERCENT EXCEEDS	57		87		67	
90 PERCENT EXCEEDS	17		27		24	

a Oct. 9-13.
b From rating curve extended above 3,900 ft^3/s on the basis of contracted-opening measurement at gage height of 17.86 ft.
c Oct. 9-11.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 500 ft downstream from Interstate 70 highway bridge, 0.4 mi downstream from Linganore Creek, 2.0 mi east of Frederick, and 16.9 mi upstream from mouth.

DRAINAGE AREA.--817 mi^2.

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 above sea level.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low and medium flows since September 1972 by Linganore Reservoir, total capacity, 883,200,000 gal, 2.8 mi upstream from station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 reached a stage of 30 ft, from floodmarks, discharge, 56,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1530	11,100	12.37	Feb 24	1800	14,300	14.29
Jan 9	0700	*21,700	*17.79	Mar 9	2300	11,200	12.38
Jan 24	0730	12,100	12.97	Mar 21	2400	21,600	17.74
Jan 29	0230	12,600	13.30	Apr 10	0700	9,390	11.22
Feb 5	2330	12,100	12.97	May 9	0100	11,000	12.27
Feb 18	2030	16,000	15.17				

Minimum discharge, 86 ft^3/s, Oct 12-14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	181	413	593	1940	2040	1930	918	652	450	403	119
2	132	417	439	489	1670	1840	3710	1490	655	399	306	126
3	111	660	385	590	1520	2240	1860	2010	590	338	227	146
4	101	440	364	739	1760	3650	1570	1730	529	313	197	147
5	98	273	340	787	8170	2350	1430	1740	502	305	185	120
6	96	210	317	670	6840	1880	1280	4960	479	291	174	112
7	92	549	292	667	3000	1650	1190	2150	455	276	160	111
8	91	8580	274	8920	2320	2160	1120	5390	441	437	154	162
9	89	3100	266	17500	1930	8760	2180	7280	433	914	152	133
10	90	1380	277	4290	1690	6690	6460	3250	444	589	219	122
11	89	892	335	2320	1530	3030	2320	2800	489	392	1360	113
12	87	666	447	1760	2750	2340	1710	5100	583	320	429	108
13	86	535	419	1480	2160	1990	1470	6610	849	282	270	104
14	87	593	383	1280	1580	1820	1340	3190	946	265	214	101
15	92	1560	338	1180	1380	1650	1290	2390	748	251	199	100
16	91	1050	310	4840	1250	1470	1190	1960	624	249	190	101
17	93	707	291	3060	1420	1350	1170	1670	1030	323	254	104
18	105	564	282	2520	12000	1460	1280	1440	853	426	342	106
19	107	504	272	2030	6300	5930	1340	1270	648	332	333	101
20	118	463	267	1570	3100	3600	5620	1140	1150	259	246	100
21	106	444	258	1310	2670	15400	2460	1050	778	242	211	102
22	100	754	255	1150	2060	12300	1750	959	591	225	187	106
23	97	1110	296	3520	2070	4400	1510	883	939	215	174	109
24	96	750	389	9080	11500	3120	1360	826	2160	221	164	118
25	114	579	1250	3460	5780	2630	1210	795	831	220	153	121
26	133	502	1890	2440	3020	2250	1100	766	556	210	144	118
27	179	472	986	1940	2430	2000	1140	711	479	199	142	118
28	196	433	887	6480	2130	1790	1140	675	439	194	135	113
29	183	402	778	8460	---	1620	943	637	412	180	127	102
30	145	375	756	3270	---	1480	877	617	398	179	125	100
31	128	---	790	2410	---	1360	---	596	---	393	122	---
TOTAL	3512	29145	15246	100805	95970	106250	54950	67003	20683	9889	7698	3443
MEAN	113	972	492	3252	3428	3427	1832	2161	689	319	248	115
MAX	196	8580	1890	17500	12000	15400	6460	7280	2160	914	1360	162
MIN	86	181	255	489	1250	1350	877	596	398	179	122	100
CFSM	.14	1.19	.60	3.98	4.20	4.20	2.24	2.65	.84	.39	.30	.14
IN.	.16	1.33	.69	4.59	4.37	4.84	2.50	3.05	.94	.45	.35	.16

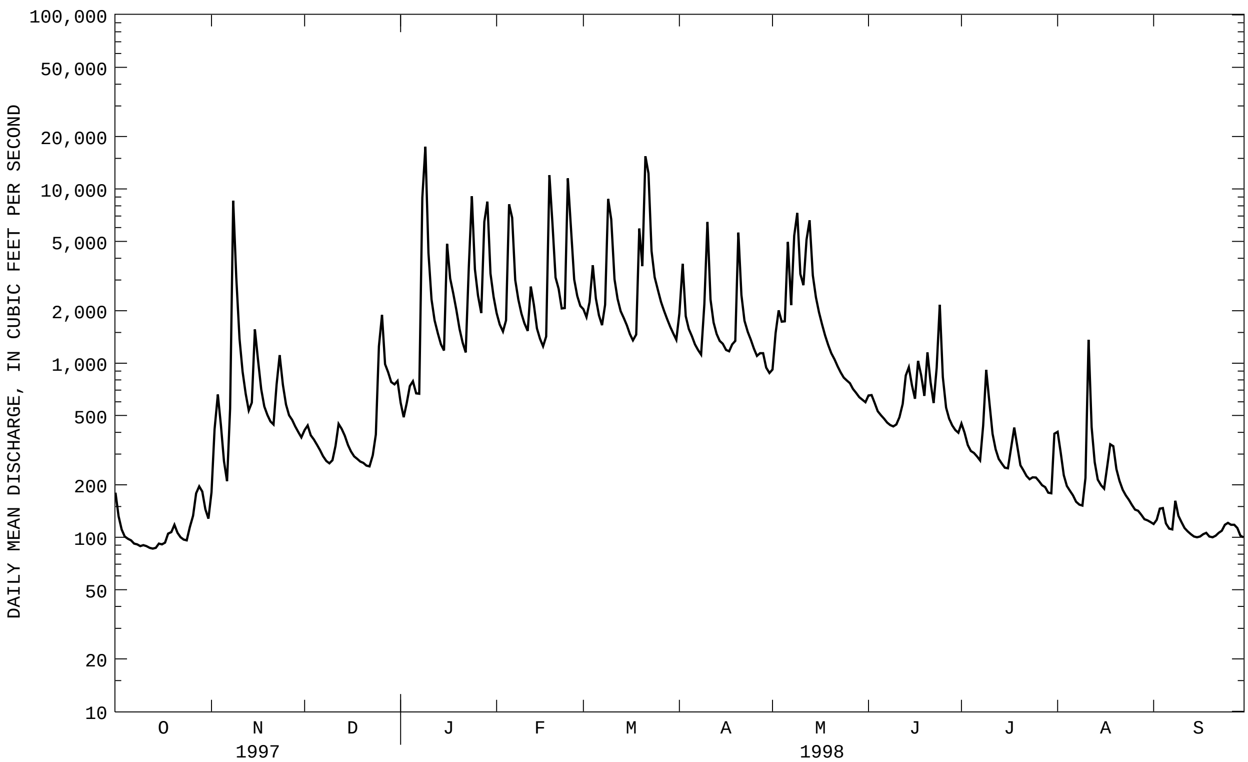
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	515	735	1054	1243	1486	1842	1534	1033	724	464	414	485
MAX	3943	2504	3606	4159	4062	5851	4533	3773	6826	2571	3233	5165
(WY)	1977	1933	1997	1996	1984	1993	1983	1989	1972	1949	1933	1975
MIN	46.8	65.1	108	123	175	589	432	296	158	64.5	36.4	59.9
(WY)	1931	1931	1966	1981	1931	1981	1995	1963	1966	1966	1966	1963

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1930 - 1998	
ANNUAL TOTAL	237478		514594			
ANNUAL MEAN	651		1410		958	
HIGHEST ANNUAL MEAN					1834	1972
LOWEST ANNUAL MEAN					345	1931
HIGHEST DAILY MEAN	8580	Nov 8	17500	Jan 9	74000	Jun 23 1972
LOWEST DAILY MEAN	74	Sep 7	86	Oct 13	19	(a)
ANNUAL SEVEN-DAY MINIMUM	80	Sep 3	88	Oct 8	19	Sep 7 1966
INSTANTANEOUS PEAK FLOW			21700	Jan 9	81600	Jun 23 1972
INSTANTANEOUS PEAK STAGE			17.79	Jan 9	(b)35.90	Jun 23 1972
INSTANTANEOUS LOW FLOW			86	(c)	17	(d)
ANNUAL RUNOFF (CFSM)	.80		1.73		1.17	
ANNUAL RUNOFF (INCHES)	10.81		23.43		15.93	
10 PERCENT EXCEEDS	1420		3110		2010	
50 PERCENT EXCEEDS	393		596		481	
90 PERCENT EXCEEDS	96		112		123	

a Sept. 7-13, 1966.
b From floodmarks.
c Oct. 12-14.
d Sept. 11 and 13, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. Elevation of gage is 240 ft above sea level, from topographic maps.

REMARKS.--Records good except those for estimated daily discharges (ice effect and recorder malfunction), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1615	1,260	4.49	Mar 19	0400	2,100	5.61
Jan 28	1530	2,040	5.53	Mar 21	0600	*4,420	*8.42
Feb 18	0245	1,740	5.14	May 8	1300	3,100	6.90
Feb 24	0830	1,850	5.28	Jun 23	2345	1,500	4.83

Minimum discharge, 6.3 ft^3/s, Sep 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	27	30	e32	116	149	221	77	56	41	e21	9.5
2	9.4	44	25	30	102	131	256	100	55	35	e18	14
3	9.4	32	24	33	95	262	150	93	59	34	e17	14
4	9.4	19	24	32	353	176	150	81	53	33	e17	11
5	8.9	16	24	31	721	145	130	124	51	33	e16	9.6
6	8.5	15	22	30	282	127	116	117	50	31	e15	9.4
7	8.0	197	22	32	197	119	109	100	47	30	e13	9.3
8	7.5	322	21	261	157	177	106	1030	47	55	e15	18
9	7.7	81	21	120	132	410	318	313	46	44	e14	12
10	7.5	52	24	70	116	233	218	202	60	36	e35	11
11	7.3	39	29	56	109	171	150	178	56	31	e52	9.5
12	7.4	33	25	49	157	149	128	325	66	30	e29	9.3
13	7.3	29	23	46	107	136	116	255	108	28	e23	8.3
14	7.3	47	23	41	96	128	113	184	82	26	18	8.7
15	9.1	48	22	68	86	116	108	153	58	26	20	7.9
16	9.6	36	22	221	81	107	102	134	75	27	17	7.8
17	8.9	31	22	99	129	101	105	116	62	27	40	8.5
18	18	28	21	89	610	182	98	104	49	25	37	12
19	13	27	21	70	207	831	132	96	56	23	20	10
20	11	26	20	62	161	304	196	90	78	23	18	10
21	9.5	27	20	54	139	1840	114	84	51	22	17	9.6
22	9.4	75	20	51	118	422	102	78	45	23	16	9.5
23	9.1	47	28	433	213	297	97	76	206	21	15	10
24	9.7	37	25	203	832	242	92	73	195	21	14	8.2
25	24	32	71	134	279	203	83	79	61	19	13	8.5
26	20	30	48	104	205	180	80	69	50	19	12	12
27	27	28	40	90	172	166	87	67	45	19	11	9.6
28	16	26	41	1060	157	153	75	66	44	18	11	7.9
29	13	26	36	330	---	142	71	62	43	17	11	6.7
30	13	26	38	197	---	130	70	59	42	17	10	7.0
31	12	---	34	146	---	121	---	58	---	e28	10	---
TOTAL	347.9	1503	866	4274	6129	8050	3893	4643	1996	862	595	298.8
MEAN	11.2	50.1	27.9	138	219	260	130	150	66.5	27.8	19.2	9.96
MAX	27	322	71	1060	832	1840	318	1030	206	55	52	18
MIN	7.3	15	20	30	81	101	70	58	42	17	10	6.7
CFSM	.18	.80	.44	2.20	3.49	4.13	2.07	2.38	1.06	.44	.31	.16
IN.	.21	.89	.51	2.53	3.63	4.77	2.31	2.75	1.18	.51	.35	.18

e Estimated

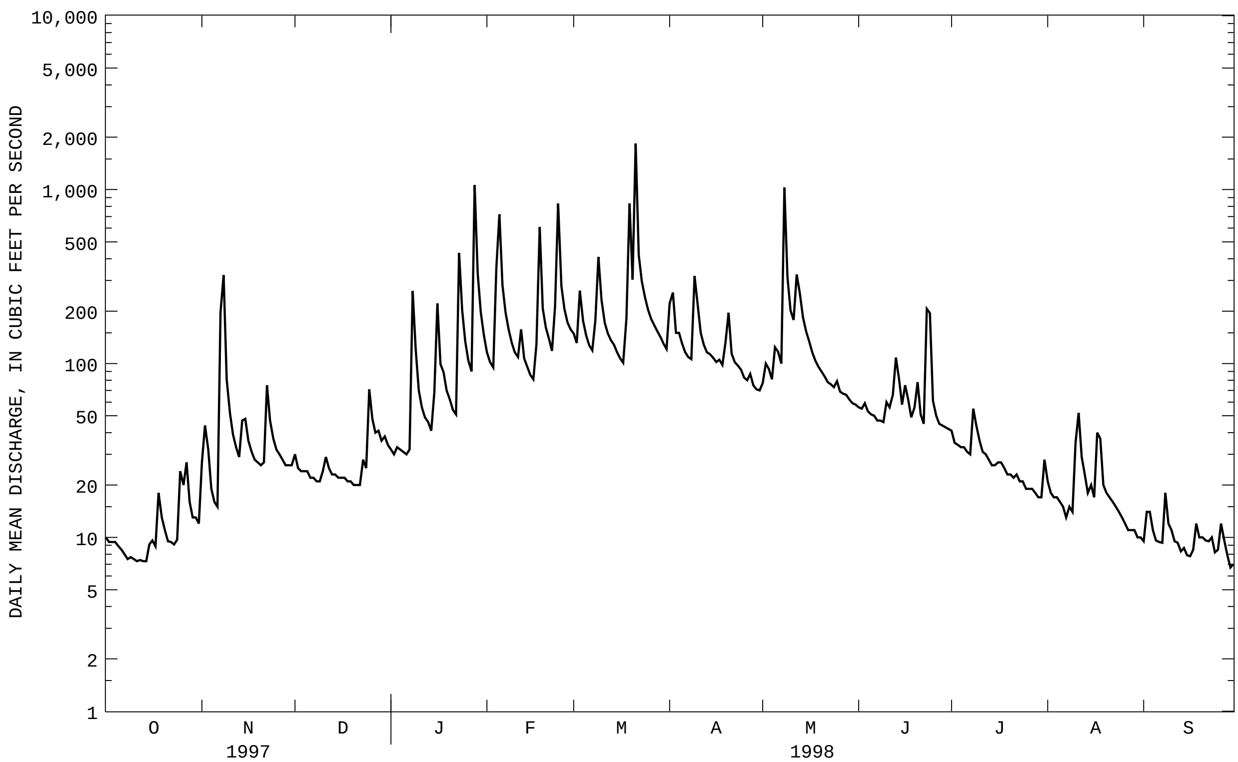
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1958, 1966 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	39.8	50.7	80.3	91.4	102	120	107	87.6	68.4	43.2	35.5	39.2
MAX	245	160	295	289	229	369	286	302	498	178	148	211
(WY)	1980	1997	1997	1996	1979	1993	1993	1988	1972	1987	1955	1971
MIN	8.21	12.5	17.3	15.5	38.9	37.6	44.6	25.8	15.3	9.59	5.70	7.38
(WY)	1987	1982	1981	1981	1954	1981	1985	1969	1986	1986	1966	1986

01643500 BENNETT CREEK AT PARK MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1948 - 1958 1966 - 1998	
ANNUAL TOTAL	19644.1		33457.7			
ANNUAL MEAN	53.8		91.7		71.9	
HIGHEST ANNUAL MEAN					141	1972
LOWEST ANNUAL MEAN					32.0	1981
HIGHEST DAILY MEAN	632	Mar 3	1840	Mar 21	5500	Jun 22 1972
LOWEST DAILY MEAN	7.3	Aug 16	6.7	Sep 29	.40	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	7.4	Oct 8	7.4	Oct 8	.91	Sep 3 1966
INSTANTANEOUS PEAK FLOW			4420	Mar 21	(a)32200	Jun 21 1972
INSTANTANEOUS PEAK STAGE			8.42	Mar 21	(b)22.10	Jun 21 1972
INSTANTANEOUS LOW FLOW			6.9	Oct 11	.30	Sep 8 1966
ANNUAL RUNOFF (CFSM)	.86		1.46		1.14	
ANNUAL RUNOFF (INCHES)	11.64		19.82		15.55	
10 PERCENT EXCEEDS	108		199		135	
50 PERCENT EXCEEDS	36		44		44	
90 PERCENT EXCEEDS	9.1		9.6		14	

a From rating curve extended above 2,700 ft^3/s on basis of contracted-opening measurement at gage heights of 11.15, 14.33, and 22.1 ft.
b From floodmarks.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01644600 GREAT SENECA CREEK NEAR QUINCE ORCHARD, MD

LOCATION.--Lat 39°07'57", long 77°16'21", Montgomery County, Hydrologic Unit 02060008, on left bank 10 ft downstream from bridge on Riffle Ford Road, 1.35 mi northwest of Quince Orchard, 1.75 mi southeast of the intersection of Maryland Route 118 and Riffle Ford Road, and 4.5 mi upstream from the confluence with Little Seneca Creek.

DRAINAGE AREA.--50.7 mi^2.

PERIOD OF RECORD.--July 1997 to September 1998.

GAGE.--Water-stage recorder. Elevation of gage is 265 ft above sea level, from topographic maps.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year. Records include pumpage from a Washingtom Suburban Sanitary Commission wastewater facility located immediatly upstream from station.

EXTREMES FOR 1998 WATER YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0200	1,670	8.96	Mar 19	0715	1,230	8.07
Jan 28	1830	1,780	9.16	Mar 21	0900	*2,440	*10.26

Minimum discharge, 11 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

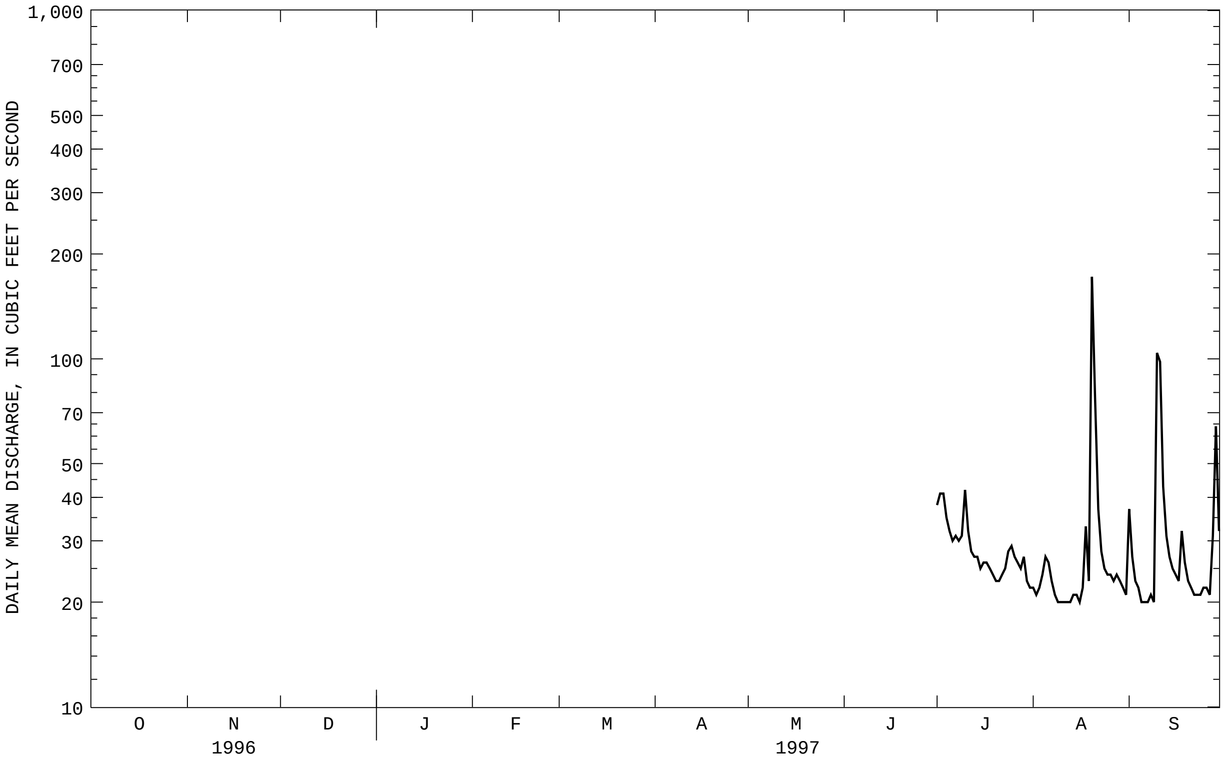
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	38	22	37
2	---	---	---	---	---	---	---	---	---	41	21	27
3	---	---	---	---	---	---	---	---	---	41	22	23
4	---	---	---	---	---	---	---	---	---	35	24	22
5	---	---	---	---	---	---	---	---	---	32	27	20
6	---	---	---	---	---	---	---	---	---	30	26	20
7	---	---	---	---	---	---	---	---	---	31	23	20
8	---	---	---	---	---	---	---	---	---	30	21	21
9	---	---	---	---	---	---	---	---	---	31	20	20
10	---	---	---	---	---	---	---	---	---	42	20	104
11	---	---	---	---	---	---	---	---	---	32	20	98
12	---	---	---	---	---	---	---	---	---	28	20	43
13	---	---	---	---	---	---	---	---	---	27	20	31
14	---	---	---	---	---	---	---	---	---	27	21	27
15	---	---	---	---	---	---	---	---	---	25	21	25
16	---	---	---	---	---	---	---	---	---	26	20	24
17	---	---	---	---	---	---	---	---	---	26	22	23
18	---	---	---	---	---	---	---	---	---	25	33	32
19	---	---	---	---	---	---	---	---	---	24	23	26
20	---	---	---	---	---	---	---	---	---	23	172	23
21	---	---	---	---	---	---	---	---	---	23	78	22
22	---	---	---	---	---	---	---	---	---	24	37	21
23	---	---	---	---	---	---	---	---	---	25	28	21
24	---	---	---	---	---	---	---	---	---	28	25	21
25	---	---	---	---	---	---	---	---	---	29	24	22
26	---	---	---	---	---	---	---	---	---	27	24	22
27	---	---	---	---	---	---	---	---	---	26	23	21
28	---	---	---	---	---	---	---	---	---	25	24	31
29	---	---	---	---	---	---	---	---	---	27	23	64
30	---	---	---	---	---	---	---	---	---	23	22	32
31	---	---	---	---	---	---	---	---	---	22	21	---
TOTAL	---	---	---	---	---	---	---	---	---	893	927	943
MEAN	---	---	---	---	---	---	---	---	---	28.8	29.9	31.4
MAX	---	---	---	---	---	---	---	---	---	42	172	104
MIN	---	---	---	---	---	---	---	---	---	22	20	20
(†)										-7.8	-7.9	-8.0
MEAN≠	---	---	---	---	---	---	---	---	---	21.0	22.0	23.4
CFSM≠	---	---	---	---	---	---	---	---	---	0.41	0.43	0.46
IN≠	---	---	---	---	---	---	---	---	---	0.48	0.50	0.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	---	28.8	29.9	31.4
MAX	---	---	---	---	---	---	---	---	---	28.8	29.9	31.4
(WY)	---	---	---	---	---	---	---	---	---	1997	1997	1997
MIN	---	---	---	---	---	---	---	---	---	28.8	29.9	31.4
(WY)	---	---	---	---	---	---	---	---	---	1997	1997	1997

† Pumpage in cubic feet per second, from Washington Suburban Sanitary Commission.
≠ Adjusted for pumpage.

01644600 GREAT SENECA CREEK NEAR QUINCE ORCHARD, MD--Continued



DAILY MEAN DISCHARGE - 1997 WATER YEAR

01644600 GREAT SENECA CREEK NEAR QUINCE ORCHARD, MD--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	92	40	37	72	79	117	83	56	e46	34	20
2	23	113	37	36	66	78	192	190	52	e42	28	24
3	23	62	45	38	62	211	92	150	51	e40	27	24
4	22	37	37	37	378	109	100	109	e51	e39	27	21
5	21	31	34	36	700	87	89	205	e49	e39	26	20
6	22	29	32	35	192	80	79	209	e49	e38	23	19
7	20	447	31	38	132	76	75	148	e47	e37	25	20
8	23	630	31	70	101	119	75	488	e46	e79	28	37
9	32	154	31	61	84	344	254	188	e46	e57	26	23
10	20	72	46	46	74	135	167	119	e60	e51	112	21
11	19	54	53	42	77	96	99	108	e62	e48	99	20
12	18	46	36	40	118	85	86	e240	e100	e47	41	19
13	19	43	34	39	76	79	80	e195	e281	e46	32	19
14	19	104	32	38	66	77	77	e145	e220	e45	31	19
15	31	74	32	101	61	73	76	e110	e106	e45	29	19
16	24	51	36	197	59	70	75	e91	e82	e45	27	19
17	23	44	33	74	126	69	125	e82	e73	e46	31	20
18	56	41	31	77	317	139	109	75	e59	e30	34	28
19	33	39	30	59	136	540	123	71	e57	e29	27	21
20	27	38	30	58	100	172	198	68	e65	e31	24	20
21	25	53	30	45	86	1480	93	66	e53	e52	25	20
22	24	140	32	43	75	263	81	62	e48	e34	24	21
23	23	60	54	441	194	160	77	61	e78	e37	22	20
24	23	48	42	181	570	128	73	62	e139	e37	23	18
25	90	42	120	102	151	112	68	79	e74	34	22	19
26	62	41	58	73	105	104	66	63	e68	32	23	21
27	74	39	54	62	91	99	78	59	e56	32	53	19
28	36	38	57	1050	84	93	66	59	e55	31	27	18
29	30	37	51	249	---	88	62	57	e55	30	23	16
30	28	37	51	111	---	84	61	55	e53	29	22	13
31	27	---	45	84	---	81	---	54	---	42	21	---
TOTAL	943	2736	1305	3600	4353	5410	3013	3751	2291	1270	1016	618
MEAN	30.4	91.2	42.1	116	155	175	100	121	76.4	41.0	32.8	20.6
MAX	90	630	120	1050	700	1480	254	488	281	79	112	37
MIN	18	29	30	35	59	69	61	54	46	29	21	13
(†)	-7.8	-6.5	-6.2	-6.1	-6.8	-7.6	-7.6	-7.3	-7.4	-7.7	-7.3	-7.2
MEAN≠	22.5	84.7	36.0	110	149	167	92.8	114	69.1	33.2	25.4	13.5
CFSM≠	.44	1.67	.71	2.18	2.93	3.29	1.83	2.25	1.36	.65	.50	.27
IN≠	.51	1.87	.82	2.51	3.05	3.80	2.04	2.59	1.52	.76	.58	.30

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

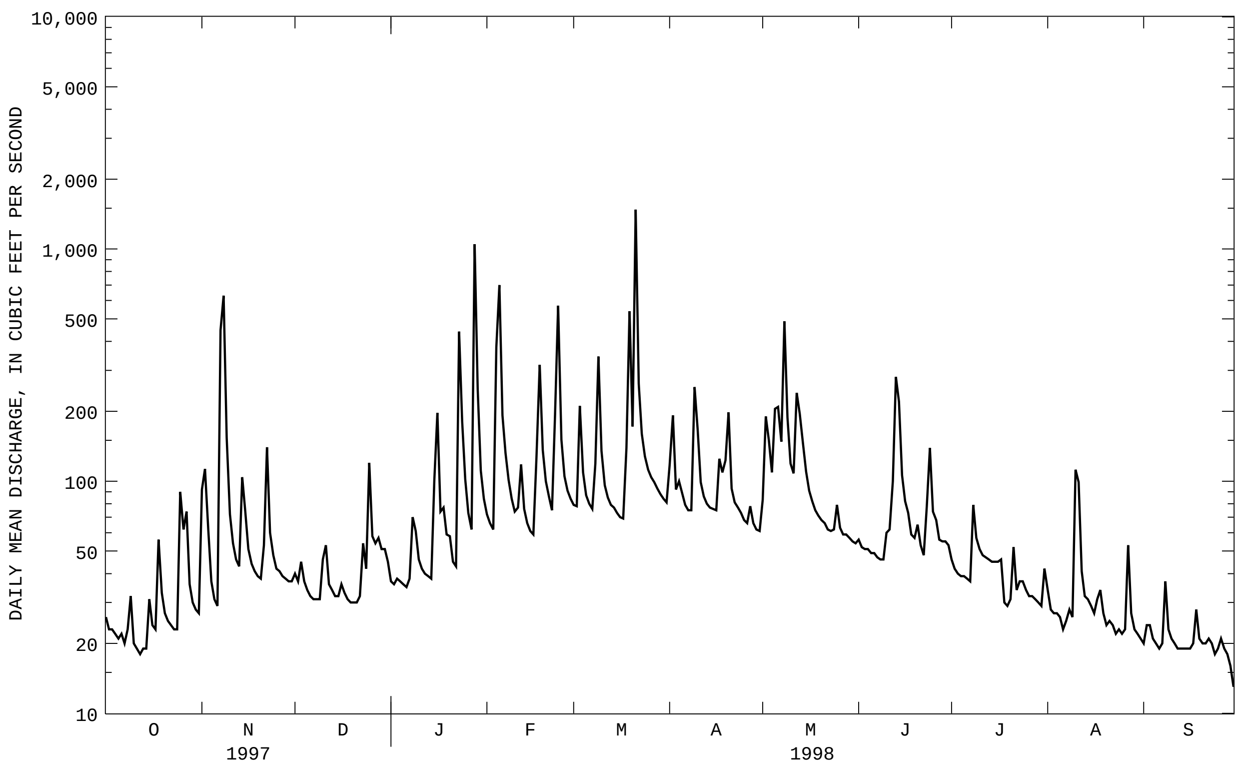
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.4	91.2	42.1	116	155	175	100	121	76.4	34.9	31.3	26.0
MAX	30.4	91.2	42.1	116	155	175	100	121	76.4	41.0	32.8	31.4
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997
MIN	30.4	91.2	42.1	116	155	175	100	121	76.4	28.8	29.9	20.6
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997	1998

† Pumpage in cubic feet per second, from Washington Suburban Sanitary Commission.
≠ Adjusted for pumpage.

01644600 GREAT SENECA CREEK NEAR QUINCE ORCHARD, MD--Continued

SUMMARY STATISTICS	FOR 1998 WATER YEAR		WATER YEARS 1997 - 1998	
ANNUAL TOTAL	30306			
ANNUAL MEAN	83.0		83.0	
ANNUAL MEAN≠	76.0		76.0	
HIGHEST ANNUAL MEAN			83.0	1998
HIGHEST ANNUAL MEAN≠			76.0	1998
LOWEST ANNUAL MEAN			83.0	1998
LOWEST ANNUAL MEAN≠			76.0	1998
HIGHEST DAILY MEAN	1480	Mar 21	1480	Mar 21 1998
HIGHEST DAILY MEAN≠	1470	Mar 21	1470	Mar 21 1998
LOWEST DAILY MEAN	13	Sep 30	13	Sep 30 1998
LOWEST DAILY MEAN≠	9.3	Sep 29	9.3	Sep 29 1998
ANNUAL SEVEN-DAY MINIMUM	18	Sep 24	18	Sep 24 1998
INSTANTANEOUS PEAK FLOW	2440	Mar 21	(a)2440	Mar 21 1998
INSTANTANEOUS PEAK STAGE	10.26	Mar 21	10.26	Mar 21 1998
INSTANTANEOUS LOW FLOW	11	Sep 30	11	Sep 30 1998
ANNUAL RUNOFF (CFSM)	1.64		1.64	
ANNUAL RUNOFF (CFSM)≠	1.50		1.50	
ANNUAL RUNOFF (INCHES)	22.24		22.25	
ANNUAL RUNOFF (INCHES)≠	20.35		20.35	
10 PERCENT EXCEEDS	149		129	
50 PERCENT EXCEEDS	53		42	
90 PERCENT EXCEEDS	22		21	

≠ Adjusted for inflow.
a From rating curve extended above 500 ft^3/s.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level. 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 except those for estimated daily discharges (missing record), which are fair. Small diversion at times for irrigation upstream from station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0130	1,750	6.55	Feb 24	0800	1,860	6.72
Jan 28	1615	2,840	7.79	Mar 19	0815	1,580	6.24
Feb 5	0715	1,900	6.77	Mar 21	0330	*5,280	*9.09
Feb 18	0200	1,300	5.57				

Minimum discharge, 15 ft^3/s, Sep 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	82	59	63	153	166	244	109	90	73	51	27
2	28	124	55	61	130	158	378	219	83	67	42	27
3	27	81	58	60	119	381	204	232	92	65	40	31
4	27	48	64	60	586	247	214	186	81	63	40	25
5	26	68	49	58	1390	187	195	272	79	63	39	24
6	26	101	44	56	415	166	173	354	78	62	34	24
7	26	403	42	57	252	158	161	253	75	60	31	23
8	23	889	41	102	189	220	149	851	75	137	35	41
9	35	229	40	117	161	632	348	459	75	98	33	28
10	26	131	51	95	140	324	289	256	98	73	122	24
11	22	93	72	78	133	226	170	233	101	65	178	23
12	23	74	51	70	183	182	153	380	164	61	76	23
13	22	67	46	67	138	165	144	336	488	60	63	22
14	23	126	45	64	121	161	164	239	383	57	55	22
15	35	119	44	122	111	147	164	206	171	56	51	22
16	30	83	48	360	106	136	162	190	132	56	49	22
17	26	69	46	153	182	129	202	179	118	56	54	27
18	64	62	45	146	693	258	215	139	97	57	56	36
19	40	57	41	e114	270	1000	206	116	93	48	49	26
20	32	56	42	e109	194	409	352	110	108	47	46	25
21	29	58	42	e88	169	3140	186	119	86	48	41	24
22	28	194	42	e79	149	732	166	117	79	83	33	26
23	26	106	68	e700	298	410	161	116	128	54	31	24
24	28	84	56	e410	1210	325	153	117	220	55	31	23
25	93	70	155	e212	379	270	142	141	123	48	30	23
26	61	65	101	e146	248	245	137	121	113	46	28	25
27	94	62	83	e114	203	222	144	111	90	46	62	24
28	44	56	94	e1690	177	183	121	109	88	45	37	22
29	34	54	83	701	---	178	105	106	77	44	30	20
30	32	54	76	269	---	175	94	97	72	42	29	19
31	30	---	72	186	---	181	---	88	---	56	27	---
TOTAL	1091	3765	1855	6607	8499	11513	5696	6561	3757	1891	1523	752
MEAN	35.2	126	59.8	213	304	371	190	212	125	61.0	49.1	25.1
MAX	94	889	155	1690	1390	3140	378	851	488	137	178	41
MIN	22	48	40	56	106	129	94	88	72	42	27	19
CFSM	.35	1.24	.59	2.11	3.01	3.68	1.88	2.10	1.24	.60	.49	.25
IN.	.40	1.39	.68	2.43	3.13	4.24	2.10	2.42	1.38	.70	.56	.28

e Estimated

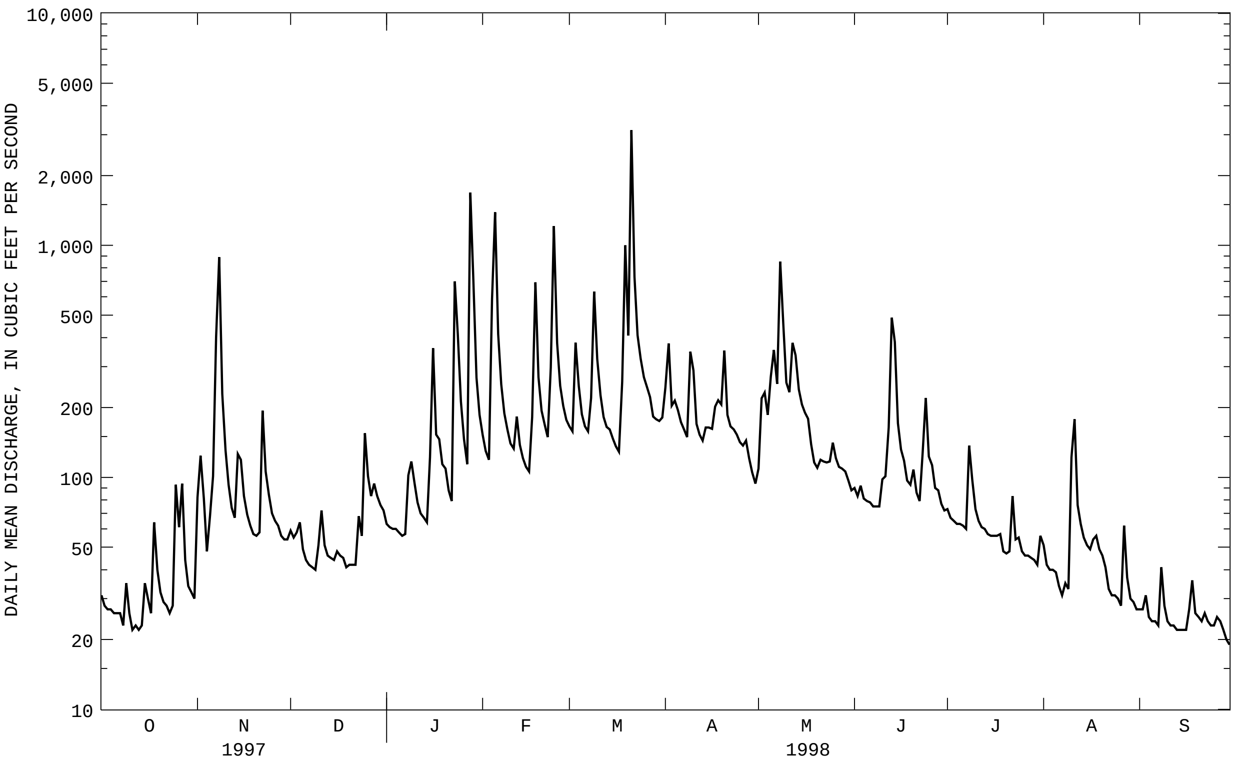
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.5	85.7	111	131	149	163	149	128	106	76.4	67.6	75.9
MAX	479	290	452	440	484	511	457	510	747	273	248	566
(WY)	1980	1994	1997	1996	1979	1993	1993	1989	1972	1956	1971	1971
MIN	7.10	12.6	20.6	30.2	26.7	44.3	55.9	30.3	35.3	13.4	8.35	10.1
(WY)	1931	1932	1932	1966	1931	1931	1969	1931	1986	1955	1932	1931

01645000 SENECA CREEK AT DAWSONVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1930 - 1998	
ANNUAL TOTAL	38313		53510			
ANNUAL MEAN	105		147		109	
HIGHEST ANNUAL MEAN					251	1972
LOWEST ANNUAL MEAN					32.8	1931
HIGHEST DAILY MEAN	986	Mar 3	3140	Mar 21	9900	Jun 22 1972
LOWEST DAILY MEAN	22	Oct 11	19	Sep 30	1.8	(a)
ANNUAL SEVEN-DAY MINIMUM	23	Aug 11	22	Sep 24	2.2	Sep 27 1930
INSTANTANEOUS PEAK FLOW			5280	Mar 21	(b)26100	Jun 22 1972
INSTANTANEOUS PEAK STAGE			9.09	Mar 21	(c)16.40	Jun 22 1972
INSTANTANEOUS LOW FLOW			15	Sep 30	1.7	(d)
ANNUAL RUNOFF (CFSM)	1.04		1.45		1.08	
ANNUAL RUNOFF (INCHES)	14.11		19.71		14.66	
10 PERCENT EXCEEDS	182		270		190	
50 PERCENT EXCEEDS	79		83		69	
90 PERCENT EXCEEDS	26		27		26	

a Sept. 29, 1930, Sept. 12, 1966.
b From rating curve extended above 3,000 ft^3/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.
c From high-water mark in gage house.
d Sept. 28, 29, 1930.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01646500 POTOMAC RIVER NEAR WASHINGTON, DC

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Hydrologic Unit 02070008, on left bank just upstream from 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, and at river mile 117.4.

DRAINAGE AREA.--11,560 mi^2.

WATER-DISCHARGE RECORDS

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 above sea level. 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.--No estimated daily discharges. Water-discharge 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); since April 1964, at Violets Lock to Chesapeake and Ohio Canal; and since October 1985, at Fairfax County Water Authority Treatment Plant for water supply of the county. Low flow affected slightly prior to July 1981 by Stony River Reservoir, since December 1950, by Savage River Reservoir (see station 01597500), and since July 1981, by Jennings Randolph Lake. National Weather Service gage-height telemeter at station. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 9	0915	118,000	9.49	Feb 25	1415	94,000	8.63
Jan 10	0815	144,000	10.43	Mar 11	1400	75,700	7.90
Jan 25	1915	46,000	6.49	Mar 22	2115	*152,000	*10.79
Jan 29	2030	85,200	8.29	Apr 11	2400	47,300	6.56
Feb 6	2030	130,000	9.88	Apr 21	1800	84,200	8.25
Feb 14	1700	53,800	6.89	May 10	0500	65,300	7.44
Feb 19	1630	130,000	9.88				

Minimum discharge, 973 ft^3/s, Sep 7, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2770	2290	7300	8850	48400	46800	20800	16400	7650	5950	3050	1360
2	2690	3190	7140	8260	38800	45100	24800	17100	7530	7650	2900	1400
3	3210	4500	8510	7620	31900	49300	22200	20900	7500	8340	2710	1380
4	2800	7380	9360	7670	31700	45300	20000	23400	7320	7120	2730	1470
5	2500	7920	8340	9440	61000	39300	19000	22900	6680	6450	2500	1100
6	2170	6860	7620	14400	114000	32700	18100	26900	6580	5590	2170	1150
7	1830	8170	7020	15700	104000	28200	20600	43400	6070	5020	1970	1090
8	1720	40300	6440	22300	69600	25800	20100	48200	5580	4990	1890	1310
9	1590	108000	6030	84200	52700	35300	19900	62000	5290	5200	1820	1490
10	1480	66500	5820	136000	44100	56900	28800	63500	5410	6240	1960	1510
11	1570	37400	5860	82300	38400	73000	40000	52200	5560	6520	2450	1450
12	1450	25200	5770	50100	36600	61500	43600	43400	6510	5630	3060	1290
13	1330	18800	6180	37000	43000	45000	34500	46700	7550	4650	3050	1240
14	1300	16000	6430	28900	52800	36000	28100	44800	11000	4130	2910	1260
15	1420	14500	6540	24700	48500	30800	24200	36900	9430	3790	2980	1300
16	1360	15000	6570	28000	38400	26200	21600	30100	10300	3500	2860	1400
17	1290	14400	6160	29600	32900	23100	20100	25100	13000	3290	2760	1240
18	1860	12800	5860	28500	55800	21900	18900	21900	12400	3220	3050	1910
19	1650	11400	5640	27500	118000	33900	17400	20500	12000	3320	3320	1540
20	1450	10200	5470	24700	103000	41600	28400	18600	11400	3170	3410	1270
21	1430	9090	5210	21500	74100	103000	78800	15800	10900	3070	3320	1170
22	1460	9600	4890	19000	60900	140000	67300	13900	10900	3160	3130	1400
23	1340	9580	4820	21700	52800	130000	44800	12500	11700	2770	2730	1470
24	1330	10300	4810	36800	66600	77100	33200	11600	12400	2700	2370	1480
25	1940	10600	5680	43700	90700	54200	27200	11100	12900	2810	2090	1390
26	1840	10200	7240	42900	80200	42300	23300	10400	11100	2650	1950	1660
27	2080	9410	8610	36000	66200	35300	20600	10100	8930	2550	2370	1650
28	2030	8670	9360	48600	54100	30100	19400	9910	7890	2320	2330	1450
29	2080	8190	9350	79800	---	26700	19400	9280	7530	2270	1800	1420
30	2450	7570	9470	77100	---	24200	17800	8430	6360	2180	1560	1360
31	2230	---	9250	56600	---	22400	---	8030	---	2410	1550	---
TOTAL	57650	524020	212750	1159440	1709200	1483000	842900	805950	265370	132660	78750	41610
MEAN	1860	17470	6863	37400	61040	47840	28100	26000	8846	4279	2540	1387
MAX	3210	108000	9470	136000	118000	140000	78800	63500	13000	8340	3410	1910
MIN	1290	2290	4810	7620	31700	21900	17400	8030	5290	2180	1550	1090
(†)	577	541	535	523	511	531	552	584	634	704	732	737
MEAN≠	2437	18020	7398	37930	61550	48350	28660	26580	9479	4984	3273	2125
CFSM≠	0.21	1.56	0.64	3.28	5.32	4.18	2.48	2.30	0.82	0.43	0.28	0.18
IN≠	0.24	1.74	0.74	3.78	5.55	4.82	2.77	2.65	0.92	0.50	0.33	0.21

† Diversions, in cubic feet per second, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), Fairfax County, and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year). Records provided by U.S. Army Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, city of Fairfax, and Fairfax County Water Authority.

≠ Adjusted for diversion.

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1958, BY WATER YEAR (WY) (UNREGULATED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6120	6496	9843	13570	16660	21060	19120	13610	7960	5135	5804	4419
MAX	44100	21040	30900	37190	36790	76510	36430	27780	19090	21040	28210	19940
(WY)	1943	1933	1951	1937	1939	1936	1933	1932	1951	1949	1955	1945
MIN	583	700	1536	2527	2982	6505	7202	3953	2867	1284	569	679
(WY)	1931	1931	1944	1956	1934	1931	1947	1930	1930	1930	1930	1930

SUMMARY STATISTICS	WATER YEARS 1930 - 1958	
ANNUAL MEAN	10790	
HIGHEST ANNUAL MEAN	16100	1949
LOWEST ANNUAL MEAN	4525	1930
HIGHEST DAILY MEAN	426000	Mar 19 1936
LOWEST DAILY MEAN	448	Aug 25 1930
ANNUAL SEVEN-DAY MINIMUM	499	Aug 21 1930
INSTANTANEOUS PEAK FLOW	484000	Mar 19 1936
INSTANTANEOUS PEAK STAGE	(a)28.10	Mar 19 1936
INSTANTANEOUS LOW FLOW	430	Aug 24 1930
ANNUAL RUNOFF (CFSM)	.93	
ANNUAL RUNOFF (INCHES)	12.68	
10 PERCENT EXCEEDS	23600	
50 PERCENT EXCEEDS	6440	
90 PERCENT EXCEEDS	1810	

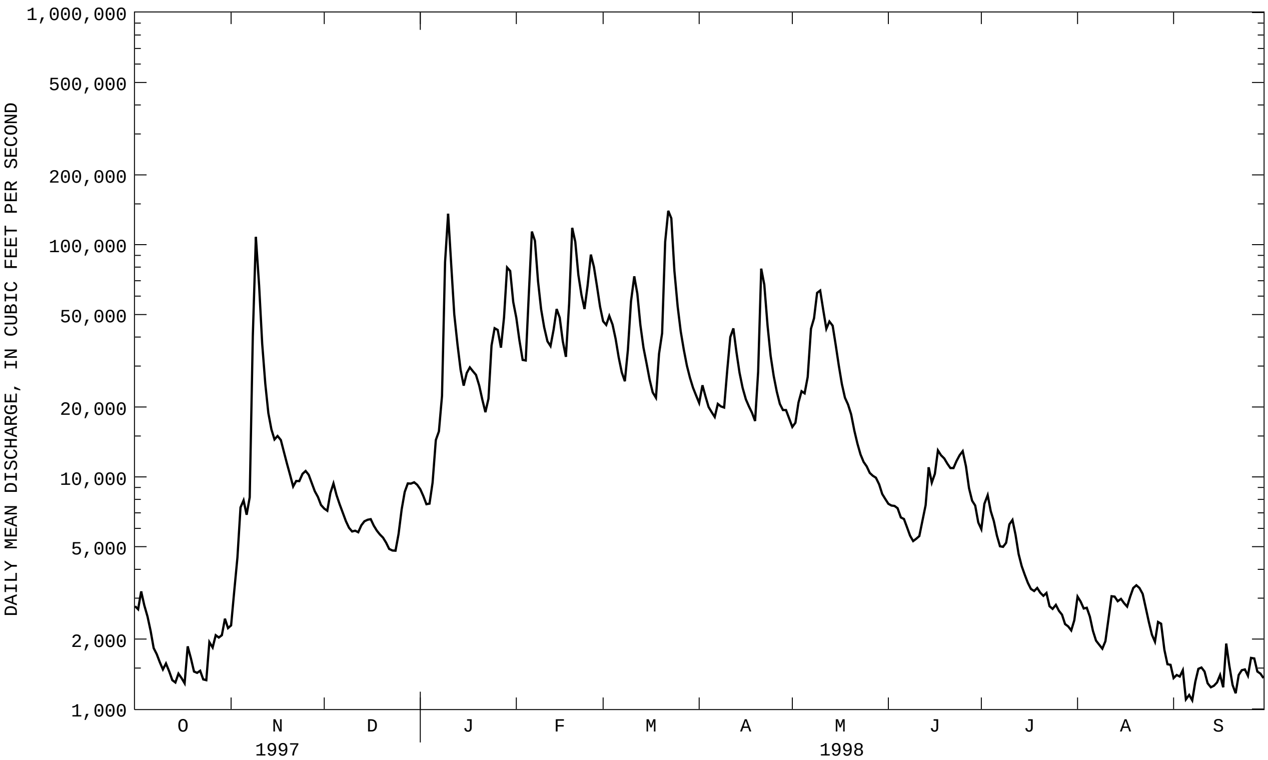
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1998, BY WATER YEAR (WY) (REGULATED, UNADJUSTED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6118	8010	11750	14600	18170	25760	20970	15620	9506	4838	4147	4756
MAX	36790	42030	37630	52890	61040	67370	57850	40410	46630	17160	21720	44620
(WY)	1977	1986	1997	1996	1998	1994	1993	1989	1972	1972	1996	1996
MIN	908	1097	1038	1682	5703	7403	5810	3921	2216	695	538	791
(WY)	1964	1966	1966	1981	1963	1990	1995	1969	1969	1966	1966	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1959 - 1998	
ANNUAL TOTAL	3714790		7313300			
ANNUAL MEAN	10180		20040		11990	
ANNUAL MEAN≠	10780		20630		12474	
HIGHEST ANNUAL MEAN					23760	1996
LOWEST ANNUAL MEAN					4900	1969
LOWEST ANNUAL MEAN≠					5306	1969
HIGHEST DAILY MEAN	108000	Nov 9	140000	Mar 22	334000	Jun 24 1972
LOWEST DAILY MEAN	1240	Sep 8	1090	Sep 7	(b)121	Sep 9 1966
LOWEST DAILY MEAN≠	1810	Sep 9	1860	Oct 24	(c)601	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	1350	Aug 10	1270	Sep 2	181	Sep 7 1966
INSTANTANEOUS PEAK FLOW			152000	Mar 22	484000	Mar 19 1936
INSTANTANEOUS PEAK STAGE			10.79	Mar 22	28.10	Mar 19 1936
INSTANTANEOUS LOW FLOW			973	(d)	66	Sep 9 1966
ANNUAL RUNOFF (CFSM)	.88		1.73		1.04	
ANNUAL RUNOFF (CFSM)≠	.93		1.78		1.08	
ANNUAL RUNOFF (INCHES)	11.95		23.53		14.09	
ANNUAL RUNOFF (INCHES)≠	12.66		24.24		14.66	
10 PERCENT EXCEEDS	22400		52700		27400	
50 PERCENT EXCEEDS	7060		9090		6600	
90 PERCENT EXCEEDS	1540		1490		1620	

a At previous site, 1 mi upstream at same datum.
≠ Adjusted for diversion.
b Minimum daily discharge observed at gaging station, does not include diversion of 489 ft^3/s.
c Includes diversion of 449 ft^3/s for municipal use.
d Sep 7, 13.

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued



DAILY MEAN DISCHARGE - 1998 WATER YEAR

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1989 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1988 to current year.
WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor October 1988 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE: Maximum, 747 microsiemens, Jan. 11, 1991; minimum, 68 microsiemens, Oct. 23, 1990.
WATER TEMPERATURE (water years 1989-93, 1995-97): Maximum, 33.5 C, July 11, 1993; minimum, 0.0 C, on many day during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 454 microsiemens, Nov 7; minimum, 122 microsiemens, Nov 7.
WATER TEMPERATURE: Maximum, 32.0°C, Jul 22; minimum, 1.2°C, Jan 2.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	390	382	386	424	416	419	311	308	309	375	362	368
2	392	385	390	419	370	388	316	311	314	374	339	361
3	385	381	383	404	370	394	318	315	317	347	324	336
4	390	384	388	393	374	381	320	318	319	329	320	324
5	398	390	394	440	391	415	319	316	318	324	307	314
6	410	397	403	452	440	447	319	310	315	322	305	311
7	407	401	403	454	122	338	315	309	311	323	297	311
8	410	406	408	258	144	217	316	300	309	338	256	286
9	416	407	410	273	158	196	303	300	301	256	173	190
10	412	399	407	171	164	169	312	302	304	195	137	165
11	405	390	398	184	171	179	312	303	305	157	151	154
12	395	390	394	198	184	192	314	306	310	173	157	164
13	395	386	392	215	198	207	320	314	317	189	173	181
14	389	381	385	223	213	218	327	320	324	204	189	196
15	385	378	382	238	218	230	331	325	328	439	204	245
16	389	381	386	261	238	249	331	326	329	398	222	243
17	392	387	390	274	261	267	332	324	328	231	222	226
18	388	340	376	280	274	279	328	320	325	250	231	244
19	340	311	321	278	273	275	329	324	326	251	244	247
20	363	331	354	286	275	281	327	320	325	247	244	245
21	363	359	361	293	286	288	325	319	323	255	247	251
22	368	360	365	295	259	275	329	322	327	257	255	256
23	386	368	377	295	285	290	332	314	321	266	159	232
24	395	384	391	308	295	301	323	317	321	227	211	216
25	391	290	360	319	308	314	322	271	298	250	212	235
26	363	315	355	330	319	326	320	302	313	---	---	---
27	358	272	321	329	309	319	322	314	320	---	---	---
28	374	326	350	309	304	306	325	306	313	---	---	---
29	395	373	384	308	304	306	330	325	326	200	162	173
30	419	395	403	309	307	308	373	330	354	202	179	190
31	426	419	422	---	---	---	373	358	366	202	184	193
MONTH	426	272	382	454	122	292	373	271	320	---	---	---

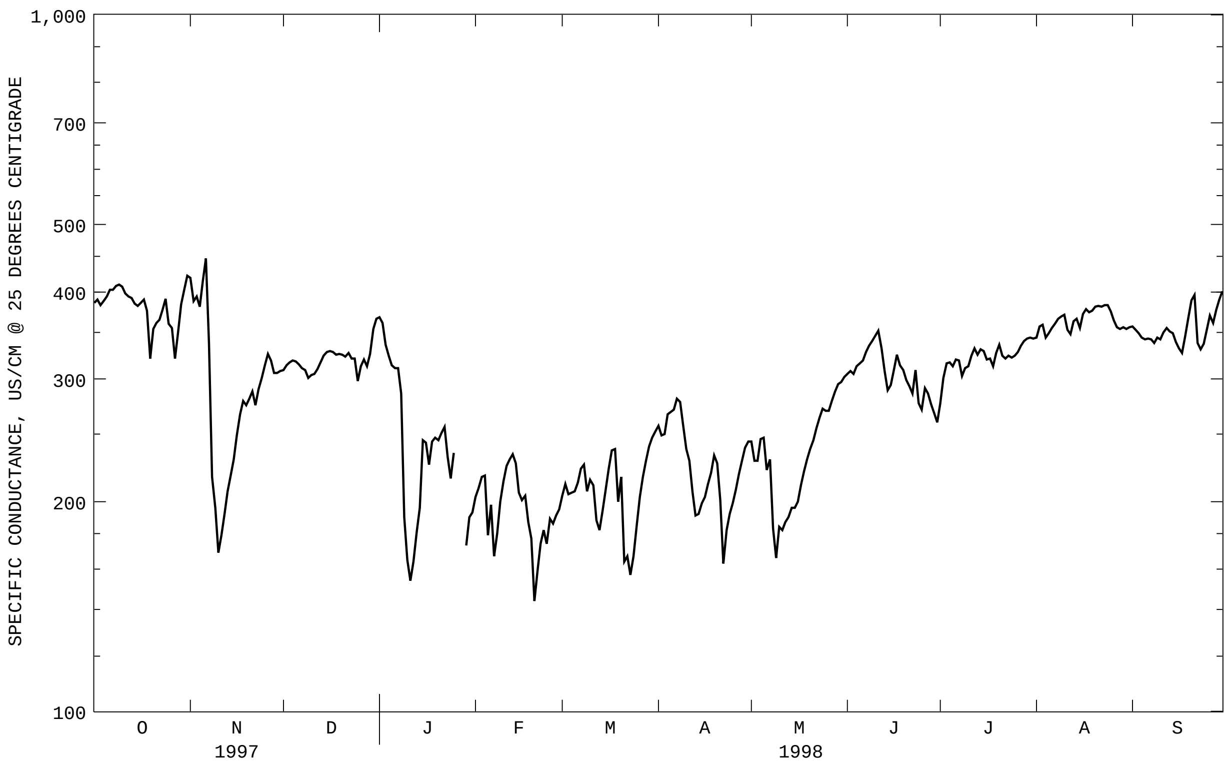
01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	FEBRUARY MAX	MIN	MEAN	MARCH MAX	MIN	MEAN	APRIL MAX	MIN	MEAN	MAY MAX	MIN	MEAN
1	204	202	203	208	199	204	261	224	257	252	232	244
2	213	204	209	214	208	212	257	224	249	245	124	229
3	221	213	217	214	202	205	261	235	250	245	138	229
4	236	190	218	208	205	206	271	261	267	254	241	246
5	196	167	179	210	207	207	271	265	269	253	217	247
6	213	179	198	218	210	213	277	265	271	240	195	222
7	179	161	167	228	218	223	284	277	281	241	212	230
8	192	171	180	233	213	226	282	271	278	212	168	183
9	207	192	200	228	168	207	272	218	257	182	155	166
10	221	207	214	228	207	215	250	217	238	192	177	184
11	231	221	225	226	200	211	247	215	229	184	179	182
12	231	229	230	200	180	188	246	193	207	190	182	187
13	236	230	234	187	180	182	195	190	191	193	188	190
14	236	216	227	201	187	194	197	190	192	198	192	196
15	217	199	206	215	201	208	200	197	199	198	195	196
16	203	199	201	231	215	223	207	200	203	205	196	200
17	214	195	204	242	231	237	220	207	212	214	205	211
18	207	139	187	247	232	238	226	211	220	224	214	221
19	207	141	177	241	148	200	242	212	233	237	224	230
20	155	135	144	240	195	217	232	212	227	241	234	238
21	166	153	159	214	132	164	236	160	201	248	239	245
22	180	166	174	180	155	167	175	157	163	259	248	255
23	188	167	182	160	152	157	188	175	182	269	259	264
24	179	162	174	175	160	167	196	188	192	275	268	272
25	195	178	189	195	175	185	202	196	199	274	264	270
26	188	184	186	210	195	203	213	202	208	276	267	270
27	193	187	191	222	210	217	224	213	219	288	276	279
28	199	193	195	235	222	229	233	223	229	295	285	288
29	---	---	---	244	235	240	242	233	239	298	291	295
30	---	---	---	250	244	247	246	242	244	301	292	297
31	---	---	---	254	250	252	---	---	---	306	299	302
MONTH	236	135	195	254	132	208	284	157	227	306	124	234

DAY	JUNE MAX	MIN	MEAN	JULY MAX	MIN	MEAN	AUGUST MAX	MIN	MEAN	SEPTEMBER MAX	MIN	MEAN
1	308	301	305	290	263	277	350	333	344	361	354	357
2	311	305	308	313	290	301	364	349	357	355	350	353
3	311	298	305	321	313	316	364	352	359	352	342	349
4	315	310	313	321	315	317	352	339	344	346	341	344
5	319	313	316	316	309	313	355	339	349	344	339	342
6	321	317	319	329	312	320	361	349	355	346	340	343
7	333	321	328	332	308	319	364	355	360	348	337	342
8	338	333	335	312	295	303	369	361	366	340	336	338
9	343	334	340	330	289	311	371	368	369	349	337	344
10	349	343	346	317	310	313	373	369	371	347	340	342
11	354	346	352	329	317	324	370	340	353	357	342	350
12	353	314	332	336	329	332	357	339	348	360	351	355
13	332	186	308	331	320	325	369	354	363	360	345	351
14	298	249	289	348	318	331	374	349	366	354	344	349
15	308	276	294	353	309	329	363	348	355	345	334	339
16	326	295	309	326	314	320	377	363	372	343	328	332
17	339	316	325	339	308	321	380	373	378	337	323	327
18	338	307	314	329	309	313	379	369	374	354	333	345
19	311	301	309	348	304	327	380	369	376	376	354	366
20	310	285	299	356	321	336	384	378	381	395	376	389
21	306	284	293	330	319	324	387	378	382	403	388	396
22	301	273	286	326	317	321	384	378	381	397	327	338
23	327	291	309	329	319	324	386	379	383	356	319	331
24	296	222	277	328	318	322	388	377	383	342	331	337
25	284	263	271	330	319	324	380	364	375	363	336	353
26	304	275	291	333	322	328	370	356	364	377	363	370
27	287	282	286	342	328	335	357	354	356	374	354	361
28	282	275	276	344	333	340	357	352	354	385	367	377
29	277	261	268	348	339	343	358	353	356	395	385	390
30	263	257	260	347	340	344	357	352	354	404	395	401
31	---	---	---	348	334	343	359	353	356	---	---	---
MONTH	354	186	305	356	263	322	388	333	364	404	319	354

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued



MEAN DAILY SPECIFIC CONDUCTANCE - 1998 WATER YEAR

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.3	18.3	18.7	12.0	11.5	11.8	7.9	6.8	7.4	2.3	1.3	1.8
2	18.4	17.0	17.8	12.9	11.9	12.3	6.9	6.0	6.5	2.7	1.2	1.8
3	18.2	16.4	17.5	13.3	11.8	12.5	6.2	5.4	5.8	3.2	1.9	2.4
4	19.4	17.3	18.3	12.4	11.3	11.9	7.1	5.6	6.4	4.5	2.8	3.5
5	20.4	18.5	19.3	11.3	10.0	10.8	7.5	6.2	7.0	4.9	3.6	4.1
6	21.5	19.9	20.6	10.3	9.6	10.0	6.2	5.1	5.8	5.5	4.3	5.0
7	22.2	20.9	21.4	10.0	9.2	9.6	5.1	4.3	4.6	7.2	5.5	5.9
8	23.3	21.4	22.3	9.4	8.9	9.2	5.1	4.0	4.4	9.3	7.2	8.3
9	23.8	21.8	22.7	8.9	8.6	8.7	4.6	4.1	4.3	12.4	9.3	11.5
10	23.5	22.2	22.9	9.4	8.8	9.0	4.9	4.4	4.6	10.9	10.2	10.6
11	23.0	21.9	22.5	9.4	9.0	9.2	5.2	4.9	5.1	10.2	8.8	9.5
12	22.2	21.1	21.7	9.2	8.7	8.9	5.5	5.0	5.2	8.8	7.5	8.1
13	21.6	20.6	21.1	8.7	7.8	8.1	5.6	4.4	5.0	7.5	6.5	7.0
14	21.1	20.2	20.6	7.8	7.1	7.3	5.1	4.2	4.6	6.5	5.5	5.9
15	20.5	19.3	19.6	7.1	6.7	6.9	4.5	3.6	4.0	5.5	4.5	4.8
16	19.3	18.2	18.6	7.1	6.1	6.5	4.6	3.3	3.8	4.6	4.4	4.5
17	18.5	16.7	17.6	6.1	5.4	5.7	4.7	3.4	3.9	4.5	4.3	4.4
18	16.7	15.9	16.2	5.6	4.9	5.2	4.7	3.3	3.9	4.7	4.3	4.5
19	15.9	14.7	15.2	5.7	4.9	5.2	4.6	3.4	3.9	4.9	4.6	4.7
20	15.4	14.3	14.8	5.7	4.9	5.2	4.9	3.6	4.2	4.9	4.6	4.7
21	15.3	13.9	14.4	5.9	4.9	5.4	4.9	3.8	4.3	4.7	4.0	4.3
22	14.5	13.4	13.7	6.6	5.6	6.3	4.3	3.5	3.8	4.6	4.0	4.1
23	13.6	12.3	13.0	7.3	6.4	6.8	4.6	3.7	4.0	5.3	4.1	4.5
24	13.1	12.0	12.3	7.0	5.5	6.6	4.6	4.0	4.2	4.6	3.9	4.3
25	12.1	11.7	11.9	5.8	4.9	5.4	5.5	4.5	4.9	4.2	3.7	3.9
26	11.9	11.4	11.6	5.6	5.0	5.3	6.1	5.1	5.4	e4.1	e3.7	e4.0
27	12.2	11.3	11.6	6.8	5.5	5.9	5.2	4.6	5.0	e4.1	e3.7	e3.9
28	11.7	10.5	11.0	6.4	5.7	6.1	4.8	3.6	4.3	e4.2	e3.8	e4.0
29	11.4	10.5	10.9	7.0	6.3	6.6	3.7	3.0	3.5	4.2	3.6	3.9
30	11.0	10.1	10.5	7.4	6.9	7.1	3.3	2.8	3.0	4.4	3.9	4.1
31	11.7	10.2	10.9	---	---	---	2.9	1.9	2.6	4.7	4.1	4.4
MONTH	23.8	10.1	16.8	13.3	4.9	7.8	7.9	1.9	4.7	12.4	1.2	5.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.0	4.3	4.6	8.0	7.4	7.7	18.4	17.8	18.1	17.5	16.8	17.2
2	5.1	4.3	4.6	8.2	7.6	7.9	18.3	17.7	18.1	17.7	16.2	17.2
3	5.0	4.7	4.8	8.3	7.7	8.0	18.0	16.6	17.2	18.3	16.3	17.5
4	4.9	4.3	4.6	8.3	7.7	8.0	17.4	14.9	15.9	18.3	17.3	17.7
5	4.3	3.9	4.0	7.9	7.3	7.5	14.9	13.8	14.3	17.8	17.2	17.4
6	4.1	3.8	3.9	7.8	6.7	7.3	14.3	13.0	13.8	18.7	17.0	17.8
7	4.3	3.8	4.0	8.4	7.0	7.7	14.6	12.9	13.9	18.6	17.8	18.1
8	5.1	4.2	4.6	8.4	7.9	8.1	14.5	13.3	14.0	17.8	17.1	17.3
9	5.3	4.6	4.9	9.7	8.1	8.9	14.4	13.0	13.7	17.1	16.2	16.5
10	5.7	4.7	5.1	9.5	8.1	8.8	13.2	12.6	12.9	16.2	15.9	16.0
11	5.9	5.0	5.4	8.1	7.1	7.6	13.5	11.6	12.5	15.9	15.6	15.7
12	6.8	5.8	6.2	7.1	5.9	6.5	13.5	12.1	12.8	15.6	15.1	15.3
13	6.6	5.9	6.2	6.1	5.2	5.6	14.0	12.1	13.1	16.1	14.7	15.3
14	6.3	5.9	6.1	5.8	4.8	5.3	14.4	13.0	13.7	17.0	15.3	16.1
15	6.0	5.3	5.7	6.1	4.6	5.4	15.8	13.4	14.4	18.3	16.1	17.2
16	5.8	5.0	5.3	6.5	5.2	5.8	16.6	15.1	15.8	20.1	17.3	18.7
17	6.1	5.0	5.4	6.4	5.6	6.0	17.7	16.3	17.0	21.5	19.1	20.2
18	7.7	6.1	6.7	6.5	6.0	6.2	17.7	16.4	16.9	22.6	20.2	21.3
19	6.9	6.5	6.7	7.5	6.5	6.9	17.2	14.9	16.3	23.4	21.5	22.5
20	6.9	6.6	6.7	7.8	7.2	7.5	15.9	14.8	15.3	24.2	22.6	23.4
21	7.3	6.8	7.0	7.8	7.3	7.5	15.2	13.4	14.3	24.3	23.4	23.9
22	7.5	7.0	7.2	7.6	7.4	7.5	13.9	13.1	13.4	23.8	22.2	22.8
23	7.3	6.8	7.1	7.6	7.1	7.3	13.9	13.2	13.6	22.7	21.3	22.0
24	6.8	6.1	6.4	7.3	6.9	7.1	15.0	13.2	14.1	21.6	20.9	21.4
25	6.1	5.6	5.8	7.8	6.7	7.3	16.3	14.2	15.2	22.7	20.9	21.7
26	6.4	5.6	5.9	9.2	7.3	8.2	16.5	15.4	15.9	23.2	22.0	22.4
27	7.1	6.1	6.6	11.2	9.0	10.1	16.5	15.3	16.0	22.6	21.6	22.3
28	7.7	6.9	7.3	13.7	10.8	12.1	16.7	15.2	16.1	23.7	21.6	22.4
29	---	---	---	15.6	13.1	14.2	17.2	15.5	16.4	25.0	22.5	23.7
30	---	---	---	17.1	14.7	15.8	17.5	16.7	17.0	26.6	24.0	25.3
31	---	---	---	18.4	16.3	17.3	---	---	---	27.4	25.3	26.2
MONTH	7.7	3.8	5.7	18.4	4.6	8.3	18.4	11.6	15.1	27.4	14.7	19.8

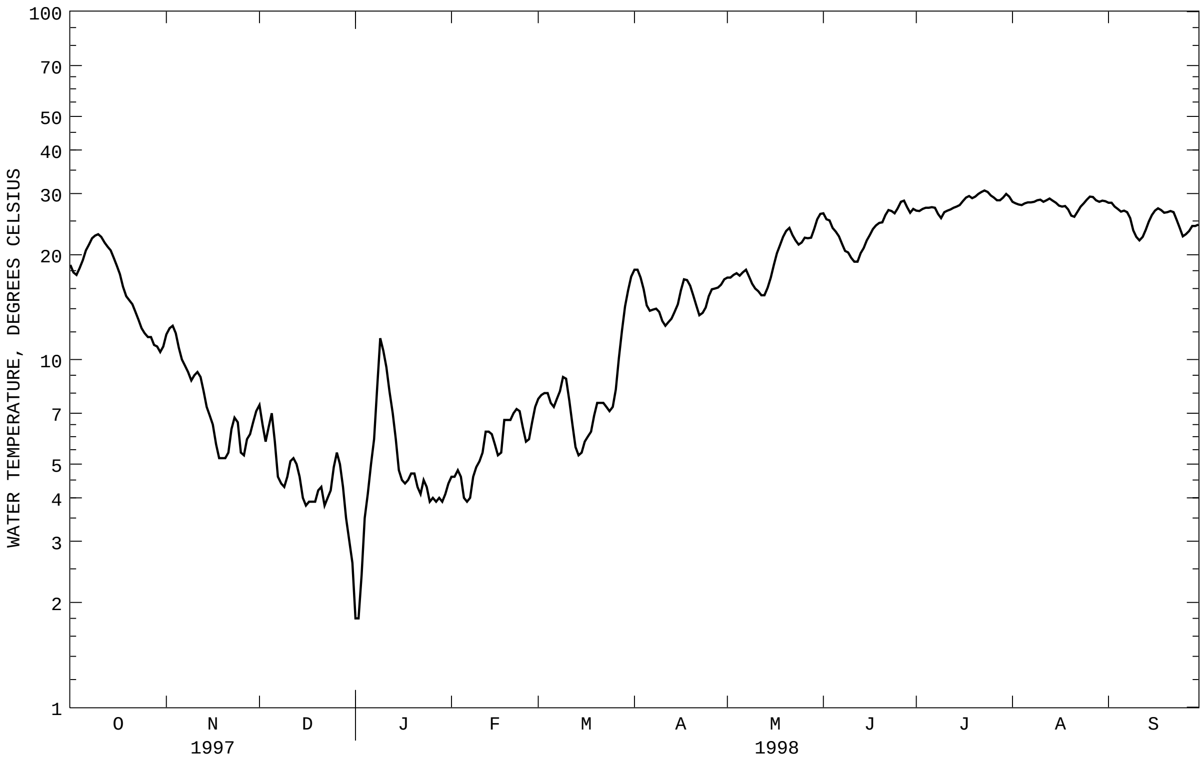
e Estimated

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.1	25.5	26.3	27.7	26.1	26.8	29.1	27.4	28.4	28.8	27.7	28.2
2	26.1	24.7	25.3	27.9	25.9	26.7	29.3	26.6	28.1	29.1	27.3	28.2
3	26.1	24.3	25.1	28.2	26.4	27.1	29.4	26.4	27.9	27.9	26.9	27.5
4	24.3	23.1	23.9	28.3	26.4	27.3	28.9	26.5	27.8	27.4	26.5	27.1
5	24.1	22.4	23.3	28.4	26.7	27.3	29.3	26.7	28.1	27.2	25.9	26.6
6	23.6	22.0	22.6	28.6	26.3	27.4	29.3	27.1	28.3	28.5	25.3	26.8
7	22.2	20.7	21.5	28.4	26.1	27.3	29.1	27.6	28.3	27.0	25.8	26.5
8	21.3	19.7	20.5	27.2	25.5	26.2	29.1	27.8	28.4	26.5	24.7	25.5
9	21.2	19.4	20.3	26.5	24.6	25.5	29.3	28.2	28.7	24.7	23.0	23.5
10	19.9	19.3	19.6	28.0	25.1	26.5	29.4	28.3	28.8	23.2	21.9	22.5
11	19.3	19.0	19.1	27.9	26.0	26.8	29.3	27.6	28.4	23.1	21.0	22.0
12	19.8	18.6	19.1	28.2	25.9	27.0	29.6	27.7	28.7	23.9	21.5	22.5
13	21.3	19.5	20.2	28.5	26.0	27.3	30.0	27.5	29.0	25.3	22.3	23.6
14	22.0	20.0	20.9	28.6	26.3	27.5	29.3	27.7	28.6	26.3	23.7	24.9
15	22.5	21.3	22.0	28.7	26.6	27.8	28.9	27.2	28.2	27.3	25.0	26.0
16	24.2	21.7	22.8	29.6	27.0	28.5	28.3	27.1	27.7	28.0	26.0	26.8
17	24.3	23.2	23.7	30.5	27.8	29.2	27.9	27.1	27.5	27.8	26.6	27.2
18	25.0	23.6	24.3	30.6	28.1	29.5	28.3	26.7	27.6	27.4	26.5	26.9
19	25.2	24.1	24.7	30.0	27.8	29.1	27.8	25.7	27.0	26.7	25.8	26.4
20	25.8	23.9	24.8	30.3	28.2	29.4	26.8	24.3	25.9	27.6	25.8	26.5
21	27.0	25.3	26.0	31.1	28.5	29.9	27.0	24.1	25.7	27.6	25.6	26.7
22	27.6	26.4	26.9	32.0	28.6	30.3	28.0	25.1	26.6	27.0	26.1	26.5
23	27.3	26.2	26.7	31.4	29.7	30.6	29.0	26.2	27.5	26.2	24.6	25.2
24	27.0	25.4	26.3	30.8	29.4	30.3	29.0	27.3	28.1	24.7	23.2	23.9
25	27.9	26.4	27.2	30.2	28.7	29.6	29.7	28.0	28.8	23.6	22.2	22.6
26	29.2	27.7	28.4	30.0	28.2	29.2	30.5	28.6	29.4	24.9	21.8	22.9
27	29.0	27.9	28.6	29.3	27.9	28.7	29.6	29.0	29.3	24.7	22.5	23.4
28	27.9	26.4	27.4	29.6	27.8	28.7	29.3	28.2	28.7	24.9	23.5	24.2
29	27.4	25.7	26.4	30.2	28.2	29.2	28.9	28.0	28.4	25.0	23.3	24.2
30	28.0	26.2	27.1	31.3	28.9	29.9	30.0	27.8	28.6	25.6	23.4	24.4
31	---	---	---	30.1	28.8	29.4	29.2	28.0	28.5	---	---	---
MONTH	29.2	18.6	24.0	32.0	24.6	28.3	30.5	24.1	28.1	29.1	21.0	25.3
YEAR	32.0	1.2	15.8									

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued



MEAN DAILY WATER TEMPERATURE - 1998 WATER YEAR

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01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC

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^2.

PERIOD OF RECORD.--Water years 1973 to current year. Prior to October 1977, published as "at Great Falls."

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1978 to September 1981.
pH: June 1978 to September 1981.
WATER TEMPERATURE: June 1978 to September 1981.
DISSOLVED OXYGEN: June 1978 to September 1981.
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981.

INSTRUMENTATION.--Water-quality monitor June 1978 to September 1981.

REMARKS--Extreme high flows are sampled from the George Mason Memorial Bridge (14th Street) located 6 mi downstream from Chain Bridge. On May 3 and Nov. 17, 1994 samples were collected and analyzed using ultraclean methodologies. Data on trace metals for these dates are available from the University of Delaware. Data on organics for these dates are available from George Mason University.

EXTREMES FOR PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE (water years 1979, 1981): Maximum, 598 microsiemens, Sept. 12, 1981; minimum, 116 microsiemens, Jan. 25,1979.
pH (water years 1979, 1981): Maximum, 9.3 units, Mar. 29, 1981; minimum, 6.7 units, June 2, 1981.
WATER TEMPERATURE (water years 1979, 1981): Maximum, 31.0°C, July 23-24, 1978; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN (water years 1979, 1981): Maximum, 16.4 mg/L, on many days in 1979; minimum, 5.6 mg/L, June 2, 1981.
SEDIMENT CONCENTRATION: Maximun daily mean, 812 mg/L, Sept. 6, 1979; minimum daily mean, 1 mg/L on many day during winter periods.
SEDIMENT LOAD: Maximum daily, 281,000 tons, Feb. 27, 1979; minimum daily, 3.2 tons, Jan. 5, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 1997												
28...	1115	1940	369	7.7	10.5	11.0	763	10.4	94	150	40	12
NOV												
24...	0930	10300	285	8.3	9.0	6.5	765	12.4	100	110	33	7.5
DEC												
17...	0945	6100	--	7.9	4.0	5.0	758	--	--	130	38	8.8
JAN 1998												
22...	1000	19100	244	7.1	2.0	4.0	769	13.2	100	100	30	6.7
MAR												
05...	1030	39100	200	7.2	9.0	7.5	762	12.8	107	83	24	5.3
31...	1045	22700	244	7.7	26.5	16.5	760	9.8	101	110	32	7.0
APR												
15...	1130	24300	202	7.9	20.5	14.0	760	10.0	97	89	26	6.0
MAY												
14...	1045	45300	191	7.8	17.0	15.5	767	10.0	100	84	25	5.4
JUN												
02...	0845	7310	--	--	--	--	--	--	--	--	--	--
11...	1315	5540	339	8.1	18.0	19.5	766	9.0	98	150	42	11
JUL												
15...	1500	3830	316	8.4	26.5	28.5	--	7.3	--	--	--	--
AUG												
26...	1330	2040	365	8.1	31.5	29.5	760	7.9	104	150	40	12
SEP												
23...	1600	1510	347	8.0	18.5	25.0	766	7.1	86	140	36	12

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
OCT 1997												
28...	15	2.9	108	132	0	40	20	.20	.91	207	--	<.010
NOV												
24...	7.9	2.6	84	102	0	30	12	<.10	7.1	169	7.8	.036
DEC												
17...	9.1	2.1	96	117	0	40	13	<.10	1.8	190	--	<.010
JAN 1998												
22...	6.6	2.0	74	90	0	25	11	<.10	7.2	143	8.0	.016
MAR												
05...	4.4	1.6	59	72	0	18	7.0	<.10	6.2	128	--	<.010
31...	4.9	1.7	--	--	--	21	8.1	<.10	5.8	145	--	<.010
APR												
15...	4.8	1.6	63	77	0	19	6.6	<.10	5.4	122	4.4	.014
MAY												
14...	4.6	1.9	64	78	0	16	5.8	<.10	7.4	117	4.9	.017
JUN												
02...	--	--	--	--	--	--	--	--	--	--	--	--
11...	9.3	2.4	112	137	0	32	13	.13	2.8	200	6.5	.020
JUL												
15...	--	--	100	117	2	--	--	--	--	--	4.9	.017
AUG												
26...	13	3.2	117	135	4	34	17	.15	5.5	216	4.6	.017
SEP												
23...	15	3.0	--	--	--	38	20	.17	4.3	209	3.6	.015

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)
OCT 1997												
28...	.681	<.015	.24	<.20	.92	.038	.013	.015	31	8.5	<.0040	<.0020
NOV												
24...	1.79	<.020	.18	.12	2.0	.027	.017	.029	31	8.1	<.0040	<.0020
DEC												
17...	1.48	<.020	.16	.12	1.6	.020	.015	.013	37	5.7	<.0040	<.0020
JAN 1998												
22...	1.82	<.020	.22	.10	2.0	.038	.013	.030	14	5.4	--	--
MAR												
05...	1.35	.028	.23	.15	1.6	.043	.025	.027	<10	4.7	<.0040	<.0020
31...	1.46	.025	.17	<.10	1.6	.041	.024	.017	10	<4.0	<.0040	<.0020
APR												
15...	1.01	.064	.23	.12	1.2	.045	.019	.013	42	<4.0	<.0040	<.0020
MAY												
14...	1.13	.072	.51	.25	1.6	.093	.027	.073	27	<4.0	<.0040	<.0020
JUN												
02...	--	--	--	--	--	--	--	--	--	--	<.0040	<.0020
11...	1.49	.062	.30	.20	1.8	<.010	<.010	.020	15	<4.0	<.0040	<.0020
JUL												
15...	1.12	.062	.31	.21	1.4	.027	.022	.028	--	--	<.0040	<.0020
AUG												
26...	1.06	.098	.33	.26	1.4	.050	.051	.043	<10	11	<.0040	<.0020
SEP												
23...	.823	.045	.34	.30	1.2	.037	.022	.023	11	6.9	<.0040	<.0020

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TERBACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TRIFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETOCHLOR, WATER FLTRD REC (UG/L) (49260)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	BENFLURALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYLATE, WATER, DISS, REC (UG/L) (04028)	CARBARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBOFURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLORPYRIFOS DISSOLVED (UG/L) (38933)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)
OCT 1997												
28...	<.0070	<.0020	<.0030	<.0020	<.002	.040	<.0020	<.0020	E.0108	<.0030	<.0040	<.0040
NOV												
24...	<.0070	<.0020	<.0030	<.0020	<.002	.035	<.0020	<.0020	E.0039	<.0030	<.0040	<.0040
DEC												
17...	<.0070	<.0020	<.0030	<.0020	<.002	.041	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040
JAN 1998												
22...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	<.0070	<.0020	<.0030	<.0020	<.002	.018	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040
31...	<.0070	<.0020	<.0030	<.0020	<.002	.028	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040
APR												
15...	<.0070	<.0020	<.0030	<.0020	<.002	.026	<.0020	<.0020	<.0030	<.0030	<.0040	.0081
MAY												
14...	<.0120	<.0020	<.0030	.0157	E.003	.546	<.0020	<.0020	E.0077	<.0030	<.0040	.0263
JUN												
02...	<.0070	<.0020	<.0030	<.0020	<.002	.049	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040
11...	<.0070	<.0020	<.0030	<.0020	<.002	.230	<.0020	<.0020	<.0030	<.0030	<.0040	.0263
JUL												
15...	<.0070	<.0020	<.0030	<.0020	<.002	.219	<.0020	<.0020	<.0030	<.0030	<.0040	.0439
AUG												
26...	<.0070	<.0020	<.0030	<.0020	<.002	.075	<.0020	<.0020	<.0030	<.0030	<.0040	<.0040
SEP												
23...	<.0070	<.0020	<.0030	<.0020	<.002	.066	<.0020	<.0020	E.0162	<.0030	<.0040	<.0040

DATE	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DIAZINON, DISSOLVED (UG/L) (39572)	DIELDRIN DISSOLVED (UG/L) (39381)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHOPROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DISSOLVED (UG/L) (39341)	LINURON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALATHION, DISSOLVED (UG/L) (39532)
OCT 1997												
28...	<.0020	<.0060	E.0213	.007	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
NOV												
24...	<.0020	<.0060	E.0514	E.004	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
DEC												
17...	<.0020	<.0060	E.0544	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
JAN 1998												
22...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	<.0020	<.0060	E.0272	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
31...	<.0020	<.0060	E.0368	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
APR												
15...	<.0020	<.0060	E.0293	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
MAY												
14...	<.0020	<.0060	E.0348	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
JUN												
02...	<.0020	<.0060	E.0376	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
11...	<.0020	<.0060	E.0682	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
JUL												
15...	<.0020	<.0060	E.0788	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
AUG												
26...	<.0020	<.0060	E.0582	<.002	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005
SEP												
23...	<.0020	<.0060	E.0871	.006	<.001	<.0170	<.0020	<.0030	<.0030	<.004	<.0020	<.005

E Estimated value

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
OCT 1997												
28...	<.0010	<.0060	.013	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0116	<.0030
NOV												
24...	<.0010	<.0060	.024	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0077	<.0030
DEC												
17...	<.0010	<.0060	.017	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	<.0180	<.0030
JAN 1998												
22...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	<.0010	<.0060	.014	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0044	<.0030
31...	<.0010	<.0060	.013	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	<.0180	<.0030
APR												
15...	<.0010	<.0060	.016	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0072	<.0030
MAY												
14...	<.0010	<.0060	.195	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0069	<.0030
JUN												
02...	<.0010	<.0060	.006	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	<.0180	<.0030
11...	<.0010	<.0060	.146	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0133	<.0030
JUL												
15...	<.0010	<.0060	.072	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0154	<.0030
AUG												
26...	<.0010	<.0060	.016	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	.0207	<.0030
SEP												
23...	<.0010	<.0060	.009	<.004	<.0040	<.0030	<.0040	<.004	<.0040	<.0050	E.0153	<.0030

DATE	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT 1997											
28...	<.0070	<.0130	<.0040	.0140	<.0100	<.0130	<.0020	<.0010	<.0020	1	6.3
NOV											
24...	<.0070	<.0130	<.0040	.0135	<.0100	<.0130	<.0020	<.0010	<.0020	6	167
DEC											
17...	<.0070	<.0130	<.0040	.0103	E.0066	<.0130	<.0020	<.0010	<.0020	3	49
JAN 1998											
22...	--	--	--	--	--	--	--	--	--	13	670
MAR											
05...	<.0070	<.0130	<.0040	.0065	<.0100	<.0130	<.0020	<.0010	<.0020	21	2220
31...	<.0070	<.0130	<.0040	.0098	E.0064	<.0130	<.0020	<.0010	<.0020	14	858
APR											
15...	<.0070	<.0130	<.0040	.0128	<.0100	<.0130	<.0020	<.0010	<.0020	15	984
MAY											
14...	<.0070	<.0130	<.0040	.247	E.0057	<.0130	<.0020	<.0010	<.0020	40	4890
JUN											
02...	<.0070	<.0130	<.0040	.0224	<.0100	<.0130	<.0020	<.0010	<.0020	--	--
11...	<.0070	<.0130	<.0040	.0764	E.0067	<.0130	<.0020	<.0010	<.0020	10	150
JUL											
15...	<.0070	<.0130	<.0040	.0691	E.0090	<.0130	<.0020	<.0010	<.0020	3	31
AUG											
26...	<.0070	<.0130	<.0040	.0233	<.0100	<.0130	<.0020	<.0010	<.0020	4	22
SEP											
23...	<.0070	<.0130	<.0040	.0176	E.0077	<.0130	<.0020	<.0010	<.0020	6	24

E Estimated value

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^2.

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 above sea level.

REMARKS.--Records good except those for estimated daily discharges (sluggish intake), which are fair. Flow affected by two upstream reservoirs which control flow from about 25 mi^2, Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since February 1968. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 28	1630	1,320	6.07	Mar 21	0800	*1,900	*7.58
Feb 18	0230	1,370	6.23	May 2	2315	1,310	6.02

Minimum discharge, 5.4 ft^3/s, Sep 7, 13-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	106	30	30	109	79	120	140	41	37	25	10
2	9.8	88	24	27	88	74	108	278	48	29	19	10
3	9.1	43	23	26	67	244	64	271	55	27	17	10
4	8.6	26	28	26	440	106	102	161	34	26	15	8.3
5	8.1	21	29	25	661	84	65	226	32	24	14	7.2
6	8.8	19	24	24	211	70	58	273	30	23	13	7.1
7	8.1	493	22	34	157	63	55	201	28	23	13	7.2
8	8.4	420	21	81	129	191	55	387	28	132	11	41
9	7.4	229	26	48	111	463	277	169	30	56	12	11
10	8.2	113	51	35	90	156	137	146	61	34	44	7.6
11	8.6	81	49	29	82	121	94	125	46	28	52	7.1
12	6.7	55	28	26	154	102	77	269	132	26	22	6.4
13	7.0	43	25	28	73	84	67	157	255	23	17	5.6
14	7.5	167	23	25	60	72	60	117	171	23	14	5.4
15	17	79	21	150	52	63	57	97	124	26	13	5.5
16	15	48	20	162	48	58	54	82	91	25	12	5.8
17	26	37	19	73	248	54	116	69	71	24	62	12
18	195	30	19	70	522	175	80	60	48	49	15	97
19	23	27	19	48	157	490	130	56	46	20	12	14
20	15	25	19	44	120	199	173	51	105	18	9.8	9.1
21	13	43	18	35	99	997	84	48	41	61	10	7.9
22	11	154	27	31	80	289	69	44	35	55	9.7	66
23	9.9	58	73	484	264	e130	60	42	174	22	9.0	16
24	11	44	32	178	415	e110	55	42	275	22	8.8	9.6
25	165	34	154	127	166	e95	51	64	96	19	8.7	7.9
26	95	30	51	90	129	e90	48	44	76	17	7.9	8.8
27	82	27	65	75	110	e85	62	44	58	16	9.5	8.7
28	27	25	62	781	93	e80	47	42	61	15	20	10
29	20	24	38	248	---	e75	45	40	40	16	14	9.0
30	17	25	53	164	---	e73	44	38	36	21	13	9.7
31	15	---	38	132	---	71	---	36	---	101	12	---
TOTAL	875.2	2614	1131	3356	4935	5043	2514	3819	2368	1038	534.4	440.9
MEAN	28.2	87.1	36.5	108	176	163	83.8	123	78.9	33.5	17.2	14.7
MAX	195	493	154	781	661	997	277	387	275	132	62	97
MIN	6.7	19	18	24	48	54	44	36	28	15	7.9	5.4
CFSM	.45	1.40	.59	1.74	2.83	2.62	1.35	1.98	1.27	.54	.28	.24
IN.	.52	1.56	.68	2.01	2.95	3.02	1.50	2.28	1.42	.62	.32	.26

e Estimated

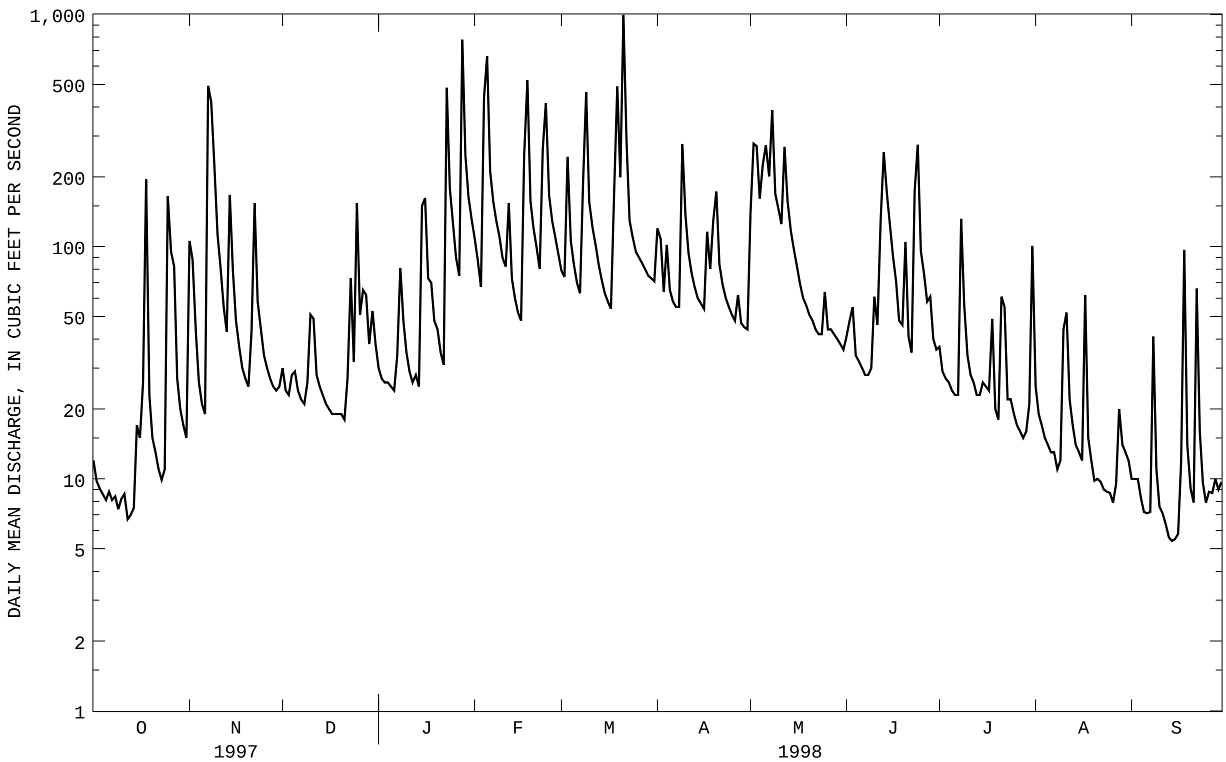
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	41.1	53.3	62.3	73.6	84.0	92.2	84.9	75.0	60.2	49.1	47.4	45.3
MAX	196	165	184	201	210	221	215	232	456	192	174	348
(WY)	1980	1953	1973	1978	1979	1993	1973	1989	1972	1945	1955	1979
MIN	2.63	4.57	8.75	11.8	11.9	23.4	29.2	24.3	18.3	7.09	1.72	2.04
(WY)	1931	1932	1931	1931	1931	1931	1969	1955	1986	1930	1930	1930

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1930 - 1998	
ANNUAL TOTAL	22684.4		28668.5			
ANNUAL MEAN	62.1		78.5		63.9	
HIGHEST ANNUAL MEAN					142	1972
LOWEST ANNUAL MEAN					16.1	1931
HIGHEST DAILY MEAN	698	Mar 3	997	Mar 21	5000	Jun 22 1972
LOWEST DAILY MEAN	6.7	Oct 12	5.4	Sep 14	.50	(a)
ANNUAL SEVEN-DAY MINIMUM	7.7	Oct 8	6.2	Sep 10	.50	Oct 1 1930
INSTANTANEOUS PEAK FLOW			1900	Mar 21	(b)12500	Jun 22 1972
INSTANTANEOUS PEAK STAGE			7.58	Mar 21	(c)16.20	Jun 22 1972
INSTANTANEOUS LOW FLOW			5.4	(d)	.50	(a)
ANNUAL RUNOFF (CFSM)	1.00		1.26		1.03	
ANNUAL RUNOFF (INCHES)	13.57		17.15		13.96	
10 PERCENT EXCEEDS	111		170		123	
50 PERCENT EXCEEDS	43		44		38	
90 PERCENT EXCEEDS	11		9.7		13	

a Oct. 1-7, 1930.
b From rating curve extended above 5,640 ft^3/s on basis of contracted-opening measurement at gage heights of 13.19 and 16.2 ft.
c From floodmarks.
d Sept. 7, 13-16.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: 1972(M).

GAGE.--Water-stage recorders, crest-stage gage, and concrete control. Datum of gage is 12.68 ft above sea level (Washington Suburban Sanitary Commission bench mark). 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.--No estimated daily discharges. Records good. Some regulation at low flow by sand and gravel plants upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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 sea level, from floodmarks, discharge, 10,500 ft^3/s, from rating curve extended above 3,000 ft^3/s on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1845	2,590	5.66	Mar 9	0645	*6,870	*8.93
Jan 23	1345	3,180	6.22	Mar 21	0245	4,160	7.08
Jan 28	1530	3,300	6.33	May 5	2400	2,860	5.92
Feb 5	0500	2,640	5.70				

Minimum discharge, 7.1 ft^3/s, Sep 6, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	158	33	43	73	74	142	148	37	25	27	8.6
2	13	111	30	38	64	78	257	235	44	23	18	9.2
3	14	54	29	39	59	346	94	272	46	22	15	9.0
4	13	35	40	35	871	126	185	246	34	21	14	8.5
5	12	28	35	33	1560	83	114	353	31	20	13	7.9
6	12	26	31	32	315	69	79	763	30	20	12	7.7
7	12	1080	28	45	145	62	69	174	29	19	14	8.9
8	12	801	27	97	102	301	65	632	28	169	13	39
9	13	421	32	69	82	2580	500	229	30	57	15	14
10	14	136	59	43	72	346	274	131	55	32	33	9.6
11	13	74	59	36	104	158	105	129	47	25	37	8.9
12	12	55	37	33	277	124	78	472	144	21	17	8.5
13	13	53	32	35	105	111	68	262	241	20	13	7.9
14	14	245	30	33	77	105	64	117	113	21	14	7.6
15	44	128	29	199	65	94	63	87	75	22	12	8.0
16	19	66	29	249	59	89	59	72	59	20	12	7.7
17	72	48	28	91	333	86	147	63	44	20	82	25
18	297	43	27	72	752	286	94	57	35	23	29	83
19	47	39	27	55	179	994	164	54	38	18	15	18
20	28	36	27	50	111	346	220	49	120	17	12	14
21	21	78	26	42	89	1800	83	47	41	27	12	12
22	19	209	36	39	71	315	68	43	34	31	11	241
23	18	78	88	1220	355	161	61	41	96	20	11	39
24	22	51	51	500	607	119	58	42	172	17	10	17
25	224	40	247	199	173	100	52	59	46	15	10	14
26	166	38	81	102	100	88	49	43	34	15	10	15
27	131	35	92	95	82	81	62	40	29	17	9.8	13
28	44	32	101	1880	74	76	47	40	33	17	11	13
29	30	32	67	565	---	70	45	39	29	17	9.4	10
30	26	32	118	144	---	67	46	37	27	18	9.2	10
31	23	---	63	94	---	63	---	36	---	98	8.9	---
TOTAL	1411	4262	1639	6207	6956	9398	3412	5012	1821	907	529.3	695.0
MEAN	45.5	142	52.9	200	248	303	114	162	60.7	29.3	17.1	23.2
MAX	297	1080	247	1880	1560	2580	500	763	241	169	82	241
MIN	12	26	26	32	59	62	45	36	27	15	8.9	7.6
CFSM	.63	1.95	.73	2.75	3.41	4.16	1.56	2.22	.83	.40	.23	.32
IN.	.72	2.18	.84	3.17	3.55	4.80	1.74	2.56	.93	.46	.27	.36

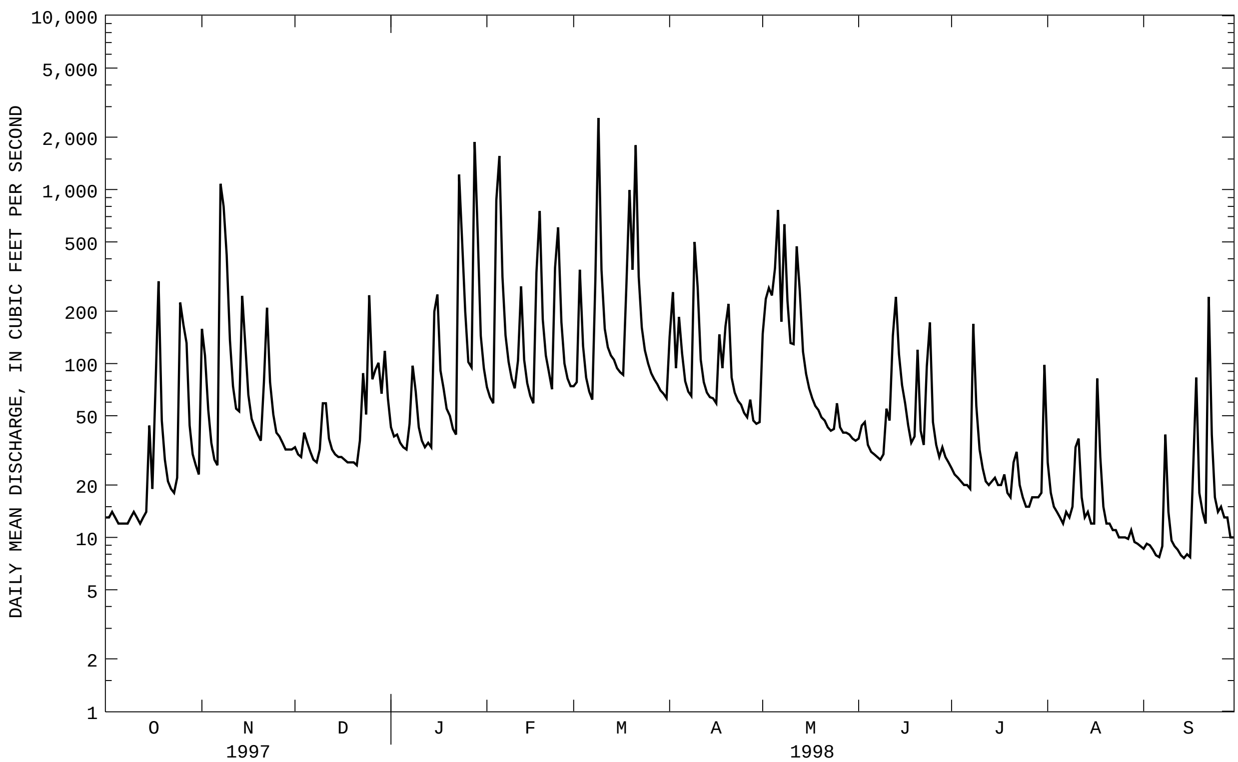
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.9	76.3	94.6	106	115	135	111	96.3	69.2	60.7	64.0	58.2
MAX	234	205	275	325	265	339	322	329	353	335	243	449
(WY)	1943	1973	1997	1979	1972	1994	1983	1989	1972	1945	1955	1975
MIN	9.37	15.9	19.8	25.6	39.3	37.0	32.4	23.9	20.3	9.14	7.94	8.32
(WY)	1942	1942	1966	1955	1947	1981	1985	1941	1965	1966	1962	1941

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	32635.9		42249.3			
ANNUAL MEAN	89.4		116		86.7	
HIGHEST ANNUAL MEAN					150	1972
LOWEST ANNUAL MEAN					49.3	1981
HIGHEST DAILY MEAN	1310	May 26	2580	Mar 9	6830	Sep 26 1975
LOWEST DAILY MEAN	9.9	Jul 20	7.6	Sep 14	1.4	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	12	Sep 21	8.3	Sep 10	1.7	Sep 7 1966
INSTANTANEOUS PEAK FLOW			6870	Mar 9	(a)12000	Jun 22 1972
INSTANTANEOUS PEAK STAGE			8.93	Mar 9	12.93	Oct 16 1942
INSTANTANEOUS LOW FLOW			7.1	(b)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.23		1.59		1.19	
ANNUAL RUNOFF (INCHES)	16.68		21.59		16.18	
10 PERCENT EXCEEDS	154		246		167	
50 PERCENT EXCEEDS	53		44		44	
90 PERCENT EXCEEDS	14		12		16	

a From rating curve extended above 3,800 ft^3/s on basis of average of contracted-opening and slope-area measurements at gage height 9.52 ft.
b Sept. 6, 15.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD

LOCATION.--Lat 39°03'55", long 77°01'58", Montgomery County, Hydrologic Unit 02070010, on right bank 400 ft upstream from bridge on State Highway 183, 1.5 mi southwest of Colesville, 3 mi upstream from Burnt Mills, 10 mi upstream from Sligo Creek, and 12.5 mi upstream from confluence with Northeast Branch.

DRAINAGE AREA.--21.1 mi^2.

PERIOD OF RECORD.--October 1923 to September 1983, November 1997 to September 1998. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1942(M), 1925-26, 1929-30(M), 1933(M), 1939(P), 1940(M), 1943-46, 1948-49(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 264.75 ft above sea level. Prior to Apr. 22, 1932, nonrecording gages in same general vicinity at different datums. Apr. 22, 1932 to Apr. 11, 1934, nonrecording gages at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Diversions at low flow since 1962 for irrigation of golf courses upstream from station. Records include pumpage from the Patuxent River to augment water supply for Washington Suburban Sanitary District Aug. 12, 1939 to Aug. 1960. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 23	1500	700	5.58	Mar 19	0430	691	5.54
Jan 28	1615	961	6.66	Mar 21	0300	*1,420	*8.08
Feb 18	0130	915	6.50	May 8	1800	668	5.43
Mar 9	0745	828	6.16	Jun 23	2330	640	5.30

Minimum discharge, 0.53 ft^3/s, Sep 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10	12	20	23	26	36	13	10	4.7	1.3
2	---	---	9.3	11	18	25	26	149	12	8.8	3.8	.98
3	---	---	9.3	12	17	109	21	77	14	8.1	3.6	.96
4	---	---	11	11	224	34	27	56	12	7.6	3.5	.93
5	---	---	10	11	303	26	22	90	11	7.8	3.2	.88
6	---	---	9.2	10	61	23	20	117	10	7.8	2.8	.80
7	---	---	8.7	15	33	22	20	90	9.9	7.1	2.7	.77
8	---	---	8.3	28	26	77	20	291	9.8	34	2.7	2.7
9	---	---	9.1	20	22	285	109	71	10	14	2.7	1.1
10	---	---	16	14	21	47	43	46	17	10	14	.95
11	---	---	14	12	26	30	26	43	17	8.9	8.2	.88
12	---	---	10	11	73	26	22	147	36	7.7	3.8	.78
13	---	---	9.4	12	25	24	21	58	124	7.0	3.1	.71
14	---	---	8.9	11	21	24	21	34	36	6.2	2.9	.69
15	---	---	8.7	78	19	22	20	29	20	6.0	2.7	.66
16	---	---	8.6	75	18	21	20	26	17	6.0	2.7	.60
17	---	---	8.7	23	121	21	31	22	15	6.5	9.9	1.5
18	---	---	8.4	23	298	65	24	20	13	6.3	3.9	3.3
19	---	---	8.0	17	51	246	48	19	14	5.3	2.9	1.5
20	---	---	7.6	15	32	77	59	18	19	4.9	2.6	1.1
21	---	---	7.6	13	27	486	24	17	12	9.3	2.1	1.1
22	---	---	12	13	23	70	22	15	11	8.6	1.9	6.2
23	---	---	23	247	122	38	21	15	78	5.3	1.8	3.7
24	---	---	14	60	192	31	19	15	89	5.5	1.6	1.7
25	---	---	72	29	42	28	18	21	19	4.4	1.4	1.2
26	---	---	18	20	30	27	18	15	14	4.1	1.3	1.3
27	---	10	20	21	26	27	21	15	12	4.1	1.2	1.3
28	---	9.8	21	475	24	26	18	15	15	4.1	2.0	.99
29	---	9.9	15	70	---	24	17	14	12	3.9	1.9	.75
30	---	10	19	31	---	23	17	13	11	4.8	1.1	.72
31	---	---	15	23	---	23	---	12	---	13	1.1	---
TOTAL	---	---	429.8	1423	1915	2030	821	1606	702.7	247.1	103.8	42.05
MEAN	---	---	13.9	45.9	68.4	65.5	27.4	51.8	23.4	7.97	3.35	1.40
MAX	---	---	72	475	303	486	109	291	124	34	14	6.2
MIN	---	---	7.6	10	17	21	17	12	9.8	3.9	1.1	.60
CFSM	---	---	.66	2.18	3.24	3.10	1.30	2.46	1.11	.38	.16	.07
IN.	---	---	.76	2.51	3.38	3.58	1.45	2.83	1.24	.44	.18	.07

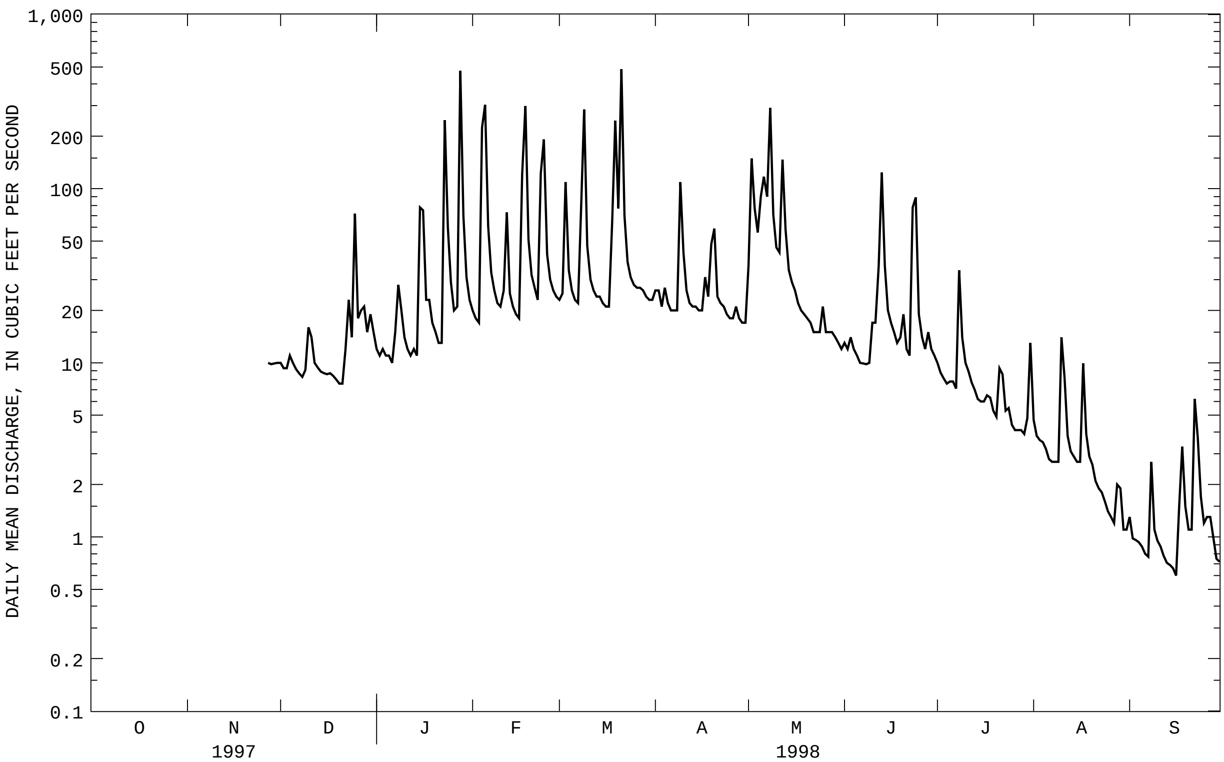
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1983, 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	14.8	19.2	22.1	27.0	33.9	32.6	30.2	24.5	20.2	15.5	16.7	16.5
MAX	56.3	55.6	57.0	81.0	97.0	68.0	78.5	62.5	141	73.7	60.9	118
(WY)	1980	1927	1973	1979	1936	1953	1952	1978	1972	1975	1955	1979
MIN	1.79	2.37	3.50	5.93	4.52	7.46	11.3	8.62	6.16	2.36	.72	1.40
(WY)	1932	1932	1932	1931	1931	1931	1969	1963	1966	1966	1930	1930

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD--Continued

SUMMARY STATISTICS	WATER YEARS 1924 - 1983	
		1998
ANNUAL MEAN	22.6	
HIGHEST ANNUAL MEAN	45.7	1972
LOWEST ANNUAL MEAN	8.45	1931
HIGHEST DAILY MEAN	2370	Jun 22 1972
LOWEST DAILY MEAN	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 5 1966
INSTANTANEOUS PEAK FLOW	(b)11000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	(c)15.89	Jun 22 1972
INSTANTANEOUS LOW FLOW	.00	(d)
ANNUAL RUNOFF (CFSM)	1.07	
ANNUAL RUNOFF (INCHES)	14.56	
10 PERCENT EXCEEDS	36	
50 PERCENT EXCEEDS	14	
90 PERCENT EXCEEDS	4.9	

a Aug. 30, 31, Sept. 1, 3, 5-11, 1966. (Daily discharges below .05 ft^3/s were rounded to 0.0 ft^3/s)
b From rating curve extended above 1,200 ft^3/s on basis of contracted-opening and flow-over-road measurement at gage height 10.99 ft and computation of flow over Burnt Mills Dam, 3 mi downstream, adjusted for flow from intervening area, at gage height 15.89 ft.
c From high-water mark in well.
d Sept. 2-4, 7-11, 1966.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level (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.--No estimated daily discharges. Records good. Prior to June 1961, low flow regulated by storage at Burnt Mills Dam, 7.0 mi upstream from 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 upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0715	*2,560	*4.44	Jun 23	2200	1,710	3.68
Mar 21	0230	2,060	4.01				

Minimum discharge, 2.5 ft^3/s, Sep 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	110	20	16	39	53	145	135	30	22	17	5.6
2	4.4	71	16	18	35	56	114	208	49	21	9.1	4.1
3	4.4	30	16	18	34	244	51	253	45	19	8.3	4.5
4	5.0	14	24	18	469	71	96	137	25	17	9.0	4.0
5	5.4	9.7	22	17	683	53	49	185	24	17	8.8	3.7
6	5.4	9.6	18	19	140	47	44	266	27	18	7.7	3.6
7	5.9	494	16	33	69	47	42	147	25	25	7.7	4.4
8	6.3	398	16	66	54	216	43	491	25	138	6.9	29
9	6.3	177	20	42	46	789	313	161	31	42	9.0	6.9
10	5.9	44	42	25	43	122	116	87	47	22	17	4.1
11	5.2	25	38	21	68	69	51	79	38	18	35	4.7
12	3.8	19	24	19	151	57	43	264	120	16	9.5	4.1
13	3.8	23	17	20	51	52	40	125	209	16	6.6	3.2
14	4.1	143	16	18	40	51	41	66	99	15	7.6	3.5
15	17	62	15	146	35	48	39	54	54	16	6.3	4.4
16	6.8	25	16	167	34	45	38	49	38	14	6.3	3.0
17	45	20	17	42	248	43	100	43	32	13	88	2.9
18	176	20	16	40	578	171	53	40	25	20	13	29
19	20	19	16	29	106	534	133	41	26	12	7.2	10
20	8.7	20	16	27	67	175	140	40	120	11	6.9	7.2
21	7.4	57	16	22	55	889	47	41	32	53	6.2	7.4
22	6.3	139	25	20	46	165	39	39	26	33	5.2	130
23	5.8	35	55	568	243	86	37	35	267	18	5.3	15
24	9.0	22	27	153	393	70	35	35	238	13	5.4	9.2
25	154	19	158	63	95	61	32	50	41	11	6.2	7.0
26	99	20	37	40	63	59	33	34	27	9.7	5.5	5.5
27	63	18	48	54	55	59	44	31	24	9.7	5.4	5.3
28	15	18	45	904	58	56	32	31	35	10	4.6	6.9
29	9.8	17	29	184	---	54	31	30	29	10	6.0	4.4
30	9.3	19	46	69	---	52	31	26	24	12	8.5	6.6
31	9.6	---	25	47	---	52	---	26	---	110	7.5	---
TOTAL	734.0	2097.3	912	2925	3998	4546	2052	3249	1832	781.4	352.7	339.2
MEAN	23.7	69.9	29.4	94.4	143	147	68.4	105	61.1	25.2	11.4	11.3
MAX	176	494	158	904	683	889	313	491	267	138	88	130
MIN	3.8	9.6	15	16	34	43	31	26	24	9.7	4.6	2.9
CFSM	.48	1.42	.60	1.91	2.89	2.97	1.38	2.12	1.24	.51	.23	.23
IN.	.55	1.58	.69	2.20	3.01	3.42	1.55	2.45	1.38	.59	.27	.26

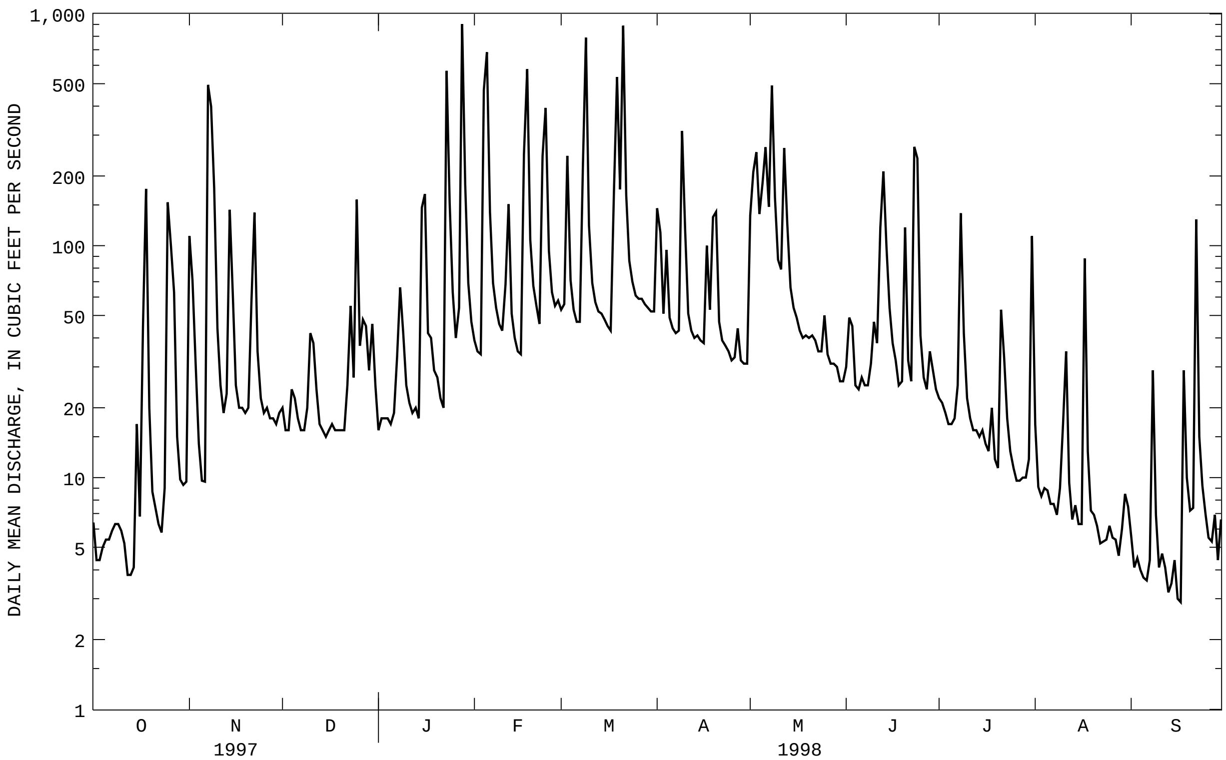
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	29.5	42.3	50.1	55.9	64.6	72.5	61.9	56.4	42.8	34.6	37.3	37.5
MAX	129	128	144	173	183	176	167	198	237	159	193	327
(WY)	1980	1994	1997	1979	1979	1994	1952	1989	1972	1945	1955	1975
MIN	2.44	4.30	11.4	8.04	13.6	23.5	15.3	9.91	10.1	4.07	3.61	2.58
(WY)	1942	1942	1966	1955	1947	1981	1950	1941	1940	1944	1943	1941

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	18346.8		23818.6			
ANNUAL MEAN	50.3		65.3		48.8	
HIGHEST ANNUAL MEAN					96.9	1979
LOWEST ANNUAL MEAN					20.8	1947
HIGHEST DAILY MEAN	658	Mar 3	904	Jan 28	5050	Sep 26 1975
LOWEST DAILY MEAN	3.8	(a)	2.9	Sep 17	.40	(b)
ANNUAL SEVEN-DAY MINIMUM	5.1	Oct 8	3.7	Sep 11	.60	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2560	Mar 9	(c)18000	Jun 22 1972
INSTANTANEOUS PEAK STAGE			4.44	Mar 9	14.47	Jun 22 1972
INSTANTANEOUS LOW FLOW			2.5	Sep 17	.20	Sep 11 1966
ANNUAL RUNOFF (CFSM)	1.02		1.32		.99	
ANNUAL RUNOFF (INCHES)	13.82		17.94		13.42	
10 PERCENT EXCEEDS	95		152		92	
50 PERCENT EXCEEDS	29		30		24	
90 PERCENT EXCEEDS	8.1		6.0		6.6	

a Oct. 12, 13.
b Sept. 8, 11, 1966.
c From rating curve extended above 4,000 ft^3/s on basis of the average of slope-area and step-backwater measurements of peak flow.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

01651800 WATTS BRANCH AT WASHINGTON, D.C.

LOCATION.--Lat 38°54'04", long 76°56'33", District of Columbia, Hydrologic Unit 02070010, on right bank 5 ft downstream from footbridge, 200 ft upstream from Minnesota Ave., and 1.0 mi upstream from mouth.

DRAINAGE AREA.-- 3.28 mi^2.

PERIOD OF RECORD.--June 1992 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and cobblestone control. Datum of gage is 16.52 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges (backwater), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 9	0530	*1,180	*6.65	May 8	1715	483	4.55
Apr 1	2115	501	4.62				

Minimum discharge, 0.32 ft^3/s, Aug 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	13	1.8	1.9	3.2	3.4	21	13	1.4	1.3	.58	e.50
2	.78	5.5	1.5	1.9	2.9	7.3	5.6	6.6	8.1	1.2	.55	e.50
3	.74	1.6	1.4	1.9	2.7	14	3.3	19	2.8	1.1	.54	e.50
4	.61	1.3	2.2	1.9	70	3.8	22	6.6	1.3	.88	.58	e.60
5	.53	1.3	1.7	1.9	52	3.2	4.7	12	1.2	1.2	.91	e.50
6	.40	1.3	1.4	1.7	10	3.0	3.4	4.6	1.2	.71	.65	e.50
7	.42	69	1.4	2.8	5.6	3.0	3.0	8.1	1.1	.76	.57	.84
8	.41	18	1.4	4.7	4.4	16	2.9	43	1.1	11	.69	2.1
9	.55	23	2.1	3.1	3.7	121	33	7.4	2.6	1.5	.75	.50
10	.51	3.0	4.0	2.3	3.2	7.3	5.7	5.0	2.1	.96	4.3	.48
11	.46	2.0	1.8	2.0	8.7	4.7	3.8	9.7	5.8	.75	1.3	.50
12	.46	1.8	1.6	2.1	7.8	3.7	3.2	29	18	.74	.59	.64
13	.47	4.7	e1.4	2.5	3.3	3.2	3.0	6.4	11	.81	.52	.46
14	.53	9.8	e1.3	2.0	3.0	2.8	2.9	3.9	2.3	.61	.67	.61
15	5.4	3.5	e1.3	16	2.7	2.5	2.9	3.1	19	.54	.53	.47
16	.66	2.5	e1.3	6.0	2.5	2.3	2.9	2.9	3.8	.72	.48	.53
17	16	2.2	e1.3	3.5	31	2.2	9.2	2.7	2.0	.57	14	.74
18	18	2.0	e1.3	3.6	17	17	2.7	2.3	1.8	.53	1.1	.83
19	1.3	2.0	e1.3	2.9	5.8	38	9.3	2.4	1.4	.69	.56	.61
20	.99	1.9	e1.3	2.7	4.4	22	4.3	2.2	16	.70	.50	.60
21	1.1	9.8	1.3	2.3	3.4	49	2.7	2.0	1.9	9.9	.52	.70
22	.97	7.5	3.1	2.2	3.0	8.5	2.7	1.8	1.6	2.7	.71	23
23	.85	2.8	2.8	55	28	5.6	2.7	1.6	2.3	1.4	.78	.78
24	2.4	2.1	3.8	12	21	4.6	2.7	1.5	2.4	1.2	1.0	.52
25	14	1.9	11	5.7	5.1	4.0	2.7	2.4	2.1	.70	.69	.50
26	14	1.9	2.2	3.6	4.0	3.7	2.7	1.5	1.8	.58	1.2	.53
27	4.0	1.7	6.4	8.1	3.7	3.4	3.9	1.3	1.1	1.1	.60	.53
28	1.8	1.7	3.4	92	3.4	3.1	2.7	1.3	1.2	1.3	e.58	.53
29	1.5	1.7	4.3	9.1	---	2.9	2.7	1.6	.98	.82	e.56	.54
30	1.1	1.7	4.2	5.1	---	2.9	2.8	1.6	.99	1.2	e.54	.53
31	1.1	---	2.3	3.8	---	2.7	---	1.8	---	2.4	e.52	---
TOTAL	92.94	202.2	77.6	266.3	315.5	370.8	177.1	208.3	120.37	50.57	38.07	41.17
MEAN	3.00	6.74	2.50	8.59	11.3	12.0	5.90	6.72	4.01	1.63	1.23	1.37
MAX	18	69	11	92	70	121	33	43	19	11	14	23
MIN	.40	1.3	1.3	1.7	2.5	2.2	2.7	1.3	.98	.53	.48	.46
CFSM	.91	2.05	.76	2.62	3.44	3.65	1.80	2.05	1.22	.50	.37	.42
IN.	1.05	2.29	.88	3.02	3.58	4.21	2.01	2.36	1.37	.57	.43	.47

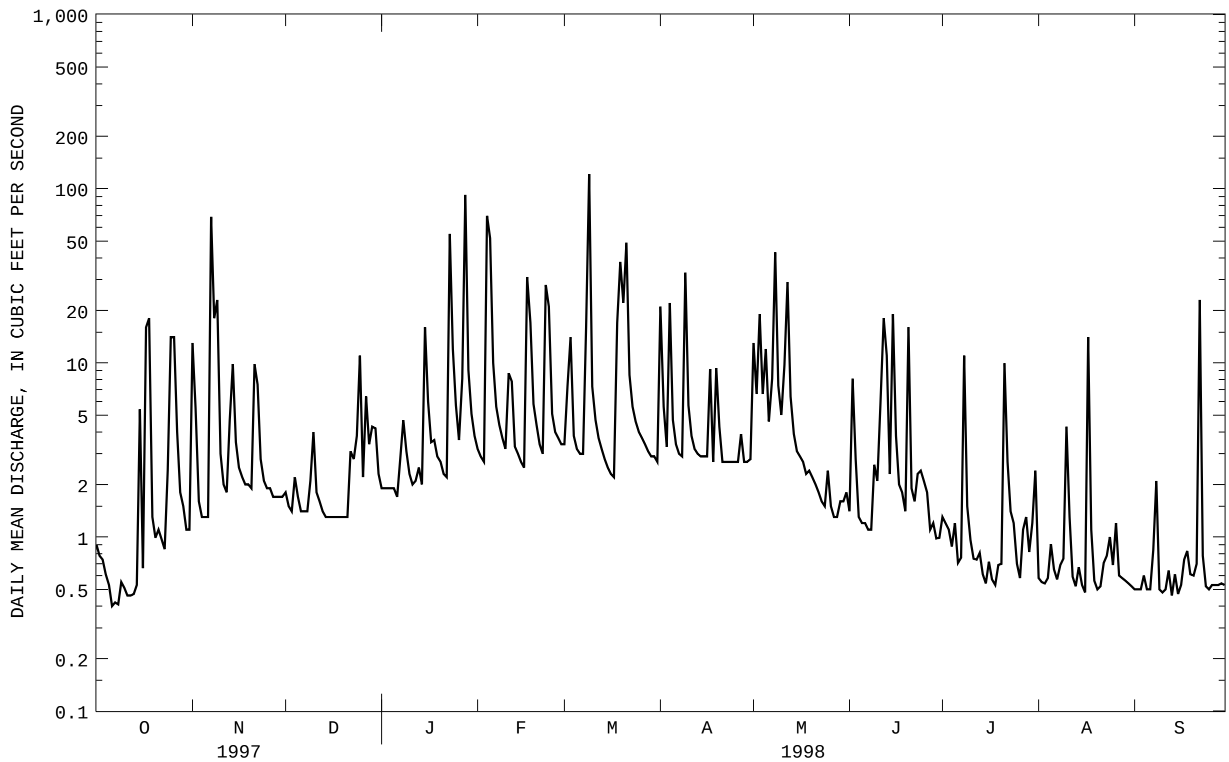
e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.74	4.91	4.51	7.01	6.09	9.89	4.94	4.98	3.07	2.96	2.50	2.80
MAX	9.08	6.74	9.57	9.71	11.3	15.7	6.55	6.72	4.64	4.54	4.32	5.39
(WY)	1996	1998	1997	1996	1998	1994	1996	1998	1996	1996	1994	1996
MIN	1.43	1.73	2.44	4.72	2.80	5.25	2.36	3.55	1.83	1.63	1.23	1.37
(WY)	1993	1995	1995	1997	1995	1995	1995	1994	1994	1998	1998	1998

01651800 WATTS BRANCH AT WASHINGTON, D.C.--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	1364.31		1960.92			
ANNUAL MEAN	3.74		5.37		4.78	
HIGHEST ANNUAL MEAN					5.87	1996
LOWEST ANNUAL MEAN					2.84	1995
HIGHEST DAILY MEAN	69	Nov 7	121	Mar 9	121	Mar 9 1998
LOWEST DAILY MEAN	.40	Oct 6	.40	Oct 6	.37	Jul 23 1993
ANNUAL SEVEN-DAY MINIMUM	.46	Oct 6	.46	Oct 6	.45	Jul 30 1993
INSTANTANEOUS PEAK FLOW			1180	Mar 9	1510	Sep 26 1994
INSTANTANEOUS PEAK STAGE			6.65	Mar 9	7.36	Sep 26 1994
INSTANTANEOUS LOW FLOW			.32	Aug 26	.32	Aug 26 1998
ANNUAL RUNOFF (CFSM)	1.14		1.64		1.46	
ANNUAL RUNOFF (INCHES)	15.47		22.24		19.79	
10 PERCENT EXCEEDS	7.5		12		10	
50 PERCENT EXCEEDS	1.9		2.2		2.0	
90 PERCENT EXCEEDS	.81		.54		.79	



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair and discharges below 0.50 ft^3/s, which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	1500	652	6.58	Feb 24	0930	495	6.16
Jan 24	0130	733	6.77	Mar 9	1000	*1,510	*8.07
Jan 28	2130	1,210	7.65	Mar 19	1700	533	6.31
Feb 5	0930	1,110	7.49	Mar 21	1230	865	7.11
Feb 18	0600	506	6.21				

Minimum discharge, 0.00 ft^3/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	15	20	25	84	88	70	46	35	e7.2	3.9	.00
2	4.8	31	17	23	74	100	67	73	29	e6.3	1.0	.00
3	3.2	23	16	23	67	253	60	83	29	e5.8	.23	.00
4	.85	11	23	21	291	127	213	126	25	e5.5	.05	.00
5	.15	8.3	24	21	962	94	136	66	25	e5.3	.01	.00
6	.06	6.9	19	20	350	82	82	58	26	e4.8	.01	.00
7	.03	158	16	21	202	77	70	56	24	e4.6	.00	.00
8	.01	495	15	28	142	131	65	202	23	e14	.00	.00
9	.00	277	15	33	114	951	179	134	22	e31	.01	.00
10	.00	81	17	24	97	414	206	86	21	e16	.01	.00
11	.00	42	24	21	91	157	91	84	e16	e4.6	8.3	.00
12	.00	31	18	18	143	129	76	201	e44	e4.1	4.5	.00
13	.00	26	16	21	91	111	68	167	e20	e4.6	1.4	.00
14	.00	70	15	20	79	102	65	85	e25	e4.0	.55	.00
15	.00	53	14	30	68	89	65	70	e17	e4.0	.20	.00
16	.00	31	14	112	64	81	57	59	e72	4.0	.06	.00
17	.00	24	14	46	160	77	156	53	e124	3.8	7.0	.00
18	140	22	13	39	349	201	89	49	e18	5.4	23	.00
19	23	20	14	35	164	420	73	45	e32	3.9	4.0	.00
20	10	20	13	39	117	207	108	41	e30	3.1	1.4	.00
21	6.0	20	12	32	97	747	67	40	e15	2.4	.50	.00
22	4.4	77	12	29	83	285	58	40	e11	3.6	.20	5.7
23	3.4	38	27	311	149	161	54	36	e9.1	3.1	.04	14
24	3.2	31	21	462	412	134	51	38	e8.8	14	.02	2.3
25	23	24	92	152	158	113	46	45	e9.5	4.6	.01	.37
26	19	21	43	81	113	101	44	38	e10	2.2	.01	.37
27	57	20	33	67	97	95	49	37	e8.8	1.8	.01	.16
28	16	17	56	610	89	89	42	40	e9.1	1.5	.00	.06
29	8.6	17	36	669	---	83	40	36	e8.4	1.3	.00	.02
30	6.7	18	43	154	---	78	40	33	e8.4	.61	.00	.09
31	5.7	---	33	106	---	72	---	31	---	.32	.00	---
TOTAL	343.10	1728.2	745	3293	4907	5849	2487	2198	755.1	177.43	56.42	23.07
MEAN	11.1	57.6	24.0	106	175	189	82.9	70.9	25.2	5.72	1.82	.77
MAX	140	495	92	669	962	951	213	202	124	31	23	14
MIN	.00	6.9	12	18	64	72	40	31	8.4	.32	.00	.00
CFSM	.28	1.46	.61	2.69	4.44	4.78	2.10	1.80	.64	.14	.05	.02
IN.	.32	1.63	.70	3.10	4.62	5.51	2.34	2.07	.71	.17	.05	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

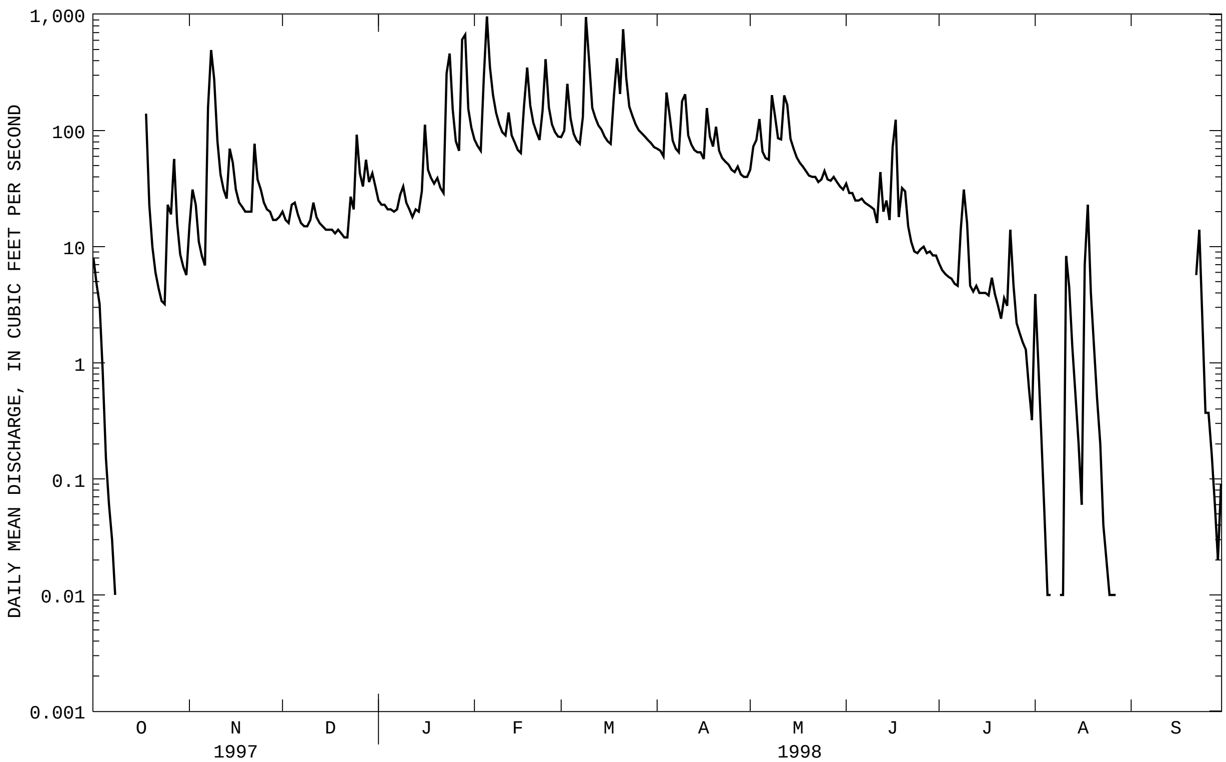
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	28.8	34.4	52.7	65.1	72.5	85.1	67.1	49.4	31.2	18.6	19.4	26.7
MAX	177	95.8	153	217	188	268	218	189	173	92.7	88.8	256
(WY)	1980	1973	1973	1978	1972	1994	1983	1989	1972	1975	1971	1975
MIN	1.31	1.27	5.26	5.96	23.6	17.5	18.1	11.1	1.42	.14	.006	.000
(WY)	1987	1992	1966	1981	1977	1981	1985	1986	1986	1966	1966	1977

e Estimated

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	13414.95		22562.32			
ANNUAL MEAN	36.8		61.8		45.8	
HIGHEST ANNUAL MEAN					85.9	1972
LOWEST ANNUAL MEAN					13.4	1981
HIGHEST DAILY MEAN	495	Nov 8	962	Feb 5	4500	Sep 6 1979
LOWEST DAILY MEAN	.00	(a)	.00	(b)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 9	.00	Oct 9	.00	Jul 9 1966
INSTANTANEOUS PEAK FLOW			1510	Mar 9	(c)8540	Sep 6 1979
INSTANTANEOUS PEAK STAGE			8.07	Mar 9	11.21	Sep 6 1979
INSTANTANEOUS LOW FLOW			.00	(b)	.00	(d)
ANNUAL RUNOFF (CFSM)	.93		1.56		1.16	
ANNUAL RUNOFF (INCHES)	12.63		21.25		15.74	
10 PERCENT EXCEEDS	79		145		91	
50 PERCENT EXCEEDS	20		24		24	
90 PERCENT EXCEEDS	.22		.01		1.5	

a Aug. 15, 16.
b Many days.
c From rating curve extended above 1,700 ft^3/s on basis of contracted-opening measurement of peak flow at bridge 100 ft upstream.
d No flow at times in 1966, 1970, 1977, 1980-83, 1985-89, 1991-95, 1997-98.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 State Highway 6, 1.0 mi southeast of Newtown, and 1.7 mi downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 34.88 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Low flow affected by ground-water diversions from municipal well fields at Waldorf and St. Charles, and occasional farm irrigation upstream from station during summer months. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 9	0530	761	3.79	Feb 24	1800	744	3.77
Jan 24	1730	1,100	4.12	Mar 9	1900	1,180	4.18
Jan 29	1030	1,530	4.42	Mar 21	2400	1,330	4.29
Feb 5	1730	*1,840	*4.60				

Minimum discharge, 0.00 ft^3/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	20	45	66	178	195	153	74	51	19	.18	.00
2	3.0	36	46	53	139	195	147	112	53	11	.00	.00
3	2.4	55	39	49	123	317	133	167	44	7.9	.00	.00
4	1.6	50	46	45	304	374	201	179	32	7.3	.00	.00
5	1.2	34	60	41	1480	246	317	159	27	9.2	.00	.00
6	e.60	27	55	40	1180	187	216	147	24	8.3	.00	.00
7	e.20	77	43	41	663	166	151	116	20	6.2	.00	.00
8	e.00	442	36	55	454	196	136	199	18	14	.00	.00
9	e.00	681	34	84	300	790	163	318	17	41	.00	.00
10	e.00	398	36	72	236	918	293	229	39	35	.00	.00
11	.00	184	49	52	207	469	237	160	56	20	14	.00
12	.00	80	53	42	266	267	155	179	89	13	20	.00
13	.00	53	45	41	281	224	131	272	105	9.2	12	.00
14	.00	81	39	43	207	209	120	226	103	6.2	5.3	.00
15	.00	120	34	48	171	189	117	139	108	3.9	2.7	.00
16	.00	92	31	117	156	172	109	105	411	3.0	1.6	.00
17	.00	60	30	128	204	162	237	87	400	2.3	1.5	.00
18	6.0	46	29	89	465	247	382	72	203	3.0	1.7	.00
19	30	41	28	72	475	633	221	60	78	2.6	1.1	.00
20	31	39	28	71	293	830	218	50	118	2.3	.58	.00
21	19	39	28	70	227	1070	189	47	67	1.8	.30	.00
22	13	75	29	59	188	1060	142	56	45	1.3	.12	.00
23	9.0	108	51	260	207	573	121	52	41	1.8	.04	.00
24	7.7	81	64	973	624	367	110	48	66	2.4	.00	.00
25	13	56	105	699	661	279	99	91	57	2.7	.00	.00
26	24	46	135	297	367	240	88	97	36	2.7	.00	.00
27	42	43	95	159	243	221	85	59	29	1.7	.00	.00
28	44	38	97	496	210	203	80	53	44	1.3	.00	.00
29	28	36	91	1380	---	188	74	44	41	1.1	.00	.00
30	20	36	85	720	---	173	72	37	30	.69	.00	.00
31	15	---	81	307	---	163	---	30	---	.44	.00	---
TOTAL	314.50	3174	1667	6669	10509	11523	4897	3664	2452	242.33	61.12	0.00
MEAN	10.1	106	53.8	215	375	372	163	118	81.7	7.82	1.97	.000
MAX	44	681	135	1380	1480	1070	382	318	411	41	20	.00
MIN	.00	20	28	40	123	162	72	30	17	.44	.00	.00
CFSM	.13	1.32	.67	2.69	4.70	4.65	2.04	1.48	1.02	.10	.02	.00
IN.	.15	1.48	.78	3.10	4.89	5.36	2.28	1.71	1.14	.11	.03	.00

e Estimated

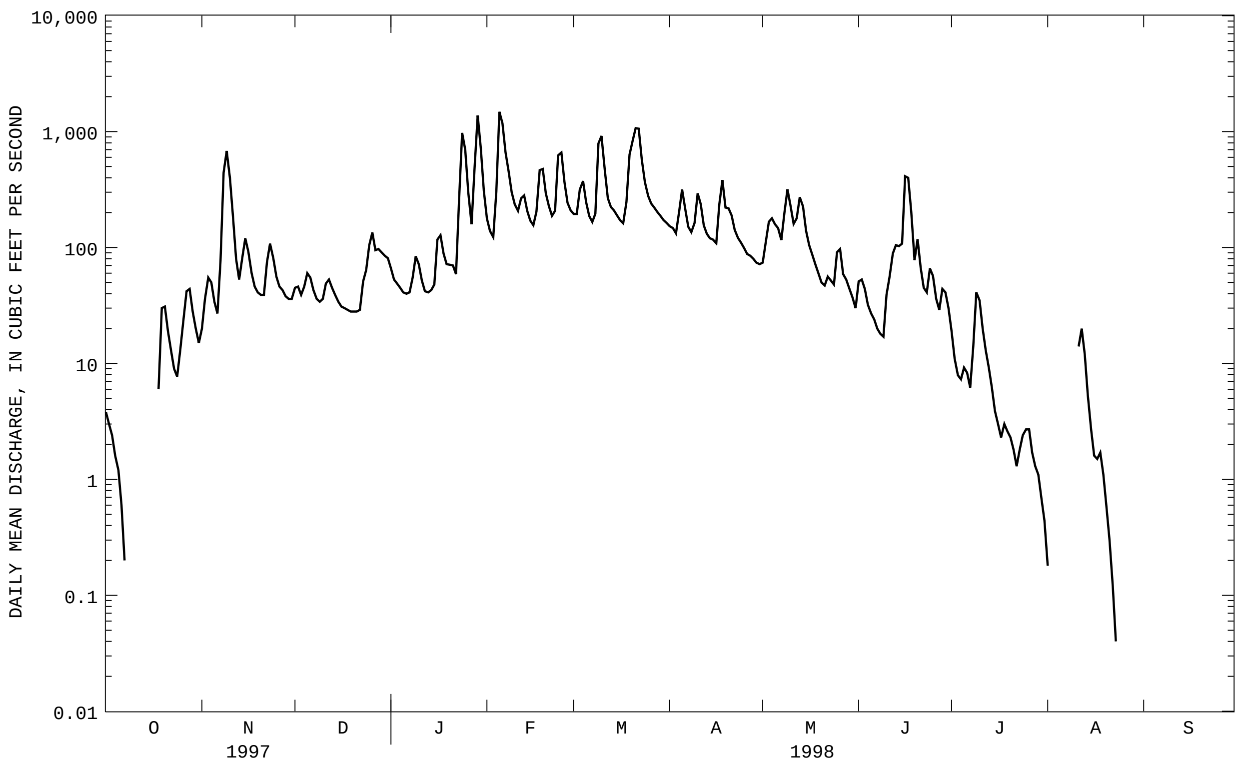
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	46.2	77.7	107	138	154	195	135	107	62.9	30.7	29.1	28.7
MAX	163	139	236	268	375	491	277	334	311	93.5	113	127
(WY)	1990	1986	1997	1996	1998	1994	1993	1989	1989	1989	1990	1992
MIN	7.93	7.35	38.1	49.1	57.6	57.0	30.5	25.5	2.07	4.47	.39	.000
(WY)	1992	1992	1995	1985	1992	1985	1985	1986	1986	1987	1995	1995

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	25085.08		45172.95			
ANNUAL MEAN	68.7		124		92.8	
HIGHEST ANNUAL MEAN					137	1990
LOWEST ANNUAL MEAN					43.5	1995
HIGHEST DAILY MEAN	681	Nov 9	1480	Feb 5	2570	Mar 29 1994
LOWEST DAILY MEAN	.00	(a)	.00	(b)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 8	.00	Oct 8	.00	Jul 20 1987
INSTANTANEOUS PEAK FLOW			1840	Feb 5	3380	Mar 29 1994
INSTANTANEOUS PEAK STAGE			4.60	Feb 5	5.26	Mar 29 1994
INSTANTANEOUS LOW FLOW			.00	(b)	.00	(c)
ANNUAL RUNOFF (CFSM)	.86		1.55		1.16	
ANNUAL RUNOFF (INCHES)	11.68		21.03		15.77	
10 PERCENT EXCEEDS	152		298		207	
50 PERCENT EXCEEDS	45		49		51	
90 PERCENT EXCEEDS	1.8		.00		1.8	

a Aug. 18, 19.
b Many days.
c No flow at times in 1983, 1985-89, 1991, 1993, 1995-1998.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. Elevation of gage is 8 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 8	0900	276	3.65	Mar 19	1500	363	4.20
Jan 28	1900	1,130	5.49	Mar 21	0930	290	3.67
Feb 5	0130	*1,510	*5.70	Mar 22	0500	286	3.64
Feb 24	0930	236	3.21	Jun 17	0030	250	3.34
Mar 9	1230	225	3.10				

Minimum discharge, 0.15 ft^3/s, Sep 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	9.9	e15	e17	36	34	36	27	e8.8	9.4	2.2	.67
2	1.2	15	e13	e15	32	41	40	38	e7.4	7.3	1.7	.61
3	1.1	10	e12	16	30	84	34	32	e6.9	7.1	1.4	.58
4	1.2	6.9	e17	15	308	43	91	28	e6.4	6.2	1.2	.52
5	1.3	5.1	e17	15	729	34	69	23	e6.1	6.4	.92	.53
6	1.2	4.2	e12	15	158	31	43	23	e6.1	5.4	.78	.29
7	.93	78	e11	17	100	30	36	21	e5.6	4.7	.78	.22
8	.69	192	e10	34	63	60	34	34	e5.3	15	.95	.79
9	.62	153	e10	37	50	152	59	29	e5.2	32	.99	.65
10	.59	48	e12	20	44	65	57	26	e14	12	9.3	.36
11	.62	22	e15	17	42	40	37	24	e14	7.5	35	.27
12	.53	16	e13	16	51	35	32	37	44	5.5	6.9	.27
13	.67	14	e11	20	40	33	30	46	25	4.7	3.4	.23
14	.81	54	e11	e22	35	33	30	e26	37	4.4	2.6	.33
15	1.5	40	e10	e31	32	31	31	e24	20	4.0	2.5	.24
16	1.7	20	e10	e75	31	29	27	e21	57	4.0	2.3	.17
17	1.8	15	10	e50	70	29	91	e18	130	4.0	2.7	.17
18	14	13	10	e38	83	67	78	e16	22	3.7	2.4	.63
19	16	13	9.5	e30	44	251	43	e15	36	3.5	2.1	1.3
20	13	12	10	e25	37	112	47	e14	33	4.3	1.8	1.3
21	5.7	13	11	e21	35	222	34	e13	15	4.8	1.6	1.2
22	3.4	49	13	e18	30	201	29	e12	12	3.1	1.4	1.3
23	2.4	e27	29	e106	67	72	28	e11	15	2.7	1.3	1.8
24	2.4	e25	18	e147	186	55	26	e11	19	2.3	1.2	1.1
25	7.9	e20	38	e78	63	48	23	e15	13	2.2	1.0	.80
26	11	e17	25	e54	42	45	22	e13	16	2.2	.83	.70
27	17	e15	22	e43	38	43	21	e12	36	2.3	1.2	.68
28	7.9	e15	36	480	36	42	21	e13	47	2.2	2.7	.83
29	4.5	e14	e26	240	---	40	20	e9.9	23	1.9	1.7	.40
30	3.8	e15	e31	63	---	38	20	e9.2	14	1.7	1.2	.21
31	3.6	---	e23	44	---	36	---	e8.4	---	1.8	.86	---
TOTAL	130.46	951.1	510.5	1819	2512	2076	1189	649.5	699.8	178.3	96.91	19.15
MEAN	4.21	31.7	16.5	58.7	89.7	67.0	39.6	21.0	23.3	5.75	3.13	.64
MAX	17	192	38	480	729	251	91	46	130	32	35	1.8
MIN	.53	4.2	9.5	15	30	29	20	8.4	5.2	1.7	.78	.17
CFSM	.23	1.71	.89	3.17	4.85	3.62	2.14	1.13	1.26	.31	.17	.03
IN.	.26	1.91	1.03	3.66	5.05	4.17	2.39	1.31	1.41	.36	.19	.04

e Estimated

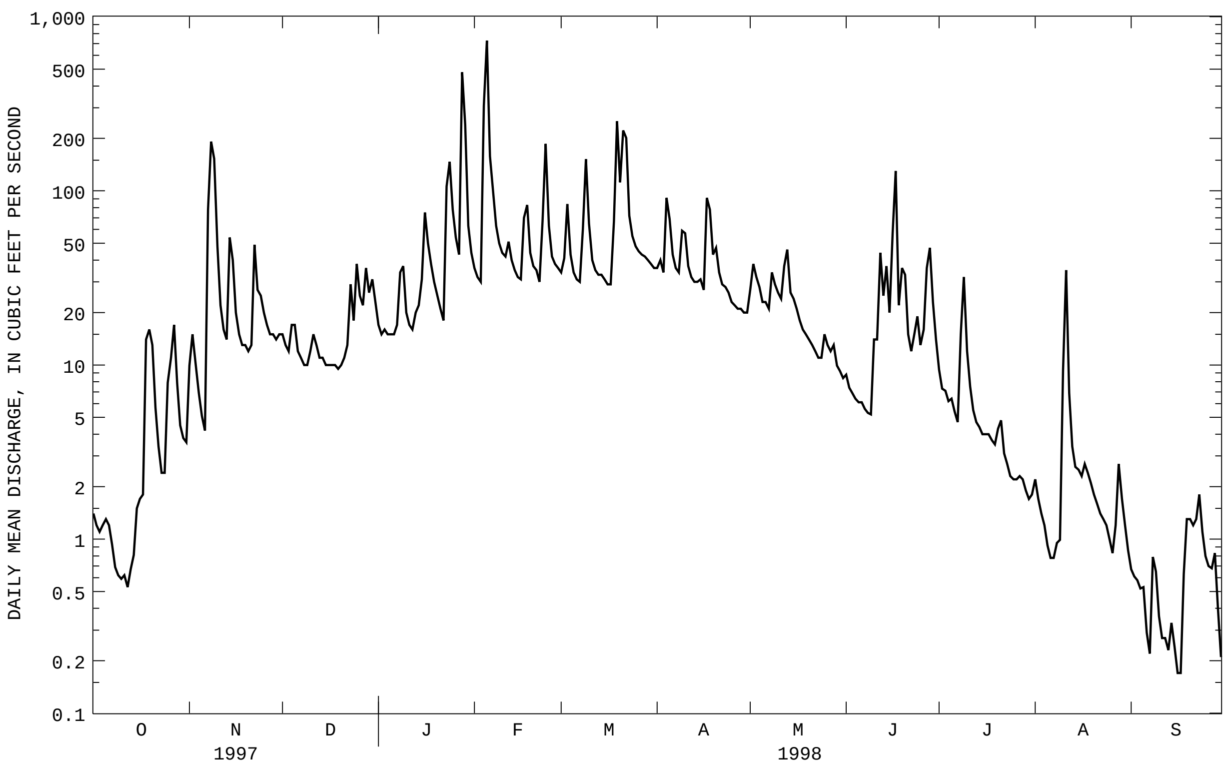
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.4	15.4	21.2	27.7	31.1	35.2	27.1	22.0	16.3	11.6	10.8	11.4
MAX	46.8	45.3	48.9	77.4	89.7	115	54.7	57.9	116	56.4	45.0	75.2
(WY)	1980	1980	1997	1978	1998	1994	1983	1978	1972	1975	1985	1979
MIN	.73	3.23	5.01	5.30	11.9	10.1	9.05	4.39	1.32	.50	.036	.000
(WY)	1989	1982	1989	1981	1991	1981	1985	1991	1988	1988	1988	1988

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1969 - 1998	
ANNUAL TOTAL	6992.57		10831.72			
ANNUAL MEAN	19.2		29.7		20.0	
HIGHEST ANNUAL MEAN					34.5	1972
LOWEST ANNUAL MEAN					9.19	1981
HIGHEST DAILY MEAN	192	Nov 8	729	Feb 5	1580	Jun 22 1972
LOWEST DAILY MEAN	.44	Aug 12	.17	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.65	Oct 8	.24	Sep 11	.00	Aug 31 1980
INSTANTANEOUS PEAK FLOW			1510	Feb 5	(c)4500	Sep 6 1979
INSTANTANEOUS PEAK STAGE			5.70	Feb 5	(d)6.96	Sep 6 1979
INSTANTANEOUS LOW FLOW			.15	Sep 16	.00	(f)
ANNUAL RUNOFF (CFSM)	1.04		1.60		1.08	
ANNUAL RUNOFF (INCHES)	14.06		21.78		14.66	
10 PERCENT EXCEEDS	38		58		38	
50 PERCENT EXCEEDS	15		15		12	
90 PERCENT EXCEEDS	1.7		.93		1.3	

a Sept. 16, 17.
b Many days.
c From rating curve extended above 480 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
d Backwater from tide; maximum gage height unaffected by backwater, 6.55 ft, June 22, 1972.
f No flow at times in 1977, 1980, 1981, 1983, 1985-89, 1991, 1993, 1995.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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. Elevation of gage is 10 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. 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 measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	2330	631	5.94	Feb 23	2200	466	4.71
Nov 9	0800	451	4.61	Mar 19	1500	551	5.37
Jan 28	1630	1,870	9.72	Mar 21	0900	768	6.77
Feb 5	0130	*3,560	*11.27				

Minimum discharge, 1.9 ft^3/s, Sep 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	12	19	26	134	41	29	25	11	12	3.9	2.5
2	3.0	17	16	22	73	42	28	39	10	9.5	3.4	2.5
3	2.7	14	14	19	53	56	25	31	9.8	8.2	3.3	2.3
4	2.8	11	24	18	955	46	62	27	8.7	7.5	3.0	2.4
5	2.7	8.7	23	17	1580	39	57	27	8.6	7.4	2.7	2.4
6	2.7	7.9	18	16	420	34	41	34	8.5	6.4	2.6	2.4
7	2.5	233	16	17	293	33	36	28	7.9	5.9	2.6	2.3
8	2.5	394	14	28	243	90	33	51	7.4	17	2.7	3.5
9	2.5	328	14	31	222	204	93	41	7.5	36	2.7	2.6
10	2.5	143	17	22	212	130	86	37	17	17	6.7	2.4
11	2.4	68	21	19	207	72	63	33	14	12	20	2.3
12	2.3	42	17	17	173	52	45	63	45	9.2	11	2.3
13	2.4	30	15	23	90	42	37	87	31	7.9	7.4	2.1
14	2.5	99	14	22	62	37	38	48	28	6.7	5.9	2.1
15	2.6	58	13	61	49	33	33	35	24	6.1	4.9	2.1
16	3.6	37	13	121	41	30	28	28	56	6.2	4.5	2.0
17	3.9	26	12	62	99	29	152	23	38	6.0	4.2	2.0
18	11	20	12	49	116	66	117	19	22	5.6	3.6	3.4
19	16	18	12	38	73	368	76	16	35	8.3	3.1	2.9
20	15	16	12	33	56	251	88	15	31	18	2.7	2.7
21	9.1	17	12	27	47	514	56	14	20	11	2.7	2.7
22	7.0	151	13	23	40	291	43	13	15	8.1	2.6	7.7
23	5.6	63	32	176	171	167	36	12	13	7.2	2.6	8.7
24	5.1	44	21	245	252	99	32	12	14	5.9	2.6	4.8
25	6.8	32	31	143	121	69	27	20	12	5.1	2.6	3.5
26	10	26	24	78	72	54	25	16	13	4.6	2.6	2.7
27	18	21	30	58	55	47	22	15	33	4.4	2.5	2.5
28	11	18	53	914	46	41	20	16	31	4.0	3.3	2.4
29	8.1	16	38	520	---	38	19	14	21	3.8	3.1	2.2
30	7.1	16	44	249	---	34	19	13	15	3.5	2.6	2.9
31	6.8	---	34	209	---	31	---	12	---	3.9	2.5	---
TOTAL	183.8	1986.6	648	3303	5955	3080	1466	864	607.4	274.4	130.6	89.3
MEAN	5.93	66.2	20.9	107	213	99.4	48.9	27.9	20.2	8.85	4.21	2.98
MAX	18	394	53	914	1580	514	152	87	56	36	20	8.7
MIN	2.3	7.9	12	16	40	29	19	12	7.4	3.5	2.5	2.0
CFSM	.25	2.76	.87	4.44	8.86	4.14	2.04	1.16	.84	.37	.18	.12
IN.	.28	3.08	1.00	5.12	9.23	4.77	2.27	1.34	.94	.43	.20	.14

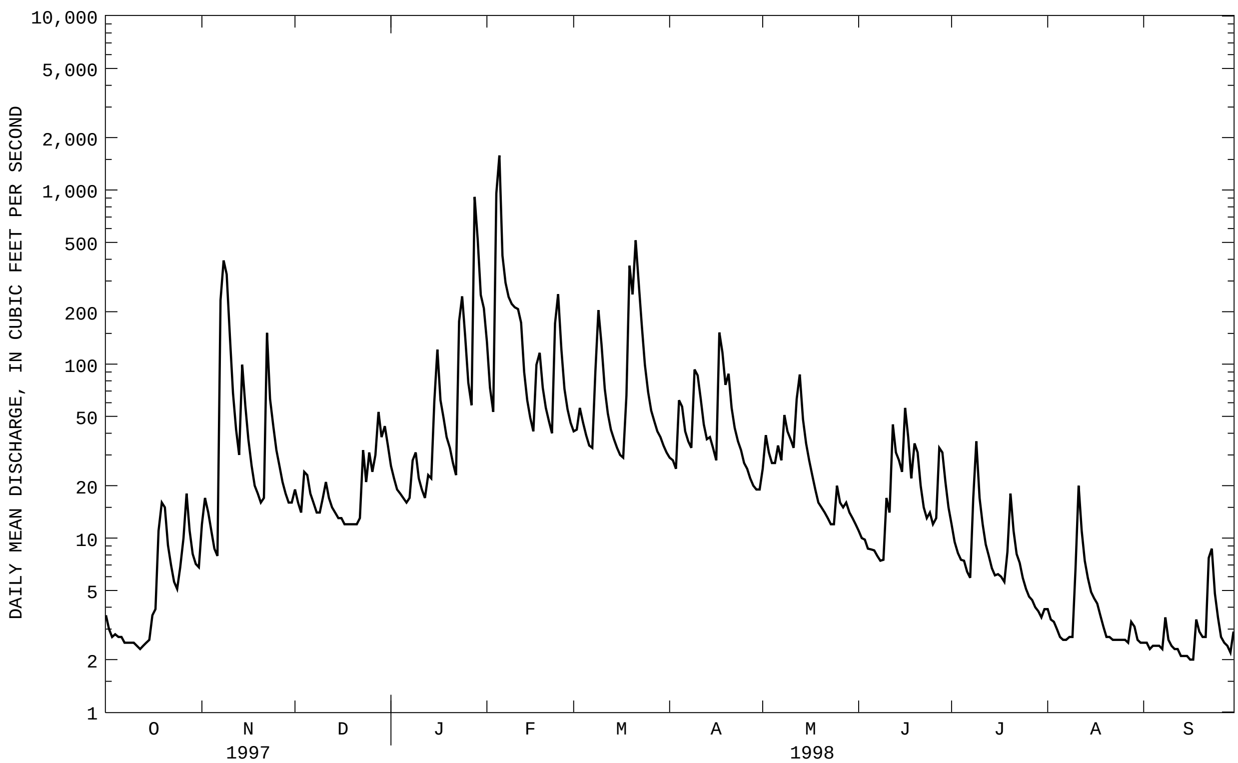
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.7	19.2	28.9	35.4	38.3	45.6	32.8	25.5	15.2	14.6	17.2	13.1
MAX	70.3	84.4	98.6	125	213	166	95.9	97.4	68.4	68.7	118	112
(WY)	1997	1957	1997	1978	1998	1994	1983	1990	1972	1996	1955	1979
MIN	2.58	4.29	5.27	6.45	9.31	8.52	6.82	5.36	2.68	1.48	1.29	2.02
(WY)	1969	1982	1966	1955	1968	1981	1985	1985	1986	1985	1995	1988

01661500 ST. MARYS RIVER AT GREAT MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1946 - 1998	
ANNUAL TOTAL	8847.6		18588.1			
ANNUAL MEAN	24.2		50.9		24.8	
HIGHEST ANNUAL MEAN					50.9	1998
LOWEST ANNUAL MEAN					11.1	1966
HIGHEST DAILY MEAN	394	Nov 8	1580	Feb 5	2260	Aug 13 1955
LOWEST DAILY MEAN	2.3	Oct 12	2.0	(a)	.30	Sep 7 1966
ANNUAL SEVEN-DAY MINIMUM	2.4	Oct 7	2.1	Sep 11	.39	Sep 3 1966
INSTANTANEOUS PEAK FLOW			3560	Feb 5	(b)7950	Aug 20 1969
INSTANTANEOUS PEAK STAGE			11.27	Feb 5	13.34	Aug 20 1969
INSTANTANEOUS LOW FLOW			1.9	(a)	.20	Sep 7 1966
ANNUAL RUNOFF (CFSM)	1.01		2.12		1.03	
ANNUAL RUNOFF (INCHES)	13.71		28.81		14.03	
10 PERCENT EXCEEDS	46		106		49	
50 PERCENT EXCEEDS	16		18		12	
90 PERCENT EXCEEDS	3.9		2.6		3.2	

a Sept. 16, 17.
b From rating curve extended above 1,500 ft^3/s on basis of contracted-opening measurement at gage height 12.08 ft.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level. Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges (beaver dam), which are fair. Town of Oakland diverted an average of 0.4 ft^3/s for water supply. The diversion is returned upstream from station as sewage. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 15.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 7	1300	2,690	5.97	Apr 20	0030	*3,450	*6.67
Jan 8	2000	2,520	5.78	Jul 1	0230	2,380	5.63
Feb 19	0900	2,130	5.35				

Minimum discharge, 14 ft^3/s, Sep 14-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	124	979	206	304	1430	273	294	194	1820	59	23
2	124	460	690	186	279	1150	256	416	107	902	37	21
3	92	369	505	193	243	913	196	388	82	551	30	20
4	79	244	484	446	239	711	236	484	74	348	27	19
5	67	189	455	727	281	564	232	1480	68	262	24	18
6	61	158	352	876	389	447	188	908	71	195	22	17
7	54	1860	296	947	359	424	171	689	62	161	20	18
8	49	1510	255	2180	292	685	164	730	54	356	23	29
9	44	1020	225	2290	267	1100	407	720	53	260	19	31
10	43	697	390	1570	263	1140	809	508	127	165	131	30
11	47	482	1190	998	314	855	608	436	99	129	146	24
12	41	383	815	733	778	655	438	631	319	108	86	20
13	39	294	575	643	939	495	337	443	702	95	53	19
14	37	444	406	519	687	418	276	333	808	86	43	17
15	38	692	292	419	496	341	232	257	696	77	75	14
16	37	484	234	449	401	263	212	207	1410	71	73	15
17	34	356	205	384	668	240	194	184	1050	69	294	15
18	33	282	181	355	1870	531	171	150	855	63	411	16
19	33	244	166	308	2000	1300	1510	129	1080	54	191	18
20	33	231	157	275	1570	921	2610	121	959	49	115	e25
21	32	256	148	233	1550	1490	1200	254	596	46	82	e84
22	31	740	143	214	1140	1340	770	160	452	43	63	e100
23	29	657	239	681	912	983	555	122	311	90	53	e65
24	28	472	292	969	767	805	405	114	216	104	47	e43
25	53	350	612	709	634	672	299	337	170	58	48	e32
26	63	302	540	508	609	682	257	171	149	44	46	e31
27	112	292	447	394	699	588	808	139	166	39	38	e29
28	76	246	361	358	1020	484	465	120	506	36	32	e40
29	56	268	284	322	---	405	357	104	958	32	29	e28
30	47	478	263	493	---	330	303	97	993	30	27	58
31	45	---	215	387	---	271	---	85	---	98	26	---
TOTAL	1694	14584	12396	19972	19970	22633	14939	11211	13387	6441	2370	919
MEAN	54.6	486	400	644	713	730	498	362	446	208	76.5	30.6
MAX	137	1860	1190	2290	2000	1490	2610	1480	1410	1820	411	100
MIN	28	124	143	186	239	240	164	85	53	30	19	14
CFSM	.41	3.63	2.98	4.81	5.32	5.45	3.72	2.70	3.33	1.55	.57	.23
IN.	.47	4.05	3.44	5.54	5.54	6.28	4.15	3.11	3.72	1.79	.66	.26

e Estimated

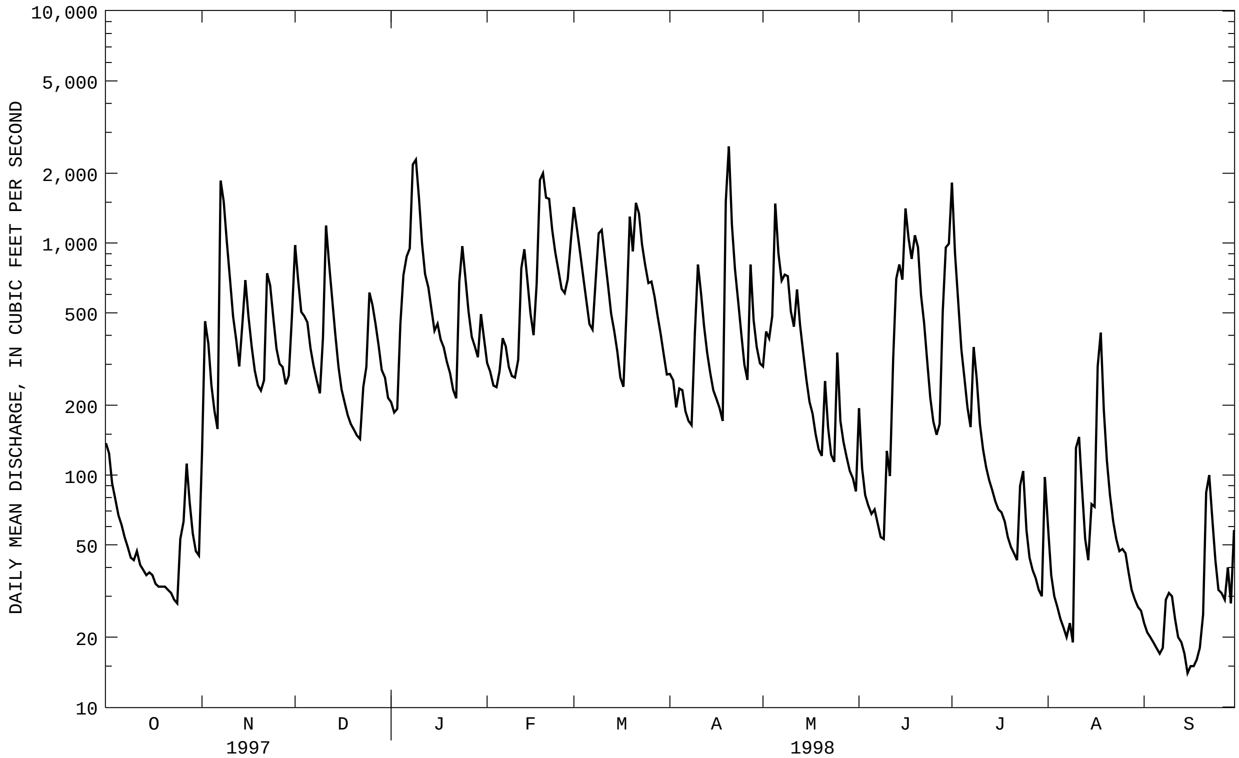
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	117	246	412	435	500	612	447	338	206	163	133	87.9
MAX	608	1152	1027	973	1100	1477	879	995	730	629	586	601
(WY)	1955	1986	1973	1996	1986	1963	1973	1996	1981	1978	1956	1996
MIN	4.45	7.08	62.2	63.2	127	168	121	76.0	24.0	10.3	10.5	5.99
(WY)	1954	1954	1944	1977	1978	1990	1946	1982	1965	1953	1944	1953

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1941 - 1998	
ANNUAL TOTAL	103434		140516			
ANNUAL MEAN	283		385		307	
HIGHEST ANNUAL MEAN					518	1996
LOWEST ANNUAL MEAN					193	1947
HIGHEST DAILY MEAN	2090	Mar 6	2610	Apr 20	8740	Jan 19 1996
LOWEST DAILY MEAN	24	Sep 27	14	Sep 15	2.5	Oct 4 1953
ANNUAL SEVEN-DAY MINIMUM	30	Jul 16	16	Sep 13	2.7	Oct 2 1953
INSTANTANEOUS PEAK FLOW			3450	Apr 20	(a)14100	Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.67	Apr 20	13.06	Jan 19 1996
INSTANTANEOUS LOW FLOW			14	(b)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	2.11		2.87		2.29	
ANNUAL RUNOFF (INCHES)	28.71		39.01		31.16	
10 PERCENT EXCEEDS	614		942		728	
50 PERCENT EXCEEDS	194		257		167	
90 PERCENT EXCEEDS	39		31		25	

a From rating curve extended above 7,000 ft^3/s.
b Sept. 14-17.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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 mi2.

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 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, 93,800 acre-ft, July 14, 1990, elevation, 2,462.25 ft; minimum observed, 11,763 acre-ft, Sept. 30, 1925, elevation, 2,433.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,260 acre-ft, June 2, 3, 5-7, 12-15, elevation, 2,461.0 ft; minimum, 70,460 acre-ft, Dec. 21-24, elevation, 2,455.8 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2457.5	76400	
Oct. 31	2456.3	72200	-4200
Nov. 30	2457.7	77100	+4900
Dec. 31	2456.1	71500	-5600
CAL YR 1996			-700
Jan. 31	2455.8	70500	-1000
Feb. 28	2457.8	77500	+7000
Mar. 31	2459.1	82200	+4700
Apr. 30	2460.9	88900	+6700
May 31	2460.7	88100	-800
June 30	2461.0	89300	+1200
July 31	2459.5	83700	-5600
Aug. 31	2458.1	78600	-5100
Sept. 30	2457.4	76100	-2500
WTR YR 1997			-4700

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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^2.

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 above sea level. 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.--No estimated daily discharges. Records good. Low and medium flow regulated since July 1925 by Deep Creek Reservoir, 12 mi upstream from station (see station 03076000). U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,470 ft^3/s, Apr 20, gage height, 5.46 ft; minimum discharge, 44 ft^3/s, Sep 6, 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	147	1700	685	603	2160	628	608	302	2730	233	55
2	246	528	1260	716	572	2010	643	917	243	1250	116	50
3	255	671	1010	416	545	1650	545	845	185	813	146	48
4	232	413	918	579	576	1320	422	832	158	606	87	123
5	133	353	1020	1100	620	1080	460	2420	213	442	80	115
6	269	354	793	1190	907	943	396	2020	212	435	104	47
7	236	2500	628	1490	887	711	335	1410	138	322	132	130
8	131	2580	676	3270	811	1030	347	1240	194	388	97	75
9	251	1860	728	3720	662	1960	658	1590	123	605	133	69
10	177	1600	801	2900	496	2330	1310	1240	233	504	190	66
11	95	1040	1890	1960	512	2070	985	875	234	537	308	152
12	88	812	1440	1490	969	1730	743	949	576	231	177	101
13	150	889	896	1300	1400	1330	606	677	1050	253	128	53
14	135	695	666	1180	1000	741	520	686	1010	307	175	191
15	157	1300	876	999	759	622	464	551	859	159	103	65
16	95	983	844	977	652	657	417	503	2440	283	192	54
17	230	706	753	721	691	682	472	758	2440	318	302	50
18	79	644	768	681	2680	753	352	590	1900	209	562	117
19	70	579	664	621	3330	1960	1540	363	1770	167	332	54
20	98	520	366	602	2780	1400	3910	389	1610	270	280	58
21	130	513	327	589	2760	2110	2000	328	848	257	281	171
22	71	1260	678	494	2070	2040	1220	436	795	241	174	207
23	48	1270	754	760	1770	1630	890	325	622	156	143	135
24	95	965	851	1410	1540	1330	771	234	519	274	242	98
25	87	767	1160	1060	1630	1160	636	621	498	170	205	144
26	121	599	1140	842	1320	1120	599	381	450	128	213	76
27	206	576	710	729	1050	1010	1440	293	317	247	230	61
28	215	529	601	721	1350	735	946	256	568	169	247	169
29	160	561	819	677	---	615	720	370	1150	149	75	75
30	109	721	824	820	---	674	641	203	1030	95	106	94
31	121	---	740	704	---	626	---	224	---	191	132	---
TOTAL	4735	26935	27301	35403	34942	40189	25616	23134	22687	12906	5925	2903
MEAN	153	898	881	1142	1248	1296	854	746	756	416	191	96.8
MAX	269	2580	1890	3720	3330	2330	3910	2420	2440	2730	562	207
MIN	48	147	327	416	496	615	335	203	123	95	75	47
(†)	-68.1	82.2	-91.3	-16.3	126	76.6	112	-13.0	20.2	-91.3	-83.2	-42.0
MEAN≠	85	980	790	1126	1374	1373	966	733	776	325	108	54.8
CFSM≠	0.29	3.32	2.68	3.82	4.66	4.65	3.27	2.48	2.63	1.10	0.36	0.19
IN≠	0.33	3.70	3.09	4.40	4.85	5.36	3.65	2.86	2.93	1.27	0.42	0.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1905, 1941 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	284	508	860	887	995	1229	937	700	483	371	301	241
MAX	1103	2190	2147	1886	2277	2644	2231	1888	1823	1335	1319	1059
(WY)	1955	1986	1903	1996	1903	1963	1901	1996	1903	1990	1956	1996
MIN	50.2	55.7	145	140	337	285	327	176	84.2	64.6	51.0	49.8
(WY)	1992	1905	1944	1981	1954	1990	1995	1982	1969	1991	1991	1991

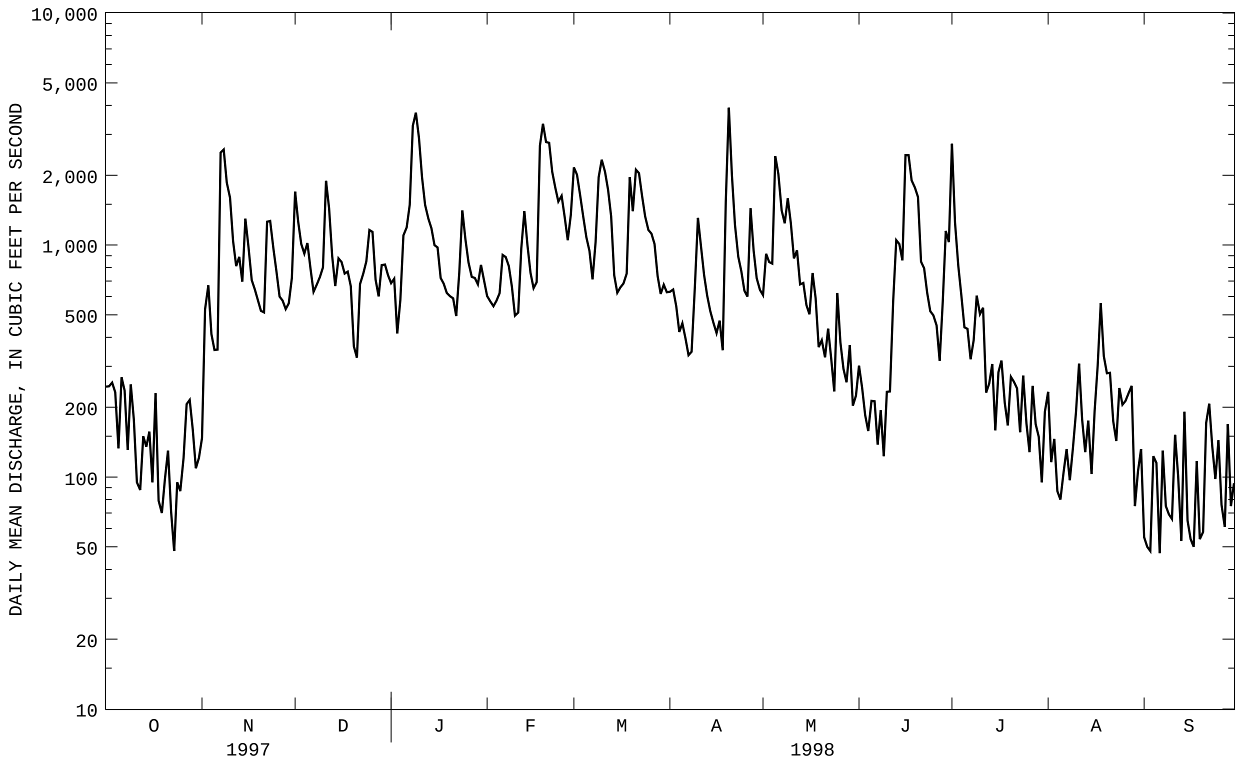
† Change in contents in Deep Creek Reservoir, equivalent in cubic feet per second, provided by Pennsylvania Electric Company.

≠ Adjusted for change in reservoir contents.

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1898 - 1905 1941 - 1998	
ANNUAL TOTAL	216291		262676			
ANNUAL MEAN	593		720		647	
ANNUAL MEAN≠	592		714		650	
HIGHEST ANNUAL MEAN					1052	1903
LOWEST ANNUAL MEAN					375	1954
HIGHEST DAILY MEAN	3780	Mar 6	3910	Apr 20	11200	Jan 19 1996
LOWEST DAILY MEAN	48	Oct 23	47	Sep 6	8.2	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	84	Oct 18	81	Sep 1	29	Sep 21 1972
INSTANTANEOUS PEAK FLOW			4470	Apr 20	(a)16100	Jan 19 1996
INSTANTANEOUS PEAK STAGE			5.46	Apr 20	(b)14.20	Mar 29 1924
INSTANTANEOUS LOW FLOW			44	(c)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	2.01		2.44		2.19	
ANNUAL RUNOFF (CFSM)≠	2.01		2.42		2.20	
ANNUAL RUNOFF (INCHES)	27.27		33.12		29.78	
ANNUAL RUNOFF (INCHES)≠	27.23		32.83		29.92	
10 PERCENT EXCEEDS	1170		1620		1440	
50 PERCENT EXCEEDS	441		590		412	
90 PERCENT EXCEEDS	123		105		107	

≠ Adjusted for change in reservoir contents since October 1940.
a From rating curve extended above 5,800 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Sept. 6, 15.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WDR MD-DE-94-1: 1993

GAGE.--Water-stage recorder. Datum of gage is 1,551.34 ft above sea level.

REMARKS.--Records good. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality record for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 8	1600	*703	*3.90	Jan 9	1130	662	3.83

Minimum discharge, 6.0 ft^3/s, Aug 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	29	311	69	83	347	80	104	38	102	17	8.4
2	18	64	245	72	78	301	69	111	32	133	14	8.1
3	16	52	165	73	74	265	61	117	67	93	12	7.8
4	14	40	142	151	72	205	67	185	41	74	12	7.5
5	12	32	121	182	91	158	59	390	36	63	e11	7.2
6	11	26	104	184	113	130	53	282	34	51	e10	6.9
7	10	93	95	220	107	118	50	210	35	45	e9.5	16
8	9.7	102	80	532	102	197	54	229	28	47	8.9	30
9	9.1	104	77	593	96	323	157	262	26	43	9.5	14
10	8.9	102	97	471	93	314	357	210	63	39	32	13
11	9.4	100	214	326	111	259	264	166	57	35	44	9.9
12	9.4	91	184	227	292	204	186	131	79	32	20	8.7
13	18	76	141	151	308	152	129	106	154	28	16	7.9
14	8.3	96	118	110	225	124	108	88	157	26	22	7.5
15	7.9	134	97	96	149	102	90	75	144	24	23	7.1
16	7.3	112	83	91	121	87	77	65	221	26	22	8.7
17	6.8	91	74	86	187	77	68	63	247	24	37	13
18	6.8	77	65	78	456	103	57	51	196	21	39	8.3
19	6.8	68	60	72	436	163	229	45	152	19	31	7.6
20	6.8	66	56	65	403	165	368	44	117	18	23	7.7
21	6.8	78	53	60	380	208	272	42	91	17	18	13
22	6.8	218	49	57	295	223	195	39	74	16	17	31
23	6.7	238	57	80	247	195	137	36	61	46	16	21
24	7.0	170	64	111	191	169	111	35	51	33	14	12
25	20	127	105	105	147	142	92	92	44	21	15	10
26	11	109	109	90	136	130	104	55	42	18	13	9.9
27	14	96	110	83	167	120	215	45	45	17	11	8.9
28	10	109	100	80	276	108	151	41	79	15	10	9.7
29	8.7	124	87	79	---	95	129	37	77	15	9.8	8.3
30	8.1	197	88	96	---	82	114	39	77	16	9.7	12
31	7.9	---	83	94	---	74	---	33	---	27	9.1	---
TOTAL	325.2	3021	3434	4784	5436	5340	4103	3428	2565	1184	555.5	341.1
MEAN	10.5	101	111	154	194	172	137	111	85.5	38.2	17.9	11.4
MAX	22	238	311	593	456	347	368	390	247	133	44	31
MIN	6.7	26	49	57	72	74	50	33	26	15	8.9	6.9
CFSM	.21	2.06	2.27	3.16	3.97	3.52	2.80	2.26	1.75	.78	.37	.23
IN.	.25	2.30	2.61	3.64	4.14	4.06	3.12	2.61	1.95	.90	.42	.26

e Estimated

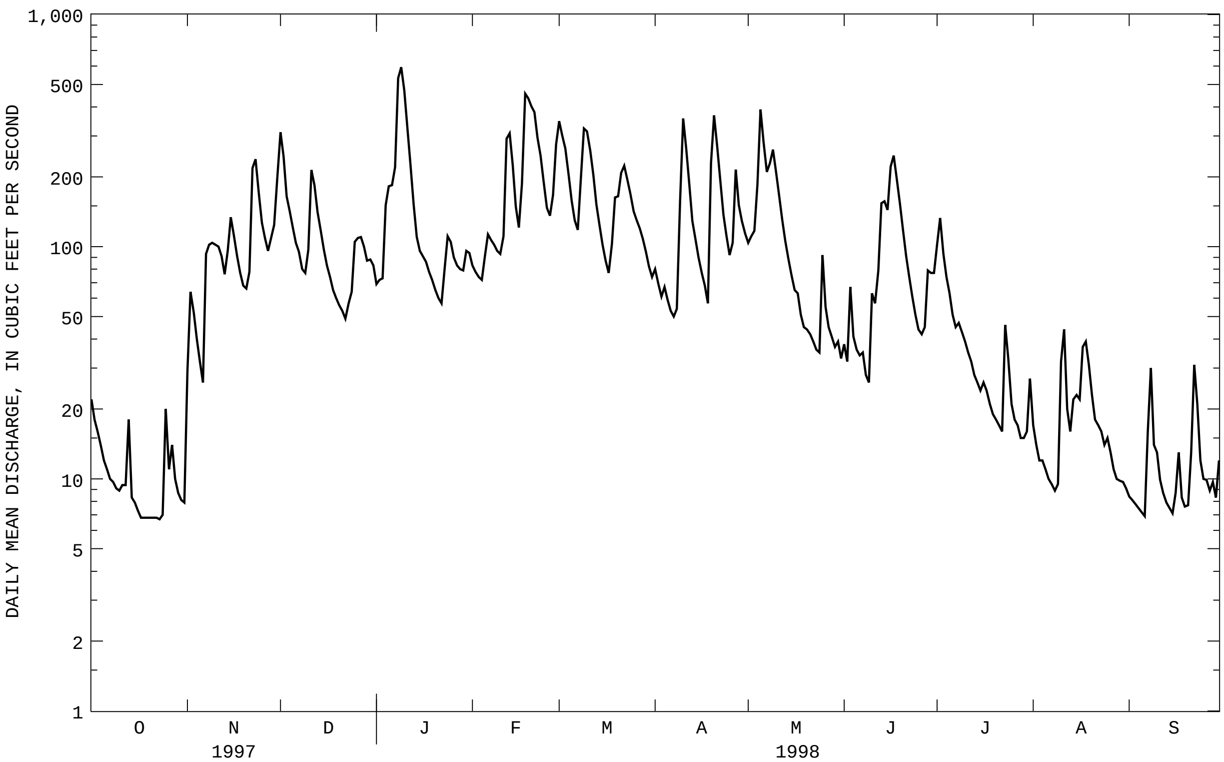
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.5	71.9	123	118	153	193	151	105	52.8	50.6	32.1	32.6
MAX	187	341	293	296	387	413	293	223	154	274	117	256
(WY)	1980	1986	1991	1996	1986	1994	1984	1996	1981	1990	1980	1971
MIN	4.05	12.0	23.2	19.1	39.8	45.5	59.4	23.5	10.6	6.35	4.32	2.98
(WY)	1992	1992	1966	1977	1993	1990	1995	1982	1991	1965	1966	1991

03076600 BEAR CREEK AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1965 - 1998	
ANNUAL TOTAL	30363.6		34516.8			
ANNUAL MEAN	83.2		94.6		92.9	
HIGHEST ANNUAL MEAN					133	1996
LOWEST ANNUAL MEAN					53.4	1966
HIGHEST DAILY MEAN	523	Mar 6	593	Jan 9	3100	Sep 14 1971
LOWEST DAILY MEAN	6.7	Aug 10	6.7	Oct 23	1.6	(a)
ANNUAL SEVEN-DAY MINIMUM	6.8	Oct 17	6.8	Oct 17	2.0	Sep 7 1966
INSTANTANEOUS PEAK FLOW			703	Jan 8	(b)4650	Sep 14 1971
INSTANTANEOUS PEAK STAGE			3.90	Jan 8	(c)9.60	Sep 14 1971
INSTANTANEOUS LOW FLOW			6.7	(d)	1.5	Sep 12 1966
ANNUAL RUNOFF (CFSM)	1.70		1.93		1.90	
ANNUAL RUNOFF (INCHES)	23.10		26.26		25.82	
10 PERCENT EXCEEDS	195		220		228	
50 PERCENT EXCEEDS	56		74		51	
90 PERCENT EXCEEDS	9.0		9.5		8.8	

a Sept. 12, 13, 1966.
b From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Oct. 23, 24.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

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^2.

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 above sea level.

REMARKS.--Records good except those for estimated daily discharges (backwater), which are poor. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 8	1900	1,230	3.76	Mar 8	1945	1,030	3.45
Feb 18	0500	*1,270	*3.82	Apr 19	2145	1,210	3.72

Minimum discharge, 2.0 ft^3/s, Oct 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	147	486	83	104	690	101	133	81	282	30	10
2	36	290	241	99	98	490	98	183	39	120	22	10
3	27	143	185	110	89	371	80	218	61	84	18	9.8
4	22	81	171	242	81	243	97	257	44	69	14	8.7
5	18	60	171	238	152	206	91	612	33	66	11	7.8
6	13	51	145	226	213	188	75	467	31	58	8.1	7.1
7	9.3	679	127	242	159	192	67	276	28	50	5.7	10
8	7.6	688	115	1020	137	566	75	429	27	100	5.0	38
9	5.6	358	105	768	129	889	334	412	25	96	5.2	26
10	8.8	217	123	433	126	618	678	259	73	58	31	20
11	11	158	294	286	153	366	283	214	66	46	135	17
12	8.4	131	185	225	394	262	189	196	106	40	34	13
13	5.5	109	147	201	315	212	159	171	140	35	e15	10
14	4.9	132	124	168	213	187	136	135	119	33	e21	7.3
15	4.7	192	107	146	172	157	121	109	101	31	e25	6.1
16	4.7	141	99	148	154	133	105	103	232	32	31	5.7
17	3.9	112	92	148	393	122	100	133	273	32	118	8.6
18	3.6	101	87	136	1120	197	88	88	164	30	77	7.3
19	3.6	104	78	118	971	352	636	72	390	26	50	6.5
20	6.6	91	78	107	743	252	693	65	203	23	32	6.5
21	3.2	118	77	96	702	472	298	58	120	22	e22	11
22	2.5	443	73	90	433	337	206	53	93	21	e20	35
23	2.2	316	113	122	354	228	169	46	83	67	44	28
24	3.7	197	130	163	280	203	141	44	71	54	25	18
25	23	153	220	125	220	179	123	95	63	34	e22	14
26	25	141	167	103	205	165	142	60	52	27	20	13
27	40	139	137	95	237	144	402	50	76	24	e16	12
28	29	181	119	100	491	126	184	42	177	21	e14	9.9
29	20	213	111	102	---	111	142	36	125	19	e12	8.3
30	15	384	104	138	---	99	130	36	162	17	e11	8.7
31	13	---	97	116	---	89	---	33	---	32	e10	---
TOTAL	420.8	6270	4508	6394	8838	8846	6143	5085	3258	1649	904.0	393.3
MEAN	13.6	209	145	206	316	285	205	164	109	53.2	29.2	13.1
MAX	40	688	486	1020	1120	889	693	612	390	282	135	38
MIN	2.2	51	73	83	81	89	67	33	25	17	5.0	5.7
CFSM	.22	3.34	2.33	3.30	5.05	4.57	3.28	2.62	1.74	.85	.47	.21
IN.	.25	3.73	2.68	3.81	5.26	5.27	3.66	3.03	1.94	.98	.54	.23

e Estimated

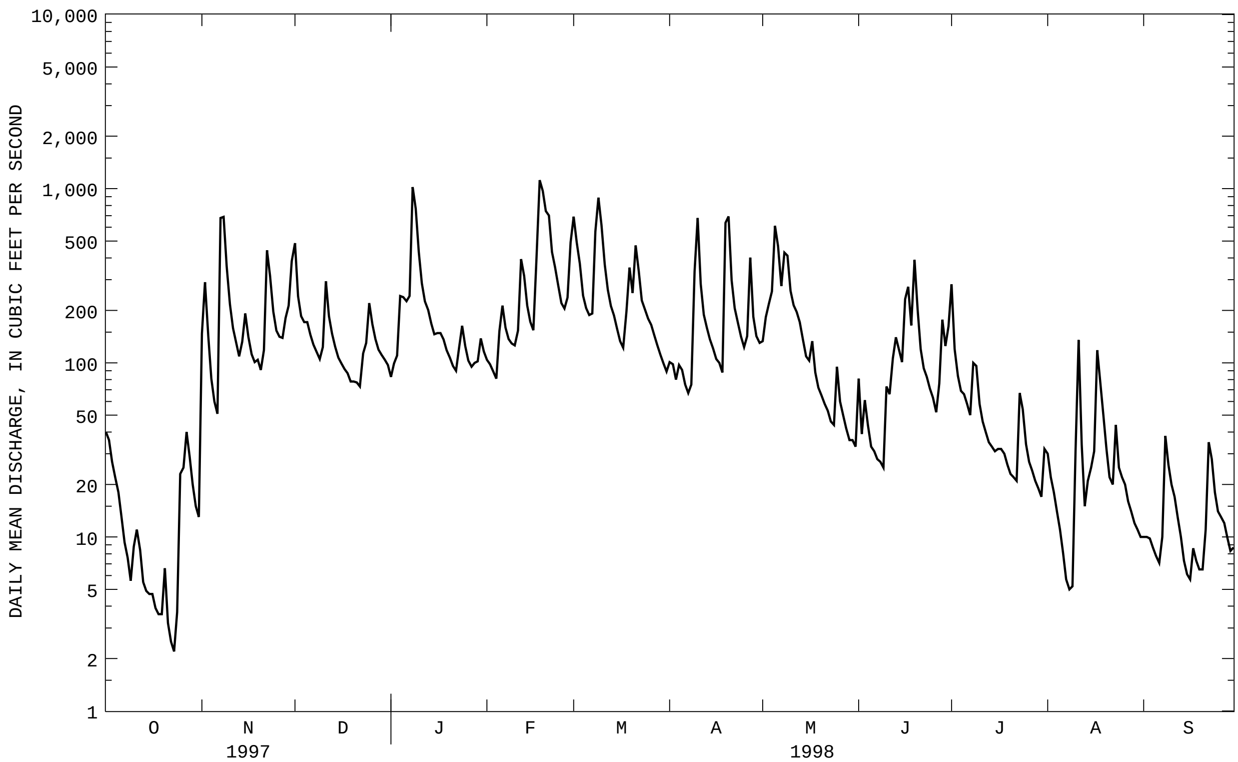
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	47.1	90.5	151	164	198	265	209	138	73.7	49.9	37.9	34.8
MAX	288	449	341	376	414	582	468	312	200	175	202	290
(WY)	1955	1986	1973	1996	1956	1963	1970	1996	1951	1996	1956	1996
MIN	1.65	3.38	14.5	26.4	60.3	57.0	77.1	40.1	10.0	4.30	2.87	1.58
(WY)	1954	1954	1954	1977	1964	1990	1968	1976	1965	1965	1991	1991

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	42839.3		52709.1			
ANNUAL MEAN	117		144		121	
HIGHEST ANNUAL MEAN					203	1996
LOWEST ANNUAL MEAN					64.2	1954
HIGHEST DAILY MEAN	724	Mar 6	1120	Feb 18	(e)3600	Jan 19 1996
LOWEST DAILY MEAN	2.2	Oct 23	2.2	Oct 23	(a).00	Aug 31 1962
ANNUAL SEVEN-DAY MINIMUM	3.6	Oct 18	3.6	Oct 18	.89	Aug 27 1962
INSTANTANEOUS PEAK FLOW			1270	Feb 18	(b)8400	Oct 15 1954
INSTANTANEOUS PEAK STAGE			3.82	Feb 18	10.70	Oct 15 1954
INSTANTANEOUS LOW FLOW			2.0	(c)	(a).00	(d)
ANNUAL RUNOFF (CFSM)	1.88		2.31		1.94	
ANNUAL RUNOFF (INCHES)	25.50		31.37		26.34	
10 PERCENT EXCEEDS	275		343		281	
50 PERCENT EXCEEDS	89		101		68	
90 PERCENT EXCEEDS	7.7		10		8.4	

e Estimated
a Result of regulation from unknown source.
b From rating curve extended above 1,600 ft^3/s on basis of contracted-opening measurement at gage height of 8.13 ft.
c Oct. 23, 24.
d Aug. 31, Sept. 1, 1962.



DAILY MEAN DISCHARGE - 1998 WATER YEAR

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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 three tables. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of annual maximum stage for tidal crest-stage stations.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream when continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1998

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		INDIAN RIVER BASIN				
01484510	Sheep Pen Ditch near Shortly, De.	Lat 38°36'21", long 75°21'29", Sussex County, Hydrologic Unit 02060010 at bridge on road no. 432, 2.0 mi east of Shortly, and 3.8 mi upstream from mouth at Millsboro Pond.	5.4	1986-88, 1997-98	11-6-97	4.60
01484530	Iron Branch at Millsboro, De.	Lat 38°34'40", long 75°17'19", Sussex County, Hydrologic Unit 02060010, at bridge on U.S. Highway 113, at Millsboro, 1.1 mi upstream from Whartons Branch, and 1.4 mi upstream from mouth.	8.0	1985-88, 1997-98	11-6-97	1.50
01484535	Swan Creek near Warwick, De.	Lat 38°36'49", long 75°15'19", Sussex County, Hydrologic Unit 02060010, at bridge on road No. 304, 0.6 mi upstream from Waples Pond, 1.5 mi northwest of Warwick, and 2.3 miles upstream from mouth.	5.6 (Revised)	1985-88, 1997-98	11-6-97	1.79
01484550	Pepper Creek at Dagsboro, De.	Lat 38°32'50", long 75°14'40", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 26, at Dagsboro, and 3.5 mi upstream from mouth.	8.78	1955-71, 1985-88, 1997-98	11-6-97	2.04
01484600	Blackwater Creek near Clarksville, De.	Lat 38°32'43", long 75°09'49", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 54, 1.0 mi west of Clarksville, and 3.1 mi upstream from mouth.	3.5	1968-69*, 1971*, 1985-88, 1997-98	11-6-97	1.27
01484655	Love Creek at Robinsonville, De.	Lat 38°43'03", long 75°11'14", Sussex County, Hydrologic Unit 02060010, at bridge on road No. 277, 0.4 mi northeast of Robinsonville, and about 2.8 mi upstream from mouth.	11.1 (Revised)	1985-88, 1997-98	11-6-97	4.27

* Drainage area was published as 4.5 sq mi.

Discharge measurements made at low-flow partial-record stations during water year 1997

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		INDIAN RIVER BASIN--Continued				
01484677	Chapel Branch at Angola, De.	Lat 38°40'18", long 75°11'10", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 24, at Angola, and 0.3 mi upstream from mouth.	8.0	1985-88, 1997-98	11-6-97	1.28
		MILLER CREEK BASIN				
01484695	Beaverdam Ditch near Mill-ville, De.	Lat 38°31'17", long 75°08'02", Sussex County, Hydrologic Unit 02060010, at culverts on road No. 368, 2.1 mi southwest of Millville, and 1.6 mi upstream from mouth.	2.2	1997-98	11-6-97	2.57
		DIRICKSON CREEK BASIN				
01484700	Bearhole Ditch at Bunting, De.	Lat 38°28'17", long 75°09'22", Sussex County, Hydrologic Unit 02060010, at culverts on road No. 390A, 0.6 mi north of Bunting, 3.7 mi east of Selbyville, and 1.5 mi upstream from mouth.	6.4	1968-71*, 1985-88, 1997-98	11-6-97	3.43

* Drainage area was published as 6.2 sq mi.

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.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		POTOMAC RIVER BASIN						
North Branch Potomac River at Kitzmiller, Md. (01595500)	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. Drainage area is 225 mi^2.	1950-85≠, 1986-98	04-19-98	7.46	5,770	10-15-54	**a**13.73	33,400
North Branch Potomac River at Barnum, W. Va. (01595800)	Lat 39°26'44", long 79°06'39", Garrett County, Hydrologic Unit 02070002, on right bank at highway bridge at Barnum. Drainage area is 266 mi^2.	1967-85≠, 1986-98	04-19-98	7.35	5,030	7-03-78	13.37	27,100
North Branch Potomac River at Pinto, Md. (01600000)	Lat 39°26'44", long 79°06'39", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland railroad bridge at Pinto, 2.8 mi downstream from Mill Run. Drainage area is 596 mi^2.	1939-85≠, 1986-98	04-20-98	10.36	9,360	10-16-54	23.23	37,000

≠ Operated as a continuous-record station.
a From floodmark

Tidal crest-stage partial-record stations

The following table contains annual maximum stages for tidal crest-stage stations. The informaton 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 l929. 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 1997

				Annual Maximum	
Station No.	Station Name	Location	Period of Record	Date	Elevation, in feet NGVD
		DELAWARE RIVER BASIN			
01480065	Christina River at Newport, De.	Lat 39°42'38", long 75°36'33", New Castle County, Hydrologic Unit 02040205, on downstream side of bridge on James Street, at Newport and 7.5 mi upstream from the confluence with Delaware River.	1995-98	5-13-98	6.24
01481602	Delaware River below Christina River, at Wilmington, De.	Lat 39°43'00", long 75°31'03", New Castle County, Hydrologic Unit 02040205, on right bank, 1,000 ft from mouth of Christina River at the Wilmington Marine Terminal, 2.0 mi upstream of Delaware Memorial Bridge, and at river mi 69.70.	1983-91, 1995-98	5-13-98	6.22
		MURDERKILL RIVER BASIN			
01484085	Murderkill River at Bowers, De.	Lat 39°03'30", long 75°23'51", Kent County, Hydrologic Unit 02040207, at Faulkner's Landing in Bowers, on left bank 10 ft southeast of south-west corner of Faulkner's Pier nr near public boat ramp.	1966-86, 1997-98	2- 5-98	8.05
		INDIAN RIVER BASIN			
01484540	Indian River at Rosedale Beach, De.	Lat 38°35'29", long 75°12'44", Sussex County, Hydrologic Unit 02060010, on left bank attached to a privately owned fishing pier, at Seals Point, 1.9 mi west of Oak Orchard.	1992-98	2- 5-98	6.99
01484683	Indian River Bay at Indian River Inlet near Bethany Beach, De.	Lat 38°36'35", long 75°04'06", Sussex County, Hydrologic Unit 02060010, 0.3 mi northwest of the Indian River Inlet, 0.2 mi west of State Highway 1, 4.9 mi north of Bethany Beach and at the Indian River Coast Guard Station.	1992-98	2- 5-98	5.86

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. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

POCOMOKE RIVER BASIN

01484980 POCOMOKE RIVER AT CAREYTOWN, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG											
24...	0930	89	6.4	23.0	5.4	<.010	.220	.114	.37	.026	.036

01484981 NORTH FORK GREEN RUN NEAR WHITESVILLE, DE

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
SEP							
21...	1030	152	6.3	26.5	20.3	2.0	.50

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
SEP						
21...	.017	.130	.610	.90	.024	<.010

01484995 PINE RIDGE BRANCH NEAR WHALEYSVILLE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
SEP							
23...	0900	233	6.0	16.0	18.0	2.0	19

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
SEP						
23...	.064	4.38	.184	1.2	.039	<.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

POCOMOKE RIVER BASIN--Continued

01485660 PILCHARD CREEK NEAR POCOMOKE CITY, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG							
17...	1215	205	5.8	26.1	7.0	2.8	<.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	2.36	.050	.44	.31	.057	<.010	.016

01485735 MARUMSCO CREEK AT COTTAGE GROVE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1250	313	5.7	23.1	1.1	1.5	.42	.011

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.106	.325	1.4	.79	.325	.020	.020

01485740 MARUMSCO CREEK AT HUDSON CORNER, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1310	8350	6.1	26.5	3.9	3.0	.44	.016

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.115	.174	2.9	1.8	.328	.134	.097

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

BIG ANNEMESSEX RIVER BASIN

01485760 BIG ANNEMESSEX RIVER NEAR KINGSTON, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG							
17...	1350	269	6.3	25.6	1.5	1.4	<.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.053	.075	1.4	.78	.776	.048	.051

MANOKIN RIVER BASIN

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
AUG							
17...	1520	167	6.2	27.2	6.7	<.010	.089

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG						
17...	.041	<.10	.37	.025	<.010	.015

01486010 TAYLOR BRANCH AT PRINCESS ANNE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1455	205	5.7	19.8	1.9	.91	.46	.014

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.117	.225	.79	.55	.986	.119	.129

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MANOKIN RIVER BASIN--Continued

01486020 KINGS CREEK NEAR PRINCESS ANNE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1425	200	5.9	24.4	4.5	1.4	1.0	.015

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.247	.189	1.2	.77	.762	.107	.118

WICOMICO RIVER BASIN

01486210 CONNELLY MILL BRANCH NEAR DELMAR, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
AUG							
17...	1015	104	5.8	17.8	7.7	<.010	5.74

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG						
17...	.028	<.10	.14	.011	.015	.020

01486215 NORTH PRONG WICOMICO RIVER NEAR SALISBURY, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG							
17...	1040	138	6.0	19.9	7.9	6.0	<.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	5.55	.031	.41	.30	.032	.020	.025

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

WICOMICO RIVER BASIN--Continued

01486220 NORTH PRONG WICOMICO RIVER AT SALISBURY, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	0945	129	7.9	26.8	9.6	2.9	9.7	.034

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	2.23	.062	.65	.34	.041	<.010	.012

01486495 BEAVERDAM CREEK AT MT HERMON, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1700	131	5.9	26.4	7.1	5.7	23	.019

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	5.13	.078	.55	.27	.056	<.010	.016

01486500 BEAVERDAM CREEK NEAR SALISBURY, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG								
17...	1635	97	6.4	29.4	7.3	1.2	2.7	.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
AUG							
17...	.628	.065	.54	.39	.030	<.010	.013

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

NANTICOKE RIVER BASIN

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 1997											
22...	1200	30	143	6.8	12.0	13.5	760	9.7	93	32	7.5
FEB 1998											
10...	1400	307	109	5.6	10.0	7.8	769	10.2	85	27	6.5
APR											
10...	1315	254	116	6.1	--	11.4	--	8.9	--	26	6.1
MAY											
28...	1530	112	117	6.2	26.5	20.8	764	9.4	105	30	7.0
JUN											
29...	1500	72	120	6.3	--	23.0	760	8.5	99	30	6.9
JUL											
29...	1330	33	128	6.2	--	22.9	759	6.2	72	33	7.5
AUG											
11...	1400	50	126	6.2	--	24.6	--	.5	--	31	7.4
28...	0945	36	122	6.3	25.5	22.0	--	5.5	--	32	7.3
SEP											
15...	1230	24	177	7.7	30.0	23.4	764	9.3	109	32	7.2

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	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)
OCT 1997											
22...	3.2	10	3.2	11	--	--	7.2	15	<.10	18	105
FEB 1998											
10...	2.7	6.5	2.5	7	9	40	8.6	10	<.10	17	87
APR											
10...	2.6	7.0	2.8	10	12	16	7.3	10	<.10	14	--
MAY											
28...	3.0	8.6	2.3	13	16	17	6.9	12	<.10	17	--
JUN											
29...	3.0	7.9	3.0	15	18	15	6.5	12	<.10	17	--
JUL											
29...	3.4	11	3.1	16	20	22	5.6	15	<.10	13	--
AUG											
11...	3.1	9.9	3.9	15	18	22	6.4	13	<.10	13	--
28...	3.3	9.6	3.5	16	20	16	4.8	13	<.10	16	--
SEP											
15...	3.4	11	3.5	35	43	.1	5.4	15	<.10	14	--

NANTICOKE RIVER BASIN--Continued

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
OCT 1997											
22...	4.4	<1.0	137	<1.0	<1.0	<1.0	4.1	<1.0	95	<1.0	44
FEB 1998											
10...	103	<1.0	116	<1.0	<1.0	<1.0	12	<1.0	180	<1.0	68
APR											
10...	66	<1.0	120	<1.0	<1.0	<1.0	7.5	1.3	200	<1.0	45
MAY											
28...	14	<1.0	137	<1.0	<1.0	<1.0	6.3	<1.0	150	<1.0	54
JUN											
29...	13	<1.0	125	<1.0	<1.0	<1.0	4.0	<1.0	230	<1.0	38
JUL											
29...	5.8	<1.0	144	<1.0	<1.0	<1.0	1.8	<1.0	36	<1.0	18
AUG											
11...	45	<1.0	131	<1.0	<1.0	<1.0	2.2	1.0	61	<1.0	28
28...	6.9	<1.0	150	<1.0	<1.0	<1.0	3.1	<1.0	65	<1.0	47
SEP											
15...	55	<1.0	131	<1.0	<1.0	<1.0	1.8	1.8	180	<1.0	20

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1997										
22...	<1.0	2.5	<1.0	15	<1.0	1.5	.20	4	.32	74
FEB 1998										
10...	<1.0	3.4	<1.0	30	<1.0	4.1	.20	4	--	92
APR										
10...	<1.0	3.4	<1.0	21	<1.0	--	--	152	104	7
MAY										
28...	<1.0	3.0	<1.0	13	<1.0	2.3	.40	5	1.5	81
JUN										
29...	<1.0	2.9	<1.0	12	<1.0	2.9	.70	6	1.2	77
JUL										
29...	<1.0	1.9	<1.0	6.2	<1.0	1.8	.40	3	.27	44
AUG										
11...	<1.0	2.2	<1.0	9.0	<1.0	3.0	.70	12	1.6	87
28...	<1.0	2.1	<1.0	12	<1.0	3.2	.60	8	.78	90
SEP										
15...	<1.0	1.5	<1.0	3.7	<1.0	2.7	1.1	6	.39	88

TRANSQUAKING RIVER BASIN

01489795 TRANSQUAKING RIVER TRIBUTARY NEAR CAMBRIDGE, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
AUG								
17...	0855	209	5.8	23.0	1.8	2.1	.51	.019

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
AUG							
17...	.135	.927	1.9	1.6	.339	.049	.056

01489800 TRANSQUAKING RIVER NEAR SALEM, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
AUG								
17...	0830	318	6.4	27.1	5.5	8.1	26	.114

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
AUG							
17...	6.07	.189	2.1	1.2	.289	.130	.117

01490000 CHICAMACOMICO RIVER NEAR SALEM, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
AUG							
17...	0740	91	5.4	25.7	.6	<.010	<.050

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
AUG						
17...	.138	1.0	.75	.104	.024	.030

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN

01493109 COW CREEK NEAR CHESTERVILLE, MD

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
APR 14...	0915	.33	238	6.6	65.0	12.8	759	9.6	91	82	15	11
SEP 21...	1030	.12	219	5.6	30.0	19.4	759	6.6	72	69	15	7.9

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	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)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
APR 14...	5.7	3.7	12	15	6.2	17	23	<.10	8.3	11	48
SEP 21...	6.3	6.7	14	17	69	11	18	<.10	9.8	13	54

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR 14...	.023	10.9	.086	.25	.23	.031	<.010	.019	21	189	1.6
SEP 21...	.048	12.3	.123	.56	.43	.093	.030	.027	11	61	2.8

01493110 CHESTERVILLE BRANCH NEAR CHESTERVILLE, MD

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
APR 14...	1030	1.6	183	6.3	65.0	11.9	759	9.4	87	65	15	6.5
SEP 21...	0915	.63	213	6.2	30.0	18.8	759	7.2	77	72	18	6.4

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	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)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
APR 14...	4.2	2.9	14	17	16	9.3	11	<.10	9.4	--	47
SEP 21...	4.4	8.8	22	27	36	9.1	15	.16	12	12	49

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR 14...	.017	10.6	.038	<.10	<.10	.015	<.010	.014	14	61	1.1
SEP 21...	.027	11.2	.045	1.3	.44	.431	.114	.111	19	26	7.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

01493111 CHESTERVILLE BRANCH AT CHESTERVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR												
14...	1145	2.3	168	6.0	70.0	16.6	759	2.4	25	59	15	5.1
SEP												
21...	1200	2.1	162	6.2	30.5	20.5	759	6.3	71	57	15	5.0

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
APR											
14...	4.6	2.8	22	26	47	5.4	12	<.10	9.0	7.9	34
SEP											
21...	4.9	3.8	32	38	41	4.5	12	<.10	6.2	5.4	22

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR											
14...	.036	7.64	.077	.27	.20	.039	<.010	.022	52	147	1.9
SEP											
21...	.032	5.05	.067	.35	.37	.045	<.010	.016	23	113	2.7

0149311110 CHESTERVILLE BRANCH TRIBUTARY NEAR CHESTERVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR												
14...	1315	1.5	141	6.5	70.0	18.6	759	6.2	67	46	11	4.7
SEP												
21...	1315	.30	150	6.2	31.0	21.2	758	8.2	93	50	13	4.5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
APR											
14...	5.3	3.3	20	24	13	3.9	11	<.10	7.6	6.0	24
SEP											
21...	5.5	3.8	25	31	35	1.8	11	<.10	11	7.1	28

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR											
14...	.042	5.42	.104	.58	.34	.091	.016	.023	260	264	5.3
SEP											
21...	.034	6.30	.070	.82	.31	.108	.012	.017	27	211	5.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 199

CHESTER RIVER BASIN--Continued

01493112 CHESTERVILLE BRANCH NEAR CRUMPTON, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT 1997										
20...	1345	E5.0	168	7.0	22.0	12.5	758	8.0	75	--
DEC										
17...	1130	--	175	6.5	11.5	5.5	759	10.4	83	58
JAN 1998										
20...	1200	E5.0	160	6.5	8.0	6.0	763	10.5	84	--
24...	0900	--	81	6.4	6.0	7.0	756	9.5	79	25
29...	1045	--	77	6.9	9.5	3.5	758	11.0	83	--
FEB										
06...	1130	--	142	6.8	7.0	5.5	759	10.5	84	--
09...	1430	E6.5	158	6.1	--	6.7	--	--	--	56
MAR										
10...	1015	15	123	6.8	6.0	10.0	756	8.4	75	--
APR										
10...	0900	25	119	6.2	--	9.3	--	8.5	--	35
14...	1430	7.1	165	6.5	70.0	16.5	757	9.9	102	57
30...	0945	7.7	164	6.8	21.5	14.5	763	7.8	77	--
MAY										
20...	1230	24	168	6.1	--	20.0	--	7.8	--	--
28...	0900	7.5	169	6.4	26.0	17.3	765	8.3	86	58
JUN										
16...	1000	8.7	139	6.7	28.0	21.0	753	6.1	69	--
24...	1230	7.8	169	5.3	29.0	22.7	--	5.8	--	--
29...	0900	6.8	166	6.5	--	20.3	762	6.8	75	56
JUL										
07...	1000	6.2	163	6.8	31.5	20.0	764	7.3	80	--
08...	1400	24	124	6.3	24.0	18.5	760	7.1	76	40
28...	1200	5.2	171	5.6	--	23.5	--	7.2	--	--
29...	0830	4.6	166	6.2	--	21.3	--	7.0	--	59
31...	1100	20	140	6.9	29.2	23.2	--	--	--	49
AUG										
10...	2045	43	--	--	--	--	--	--	--	--
11...	0930	32	117	6.1	31.0	23.7	758	5.5	65	37
27...	1100	5.0	172	6.2	28.0	22.4	--	7.8	--	--
SEP										
15...	0800	4.0	161	6.2	29.0	20.0	764	7.5	82	55
21...	1445	5.0	164	6.5	32.0	20.7	758	7.8	88	57

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	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)
OCT 1997										
20...	--	--	--	--	22	27	--	--	--	--
DEC										
17...	15	4.8	5.3	2.9	23	28	4.3	12	<.10	9.7
JAN 1998										
20...	--	--	--	--	--	26	--	--	--	--
24...	6.1	2.3	2.5	4.1	13	16	5.3	5.7	<.10	3.6
29...	--	--	--	--	13	15	--	--	--	--
FEB										
06...	--	--	--	--	17	21	--	--	--	--
09...	15	4.7	4.9	2.9	28	34	5.6	12	<.10	9.6
MAR										
10...	--	--	--	--	20	24	--	--	--	--
APR										
10...	8.7	3.3	3.1	4.3	19	23	6.2	7.9	.12	4.2
14...	15	5.1	5.0	3.0	22	27	5.4	12	<.10	7.8
30...	--	--	--	--	25	31	--	--	--	--
MAY										
20...	--	--	--	--	22	27	--	--	--	--
28...	15	4.9	5.3	3.5	25	30	4.3	13	<.10	7.3
JUN										
16...	--	--	--	--	24	29	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
29...	15	4.7	4.9	4.8	27	33	5.0	12	<.10	9.5
JUL										
07...	--	--	--	--	25	31	--	--	--	--
08...	10	3.4	4.0	5.1	22	27	4.5	10	.10	6.9
28...	--	--	--	--	--	--	--	--	--	--
29...	16	4.7	5.4	3.8	30	37	3.4	12	<.10	8.8
31...	12	4.4	4.7	3.8	27	33	5.7	12	<.10	5.7
AUG										
10...	--	--	--	--	--	--	--	--	--	--
11...	9.1	3.4	3.1	6.7	20	24	8.3	9.5	.12	4.8
27...	--	--	--	--	--	--	--	--	--	--
SEP										
15...	15	4.3	4.9	4.1	30	37	3.1	12	<.10	9.0
21...	15	4.6	5.4	3.7	31	38	3.1	12	<.10	8.4

E Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 199

CHESTER RIVER BASIN--Continued

01493112 CHESTERVILLE BRANCH NEAR CRUMPTON, MD--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
OCT 1997									
20...	--	6.4	26	.033	5.97	5.97	.050	.38	<.20
DEC									
17...	116	8.7	--	<.010	8.57	8.57	<.020	.15	.13
JAN 1998									
20...	--	7.7	33	.021	7.39	7.39	<.020	.26	.18
24...	61	3.1	9.6	.019	2.20	2.20	.020	.93	.39
29...	--	3.0	9.9	.013	2.25	2.25	.099	.75	.36
FEB									
06...	--	6.2	25	.018	5.59	5.59	.140	.60	.40
09...	108	--	--	--	--	--	--	--	--
MAR									
10...	--	5.1	16	.047	3.70	3.70	.647	1.4	1.1
APR									
10...	--	4.8	16	.033	--	3.70	.246	1.1	.62
14...	--	7.7	32	.037	--	7.37	.059	.36	.22
30...	--	6.7	28	.035	--	6.26	.043	.39	.23
MAY									
20...	--	7.5	31	.052	--	6.97	.084	.58	.32
28...	--	7.5	31	.056	--	7.14	.130	.33	.28
JUN									
16...	--	5.6	21	.017	--	4.86	.270	.75	.51
24...	--	6.8	27	.066	--	6.27	.104	.51	.34
29...	--	5.9	24	.049	--	5.51	.022	.43	.21
JUL									
07...	--	7.1	29	.027	--	6.58	.047	.47	.19
08...	--	4.5	15	.037	--	3.53	.159	.99	.65
28...	--	--	25	.015	--	5.76	.051	--	.43
29...	--	6.1	26	.019	--	5.84	.032	.28	.23
31...	--	4.2	15	.028	--	3.38	.039	.78	.46
AUG									
10...	--	5.4	18	.023	--	4.06	.068	1.4	.45
11...	--	3.7	12	.027	--	2.67	.065	1.0	.58
27...	--	5.9	24	.024	--	5.52	.043	.38	.36
SEP									
15...	--	--	--	--	--	--	--	--	--
21...	--	6.6	28	.023	--	6.30	.050	.28	.18

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1997									
20...	.063	.014	<.010	3.1	3.0	--	13	--	84
DEC									
17...	<.010	.003	<.010	--	--	--	4	--	--
JAN 1998									
20...	.038	.004	<.010	2.8	--	--	17	--	--
24...	.425	.064	.044	--	--	--	100	--	99
29...	.335	.050	.048	--	--	--	75	--	99
FEB									
06...	.134	.013	.019	--	--	--	29	--	--
09...	--	--	--	--	1.6	.40	15	--	98
MAR									
10...	.503	.179	.157	--	--	--	81	3.3	--
APR									
10...	.429	.085	.084	--	4.5	4.9	239	16	--
14...	.064	.010	.018	3.3	--	--	--	--	--
30...	.024	.006	<.010	--	--	--	13	.27	--
MAY									
20...	.099	.046	.017	--	--	--	--	--	--
28...	.069	<.010	<.010	--	1.9	.30	9	.18	95
JUN									
16...	.161	.018	.017	--	--	--	45	1.1	--
24...	.063	.015	<.010	--	--	--	--	--	--
29...	.130	<.010	<.010	--	2.7	.70	15	.28	95
JUL									
07...	.044	.009	.011	--	--	--	9	.15	--
08...	.261	.072	.079	--	5.2	--	62	4.0	95
28...	--	<.010	.013	--	--	--	--	--	--
29...	.011	<.010	.010	--	1.8	.80	6	.07	95
31...	.170	.030	.027	--	4.9	1.7	33	1.8	89
AUG									
10...	.415	.092	.053	--	--	--	--	--	--
11...	.474	.093	.077	--	6.2	2.6	79	6.8	--
27...	.028	<.010	<.010	--	--	--	--	--	--
SEP									
15...	--	--	--	--	1.8	.40	9	.10	91
21...	.044	<.010	.014	2.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

01493491 MORGAN CREEK TRIBUTARY NEAR GALENA, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
15...	1500	.11	169	6.3	22.0	24.1	9.9	52	11	6.2	8.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
15...	6.3	32	34	40	12	15	.16	4.8	2.7	4.3	.040

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
15...	1.01	.109	1.7	1.1	.343	.097	.072	720	157	15

01493495 MORGAN CREEK NEAR LOCUST GROVE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
APR												
14...	1130	2.3	168	5.1	21.0	13.6	--	7.9	--	59	14	5.8
SEP												
21...	1630	.67	176	6.5	30.0	24.5	759	6.6	79	63	16	5.5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
APR												
14...	5.6	4.3	32	--	482	39	8.3	13	.11	6.4	3.3	11
SEP												
21...	6.4	4.1	46	56	30	--	3.6	14	.13	14	2.9	10

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR											
14...	.043	2.48	.105	.82	.44	.115	.026	.021	340	176	6.3
SEP											
21...	.084	2.35	.157	.59	.49	.088	.014	.018	37	262	4.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

01493496 MORGAN CREEK TRIBUTARY NEAR KENNEDYVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
14...	1000	1.1	215	5.3	22.0	17.0	10.2	73	19	5.8	7.3
SEP											
21...	1630	.43	261	6.1	33.0	24.0	1.0	86	23	6.7	7.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
14...	4.4	43	436	52	7.6	18	<.10	2.9	5.0	13	.213
SEP											
21...	8.4	85	134	100	2.3	19	.11	12	1.7	--	<.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
14...	3.05	1.12	1.9	1.7	.174	.039	.026	450	280	6.0
SEP										
21...	.098	.508	1.6	1.1	.512	.016	.015	1600	1570	10

01493497 MORGAN CREEK AT KENNEDYVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
15...	1000	5.5	173	6.3	22.0	15.6	8.5	61	15	5.4	6.6
SEP											
21...	1340	2.4	177	6.1	33.0	23.5	5.5	57	15	4.8	6.8

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
15...	3.8	39	34	47	6.3	14	<.10	6.2	3.5	11	.115
SEP											
21...	5.3	50	73	60	2.6	15	.13	13	2.9	6.9	.077

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
15...	2.58	.304	.92	.67	.139	.028	.023	500	341	6.1
SEP										
21...	1.63	.306	1.3	.88	.250	.016	.022	190	145	8.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

01493498 MORGAN CREEK TRIBUTARY AT KENNEDYVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
15...	1100	.66	171	5.5	22.0	15.3	8.3	65	18	4.7	4.8
SEP											
21...	1730	.82	195	6.1	32.0	23.5	3.6	72	21	4.6	5.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
15...	2.7	37	208	45	8.1	10	<.10	10	4.4	16	.045
SEP											
21...	3.9	67	98	82	3.3	11	.15	14	1.2	1.0	.034

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
15...	3.64	.276	.74	.54	.131	.020	.015	260	289	4.5
SEP										
21...	.263	.175	.89	.48	.201	.010	.016	120	414	6.3

0149349810 MORGAN CREEK TRIBUTARY NEAR MORGNEC, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
14...	1300	.09	240	5.5	24.5	21.0	7.3	83	22	6.8	7.4
SEP											
21...	1245	.01	215	5.5	30.0	22.0	1.7	59	14	5.7	8.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
14...	5.8	48	269	59	10	20	.20	5.3	7.2	19	.104
SEP											
21...	4.6	32	179	39	1.1	21	<.10	11	10	36	.084

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
14...	4.41	.305	2.8	1.5	.211	.037	.036	700	579	14
SEP										
21...	8.32	1.31	1.9	1.7	.066	<.010	.016	55	380	2.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

0149349820 MORGAN CREEK TRIBUTARY NEAR LYNCH, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
15...	1330	.12	252	5.8	22.0	18.7	8.6	79	17	8.6	11

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
15...	5.1	24	74	29	11	34	<.10	9.2	8.5	28	.130

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
15...	6.42	.589	2.1	1.8	.146	<.010	.018	120	383	5.4

01493499 MORGAN CREEK NEAR WORTON, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
14...	1630	7.4	173	6.3	22.0	18.6	10.1	58	14	5.3	6.6
SEP											
21...	1045	4.4	184	5.8	27.5	21.0	6.5	61	15	5.3	6.8

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR											
14...	3.8	30	29	36	6.7	16	<.10	5.7	4.0	15	.052
SEP											
21...	4.9	48	164	58	3.0	17	.12	13	2.7	10	.016

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR										
14...	3.49	.077	.54	.38	.125	.032	.019	330	157	5.5
SEP										
21...	2.33	.072	.41	.40	.091	.010	.028	62	140	3.7

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

CHESTER RIVER BASIN--Continued

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR											
14...	1500	9.9	170	6.7	22.0	17.4	11.4	58	14	5.3	6.3
MAY											
20...	1030	8.0	176	5.9	29.0	21.0	5.2	--	--	--	--
JUN											
24...	1030	8.7	179	5.4	--	24.2	4.9	--	--	--	--
JUL											
28...	1100	5.9	179	5.4	--	23.0	6.4	--	--	--	--
AUG											
27...	1000	4.8	184	6.5	27.5	24.0	7.2	--	--	--	--
SEP											
21...	0930	4.8	184	5.5	28.0	20.5	8.3	60	15	5.2	7.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	ANC WATER UNFLTRD FET FIELD MG/L AS HCO3 (00440)	ANC WATER UNFLTRD FET FIELD MG/L AS CACO3 (00410)	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)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
APR											
14...	3.6	30	12	37	--	6.7	15	<.10	6.1	4.0	15
MAY											
20...	--	--	73	41	34	--	--	--	--	4.0	15
JUN											
24...	--	--	293	42	35	--	--	--	--	4.6	15
JUL											
28...	--	--	304	--	44	--	--	--	--	--	11
AUG											
27...	--	--	27	57	47	--	--	--	--	2.8	9.9
SEP											
21...	4.7	46	278	55	--	3.1	16	.13	13	3.2	12

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
APR											
14...	.053	3.51	.081	.51	.41	.104	.023	.019	250	184	4.7
MAY											
20...	.092	3.54	.121	.48	.59	.015	.022	<.010	--	--	--
JUN											
24...	.124	3.54	.270	1.1	.73	.136	.037	.026	--	--	--
JUL											
28...	.028	2.61	.055	--	.43	--	<.010	.019	--	--	--
AUG											
27...	.030	2.26	.077	.56	.42	.111	.013	.011	--	--	--
SEP											
21...	.014	2.69	.073	.49	.39	.094	.010	.019	89	149	4.3

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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