



Water Resources Data Maryland and Delaware Water Year 1997

Volume 1. Surface-Water Data



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT
MD-DE-97-1

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



CALENDAR FOR WATER YEAR 1997

1996

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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1997

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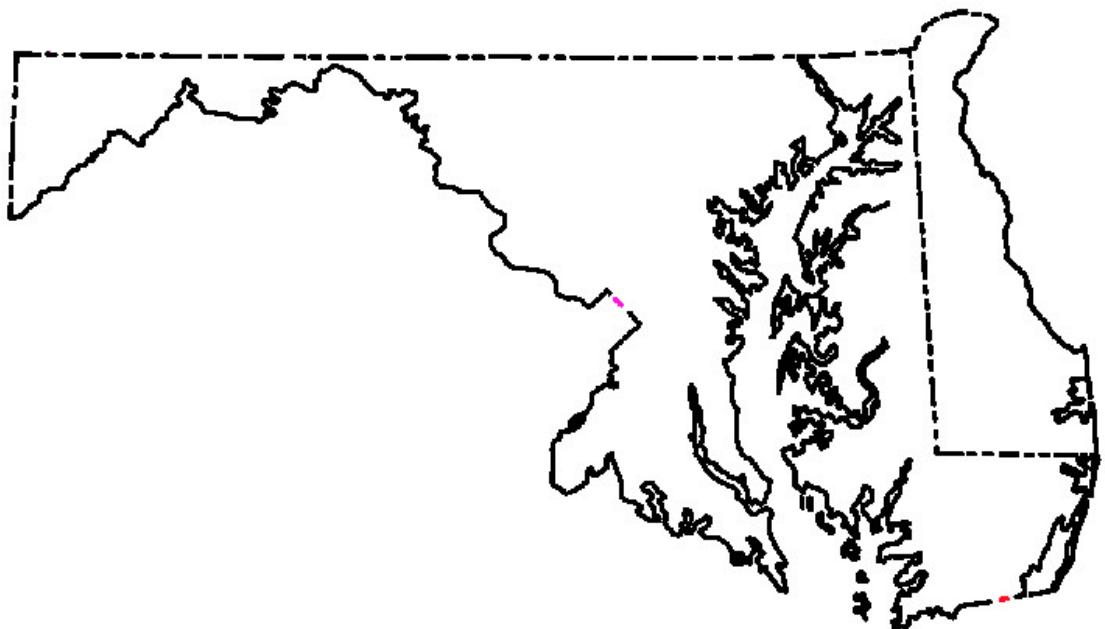
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by R.W. James, B.M. Helinsky, and A.J. Tallman



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Prepared in cooperation with the States of Maryland and
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UNITED STATES DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Thomas J. Casadevall, Acting Director

Robert M. Hirsch, Chief Hydrologist

* Dedicated to the Memory of Bernard M. Helinsky (1943-1998) *
* for his exemplary service with the U.S. Geological Survey (1961-1997) *
* in surface-water studies. Bernie, as the Senior Hydrologic Technician, *
* spent his entire career in the Maryland, Delaware, and *
* Washington, D.C., Water Resources Division District. He trained and *
* mentored almost everyone who worked in the surface-water field in the *
* district, and was loved by all. In 1989, Bernie was instrumental in *
* proposing the Maryland Bridge Scour Project that was responsible for *
* identifying bridges in danger of collapse. His stream-gage designs and *
* their construction will endure for decades, and his life-long legacy of *
* only giving and doing the best job possible will forever be his epitaph.*
*

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Baltimore, Maryland 21237

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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This report was prepared under the general supervision of J. M. Gerhart, District Chief, MD-DE-DC District, and W. J. Carswell, Jr., Regional Hydrologist, Northeastern Region, and in cooperation with the States of Maryland and Delaware and with other agencies.

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<p>Water resources data for the 1997 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 101 gaging stations; stage and contents of 1 reservoir; and water quality at 17 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 7 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.</p>			
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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]

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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]

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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]

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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.

		Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS</u>				
<u>DELAWARE RIVER BASIN</u>				
Delaware River:				
Christina River near Bear, DE	01478040	40.6	1977-82	
White Clay Creek above Newark, DE	01478500	66.7	1952-59	
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	
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 (d).....	01483153	8.85	1993-94	
Drawyer Creek tributary near Odessa, MD	01483170	4.68	1978-80	
<u>LEIPSIC RIVER BASIN</u>				
Leipsic River near Cheswold, DE	01483500	9.35	1931-33	
			1943-57	
<u>ST. JONES RIVER BASIN</u>				
Fork Branch (head of St. Jones River)				
Mudstone Branch at Chestnut Grove, DE (d).....	01483670	8.96	1993-94	
<u>BROADKILL RIVER BASIN</u>				
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	
<u>INDIAN RIVER BASIN</u>				
Cow Bridge Branch (head of Indian River):				
Vines Creek at Omar, DE	01484548	13.6	1985-88	
<u>WICOMICO RIVER BASIN</u>				
Andrews Branch (head of Wicomico River):				
Beaverdam Creek near Salisbury, MD	01486500	19.5	1930-32	
			1938-75	
<u>NANTICOKE RIVER BASIN</u>				
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	
<u>TRANSQUAKING RIVER BASIN</u>				
Transquaking River:				
Chicamacomico River near Salem, MD	01490000	15.0	1951-80	
<u>CHOPTANK RIVER BASIN</u>				
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	
<u>WYE RIVER BASIN</u>				
Wye River:				
Wye East River:				
Sallie Harris Creek near Carmichael, MD	01492500	4.60	1951-56	
<u>CHESTER RIVER BASIN</u>				
Chester River:				
Southeast Creek at Church Hill, MD	01494000	12.5	1951-56	
<u>SASSAFRAS RIVER BASIN</u>				
Sassafras River:				
Jacobs Creek near Sassafras, MD	01494500	5.39	1951-56	
<u>ELK RIVER BASIN</u>				
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	

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>NORTHEAST RIVER BASIN</u>			
Northeast Creek (head of Northeast River) at Leslie, MD	01496000	24.3	1949-84
<u>PRINCIPIO CREEK BASIN</u>			
Principio Creek near Principio Furnace, MD	01496200	9.03	1967-92
<u>SUSQUEHANNA RIVER BASIN</u>			
Susquehanna River:			
Broad Creek at Mill Creek, MD	01578000	16.4	1905-09
Octoraro Creek near Rising Sun, MD	01578500	193	1932-58
Basin Run at Liberty Grove, MD	01579000	5.31	1949-58
Octoraro Creek at Rowlandsburg, MD	01579500	210	1896-99
Deer Creek near Kalmia, MD	01580200	125	1967-77
Deer Creek near Churchville, MD	01580500	141	1905-09
<u>BUSH RIVER BASIN</u>			
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
<u>GUNPOWDER RIVER BASIN</u>			
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
<u>BACK RIVER BASIN</u>			
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
<u>PATAPSCO RIVER BASIN</u>			
North Branch Patapsco River near Reisterstown, 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 Franklinton, MD	01589300	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
Marley Creek at Harundale, MD	01589522	4.79	1990-94 1984-85
<u>SOUTH RIVER BASIN</u>			
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
<u>RHODE RIVER BASIN</u>			
Rhode River:			
Muddy Creek:			
North Fork Muddy Creek at South River, MD	01590700	0.88	1972-76

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>PATUXENT RIVER BASIN</u>			
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
<u>POTOMAC RIVER BASIN</u>			
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 (c)1954-63 1964-93
Antietam Creek near Waynesboro, PA	01619000	93.5	1948-51 1966-81
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, M.....	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	(a)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

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>POTOMAC RIVER BASIN--Continued</u>			
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
Northwest Branch Anacostia River near Colesville, MD	01650500	21.1	1924-83
Anacostia River:			
Beaverdam Branch Anacostia River at Kenilworth Avenue, Washington, D.C.....	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	1959-72
Wicomico River:			
Chaptico Creek at Chaptico, MD	01661000	10.4	1947-72

OHIO RIVER BASINMONONGAHELA 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

* Currently operated as a crest-stage partial-record station.

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

b Approximately.

c Estimated daily discharges October 1953 to June 1964.

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.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS</u>			
<u>DELAWARE RIVER BASIN</u>			
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	a4.19	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	b1.2	1966-75
<u>SMYRNA RIVER BASIN</u>			
Providence Creek (head of Smyrna River):			
Paw Paw Branch:			
Paw Paw Branch tributary near Clayton, DE.....	01483290	b1.3	1966-75
Smyrna River:			
Sawmill Branch:			
Sawmill Branch tributary near Blackbird, DE.....	01483400	b0.6	1966-75
<u>LEIPSIC RIVER BASIN</u>			
Leipsic River near Cheswold, DE.....	01483500	9.35	1958-75
<u>ST. JONES RIVER BASIN</u>			
St. Jones River:			
Puncheon Branch at Dover, DE.....	01483720	b2.3	1966-75
<u>MURDERKILL RIVER BASIN</u>			
Murderkill River:			
Murderkill River tributary near Felton, DE.....	01484002	b1.0	1966-75
Hudson Branch (head of Spring Creek):			
Pratt Branch near Felton, DE.....	01484050	3.29	1966-75
<u>BROADKILL RIVER BASIN</u>			
Broadkill River:			
Beaverdam Creek near Milton, DE.....	01484270	6.10	1966-75
<u>INDIAN RIVER BASIN</u>			
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
<u>WICOMICO RIVER BASIN</u>			
Andrews Branch (head of Wicomico River) near Delmar, MD.....	01486100	b4.1	1966-76
<u>NANTICOKE RIVER BASIN</u>			
Nanticoke River:			
Bridgeville Branch:			
Bridgeville Branch tributary at Bridgeville, DE.....	01486900	b0.8	1966-68
Gum Branch:			
Toms Dam Branch near Greenwood, DE.....	01486980	b6.4	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	b3.9	1967-75
Holly Ditch near Laurel, DE.....	01488000	2.19	1959-75
<u>CHOPTANK RIVER BASIN</u>			
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	b2.3	1966-75
Culbreth Marsh Ditch (Shades Branch) near Chapeltown, DE.....	c01490500	11.6	1957-68
Cow Marsh:			
Meredith Branch near Sandtown, DE.....	01490600	b8.4	1966-75
Broadway Branch:			
Oldtown Branch at Goldsboro, MD.....	01490800	3.9	1967-76
Gravelly Branch:			
Sangston Prong near Whiteleysburg, DE.....	01491010	b1.9	1966-75
Spring Branch near Greensboro, MD.....	01491050	b3.8	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".

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>WYE RIVER BASIN</u>			
Wye River:			
Wye East River:			
Sallie Harris Creek near Carmichael, MD.....	01492500	8.09	1957-81
Skipton Creek:			
Mill Creek near Skipton, MD.....	01492550	b4.6	1966-76
<u>CHESTER RIVER BASIN</u>			
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	b1.7	1971-78
<u>NORTHEAST RIVER BASIN</u>			
Northeast Creek (head of Northeast River):			
Northeast River tributary near Charlestown, MD.....	01496080	b1.7	1967-76
<u>SUSQUEHANNA RIVER BASIN</u>			
Susquehanna River:			
Broad Creek:			
Broad Creek tributary at Whiteford, MD.....	01577940	0.77	1971-86
Octoraro Creek:			
Basin Run at West Nottinham, MD.....	01578800	b1.3	1967-76
Basin Run at Liberty Grove, MD.....	01579000	5.31	1965-76
<u>Bush River Basin</u>			
Burnum Run (head of Bush River) at Bel Air, MD.....	01581500	8.52	1971-72
<u>GUNPOWDER RIVER BASIN</u>			
Gunpowder Falls (head of Gunpowder River):			
Piney Creek near Hereford, MD.....	01582510	b1.5	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
<u>PATAPSCO RIVER BASIN</u>			
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
<u>PATUXENT RIVER BASIN</u>			
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	b1.1	1967-76
<u>POTOMAC RIVER BASIN</u>			
North Branch Potomac River:			
Savage River near Frostburg, MD.....	01596005	b1.5	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	b4.8	1965-86
Potomac River tributary near Hancock, MD.....	01613160	b1.2	1965-76
Antietam Creek:			
Little Antietam Creek:			
Dog Creek:			
Dog Creek tributary near Locust Grove, MD.....	01619475	0.10	1966-76

b Approximate.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>POTOMAC RIVER BASIN --Continued</u>			
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	b1.2	1967-77
Linganore Creek:			
Dollyhyde Creek at Libertytown, MD.....	01642400	b2.7	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	b4.1	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	b2.3	1966-80
Clark Run near Bel Alton, MD.....	01660930	10.4	1966-76
Herring Creek:			
Glebe Branch at Valley Lee, MD.....	01661430	b0.3	1968-78

OHIO RIVER BASINMONONGAHELA 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 b1.0 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.

	Station number	Drainage area (mi ²)	Type of record	Period of record
<u>NORTH ATLANTIC SLOPE BASINS</u>				
<u>DELAWARE RIVER BASIN</u>				
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	1947-80
<u>CHOPTANK RIVER BASIN</u>				
Choptank River near Greensboro, MD	01491000	113	SC, T SED	1975-91 1981-91
<u>SUSQUEHANNA RIVER BASIN</u>				
Susquehanna River at Conowingo, MD.....	01578310	27,100	SC, T SED	1979-81 1984-92 1980-81 1984-92
<u>RHODE RIVER BASIN</u>				
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
<u>PATUXENT RIVER BASIN</u>				
Patuxent River near Bowie, MD	01594440	348	SC, T SED	1978-80 1986-91 1986-91
Patuxent River at Benedict, MD	01594700	742	T	1964-69
<u>POTOMAC RIVER BASIN</u>				
North Branch Potomac River:				
Laurel Run at Dobbin Road near Wilson, MD	01594930	8.23	SC, T pH	1981-88 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 pH	1981-88 1985-88
North Branch Potomac River at Kitzmiller, MD	01595500	225	SC, pH, DO T	1981-85 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
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
<u>OHIO RIVER BASIN</u>				
<u>MONONGAHELA RIVER BASIN</u>				
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.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS</u>			
<u>DELAWARE RIVER BASIN</u>			
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 Glasgow, DE	01478009	3.35	1978-81
Muddy Run at Glasgow, 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 Guyencourt, DE	01481400	1.62	1957-59
North Fork Wilson Run at Guyencourt, 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
<u>SMYRNA RIVER BASIN</u>			
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
<u>ST. JONES RIVER BASIN</u>			
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
<u>MURDERKILL RIVER BASIN</u>			
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
<u>MISSPILLION RIVER BASIN</u>			
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.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>BROADKILL RIVER BASIN</u>			
Pemberton Branch (head of Broadkill River) near Milton, DE	01484240	6.68	1955-66 1968-71
Broadkill River:			
Beaverdam Creek near Milton, DE	01484270	6.10	1955-71
<u>INDIAN RIVER BASIN</u>			
Indian River:			
Sheep Pen Ditch near Shortly, DE	01484510	a5.4	1986-88 1997
Iron Branch at Millsboro, DE	01484530	a8.0	1985-88 1997
Whartons Branch near Millsboro, DE	01484531*	a5.8	1968-69 1971, 1985-88
Swan Creek near Warwick, DE	01484535	a7.2	1985-88 1997
Pepper Creek at Dagsboro, DE	01484550*	8.78	1955-71 1985-88 1997
Blackwater Creek near Clarkesville, DE	01484600*	a3.5	1968-69 1971, 1985-88
Love Creek at Robinsonville, DE	01484655	a12	1985-88 1997
Chapel Branch at Angola, DE	01484677	a8.0	1985-88 1997 1997
<u>MILLER CREEK BASIN</u>			
Beaverdam Ditch near Millville, DE	01484695	2.2	1997
<u>DIRICKSON CREEK BASIN</u>			
Bearhole Ditch (head of Dirickson Creek) at Bunting, DE	01484700	a6.4	1968-71 1985-88 1997
<u>WICOMICO RIVER BASIN</u>			
Andrews Branch (head of Wicomico River):			
Leonard Pond Run near Delmar, MD	01486200	13.4	1950-51 1964, 1969-71
<u>NANTICOKE RIVER BASIN</u>			
Nanticoke River (Gravelly Fork):			
Deep Creek at Old Furnace, DE	01487100	33.0	1955-60 1962-63 1968
Tyndall Branch near Hardscrabble, De	01487120	12.7	1955-63 1966
Lewes Creek:			
Butler Mill Branch near Woodland, De	01487300	6.96	1955-63 1966, 1968-69
James Branch (head of Broad Creek):			
Elliott Pond Branch (Chipman Pond Branch) near Laurel, DE.....	01487700	8.55	1955-66 1968-71
Chicone Creek at Reids Grove, MD	01489395	4.69	1951-53 1969-71
Baron Creek at MD-DE State Corner	01489400	8.93	1950-52 1969-70
<u>CHOPTANK RIVER BASIN</u>			
Choptank River near Choptank Mills, DE	01490550	a58	1985-87
Forge Branch at Greensboro, MD	01491060	9.84	1952-53
Watts Creek near Denton, MD	01491180	a11	1964-75
Tuckahoe Creek:			
Knott Millpond near Hillsboro, MD	01491800	8.45	1952-53 1968-71
Cabin Creek at Cabin Creek, MD	01492080	6.05	1952-53
<u>WYE RIVER BASIN</u>			
Wye River:			
Wye East River:			
Skipton Creek:			
Mill Creek near Wye Mills, MD	01492560	5.72	1952-53

a Approximately.

* Also a crest-stage partial-record station.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>CHESTER RIVER BASIN</u>			
Andover Branch (head of Chester River):			
Cypress Branch at Millington, MD	01492980	a38	1964-66 1968-75
Mills Branch near Millington, MD	01492990	9.98	1953-54 1968-71
Chester River:			
Foreman Branch at Ewingville, MD	01493480	5.27	1953-54
Langford Creek:			
East Fork Langford Creek:			
Mill Pond Outlet near Langford, MD	01494035	5.10	1953-54 1968-71
Old Mill Stream Branch (head of Corsica River) at Centerville, MD	01494100	11.2	1964-71
<u>SASSAFRAS RIVER BASIN</u>			
Sassafras River:			
Sassafras River tributary at Ginns Corner, MD	01494450	3.81	1982-83
Duffy Creek near Cecilton, MD	01494480	1.45	1968-71 1982
<u>WORTON CREEK BASIN</u>			
Mill Creek (head of Worton Creek) at Hanesville, MD	01494600	4.63	1953-54 1968-71
<u>ELK RIVER BASIN</u>			
Big Elk Creek (head of Elk River):			
Gramies Run at Elk Mills, MD	01494995	3.05	1981-83
Little Elk Creek at Rock Church, MD	01495480	17.8	1982-83
Laurel Run near Elkton, MD	01495520	3.87	1982-83
Dogwood Run at Elkton, MD	01495525	1.62	1982-83
Mill Creek near Elkton, MD	01495540	4.32	1968-70 1982
Elk River:			
Perch Creek near Elkton, MD	01495550	a6.0	1964-75 1978-80 1982-83
Back Creek near Mt. Pleasant, DE	01495700	4.40	1968-69
Bohemia River:			
Sandy Branch at Bohemia Creek, MD	01495925	2.58	1968-70 1982
Little Bohemia Creek near Warwick, MD	01495935	2.45	1953-54
Scotchman Creek:			
Scotchman Creek tributary near Cecilton, MD	01495950	1.40	1982-83
<u>NORTHEAST RIVER BASIN</u>			
Northeast Creek (head of Northeast River):			
Little Northeast Creek:			
West Branch Little Northeast Creek at Zion, MD	01496030	3.32	1981-83
Little Northeast Creek at Mechanic Valley, MD	01496050	a14	1964-75
Northeast River:			
Northeast River tributary at North East, MD	01496055	1.55	1982-83
Stony Run near North East, MD	01496060	8.23	1982-83
Northeast River tributary at Charlestown, MD	01496085*	1.03	1982-83
Hance Point Creek at Hance Point, MD	01496100	1.36	1983
<u>PRINCIPIO CREEK BASIN</u>			
Principio Creek:			
Principio Creek tributary at Belvedere, MD	01496225	2.08	1982-83
<u>MILL CREEK BASIN</u>			
Mill Creek at Jackson, MD	01496250	3.73	1982-83
<u>SUSQUEHANNA RIVER BASIN</u>			
Susquehanna River:			
Broad Creek at Pylesville, MD	01577950	11.3	1956-59 1962-63 1966
Conowingo Creek at Oakwood, MD	01578300	34.4	1982-83
Octoraro Creek:			
Stone Run near Rising Sun, MD	01578475	2.24	1982-83
Stone Run at Rising Sun, MD	01578480	6.71	1982-83
Love Run at Richardsmere, MD	01578490	3.55	1982-83
Octoraro Creek tributary at Richardsmere, MD	01578515	3.27	1982-83
Deer Creek at Gorsuch Mills, MD	01579875	a25	1975-79
Big Branch at Harkins, MD	01579900	6.39	1975-79
Little Deer Creek near Federal Hill, MD	01579925	14.0	1975-79
Stout Bottle Branch near Ady, MD.....	01580170	7.13	1980-82

a Approximately.

* Also a crest-stage partial-record station.

		Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>				
<u>SWAN CREEK BASIN</u>				
Swan Creek at Swan Creek, MD	01580700	13.2		1956-59 1962-63 1966
<u>BUSH RIVER BASIN</u>				
Bynum Run (head of Bush River) at Bush, MD	01581600	22.5		1956-59 1962-63 1966
James Run at Bush, MD	01581650	11.1		1956-59 1962-63 1966
Bush River:				
Grays Run at Stepney, MD	01581660	5.35		1956-59 1962-63 1966
Winters Run (head of Otter Point Creek) near Bel Air, MD	01581750	37.0		1954-59 1962-63 1966
<u>GUNPOWDER RIVER BASIN</u>				
Gunpowder Falls (head of Gunpowder River):				
Grave Run near Beckleysville, MD	01581830	7.68		1977-82
Georges Run at Armacost, MD	01581850	13.0		1956-59 1962, 1966
Georges Run near Beckleysville, MD.....	01581870	15.8		1977-82
Little Falls:				
Beetree Run at Bently Springs, MD	01581960	9.72		1975-79
Third Mine Branch near Stablersville, MD	01581980	5.27		1975-79
Green Branch at Phoenix, MD	01582900	4.45		1973, 1975-79
Western Run:				
Piney Run at Dover, MD	01583100@	12.3		1975-79
Blackrock Run at Coopersville, MD	01583200	9.38		1956-59 1962-63 1966
Beaverdam Run at Cockeysville, MD	01583600@	20.9		1956-59 1962-63 1966
Little Gunpowder Falls at Hess, MD	01584200	16.5		1956-59 1962-63 1966
<u>PATAPSCO RIVER BASIN</u>				
North Branch Patapsco River:				
Deep Run at Lawndale, MD	01585700	6.70		1975-82
Beaver Run at Finksburg, MD	01586200	12.7		1957-59 1961-63 1966
Middle Run near Finksburg, MD	01586550	6.18		1973, 1975-79
Morgan Run near Gamber, MD	01586600	26.0		1957-59 1961-63 1966
Little Morgan Run near Eldersburg, MD	01586650	7.13		1973, 1975-79
South Branch Patapsco River at Woodbine, MD	01587070	11.4		1975-79 1988-90
Gillis Falls at Woodbine, MD	01587170	19.4		1957-59
Patapsco River:				
Rockburn Branch at Elkridge, MD	01589040	3.69		1988-90
Deep Run at Hanover, MD	01589080	18.0		1975-79 1988-90
Stony Run at Elkridge, MD	01589090	a9.4		1955, 1964-67
Gwynns Falls:				
Red Run near Owings Mills, MD	01589230	7.39		1975-79
Gwynns Falls at Baltimore, MD.....	01589345	50.7		1980-82
Jones Falls at Eccleston, MD	01589370	2.86		1976-79
<u>SEVERN RIVER BASIN</u>				
Severn Run (head of Severn River) at Benfield, MD	01589800	a24		1964-67

a Approximately.

@ Currently a surface-water discharge station.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>PATUXENT RIVER BASIN</u>			
Patuxent River at Mullinix, MD	01590800	10.7	1988-90
Cabin Branch near Florence, MD	01590900	8.36	1975-79 1988-90
Cattail Creek:			
Cattail Creek tributary at Carrs Mill, MD	01591200	3.93	1956-59 1961-63 1966, 1988-90
Cattail Creek tributary at Daisy, MD	01591375	3.12	1977-82 1988-90
Dorsey Branch near Knollwood, MD	01591475	3.78	1964, 1988-90
Hawlings River near Unity, MD	01591650	5.08	1977-82
Little Patuxent River at Pine Orchard, MD	01593200	7.03	1956-59 1961-64 1966, 1988-90
Red Hill Branch at Columbia, MD	01593300	5.98	1988-90
Middle Patuxent River near West Friendship, MD	01593600	11.4	1956-59 1961-64 1966, 1988-90
Middle Patuxent River tributary near Dayton, MD	01593650	4.25	1977-82
Middle Patuxent River tributary near Columbia, MD	01593675	9.12	1988-90
Middle Patuxent River tributary near Clarksville, MD	01593700	6.24	1977-82 1988-90
Hammond Branch at Scaggsville, MD	01594100	3.01	1956-59 1962-64 1966, 1988-90
Hammond Branch near Laurel, MD	01594200	6.83	1988-90
Towsers Branch at Conoways, MD	01594300	5.69	1975-80
Dorsey Run at Jessup, MD	01594395	6.59	1964, 1989-91
Stocketts Run near Hardesty, MD	01594455	6.68	1977-80
Rock Branch at Bayard, MD	01594465	6.73	1977-80
Western Branch:			
Northeast Branch at Kolbes, MD	01594490	7.74	1977-80
Collington Branch at Upper Marlboro, MD	01594525	22.9	1964-66 1975-79
Mataponi Creek near Naylor, MD	01594535	a14	1964-66 1982
Lyons Creek at Lyons Creek, MD	01594545	a15	1964-67
<u>POTOMAC RIVER BASIN</u>			
North Branch Potomac River:			
Glade Run at Steyer, MD	01594975	8.86	1977-82
Savage River:			
Little Savage River near Avilton, MD	01596200	1.95	1979-82
Big Run near Swanton, MD	01596600	13.4	1977-82
Crabtree Creek:			
Middle Fork near Swanton, MD	01597100	10.8	1977-82
Georges Creek near Midland, MD	01598770	13.1	1979-82
Woodland Creek at Ocean, MD	01598775	5.49	1979-82
Mill Run at Morrison, MD	01598980	7.35	1979-82
Mill Run at Rawlings, MD	01599800	2.84	1979-82
Wills Creek at Ellerslie, MD	01601100	185	1979-82
Jennings Run:			
North Branch Jennings Run at Barrelsille, MD	01601300	a12	1964-74
Jennings Run at Corriganville, MD	01601325	37.7	1975-79
Collier Run at Spring Gap, MD	01604150	a11	1964-74
Mill Run at Oldtown, MD	01605425	10.6	1975-79
Seven Springs Run at Oldtown, MD	01605475	9.16	1975-82
Town Creek:			
Murley Branch near Flintstone, MD	01608950	11.9	1977-78 1980-82
Maple Run near Town Creek, MD	01608975	7.10	1977-78 1980-82
Fifteen Mile Creek near Piney Grove, MD	01610060	20.2	1975-79
Deep Run near Little Orleans, MD	01610065	6.26	1975-79
Fifteen Mile Creek at Little Orleans, MD	01610075	61.6	1975-79
Sideling Hill Creek:			
Bear Creek at Forest Park, MD	01610150*	10.4	1975-79 1985-87
Potomac River tributary at Woodmont, MD	01610170	3.29	1985-87
Tonoloway Creek at Hancock, MD	01613100	113	1985-87
Ditch Run near Hancock, MD	01613150*	4.80	1975-79

a Approximately.

* Also a crest-stage partial-record station.

	Station number	Drainage area (mi ²)	Period of record
<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>			
<u>POTOMAC RIVER BASIN--Continued</u>			
Potomac River--Continued			
Licking Creek:			
Lanes Run near Forsythe, MD	01613540	9.98	1980-82 1985-87
Licking Creek near Pectonville, MD	01613545	212	1985-87
Conococheague Creek:			
Little Conococheague Creek near Charlton, MD	01614050	18.1	1985-87
Rockdale Run at Fairview, MD	01614525	9.67	1976-79 1981-82 1985-87
Rush Run near Huyett, MD	01614575	5.20	1976-79 1981-82 1985-87
Meadow Brook at Conococheague, MD	01614625	6.77	1976-79 1981-82 1985-87
Conococheague Creek tributary near Huyett, MD	01614675	7.94	1977-79 1981-82 1985-87
Conococheague Creek at Williamsport, MD	01614705	564	1985-87
Downey Branch near Downesville, MD	01617600	3.00	1976-79 1981-82
Marsh Run:			
St. James Run at Spielman, MD	01617780	7.14	1977-79 1981-82 1985-87
Antietam Creek:			
Little Antietam Creek at Leitersburg, MD	01619050	24.5	1976-79 1981-82 1985-87
West Branch at Paramount, MD	01619145	5.07	1977-79 1981-82
Marsh Run at Fiddlesburg, MD	01619150	a31	1965-74 1976-79 1985-87
Landis Spring Branch near Benevola, MD	01619275	6.60	1976-79 1981-82 1985-87
Beaver Creek at Benevola, MD	01619325	22.9	1975-79 1985-87
Little Beaver Creek at Benevola, MD	01619350	8.70	1975-79 1985-87
Little Antietam Creek at Keedysville, MD	01619480	a24	1964-67 1976-79 1985-87
Sharmans Branch near Antietam, MD	01619525	4.62	1977-79 1981-82
Isreal Creek at Weverton, MD	01636730	13.2	1975-79 1985-87
Catoctin Creek:			
Little Catoctin Creek near Brunswick, MD	01636850	8.64	1977-83
Middle Creek at Ellerton, MD	01636975	22.7	1977-82
Catoctin Creek at Olive, MD	01638050	112	1977-83
Potomac River tributary at Point of Rocks, MD	01638520	3.04	1982-83
Tuscarora Creek at Tuscarora, MD	01638600	20.3	1975-79 1982-83
Monocacy River:			
Piney Creek at Taneytown, MD	01639100	22.9	1956-59 1961-63 1966
Piney Creek near Keysville, MD	01639150	34.4	1982-83
Toms Creek:			
Friends Creek near Emmitsburg, MD	01639325	12.2	1977-83
Toms Creek near Keysville, MD	01639390	88.1	1982-83
Double Pipe Creek:			
Big Pipe Creek (head of Double Pipe Creek) at Bachman Mills, MD	01639400	9.39	1956-59 1961-63 1966
Deep Run at Union Mills, MD	01639420	5.46	1975-79
Silver Run near Silver Run, MD	01639440	8.77	1975-82
Big Pipe Creek near Mayberry, MD	01639450	51.6	1956-59 1962-63 1966
Bear Branch near Mayberry, MD	01639465	13.9	1975-82
Meadow Branch near Uniontown, MD	01639470	12.6	1956-59 1961-63 1966

a Approximately.

<u>NORTH ATLANTIC SLOPE BASINS</u> --Continued	Station number	Drainage area (mi ²)	Period of record
<u>POTOMAC RIVER BASIN</u> --Continued			
Monocacy River--Continued:			
Big Pipe Creek--Continued:			
Little Pipe Creek:			
Wolfpit Branch at Linwood, MD	01640100	2.01	1956-59 1961-63 1966
Little Pipe Creek at Union Bridge, MD	01640150	40.4	1956-59 1962-63 1966
Beaver Dam Creek near Union Bridge, MD	01640160	7.04	1977-82
Little Pipe Creek at Keymar, MD	01640200	80.0	1982-83
Owens Creek near Thurmont, MD	01640600	14.4	1975-79
Little Owens Creek near Thurmont, MD	01640650	6.16	1975-79
Beaver Branch at Rocky Ridge, MD	01640720	6.53	1977-82
Owens Creek near Rocky Ridge, MD	01640750	38.8	1982-83
Fishing Creek near Utica, MD	01641600	17.9	1982-83
Tuscarora Creek near Frederick, MD	01641900	16.5	1975-79 1982-83
Israel Creek near Walkersville, MD	01642050	a29	1964-66 1975-79 1982-83
Linganore Creek near New London, MD	01642430	45.2	1980-82
Bens Branch near New Market, MD	01642450	11.8	1975-82
Bush Creek at Ijamsville, MD	01643100	a17.5	1964-66
Bush Creek at Reels, MD	01643110	29.7	1982-83
Ballenger Creek near Lime Kiln, MD.....	01643125	20.2	1975-83
Bennett Creek:			
Little Bennett Creek at Hyattstown, MD	01643400	12.8	1968-69 1975-79
Broad Run at Elmer, MD.....	01643615	14.0	1975-82
Seneca Creek:			
Little Seneca Creek at Boyds, MD.....	01644400	a21	1964-67
Bucklodge Branch near Dawsonville, MD	01644425	8.47	1975-82
Great Seneca Creek:			
Goshen Branch at Goshen, MD	01644480	7.63	1975-77 1979
Dry Seneca Creek near Seneca, MD	01645050	19.2	1975-82
Rock Run near Cabin John, MD	01646220	a4.8	1964-67
Rock Creek at Redland, MD	01647620	7.45	1977-82
Northeast Branch Anacostia River:			
Paint Branch at College Park, MD	01649200	17.5	1980-82
Oxon Run (head of Oxon Creek) at Washington, DC	01652580	6.84	1980-82
Piscataway Creek:			
Tinkers Creek at Piscataway, MD	01653625	15.9	1975-82
Mattawoman Creek near Waldorf, MD	01657900	16.9	1980-82
Chicamuxen Creek:			
Reeder Run at Chicamuxen, MD	01658300	a5.6	1964-67
Nanjemoy Creek:			
Burgess Creek:			
Mill Run (head of Nanjemoy Creek) Welcome, MD	01660650	9.89	1980-82
Port Tobacco Creek (head of Port Tobacco River)			
near Marshalls Corner, MD	01660740	15.8	1977-82
Wicomico River:			
Zekiah Swamp Run (head of Wicomico River) near Malcolm, MD	01660905	12.1	1975-82
Clark Run near Bel Alton, MD	01660930	10.4	1975-79
Gilbert Swamp Run near Olivers Shop, MD	01660950	a32	1964-65
McIntosh Run:			
Brooks Run near Hollywood, MD	01661200	5.76	1980-82
Mcintosh Run at Tintop Hill, MD	01661300	12.1	1964-66 1982
Glebe Run at Leonardtown, MD	01661410	5.81	1980-82

a Approximately.

Station number	Drainage area (mi ²)	Period of record
OHIO RIVER BASIN		
MONONGAHELA RIVER BASIN		
Monongahela River:		
Youghiogheny River:		
Cherry Creek near Crellin, MD	03075350	16.7
Snowy Creek:		
Laurel Run at Crellin, MD	03075400	10.9
Little Youghiogheny River at Loch Lynn Heights, MD	03075475	13.2
Muddy Creek at Swallow Falls State Park, MD	03075700	17.8
Cherry Creek near McHenry, MD	03075900	12.3
Bear Creek:		
South Branch Bear Creek near Accident, MD.....	03076580	6.01
South Branch Bear Creek near Friendsville, MD	03076590	16.8
Casselman River:		
North Branch Casselman River near Grantsville, MD	03077925	24.4
South Branch Casselman River near Grantsville, MD	03077950	20.8

WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1997

VOLUME 1. SURFACE WATER SURFACE-WATER-QUALITY 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 101 gaging stations; stage and contents at 1 reservoir; and water quality at 17 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 7 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 involved in 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 the 1961 water year with a report 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 1975 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 thru 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 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 Branch of Information Services, Federal Center, Bldg. 41, Box 25286, Denver, CO 80225.

Publications similar to this report are published annually by the 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-97-1.**" For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, 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 (410) 238-4200.

COOPERATION

The U.S. Geological Survey and agencies of the State of Maryland have 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 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, Douglas R. Rose, 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 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,
Prince Georges County.

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow at the start of the 1997 water year was in the excessive range (upper 25 percent of the record) throughout the bi-state area following above normal rainfall (1.0 to 4.5 inches) during September 1996. During October-December 1996 flows remained in the excessive range throughout the bi-state area following above normal rainfall (1.0 to 5.9 inches). In January 1997, flows returned to the normal range except for central Maryland where flows remained in the excessive range. In February 1997 flows were in the normal range except for the Eastern Shore where flows moved into the excessive range following above normal rainfall (0.5 to 1.0 inches). During March 1997, flows were in the normal range except for central and southern Maryland where flows were in the excessive range following above normal rainfall (1.0 to 2.8 inches). In April 1997 flows were in the normal range throughout the bi-state area except for southern Maryland which moved into the deficient range (lower 25 percent of the record) following below normal rainfall (1.0 to 3.0 inches). Flows for May 1997 were unchanged except for the Eastern Shore where flows moved into the excessive range following above normal rainfall (0.8 inches). Flows in June 1997 were in the normal range throughout the bi-state area except for western Maryland where flows moved into the excessive range following above normal rainfall (1.5 to 3.0 inches). Flows in July, August, and September 1997 were in the normal range throughout the bi-state area, except for central Maryland where flows fell into the deficient range following below normal rainfall (1.0 to 3.1 inches) during July and August.

During the 1997 water year, flows were in the normal range at all four index stations: Potomac River at Paw Paw, W.Va. in western Maryland, Seneca Creek at Dawsonville in central Maryland, Choptank River at Greensboro on the Eastern Shore of Maryland, and Potomac River near Washington, D.C. in central Maryland. Record monthly means were set at all of the index stations during the 1997 water year except for Potomac River at Paw Paw, W.Va. At the Seneca Creek at Dawsonville, Md. site a new maximum monthly mean was set in December. The new record monthly mean was 57 percent greater than the record set in 1972. At the Choptank River at Greensboro, Md. site a new maximum monthly mean was set in December. The new record monthly mean was 44 percent greater than the record set in 1972. A new maximum daily mean also was set in December. The new record daily mean was 20 percent greater than the previous record set in 1951. At the Potomac River near Washington, D.C. site, a new maximum monthly mean was set in December. The new record monthly mean was 6 percent greater than the previous record set in 1972.

Monthly and annual mean discharges in water year 1997 are 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 mi² (square mile) area, of which 21.6 mi² is in Delaware in the central part of the Delmarva Peninsula.

Average freshwater inflow to the Chesapeake Bay was estimated to be 88,600 ft³/s (cubic feet per second), on the basis of flows of the James, Potomac, and Susquehanna Rivers. This is 114 percent of the long-term average during the reference period 1951-97. Flows for October averaged 57 percent below normal. During November flows averaged 35 percent above normal. For December flows averaged 33 percent below normal. For January flows averaged 130 percent above normal following heavy rains. Flows in February averaged 126 percent above normal. Inflow during February set a new record maximum monthly mean. The new record was 9 percent greater than the record set in 1984. Flows in March were normal. Flows in April and May were 44 and 37 percent below normal. Flows for June were normal. July flows were 31 percent below normal. The months August and September were below normal with 39 and 36 percent 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) decreased from 100 percent of capacity from September 1996, to 75 percent of capacity at the end of September 1997.

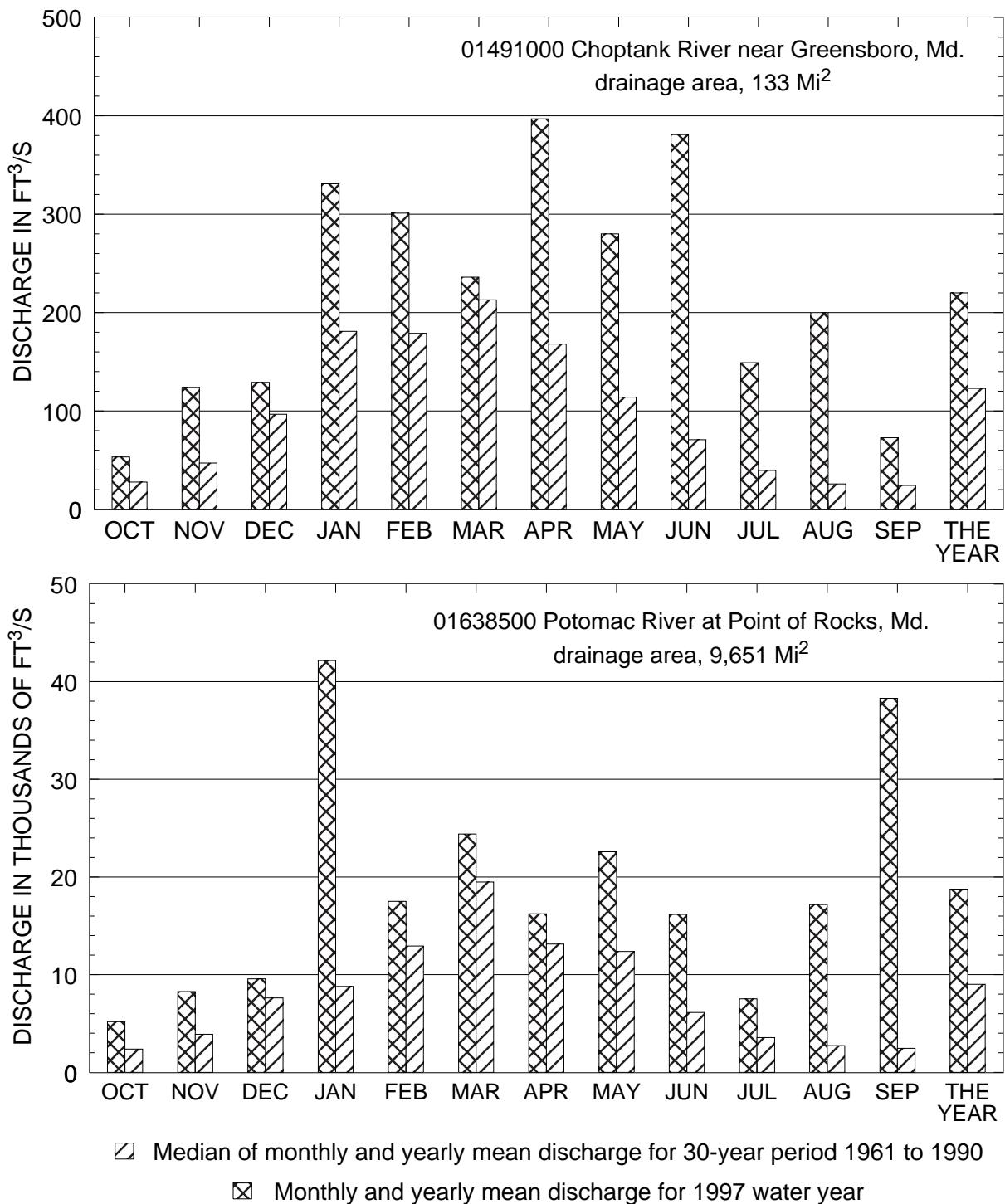


FIGURE 1. COMPARISON OF DISCHARGE AT TWO LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1997 WATER YEAR WITH MEDIAN DISCHARGE FOR INDICATED PERIOD.

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 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 (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 Assessment 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.

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 that 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 collaborate efforts among agencies.

Additional information about the NAWQA Program is available through 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.)

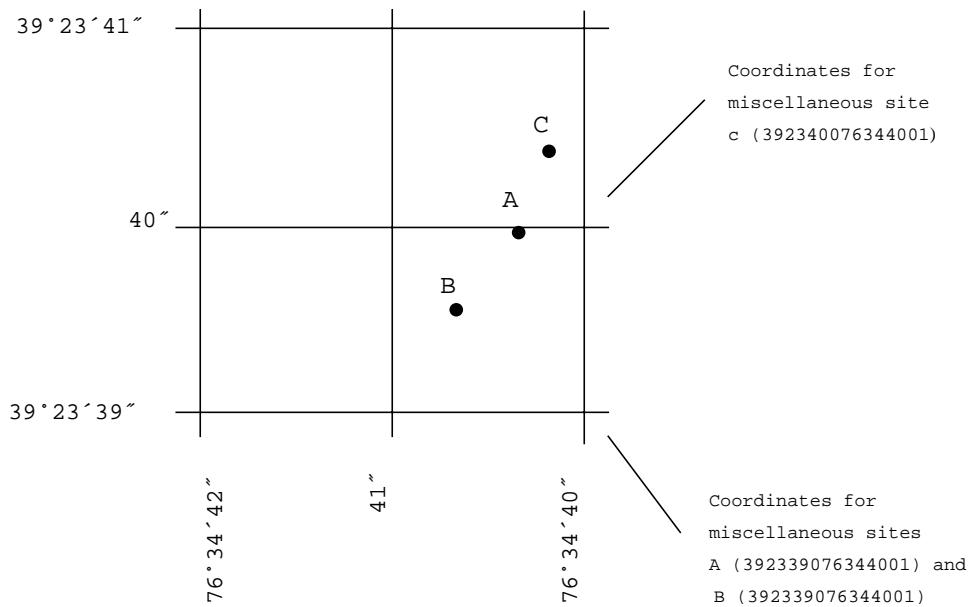


Figure 2. --System for numbering miscellaneous sites (latitude and longitude)

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 daily mean 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 as partial records, but they are presented separately in this report. Location 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 relationships 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 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, Chapter 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 from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time 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, under various headings, descriptive information, 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 to 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 with respect to the cultural and physical features in the vicinity and with respect 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 type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise 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, 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 here 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 occurring during the current year is given as well as any secondary peaks. 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, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published 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. Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by 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 noncontributing 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 will be expressed as "**FOR WATER YEARS ____-____, BY WATER YEAR (WY),**" and will list the first and last water years of the range of years selected from the **PERIOD OF RECORD** paragraph in the station manuscript. It will consist 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 will be 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 consist 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 will be 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 occurs, 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 to follow 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 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 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.

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 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/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 in comparison with 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. Also, 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 at 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 needs to be assuring that the data obtained represent the *in situ* quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite 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 onsite 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 Geological Survey Maryland and Delaware offices.

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the Maryland and Delaware Offices.

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 the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described 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 represent conditions only at the time of observations, 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 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 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 that follow clarify 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 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 insure 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:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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 USGS. 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 quantities 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 most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov/>

Some water-quality and ground-water data also are available through the WWW. 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 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 also table for converting English units to International System (SI) Units on the inside of the back cover.

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

Adenosine triphosphate (ATP) is 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.

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 found also 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.

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square mile (g/mi²).

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).

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.

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

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

Cubic feet per second per square mile [(ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (ft³/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.

Cubic-foot-per-second 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 2,445 cubic meters.

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

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

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

Dissolved refers to that material in a representative water sample which passes through a 0.45 um 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.

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

Hydrologic Bench-Mark Network is a network of 57 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 the activities of man.

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.

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

Milligrams per liter (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.

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) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The **National Trends Network** (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

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, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assesment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that 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.

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, **WATSTORE**, to uniquely identify a specific constituent. The codes used in **WATSTORE** 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 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:

<u>Classification</u>	<u>size (mm)</u>	<u>Method of analysis</u>
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 microorganisms 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 (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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

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

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

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

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

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.

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 ft 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.

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.

7-day 10-year low flow (7 Q₁₀) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

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

Surficial bed material is 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 um 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 um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "**suspended, total**".

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierachial 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.....	<u>Hexagenia</u>
Species	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

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.

Water year in 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 abbreviation 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."

- 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.
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- 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.
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- 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.
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- 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.
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- 3-A7. **Stage measurements at gaging stations**, T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
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- 3-A11. **Measurement of discharge by moving-boat method**, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. **Fluorometric 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.
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- 3-A17. **Acoustic velocity meter systems**, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
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- 8-B2. **Calibration and maintenance of vertical-axis type current meters**, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

SELECTED U.S. GEOLOGICAL SURVEY REPORTS ON SURFACE-WATER RESOURCES IN DELAWARE

Listed below is a selection of reports on surface-water resources in Delaware which are available through the U.S. Geological Survey, Book and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, Colorado 80225. An asterick (*) indicates that the publication is out of print and is not purchasable from any official source.

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P-750-D Johnston, R. H., 1971, *Base flow as an indicator of aquifer characteristics in the Coastal Plain of Delaware*: Geological Survey Research, p. D212-D215.

P-600-B Williams, O.O., 1968, *Reservoir effects on downstream water temperatures in the upper Delaware River basin*: Geological Survey Research, p. B195-B199.

P-485-A* Sigafoos, R.S., 1964, *Botanical evidence of floods and flood-plain deposition*, p. A1-A35.

P-450-E Giustic, E.V., and Schneider, W.J., 1962, *Comparison of drainage on topographic maps of the Piedmont province in short papers in geology, hydrology, and topography*: Geological Survey Research, article 212, p. E1-E189.

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P-417-B* Hely, A.G., and Olmsted, F.H., 1963, *Some relations between streamflow characteristics and the environment in the Delaware River region*, p. B1-B25.

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W-1849 Barnes, H.H., Jr., 1967, *Roughness characteristics of natural channels*, 213 p.

W-1838 Martin, R.O.R., and Hanson, R.L., 1966, *Reservoirs in the United States*, 115 p.

W-1813 Dalrymple, Tate, 1965, *Flood peak runoff and associated precipitation in selected drainage basins in the United States*, 406 p.

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WRIR 82-32 Lang, D.J., Water quality of the three major tributaries to the Chesapeake Bay, the Susquehanna, Potomac, and James Rivers, January 1979 - April 1981, 64 p.

WRIR 81-1200# Katz, B.G., Analysis and characterization of urban storm-water runoff for selected basins in the Baltimore Metropolitan Area--a project plan, 49 p. (see page 31).

WRIR 81-10 Cory, R.L., and Dressler, P.V., Diel oxygen variations in the Rhode River Estuary, Maryland, 1970-78, 19 p.

WRIR 80-1016# Carpenter, D.H., Technique for estimating magnitude and frequency of floods in Maryland, 79 p. (see page 32)

SELECTED U.S. GEOLOGICAL SURVEY REPORTS ON SURFACE-WATER RESOURCES IN MARYLAND--Continued

WATER-RESOURCES INVESTIGATIONS REPORTS--Continued

WRIR 80-78 Lang, D.J., Water quality monitoring of three major tributaries to the Chesapeake Bay-interim data report, 66 p.

WRIR 77-20 Cory, R.L., Water quality in Rhode River at Smithsonian pier near Annapolis, Maryland, January 1974 through December 1975, 48 p.

WRIR 30-75 Redding, M.J., and Cory, R.L., Macroscopic benthic fauna of three tidal creeks adjoining the Rhode River, Maryland.

WRIR 10-74 Cory, R.L., and Redding, J.M., Water quality in Rhode River at Smithsonian Institute pier near Annapolis, Maryland, April 1970 - December 1974.

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A pound sign (#) indicates that a report was published as an USGS Open-File Report and a USGS Water-Resources Investigations Report.

OFR 97-777 Doheny, E.J., Flood tracking chart for the Potomac River basin, 1 p.

OFR 95-560 Olsen, L.D., Lorah, M.M., Marchand, E.H., Smith, B.L., Johnson, M.A., Hydrogeologic, Eater-quality, and sediment-quality data for a freshwater tidal wetland, West Branch Canal Creek, Aberdeen Proving Ground, Maryland, 1992-96, 267 p.

OFR 97-200 Doheny, E.J., Flood-hydrology data for the Potomac River and selected tributaries in the vicinity of the Chesapeake and Ohio Canal National Historical Park, Maryland, West Virginia, and the District of Columbia, 33 p.

OFR 96-554 Doheny, E.J., A modified index for assessment of potential scour at bridges over waterways, 16 p.

OFR 95-282 Lorah, M.M., and Clark, J.S., Contamination of ground water, surface water, and soil, and evaluation of selected ground-water pumping alternatives in the Canal Creek Area of Aberdeen Proving Ground, Maryland, 318 p.

OFR 95-151 Rice, K.C., and others, Hydrologic and water-quality data for two small watersheds on Catoctin Mountain, North-Central Maryland, 1987-93, 195 p.

OFR 95-135 Doheny, E.J., Helinsky, B.M., and McGregor, R.A., A technique for preliminary appraisal of potential and observed scour as applied to State-maintained highway bridges in Maryland, 75 p.

OFR 92-649 Rice, K.C., and Bricker, O.P., Acid-rain induced changes in stream water quality during storms on Catoctin Mountain, Maryland, 2 p.

OFR 91-505 McFarland, J.A., Weiss, L.S., and others, Water resources activities of the U.S. Geological Survey, 130 p.

OFR 91-157 Gerhart, J.M., National water-quality assessment program--the Potomac River Basin (fact sheet).

OFR 89-409 U.S. Geological Survey, 2nd National symposium--Water quality, Abstracts of the technical sessions, Orlando, Florida, November 12-17, 1989, 150 p.

OFR-88-709 Carter, Virginia, and others, Data on physical, chemical, and biological characteristics of hydrilla beds, mixed vegetation beds, and unvegetated sites in the tidal Potomac River, Maryland and Virginia, 196 p.

OFR-88-307 Rybicki, N.B., Anderson, R.T., and Carter, Virginia, Data on the distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and transition zone of the Potomac estuary, Maryland, Virginia, and the District of Columbia, 31 p.

OFR 87-379 Fisher, G.T., and Simmons, R.H., Data base development for water-quality modeling of the Patuxent River basin, Maryland, 18 p.

OFR 86-490 McGreevy, L.J., Hyatt, G.J., Cockey, E.J., Water resources activities of the U.S. Geological Survey, Mid-Atlantic District 1984-1986, 129 p.

OFR 86-486 Lescinsky, J.B., Floods of November 1985 in West Virginia, Pennsylvania, Maryland, and Virginia, 33 p.

OFR 85-197 Hodges, A.L., Jr., Estimated average annual alkalinity of six streams entering Deep Creek Lake, Garrett County, Maryland, 63 p.

OFR 85-82 Carter, Virginia; Rybicki, N.B.; Anderson, R.T.; Trombley, T.J.; and Zynjuk, G.L., Data on distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and transition zone of the Potomac estuary, Maryland, Virginia, and the District of Columbia, 1983 and 1984.

OFR 84-859 Cohen, R.R.H., Pollock, S.O., Stoelzel, V.E., and Boulukos, K.E., Phytoplankton-abundance and generic-composition date for the Potomac River and Estuary, Maryland, 29 p.

OFR 84-426 Hilleary, J.T., Hydrologic data: South Branch Casselman River, Garrett County, and Marsh Run, Washington County, Maryland, 63 p.

OFR-83-873 Hickman, R.E., Water quality data for selected streams tributary to the tidal Potomac River and estuary, Maryland and Virginia, 1979-1983 water years, 69 p.

OFR 83-861 Taylor, K.R., James, R.W., Jr., Helinsky, B.M., Traveltime and dispersion in the Potomac River, Cumberland, Maryland, to Washington, D.C., 71 p.

SELECTED U.S. GEOLOGICAL SURVEY REPORTS ON SURFACE-WATER RESOURCES IN MARYLAND--Continued

OPEN-FILE REPORTS--Continued

OFR 83-33 Staubitz, W.W., and Sobashinski, J.R., **Hydrology of Area 6, eastern Coal Province, Maryland, West Virginia, and Pennsylvania**, 131 p.

OFR 81-1200# Katz, B.G., and Fisher, G.T., **Analysis and characterization of urban storm-water runoff for selected basins in the Baltimore, Maryland metropolitan area--a project plan**, 58 p. (see page 27)

OFR 81-812 Staubitz, W.W., **Quality of surface water in the coal mining areas of western Maryland and adjacent areas of Pennsylvania and West Virginia from April 1979 to June 1980**, 106 p.

OFR-81-538 Herb, W.J., Shaw, L.C., and Brown, D.E., **Hydrology of area 5, Eastern Coal Province, Pennsylvania, Maryland, and West Virginia**, 92 p.

OFR 81-10 Cory, R.L., **Diel oxygen variations in the Rhode River Estuary, Maryland, 1970-1978**, 14 p.

OFR 80-1016# Carpenter, D.H., **Technique for estimating magnitude and frequency of floods in Maryland**, 119 p. (see page 28)

OFR 78-171 Herb, W.J., **Excedence probability - Depth relationships of floods for Maryland streams west of Chesapeake Bay**, 14 p.

OFR 76-884 Herb, W.J., **Availability of hydrologic data for Montgomery County, Maryland**, 15 p., 1 sheet, 1:62,500 (1 inch = 1 mile).

OFR 76-178 Herb, W.J., **Availability of hydrologic data for Prince Georges County, Maryland**, 7 p.

1974 Carpenter, D.H., **Flood characteristics of small drainage basins in Maryland**, 90 p.

OFR 74-1015 Carpenter, D.H., **Floods of August and September 1971 in Maryland and Delaware**, 41 p.

1973 **Water resources of the Delmarva Peninsula, a summary report (White House document 93-68) to the Congress**, 59 p.

1972 **Sediment yields of urban construction sources, Montgomery County, Maryland, a progress report, Rock Creek Anacostia River basins**, 39 p.

1972 Taylor, K.R., **A summary of peak stages and discharges in Maryland, Delaware, and District of Columbia for flood of June 1972**, 13 p.

1969 Simmons, R.H., **Floods of August 1967 in Maryland and Delaware**, 98 p.

1959 Darling, J.M., **Floods in Maryland, Magnitude and Frequency**, 9 p.

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Listed below is a selection of reports on surface-water resources in Maryland which are available through the Maryland Geological Survey, 2300 St. Paul Street, Baltimore, Maryland 21218.

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MGS B 36 Duigon, M.T., and Dine, J.R., 1991, **Water resources of Washington County, Maryland**, 109 p.

MGS B 35 Werkheiser, W.H., 1990, **Hydrogeology and ground-water resources of Somerset County, Maryland**, 156 p.

MGS B 34 Otton, E.G., Wiley, R.E., McGregor, R.A., Achmad, G.J., Hiortdahl, S.N., and Gerhart, J.M., 1989, **Water resources and estimated effects of ground-water development, Duigon M.T.Cecil County, Maryland**, 133 p.

MGS B 33 Duigon, M.T., and Dine, J.R., 1987, **Water resources of Frederick County, Maryland**, 106 p.

MGS B 25 Darling, J.M., 1961, **Maryland streamflow characteristics**, 136 p.

MGS B 24 Slaughter, T.H., and Darling, J.M., 1961, **Water resources of Allegany and Washington Counties**, 408 p.

MGS B 22 Meyer, Gerald, and Beall, R.M., 1958, **Water resources of Carroll and Frederick Counties**, 355 p.

MGS B 21 Overbeck, R.M., Slaughter, T.H., and Hulme, A.E., 1958, **Water resources of Cecil, Kent, and Queen Anne's Counties**, 478 p.

MGS B 18 Rasmussen, W.C., Slaughter, T.H., Hulme, A.E., and Murphy, J.J., 1956, **Water resources of Caroline, Dorchester, and Talbot Counties**, 465 p.

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MGS B 14 Dingman, R.J., Meyer, Gerald, and Martin, R.O.R., 1954, **Water resources of Howard and Montgomery Counties**, 260 p.

MGS B 13 Amsden, T.W., Overbeck, R.M., and Martin, R.O.R., 1954, **Geology and water resources of Garrett County**, 349 p.

SELECTED MARYLAND GEOLOGICAL SURVEY REPORTS ON SURFACE-WATER RESOURCES IN MARYLAND--Continued

BULLETINS--Continued

MGS B 11 Martin, R.O.R., and Ferguson, H.F., 1953, **Water resources of St. Marys County**, 195 p.

MGS B 10 Cooke, C., Wythe, Martin, R.O.R., and Meyer, Gerald, 1952, **Geology and water resources of Prince Georges's County**, 270 p.

MGS B 8 Bennion, V.R., Dougherty, D.F., and Overbeck, R.M., 1951, **Water resources of Calvert County**, 100 p.

MGS B 5 Bennion, V.R., and Brookhart, J.W., 1949, **Water resources of Anne Arundel County**, 14 p.

REPORTS OF INVESTIGATIONS

MGS RI 48 Kerhin, R.T., and others, 1988, **The surficial sediments of Chesapeake Bay, Maryland: Physical characteristics and sediment budget**, 82 p.

MGS RI 45 Wiley, R.E., and Achmad, G.J., 1986, **Simulation of ground-water flow and base flow in weathered crystalline rock, Upper Cattail Creek, Howard County, Maryland**, 68 p.

MGS RI 42 Otton, E.G., and Hilleary, J.T., 1985, **Maryland springs--their physical, thermal, and chemical characteristics**, 151 p.

MGS RI 41-A Hiortdahl, S.N., 1988, **Hydrologic and mining data from an area of underground coal mining in Garrett County, Maryland**, 81 p.

MGS RI 41 Duigon, M.T., and Smigaj, M.J., 1985, **First report on the hydrologic effects of underground coal mining in southern Garrett County, Maryland**, 99 p.

MGS RI 40 **The Columbia aquifer of the Eastern Shore of Maryland**, 1984, Part 1, Bachman, L.J., and Wilson, J.M., Hydrogeology, Part 2, Wilson, J.M., and Bachman, L.J., **Selected water-well records, chemical analyses, water-level measurements, lithologic logs and geophysical logs**, 144 p.

MGS RI 35 Carpenter, D.H., 1983, **Characteristics of streamflow in Maryland**, 237 p.

MGS RI 17 Mack, F.K., Webb, W.E., and Gardner, R.A., 1971, **Water resources of Dorchester and Talbot Counties, Maryland, with special emphasis on the ground-water potential of the Cambridge and Easton areas**, 107 p.

MGS RI 16 Walker, P.N., 1971, **Flow characteristics of Maryland streams**, 160 p.

MGS RI 13 Webb, W.E., and Heddle, S.G., 1970, **Extent of brackish water in the tidal rivers of Maryland**, 46 p.

MGS RI 9 Thomas, J.D., and Heidel, S.G., 1969, **Chemical and physical character of municipal water supplies in Maryland**, 52 p.

MGS RI 5 Thomas, J.D., 1966, **Chemical quality reconnaissance of water of Maryland streams**, 61 p.

MGS RI 3 Boggess, D.H., and Heidel, S.G., 1968, **Water resources of the Salisbury area, Maryland**, 69 p.

MGS RI 1 Heidel, S.G., and Fernier, W.W., 1965, **Chemical quality of water and trace elements in the Patuxent River basin**, 40 p.

BASIC DATA REPORTS

MGS BDR 19 Dine, J.R., Adamski, J.C., Tompkins, M.D., 1992, **Hydrologic data for Howard County, Maryland**, 240 p.

MGS BDR 18 Duigon, M.T., Dine, J.R., and Tompkins, M.D., 1989, **Ground-water and surface-water data for Washington County, Maryland**, 273 p.

MGS BDR 16 Wiley, R.E., McGregor, R.A., deGrouchy, Joanne, and Tompkins, M.D., 1987, **Hydrologic data for Cecil County, Maryland**, 150 p.

MGS BDR 15 Dine, J.R., Tompkins, M.D., and Duigon, M.T., 1985, **Ground-water and surface-water data for Frederick County, Maryland**, 240 p.

MGS BDR 12 Hilleary, J.T., and Weigle, J.W., 1981, **Carroll County ground-water information: well records, spring records, and chemical-quality data**, 252 p.

MGS BDR 11 Nutter, L.J., Smigaj, M.J., and Knobel, L.L., 1980, **Garrett County water-well records, chemical-quality data, ground-water use, coal test-hole data, and surface-water data: with a section on gas-well records**, 102 p.

MGS BDR 2 Slaughter, T.H., and Laughlin, C.P., 1966, **Records of wells and springs in Charles County, Maryland**, 93 p.

MGS BDR 1 Laughlin, C.P., 1966, **Records of wells and springs in Baltimore County, Maryland**, 406 p.

INFORMATION CIRCULARS

MGS IC 12 Taylor, K.R., and Solley, W.B., 1972, **Traveltime and concentration attenuation of a soluble dye in Antietam and Conococheague Creeks, Maryland**, 25 p.

MGS IC 9 Taylor, K.R., 1970, **Traveltime and concentration attenuation of a soluble dye in the Monocacy River, Maryland**, 23 p.

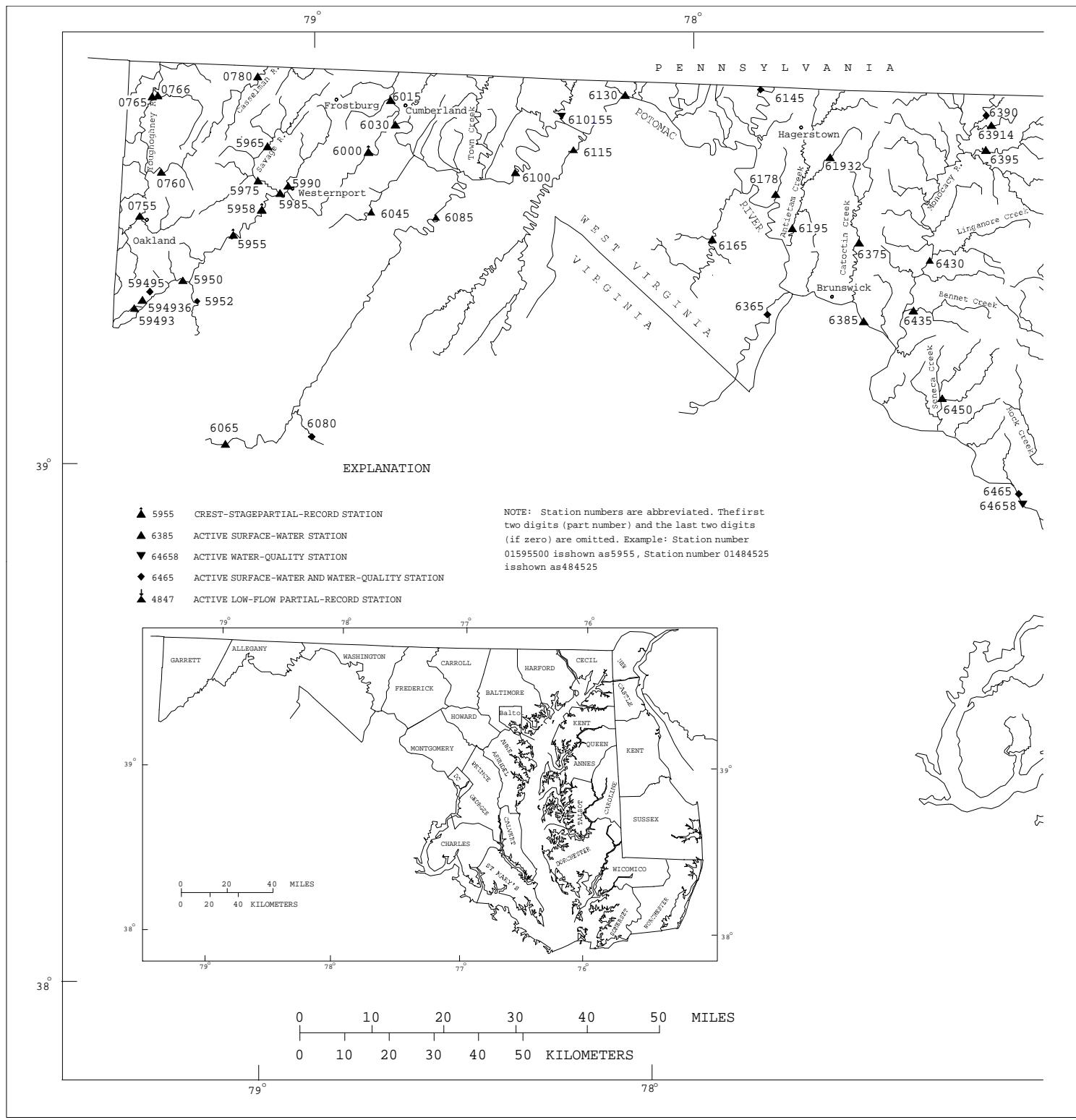


Figure 3. Map of Maryland and Delaware showing location of surface-water, water-quality, low-flow and crest-stage partial-record stations.



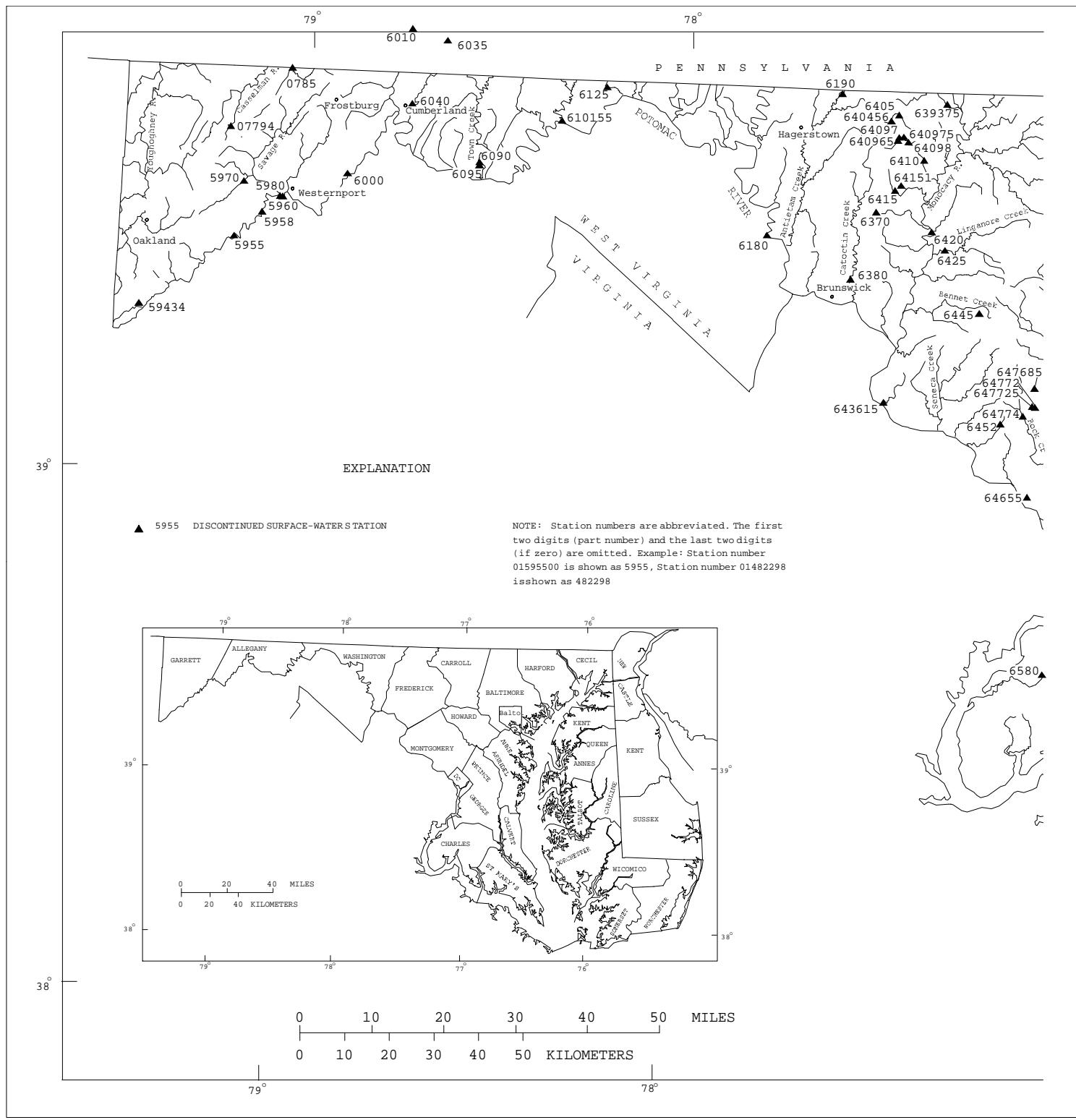


Figure 4. Map of Maryland and Delaware showing location of discontinued surface-water stations.



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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:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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.

Dissolved Trace-Element Concentrations

NOTE--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) 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 $\mu\text{g/L}$ 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).

HYDROLOGIC-DATA STATION RECORDS

NORTH ATLANTIC SLOPE BASINS

DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE

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

DRAINAGE AREA.--7.46 mi².

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 ft³/s and above 4,000 ft³/s except those between 100 and 4,000 ft³/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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0450	1,520	5.27	Dec. 14	0035	1,170	4.63
Nov. 26	0805	1,250	4.79	Apr. 28	0305	1,080	4.49
Dec. 2	0300	1,500	5.25	June 13	1320	*1,720	*5.60
Dec. 6	0605	1,280	4.85				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	12	96	4.8	6.9	14	66	5.7	2.6	2.8	1.1	.90
2	5.0	4.4	203	4.6	5.4	7.7	14	4.7	22	4.9	1.0	.90
3	3.2	3.5	8.5	5.0	5.0	71	7.9	23	16	5.5	.86	.79
4	2.2	3.4	5.9	4.5	10	36	6.2	9.1	3.5	1.4	.84	.77
5	1.9	3.3	4.7	4.6	107	17	5.0	4.2	2.7	1.2	1.1	.92
6	1.8	3.2	199	4.5	11	17	5.8	4.7	2.4	1.2	1.7	.82
7	1.8	3.3	105	4.3	7.4	6.9	5.6	3.6	2.3	1.2	.84	.73
8	153	41	21	4.1	8.8	8.6	4.2	3.8	2.2	1.2	.73	.73
9	12	65	8.0	6.5	9.9	12	4.0	11	2.1	1.4	.70	.74
10	19	6.7	5.9	9.8	6.8	66	3.7	4.4	2.0	1.4	.68	1.8
11	3.7	4.1	5.7	6.2	5.7	12	3.7	3.5	1.8	1.0	.67	22
12	3.0	3.5	5.8	4.4	5.5	8.3	16	3.3	1.7	.99	.67	4.0
13	2.7	3.2	279	4.1	5.3	7.6	12	3.2	144	.98	22	1.1
14	2.7	3.1	374	4.0	56	127	4.6	3.5	6.7	1.1	4.5	.91
15	2.4	2.9	29	4.0	38	26	3.9	4.5	3.1	1.1	1.1	.84
16	2.7	2.8	12	54	8.4	5.6	3.8	5.0	2.6	1.1	.85	.83
17	2.6	2.8	13	8.8	6.3	4.6	6.1	4.7	2.4	1.1	7.2	.80
18	3.9	2.8	9.4	5.1	5.3	4.4	7.0	4.9	6.3	1.1	6.7	.78
19	326	3.3	25	4.8	4.9	5.2	4.0	6.0	5.9	1.0	1.4	.73
20	9.8	2.7	9.4	4.4	4.7	4.9	3.8	5.0	2.3	1.0	111	1.9
21	6.5	2.5	6.7	4.0	5.0	4.4	4.0	4.3	2.2	1.0	8.4	2.2
22	5.1	2.3	6.3	6.8	4.9	4.4	4.1	4.3	2.0	4.5	1.8	.75
23	4.9	2.3	6.2	9.5	4.3	3.9	3.7	4.1	1.9	18	1.2	.73
24	4.9	2.5	19	10	4.1	3.6	7.1	4.1	1.9	25	.97	.68
25	4.8	2.4	15	64	4.1	3.6	3.8	27	1.9	17	.91	.67
26	4.7	144	6.6	7.5	4.8	28	3.3	7.3	2.1	2.0	.93	.70
27	5.0	6.8	6.1	5.3	6.6	5.5	3.9	3.0	2.2	1.6	.90	.72
28	9.3	4.4	5.6	50	4.5	4.7	158	2.8	2.1	1.7	10	2.6
29	4.0	3.7	6.6	8.6	--	43	7.3	2.6	2.2	1.4	3.2	5.2
30	3.4	4.6	5.8	6.0	--	8.1	5.0	2.7	2.5	1.1	1.1	.93
31	3.4	--	5.2	5.8	--	65	--	2.6	--	1.1	.90	--
TOTAL	617.7	352.5	1508.4	330.0	356.6	636.0	387.5	182.6	255.6	107.07	195.95	58.17
MEAN	19.9	11.8	48.7	10.6	12.7	20.5	12.9	5.89	8.52	3.45	6.32	1.94
MAX	326	144	374	64	107	127	158	27	144	25	111	22
MIN	1.8	2.3	4.7	4.0	4.1	3.6	3.3	2.6	1.7	.98	.67	.67
CFSM	2.67	1.58	6.52	1.43	1.71	2.75	1.73	.79	1.14	.46	.85	.26
IN.	3.08	1.76	7.52	1.65	1.78	3.17	1.93	.91	1.27	.53	.98	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1997, BY WATER YEAR (WY)

MEAN	5.17	8.71	12.0	12.6	13.1	15.7	13.2	10.8	7.10	8.66	7.07	6.67
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	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

DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE--Continued

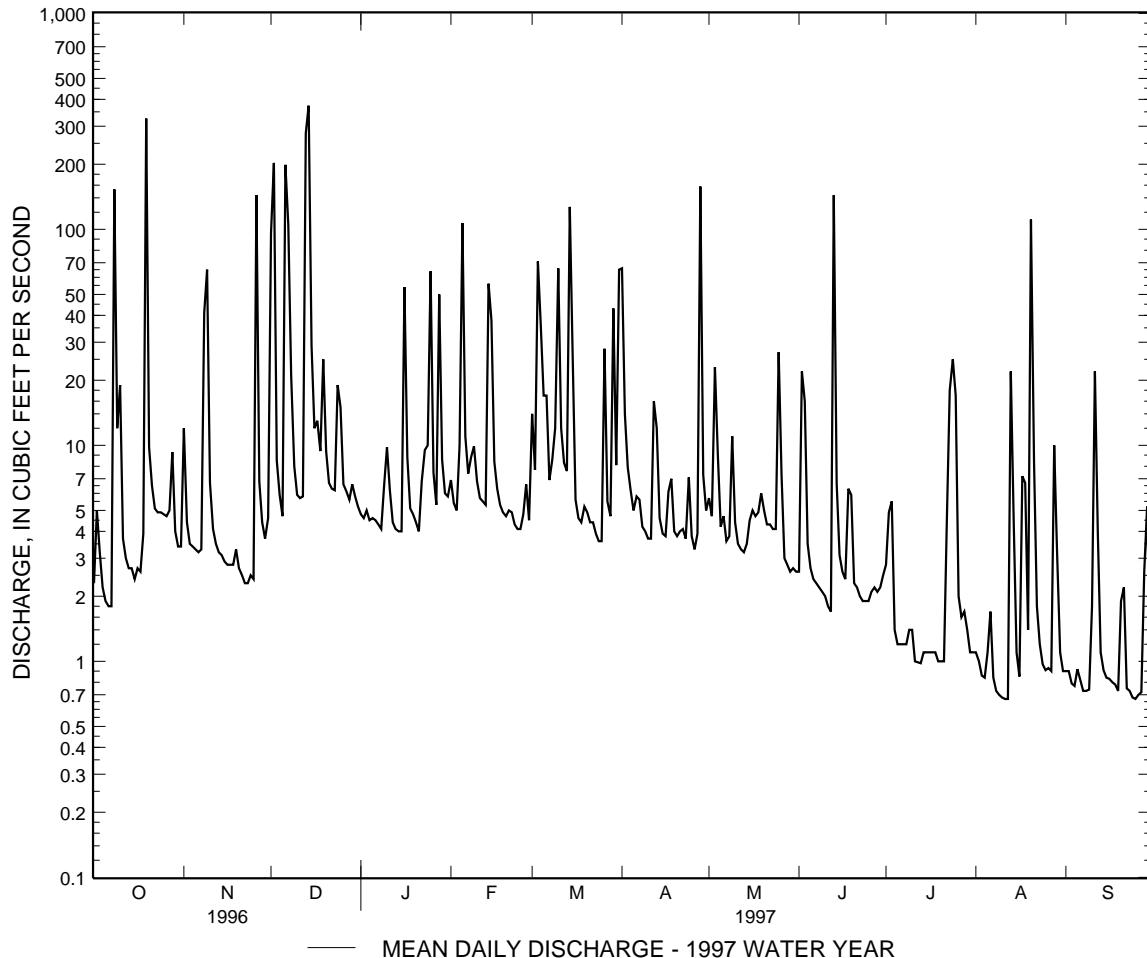
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1946 - 1997
ANNUAL TOTAL	6991.5	4988.09	
ANNUAL MEAN	19.1	13.7	10.0
HIGHEST ANNUAL MEAN			16.2
LOWEST ANNUAL MEAN			5.52
HIGHEST DAILY MEAN	497	Jan 19	1310
LOWEST DAILY MEAN	1.5	Sep 15	Jul 5 1989
ANNUAL SEVEN-DAY MINIMUM	1.8	Aug 25	.09 (b)
INSTANTANEOUS PEAK FLOW			.10 Aug 27 1966
INSTANTANEOUS PEAK STAGE			(c) 8040 Jul 5 1989
INSTANTANEOUS LOW FLOW			13.76 Jul 5 1989
ANNUAL RUNOFF (CFSM)	2.56	1.83	.09 Oct 2 1968
ANNUAL RUNOFF (INCHES)	34.86	24.87	1.34
10 PERCENT EXCEEDS	37	22	18.27
50 PERCENT EXCEEDS	5.3	4.4	18
90 PERCENT EXCEEDS	2.2	.98	2.9
			.80

a Aug. 11, 12, Sept. 25.

b Oct. 2, 4, 1968.

c From rating curve extended above 200 ft³/s on basis of culvert and flow-over-road measurements at gage heights 9.10 and 11.91 ft.

d Aug. 8-13, Sept. 4, 6, 7, 24-28.



DELAWARE RIVER BASIN

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 downstream from highway bridge, 0.5 mi southeast of Coochs Bridge, 3.3 mi south of Newark, 3.6 mi upstream from Belltown Run, and 22.6 mi upstream from mouth.

DRAINAGE AREA.--20.5 mi².

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.--No estimated daily discharges. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8	2015	1,180	10.60	Dec. 2	0515	1,180	10.60
Oct. 19	0815	*1,840	*11.71	Dec. 6	0645	1,040	10.30
Nov. 26	1030	1,140	10.52	Dec. 14	0115	1,460	11.16

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	34	218	26	29	46	143	30	12	8.2	7.4	4.5
2	19	27	437	25	26	35	61	32	97	11	7.4	4.6
3	18	20	61	26	25	212	36	58	83	28	7.2	5.7
4	13	18	41	25	31	114	29	49	23	10	7.0	4.3
5	12	18	30	24	238	51	25	23	15	9.0	16	4.0
6	12	18	328	24	50	59	25	22	12	8.5	15	3.9
7	12	20	191	22	33	32	28	19	12	8.4	8.0	3.9
8	310	114	104	21	36	27	23	18	12	8.8	7.1	3.9
9	82	267	49	25	38	25	22	32	11	12	6.8	4.0
10	56	41	36	35	30	107	21	25	11	14	6.5	21
11	20	26	32	31	27	44	20	19	10	8.4	6.3	32
12	16	22	36	23	27	30	40	18	10	7.9	6.3	22
13	15	19	594	21	27	28	49	17	103	7.8	6.3	6.7
14	15	18	770	20	128	170	25	17	24	7.7	6.4	5.6
15	14	17	119	19	144	110	22	16	13	7.6	6.4	5.1
16	13	17	63	98	48	38	21	15	11	7.4	6.3	4.9
17	13	17	60	35	34	31	24	15	10	7.2	6.0	4.7
18	16	17	46	22	29	31	25	15	10	7.0	7.2	4.6
19	876	17	87	17	28	47	21	15	11	6.7	7.0	4.4
20	83	18	47	17	25	37	20	15	9.7	6.5	155	5.3
21	46	16	34	18	24	30	21	14	9.3	6.5	41	6.5
22	34	15	32	21	25	28	21	13	11	18	7.9	4.2
23	29	15	32	40	22	24	20	13	9.6	45	6.0	3.9
24	26	15	57	24	21	22	28	13	8.9	56	5.3	3.9
25	24	15	82	214	20	22	22	44	8.5	15	5.0	3.9
26	22	350	35	41	21	86	18	40	8.3	9.7	4.8	4.0
27	21	56	33	27	25	36	21	17	8.2	8.9	4.8	3.9
28	37	28	30	127	21	28	200	14	7.9	16	12	4.9
29	29	23	32	43	---	45	38	13	7.7	14	5.8	9.4
30	22	21	31	29	---	40	26	12	7.5	8.1	4.9	5.2
31	20	---	27	28	---	137	---	12	---	7.5	4.6	---
TOTAL	1939	1319	3774	1168	1232	1772	1095	675	586.6	396.8	403.7	204.9
MEAN	62.5	44.0	122	37.7	44.0	57.2	36.5	21.8	19.6	12.8	13.0	6.83
MAX	876	350	770	214	238	212	200	58	103	56	155	32
MIN	12	15	27	17	20	18	12	7.5	6.5	4.6	3.9	
CFSM	3.05	2.14	5.94	1.84	2.15	2.79	1.78	1.06	.95	.62	.64	.33
IN.	3.52	2.39	6.85	2.12	2.24	3.22	1.99	1.22	1.06	.72	.73	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	24.8	35.3	40.4	42.5	47.3	37.3	31.5	21.2	22.3	17.6	15.1
MAX	62.9	82.8	122	165	154	121	107	77.6	76.5	165	117
(WY)	1972	1973	1997	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
(WY)	1964	1966	1966	1981	1947	1981	1963	1965	1966	1963	1965

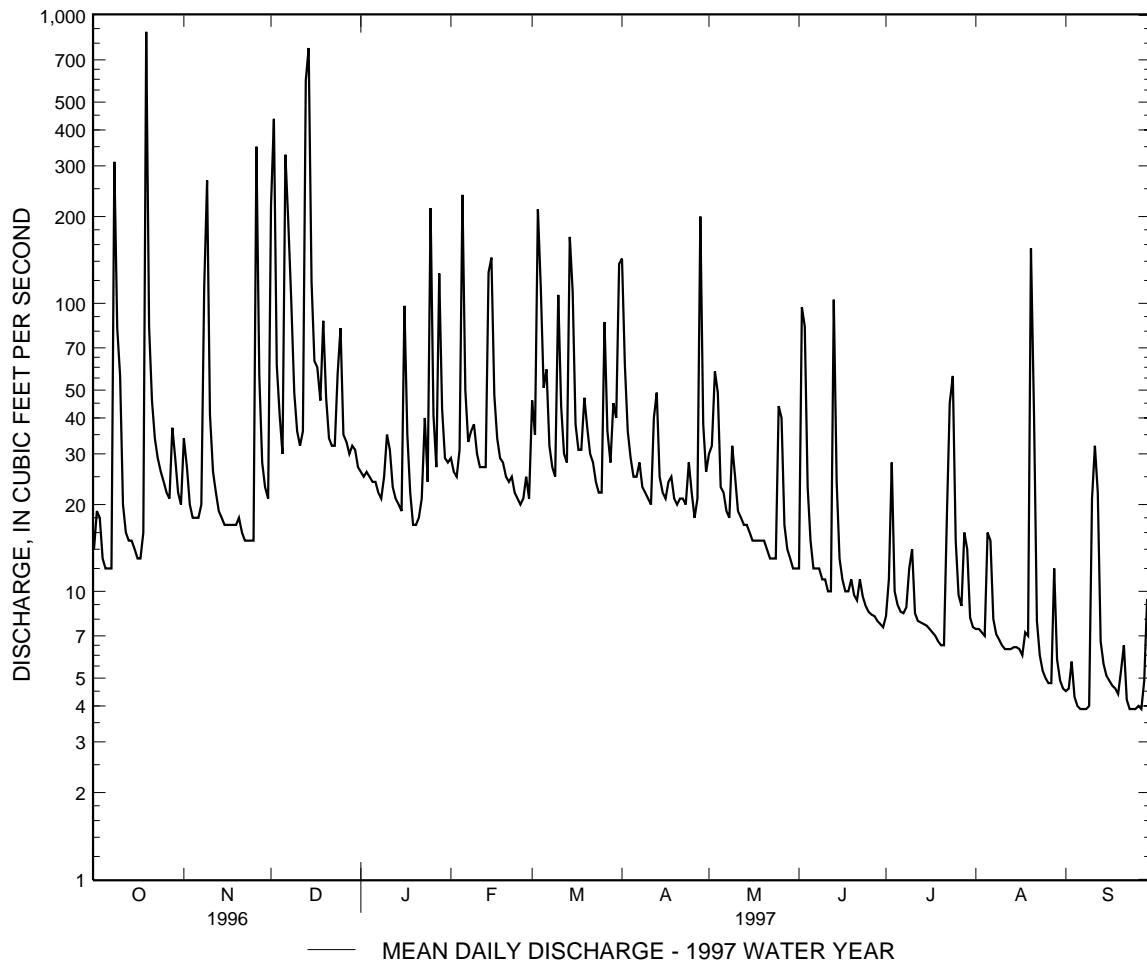
DELAWARE RIVER BASIN

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1943 - 1997
ANNUAL TOTAL	18644.0	14566.0	
ANNUAL MEAN	50.9	39.9	
HIGHEST ANNUAL MEAN			29.1
LOWEST ANNUAL MEAN			53.4
HIGHEST DAILY MEAN	1000	Jan 19	14.2
LOWEST DAILY MEAN	8.3	Sep 11	2000
ANNUAL SEVEN-DAY MINIMUM	8.9	Sep 6	Jul 5 1989
INSTANTANEOUS PEAK FLOW		876 Oct 19	(b)
INSTANTANEOUS PEAK STAGE		1840 Oct 19	.20 Aug 25 1966
INSTANTANEOUS LOW FLOW		11.71 Oct 19	5530 Jul 5 1989
ANNUAL RUNOFF (CFSM)	2.48	3.8 Sep 28	13.12 Jul 5 1989
ANNUAL RUNOFF (INCHES)	33.83	1.95 UNKNOWN	UNKNOWN
10 PERCENT EXCEEDS	95	26.43 1.42	19.30
50 PERCENT EXCEEDS	20	71 49	49
90 PERCENT EXCEEDS	11	21 13	13
		6.3 4.4	4.4

a Sept. 6-8, 23-25, 27.

b Aug. 7, 14, 18, 21, 27, 28, 1966.



DELAWARE RIVER BASIN

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 mi².

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

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

REMARKS.--No estimated daily discharges. Records good. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1015	*4,780	*10.98	Dec. 6	0745	1,640	8.43
Nov. 26	1030	1,860	8.63	Dec. 14	0230	3,220	9.71
Dec. 2	0545	1,760	8.54	Jan. 25	0400	2,140	8.87

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	120	493	155	141	146	348	111	61	39	24	19
2	79	124	804	160	136	151	259	105	79	45	24	19
3	84	110	202	167	133	221	188	130	111	78	25	21
4	63	108	158	157	133	277	158	145	73	47	22	19
5	62	108	143	158	411	191	144	106	62	41	24	20
6	63	110	623	154	187	181	145	101	59	37	22	21
7	62	112	352	144	150	141	152	95	58	39	21	21
8	281	189	308	142	147	134	134	92	58	41	20	21
9	256	582	193	146	145	127	129	117	55	39	21	20
10	230	164	166	162	139	216	126	113	53	44	22	25
11	109	128	159	156	133	156	125	96	53	37	21	83
12	84	110	191	140	132	135	141	91	53	34	20	102
13	78	102	897	131	129	127	175	87	68	33	21	31
14	75	99	1670	121	248	275	132	86	52	31	28	24
15	72	95	392	126	350	324	125	80	50	30	23	21
16	70	92	275	249	195	161	122	78	49	28	21	20
17	68	92	259	160	155	145	123	76	49	22	20	20
18	75	95	232	126	142	141	127	76	50	22	20	20
19	2280	98	279	111	142	146	120	80	54	20	24	19
20	246	91	219	129	137	143	113	77	49	20	66	19
21	169	88	188	139	135	135	110	74	44	21	112	19
22	138	89	182	137	134	132	115	70	44	33	35	16
23	125	87	189	173	121	122	112	70	42	51	26	16
24	122	87	213	138	116	117	120	69	41	104	23	17
25	111	88	273	784	113	116	112	88	40	51	20	19
26	106	615	185	174	113	226	104	156	40	35	19	21
27	103	177	182	139	127	147	102	76	39	30	18	19
28	116	125	175	352	118	130	259	66	37	30	31	19
29	120	114	177	173	---	245	136	63	37	33	25	30
30	112	110	171	140	---	188	116	62	37	27	22	23
31	110	---	164	138	---	344	---	63	---	25	20	---
TOTAL	5734	4309	10114	5481	4462	5440	4372	2799	1597	1167	840	764
MEAN	185	144	326	177	159	175	146	90.3	53.2	37.6	27.1	25.5
MAX	2280	615	1670	784	411	344	348	156	111	104	112	102
MIN	62	87	143	111	113	116	102	62	37	20	18	16
CFSM	2.68	2.08	4.73	2.56	2.31	2.54	2.11	1.31	.77	.55	.39	.37
IN.	3.09	2.32	5.45	2.95	2.41	2.93	2.36	1.51	.86	.63	.45	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

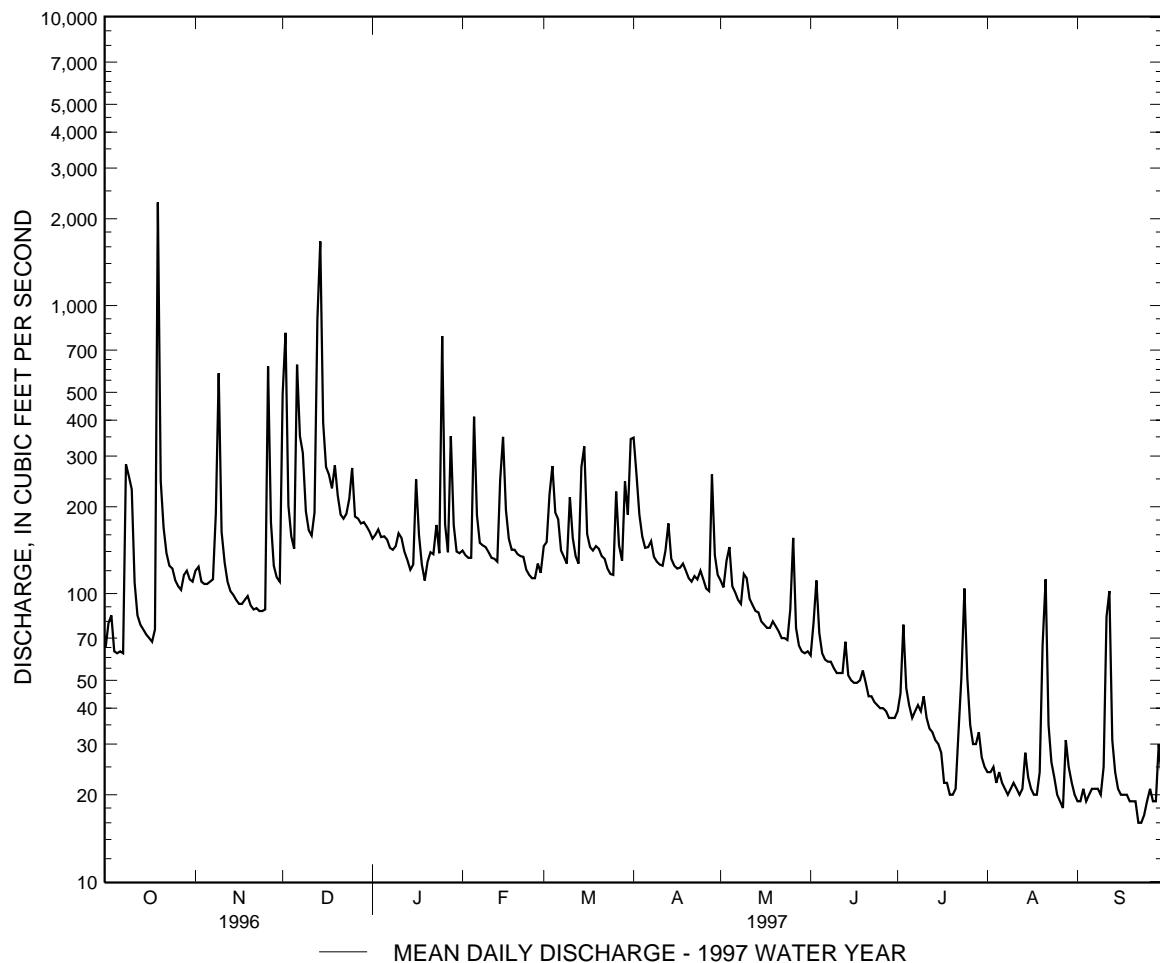
DELAWARE RIVER BASIN

01478650 WHITE CLAY CREEK AT NEWARK, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1994 - 1997
ANNUAL TOTAL	57639	47079	
ANNUAL MEAN	157	129	96.8
HIGHEST ANNUAL MEAN			129
LOWEST ANNUAL MEAN			42.0
HIGHEST DAILY MEAN	(e)3000	Jan 19	1997
LOWEST DAILY MEAN	40	Jan 7	4.5
ANNUAL SEVEN-DAY MINIMUM	50	Sep 5	Sep 12 1995
INSTANTANEOUS PEAK FLOW		2280	6.1
INSTANTANEOUS PEAK STAGE		Oct 19	Sep 1 1995
INSTANTANEOUS LOW FLOW		16	13.35
ANNUAL RUNOFF (CFSM)	2.28	18	Jan 19 1996
ANNUAL RUNOFF (INCHES)	31.07	Sep 19	19.06
10 PERCENT EXCEEDS	274	4780	176
50 PERCENT EXCEEDS	99	Oct 19	2.6
90 PERCENT EXCEEDS	58	10.98	Sep 13 1995
		220	1.40
		110	58
		21	21

e Estimated.

a Sept. 22, 23.

b From rating curve extended above 2,500 ft³/s on basis of runoff comparison with White Clay Creek above Newark, DE (01478500).

DELAWARE RIVER BASIN

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 downstream from bridge on private road at Delaware Park Race Track, 0.4 mi downstream from the Baltimore and Ohio Railroad bridge, 1.1 mi downstream from Pike Creek, 3.8 mi east of Newark, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--89.1 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. 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 been raised and widened), from information by Baltimore & Ohio Railroad.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0900	*5,540	*14.88				
Dec. 2	0315	2,300	12.09	Dec. 14	0500	3,780	13.89

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	136	573	204	162	167	487	130	82	53	33	29
2	90	132	1150	206	157	190	332	120	175	61	33	29
3	95	117	193	212	152	354	227	173	156	100	34	31
4	75	114	159	201	153	351	195	172	102	58	33	27
5	73	113	139	201	550	237	178	121	85	49	36	26
6	72	113	825	197	229	236	172	116	81	46	33	26
7	71	114	425	185	178	182	183	111	80	45	29	27
8	476	259	352	180	174	165	159	107	79	48	27	26
9	333	805	172	191	175	157	151	134	76	48	29	26
10	242	183	167	206	161	299	147	132	74	57	29	51
11	114	146	162	198	152	211	145	112	72	45	28	99
12	95	128	171	178	149	170	172	106	71	41	26	143
13	90	120	1070	e167	149	156	225	103	241	39	28	43
14	86	116	2180	e156	310	392	165	102	89	38	32	34
15	81	111	507	e161	428	434	148	100	77	37	30	31
16	79	108	344	e320	233	220	142	97	72	36	28	29
17	78	108	326	e216	184	188	142	96	70	34	25	28
18	80	109	298	e168	167	179	149	96	71	32	33	27
19	2970	113	353	e145	163	188	145	97	78	31	27	26
20	393	106	281	e160	158	188	141	96	70	29	224	33
21	215	102	244	e176	153	176	138	92	67	28	147	30
22	168	102	237	e176	155	168	141	89	69	58	47	24
23	155	100	242	e200	148	159	137	87	64	110	36	24
24	147	98	280	e243	142	151	147	87	60	157	33	24
25	134	98	340	830	139	147	145	132	59	78	30	27
26	128	849	237	223	138	301	137	188	58	49	29	28
27	125	200	234	175	150	190	132	96	57	44	29	26
28	139	133	225	406	143	173	429	86	54	43	70	35
29	138	122	228	222	--	318	167	83	53	44	38	43
30	123	116	222	171	--	243	130	84	52	37	33	33
31	120	--	212	161	--	466	--	85	--	34	29	--
TOTAL	7265	5171	12548	6835	5352	7156	5508	3430	2494	1609	1318	1085
MEAN	234	172	405	220	191	231	184	111	83.1	51.9	42.5	36.2
MAX	2970	849	2180	830	550	466	487	188	241	157	224	143
MIN	71	98	139	145	138	147	130	83	52	28	25	24
CFSM	2.63	1.93	4.54	2.47	2.15	2.59	2.06	1.24	.93	.58	.48	.41
IN.	3.03	2.16	5.24	2.85	2.23	2.99	2.30	1.43	1.04	.67	.55	.45

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

MEAN	66.7	93.4	117	149	162	174	152	129	98.3	96.7	79.7	72.2
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

DELAWARE RIVER BASIN

01479000 WHITE CLAY CREEK NEAR NEWARK, DE--Continued

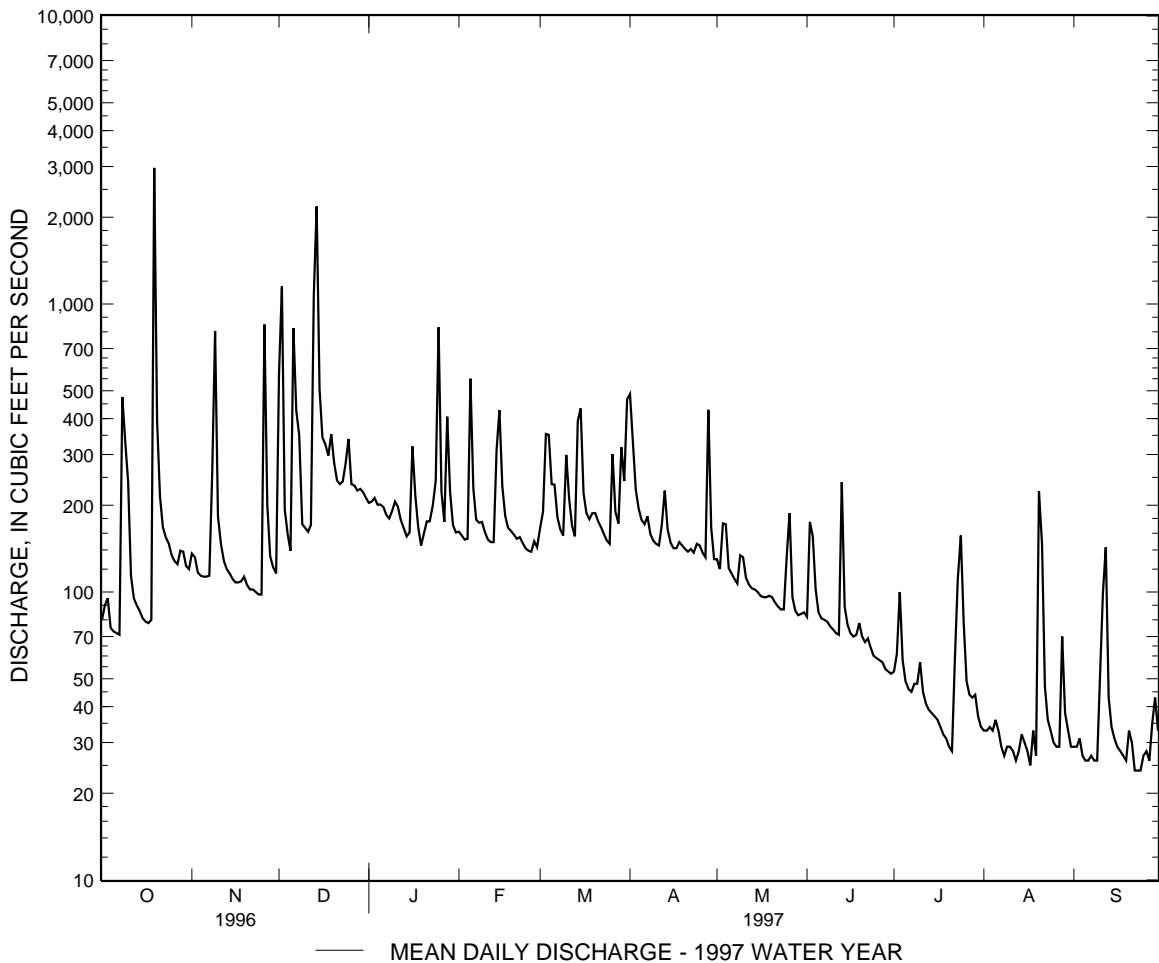
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1932 - 1997
ANNUAL TOTAL	76828	59771	
ANNUAL MEAN	210	164	116
HIGHEST ANNUAL MEAN			193
LOWEST ANNUAL MEAN			55.9
HIGHEST DAILY MEAN	3900	Jan 19	5220
LOWEST DAILY MEAN	(e)54	Jan 7	5.0
ANNUAL SEVEN-DAY MINIMUM	64	Sep 5	5.7
INSTANTANEOUS PEAK FLOW		2970 Oct 19	(b)11600 Jul 5 1989
INSTANTANEOUS PEAK STAGE		24 (a)	(c)17.74 Jun 22 1972
INSTANTANEOUS LOW FLOW		26 Sep 21	4.7 Sep 11 1966
ANNUAL RUNOFF (CFSM)	2.36	15 Aug 19	1.30
ANNUAL RUNOFF (INCHES)	32.08	1.84	17.67
10 PERCENT EXCEEDS	357	24.95	193
50 PERCENT EXCEEDS	123	288	77
90 PERCENT EXCEEDS	76	132	33
		31	

e Estimated

a Sept. 22-24.

b From rating curve extended above 6,700 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

c At previous site and datum.



DELAWARE RIVER BASIN

01480000 RED CLAY CREEK AT WOODEDALE, 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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1045	*2,670	*6.98	Dec. 6	0800	1,210	4.58
Nov. 26	1030	1,220	4.61	Dec. 14	0300	1,880	5.73
Dec. 2	0530	1,340	4.82				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	63	268	102	88	97	213	76	48	28	21	25
2	53	63	563	103	84	95	154	72	54	30	21	26
3	53	57	125	106	82	139	110	90	73	65	21	23
4	43	55	100	99	81	173	99	107	56	32	20	18
5	42	56	89	101	264	118	91	73	49	28	21	19
6	41	55	416	97	115	115	91	70	47	26	20	23
7	41	56	241	91	94	89	95	66	46	33	19	24
8	237	93	199	87	92	84	83	63	45	30	24	25
9	157	308	122	90	92	81	80	81	43	26	25	25
10	120	92	106	101	85	160	77	72	41	30	25	24
11	65	74	105	95	81	103	77	64	40	25	25	50
12	56	68	127	86	81	87	87	60	40	24	25	53
13	53	65	509	82	79	82	117	58	46	23	25	22
14	51	63	1020	80	169	193	83	58	42	22	33	19
15	48	61	275	79	205	222	78	57	38	22	21	17
16	47	59	187	169	113	107	76	55	36	22	20	16
17	48	59	181	96	95	96	79	54	37	21	24	16
18	47	60	161	75	89	94	87	55	38	20	20	15
19	1090	63	203	73	88	95	77	56	40	21	22	18
20	140	59	151	78	84	92	74	54	36	19	87	23
21	102	57	130	76	83	87	73	51	34	21	89	23
22	82	56	126	78	85	85	75	50	33	27	26	21
23	73	55	128	105	79	79	74	49	32	44	22	20
24	70	55	147	84	78	76	81	49	31	82	20	21
25	67	55	190	416	76	77	74	70	30	60	19	22
26	63	388	122	105	77	145	70	117	30	32	22	19
27	62	102	120	86	84	93	67	58	29	27	25	19
28	67	74	114	225	76	83	183	51	28	25	29	21
29	64	70	116	106	---	102	93	49	27	26	22	25
30	61	68	111	87	---	99	79	50	27	22	21	16
31	59	---	107	85	---	204	---	50	---	21	25	---
TOTAL	3248	2509	6559	3343	2799	3452	2797	1985	1196	934	839	688
MEAN	105	83.6	212	108	100	111	93.2	64.0	39.9	30.1	27.1	22.9
MAX	1090	388	1020	416	264	222	213	117	73	82	89	53
MIN	41	55	89	73	76	67	49	27	19	19	15	
(†)	--	--	--	--	--	--	--	--	--	-0.2	-2.6	-4.4
MEAN#	--	--	--	--	--	--	--	--	--	29.9	24.5	18.5
CFSM#	--	--	--	--	--	--	--	--	--	0.64	0.52	0.39
IN#	--	--	--	--	--	--	--	--	--	0.74	0.60	0.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	37.1	50.3	65.0	78.5	88.1	93.2	85.8	74.1	56.9	51.8	44.0	40.3
MAX	129	115	212	232	237	209	167	156	147	279	180	180
(WY)	1972	1973	1997	1979	1979	1994	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.

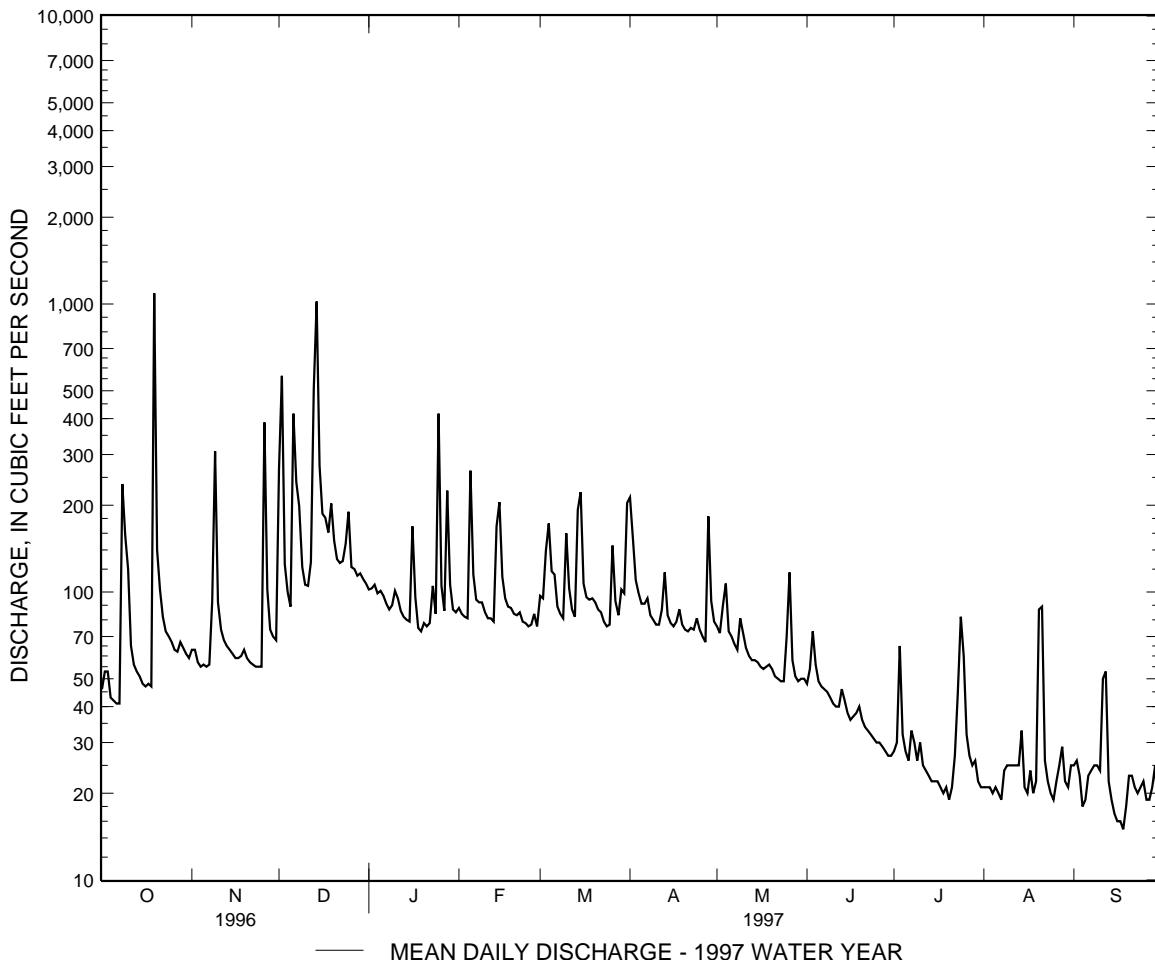
Adjusted for inflow.

DELAWARE RIVER BASIN

01480000 RED CLAY CREEK AT WOODDALE, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1943 - 1997
ANNUAL TOTAL	38479	30349	
ANNUAL MEAN	105	83.1	63.6
ANNUAL MEAN#	105	82.5	63.6
HIGHEST ANNUAL MEAN			104
LOWEST ANNUAL MEAN			32.3
HIGHEST DAILY MEAN	1790	Jan 19	2430
LOWEST DAILY MEAN	24	Jan 7	4.5
ANNUAL SEVEN-DAY MINIMUM	41	Jan 5	4.9
INSTANTANEOUS PEAK FLOW		1090 Oct 19	(a) 5010 Jul 21 1975
INSTANTANEOUS PEAK STAGE		6.98 Oct 19	10.32 Jul 21 1975
INSTANTANEOUS LOW FLOW		12 Sep 27	2.9 Sep 4 1966
ANNUAL RUNOFF (CFSM)	2.24	1.77	1.35
ANNUAL RUNOFF (CFSM)#	2.24	1.76	1.35
ANNUAL RUNOFF (INCHES)	30.46	24.02	18.40
ANNUAL RUNOFF (INCHES)#	30.46	23.95	18.40
10 PERCENT EXCEEDS	175	139	108
50 PERCENT EXCEEDS	66	68	44
90 PERCENT EXCEEDS	47	22	20

Adjusted for inflow since June 1994.

a From rating curve extended above 3,900 ft³/s on basis of contracted-opening measurement at gage height 9.93 ft.

DELAWARE RIVER BASIN

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 mi².

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 (ice effect, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1130	*2,980	*16.78				
Dec. 2	0245	1,640	14.65	Dec. 14	0500	2,180	15.78

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	73	298	110	103	109	247	85	51	31	27	e30
2	54	72	714	111	98	110	171	79	63	34	27	e31
3	56	64	136	114	95	167	121	106	79	70	27	e27
4	47	62	106	107	97	203	109	118	57	38	26	e22
5	46	63	93	108	298	137	100	80	52	31	28	e23
6	46	62	488	105	135	133	101	77	50	30	28	25
7	45	63	273	98	109	101	104	71	49	31	26	26
8	281	100	233	94	108	96	91	69	48	37	32	27
9	201	382	131	98	107	91	87	91	46	30	33	26
10	133	99	112	110	98	188	84	79	45	34	32	27
11	67	79	107	104	93	119	85	70	44	28	31	47
12	57	71	137	93	93	101	66	43	26	31	31	68
13	54	67	601	e90	91	92	128	64	98	25	32	27
14	53	65	1220	e88	189	223	91	64	47	24	41	23
15	51	63	311	e87	234	253	85	62	43	24	26	21
16	50	61	211	190	130	120	83	60	42	24	25	19
17	50	61	198	110	109	108	86	59	43	23	31	19
18	50	62	173	e83	102	106	94	59	43	22	32	18
19	1290	64	217	e80	100	107	84	62	44	21	29	20
20	167	60	163	e85	95	103	81	59	41	21	105	26
21	115	58	139	e84	94	98	80	56	40	23	e106	27
22	90	58	134	e86	97	95	82	55	39	32	e31	25
23	81	57	137	109	88	89	80	54	36	53	e28	24
24	78	57	157	90	86	86	90	54	34	99	e25	22
25	74	56	205	432	84	85	81	83	35	67	e23	27
26	70	436	132	125	85	169	76	127	34	38	e22	23
27	69	112	129	102	94	104	75	60	32	32	e27	23
28	75	77	124	248	85	91	225	54	31	29	e34	26
29	73	71	126	126	--	169	102	52	30	33	e32	32
30	67	69	121	102	--	115	86	53	29	29	e25	21
31	67	--	115	100	--	238	--	53	--	28	e29	--
TOTAL	3706	2744	7441	3669	3197	4004	3110	2181	1368	1067	1051	802
MEAN	120	91.5	240	118	114	129	104	70.4	45.6	34.4	33.9	26.7
MAX	1290	436	1220	432	298	253	247	127	98	99	106	68
MIN	45	56	93	80	84	85	75	52	29	21	22	18
(†)	--	--	--	--	--	--	--	--	--	-0.2	-2.6	-4.4
MEAN#	--	--	--	--	--	--	--	--	--	34.2	31.3	22.3
CFSM#	--	--	--	--	--	--	--	--	--	.65	.60	.43
IN#	--	--	--	--	--	--	--	--	--	.75	.69	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	52.1	59.9	80.7	106	79.0	114	96.0	82.7	63.1	66.6	48.4	49.0
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	36.5	37.9	40.8	65.0	38.6	39.7	27.2	29.0	27.7	22.9
(WY)	1995	1995	1995	1992	1992	1990	1995	1995	1995	1995	1995	1995

e Estimated

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

‡ Adjusted for inflow.

DELAWARE RIVER BASIN

01480015 RED CLAY CREEK NEAR STANTON, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1989 - 1997
ANNUAL TOTAL	44881	34340	
ANNUAL MEAN	123	94.1	74.9
ANNUAL MEAN#	123	93.5	74.4
HIGHEST ANNUAL MEAN			98.2
LOWEST ANNUAL MEAN			37.2
HIGHEST DAILY MEAN	2180	Jan 19	2480 Jul 5 1989
LOWEST DAILY MEAN	39	Jan 1	(e) 7.0 Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	47	Aug 31	10 Sep 6 1995
INSTANTANEOUS PEAK FLOW		2890 Oct 19	5330 Jan 19 1996
INSTANTANEOUS PEAK STAGE		16.78 Oct 19	19.38 Jan 19 1996
INSTANTANEOUS LOW FLOW		18 (a)	(b) (c)
ANNUAL RUNOFF (CFSM)	2.34	1.80	1.43
ANNUAL RUNOFF (CFSM)#	2.34	1.78	1.42
ANNUAL RUNOFF (INCHES)	31.86	24.38	19.42
ANNUAL RUNOFF (INCHES)#	31.86	24.16	19.29
10 PERCENT EXCEEDS	208	165	126
50 PERCENT EXCEEDS	75	75	52
90 PERCENT EXCEEDS	51	26	24

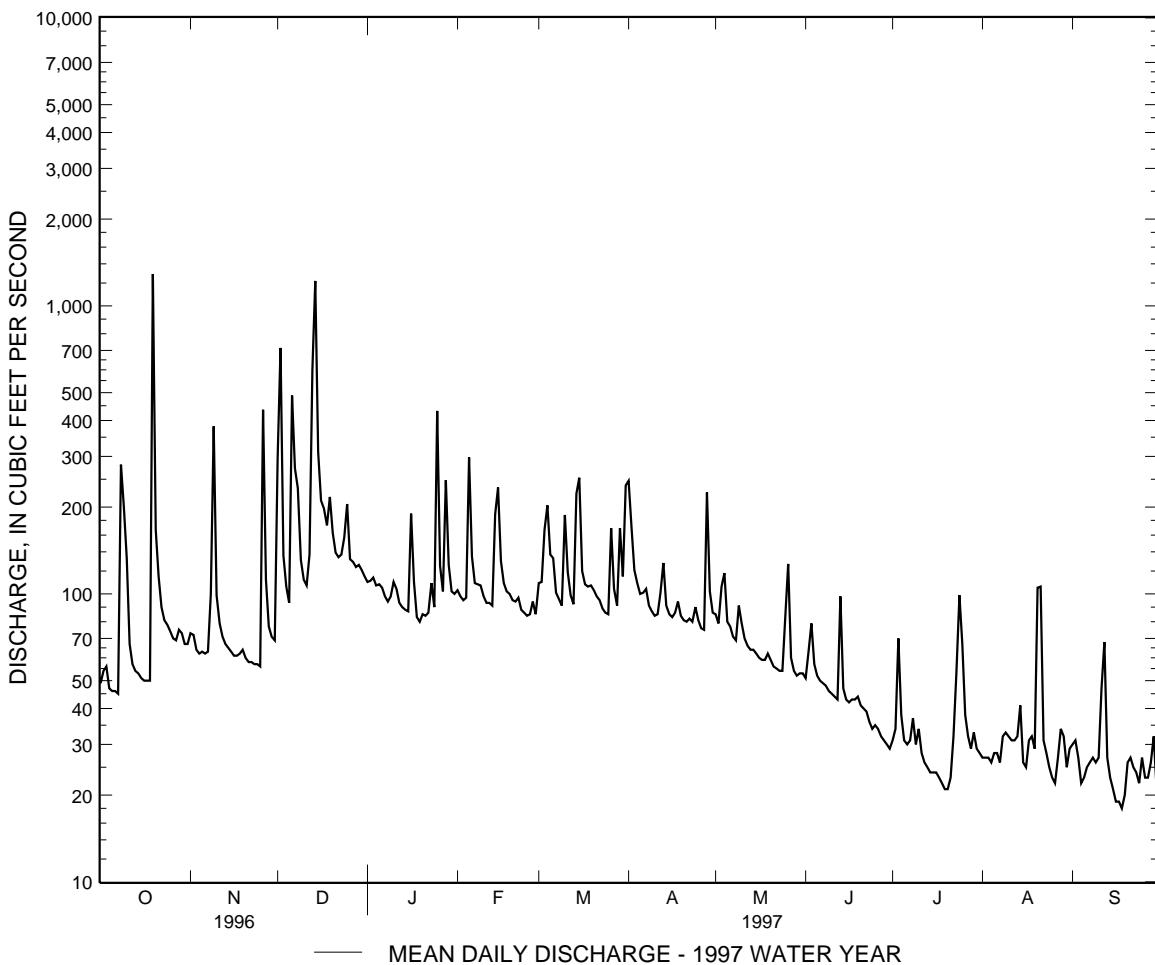
Adjusted for inflow since June 1994.

e Estimated.

a Sept. 24, 28.

b Minimum recordable flow was 10 ft³/s, may have been less during periods of doubtful or no gage-height record.

c Late Aug. and early Sept. 1995.



DELAWARE RIVER BASIN

01481500 BRANDYWINE CREEK AT WILMINGTON, DE

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

DRAINAGE AREA.--314 mi².

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 13, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2145	*15,200	*11.91	Dec. 6	1600	4,730	7.51
Nov. 9	1245	5,020	7.69	Dec. 14	1500	10,800	10.34
Nov. 26	1745	4,580	7.42	Jan. 25	1600	6,080	8.27
Dec. 2	0315	6,720	8.59				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	452	551	1300	891	833	662	1480	505	323	192	167	145
2	444	562	4990	875	846	750	1400	496	358	209	161	141
3	531	562	1590	859	963	782	1510	581	510	399	169	142
4	441	534	1150	838	776	931	904	818	413	228	151	143
5	416	529	991	829	1660	908	803	607	331	202	159	131
6	410	524	3200	852	1150	962	722	555	304	185	159	127
7	404	503	1980	758	838	765	732	521	298	180	144	121
8	1010	578	2350	728	791	691	662	447	300	192	140	121
9	1380	3760	1420	729	775	659	639	582	281	171	132	118
10	1050	1190	1420	764	730	913	620	558	276	227	125	128
11	708	914	1340	765	697	852	614	458	264	200	126	326
12	571	797	1520	709	684	709	646	430	261	164	122	601
13	503	731	2440	676	680	675	794	413	396	157	146	235
14	488	699	8430	661	901	1040	660	409	293	155	212	176
15	458	668	3620	655	1350	1990	653	396	255	148	156	155
16	444	644	2360	1040	1130	920	617	375	246	143	138	146
17	444	637	2080	945	869	807	622	367	244	137	154	143
18	443	585	1870	622	841	775	654	367	248	134	162	133
19	7080	609	1670	660	953	749	602	377	257	130	182	132
20	5000	585	1450	680	746	687	578	377	251	124	276	125
21	1580	559	1190	695	700	664	561	348	234	124	672	120
22	1260	556	1110	674	708	670	550	333	227	204	258	115
23	957	545	1150	847	679	656	527	327	217	260	176	114
24	802	533	1380	711	644	637	554	324	204	594	156	115
25	711	530	1480	4020	625	632	498	473	199	501	150	116
26	661	2610	1070	1280	612	832	470	1150	193	290	142	118
27	632	1710	1020	864	668	714	458	553	192	249	137	112
28	628	980	993	1770	640	633	980	440	187	236	184	116
29	615	779	1050	1280	---	695	666	375	188	209	285	169
30	592	706	1190	862	---	667	539	341	181	186	189	161
31	578	---	930	853	---	1240	---	327	---	168	153	---
TOTAL	31693	25670	59734	29392	23489	25267	21715	14630	8131	6698	5683	4745
MEAN	1022	856	1927	948	839	815	724	472	271	216	183	158
MAX	7080	3760	8430	4020	1660	1990	1510	1150	510	594	672	601
MIN	404	503	930	622	612	632	458	324	181	124	122	112
(†)	-1.5	-2.2	-31.7	+16.4	-3.8	+22.3	-2.4	-2.3	+1.8	-1.3	-2.1	-2.9
MEAN#	1020	854	1895	964	835	837	722	470	273	215	181	155
CFSM#	3.25	2.72	6.04	3.07	2.66	2.67	2.30	1.50	0.87	0.68	0.58	0.49
IN#	3.75	3.04	6.96	3.54	2.77	3.08	2.57	1.73	0.97	0.78	0.67	0.55

† 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.

DELAWARE RIVER BASIN

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
LOWEST ANNUAL MEAN	252
HIGHEST DAILY MEAN	14300
LOWEST DAILY MEAN	56
ANNUAL SEVEN-DAY MINIMUM	59
INSTANTANEOUS PEAK FLOW	(a) 29000
INSTANTANEOUS PEAK STAGE	15.49
INSTANTANEOUS LOW FLOW	(b) 30
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 - 1997, BY WATER YEAR (WY)

MEAN	312	380	561	651	648	753	729	608	450	407	271	295
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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1974 - 1997

ANNUAL TOTAL	334387	256847	
ANNUAL MEAN	914	704	505
ANNUAL MEAN#	914	703	506
HIGHEST ANNUAL MEAN			835
LOWEST ANNUAL MEAN			228
HIGHEST DAILY MEAN	10300	Jan 20	12100
LOWEST DAILY MEAN	121	Jan 8	Jan 25 1979
ANNUAL SEVEN-DAY MINIMUM	(e) 259	Jan 6	Sep 13 1995
INSTANTANEOUS PEAK FLOW		15200	1995
INSTANTANEOUS PEAK STAGE		11.91	1979
INSTANTANEOUS LOW FLOW		15	1979
ANNUAL RUNOFF (CFSM)	2.91	2.24	1.61
ANNUAL RUNOFF (CFSM)#	2.91	2.24	1.61
ANNUAL RUNOFF (INCHES)	39.62	30.43	21.84
ANNUAL RUNOFF (INCHES)#	39.62	30.41	21.88
10 PERCENT EXCEEDS	1540	1280	937
50 PERCENT EXCEEDS	631	581	355
90 PERCENT EXCEEDS	367	145	142

a From rating curve extended above 18,000 ft³/s.

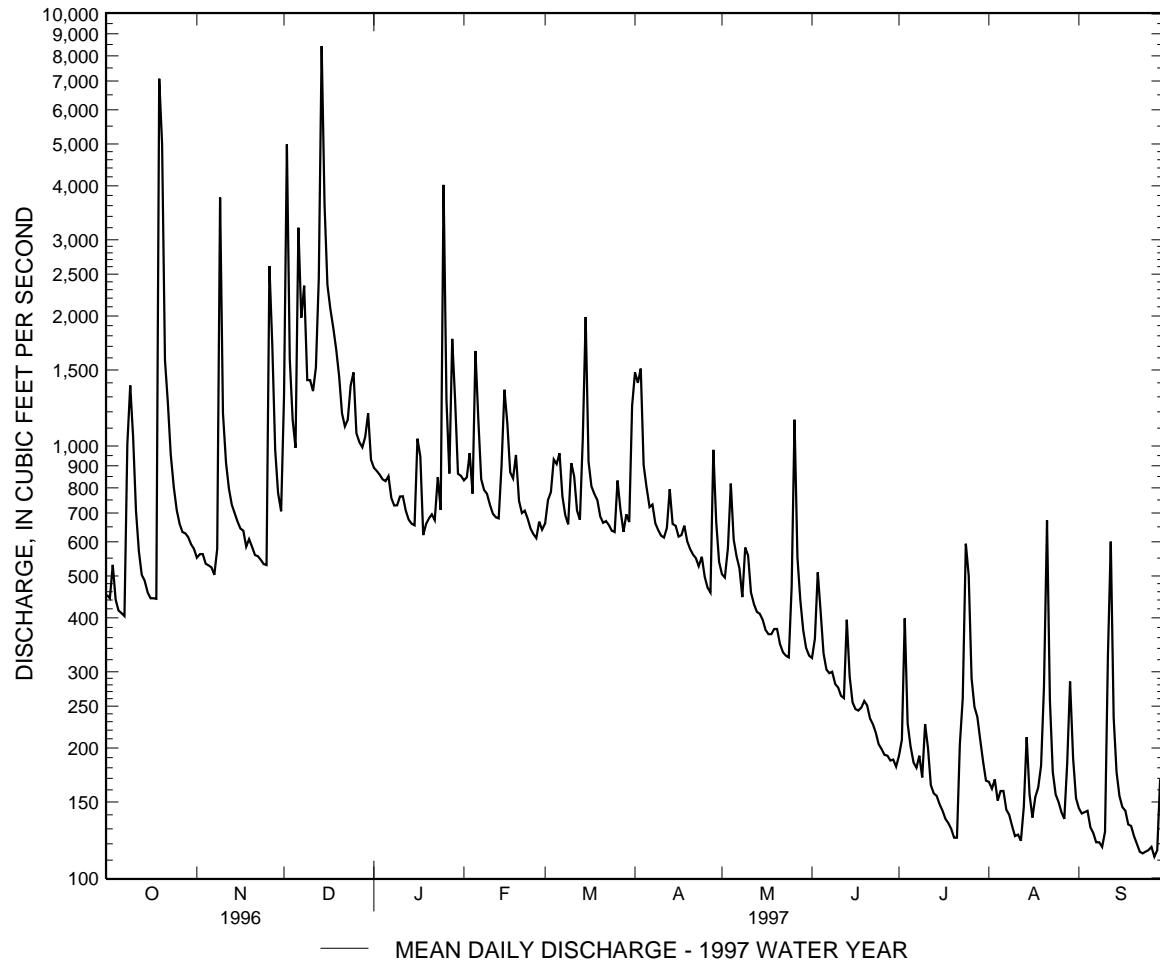
b During period of ice effect.

Adjusted for change in reservoir contents since November 1973.

e Estimated.

DELAWARE RIVER BASIN

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued



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DELAWARE RIVER BASIN

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, Hydrologic Unit 02040205, on left bank 15 ft downstream 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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1115	123	3.25	Mar. 4	0015	102	2.94
Dec. 2	0845	136	3.38	Apr. 28	0915	50	2.13
Dec. 14	0800	*334	*4.90				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.8	7.0	7.5	6.3	19	19	6.0	2.0	1.3	.62	.71
2	2.1	2.7	66	7.1	5.6	19	12	5.0	3.2	1.2	.59	.66
3	2.2	2.6	15	7.1	5.2	33	8.9	7.6	4.1	1.0	.53	.62
4	1.8	2.6	9.1	6.9	5.8	46	7.9	6.0	2.9	.95	.48	.56
5	1.8	2.6	7.2	8.0	33	16	6.6	4.4	2.2	1.0	.46	.49
6	1.8	2.7	31	6.1	18	13	7.2	4.4	2.0	.96	.46	.45
7	1.8	2.8	23	5.3	9.9	11	8.0	3.7	1.9	.89	.46	.39
8	15	4.3	30	5.1	9.2	10	5.7	3.5	1.9	.82	.44	.30
9	22	18	12	6.3	9.7	9.4	5.2	4.6	1.9	.68	.43	.24
10	6.9	6.4	9.8	11	8.8	17	5.0	4.2	2.7	1.1	.42	.19
11	3.4	3.6	9.6	9.6	7.7	13	4.9	3.4	1.8	1.5	.43	.17
12	2.4	3.0	9.8	5.9	7.3	9.6	7.1	3.2	1.5	1.2	.39	.30
13	2.3	2.8	49	4.9	6.7	8.6	10	3.1	1.9	1.0	.35	.37
14	2.3	3.0	201	4.7	18	13	5.9	3.1	1.9	.91	.34	.37
15	2.3	2.8	44	4.7	36	16	5.1	3.0	1.7	.82	.24	.35
16	2.4	2.8	22	19	17	9.7	4.8	2.8	1.4	.78	.15	.37
17	2.4	2.8	17	13	11	8.0	5.7	2.6	1.4	.70	.16	.37
18	3.1	2.9	14	5.5	9.3	8.7	7.2	2.5	1.5	.63	.17	.37
19	67	3.3	19	4.0	8.8	13	4.9	2.5	1.6	.58	.13	.37
20	15	3.1	15	4.1	8.1	11	4.6	2.3	1.3	.56	.58	.37
21	7.3	2.8	11	4.8	8.8	9.2	4.5	2.2	1.2	.58	14	.35
22	5.2	2.8	10	5.9	11	8.1	4.9	2.0	1.0	.57	1.9	.31
23	4.6	2.7	11	9.8	9.2	6.4	4.9	2.0	1.2	.48	.96	.29
24	4.1	2.7	11	7.0	8.5	5.8	11	2.0	1.4	.39	.85	.28
25	3.9	2.7	15	11	8.4	5.5	7.1	2.3	1.5	.23	.77	.25
26	3.7	7.8	11	8.2	8.5	14	4.9	5.6	1.6	.33	.70	.23
27	3.7	6.5	12	5.3	9.7	11	5.2	2.6	1.9	.45	.66	.21
28	3.8	3.8	10	13	8.7	7.3	36	2.1	1.9	.57	.64	.21
29	3.7	3.4	9.6	11	---	7.4	12	2.0	1.7	.61	.64	.16
30	3.1	3.5	9.2	6.5	---	7.7	7.4	2.1	1.5	.67	.65	.15
31	2.8	---	8.8	6.1	---	20	---	2.1	---	.67	.73	---
TOTAL	206.1	116.3	729.1	234.4	314.2	406.4	243.6	104.9	55.7	24.13	30.33	10.46
MEAN	6.65	3.88	23.5	7.56	11.2	13.1	8.12	3.38	1.86	.78	.98	.35
MAX	67	18	201	19	36	46	36	7.6	4.1	1.5	14	.71
MIN	1.8	2.6	7.0	4.0	5.2	5.5	4.5	2.0	1.0	.23	.13	.15
CFSM	1.73	1.01	6.11	1.96	2.91	3.41	2.11	.88	.48	.20	.25	.09
IN.	1.99	1.12	7.04	2.26	3.04	3.93	2.35	1.01	.54	.23	.29	.10

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

MEAN	2.49	3.49	5.25	6.35	7.21	8.64	7.56	5.47	3.70	2.98	2.04	2.10
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

DELAWARE RIVER BASIN

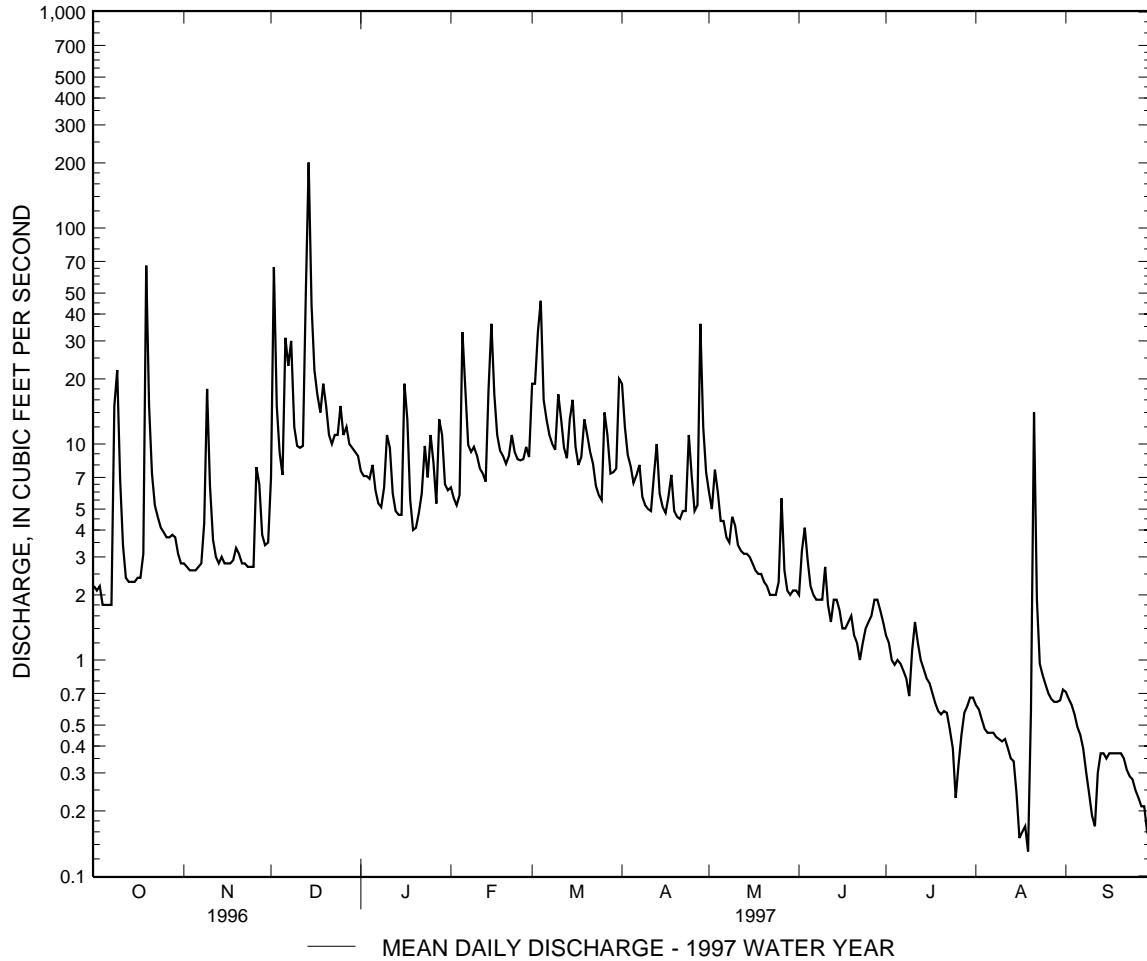
01483200 BLACKBIRD CREEK AT BLACKBIRD, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1957 - 1997
ANNUAL TOTAL	3422.1	2475.62	
ANNUAL MEAN	9.35	6.78	4.76
HIGHEST ANNUAL MEAN			9.05
LOWEST ANNUAL MEAN			1.40
HIGHEST DAILY MEAN	201	Dec 14	338
LOWEST DAILY MEAN	1.4	Sep 15	.13
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 4	.21
INSTANTANEOUS PEAK FLOW			334
INSTANTANEOUS PEAK STAGE			Dec 14
INSTANTANEOUS LOW FLOW			4.90
ANNUAL RUNOFF (CFSM)	2.43		1.76
ANNUAL RUNOFF (INCHES)	33.07		23.92
10 PERCENT EXCEEDS	16		14
50 PERCENT EXCEEDS	5.6		3.7
90 PERCENT EXCEEDS	2.3		.43

a Sept. 11, 1965; July 12-15, 17-31, Aug. 1-12, 14, 15, 18-31, Sept. 1-20, 1966.

b From rating curve extended above 200 ft³/s on basis of Type III culvert measurement of peak flow.

c No flow at times during 1964-66, 1969.



ST. JONES RIVER BASIN

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 mi².

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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 890 ft³/s, Dec. 14, gage height, 7.24 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	21	35	55	64	68	146	66	24	7.7	2.7	5.7
2	14	18	76	52	61	114	122	50	32	e4.4	2.4	5.5
3	13	16	107	51	55	136	82	50	e80	e3.5	2.5	5.9
4	9.3	16	91	50	52	e240	61	53	e70	e6.0	2.2	5.1
5	8.7	17	61	e49	130	197	51	43	e45	4.7	e3.3	4.3
6	8.7	17	102	48	194	123	50	39	e28	4.0	e4.6	4.2
7	8.8	17	171	46	128	89	54	36	e23	4.0	5.2	4.1
8	e65	24	e225	40	93	70	48	33	e21	3.9	4.8	4.1
9	e118	49	173	44	e81	59	e40	36	20	8.6	4.5	e3.9
10	147	60	107	58	79	77	36	38	17	31	4.4	e6.5
11	99	57	77	67	69	94	35	34	15	13	4.2	e5.6
12	58	40	65	55	63	74	39	30	14	7.2	3.8	6.1
13	32	29	124	43	60	58	55	28	14	5.3	3.7	6.2
14	23	25	690	37	89	62	50	26	14	4.0	e3.7	5.6
15	18	22	e634	34	221	88	39	26	14	3.6	e3.5	5.2
16	16	21	e320	73	224	83	35	23	13	3.6	e3.5	4.8
17	15	20	e189	100	136	61	38	19	11	e3.3	e3.5	e3.9
18	e14	e19	138	82	90	56	44	19	11	3.1	e3.7	e3.3
19	e85	e20	132	50	73	78	38	19	14	3.5	e3.3	e3.3
20	e125	21	134	36	65	102	34	20	12	e1.9	131	e3.3
21	100	20	108	36	60	85	39	18	11	e1.9	e430	3.2
22	61	20	80	41	61	68	34	16	10	e3.0	e205	2.7
23	40	17	70	59	57	56	39	13	12	e3.9	55	2.6
24	30	17	72	63	52	49	99	13	12	e1.3	18	2.5
25	25	17	84	83	46	44	e123	31	10	e1.4	9.8	e2.4
26	23	34	87	88	45	61	71	e208	12	9.2	7.8	2.5
27	22	41	81	66	51	72	50	e204	14	6.7	6.8	e2.3
28	22	37	77	85	52	60	193	76	11	6.0	6.8	e6.4
29	22	28	71	116	---	56	223	37	8.9	5.8	7.0	e4.8
30	21	24	65	90	---	59	114	27	8.0	3.5	6.4	5.5
31	19	---	61	66	---	97	---	25	---	3.0	e5.6	---
TOTAL	1284.5	784	4507	1863	2451	2636	2082	1356	600.9	196.3	958.7	131.5
MEAN	41.4	26.1	145	60.1	87.5	85.0	69.4	43.7	20.0	6.33	30.9	4.38
MAX	147	60	690	116	224	240	223	208	80	31	430	6.5
MIN	8.7	16	35	34	45	44	34	13	8.0	1.9	2.2	2.3
CFSM	1.30	.82	4.56	1.88	2.74	2.67	2.18	1.37	.63	.20	.97	.14
IN.	1.50	.91	5.26	2.17	2.86	3.07	2.43	1.58	.70	.23	1.12	.15

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1997, BY WATER YEAR (WY)

MEAN	24.4	38.2	50.8	59.0	74.1	58.8	37.9	29.7	18.6	24.5	19.5	
MAX	93.5	103	145	156	141	187	180	117	138	88.6	144	128
(WY)	1972	1973	1997	1978	1961	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	1963	1986	1986	1966	1966	1970

ST. JONES RIVER BASIN

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

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1958 - 1997
ANNUAL TOTAL	26373.1	18850.9	
ANNUAL MEAN	72.1	51.6	37.1
HIGHEST ANNUAL MEAN			69.3
LOWEST ANNUAL MEAN			6.14
HIGHEST DAILY MEAN	878	Jun 20	1460
LOWEST DAILY MEAN	(e) 7.4	Sep 9	Sep 13 1960 (b)
ANNUAL SEVEN-DAY MINIMUM	8.0	Sep 4	.00 .40 Sep 30 1963
INSTANTANEOUS PEAK FLOW			1900 Sep 13 1960
INSTANTANEOUS PEAK STAGE			(c) 9.45 Sep 13 1960
INSTANTANEOUS LOW FLOW			.00 (f)
ANNUAL RUNOFF (CFSM)	2.26	1.62	1.16
ANNUAL RUNOFF (INCHES)	30.75	21.98	15.78
10 PERCENT EXCEEDS	146	114	85
50 PERCENT EXCEEDS	46	35	21
90 PERCENT EXCEEDS	14	3.9	3.8

e Estimated

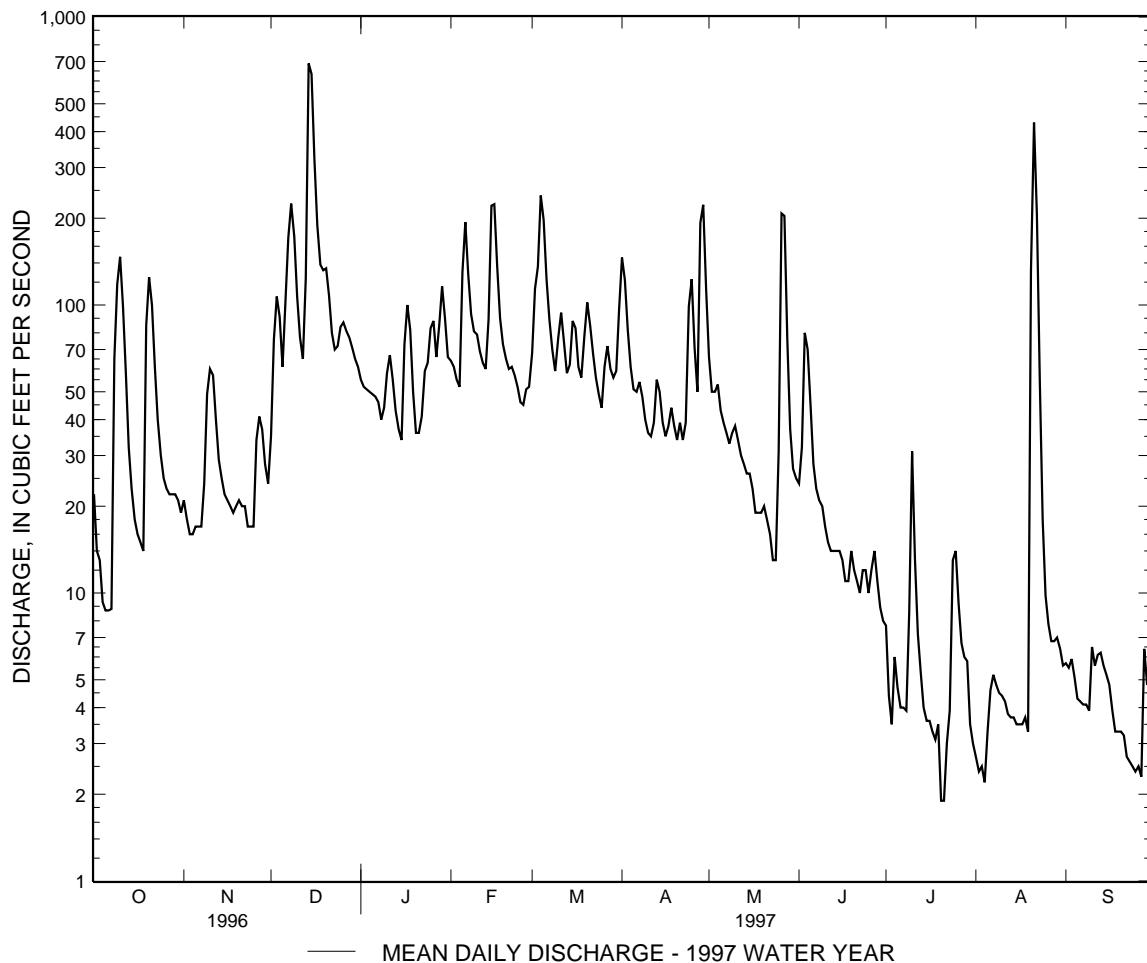
a July 20, 21.

b July 9, 1959, May 9, 10, 1961.

c From floodmarks.

d July 2, 20, 21.

f No flow at times in 1959, 1961, 1962.



MURDERKILL RIVER BASIN

01484000 MURDERKILL RIVER NEAR FELTON, DE

LOCATION.--Lat 38°58'33", long 75°34'03", Kent County, Hydrologic Unit 02040207, on left bank 30 ft downstream from northbound lane of bridge on U.S. Highway 13, 400 ft downstream from Black Swamp Creek, 1.3 mi upstream from Killen Pond, 2.2 mi south of Felton, and 17.6 mi upstream from mouth.

DRAINAGE AREA.--13.6 mi².

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 September 1997.

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.--Records good except those for estimated daily discharges (missing record), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1130	*385	*6.02				
May 26	1000	203	5.23				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.2	9.1	14	27	35	24	55	24	12	3.9	2.3	7.3
2	e5.5	9.1	38	26	30	30	38	20	14	4.1	2.3	7.2
3	4.8	8.6	33	25	27	34	27	19	27	4.1	2.4	6.7
4	4.1	8.2	22	24	25	68	23	18	23	3.6	2.4	6.2
5	4.1	8.2	17	23	90	44	20	14	15	3.3	2.7	6.0
6	4.0	8.1	46	22	87	43	20	13	12	3.3	2.9	5.9
7	4.0	8.3	55	20	50	32	21	12	11	3.4	2.4	5.7
8	19	9.5	88	18	42	26	17	11	10	3.2	2.4	5.6
9	48	25	57	20	44	23	15	13	9.5	3.2	2.5	5.8
10	49	19	38	32	42	30	14	13	8.8	4.0	2.7	7.9
11	28	14	30	28	35	29	14	11	8.3	3.3	2.8	8.4
12	14	11	27	21	32	23	16	10	8.0	3.1	2.7	6.4
13	11	10	49	18	31	20	22	10	8.0	2.9	2.7	6.7
14	9.6	9.7	308	16	45	25	16	9.8	8.2	2.7	2.5	5.7
15	8.6	9.3	226	16	99	38	14	9.2	7.8	2.6	2.4	5.4
16	8.2	8.8	120	40	79	27	13	8.7	6.9	2.6	2.7	4.8
17	7.9	8.6	75	51	48	21	15	8.4	6.7	2.5	2.9	4.6
18	7.3	8.7	56	33	37	20	17	8.2	8.2	2.4	2.8	4.6
19	35	9.6	60	20	32	33	14	8.0	19	3.7	2.8	4.6
20	40	9.1	63	15	29	36	13	7.8	8.9	2.7	43	4.4
21	23	8.7	42	16	27	28	13	7.4	7.0	2.6	286	4.0
22	17	8.4	35	18	28	24	13	6.9	5.9	2.8	81	3.8
23	14	8.0	34	26	24	20	14	6.7	5.2	3.6	23	3.9
24	12	7.9	34	23	21	17	36	6.6	4.6	8.4	13	3.9
25	11	7.8	47	59	20	16	31	8.9	4.3	5.2	9.9	3.9
26	10	15	38	50	20	26	20	153	4.4	3.6	8.9	3.8
27	9.9	15	45	31	24	25	17	70	5.5	3.2	8.3	3.6
28	9.9	11	43	55	22	19	84	26	4.3	2.9	8.3	5.9
29	9.7	9.6	37	75	---	20	68	16	4.0	2.7	8.7	7.6
30	9.5	9.3	33	42	---	22	33	14	3.9	2.4	7.8	3.9
31	9.5	---	30	35	---	44	---	13	---	2.4	7.2	---
TOTAL	453.8	312.6	1840	925	1125	887	733	576.6	281.4	104.4	554.4	164.2
MEAN	14.6	10.4	59.4	29.8	40.2	28.6	24.4	18.6	9.38	3.37	17.9	5.47
MAX	49	25	308	75	99	68	84	153	27	8.4	286	8.4
MIN	4.0	7.8	14	15	20	16	13	6.6	3.9	2.4	2.3	3.6
CFSM	1.08	.77	4.36	2.19	2.95	2.10	1.80	1.37	.69	.25	1.31	.40
IN.	1.24	.86	5.03	2.53	3.08	2.43	2.00	1.58	.77	.29	1.52	.45

e Estimated

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

MEAN	9.14	12.5	22.1	25.4	30.1	32.6	27.2	17.4	12.6	11.2	13.4	8.84
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	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	1985	1977	1976	1977	1966	1982	

MURDERKILL RIVER BASIN

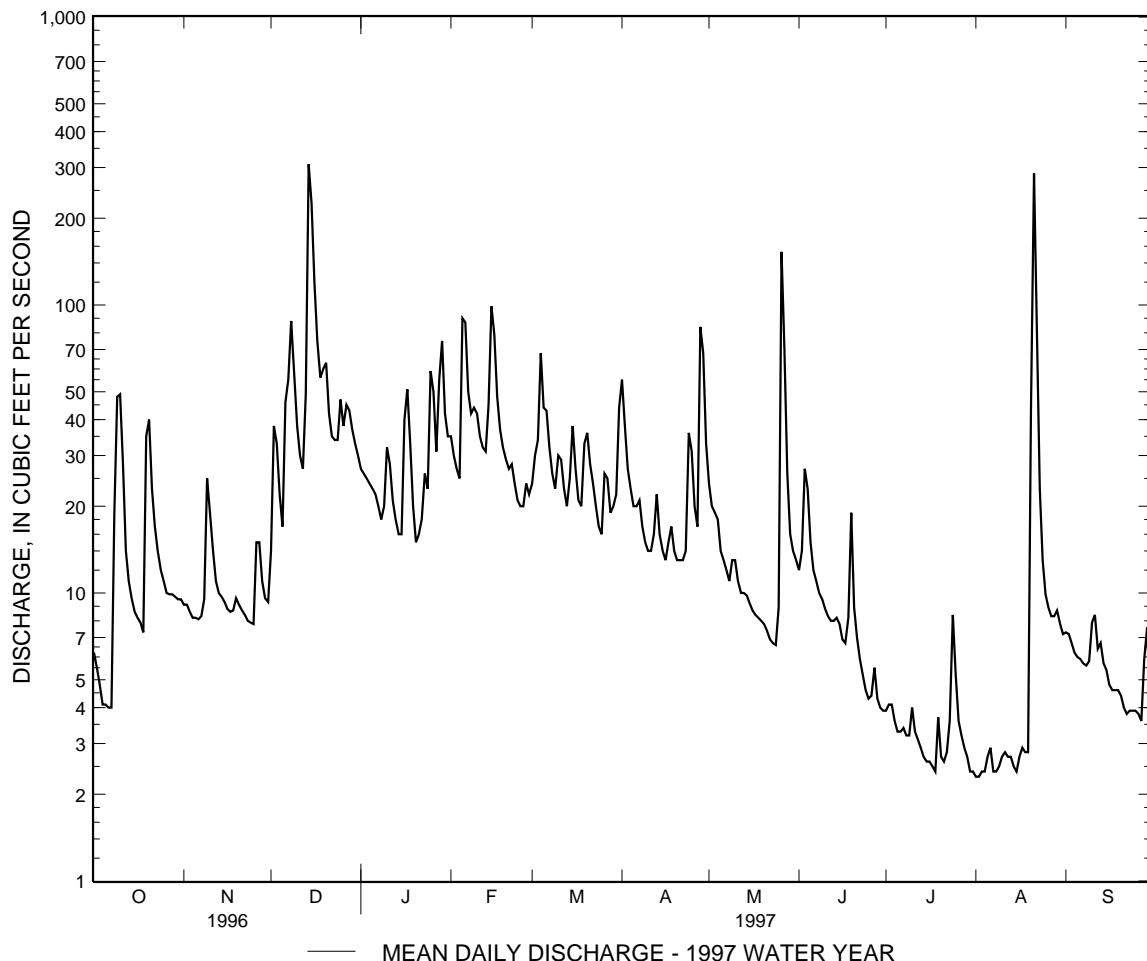
01484000 MURDERKILL RIVER NEAR FELTON, DE--Continued

SUMMARY STATISTICS	FOR 1997 WATER YEAR	WATER YEARS 1960 - 1985 1997
ANNUAL TOTAL	7957.4	
ANNUAL MEAN	21.8	18.4
HIGHEST ANNUAL MEAN		28.3
LOWEST ANNUAL MEAN		6.24
HIGHEST DAILY MEAN	308 Dec 14	1270 Aug 4 1967
LOWEST DAILY MEAN	2.3 (a)	1.1 Aug 28 1966
ANNUAL SEVEN-DAY MINIMUM	2.4 Jul 29	1.5 Sep 30 1965
INSTANTANEOUS PEAK FLOW	385 Dec 14	2090 Aug 4 1967
INSTANTANEOUS PEAK STAGE	6.02 Dec 14	8.83 Aug 4 1967
INSTANTANEOUS LOW FLOW	2.1 (b)	.80 (c)
ANNUAL RUNOFF (CFSM)	1.60	1.36
ANNUAL RUNOFF (INCHES)	21.77	18.41
10 PERCENT EXCEEDS	44	35
50 PERCENT EXCEEDS	13	10
90 PERCENT EXCEEDS	3.3	3.4

a Aug. 1, 2.

b July 18, Aug. 1, 2.

c Aug. 28, Sept. 11, 1966.



MISPILLION RIVER BASIN

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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1430	41	3.81				
May 26	0830	32	3.52	Aug. 21	0415	*128	*5.47

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.8	3.0	6.3	6.8	5.4	9.1	e6.2	3.8	1.9	1.2	3.6
2	1.8	2.8	5.2	6.3	6.0	5.7	6.6	e5.7	3.8	1.9	1.1	3.5
3	1.7	2.7	3.2	5.9	5.7	7.8	5.7	e5.2	4.7	1.9	1.1	3.4
4	1.6	2.6	3.0	5.7	5.7	9.9	5.3	e4.8	4.1	1.8	1.2	3.2
5	1.7	2.6	3.2	5.6	13	7.2	5.1	e4.4	3.6	1.8	1.3	3.0
6	1.7	2.6	5.6	5.3	9.2	8.9	5.3	e4.0	3.4	1.7	1.3	3.0
7	1.7	2.6	8.5	5.0	7.2	6.4	5.4	3.8	3.3	1.7	1.2	3.0
8	6.2	2.7	e6.5	4.8	7.6	5.9	4.9	3.7	3.2	1.7	1.2	2.8
9	6.9	3.4	4.8	5.5	8.4	5.6	4.7	4.1	3.1	1.7	1.1	2.8
10	8.2	2.7	4.2	7.0	8.0	6.3	4.6	4.0	3.0	1.8	1.1	4.7
11	3.8	2.5	4.1	5.6	6.9	5.9	4.6	3.6	2.9	1.7	1.1	3.9
12	3.4	2.5	4.0	4.9	6.6	5.1	4.9	3.6	2.9	1.6	1.1	3.2
13	3.3	2.5	6.3	4.7	6.5	4.8	5.5	3.5	2.9	1.5	1.1	3.4
14	3.2	2.5	35	4.6	12	6.2	4.7	3.4	2.9	1.5	1.1	2.9
15	3.1	2.4	26	4.5	18	7.1	4.6	3.4	2.8	1.5	1.1	2.8
16	3.1	2.4	13	11	12	5.4	4.5	3.2	2.6	1.4	.99	2.7
17	3.0	2.4	11	7.3	9.3	5.1	4.8	3.2	2.6	1.4	1.2	2.6
18	3.1	2.5	9.5	5.2	8.0	5.0	4.7	3.1	2.7	1.4	1.4	2.6
19	7.7	2.5	12	4.7	7.2	6.5	4.5	3.0	3.1	1.3	1.2	2.5
20	4.4	2.4	11	4.7	6.5	6.3	4.3	3.0	2.6	1.3	14	2.5
21	3.8	2.3	7.7	4.7	6.3	5.3	4.2	2.9	2.4	1.3	80	2.4
22	3.6	2.3	7.2	4.9	6.2	5.0	4.3	2.8	2.3	1.3	17	2.3
23	3.4	2.3	6.9	5.6	5.9	4.7	4.3	2.6	2.2	1.4	7.2	2.3
24	3.3	2.3	7.0	5.0	5.4	4.5	6.7	2.6	2.1	1.8	5.5	2.3
25	3.3	2.3	9.5	9.0	5.1	4.4	5.2	3.2	2.0	1.6	4.8	2.4
26	3.2	3.2	7.0	6.1	5.2	6.5	4.5	22	2.0	1.4	4.4	2.3
27	3.1	2.6	11	5.2	5.7	5.4	4.4	6.1	2.1	1.3	4.2	2.1
28	3.1	2.4	8.5	12	5.2	4.9	e13.5	4.5	2.0	1.3	4.2	2.8
29	3.1	2.3	7.6	9.8	---	5.3	e9.5	4.0	1.9	1.2	4.0	2.6
30	3.1	2.3	7.2	7.1	---	5.3	e7.0	3.8	1.9	1.2	3.8	2.2
31	2.9	---	6.7	6.7	---	9.8	---	3.8	---	1.2	3.6	---
TOTAL	107.2	76.4	265.4	190.7	215.6	187.6	167.4	137.2	84.9	47.5	174.79	85.8
MEAN	3.46	2.55	8.56	6.15	7.70	6.05	5.58	4.43	2.83	1.53	5.64	2.86
MAX	8.2	3.4	35	12	18	9.9	14	22	4.7	1.9	80	4.7
MIN	1.6	2.3	3.0	4.5	5.1	4.4	4.2	2.6	1.9	1.2	.99	2.1
CFSM	1.22	.90	3.03	2.17	2.72	2.14	1.97	1.56	1.00	.54	1.99	1.01
IN.	1.41	1.00	3.49	2.51	2.83	2.47	2.20	1.80	1.12	.62	2.30	1.13

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1997, BY WATER YEAR (WY)

MEAN	1.83	2.07	3.22	4.48	5.33	6.34	5.63	4.45	3.06	2.74	2.43	2.05
MAX	4.69	6.55	11.5	10.7	14.6	18.0	11.0	10.5	6.17	16.8	9.38	10.1
(WY)	1959	1973	1973	1978	1961	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	1985	1977	1986	1977	1987	1986	

MISPILLION RIVER BASIN

01484100 BEAVERDAM BRANCH AT HOUSTON, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1958 - 1997
ANNUAL TOTAL	1921.0	1740.49	
ANNUAL MEAN	5.25	4.77	
HIGHEST ANNUAL MEAN			3.59
LOWEST ANNUAL MEAN			5.86
HIGHEST DAILY MEAN	35	Dec 14	1.20
LOWEST DAILY MEAN	1.5	(a)	98 May 30 1984
ANNUAL SEVEN-DAY MINIMUM	1.6	Sep 4	.00 (b)
INSTANTANEOUS PEAK FLOW		(c) 128	.06 Jul 19 1977
INSTANTANEOUS PEAK STAGE		Aug 21	(d) 176 Sep 12 1960
INSTANTANEOUS LOW FLOW		5.47 Aug 21	5.55 Sep 12 1960
ANNUAL RUNOFF (CFSM)	1.85	.90 (f)	.00 (g)
ANNUAL RUNOFF (INCHES)	25.25	1.68	1.27
10 PERCENT EXCEEDS	9.6	22.88	17.25
50 PERCENT EXCEEDS	4.3	7.7	6.6
90 PERCENT EXCEEDS	1.8	3.8	2.8
		1.6	.83

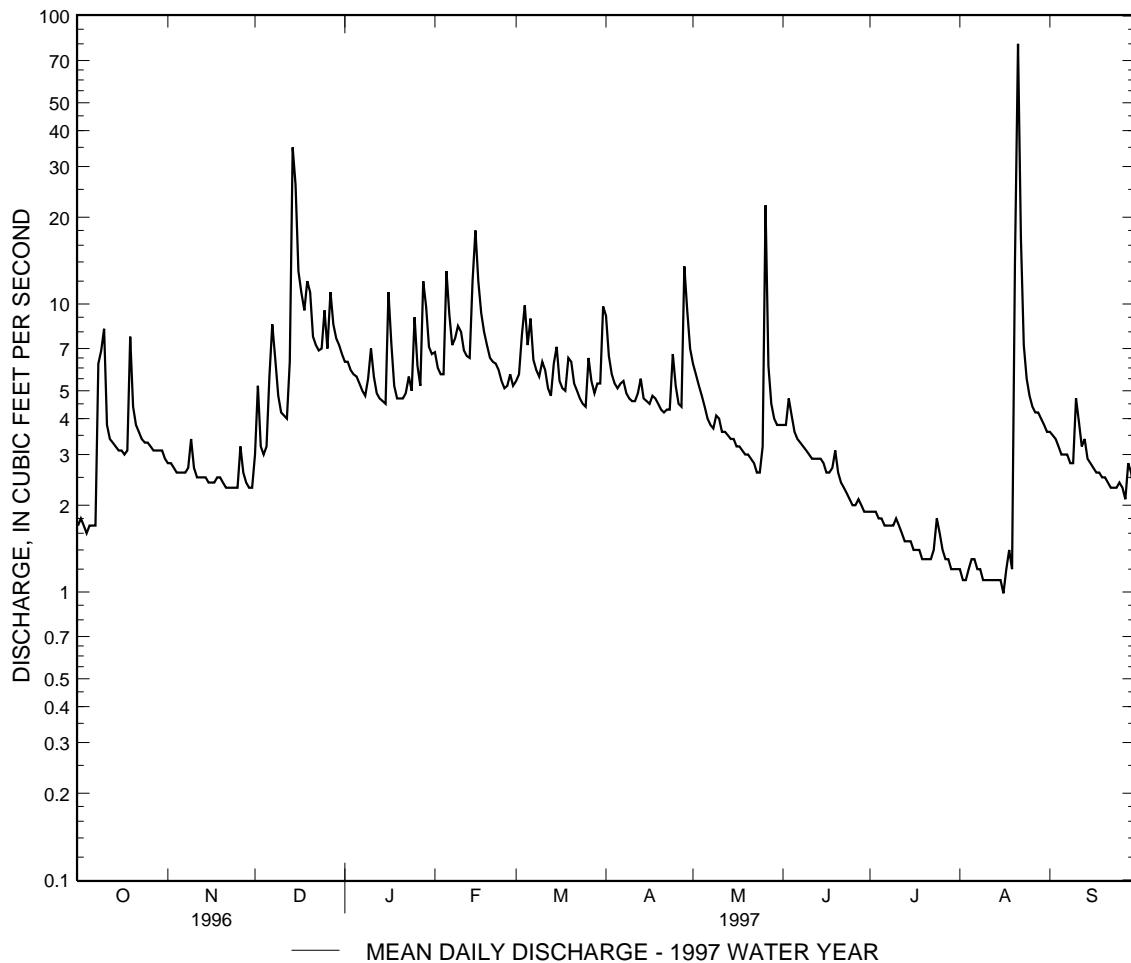
a Sept. 8-10, 15.

b Result of pumpage for irrigation.

c From rating curve extended above 35 ft³/s on basis of Type III curvett measurement at gage height of 5.47 ft.d From rating curve extended above 75 ft³/s.

e Aug. 16, 17.

f July 18-30, 1977.



DELAWARE BAY

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.

PERIOD OF DAILY RECORD.--January 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1993 to current year.

WATER TEMPERATURE: January 1993 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Records good. Interruption of the daily specific conductance January to March and May-June due to battery and conductivity probe failure. Interruption of the daily temperature record was caused by equipment malfunction or battery failure for periods in November and January-May.

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, 48,400 microsiemens, July 7; minimum, 28,600 microsiemens, Dec. 16.

WATER TEMPERATURE: Maximum, 25.4°C, July 30, Aug. 17; minimum, 3.6°C, on Dec. 30, but may have been lower during period of missing record..

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	41200	40300	40700	43300	42200	42600	45000	41900	42800	39400	33600	35100
2	41400	40500	40900	42500	41900	42200	45000	41900	43400	39400	32900	34700
3	42700	40800	41600	42000	40100	41200	42900	40800	41400	40500	33500	35700
4	40900	39500	40400	41100	40100	40500	41300	39200	40600	39800	34200	37100
5	40500	39200	39800	42400	40500	41100	40700	36500	38100	41200	34800	38100
6	40600	39200	39800	42500	40700	41400	43700	36000	39200	41100	37400	38400
7	41700	39200	40200	43600	41700	42400	42100	35500	39200	37700	34900	36600
8	42100	39900	41200	45600	42900	44500	38400	36100	37300	37400	34500	36000
9	40800	37600	39000	45400	37200	43200	37900	36300	37200	41500	37200	39200
10	39600	37600	38400	42400	38500	42000	39300	36000	37400	41000	38800	39900
11	40000	38500	39400	42100	33200	40400	41000	36900	38900	41100	38700	39800
12	41200	38300	39500	43700	38900	41800	40800	37700	38900	---	---	---
13	41900	39200	40700	43200	42300	42800	41900	38100	39800	---	---	---
14	42600	40900	41800	42900	42100	42400	38400	31700	34600	---	---	---
15	42200	40000	41300	42600	41600	42100	36800	30000	32100	---	---	---
16	43400	40900	42000	42600	41600	42100	39200	28600	33300	---	---	---
17	43300	41800	42400	43300	41400	42100	38300	29700	33800	---	---	---
18	44200	41900	42900	43200	41400	42400	37000	29300	33300	---	---	---
19	44200	43100	43600	43200	41700	42200	35900	30900	32300	---	---	---
20	44200	43100	43700	42200	41100	41600	33100	30300	31400	---	---	---
21	43900	43200	43600	41600	40400	40900	36700	31100	33400	---	---	---
22	43600	43000	43400	41500	39400	40700	39300	32200	36800	---	---	---
23	43600	43000	43300	43000	39400	40600	38600	35600	37500	---	---	---
24	43900	39100	42500	43400	41100	42100	40600	37800	39200	---	---	---
25	43600	42400	43100	43600	41200	42400	40300	37700	38800	---	---	---
26	43100	42500	42800	44300	40200	43200	39700	37600	38200	---	---	---
27	43300	42600	42900	41200	37200	38900	38600	37100	37600	---	---	---
28	43600	42600	43000	40000	37500	38900	39900	36200	38000	---	---	---
29	42900	41500	42600	41800	39100	40400	39700	37100	38200	---	---	---
30	44800	41500	43500	43100	39600	41400	37800	35500	36800	---	---	---
31	44200	42400	43500	---	---	---	37800	34400	36200	---	---	---
MONTH	44800	37600	41700	45600	33200	41700	45000	28600	37300	---	---	---

DELAWARE BAY

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

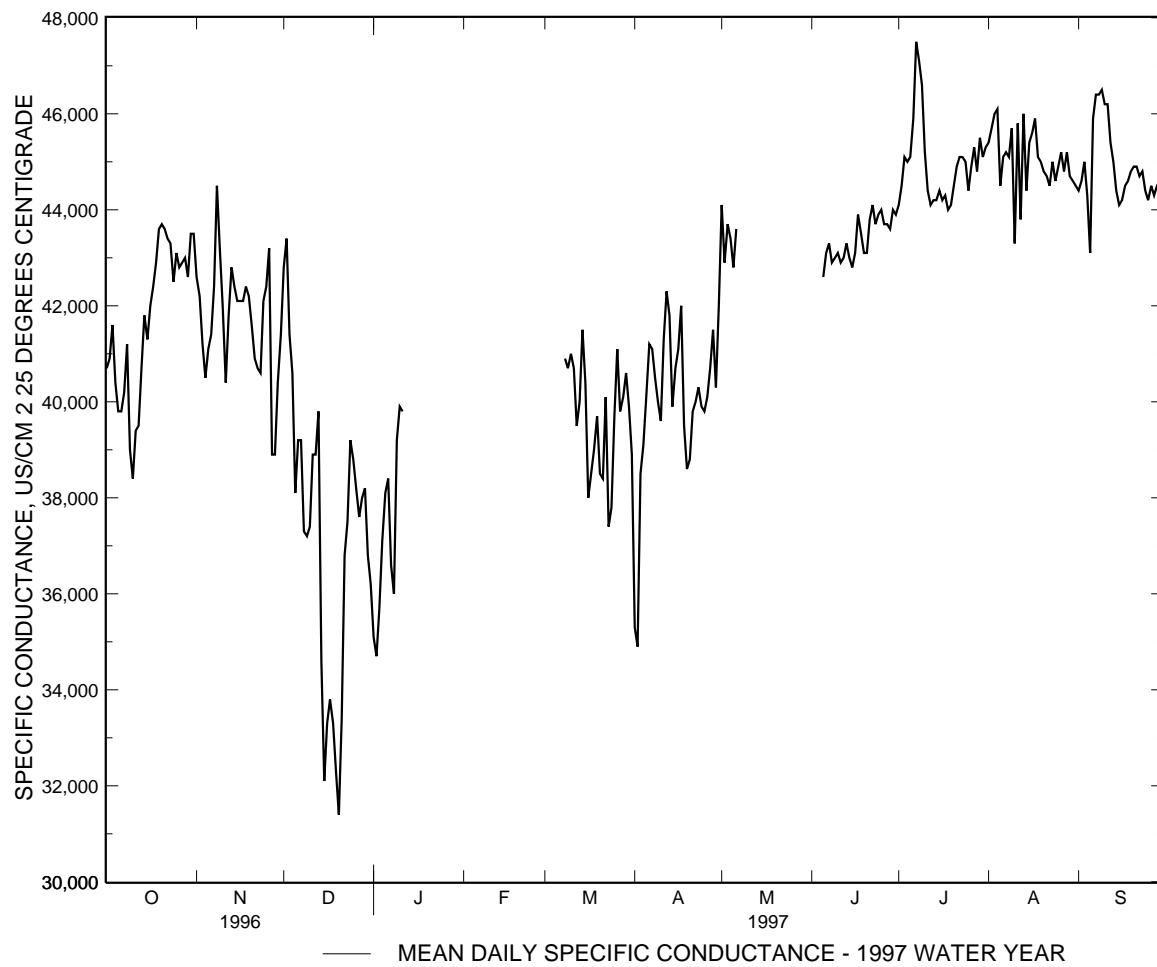
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	36800	33200	35300	45400	43200	44100
2	---	---	---	---	---	---	37100	33400	34900	44200	41900	42900
3	---	---	---	---	---	---	40300	35300	38500	45400	42300	43700
4	---	---	---	---	---	---	40600	37300	39100	45400	42600	43400
5	---	---	---	---	---	---	41800	38100	40100	43900	42100	42800
6	---	---	---	---	---	---	42200	39500	41200	44500	42700	43600
7	---	---	---	---	---	---	42000	40300	41100	---	---	---
8	---	---	---	42200	38000	40900	42000	39500	40500	---	---	---
9	---	---	---	42000	39300	40700	42500	38300	40000	---	---	---
10	---	---	---	41800	40000	41000	41900	38200	39600	---	---	---
11	---	---	---	41600	40000	40700	42800	39400	41300	---	---	---
12	---	---	---	40700	38500	39500	43600	41700	42300	---	---	---
13	---	---	---	40500	39000	40000	43100	40700	41800	---	---	---
14	---	---	---	43100	39900	41500	40900	39100	39900	---	---	---
15	---	---	---	41700	38500	40400	41500	39900	40700	---	---	---
16	---	---	---	39100	36700	38000	42100	40600	41100	---	---	---
17	---	---	---	40800	37800	38500	44000	40700	42000	---	---	---
18	---	---	---	39700	38200	39000	40900	37900	39500	---	---	---
19	---	---	---	41100	38900	39700	41000	37000	38600	---	---	---
20	---	---	---	39600	38000	38500	40300	38200	38800	---	---	---
21	---	---	---	40600	36900	38400	40400	38900	39800	---	---	---
22	---	---	---	41100	38400	40100	40700	37700	40000	---	---	---
23	---	---	---	39800	36800	37400	41100	38800	40300	---	---	---
24	---	---	---	39800	36300	37800	41100	37800	39900	---	---	---
25	---	---	---	41400	36500	39700	42300	38100	39800	---	---	---
26	---	---	---	42500	39400	41100	41700	39200	40100	---	---	---
27	---	---	---	40400	39300	39800	42000	39500	40700	---	---	---
28	---	---	---	42000	39700	40100	42200	40900	41500	---	---	---
29	---	---	---	41700	39400	40600	41900	38800	40300	---	---	---
30	---	---	---	40700	39200	39900	44100	40100	42000	---	---	---
31	---	---	---	40500	36800	38900	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	44100	33200	40000	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	44800	43500	44100	46200	41500	45400	44600	44200	44400
2	---	---	---	45300	43900	44500	46400	41300	45700	45300	39000	44600
3	---	---	---	46100	44500	45100	46400	45700	46000	45400	42000	45000
4	---	---	---	45800	43400	45000	46300	45900	46100	45300	40600	44300
5	43500	41900	42600	45600	43500	45100	46400	41100	44500	46400	34100	43100
6	43600	42300	43100	47800	44100	45900	46600	41000	45100	46800	41600	45900
7	43900	42300	43300	48400	46400	47500	46600	41200	45200	47000	45500	46400
8	43400	42100	42900	47900	46000	47100	46600	39200	45100	46800	44900	46400
9	43600	42300	43000	47500	45700	46600	46600	40600	45700	46700	45400	46500
10	44000	42700	43100	46700	41800	45200	46900	37100	43300	46900	42300	46200
11	44100	42500	42900	45100	44200	44400	47000	40500	45800	46900	44200	46200
12	44300	42400	43000	45100	42200	44100	46700	33600	43800	46500	43600	45400
13	44000	42600	43300	45000	43900	44200	46400	43200	46000	45200	44400	45000
14	43800	42200	43000	45100	42700	44200	46300	40400	44400	45000	43600	44400
15	43600	42200	42800	45000	43700	44400	46300	36400	45400	44800	43600	44100
16	44000	41700	43100	44800	43100	44200	46400	40000	45600	44800	43400	44200
17	44600	42700	43900	45100	43900	44300	46300	45400	45900	45000	44100	44500
18	44600	42900	43500	45000	42200	44000	45800	39100	45100	45000	44200	44600
19	44200	42100	43100	45000	41200	44100	45600	44300	45000	45200	44400	44800
20	44400	42400	43100	45100	44000	44500	45100	44500	44800	45200	44600	44900
21	44500	42900	43800	45400	44500	44900	45100	44100	44700	45300	44400	44900
22	44600	43600	44100	45400	44600	45100	45800	43600	44500	45400	44200	44700
23	44500	43000	43700	45500	44600	45100	45800	43300	45000	45400	44400	44800
24	44600	43200	43900	45800	42100	45000	45000	38000	44600	44800	43700	44400
25	44600	43500	44000	45000	42000	44400	45300	44600	44900	44900	43500	44200
26	44300	43400	43700	45500	44300	44900	45400	44500	45200	45000	44000	44500
27	44300	43400	43700	45900	43800	45300	45500	40400	44800	44500	44000	44300
28	44400	43100	43600	45800	41800	44800	45500	44700	45200	44800	43900	44500
29	44600	43500	44000	45700	45300	45500	45300	44100	44700	44900	44100	44600
30	44500	43600	43900	45800	43800	45100	44900	44200	44600	45500	44700	45200
31	---	---	---	45800	42700	45300	44900	44200	44500	---	---	---
MONTH	---	---	---	48400	41200	45000	47000	33600	45100	47000	34100	44900

DELAWARE BAY

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



DELAWARE BAY

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DELAWARE BAY

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

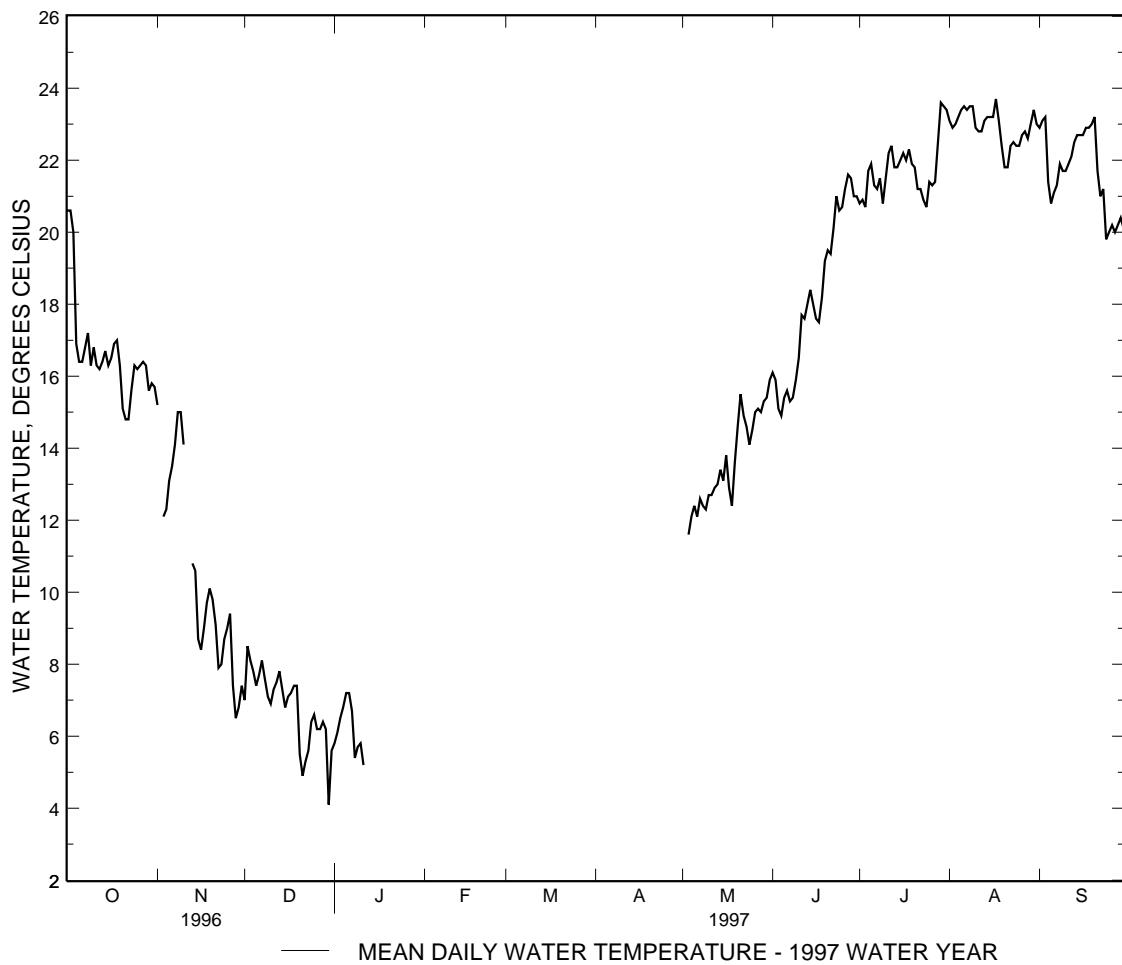
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.7	15.3	16.1	21.4	19.8	20.8	24.1	22.2	23.1	23.4	22.4	22.9
2	16.5	15.4	15.9	21.3	19.7	20.9	23.3	22.3	22.9	24.0	22.5	23.1
3	15.6	14.6	15.1	21.9	19.7	20.7	23.9	22.3	23.0	23.6	22.4	23.2
4	15.4	14.5	14.9	22.9	19.8	21.7	23.8	22.5	23.2	22.4	20.8	21.4
5	16.5	14.5	15.4	23.3	20.8	21.9	24.6	22.6	23.4	21.5	19.9	20.8
6	15.9	15.3	15.6	22.0	20.1	21.3	24.8	22.5	23.5	21.3	20.8	21.1
7	15.6	15.0	15.3	22.3	19.5	21.2	24.1	22.5	23.4	22.0	20.8	21.3
8	16.1	14.8	15.4	22.3	19.4	21.5	24.8	22.8	23.5	22.1	21.6	21.9
9	16.9	15.4	15.9	21.6	18.7	20.8	24.1	21.9	23.5	21.9	21.6	21.7
10	17.8	15.5	16.5	22.6	19.6	21.5	23.3	21.4	22.9	22.2	21.4	21.7
11	18.6	16.3	17.7	23.3	19.3	22.2	23.6	21.4	22.8	22.2	21.7	21.9
12	18.5	16.1	17.6	24.0	19.3	22.4	23.6	21.4	22.8	22.7	21.7	22.1
13	18.8	16.7	18.0	22.9	19.3	21.8	23.9	21.6	23.1	23.2	22.0	22.5
14	18.9	17.2	18.4	23.2	18.8	21.8	23.8	21.8	23.2	23.2	22.2	22.7
15	19.0	17.0	18.0	23.5	19.2	22.0	24.0	22.1	23.2	23.2	22.3	22.7
16	18.9	16.7	17.6	23.8	19.2	22.2	24.8	21.4	23.2	23.5	22.2	22.7
17	17.9	16.7	17.5	24.2	19.4	22.0	25.4	22.1	23.7	23.2	22.6	22.9
18	19.3	17.5	18.2	24.0	20.2	22.3	24.2	22.3	23.1	23.1	22.6	22.9
19	20.5	18.0	19.2	24.0	20.2	21.9	23.6	21.5	22.4	23.5	22.5	23.0
20	20.7	18.0	19.5	24.5	20.2	21.8	22.4	20.9	21.8	23.6	22.7	23.2
21	21.1	18.1	19.4	22.0	20.3	21.2	22.6	20.9	21.8	22.9	20.6	21.7
22	21.6	18.8	20.1	22.1	20.0	21.2	23.1	22.0	22.4	21.8	20.1	21.0
23	23.7	19.6	21.0	21.7	20.1	20.9	23.0	22.1	22.5	21.8	20.8	21.2
24	22.0	19.4	20.6	21.7	19.6	20.7	22.8	21.9	22.4	20.9	19.2	19.8
25	22.3	19.6	20.7	22.2	20.7	21.4	22.8	21.9	22.4	20.7	19.4	20.0
26	22.1	19.9	21.2	21.8	20.6	21.3	23.1	22.3	22.7	20.6	19.6	20.2
27	23.0	19.9	21.6	22.2	20.5	21.4	23.5	22.0	22.8	20.4	19.6	20.0
28	22.7	19.7	21.5	23.2	21.5	22.5	23.0	22.0	22.6	20.5	19.9	20.2
29	22.3	19.9	21.0	24.5	22.6	23.6	23.7	22.3	23.0	20.6	20.1	20.4
30	21.9	19.9	21.0	25.4	22.3	23.5	24.2	22.7	23.4	20.4	19.8	20.1
31	---	---	---	25.3	22.0	23.4	23.6	22.1	23.0	---	---	---
MONTH	23.7	14.5	18.2	25.4	18.7	21.7	25.4	20.9	22.9	24.0	19.2	21.7

DELAWARE BAY

01484450 DELAWARE BAY NEAR LEWES, DE--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



INDIAN RIVER BASIN

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 mi².

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.--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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1830	*93	*3.83				No other peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	10	5.1	13	12	9.4	13	9.8	4.0	4.5	1.7	2.7
2	7.9	9.0	12	14	9.4	9.7	11	8.2	5.3	5.7	1.7	1.9
3	8.8	7.1	9.2	15	11	11	10	8.4	6.5	3.8	1.6	1.4
4	7.8	8.3	8.2	13	8.4	13	9.9	8.1	7.3	2.9	1.7	1.3
5	5.1	7.6	7.6	12	14	13	9.4	9.3	8.6	2.8	1.8	1.6
6	4.7	8.7	12	14	14	21	9.6	9.2	8.9	2.7	1.8	1.3
7	4.8	10	10	16	12	14	11	9.3	6.2	2.5	1.8	1.1
8	13	10	18	9.9	12	12	11	9.0	5.2	2.4	1.6	1.1
9	20	9.0	12	10	13	11	11	10	4.9	2.5	1.5	1.1
10	14	6.5	11	13	12	12	10	9.0	4.6	4.1	1.5	1.1
11	12	8.4	11	11	13	8.4	7.3	6.6	2.8	1.5	1.1	
12	7.7	8.2	11	9.3	11	12	8.6	7.9	6.0	2.4	1.5	1.1
13	6.9	7.9	10	8.5	10	12	9.8	8.7	4.4	2.3	1.5	1.1
14	8.7	8.0	62	8.2	16	12	8.6	8.9	3.6	2.3	1.7	1.0
15	6.5	7.6	44	8.0	23	14	10	8.8	3.2	3.0	1.6	1.1
16	7.9	5.6	24	12	18	11	9.9	8.4	5.3	2.5	1.5	1.1
17	8.1	4.8	22	11	17	12	9.7	6.1	3.7	2.3	1.4	1.1
18	6.3	6.4	20	9.2	16	10	9.8	5.4	4.1	2.1	1.5	1.1
19	16	7.6	25	9.1	15	13	7.7	5.2	7.1	2.3	1.5	1.5
20	13	5.4	24	9.1	15	13	7.1	5.3	3.8	2.1	2.1	1.3
21	12	6.0	18	8.4	14	13	8.9	5.0	3.3	2.1	3.2	1.2
22	12	6.4	16	8.0	12	10	8.7	6.2	3.2	2.2	1.8	1.4
23	10	4.7	16	8.5	11	8.9	8.7	5.2	3.1	3.3	1.5	2.3
24	11	3.9	15	8.3	10	8.1	11	4.4	3.3	3.5	1.4	1.3
25	11	3.9	17	12	9.7	7.8	9.9	4.4	4.9	4.7	1.4	1.1
26	9.4	7.3	15	8.5	9.7	12	7.4	8.6	4.1	2.5	1.3	1.4
27	9.1	7.4	17	9.4	11	11	6.8	5.4	4.2	2.2	1.3	1.1
28	11	5.0	16	14	9.7	9.5	13	4.5	3.0	2.1	1.2	1.2
29	9.4	4.4	15	13	---	10	10	4.3	2.8	2.0	1.2	1.2
30	8.7	4.2	14	11	---	11	8.9	4.1	3.9	1.8	1.1	.97
31	9.2	---	14	13	---	13	---	4.1	---	1.8	1.1	---
TOTAL	299.9	209.3	531.1	339.4	356.9	362.4	288.8	218.5	145.1	86.2	49.0	39.27
MEAN	9.67	6.98	17.1	10.9	12.7	11.7	9.63	7.05	4.84	2.78	1.58	1.31
MAX	20	10	62	16	23	21	13	10	8.9	5.7	3.2	2.7
MIN	4.7	3.9	5.1	8.0	8.4	7.8	6.8	4.1	2.8	1.8	1.1	.97
CFSM	1.85	1.33	3.27	2.09	2.43	2.23	1.84	1.35	.92	.53	.30	.25
IN.	2.13	1.49	3.77	2.41	2.53	2.57	2.05	1.55	1.03	.61	.35	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	3.41	4.62	6.79	9.45	10.4	12.6	10.3	7.66	5.58	4.16	4.86	3.32
MAX	10.5	14.3	22.8	24.8	25.8	31.2	24.4	19.7	25.3	17.5	24.8	12.2
(WY)	1972	1957	1946	1978	1979	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

INDIAN RIVER BASIN

01484500 STOCKLEY BRANCH AT STOCKLEY, DE--Continued

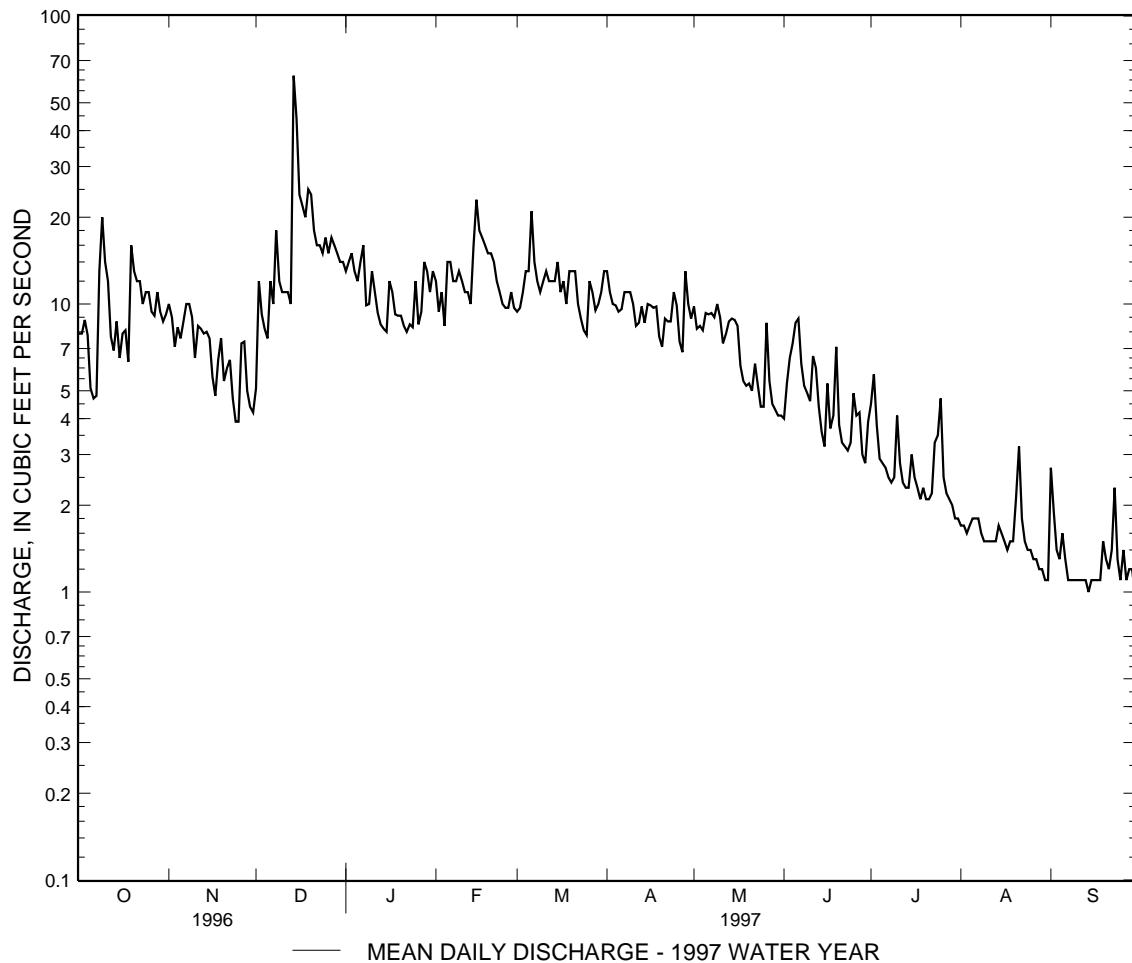
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1943 - 1997
ANNUAL TOTAL	3841.0	2925.87	
ANNUAL MEAN	10.5	8.02	
HIGHEST ANNUAL MEAN			6.93
LOWEST ANNUAL MEAN			12.0
HIGHEST DAILY MEAN	62	Dec 14	3.24
LOWEST DAILY MEAN	2.4	Sep 8	195 Mar 3 1994
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 27	.13 (a)
INSTANTANEOUS PEAK FLOW			.13 Sep 2 1944
INSTANTANEOUS PEAK STAGE			(b) 303 Mar 3 1994
INSTANTANEOUS LOW FLOW			5.52 Mar 3 1994
ANNUAL RUNOFF (CFSM)	2.00	1.53	.13 (d)
ANNUAL RUNOFF (INCHES)	27.27	20.77	1.32
10 PERCENT EXCEEDS	18	14	17.97
50 PERCENT EXCEEDS	9.2	8.2	14
90 PERCENT EXCEEDS	4.4	1.5	5.0
			1.5

a Sept. 2-11, 1944.

b From rating curve extended above 150 ft³/s.

c Sept. 14, 30.

d Sept. 1-11, 1944.



INDIAN RIVER BASIN

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 mi².

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.--No estimated daily discharges. Records good. Outflow from lake controlled by sluice gates at outlet. No 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 679 ft³/s, Dec. 15, gage height, 4.00 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	86	73	169	143	141	180	122	72	46	27	30
2	77	89	101	163	138	141	168	115	71	51	25	49
3	74	87	102	161	131	144	153	116	79	55	28	38
4	70	85	91	156	124	157	145	120	82	51	28	32
5	68	97	83	154	144	156	137	104	74	49	33	28
6	67	90	108	152	155	179	133	104	69	45	34	28
7	64	85	121	145	150	196	138	101	67	40	34	25
8	106	88	154	140	153	164	132	94	65	44	32	23
9	171	95	166	139	166	148	120	110	62	44	29	25
10	200	89	140	153	164	150	113	130	60	47	27	27
11	161	82	122	152	156	149	109	108	56	47	28	25
12	135	78	113	141	147	145	115	96	55	43	28	25
13	112	77	122	129	141	134	137	93	54	40	26	23
14	101	77	273	121	162	138	128	91	55	36	29	23
15	96	76	618	118	234	167	114	90	56	34	29	23
16	91	74	426	143	276	160	110	86	53	34	26	23
17	88	74	302	154	227	143	107	80	52	40	25	22
18	90	74	253	138	193	137	111	75	54	39	27	22
19	136	76	255	121	178	144	107	76	81	46	25	24
20	165	76	302	113	169	154	99	76	71	38	32	25
21	163	73	273	113	162	153	95	73	57	36	46	26
22	142	72	218	115	161	146	100	70	53	35	33	23
23	126	70	192	129	153	133	103	69	52	48	30	21
24	111	70	192	121	144	122	128	67	49	67	27	21
25	107	70	198	132	137	115	125	67	46	50	25	22
26	102	82	195	130	136	143	111	107	52	45	25	22
27	100	84	200	116	149	160	100	104	69	40	24	22
28	98	76	201	136	145	149	153	79	59	36	23	27
29	98	71	194	164	---	144	162	70	51	29	24	27
30	95	68	185	157	---	158	138	67	46	33	24	24
31	89	---	176	146	---	173	---	69	---	33	25	---
TOTAL	3386	2391	6149	4321	4538	4643	3771	2829	1822	1321	878	775
MEAN	109	79.7	198	139	162	150	126	91.3	60.7	42.6	28.3	25.8
MAX	200	97	618	169	276	196	180	130	82	67	46	49
MIN	64	68	73	113	124	115	95	67	46	29	23	21
CFSM	1.65	1.21	3.01	2.11	2.46	2.27	1.90	1.38	.92	.65	.43	.39
IN.	1.91	1.35	3.47	2.44	2.56	2.62	2.13	1.59	1.03	.74	.49	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

MEAN	53.0	52.5	86.1	108	133	169	132	98.2	64.0	49.6	48.3	46.4
MAX	109	79.7	198	144	238	373	184	151	85.6	75.8	85.6	106
(WY)	1997	1997	1997	1993	1994	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

INDIAN RIVER BASIN

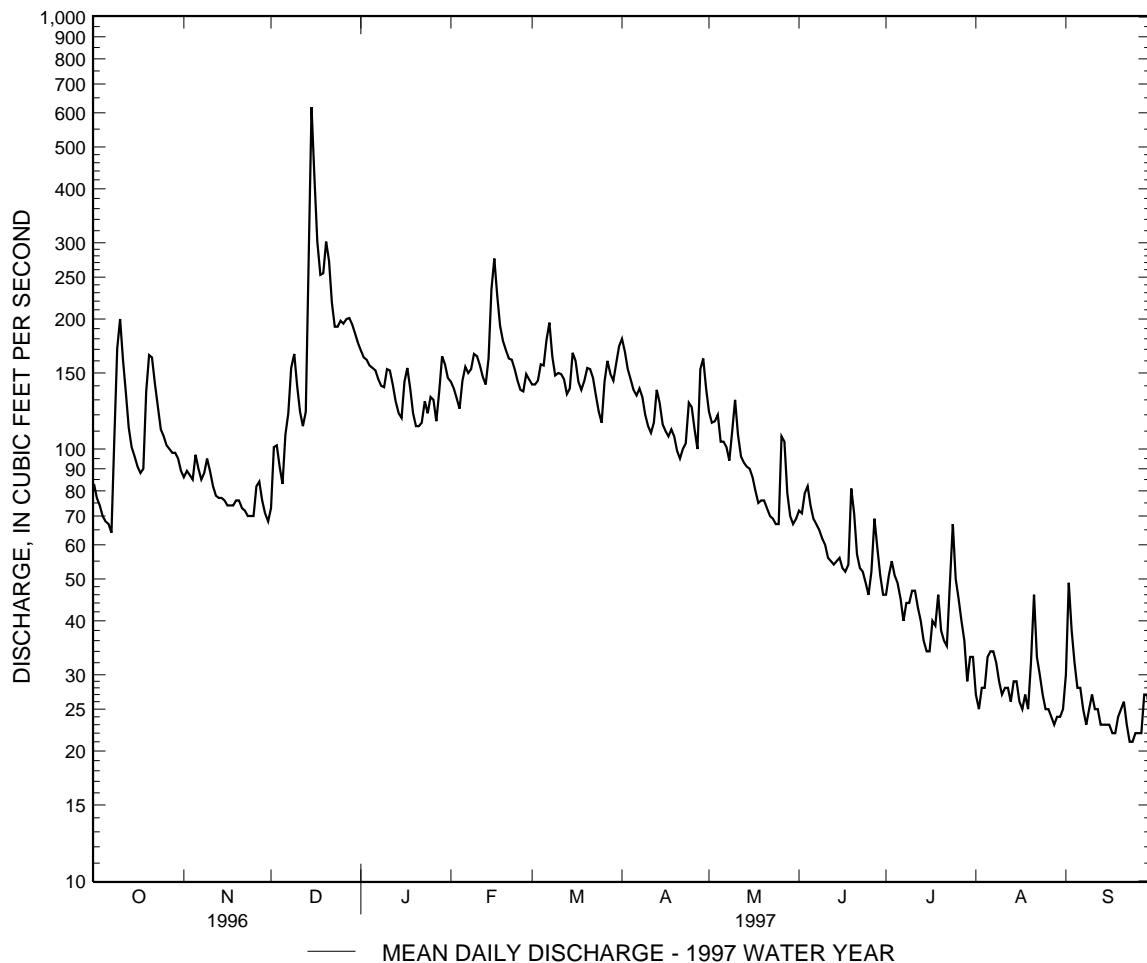
01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1986 - 1997
ANNUAL TOTAL	43883	36824	
ANNUAL MEAN	120	101	88.1
HIGHEST ANNUAL MEAN			124
LOWEST ANNUAL MEAN			55.0
HIGHEST DAILY MEAN	618	Dec 15	1260
LOWEST DAILY MEAN	45	Jul 11	13
ANNUAL SEVEN-DAY MINIMUM	48	Jul 5	15
INSTANTANEOUS PEAK FLOW		679 Dec 15	1770
INSTANTANEOUS PEAK STAGE		4.00 Dec 15	4.94
INSTANTANEOUS LOW FLOW		20 (b)	11
ANNUAL RUNOFF (CFSM)	1.82	1.53	1.34
ANNUAL RUNOFF (INCHES)	24.73	20.76	18.15
10 PERCENT EXCEEDS	192	164	156
50 PERCENT EXCEEDS	107	95	70
90 PERCENT EXCEEDS	60	27	26

a Sept. 23, 24.

b Sept. 17, 18, 22-27, 29.

c Sept. 12, Oct. 6, 1986, Nov. 6, 1987.



POCOMOKE RIVER BASIN

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 Whaleyville, and 50.3 mi upstream from mouth.

DRAINAGE AREA.--60.5 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 15	1400	*1,050	*11.67			605	10.02

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	70	62	161	108	86	219	114	25	11	9.0	4.6
2	55	68	153	140	98	106	170	95	24	11	8.6	5.3
3	50	65	161	128	88	106	127	83	25	11	8.2	6.5
4	44	62	127	117	81	167	107	82	28	10	8.1	5.0
5	39	60	106	110	137	134	92	70	26	9.9	8.3	4.4
6	35	59	185	104	194	251	83	64	23	9.4	8.4	5.7
7	34	58	208	93	140	181	83	58	21	9.1	7.4	4.5
8	83	62	375	85	163	130	75	53	21	8.9	7.2	3.9
9	307	70	282	85	259	110	68	53	19	8.5	6.7	4.0
10	272	74	209	119	200	109	63	56	18	9.3	6.5	4.0
11	217	67	167	112	154	110	60	52	17	8.8	6.3	4.0
12	161	62	140	95	125	95	59	46	16	8.2	6.1	4.0
13	127	58	131	83	111	82	91	44	16	7.8	5.6	3.6
14	107	54	620	76	173	93	89	41	16	7.6	5.6	3.5
15	93	51	1020	73	374	224	75	38	16	7.5	5.8	3.4
16	83	47	921	96	371	155	68	36	15	7.2	5.6	3.4
17	77	46	664	125	255	117	65	33	14	7.7	5.9	3.2
18	74	43	453	96	183	103	65	30	14	8.0	5.4	3.2
19	190	41	469	78	146	111	61	28	14	7.8	5.2	3.2
20	242	39	555	71	123	144	57	26	14	7.3	6.0	3.2
21	190	36	402	68	110	121	54	25	13	6.9	9.8	3.3
22	151	35	289	68	106	106	54	23	12	6.9	8.1	3.2
23	128	33	230	78	93	90	53	22	11	7.5	6.6	3.3
24	115	31	196	82	83	78	68	21	11	20	5.8	3.1
25	101	31	222	89	78	71	76	21	11	42	5.3	3.0
26	90	54	195	90	74	110	69	28	11	21	5.1	3.1
27	84	90	218	81	84	146	62	31	13	15	5.0	3.2
28	81	77	222	108	86	112	233	28	12	13	4.9	3.3
29	79	67	183	167	---	114	238	25	11	12	4.9	4.0
30	75	62	156	124	---	186	150	24	10	11	4.7	3.9
31	74	---	155	113	---	181	---	24	---	9.7	4.4	---
TOTAL	3519	1672	9476	3115	4197	3929	2834	1374	497	341.0	200.5	116.0
MEAN	114	55.7	306	100	150	127	94.5	44.3	16.6	11.0	6.47	3.87
MAX	307	90	1020	167	374	251	238	114	28	42	9.8	6.5
MIN	34	31	62	68	74	71	53	21	10	6.9	4.4	3.0
CFSM	1.88	.92	5.05	1.66	2.48	2.09	1.56	.73	.27	.18	.11	.06
IN.	2.16	1.03	5.83	1.92	2.58	2.42	1.74	.84	.31	.21	.12	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

MEAN	36.4	48.7	83.2	112	123	144	101	59.7	43.7	34.7	52.3	26.0
MAX	164	221	306	322	339	393	277	236	216	217	507	128
(WY)	1977	1980	1997	1978	1979	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

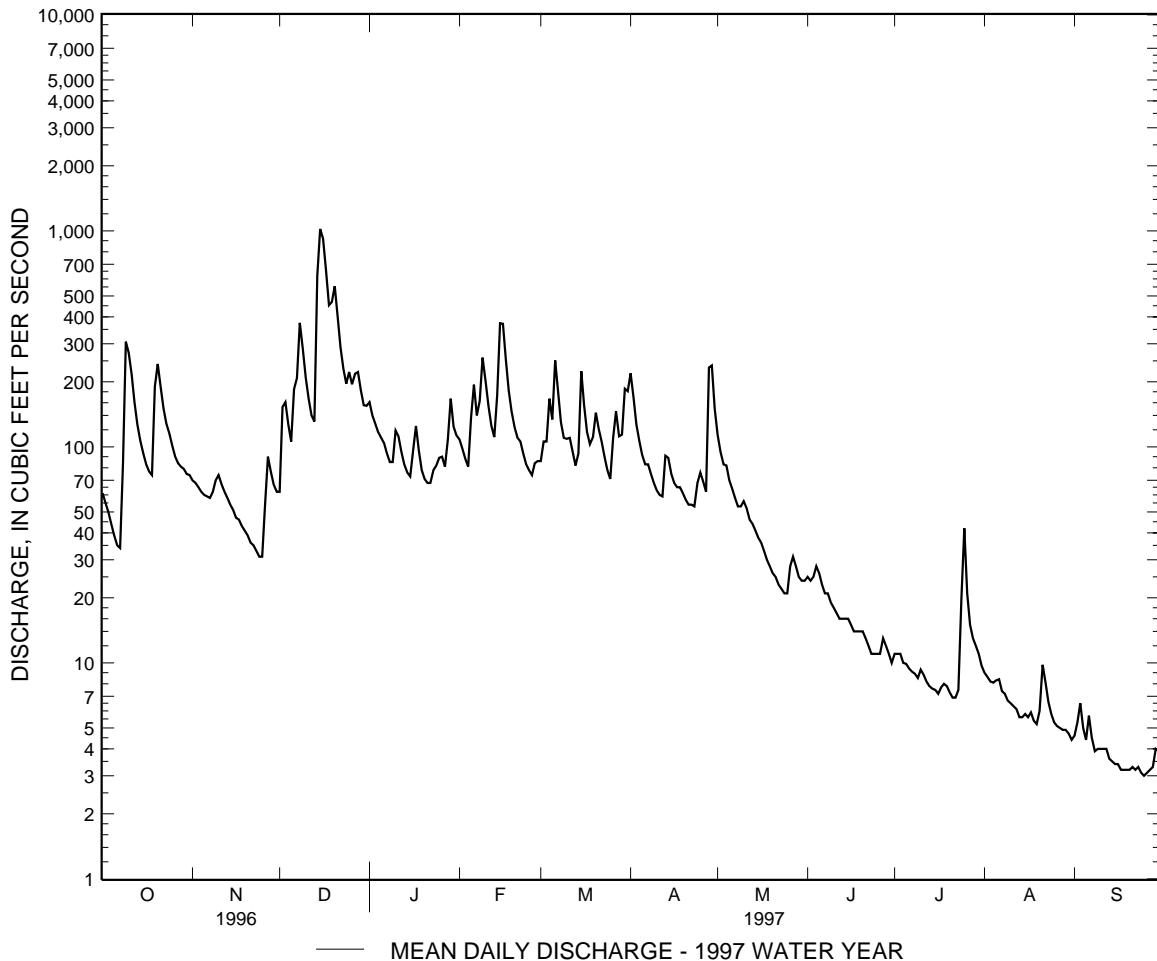
POCOMOKE RIVER BASIN

01485000 POCOMOKE RIVER NEAR WILLARDS, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1950 - 1997
ANNUAL TOTAL	42648	31270.5	
ANNUAL MEAN	117	85.7	72.5
HIGHEST ANNUAL MEAN			130
LOWEST ANNUAL MEAN			24.8
HIGHEST DAILY MEAN	1020	Dec 15	2580
LOWEST DAILY MEAN	12	Jul 11	Aug 20 1989
ANNUAL SEVEN-DAY MINIMUM	14	Jul 6	Sep 15 1995
INSTANTANEOUS PEAK FLOW		1050 Dec 15	Sep 10 1995
INSTANTANEOUS PEAK STAGE		11.67 Dec 15	(a) 2820 Aug 20 1989
INSTANTANEOUS LOW FLOW		2.9 Sep 25	15.41 Aug 20 1989
ANNUAL RUNOFF (CFSM)	1.93	1.42	1.20 (b)
ANNUAL RUNOFF (INCHES)	26.22	19.23	16.28
10 PERCENT EXCEEDS	216	188	158
50 PERCENT EXCEEDS	83	62	40
90 PERCENT EXCEEDS	31	5.4	8.8

a From rating curve extended above 1,600 ft³/s.

b Sept. 12, 15, 16, 1995.



POCOMOKE RIVER BASIN

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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 10	1600	307	5.56	Dec. 20	2000	348	5.69
Dec. 9	0300	403	5.84	Feb. 16	1200	346	5.68
Dec. 15	2100	*660	*6.40				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	28	69	91	81	74	137	115	18	5.0	8.6	4.4
2	26	28	110	87	72	89	134	84	28	7.5	7.1	4.1
3	24	29	161	81	65	99	110	69	33	13	6.2	4.0
4	21	28	159	74	58	133	85	67	29	8.8	7.3	3.8
5	19	28	120	69	67	145	69	56	24	6.5	17	3.5
6	17	28	134	65	113	142	59	47	20	5.4	15	3.1
7	17	28	208	59	147	150	56	40	18	4.7	12	2.9
8	59	27	356	53	131	134	51	35	16	4.4	11	2.6
9	168	39	373	54	172	96	46	32	14	3.9	8.7	2.6
10	281	37	234	70	190	82	42	31	13	5.2	7.1	3.4
11	257	43	152	75	143	78	38	29	11	5.0	6.0	4.0
12	165	44	115	75	105	74	37	27	9.7	4.3	5.3	3.9
13	109	39	95	64	82	67	58	26	8.9	3.7	4.9	3.5
14	78	34	175	54	92	67	66	25	14	3.1	4.9	3.0
15	62	31	558	45	188	116	66	24	14	2.7	5.8	2.7
16	48	29	546	59	329	150	58	22	11	2.4	5.3	2.5
17	37	28	300	72	253	129	49	19	9.3	2.3	4.5	2.3
18	32	27	191	75	154	93	46	18	8.3	2.1	5.5	2.3
19	88	27	193	64	114	92	42	16	7.9	2.4	6.6	2.3
20	145	26	312	47	92	120	39	15	7.3	2.6	9.6	2.4
21	179	25	290	41	79	128	34	13	6.1	2.4	37	4.1
22	140	24	177	42	72	108	32	12	5.3	2.3	21	3.5
23	103	24	127	68	66	83	31	11	4.7	9.2	15	3.0
24	79	23	105	81	59	68	41	11	4.1	60	10	2.8
25	67	23	112	82	54	58	43	10	3.6	89	7.4	2.5
26	57	52	116	78	50	71	43	26	5.5	89	6.1	2.6
27	49	80	127	70	54	121	39	32	20	66	5.1	2.4
28	42	92	129	73	61	104	98	29	12	36	4.9	3.0
29	36	87	125	101	---	88	176	24	7.5	23	7.1	4.8
30	32	74	107	117	---	103	176	20	5.8	15	6.1	3.6
31	30	---	95	100	---	113	---	18	---	11	4.9	---
TOTAL	2496	1132	6071	2186	3143	3175	2001	1003	389.0	497.9	283.0	95.6
MEAN	80.5	37.7	196	70.5	112	102	66.7	32.4	13.0	16.1	9.13	3.19
MAX	281	92	558	117	329	150	176	115	33	89	37	4.8
MIN	17	23	69	41	50	58	31	10	3.6	2.1	4.5	2.3
CFSM	1.79	.84	4.36	1.57	2.50	2.28	1.49	.72	.29	.36	.20	.07
IN.	2.07	.94	5.03	1.81	2.60	2.63	1.66	.83	.32	.41	.23	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

MEAN	25.5	35.0	58.1	84.5	95.3	115	77.0	44.5	28.1	21.3	39.9	18.3
MAX	150	175	196	261	269	302	202	183	160	120	346	177
(WY)	1977	1980	1997	1978	1979	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

POCOMOKE RIVER BASIN

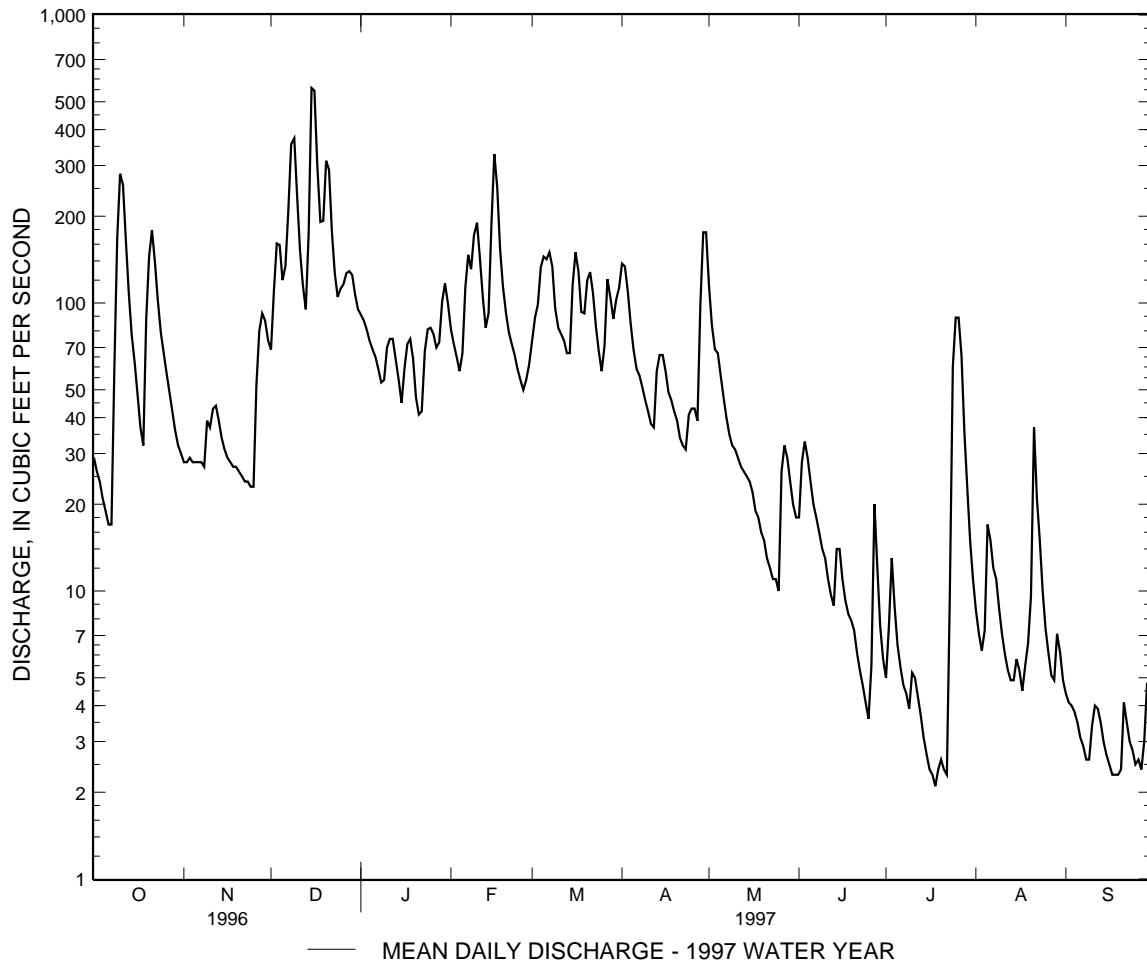
01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1950 - 1997
ANNUAL TOTAL	28928.6	22472.5	
ANNUAL MEAN	79.0	61.6	53.9
HIGHEST ANNUAL MEAN			116
LOWEST ANNUAL MEAN			20.8
HIGHEST DAILY MEAN	641	Aug 14	2590
LOWEST DAILY MEAN	5.6	Jul 11	Aug 19 1989
ANNUAL SEVEN-DAY MINIMUM	7.6	Jul 5	(a)
INSTANTANEOUS PEAK FLOW		558 Dec 15	.80
INSTANTANEOUS PEAK STAGE		6.40 Dec 15	.86
INSTANTANEOUS LOW FLOW		2.1 (c)	Sep 7 1966
ANNUAL RUNOFF (CFSM)	1.76	1.37	9.07 Aug 19 1989
ANNUAL RUNOFF (INCHES)	23.97	18.62	.80 Sep 8 1966
10 PERCENT EXCEEDS	167	141	1.20
50 PERCENT EXCEEDS	52	39	16.32
90 PERCENT EXCEEDS	17	4.0	125
			26
			3.4

a Sept. 8-10, 1966.

b From rating curve extended above 1,300 ft³/s on basis of contracted-opening measurement at gage height 9.07 ft.

c July 18, 19, 22.



MANOKIN RIVER BASIN

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 mi².

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. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8	2000	76	3.23	Dec. 14	1230	*122	*3.57
Dec. 6	0545	76	3.23	Dec. 19	1645	68	3.18
Dec. 7	2200	83	3.28	Feb. 15	1130	71	3.20

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.9	7.7	10	8.2	15	16	7.3	1.7	.90	.68	.38
2	3.2	3.1	24	9.1	7.0	16	11	6.1	2.0	1.3	.68	.38
3	2.9	3.2	14	8.5	6.3	17	8.8	5.8	2.4	1.3	.67	.36
4	2.6	2.9	9.9	7.5	5.8	25	7.7	5.7	2.2	1.0	.69	.33
5	2.3	2.6	8.1	7.0	23	16	6.9	4.6	1.9	.87	.76	.32
6	2.2	2.8	44	6.3	20	27	6.2	4.1	1.7	.81	.63	.31
7	2.1	2.8	36	5.6	14	14	6.5	3.6	1.6	.79	.58	.32
8	26	3.0	48	5.3	26	11	5.6	3.2	1.6	.75	.58	.32
9	39	4.3	23	7.4	26	8.8	5.0	3.3	1.5	.71	.55	.30
10	28	4.0	15	13	17	9.4	4.5	3.5	1.3	.81	.53	.33
11	15	3.4	12	9.8	13	8.9	4.2	3.2	1.3	.73	.51	.33
12	10	3.0	10	7.4	10	7.4	4.6	2.9	1.2	.67	.51	.30
13	7.9	2.8	9.6	6.4	8.4	6.6	9.9	2.8	1.3	.64	.50	.28
14	6.5	2.6	91	5.7	21	13	7.3	2.6	1.4	.62	.50	.27
15	5.2	2.4	52	5.2	51	24	5.8	2.5	1.3	.60	.49	.27
16	4.5	2.5	28	12	27	12	5.0	2.4	1.2	.58	.44	.26
17	4.1	2.4	21	11	17	9.3	4.9	2.3	1.2	.56	.42	.25
18	3.9	2.5	17	7.3	12	8.1	5.0	2.1	1.2	.51	.52	.25
19	24	2.6	46	5.6	10	18	4.2	1.9	1.1	.60	.46	.25
20	16	2.6	32	5.3	8.7	19	3.9	1.8	1.0	.51	.66	.27
21	11	2.6	18	4.8	8.0	13	3.7	1.7	1.0	.49	.84	.32
22	8.2	2.6	13	5.5	7.7	10	3.8	1.6	.97	.52	.61	.27
23	6.9	2.6	12	11	6.8	8.0	3.7	1.6	.92	.80	.51	.24
24	5.9	2.5	11	10	6.2	6.8	5.6	1.5	.88	2.1	.46	.23
25	4.8	2.5	18	11	5.9	5.7	5.2	1.6	.90	2.7	.41	.23
26	4.1	13	13	9.3	5.6	24	4.3	3.0	1.2	1.8	.41	.23
27	3.8	11	17	7.3	6.9	18	3.9	2.8	1.7	1.2	.40	.22
28	3.7	7.3	14	15	9.5	12	28	2.2	1.2	1.0	.43	.25
29	3.5	6.1	12	15	---	11	15	1.9	1.0	.89	.50	.28
30	3.4	5.5	10	11	---	12	9.2	1.7	.90	.77	.42	.24
31	3.1	---	11	9.7	---	15	---	1.7	---	.71	.39	---
TOTAL	267.5	114.1	697.3	265.0	388.0	421.0	215.4	93.0	40.77	28.24	16.74	8.59
MEAN	8.63	3.80	22.5	8.55	13.9	13.6	7.18	3.00	1.36	.91	.54	.29
MAX	39	13	91	15	51	27	28	7.3	2.4	2.7	.84	.38
MIN	2.1	2.4	7.7	4.8	5.6	5.7	3.7	1.5	.88	.49	.39	.22
CFSM	1.80	.79	4.69	1.78	2.89	2.83	1.50	.63	.28	.19	.11	.06
IN.	2.07	.88	5.40	2.05	3.01	3.26	1.67	.72	.32	.22	.13	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)

MEAN	1.84	2.44	5.14	8.22	9.12	10.9	7.28	3.97	2.40	1.73	3.74	1.79
MAX	10.5	17.5	22.5	23.8	22.8	30.3	17.3	12.2	12.7	9.20	27.8	18.7
(WY)	1980	1980	1997	1978	1979	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

MANOKIN RIVER BASIN

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD--Continued

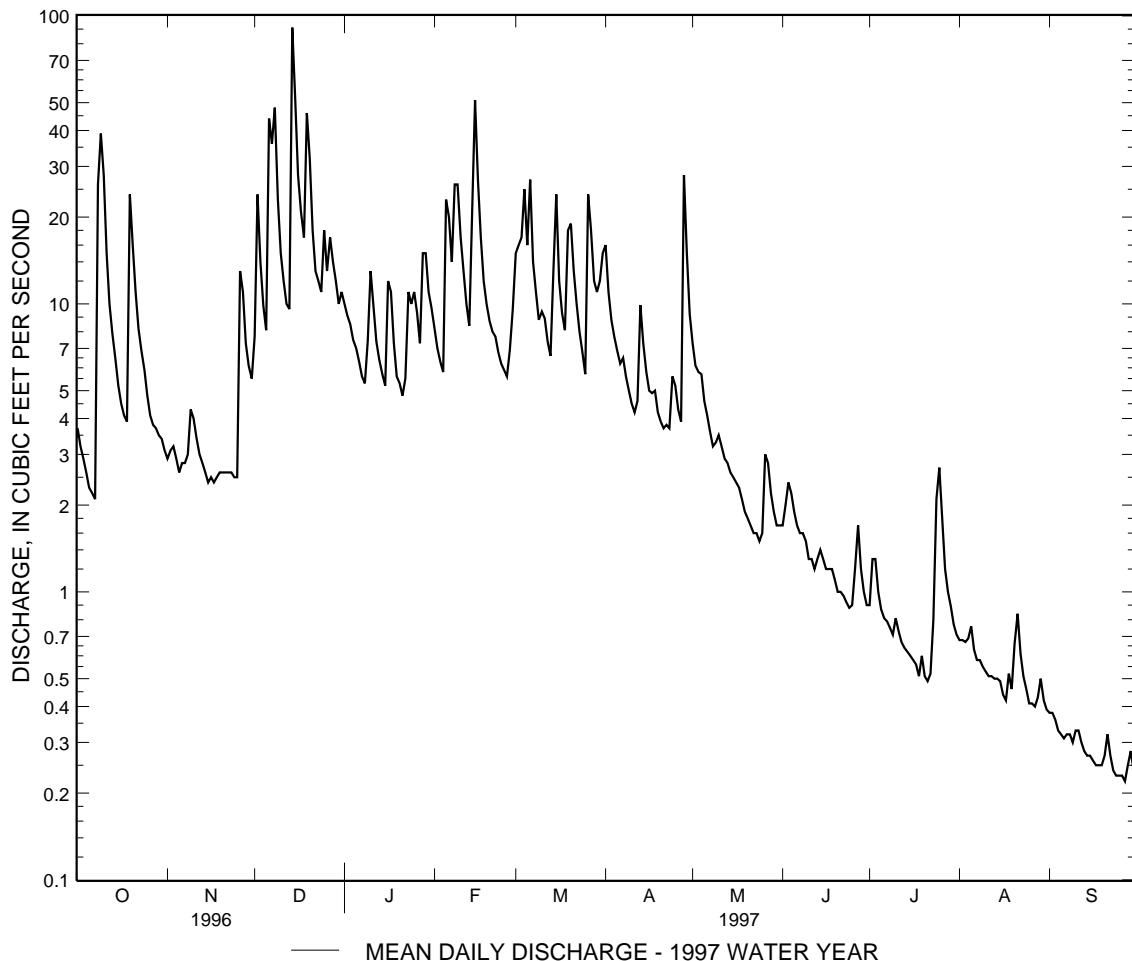
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1951 - 1997
ANNUAL TOTAL	3314.26	2555.64	
ANNUAL MEAN	9.06	7.00	4.87
HIGHEST ANNUAL MEAN			10.3
LOWEST ANNUAL MEAN			1.41
HIGHEST DAILY MEAN	91	Dec 14	251
LOWEST DAILY MEAN	.96	Jul 11	.00
ANNUAL SEVEN-DAY MINIMUM	1.1	Jul 5	.00
INSTANTANEOUS PEAK FLOW		122	(b) 547
INSTANTANEOUS PEAK STAGE		3.57	(c) 7.08
INSTANTANEOUS LOW FLOW		.22	.00
ANNUAL RUNOFF (CFSM)	1.89	1.46	1.01
ANNUAL RUNOFF (INCHES)	25.69	19.81	13.78
10 PERCENT EXCEEDS	19	17	11
50 PERCENT EXCEEDS	5.9	3.7	2.1
90 PERCENT EXCEEDS	1.8	.43	.32

a No flow during 1954, 1963, 1964, 1966.

b From rating curve extended above 27 ft³/s on basis of channel-conveyance study.

c Gage height of 5.44 ft occurred on Aug. 20, 1969 following ditching of stream channel.

d Sept. 25, 27, 28, 30.



NANTICOKE RIVER BASIN

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

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

DRAINAGE AREA.--75.4 mi².

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.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 360 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	2100	*802	*7.62				No other peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	87	72	184	179	154	248	196	110	47	24	41
2	46	86	101	181	170	157	223	185	107	51	24	44
3	46	84	103	179	163	163	200	176	111	52	28	41
4	45	81	92	174	157	215	191	171	109	49	27	38
5	44	80	87	169	202	191	184	160	101	47	26	37
6	44	79	115	167	216	223	180	154	94	44	27	35
7	44	79	127	161	188	200	181	150	88	41	25	33
8	67	81	203	155	185	184	173	142	86	40	24	35
9	128	93	161	155	191	176	167	141	82	40	22	35
10	151	85	140	169	193	176	162	145	78	44	23	44
11	132	80	131	165	184	176	158	136	74	42	23	47
12	104	78	125	153	176	168	159	129	71	40	21	41
13	94	75	131	146	173	160	171	126	70	36	20	43
14	89	74	596	143	198	164	164	122	71	35	22	38
15	86	73	599	142	299	186	156	118	71	34	23	36
16	83	72	343	174	274	175	153	112	65	32	21	35
17	82	71	288	193	224	166	154	108	61	30	20	34
18	82	72	260	167	201	163	158	103	62	30	29	34
19	113	75	277	155	194	169	154	100	84	35	27	32
20	125	73	285	151	186	181	148	95	69	34	39	30
21	111	70	236	146	179	175	144	87	63	33	241	42
22	103	69	217	141	178	170	144	84	59	30	263	35
23	101	67	208	147	171	163	144	82	55	30	123	34
24	100	65	203	141	163	154	163	78	52	38	78	33
25	96	65	222	167	159	149	166	80	50	38	63	32
26	93	79	207	169	157	177	157	185	48	36	56	32
27	90	79	218	153	161	191	152	170	60	34	51	30
28	91	71	220	196	157	178	257	136	54	31	47	32
29	90	70	205	238	--	177	275	121	51	28	45	35
30	89	68	197	190	--	192	217	115	49	28	45	32
31	89	--	180	182	--	218	--	113	--	26	44	--
TOTAL	2705	2281	6549	5153	5278	5491	5303	4020	2205	1155	1551	1090
MEAN	87.3	76.0	211	166	189	177	177	130	73.5	37.3	50.0	36.3
MAX	151	93	599	238	299	223	275	196	111	52	263	47
MIN	44	65	72	141	157	149	144	78	48	26	20	30
CFSM	1.16	1.01	2.80	2.20	2.50	2.35	2.34	1.72	.97	.49	.66	.48
IN.	1.33	1.13	3.23	2.54	2.60	2.71	2.62	1.98	1.09	.57	.77	.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	45.5	58.8	88.4	119	134	160	138	102	74.9	58.0	62.4	46.0
MAX	137	192	294	311	376	421	300	219	298	210	412	234
(WY)	1980	1957	1949	1978	1961	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

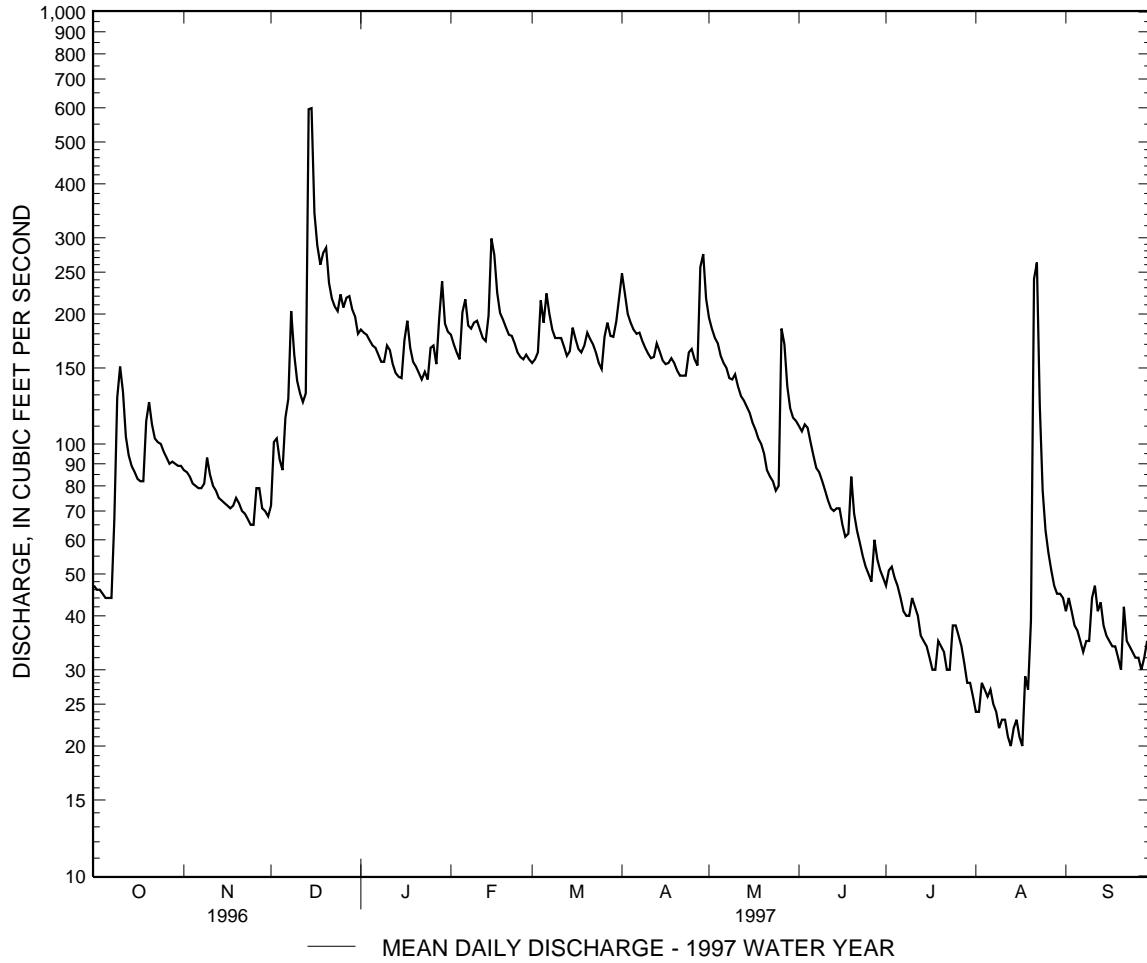
NANTICOKE RIVER BASIN

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1943 - 1997
ANNUAL TOTAL	45806	42781	
ANNUAL MEAN	125	117	90.8
HIGHEST ANNUAL MEAN			170
LOWEST ANNUAL MEAN			43.8
HIGHEST DAILY MEAN	599	Dec 15	2880
LOWEST DAILY MEAN	37	Sep 8	6.6
ANNUAL SEVEN-DAY MINIMUM	39	Sep 3	21
INSTANTANEOUS PEAK FLOW			Aug 11
INSTANTANEOUS PEAK STAGE			Dec 14
INSTANTANEOUS LOW FLOW			802
ANNUAL RUNOFF (CFSM)	1.66	1.55	10.31
ANNUAL RUNOFF (INCHES)	22.60	21.11	Feb 26 1979
10 PERCENT EXCEEDS	208	199	174
50 PERCENT EXCEEDS	113	104	66
90 PERCENT EXCEEDS	49	33	26

a Aug. 13, 17.

b Minimum discharge observed.



NANTICOKE RIVER BASIN

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 mi².

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 8	0100	579	5.38	Feb. 15	1200	613	5.51
Dec. 14	1000	2,270	10.35	Apr. 28	1045	597	5.45
Jan. 28	1615	698	5.82	May 26	0545	1,270	7.66
Feb. 5	1500	508	5.10	Aug. 21	1000	*2,780	*11.61

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	33	31	79	107	66	171	97	58	23	13	35
2	16	33	107	75	86	77	125	81	56	26	12	34
3	16	31	63	70	73	104	100	73	85	24	12	33
4	15	30	51	62	64	180	89	69	75	22	13	30
5	15	29	47	59	324	120	78	60	62	21	16	28
6	15	29	160	54	198	143	74	57	55	20	19	27
7	15	29	155	47	140	105	75	53	51	19	14	27
8	26	30	314	42	123	91	67	49	49	20	12	26
9	117	43	129	44	140	80	62	50	46	21	11	26
10	230	39	100	73	137	87	57	49	44	22	14	31
11	73	36	89	61	105	87	55	45	41	19	13	42
12	45	33	80	47	92	75	57	43	39	17	13	30
13	40	32	253	41	89	67	63	44	38	18	12	31
14	37	31	1960	38	201	73	60	41	37	18	14	28
15	35	30	747	36	403	106	53	40	36	17	13	26
16	32	29	291	160	210	81	51	39	34	16	13	25
17	32	29	218	117	154	72	56	37	33	15	13	24
18	31	30	181	67	122	67	57	36	32	14	17	23
19	175	30	247	49	117	82	53	35	36	16	16	23
20	102	28	195	43	103	100	49	35	32	14	273	22
21	61	27	136	38	94	83	49	33	30	15	2420	21
22	53	26	111	37	95	78	48	31	29	15	657	20
23	48	26	102	47	84	67	48	29	27	15	140	21
24	46	25	99	41	77	60	70	27	27	18	86	21
25	42	25	165	217	71	57	69	29	25	17	66	21
26	40	30	110	116	68	78	58	572	28	16	55	20
27	38	31	179	77	72	77	54	137	30	14	49	19
28	38	28	143	302	68	68	291	94	25	14	46	20
29	37	28	119	198	---	71	162	76	24	14	42	22
30	36	28	107	133	---	78	116	66	23	13	38	20
31	35	---	93	113	---	152	---	61	---	13	36	---
TOTAL	1557	908	6782	2583	3617	2732	2417	2188	1207	546	4168	776
MEAN	50.2	30.3	219	83.3	129	88.1	80.6	70.6	40.2	17.6	134	25.9
MAX	230	43	1960	302	403	180	291	572	85	26	2420	42
MIN	15	25	31	36	64	57	48	27	23	13	11	19
CFSM	1.14	.69	4.98	1.90	2.94	2.01	1.84	1.61	.92	.40	3.06	.59
IN.	1.32	.77	5.75	2.19	3.06	2.32	2.05	1.85	1.02	.46	3.53	.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	19.6	34.2	61.1	83.5	88.1	109	77.1	53.6	35.9	35.0	37.2	19.6
MAX	101	190	219	258	267	284	226	178	156	297	340	126
(WY)	1972	1957	1997	1978	1979	1994	1983	1989	1948	1975	1967	1960
MIN	3.46	4.95	3.22	4.30	27.8	21.7	15.5	7.32	4.58	2.83	2.78	
(WY)	1966	1966	1966	1966	1966	1985	1957	1965	1944	1964	1964	

NANTICOKE RIVER BASIN

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE--Continued

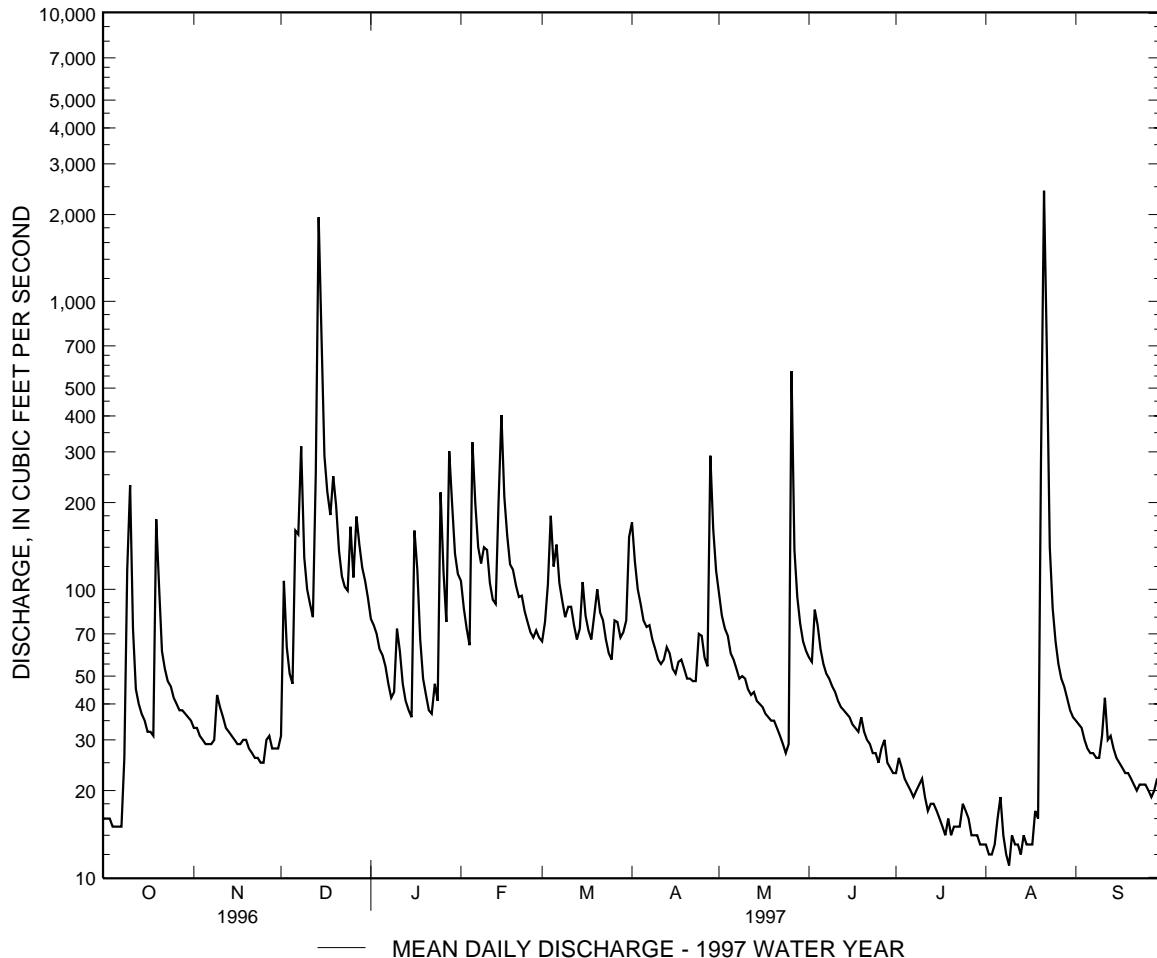
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1943 - 1997
ANNUAL TOTAL	32392	29481	55.0
ANNUAL MEAN	88.5	80.8	111 1958
HIGHEST ANNUAL MEAN			16.2 1966
LOWEST ANNUAL MEAN			
HIGHEST DAILY MEAN	1960	Dec 14	2710 Aug 5 1967
LOWEST DAILY MEAN	15	(a)	1.2 (b)
ANNUAL SEVEN-DAY MINIMUM	15	Oct 1	1.3 Sep 5 1964
INSTANTANEOUS PEAK FLOW		2420 Aug 21	(c) 3700 Jul 13 1975
INSTANTANEOUS PEAK STAGE		2780 Aug 21	13.98 Aug 5 1967
INSTANTANEOUS LOW FLOW		11.61 Aug 21	1.0 (d)
ANNUAL RUNOFF (CFSM)	2.02	10 Aug 9	1.25
ANNUAL RUNOFF (INCHES)	27.45	1.84	17.01
10 PERCENT EXCEEDS	172	24.98	114
50 PERCENT EXCEEDS	60	141	29
90 PERCENT EXCEEDS	20	46	7.4
		16	

a Sept. 9, Oct. 4-7.

b Sept. 9, 10, 1964.

c From rating curve extended above 3,300 ft³/s.

d Sept. 9, 10, 1964; Aug. 20, 1965.



CHOPTANK RIVER BASIN

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 mi².

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 except those for estimated daily discharges (ice effect), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 8	1845	1,080	6.75	Apr. 29	0445	1,110	6.83
Dec. 14	2300	*5,120	*12.52	May 26	2230	2,020	8.63

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	104	105	222	254	165	468	346	145	44	9.8	28
2	75	101	451	203	240	256	499	253	153	46	8.2	30
3	69	95	665	196	208	329	355	212	190	46	11	27
4	63	90	402	185	186	666	253	200	301	42	10	23
5	56	86	255	179	424	609	210	182	256	39	17	24
6	54	85	440	173	762	451	184	158	178	36	31	24
7	53	85	695	160	517	366	180	143	142	35	21	24
8	84	87	929	145	390	264	173	137	128	32	15	17
9	193	140	762	141	349	221	151	133	119	30	13	20
10	412	184	493	170	344	222	139	133	106	43	12	29
11	411	162	369	197	293	272	132	127	97	38	9.7	37
12	258	134	288	182	246	249	131	118	90	31	7.8	39
13	176	121	358	156	230	201	148	110	85	24	11	33
14	146	111	3250	e140	270	186	153	105	85	24	11	27
15	133	103	3760	e136	659	259	139	100	81	22	8.2	25
16	122	99	1370	223	853	287	129	95	73	18	8.3	24
17	112	90	749	449	533	218	125	88	67	22	7.7	23
18	107	85	613	442	395	184	131	84	66	18	9.4	22
19	438	86	577	356	301	207	129	80	130	20	10	20
20	724	92	618	e165	256	345	122	76	99	16	35	19
21	481	92	500	149	224	322	117	73	72	17	469	20
22	283	87	380	145	210	247	129	66	63	19	577	18
23	200	84	314	168	198	207	116	66	57	23	223	15
24	166	82	294	174	176	175	164	63	54	31	84	17
25	148	79	388	230	162	156	266	65	50	35	53	19
26	136	92	412	331	154	159	239	1270	52	30	45	20
27	127	118	373	242	158	176	180	1250	93	25	38	18
28	120	116	394	300	163	174	551	507	74	19	35	19
29	118	103	341	561	---	164	923	292	53	19	35	29
30	113	98	292	413	---	173	518	202	48	13	34	25
31	107	---	251	283	---	227	---	163	---	14	33	---
TOTAL	5777	3091	21088	7216	9155	8137	7154	6897	3207	871	1892.1	715
MEAN	186	103	680	233	327	262	238	222	107	28.1	61.0	23.8
MAX	724	184	3760	561	853	666	923	1270	301	46	577	39
MIN	53	79	105	136	154	156	116	63	48	13	7.7	15
CFSM	1.65	.91	6.02	2.06	2.89	2.32	2.11	1.97	.95	.25	.54	.21
IN.	1.90	1.02	6.94	2.38	3.01	2.68	2.36	2.27	1.06	.29	.62	.24

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

	54.7	88.6	154	200	220	264	202	136	96.0	59.1	84.7	46.2
MEAN	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

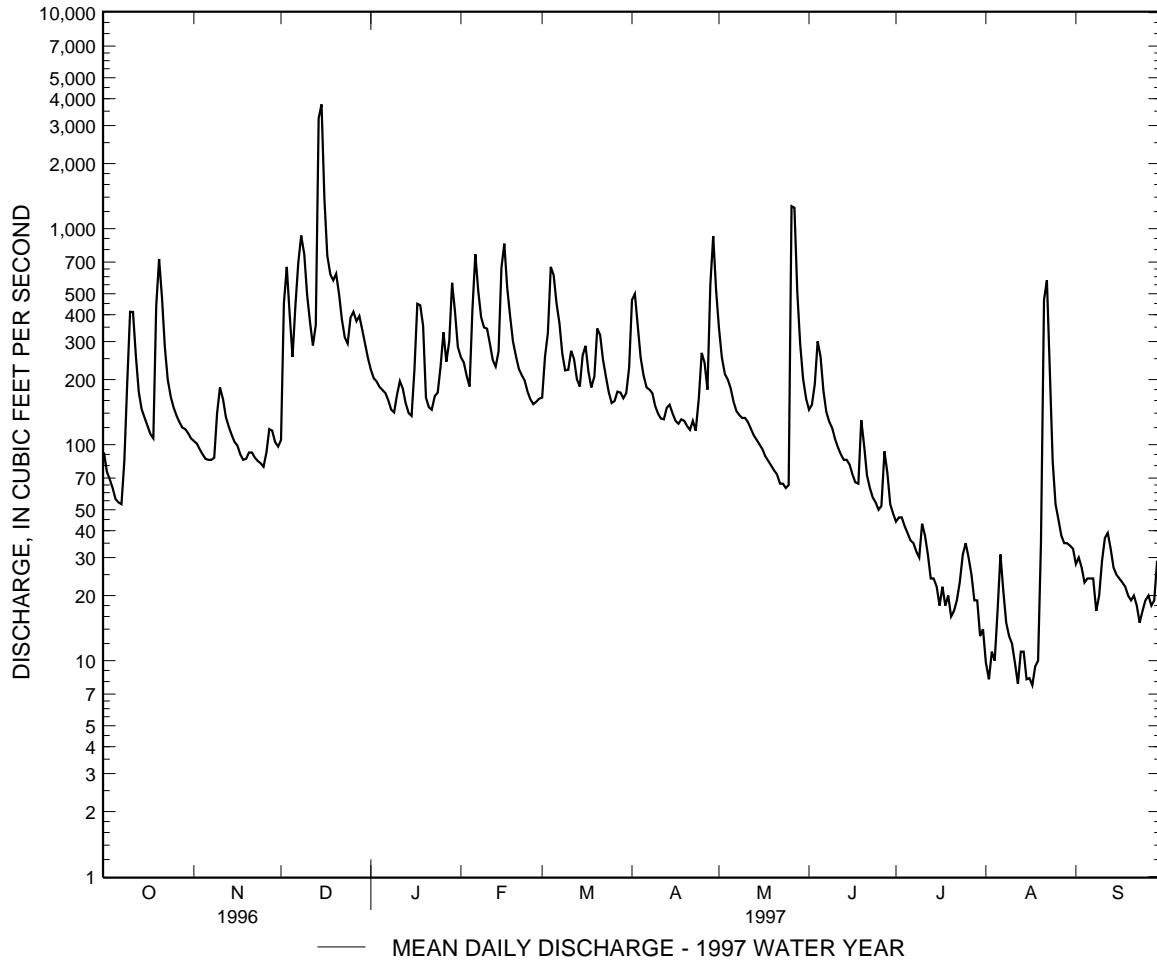
CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1948 - 1997
ANNUAL TOTAL	101276	75200.1	
ANNUAL MEAN	277	206	133
HIGHEST ANNUAL MEAN			237
LOWEST ANNUAL MEAN			26.6
HIGHEST DAILY MEAN	3760	Dec 15	6160
LOWEST DAILY MEAN	41	Sep 10	Aug 4 1967
ANNUAL SEVEN-DAY MINIMUM	46	Sep 4	Aug 29 1966
INSTANTANEOUS PEAK FLOW		3760	2.2 Aug 26 1966
INSTANTANEOUS PEAK STAGE		5120	(a) 6970 Aug 4 1967
INSTANTANEOUS LOW FLOW		12.52	14.47 Aug 4 1967
ANNUAL RUNOFF (CFSM)	2.45	1.82	1.2 (b)
ANNUAL RUNOFF (INCHES)	33.34	24.76	1.17
10 PERCENT EXCEEDS	541	445	15.94
50 PERCENT EXCEEDS	172	133	288
90 PERCENT EXCEEDS	75	20	73
			16

a From rating curve extended above 3,600 ft³/s.

b Aug. 29, 1966, Sept. 3, 1987.



CHOPTANK RIVER BASIN

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: Maximum 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 1996 TO SEPTEMBER 1997

CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALKALINITY	BICARBONATE	SILICA,	NITROGEN, GEN,	NITROGEN, GEN,	NITROGEN, GEN, NO ₂ +NO ₃	NITROGEN, AMMONIA	NITROGEN, MONIA + ORGANIC
	WAT DIS TOT IT FIELD MG/L AS CACO ₃ (39086)	WATER DIS IT FIELD MG/L AS HCO ₃ (00453)	DISOLVED (MG/L) AS N) (00955)	TOTAL (MG/L) AS N) (00600)	SOLVED (MG/L) AS NO ₃) (71851)	SOLVED (MG/L) AS N) (00613)	SOLVED (MG/L) AS N) (00631)	TOTAL (MG/L) AS N) (00625)
OCT 1996								
24...	15	18	19	1.4	4.8	0.006	1.10	0.030
NOV								
06...	18	23	22	1.7	6.6	0.008	1.50	0.060
DEC								
02...	12	14	10	2.0	4.3	0.007	0.970	0.050
09...	--	--	11	1.3	--	<0.001	0.700	0.030
14...	--	--	6.3	2.6	--	<0.001	1.50	0.060
15...	--	--	5.2	1.0	--	<0.001	0.320	0.030
17...	--	--	12	1.5	--	<0.001	0.920	0.040
JAN 1997								
23...	--	--	19	2.1	8.3	0.006	1.88	0.083
FEB								
06...	10	13	10	1.8	4.3	0.006	0.970	0.070
MAR								
15...	12	15	14	2.0	7.0	0.010	1.60	0.060
APR								
16...	15	18	11	1.2	--	<0.001	0.875	0.027
MAY								
14...	15	--	16	1.5	4.9	0.019	1.12	0.068
JUN								
25...	--	--	20	1.6	5.3	0.009	1.20	0.027
JUL								
22...	23	--	15	1.6	5.4	0.010	1.22	0.050
AUG								
14...	--	--	13	1.7	6.2	0.003	1.41	0.032
SEP								
16...	21	--	12	1.7	6.3	0.002	1.42	<0.015
								0.23

DATE	NITROGEN, AMMONIA + ORGANIC DIS.	PHOSPHORUS TOTAL (MG/L AS N)	PHOSPHORUS SOLVED (MG/L AS P)	PHOSPHORUS DISOLVED (AS P)	PHOSPHORUS ORTHO (MG/L AS P)	CARBON, ORGANIC	SEDI- MENT, TOTAL (MG/L AS C)	SEDI- MENT, SUSPENDED (MG/L AS C)	SEDIMENT, SIEVE DIAM. % FINER THAN
	(00623)	(00665)	(00666)	(00671)	(00680)	(00680)	(80154)	(80155)	.062 MM (70331)
OCT 1996									
24...	0.30	0.020	0.017	0.003	7.6	4	2.0	--	
NOV									
06...	<0.20	0.030	0.011	0.004	4.0	3	0.69	--	
DEC									
02...	0.40	0.260	0.041	0.021	12	69	111	96	
09...	0.40	0.080	0.041	0.011	13	16	32	98	
14...	0.40	0.240	0.060	0.027	13	76	866	94	
15...	0.40	0.120	0.079	0.051	16	31	289	91	
17...	0.50	0.080	0.044	0.021	13	10	20	85	
JAN 1997									
23...	0.27	0.007	0.007	0.007	3.4	4	1.9	--	
FEB									
06...	0.40	0.140	0.031	0.013	10	18	39	67	
MAR									
15...	0.40	<0.010	0.019	0.011	4.7	4	3.0	73	
APR									
16...	<0.20	0.036	0.011	0.010	5.8	4	1.4	--	
MAY									
14...	0.22	0.026	0.019	0.018	5.2	3	0.84	100	
JUN									
25...	0.32	0.057	0.026	0.023	6.1	4	0.52	--	
JUL									
22...	0.31	0.056	0.023	0.004	4.7	2	0.10	--	
AUG									
14...	0.21	0.014	0.016	0.012	3.6	1	0.02	--	
SEP									
16...	<0.20	0.015	0.014	0.010	3.0	2	0.14	--	

CHESTER RIVER BASIN

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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1730	227	3.81	Dec. 14	1330	*1,160	*6.09
Dec. 2	1615	387	4.45	Mar. 4	0445	249	3.94
Dec. 6	1715	187	3.56	May 26	1300	256	3.98
Dec. 8	0700	210	3.71				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	24	35	55	50	50	91	39	24	12	8.5	11
2	17	14	184	48	48	74	71	33	31	14	6.8	9.7
3	17	18	151	49	36	77	52	34	35	14	8.1	8.1
4	16	26	77	49	42	192	45	33	32	13	9.2	8.8
5	15	27	54	48	70	108	39	29	26	11	9.7	9.2
6	15	20	121	41	106	81	38	27	23	12	11	8.8
7	15	17	123	43	61	62	39	26	22	12	9.5	7.9
8	26	24	168	42	54	53	35	25	21	11	9.2	9.0
9	42	44	100	40	52	48	32	26	20	13	7.0	10
10	37	44	66	32	47	64	30	26	19	15	5.4	11
11	29	28	55	47	46	65	29	25	17	13	5.3	13
12	32	29	53	45	49	54	33	24	17	12	5.3	12
13	13	26	93	32	49	47	43	23	17	10	6.6	9.8
14	17	26	856	26	47	53	36	22	17	9.1	6.4	9.7
15	22	18	400	27	116	71	31	21	17	10	7.7	8.8
16	14	20	171	47	104	55	29	21	16	10	6.0	8.4
17	14	27	122	73	63	47	30	19	16	9.0	5.3	8.9
18	16	21	100	49	54	45	31	19	18	8.9	6.0	8.1
19	108	14	103	45	52	65	29	19	19	8.8	6.8	8.8
20	116	16	103	26	35	76	27	18	17	9.6	28	8.5
21	66	39	74	29	44	59	27	17	17	8.8	113	8.7
22	56	18	62	44	45	51	27	16	16	9.2	23	8.6
23	46	31	60	38	43	44	27	16	16	9.6	16	8.2
24	39	17	62	33	40	38	42	14	13	12	14	8.6
25	36	26	84	47	39	36	46	19	14	13	12	8.6
26	27	22	67	49	39	52	34	166	14	12	12	8.6
27	26	30	65	40	43	51	31	110	16	11	12	8.6
28	28	30	63	49	40	42	104	48	14	12	11	9.7
29	24	14	59	59	--	40	97	31	13	9.7	12	10
30	23	23	58	46	--	38	52	26	12	8.9	11	8.5
31	29	--	51	39	--	67	--	24	--	8.8	11	--
TOTAL	999	733	3840	1337	1514	1905	1277	996	569	342.4	414.8	277.6
MEAN	32.2	24.4	124	43.1	54.1	61.5	42.6	32.1	19.0	11.0	13.4	9.25
MAX	116	44	856	73	116	192	104	166	35	15	113	13
MIN	13	14	35	26	35	36	27	14	12	8.8	5.3	7.9
CFSM	1.64	1.24	6.29	2.19	2.75	3.12	2.16	1.63	.96	.56	.68	.47
IN.	1.89	1.39	7.26	2.53	2.86	3.60	2.41	1.88	1.08	.65	.78	.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

MEAN	14.6	17.2	26.1	32.8	36.7	43.0	36.5	26.8	21.3	16.6	17.7	14.4
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	1977	1966	1977	1966	1977	

CHESTER RIVER BASIN

01493000 UNICORN BRANCH NEAR MILLINGTON, MD--Continued

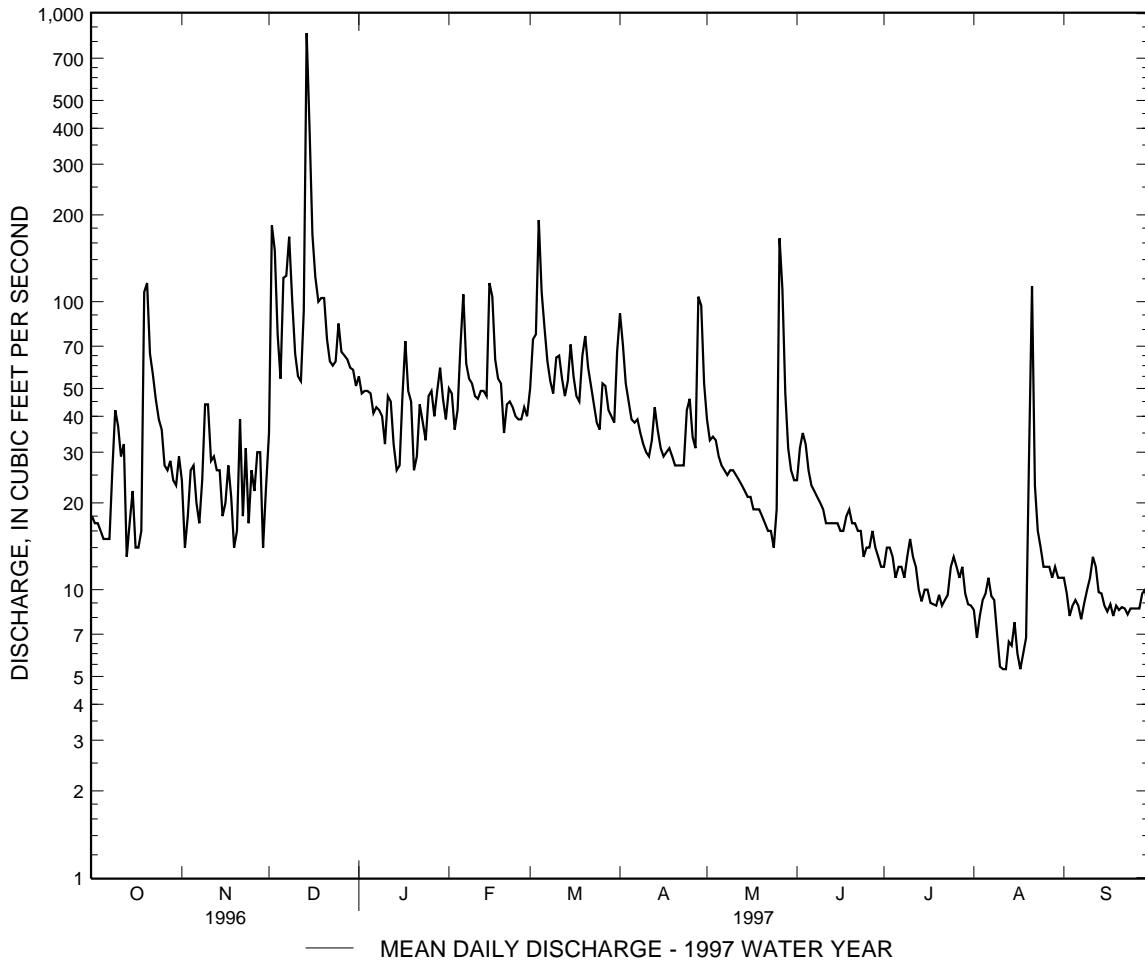
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1948 - 1997
ANNUAL TOTAL	19128.8	14204.8	
ANNUAL MEAN	52.3	38.9	
HIGHEST ANNUAL MEAN			25.2
LOWEST ANNUAL MEAN			51.8
HIGHEST DAILY MEAN	856	Dec 14	7.08
LOWEST DAILY MEAN	7.7	Sep 24	856
ANNUAL SEVEN-DAY MINIMUM	16	Oct 1	Dec 14 1996
INSTANTANEOUS PEAK FLOW		(b) 1160	.10 Jun 9 1965
INSTANTANEOUS PEAK STAGE			6.09 Dec 14
INSTANTANEOUS LOW FLOW			.00 (c)
ANNUAL RUNOFF (CFSM)	2.66	1.98	7.17 Dec 14 1996
ANNUAL RUNOFF (INCHES)	36.16	26.85	.00 Sep 12 1960
10 PERCENT EXCEEDS	90	71	(d)
50 PERCENT EXCEEDS	37	27	1.28
90 PERCENT EXCEEDS	21	8.9	17.37

a Aug. 11, 12, 13.

b From rating curve extended above 600 ft³/s.

c No flow for part of each day Jan. 6, 7, 10, 13-16, 20, 21, 23, 24, 27, 31, Feb. 2, 3, 14, 20, caused by regulation at Unicorn Lake Dam.

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.



CHESTER RIVER BASIN

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

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

DRAINAGE AREA.--12.7 mi².

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 some prior years have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1215	290	4.88	Dec. 14	0645	*825	*7.35
Dec. 2	1115	252	4.57	Mar. 3	2200	308	5.02

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	8.1	27	12	14	27	36	13	11	7.7	5.8	6.5
2	7.7	8.3	160	13	13	e24	21	12	32	8.6	5.8	6.6
3	7.7	8.7	38	13	12	94	15	14	e22	e8.0	5.8	6.3
4	6.5	8.2	22	13	14	141	14	13	13	7.2	5.9	6.1
5	6.3	8.0	13	e12	e108	e34	13	11	e11	6.5	6.1	5.6
6	6.4	7.9	116	13	43	23	13	e10	e9.7	6.3	6.1	5.5
7	6.6	8.5	e64	13	19	16	15	9.7	8.9	6.4	5.8	5.9
8	27	21	e80	12	17	14	12	9.6	8.8	6.2	5.5	6.2
9	e49	e80	e27	13	18	13	12	11	8.5	6.1	5.4	7.7
10	e20	25	e15	19	16	e25	11	11	8.5	6.6	5.4	10
11	10	13	14	16	14	18	11	10	8.2	6.1	5.3	e22
12	8.1	10	14	12	14	14	14	9.6	8.3	6.1	5.4	12
13	7.6	9.3	103	11	13	13	20	9.1	9.2	5.9	5.7	7.5
14	7.5	9.3	518	10	31	e21	13	9.3	9.5	5.7	5.8	6.4
15	7.1	8.8	85	11	e84	e25	12	9.3	8.4	5.7	5.8	6.2
16	23	e9.0	e33	e35	33	15	11	8.8	7.6	5.7	e5.4	6.7
17	7.6	8.9	e23	27	23	13	12	8.7	7.9	5.7	6.1	6.3
18	8.9	9.3	19	11	19	16	14	8.8	8.4	5.4	8.0	5.6
19	207	e9.7	26	9.2	15	29	12	8.9	8.6	5.3	6.6	5.8
20	e54	e8.6	21	9.8	14	20	11	8.9	8.1	5.0	e23	5.8
21	e18	9.3	14	11	14	16	12	8.3	7.7	5.4	e39	6.0
22	11	10	14	13	15	15	12	8.0	7.5	5.8	12	6.3
23	e9.1	15	15	18	13	13	12	8.0	7.3	6.5	7.2	5.7
24	8.5	9.9	e17	14	13	12	19	8.0	6.4	7.4	6.9	6.0
25	7.9	8.6	28	e37	12	12	e15	11	6.4	7.7	6.2	6.1
26	8.0	17	16	17	12	28	11	21	9.6	6.7	6.2	6.8
27	8.4	11	15	12	15	18	11	11	10	6.4	6.0	6.4
28	8.8	8.8	13	41	13	14	64	8.8	7.9	6.8	7.5	6.6
29	8.7	8.8	14	28	---	14	25	8.3	7.1	7.8	7.3	e9.1
30	e8.6	9.1	14	14	---	14	16	8.4	7.1	6.8	6.3	7.4
31	e8.0	---	13	14	---	47	---	8.9	---	6.2	6.2	---
TOTAL	590.9	387.1	1591	504.0	641	798	489	315.4	294.6	199.7	245.5	217.1
MEAN	19.1	12.9	51.3	16.3	22.9	25.7	16.3	10.2	9.82	6.44	7.92	7.24
MAX	207	80	518	41	108	141	64	21	32	8.6	39	22
MIN	6.3	7.9	13	9.2	12	12	11	8.0	6.4	5.0	5.3	5.5
CFSM	1.50	1.02	4.04	1.28	1.80	2.03	1.28	.80	.77	.51	.62	.57
IN.	1.73	1.13	4.66	1.48	1.88	2.34	1.43	.92	.86	.58	.72	.64

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)

WY	MEAN	9.15	12.3	13.9	14.2	14.2	11.0	9.40	13.3	8.69	8.67	7.73
(WY)	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
(WY)	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	1968	1966	1966	1955	1966	1966	1966	1966	1967

CHESTER RIVER BASIN

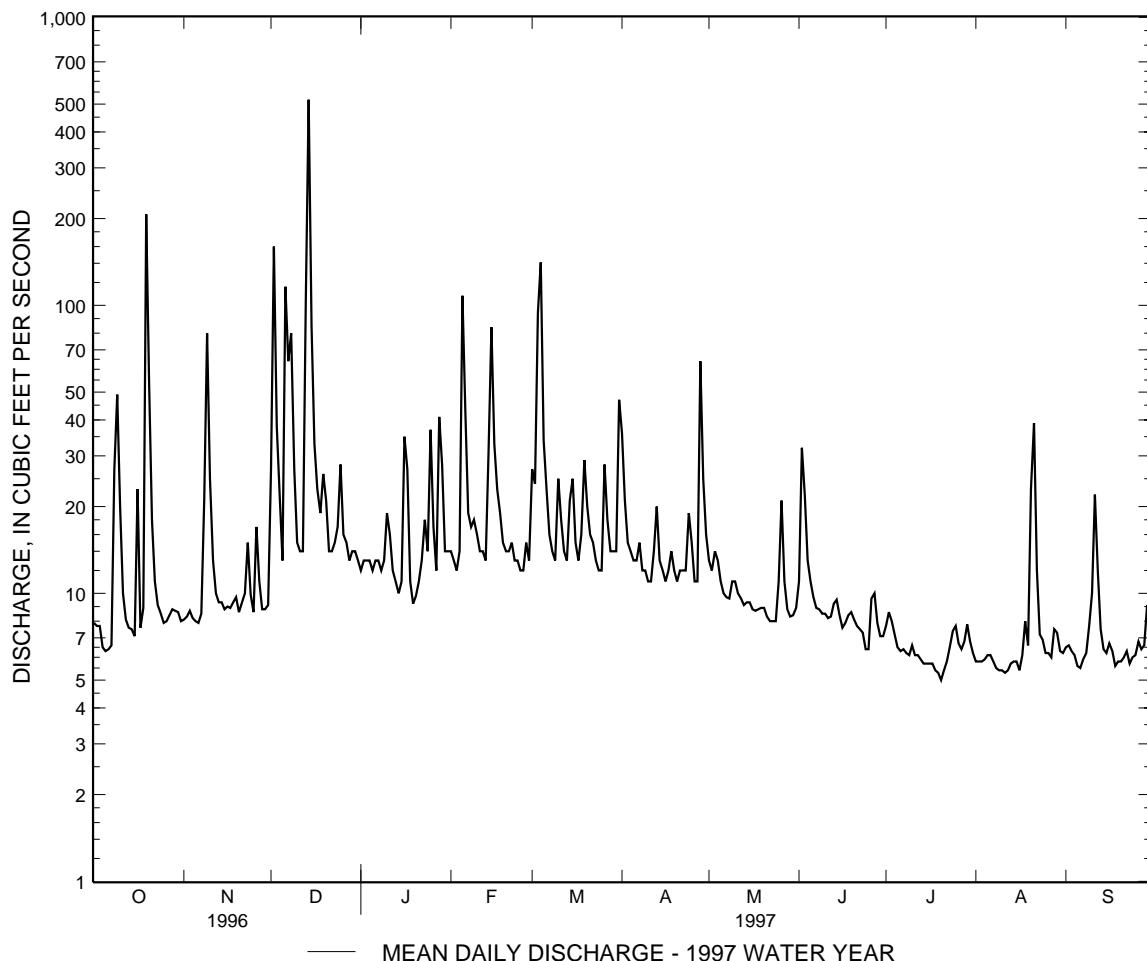
01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1951 - 1997
ANNUAL TOTAL	7420.4	6273.3	
ANNUAL MEAN	20.3	17.2	10.8
HIGHEST ANNUAL MEAN			24.2
LOWEST ANNUAL MEAN			3.67
HIGHEST DAILY MEAN	518 Dec 14	518 Dec 14	2810 (a)
LOWEST DAILY MEAN	5.5 Jan 7	5.0 Jul 20	.70 Jul 21 1966
ANNUAL SEVEN-DAY MINIMUM	5.9 Sep 3	5.5 Jul 15	.71 Sep 7 1966
INSTANTANEOUS PEAK FLOW		825 Dec 14	(b) 7500 Jun 22 1972
INSTANTANEOUS PEAK STAGE		7.35 Dec 14	13.07 Jun 22 1972
INSTANTANEOUS LOW FLOW		4.7 Jul 20	.60 (c)
ANNUAL RUNOFF (CFSM)	1.60	1.35	.85
ANNUAL RUNOFF (INCHES)	21.74	18.38	11.61
10 PERCENT EXCEEDS	28	27	16
50 PERCENT EXCEEDS	9.5	11	6.3
90 PERCENT EXCEEDS	7.1	6.1	3.2

a July 21, Aug. 28-31, Sept. 4, 8-13, 1966.

b From rating curve extended above 640 ft³/s on basis of culvert and flow-over-road measurement of peak flow.

c Aug. 28, 29, 1966.



ELK RIVER BASIN

01495000 BIG ELK CREEK AT ELK MILLS, MD

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

DRAINAGE AREA.--52.6 mi².

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 (ice effect), 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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0715	*5,110	*9.12	Dec. 14	0030	3,180	7.08
Nov. 9	0145	1,840	5.85	Jan. 25	0523	2,450	6.44
Nov. 26	1215	1,850	6.81				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	82	463	112	109	116	260	89	55	32	22	18
2	60	85	749	115	104	120	236	86	68	39	21	19
3	68	76	247	119	101	198	165	99	101	52	21	20
4	52	74	167	112	102	252	126	122	68	35	20	18
5	50	73	136	112	376	164	111	87	57	31	21	17
6	50	73	571	110	162	147	109	82	54	29	20	16
7	49	75	314	102	122	112	118	77	53	31	18	17
8	203	162	288	97	117	105	101	72	52	30	18	17
9	165	641	172	100	112	99	96	88	49	29	17	17
10	159	143	145	110	104	164	93	91	47	41	16	17
11	78	109	137	107	99	123	92	75	45	31	16	110
12	66	96	157	98	99	104	103	71	44	28	16	54
13	62	90	869	e93	98	97	135	68	66	26	16	27
14	60	87	1360	e92	190	218	99	67	47	26	18	23
15	56	83	300	e89	324	249	92	66	42	25	19	22
16	55	81	209	190	168	113	90	63	40	24	17	21
17	55	81	192	120	124	99	91	62	40	23	15	20
18	58	82	173	86	112	98	95	61	42	22	17	20
19	2110	85	212	e84	110	108	89	62	46	21	18	19
20	192	80	162	e93	104	102	87	61	40	20	52	19
21	128	77	139	e91	101	92	85	58	38	21	69	20
22	107	76	134	110	104	89	89	56	38	27	26	18
23	98	74	138	127	94	81	86	55	37	42	21	18
24	92	73	163	98	91	78	90	55	34	82	20	19
25	85	73	193	783	89	77	89	65	34	42	19	19
26	83	556	133	143	90	168	84	122	33	31	19	18
27	82	167	131	110	99	104	81	63	32	27	19	18
28	88	108	127	300	90	91	207	57	31	29	25	18
29	92	98	128	142	---	140	113	55	30	29	24	26
30	82	94	125	110	---	139	92	55	30	24	20	23
31	79	---	119	106	---	259	---	56	---	23	19	---
TOTAL	4719	3754	8553	4261	3595	4106	3404	2246	1393	972	679	708
MEAN	152	125	276	137	128	132	113	72.5	46.4	31.4	21.9	23.6
MAX	2110	641	1360	783	376	259	260	122	101	82	69	110
MIN	49	73	119	84	89	77	81	55	30	20	15	16
CFSM	2.89	2.38	5.25	2.61	2.44	2.52	2.16	1.38	.88	.60	.42	.45
IN.	3.34	2.65	6.05	3.01	2.54	2.90	2.41	1.59	.99	.69	.48	.50

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

MEAN	42.5	55.6	70.2	87.8	98.8	101	90.6	77.1	59.2	57.2	52.4	43.8
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

ELK RIVER BASIN

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

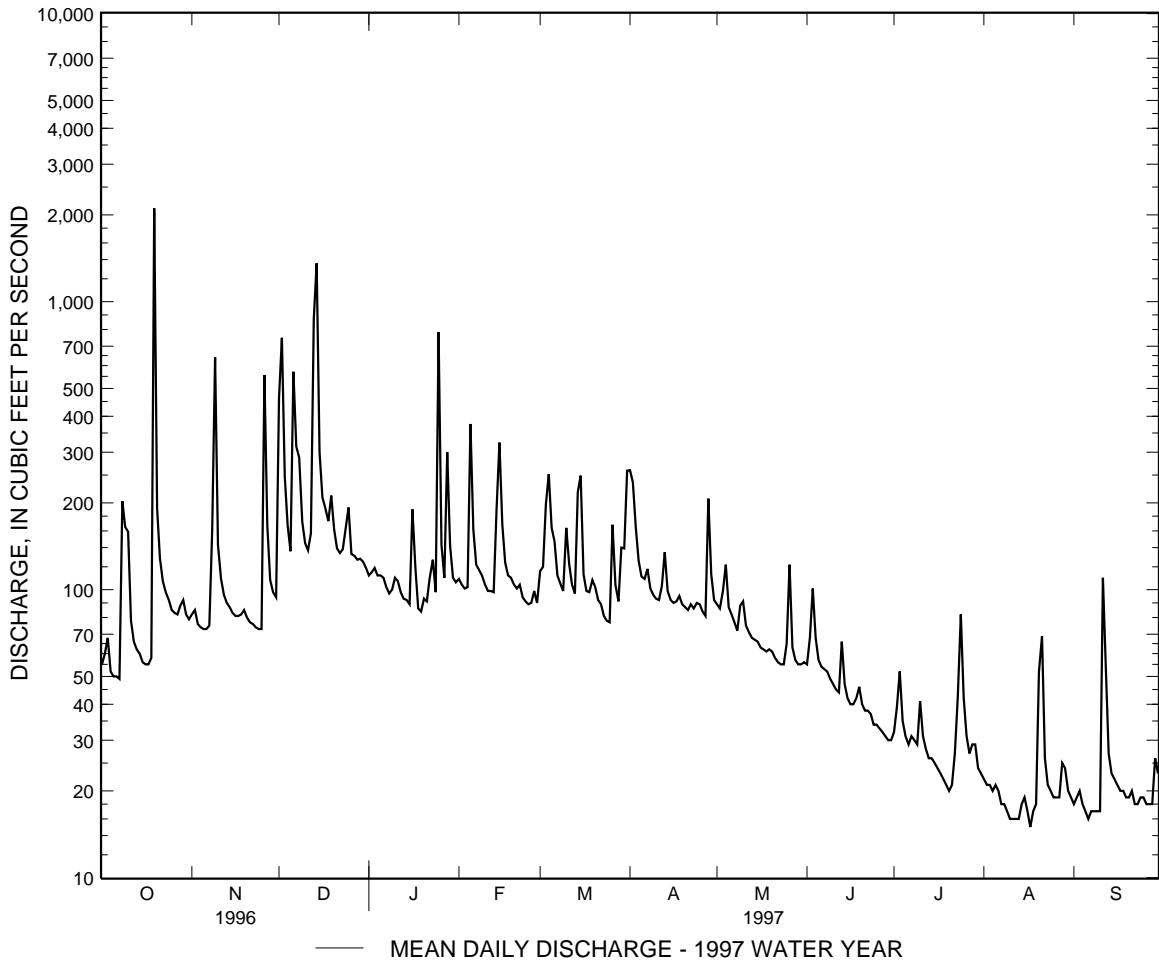
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1932 - 1997
ANNUAL TOTAL	46687	38390	
ANNUAL MEAN	128	105	69.8
HIGHEST ANNUAL MEAN			109
LOWEST ANNUAL MEAN			35.4
HIGHEST DAILY MEAN	3260	Jan 19	3260
LOWEST DAILY MEAN	32	Jan 7	15 Aug 17
ANNUAL SEVEN-DAY MINIMUM	38	Jul 6	17 Aug 7
INSTANTANEOUS PEAK FLOW			5110 Oct 19
INSTANTANEOUS PEAK STAGE			9.12 Oct 19
INSTANTANEOUS LOW FLOW			14 Aug 17
ANNUAL RUNOFF (CFSM)	2.43		2.00
ANNUAL RUNOFF (INCHES)	33.02		27.15
10 PERCENT EXCEEDS	192		167
50 PERCENT EXCEEDS	76		84
90 PERCENT EXCEEDS	49		20

a Sept. 8-10, 1966.

b From rating curve extended above 1,700 ft³/s on basis of velocity-area and conveyance studies.

c From floodmarks.

d Result of freezeup.



ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to November 1985, October 1986 to current year.

WATER TEMPERATURE: October 1981 to November 1985, October 1986 to current year.

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

REMARKS.--Records good except those below 500 microsiemens, which are fair. Interruption of the daily specific conductance was caused by probe being out of water during extreme low tide. 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, 10,700 microsiemens, July 25; minimum, 134 microsiemens, Dec. 14.

WATER TEMPERATURE: Maximum, 32.3°C, July 17; minimum, 0.3°C on Jan. 12.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1200	1020	1140	790	623	701	334	267	304	202	180	181
2	1180	1000	1080	711	624	665	335	223	269	203	180	181
3	1070	912	970	928	519	656	357	290	332	203	180	186
4	3440	820	1370	740	478	605	312	245	280	202	180	193
5	3240	1980	2450	635	393	481	335	268	305	202	179	191
6	2360	1880	2110	768	438	534	313	246	279	202	179	194
7	2300	2010	2120	506	332	424	335	246	292	223	179	201
8	2160	1780	1970	354	289	322	290	246	262	223	178	202
9	4330	2060	3210	424	289	333	268	223	248	223	200	207
10	3530	2220	2760	561	314	435	290	223	262	222	200	212
11	2390	1940	2090	473	314	379	268	223	243	222	199	214
12	2360	2050	2220	634	294	438	246	224	243	221	177	211
13	2340	1890	2200	637	296	423	246	179	216	243	177	219
14	2110	1690	1840	342	274	292	179	134	160	243	220	225
15	1710	1580	1660	322	275	300	179	157	159	242	220	222
16	1640	1260	1510	347	299	320	179	157	170	242	219	222
17	1360	1160	1290	349	324	337	202	179	185	263	219	240
18	3930	1250	1730	349	289	321	202	179	183	263	219	239
19	4770	1830	2780	311	289	301	202	179	189	284	240	253
20	6250	3740	5150	333	289	302	202	179	185	262	240	245
21	5400	3530	4110	444	289	345	202	179	184	261	239	245
22	3960	2900	3320	333	267	305	202	157	180	239	217	237
23	3040	2710	2850	400	289	337	180	157	165	239	217	233
24	2740	1990	2350	378	289	334	180	157	167	909	216	357
25	2250	1730	1940	334	289	318	180	157	172	2380	823	1760
26	1840	1570	1690	312	267	284	180	157	173	1340	690	1020
27	1680	1500	1620	334	245	276	180	157	174	690	539	590
28	1550	1340	1490	267	245	259	180	157	175	774	494	609
29	1410	1240	1330	357	267	321	180	157	178	623	493	529
30	1360	891	1200	379	334	352	180	157	179	600	492	516
31	1190	740	953	---	---	---	202	180	181	790	578	658
MONTH	6250	740	2080	928	245	390	357	134	216	2380	177	355

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

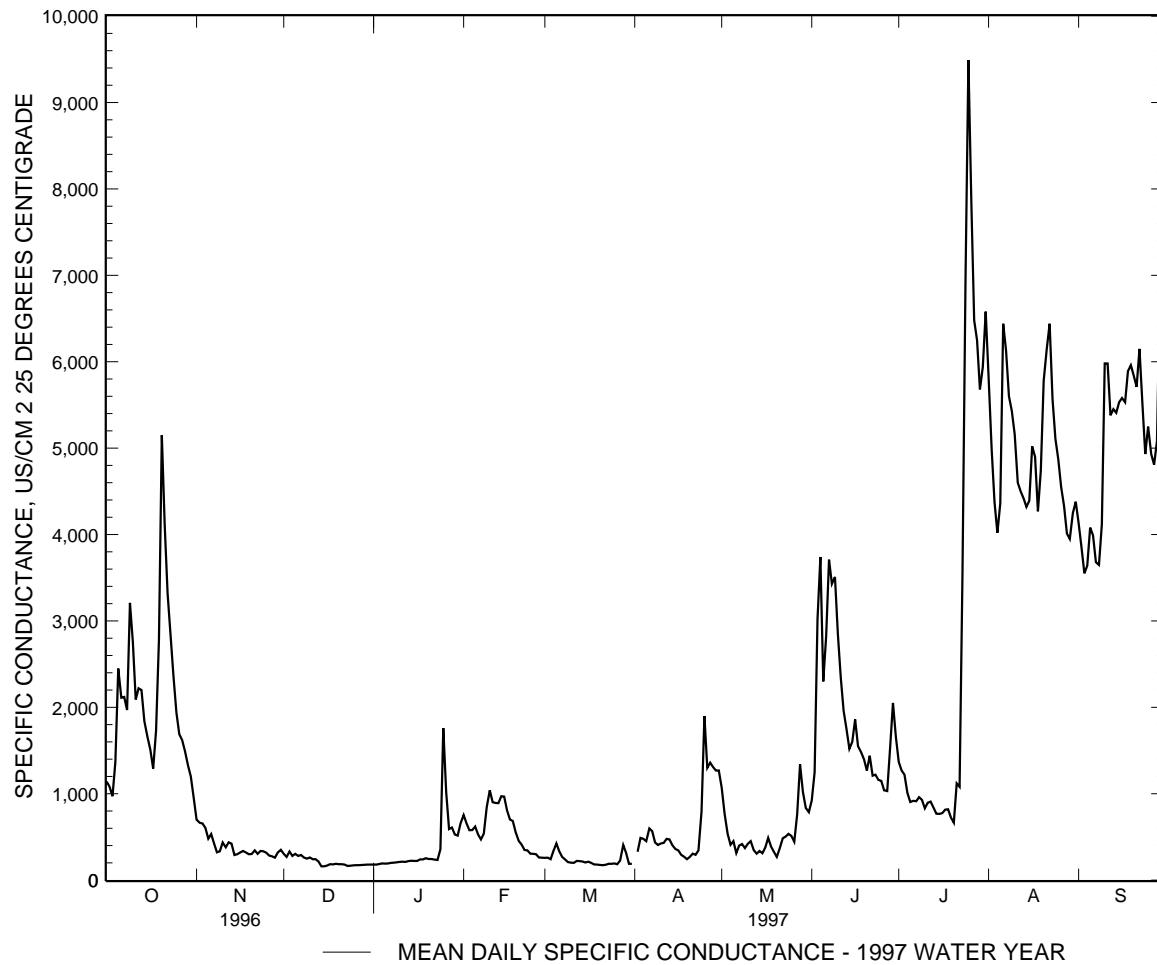
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	811	683	753	271	250	257	---	---	---	1300	851	1070
2	725	617	658	272	251	261	488	305	329	877	653	772
3	639	532	577	272	210	242	588	406	490	697	429	536
4	615	552	579	462	231	340	605	400	478	486	349	408
5	657	593	620	484	379	424	538	398	452	634	330	452
6	635	401	529	421	253	333	672	497	597	359	267	313
7	528	442	470	317	233	268	631	469	567	546	281	399
8	631	484	538	275	191	241	489	387	436	527	351	418
9	1160	610	843	212	191	209	442	384	407	416	333	371
10	1170	818	1040	213	191	202	458	384	424	604	333	419
11	984	711	902	213	192	201	492	361	430	604	353	451
12	1020	586	893	256	192	222	509	450	478	395	291	346
13	1020	605	891	236	214	220	506	445	471	332	291	307
14	1080	854	971	236	193	216	465	369	404	541	312	338
15	1080	852	967	236	193	204	386	347	359	395	291	312
16	1020	622	806	237	194	214	364	289	345	541	270	377
17	766	662	703	216	173	199	325	251	294	561	270	488
18	703	660	685	195	173	182	321	231	272	541	270	388
19	681	473	553	195	173	180	248	229	242	540	270	327
20	535	411	454	195	173	176	367	228	269	270	249	269
21	451	349	410	174	174	174	382	260	306	540	270	366
22	390	308	349	196	174	177	343	257	294	623	269	485
23	371	329	345	197	175	188	407	273	345	602	311	505
24	350	269	307	197	175	189	1600	389	794	664	332	535
25	331	289	304	196	173	193	3300	906	1900	643	414	511
26	352	270	299	195	172	185	1560	914	1300	643	394	444
27	291	249	263	555	171	227	1490	1100	1360	1160	456	759
28	271	250	259	574	191	407	1620	1100	1310	2050	746	1340
29	---	---	---	485	189	315	1470	1060	1270	1430	912	1020
30	---	---	---	210	187	190	1450	1140	1270	932	767	835
31	---	---	---	208	187	190	---	---	---	849	725	786
MONTH	1170	249	606	574	171	233	---	---	---	2050	249	527
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1060	828	922	1560	1250	1370	6570	5180	5830	4320	3870	4130
2	1970	870	1250	1330	1210	1270	5450	4280	4990	4070	3570	3850
3	4350	1740	3020	1330	1080	1220	4810	2730	4370	3770	3380	3550
4	4920	2280	3740	1190	807	1010	4510	2210	4020	4280	3380	3640
5	3290	1200	2300	978	830	905	5800	2190	4360	4730	3780	4080
6	3970	1140	2820	979	787	918	8370	4660	6440	4220	3710	3990
7	3930	2830	3710	961	895	913	6980	5160	6130	3780	3600	3680
8	3990	1140	3430	1050	875	959	5840	5080	5600	3880	3590	3650
9	3720	3040	3510	1070	770	928	5520	5320	5430	5790	3700	4120
10	3200	1670	2850	944	730	832	5320	4850	5160	8710	4870	5980
11	2690	1450	2350	988	837	896	4850	4370	4600	8710	5260	5980
12	2330	909	1960	1030	860	908	4750	4410	4500	5620	5090	5380
13	2070	908	1750	1190	733	841	4490	4370	4420	5610	5200	5450
14	1670	970	1520	1010	669	768	4390	4260	4320	5560	5290	5410
15	2040	1490	1600	1120	628	767	4680	4260	4390	5760	5360	5530
16	2270	1240	1860	1280	563	775	8480	4360	5020	5810	5420	5580
17	1770	1340	1550	1260	607	816	9920	4350	4900	5860	4710	5530
18	1570	1400	1480	1330	609	820	4350	4190	4270	6710	5570	5890
19	1570	1100	1400	980	653	725	6090	4190	4740	7130	5420	5960
20	1510	828	1270	764	633	664	7230	4900	5780	6270	5440	5840
21	1600	1160	1440	2250	677	1120	7050	5520	6150	7190	5050	5710
22	1370	1020	1210	1490	897	1080	7450	5740	6440	7060	5730	6150
23	1330	1080	1220	5900	1180	3530	6070	5170	5570	6890	4970	5520
24	1310	1060	1160	9290	4980	6970	5660	4840	5110	5020	4860	4930
25	1550	962	1150	10700	8780	9490	5620	4530	4870	5360	4980	5250
26	1260	879	1040	9110	6910	7870	4940	4410	4550	5380	4690	4930
27	1260	859	1030	7220	6020	6480	4690	4140	4330	4910	4680	4810
28	3110	1090	1530	7140	5700	6250	4230	3890	4010	5670	4840	5080
29	3130	1730	2050	6380	5430	5680	4100	3790	3950	8950	5670	6820
30	1920	1470	1660	6650	4870	5940	4440	4040	4250	6350	4970	5680
31	---	---	---	7970	5760	6580	4460	4250	4380	---	---	---
MONTH	4920	828	1930	10700	563	2560	9920	2190	4930	8950	3380	5070

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.8	19.0	19.9	13.5	12.4	13.0	6.0	4.8	5.4	3.2	1.9	2.5
2	19.9	19.5	19.6	12.4	10.2	11.8	6.6	5.8	6.2	3.8	3.0	3.4
3	19.5	14.7	18.5	11.3	9.6	10.5	6.3	5.5	5.9	4.4	3.7	4.0
4	18.8	13.1	16.4	11.6	9.9	10.6	6.2	5.6	5.8	5.4	4.2	4.8
5	18.3	16.9	17.6	11.6	10.1	10.9	5.8	5.2	5.5	5.8	4.9	5.3
6	18.3	15.9	17.1	11.7	10.8	11.3	5.8	5.4	5.6	5.9	4.8	5.2
7	18.6	16.4	17.4	12.7	11.4	12.0	5.5	5.2	5.3	4.9	3.3	4.2
8	18.0	15.3	16.6	13.5	12.3	12.8	5.9	4.8	5.3	3.3	1.3	2.2
9	17.8	15.3	16.7	13.4	12.1	12.9	5.4	4.3	4.8	2.5	1.4	2.0
10	17.4	15.1	16.7	12.1	10.7	11.6	4.9	3.6	4.2	3.2	2.1	2.8
11	15.8	14.1	14.9	10.7	8.8	9.5	5.1	4.7	4.9	3.1	.5	1.7
12	16.1	13.8	15.2	9.3	7.6	8.3	6.1	5.0	5.5	.5	.3	.3
13	16.5	15.0	15.9	8.1	6.9	7.5	6.8	6.0	6.5	.4	.4	.4
14	17.3	15.6	16.4	8.1	6.6	7.6	6.2	5.5	5.9	.6	.4	.4
15	16.7	14.7	15.9	6.8	4.8	6.1	6.1	4.9	5.6	.8	.4	.5
16	17.1	15.5	16.3	7.6	6.1	6.8	6.3	5.9	6.1	.9	.4	.4
17	17.9	16.1	17.1	7.7	6.4	7.1	6.6	6.2	6.4	.4	.4	.4
18	17.1	15.9	16.8	7.9	7.0	7.4	6.8	6.5	6.7	.7	.4	.4
19	15.9	15.0	15.3	8.7	7.7	8.1	6.7	4.9	6.2	.8	.5	.5
20	15.7	15.0	15.3	8.1	7.0	7.7	4.9	2.1	3.0	.5	.5	.5
21	15.8	14.6	15.1	7.3	6.4	6.8	2.5	1.4	1.9	.7	.5	.5
22	15.3	14.8	15.1	6.5	5.3	5.8	2.9	1.7	2.2	.6	.5	.5
23	15.8	14.7	15.3	6.2	4.7	5.5	3.8	2.4	2.9	.7	.5	.5
24	15.9	14.5	15.2	6.4	5.7	6.0	4.5	3.2	3.8	.6	.5	.5
25	15.0	14.3	14.7	6.7	5.9	6.3	4.3	2.2	2.8	1.3	.6	.8
26	15.7	14.1	14.9	7.7	6.2	7.0	2.7	2.1	2.5	.6	.6	.6
27	15.9	14.8	15.4	6.2	2.9	4.5	3.9	2.7	3.2	.6	.6	.6
28	15.7	14.4	15.2	3.9	2.3	3.0	4.1	3.5	3.7	.9	.6	.6
29	14.8	13.3	14.3	4.7	3.5	4.1	4.6	4.0	4.3	.9	.6	.6
30	14.8	14.2	14.5	4.8	4.1	4.5	5.0	4.1	4.5	.8	.6	.6
31	14.5	13.3	13.9	---	---	---	4.7	3.2	4.3	1.1	.7	.8
MONTH	20.8	13.1	16.1	13.5	2.3	8.2	6.8	1.4	4.7	5.9	.3	1.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.0	.8	1.4	8.8	8.1	8.5	8.3	3.5	6.7	17.3	15.6	16.4
2	2.7	1.3	2.0	9.5	8.5	9.0	10.5	7.3	9.0	18.7	14.2	16.4
3	3.5	2.1	2.6	8.7	5.9	7.1	11.8	9.2	10.2	17.6	16.2	16.9
4	2.6	1.8	2.3	7.5	5.9	6.8	13.7	10.3	11.8	18.1	15.7	16.9
5	3.6	2.4	2.9	7.6	7.1	7.3	12.8	11.2	12.1	18.5	15.4	16.8
6	4.1	2.7	3.4	8.1	6.2	7.4	12.7	11.4	12.0	17.8	16.2	16.9
7	4.0	2.8	3.5	8.1	4.9	6.4	14.7	12.2	13.4	17.2	14.2	15.9
8	3.5	1.3	2.3	7.4	5.8	6.6	13.9	11.1	12.7	17.3	15.0	16.2
9	3.2	1.0	2.1	7.7	3.9	5.9	12.5	9.3	10.9	16.8	15.7	16.3
10	2.9	2.1	2.5	8.0	6.0	6.9	11.8	6.7	9.6	15.8	13.9	14.9
11	2.8	1.0	2.0	7.8	6.6	7.2	12.1	10.0	10.9	17.1	12.9	15.2
12	3.0	2.1	2.5	8.0	5.7	6.8	11.8	10.8	11.2	17.2	15.6	16.4
13	3.3	1.2	2.4	8.1	6.0	7.1	13.6	11.1	12.4	16.6	15.2	16.2
14	2.9	2.0	2.5	7.6	6.9	7.2	13.8	9.8	11.8	17.6	14.8	16.2
15	4.0	2.8	3.2	8.3	5.8	7.3	14.1	11.2	12.5	18.5	16.2	17.2
16	4.6	2.0	3.2	7.3	4.6	5.8	14.2	11.7	12.9	17.4	15.4	16.4
17	4.4	1.9	3.3	6.7	4.9	5.9	13.5	12.2	13.0	17.0	15.4	16.2
18	4.6	2.8	3.7	8.1	6.1	7.0	12.2	10.1	11.0	18.9	15.4	16.8
19	6.5	3.4	4.8	7.2	5.9	6.3	11.0	8.3	9.7	19.5	16.7	17.8
20	7.9	4.7	6.2	7.1	6.0	6.4	13.3	10.0	11.6	20.5	18.0	19.0
21	7.8	6.0	6.8	8.6	5.9	7.3	12.6	11.4	12.1	19.0	17.0	18.0
22	7.9	6.8	7.2	8.5	7.3	7.9	14.2	11.4	12.7	18.3	15.6	17.0
23	8.0	5.3	6.8	8.9	5.5	7.2	13.1	12.2	12.7	19.2	15.6	17.5
24	7.8	6.0	6.9	9.1	6.3	7.8	13.7	11.7	12.5	20.1	17.4	18.7
25	6.6	3.6	5.4	8.5	7.7	8.2	14.6	12.2	13.3	19.3	18.6	18.9
26	7.2	5.5	6.3	9.6	8.5	8.9	15.6	13.0	14.3	20.4	17.9	19.0
27	9.4	7.1	8.3	10.4	7.7	9.2	15.6	13.7	14.5	19.5	16.7	18.3
28	10.0	8.8	9.3	11.4	9.4	10.3	15.5	14.2	14.7	19.8	17.4	18.6
29	---	---	---	10.9	10.1	10.6	17.1	14.0	15.2	20.8	18.0	19.2
30	---	---	---	13.1	10.6	11.8	17.6	15.2	16.1	20.5	18.8	19.4
31	---	---	---	12.1	7.3	10.2	---	---	---	22.2	18.9	20.1
MONTH	10.0	.8	4.1	13.1	3.9	7.7	17.6	3.5	12.1	22.2	12.9	17.3

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

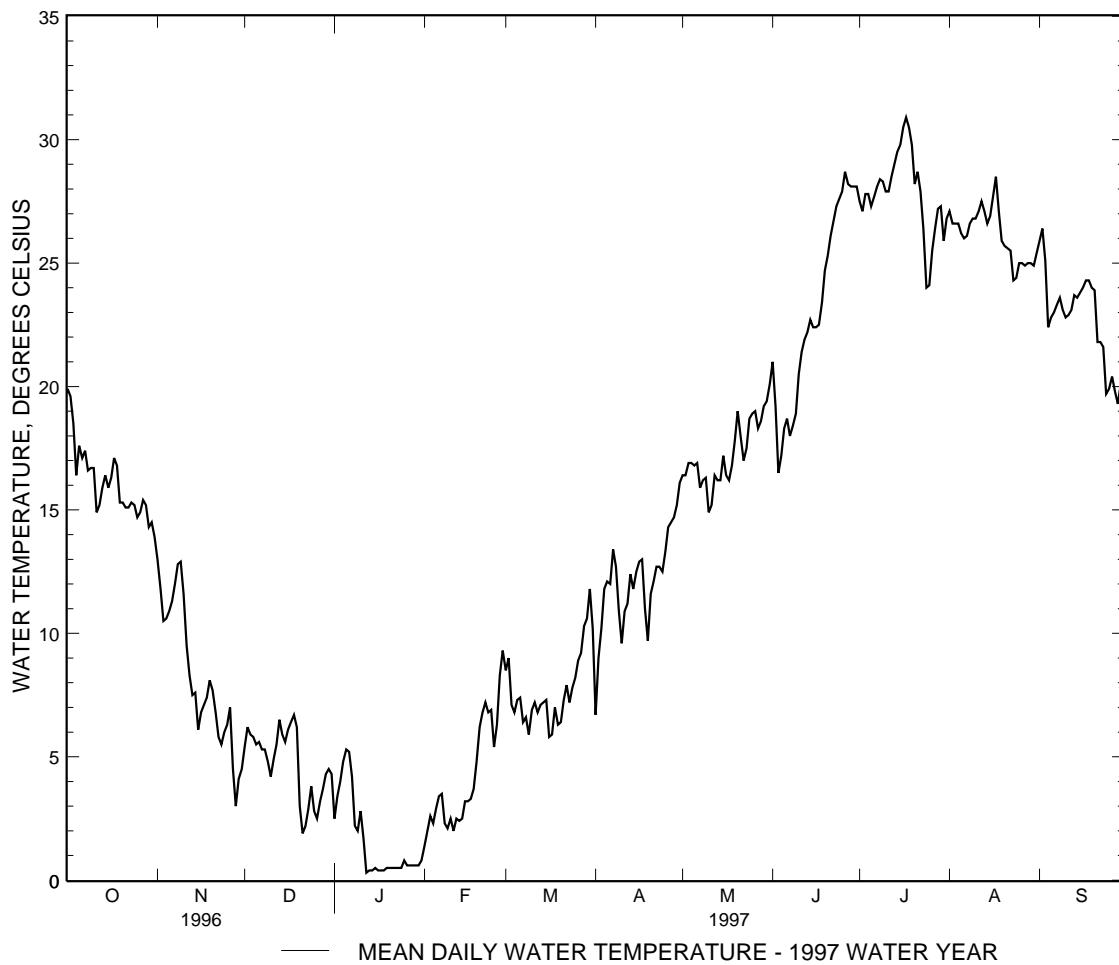
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.8	19.6	21.0	28.0	26.7	27.5	28.2	26.0	27.1	27.0	24.9	25.9
2	20.9	17.4	19.2	27.9	26.5	27.1	27.2	26.1	26.6	27.4	25.5	26.4
3	17.4	16.1	16.5	29.1	26.7	27.8	28.0	25.2	26.6	26.6	22.5	25.1
4	18.7	15.8	17.2	29.1	26.9	27.8	27.1	25.8	26.6	23.3	20.2	22.4
5	19.8	17.0	18.3	28.8	25.9	27.3	27.5	25.0	26.2	24.0	21.4	22.8
6	19.6	17.9	18.7	28.8	26.3	27.7	27.0	24.7	26.0	23.5	22.5	23.0
7	18.5	17.5	18.0	29.4	26.9	28.1	27.3	24.9	26.1	24.3	22.2	23.3
8	19.9	17.1	18.4	29.7	27.2	28.4	27.9	25.3	26.6	24.2	22.9	23.6
9	20.2	17.6	18.9	29.3	27.5	28.3	27.9	25.5	26.8	23.5	22.6	23.1
10	22.1	19.1	20.5	29.1	26.4	27.9	27.9	26.1	26.8	23.1	22.3	22.8
11	22.4	20.4	21.4	29.4	26.4	27.9	28.2	25.8	27.1	23.2	22.7	22.9
12	23.1	21.2	21.9	29.9	27.2	28.5	29.1	26.3	27.5	24.5	22.2	23.1
13	23.2	21.6	22.2	30.7	27.7	29.0	27.6	26.6	27.1	25.1	22.7	23.7
14	23.5	22.0	22.7	31.0	28.3	29.5	27.3	25.9	26.6	24.6	22.5	23.6
15	24.6	20.8	22.4	31.6	28.5	29.8	28.1	25.7	26.9	25.0	22.7	23.8
16	23.8	21.5	22.4	32.2	29.2	30.5	29.2	26.8	27.7	25.1	22.8	24.0
17	23.7	21.6	22.5	32.3	29.6	30.9	29.9	27.3	28.5	25.6	23.2	24.3
18	25.0	22.0	23.4	31.7	29.2	30.5	28.5	26.0	27.1	25.0	23.8	24.3
19	26.1	23.5	24.7	31.1	28.4	29.8	27.3	24.1	25.9	25.2	22.9	24.0
20	26.5	23.9	25.3	29.5	25.1	28.2	26.5	25.0	25.7	24.5	22.5	23.9
21	27.2	25.0	26.1	29.9	27.8	28.7	26.7	24.9	25.6	22.7	20.1	21.8
22	27.6	25.7	26.7	28.9	27.1	27.9	26.6	24.5	25.5	22.9	20.7	21.8
23	28.5	25.9	27.3	27.7	24.9	26.4	24.8	23.7	24.3	22.4	20.3	21.6
24	28.9	26.2	27.6	25.7	22.4	24.0	25.7	23.2	24.4	20.6	18.6	19.7
25	28.9	27.0	27.9	25.4	22.6	24.1	26.1	23.9	25.0	21.0	18.9	19.9
26	29.9	27.8	28.7	26.8	24.3	25.5	26.3	24.2	25.0	21.6	19.5	20.4
27	29.7	26.9	28.2	28.1	25.3	26.4	25.9	24.3	24.9	21.1	18.5	19.8
28	29.9	27.0	28.1	28.8	26.2	27.2	26.3	24.3	25.0	19.9	19.0	19.3
29	29.6	26.9	28.1	28.8	25.8	27.3	26.2	24.2	25.0	20.9	19.4	20.1
30	29.5	27.0	28.1	27.5	24.1	25.9	26.0	23.4	24.9	20.0	18.6	19.3
31	---	---	---	28.3	25.4	26.8	26.2	24.4	25.4	---	---	---
MONTH	29.9	15.8	23.1	32.3	22.4	27.8	29.9	23.2	26.1	27.4	18.5	22.7

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



SUSQUEHANNA RIVER BASIN

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 mi².

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.--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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 303,000 ft³/s, Nov. 11, gage height, 24.04 ft.DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37500	39800	42500	50900	26000	67900	72900	27600	21000	18600	6430	5280
2	37200	30200	98700	56200	17800	82800	76500	25800	30800	9410	5000	16300
3	36200	23200	250000	55900	33700	82900	76600	26000	41900	12100	5000	10500
4	32000	31000	256000	42400	32600	89800	77200	19600	48300	5490	5030	4930
5	20300	30200	206000	33500	36600	91700	68800	30200	53100	6720	5000	5410
6	19000	29100	167000	44500	49500	94400	59200	33100	57300	6270	4950	4910
7	26400	25900	132000	49600	64500	100000	67300	33400	37700	14100	4960	4920
8	27200	33900	112000	48400	52400	118000	61800	36400	33700	14700	4990	10400
9	27500	64700	108000	44000	43600	113000	61300	35700	28800	10800	7430	6450
10	22300	189000	94000	43600	47800	108000	46300	21900	27900	8720	4940	6760
11	23400	272000	73800	37300	42600	91000	43200	21900	27400	5240	6360	13300
12	7320	206000	64400	25200	37200	72700	33800	32100	27700	5240	7620	18200
13	9690	159000	87600	29700	32900	71200	31000	31400	25600	5240	4490	12100
14	25400	124000	184000	26200	40600	68300	37300	26100	16500	7250	5160	4970
15	20500	105000	236000	25700	22900	72300	37300	29000	12600	16300	4990	16800
16	9990	72700	219000	27300	20100	78200	36500	28300	23500	10400	8210	13600
17	21800	58900	166000	29900	31500	74700	37200	14700	18100	6370	5030	10100
18	13000	62100	134000	20300	29900	74900	39300	12800	17700	5260	7690	11800
19	48900	49700	116000	11300	24700	66200	24000	29200	19600	5420	11500	3920
20	101000	52900	109000	23700	32900	62200	18900	23000	17500	5080	10100	6220
21	186000	45500	85900	19700	46000	57600	32200	23600	17200	5310	21100	3620
22	185000	49200	70500	11700	44800	48000	30300	33500	13200	6520	16500	8010
23	145000	30000	60800	23000	78700	38700	26800	44100	15000	7880	9380	3630
24	118000	28700	57800	29300	99000	49500	29600	33700	19800	11000	4980	8850
25	103000	39400	57000	26400	110000	52000	25500	30700	16400	17000	14200	3660
26	70600	42500	57000	27700	101000	44500	22300	37100	16400	9920	12400	5680
27	57600	59600	60300	31800	84200	51600	12600	54600	7420	8930	14100	3630
28	57700	37300	53600	34400	69200	60200	26100	55900	11100	15100	9140	3640
29	52300	44200	49500	44500	---	64000	25400	51900	8660	9430	7220	15800
30	44300	55200	55300	34700	---	63300	24800	37200	16800	5000	4910	7770
31	41500	---	61900	33800	---	79000	---	26300	---	6570	4920	---
TOTAL	1627600	2090900	3525600	1042600	1352700	2288600	1262000	966800	728680	281370	243730	251160
MEAN	52500	69700	113700	33630	48310	73830	42070	31190	24290	9076	7862	8372
MAX	186000	272000	256000	56200	110000	118000	77200	55900	57300	18600	21100	18200
MIN	7320	23200	42500	11300	17800	38700	12600	12800	7420	5000	4490	3620
CFSM	1.94	2.57	4.20	1.24	1.78	2.72	1.55	1.15	.90	.33	.29	.31
IN.	2.23	2.87	4.84	1.43	1.86	3.14	1.73	1.33	1.00	.39	.33	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1997, BY WATER YEAR (WY)

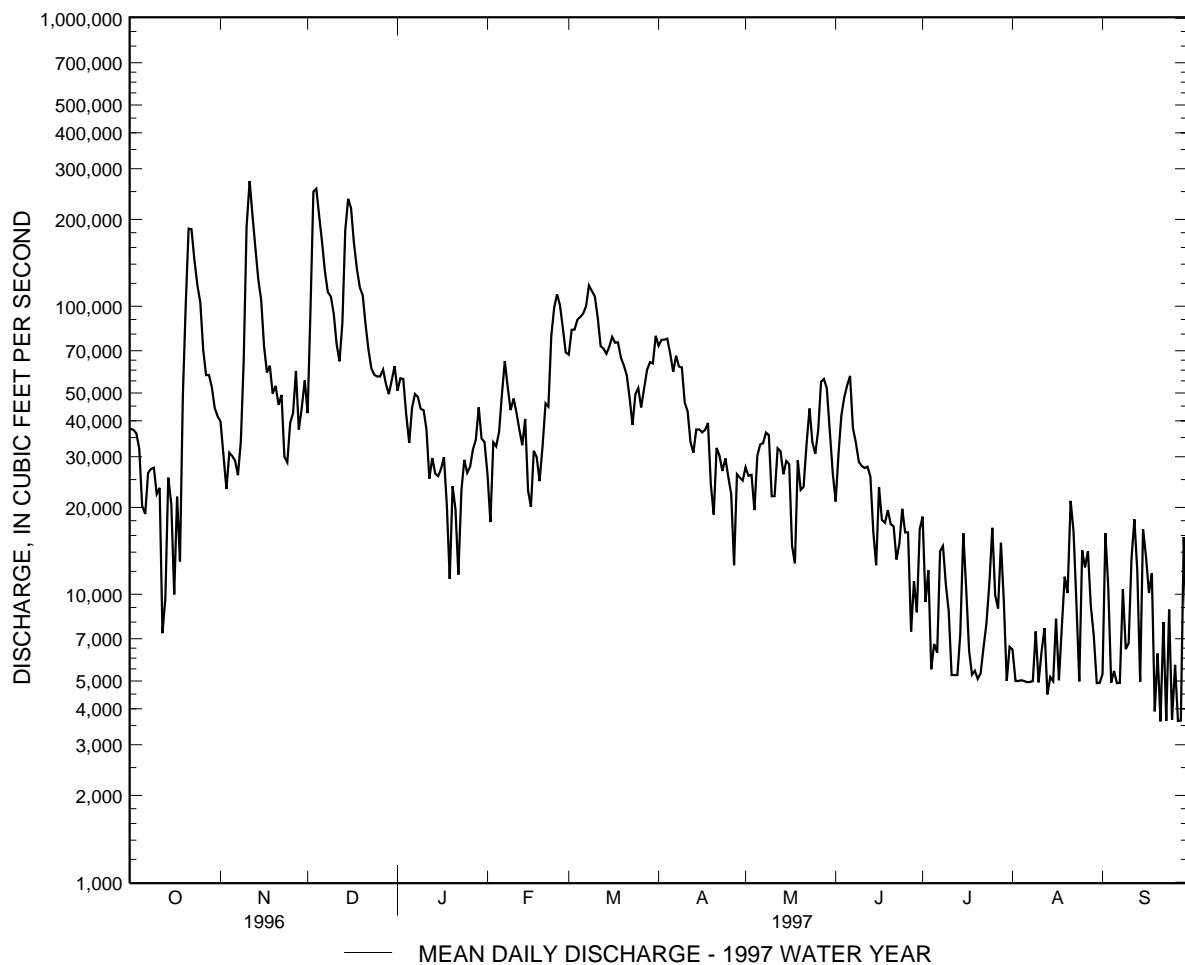
MEAN	24340	36940	51180	41990	52670	73970	80260	48500	35740	20130	14130	16530
MAX	81800	73170	113700	122500	115800	147800	250100	108200	208000	59050	48580	88450
(WY)	1977	1978	1997	1996	1984	1994	1993	1989	1972	1972	1994	1975
MIN	5557	9803	14630	7164	13050	28320	33850	23220	8656	6107	5927	3476
(WY)	1970	1981	1990	1981	1980	1969	1995	1995	1991	1991	1991	1995

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1968 - 1997
ANNUAL TOTAL	23228860	15661740	
ANNUAL MEAN	63470	42910	41270
HIGHEST ANNUAL MEAN			61090 1978
LOWEST ANNUAL MEAN			26570 1981
HIGHEST DAILY MEAN	622000	Jan 21	1120000 Jun 24 1972
LOWEST DAILY MEAN	5270	Sep 1	269 Jul 13 1969
ANNUAL SEVEN-DAY MINIMUM	9530	Aug 30	1810 Sep 24 1980
INSTANTANEOUS PEAK FLOW			1130000 Jun 24 1972
INSTANTANEOUS PEAK STAGE		24.04 Nov 11	36.83 Jun 24 1972
INSTANTANEOUS LOW FLOW		967 (a)	144 Mar 2 1969
ANNUAL RUNOFF (CFSM)	2.34	1.58	1.52
ANNUAL RUNOFF (INCHES)	31.89	21.50	20.69
10 PERCENT EXCEEDS	142000	92600	85800
50 PERCENT EXCEEDS	43700	30200	27600
90 PERCENT EXCEEDS	15100	5600	6030

a Feb. 19, 20.



SUSQUEHANNA RIVER BASIN

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: Maximum 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 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	PH	BARO-			OXYGEN,	HARD-	CALCIUM		
		CHARGE, INST.	SPE- CIFIC CUBIC FEET	WATER WHOLE FIELD	METRIC PRES-	SURE	OXYGEN, (MM HG)				
		PER SECOND (00061)	ANCE (US/CM) (00095)	ARD UNITS (00400)	TEMPER- (STAND- (DEG C) (00010)	TEMPER- ATURE WATER (DEG C) (00020)	AIR OF (00025)	SOLVED (00300)	SATUR- ATION (00301)	CACO3 (00900)	AS (00915)
OCT 1996											
22...	1100	214000	160	7.3	12.0	15.0	761	10.0	93	--	--
23...	1030	164000	158	7.5	12.0	20.0	758	10.4	97	--	--
NOV											
11...	1300	281000	144	7.0	10.5	4.5	765	12.0	107	--	--
13...	1300	164000	128	7.1	8.0	6.5	759	12.5	106	--	--
DEC											
03...	1345	262000	186	--	6.0	8.0	764	13.1	105	--	--
04...	1430	255000	127	7.1	6.5	7.5	765	13.1	106	--	--
06...	1230	160000	125	7.2	6.0	6.0	--	--	--	--	--
15...	1830	231000	143	7.2	6.5	7.0	771	--	--	--	--
JAN 1997											
22...	1130	6960	268	8.0	2.5	4.5	765	14.9	108	--	--
FEB											
25...	1415	100000	233	7.8	5.5	2.0	769	13.3	105	--	--
MAR											
18...	1145	74200	187	7.4	6.0	11.0	768	--	--	--	--
APR											
01...	1200	74200	184	7.7	9.5	10.5	759	11.2	98	69	19
30...	1230	11800	236	8.0	16.5	17.5	759	8.9	92	87	24
MAY											
20...	1300	58400	221	8.1	19.0	19.5	756	9.2	100	--	--
JUN											
10...	1245	50500	205	7.7	--	--	763	9.0	--	71	19
JUL											
11...	0815	5290	287	7.5	28.5	25.0	767	6.1	78	100	27
AUG											
06...	1015	4910	337	7.0	28.5	24.0	764	5.9	75	120	32
SEP											
10...	1100	5830	363	7.2	24.5	21.0	759	4.9	59	130	32

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	STRON-	CARBON,	CARBON,	ETHAL-	TER-	TRI-	2,6-DI-	ACETO-	ALA-
	TIUM,	CARBON,	ORGANIC	SUS-	FLUR-	PHORATE	BACIL	FLUR-	ETHYL
	DIS-	ORGANIC	DIS-	PENDED	WAT FLT	WATER	WATER	ALIN	ANILINE
DATE	SOLVED	TOTAL	SOLVED	TOTAL	0.7 U				
	(UG/L)	(MG/L)	(MG/L)	(MG/L)	(GF, REC)				
	AS SR)	AS C)	AS C)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(01080)	(00680)	(00681)	(00689)	(82663)	(82664)	(82665)	(82661)	(82660)
								(49260)	(46342)
OCT 1996									
22...	--	6.4	--	--	--	--	--	--	--
23...	--	5.4	--	--	--	--	--	--	--
NOV									
11...	--	8.4	--	--	--	--	--	--	--
13...	--	5.9	--	--	--	--	--	--	--
DEC									
03...	--	5.7	--	--	--	--	--	--	--
04...	--	7.0	--	--	--	--	--	--	--
06...	--	5.3	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
JAN 1997									
22...	--	1.8	--	--	<0.004	<0.002	E0.009	<0.002	<0.003
FEB									
25...	--	2.3	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
MAR									
18...	--	2.7	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
APR									
01...	88	--	1.7	0.10	<0.004	<0.002	<0.007	<0.002	<0.003
30...	121	2.2	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
MAY									
20...	--	3.5	--	--	--	--	--	--	--
JUN									
10...	110	2.8	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
JUL									
11...	156	2.9	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
AUG									
06...	183	3.2	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
SEP									
10...	220	2.6	--	--	<0.004	<0.002	<0.007	<0.002	<0.003
	ATRA-	BEN-	CAR-	CARBO-				DEETHYL	
	ZINE,	FLUR-	BUTYL-	BARYL	FURAN		CYANA-	DCPA	ATRA-
	WATER,	ALIN	ATE,	WATER	WATER		ZINE,	WATER	ZINE,
DATE	DISS,	WAT FLD	WATER,	FLTRD	FLTRD		CHLOR-	FLTRD	DI-
	REC	0.7 U	DISS,	0.7 U	0.7 U		PYRIPOS	DIS-	WATER,
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)		(UG/L)	(P,P')	AZINON,
	(39632)	(82673)	(04028)	(82680)	(82674)		(38933)	(04041)	DIS-
							SOLVED	DISSOLV	DISS,
	REC	GF, REC	REC	GF, REC	GF, REC		REC	REC	REC
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)		(UG/L)	(UG/L)	(UG/L)
							(04040)	(34653)	(39572)
OCT 1996									
22...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
NOV									
11...	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--
DEC									
03...	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
JAN 1997									
22...	0.030	<0.002	<0.002	<0.003	<0.003	<0.004	<0.004	<0.002	<0.006
FEB									
25...	0.017	<0.002	<0.002	<0.003	<0.003	<0.004	<0.004	<0.002	<0.006
MAR									
18...	0.020	<0.002	<0.002	<0.003	<0.003	<0.004	0.008	<0.002	<0.006
APR									
01...	0.016	<0.002	<0.002	<0.003	<0.003	<0.004	<0.004	<0.002	<0.006
30...	0.021	<0.002	<0.002	<0.003	<0.003	E0.002	<0.004	<0.002	E0.025
MAY									
20...	--	--	--	--	--	--	--	--	--
JUN									
10...	0.437	<0.002	<0.002	<0.003	<0.003	<0.004	0.054	<0.002	<0.006
JUL									
11...	0.130	<0.002	<0.002	<0.003	<0.003	<0.004	0.033	<0.002	<0.006
AUG									
06...	0.077	<0.002	<0.002	<0.003	<0.003	<0.004	0.009	E0.001	<0.006
SEP									
10...	0.058	<0.002	<0.002	<0.003	<0.003	<0.004	0.006	<0.002	E0.031
									0.007

E Estimated value

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	DISUL-	EPTC	ETHO-		LIN-	METHYL	METHYL	
	FOTON	WATER	WATER	FONOFO	URON	AZIN-	PARA-	
DI-	WATER	WATER	WATER		WATER	PHOS	THION	METO-
ELDRIN	FLTRD	FLTRD	FLTRD	DISS	FLTRD	THION,	WAT FLT	LACHLOR
DIS-	0.7 U	0.7 U	0.7 U	DIS-	0.7 U	DIS-	0.7 U	WATER
DATE	SOLVED	GF, REC	GF, REC	REC	SOLVED	GF, REC	SOLVED	DISSOLV
	(UG/L)							
	(39381)	(82677)	(82668)	(82672)	(04095)	(39341)	(82666)	(39532)

	DISUL-	EPTC	ETHO-		LIN-	METHYL	METHYL	
OCT 1996								
22...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
NOV								
11...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
DEC								
03...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
JAN 1997								
22...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
FEB								
25...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
MAR								
18...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
APR								
01...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
30...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
MAY								
20...	--	--	--	--	--	--	--	--
JUN								
10...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
JUL								
11...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
AUG								
06...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005
SEP								
10...	<0.001	<0.017	<0.002	<0.003	<0.003	<0.004	<0.002	<0.005

	MOL-	NAPROP-	PEB-		PENDI-	PER-	PRON-	PRO-
	METRI-	INATE	AMIDE	ULATE	METH-	METHRIN	PRO-	PARGITE
	BUZIN	WATER	WATER	WATER	ALIN	CIS	AMIDE	PROP-
SENCOR	FLTRD	FLTRD	FLTRD	FLTRD	WAT FLT	WAT FLT	WATER	CHLOR,
WATER	0.7 U	0.7 U	0.7 U	0.7 U	DIS-	0.7 U	FLTRD	WATER,
DATE	DISSOLV	GF, REC	GF, REC	GF, REC	SOLVED	GF, REC	GF, REC	FLTRD
	(UG/L)							
	(82630)	(82671)	(82684)	(82669)	(39542)	(82683)	(82687)	(04037)

	MOL-	NAPROP-	PEB-		PENDI-	PER-	PRON-	PRO-
OCT 1996								
22...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
NOV								
11...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
DEC								
03...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
JAN 1997								
22...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.007
FEB								
25...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.005
MAR								
18...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.003
APR								
01...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.018
30...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.004
MAY								
20...	--	--	--	--	--	--	--	--
JUN								
10...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.010
JUL								
11...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	E0.016
AUG								
06...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	0.020
SEP								
10...	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	0.030

E Estimated value

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	PRO-	TEBU-	TER-	THIO-	TRIAL-		SEDI-	SED.
	PANIL	SI-	THIURON	BUPOS	BENCARB	LATE	MENT,	SUSP.
	WATER	MAZINE,	WATER	WATER	WATER	ALPHA	SEDIMENT,	DIS-
	FLTRD	WATER,	FLTRD	FLTRD	FLTRD	FLTRD	BHC	CHARGE,
	0.7 U	DISS,	0.7 U	0.7 U	0.7 U	0.7 U	MENT,	DIAM.
DATE	GF, REC	REC	GF, REC	GF, REC	GF, REC	GF, REC	SUS-	% FINER
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PENDED	PENDED
	(82679)	(04035)	(82670)	(82675)	(82681)	(82678)	(34253)	(T/DAY) .062 MM
OCT 1996								
22...	--	--	--	--	--	--	61 35200	97
23...	--	--	--	--	--	--	34 15100	98
NOV								
11...	--	--	--	--	--	--	126 95600	96
13...	--	--	--	--	--	--	100 44300	99
DEC								
03...	--	--	--	--	--	--	88 62300	97
04...	--	--	--	--	--	--	123 84700	97
06...	--	--	--	--	--	--	105 45400	98
15...	--	--	--	--	--	--	73 45500	96
JAN 1997								
22...	<0.004	0.008	<0.010	<0.013	<0.002	<0.001	<0.002	2 38
FEB								
25...	<0.004	E0.004	<0.010	<0.013	<0.002	<0.001	<0.002	16 4320
MAR								
18...	<0.004	0.006	<0.010	<0.013	<0.002	<0.001	<0.002	6 1200
APR								
01...	<0.004	0.008	<0.010	<0.013	<0.002	<0.001	<0.002	23 4610
30...	<0.004	0.014	<0.010	<0.013	<0.002	<0.001	<0.002	10 319
MAY								
20...	--	--	--	--	--	--	4 631	100
JUN								
10...	<0.004	0.043	<0.010	<0.013	<0.002	<0.001	<0.002	9 1240
JUL								
11...	<0.004	0.039	<0.010	<0.013	<0.002	<0.001	<0.002	8 107
AUG								
06...	<0.004	0.024	<0.010	<0.013	<0.002	<0.001	<0.002	59 776
SEP								
10...	<0.004	0.020	E0.004	<0.013	<0.002	<0.001	<0.002	6 94

E Estimated value

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SUSQUEHANNA RIVER BASIN

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 mi².

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 (ice effect), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0500	2,840	7.32	Dec. 13	1530	2,590	6.95
Nov. 8	2000	*3,750	*8.59	Jan. 25	0230	2,120	6.24

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	146	572	219	201	196	266	147	105	69	47	39
2	141	145	649	220	193	193	225	144	200	78	46	43
3	136	139	318	222	188	274	208	161	238	75	45	92
4	117	135	268	213	187	311	201	173	144	68	45	44
5	116	135	240	214	304	248	194	149	121	64	46	39
6	112	134	713	206	221	246	191	143	113	63	44	38
7	111	133	443	196	200	207	190	134	109	61	43	38
8	224	931	420	189	199	201	178	131	108	63	42	38
9	279	922	323	193	196	191	174	151	104	60	40	38
10	174	322	288	200	186	217	170	148	103	67	39	75
11	142	247	279	195	181	197	169	136	98	60	39	128
12	133	215	273	185	178	184	185	130	96	57	39	76
13	129	198	1250	e185	172	176	205	129	98	57	40	53
14	125	190	890	e197	212	301	173	128	97	55	42	47
15	120	181	477	e220	263	300	166	123	94	54	40	44
16	121	175	410	264	230	217	164	118	89	52	38	42
17	120	172	383	207	202	203	166	118	87	51	38	41
18	152	173	353	e188	192	203	168	118	88	49	41	40
19	1240	172	371	e176	196	228	161	118	89	48	40	39
20	326	165	320	e168	190	222	158	118	84	46	65	38
21	272	160	287	167	183	203	158	112	81	47	77	36
22	216	157	276	170	185	199	163	109	84	48	49	34
23	196	153	277	201	173	186	156	107	86	60	44	35
24	184	150	289	189	168	180	156	107	77	113	42	35
25	172	150	300	841	164	175	151	116	75	70	40	36
26	162	612	255	238	166	229	147	147	73	61	40	36
27	158	231	250	202	181	194	145	114	73	57	40	35
28	162	188	244	528	166	182	212	107	70	55	42	35
29	160	178	249	252	---	204	162	104	68	53	44	49
30	152	172	240	210	---	217	150	106	66	50	40	41
31	148	---	230	203	---	353	---	107	---	48	39	---
TOTAL	6121	7181	12137	7258	5477	6837	5312	3953	3018	1859	1356	1404
MEAN	197	239	392	234	196	221	177	128	101	60.0	43.7	46.8
MAX	1240	931	1250	841	304	353	266	173	238	113	77	128
MIN	111	133	230	167	164	175	145	104	66	46	38	34
CFSM	2.09	2.54	4.15	2.48	2.07	2.34	1.88	1.35	1.07	.64	.46	.50
IN.	2.41	2.83	4.78	2.86	2.16	2.69	2.09	1.56	1.19	.73	.53	.55

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1997, BY WATER YEAR (WY)

MEAN	84.8	104	119	144	163	170	169	150	124	105	95.7	87.4
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

SUSQUEHANNA RIVER BASIN

01580000 DEER CREEK AT ROCKS, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1927 - 1997
ANNUAL TOTAL	84193	61913	
ANNUAL MEAN	230	170	126
HIGHEST ANNUAL MEAN			224
LOWEST ANNUAL MEAN			58.2
HIGHEST DAILY MEAN	4020	Jan 19	6610
LOWEST DAILY MEAN	89	Jul 11	Jun 22 1972
ANNUAL SEVEN-DAY MINIMUM	95	Jul 6	8.6
INSTANTANEOUS PEAK FLOW		1250 Dec 13	9.0
INSTANTANEOUS PEAK STAGE		34 Sep 22	Sep 7 1966
INSTANTANEOUS LOW FLOW		35 Sep 22	(a)
ANNUAL RUNOFF (CFSM)	2.44	3750 Nov 8	8.0
ANNUAL RUNOFF (INCHES)	33.18	8.59 Nov 8	1.34
10 PERCENT EXCEEDS	340	34 (d)	18.16
50 PERCENT EXCEEDS	173	24.40	212
90 PERCENT EXCEEDS	113	157	94
		42	45

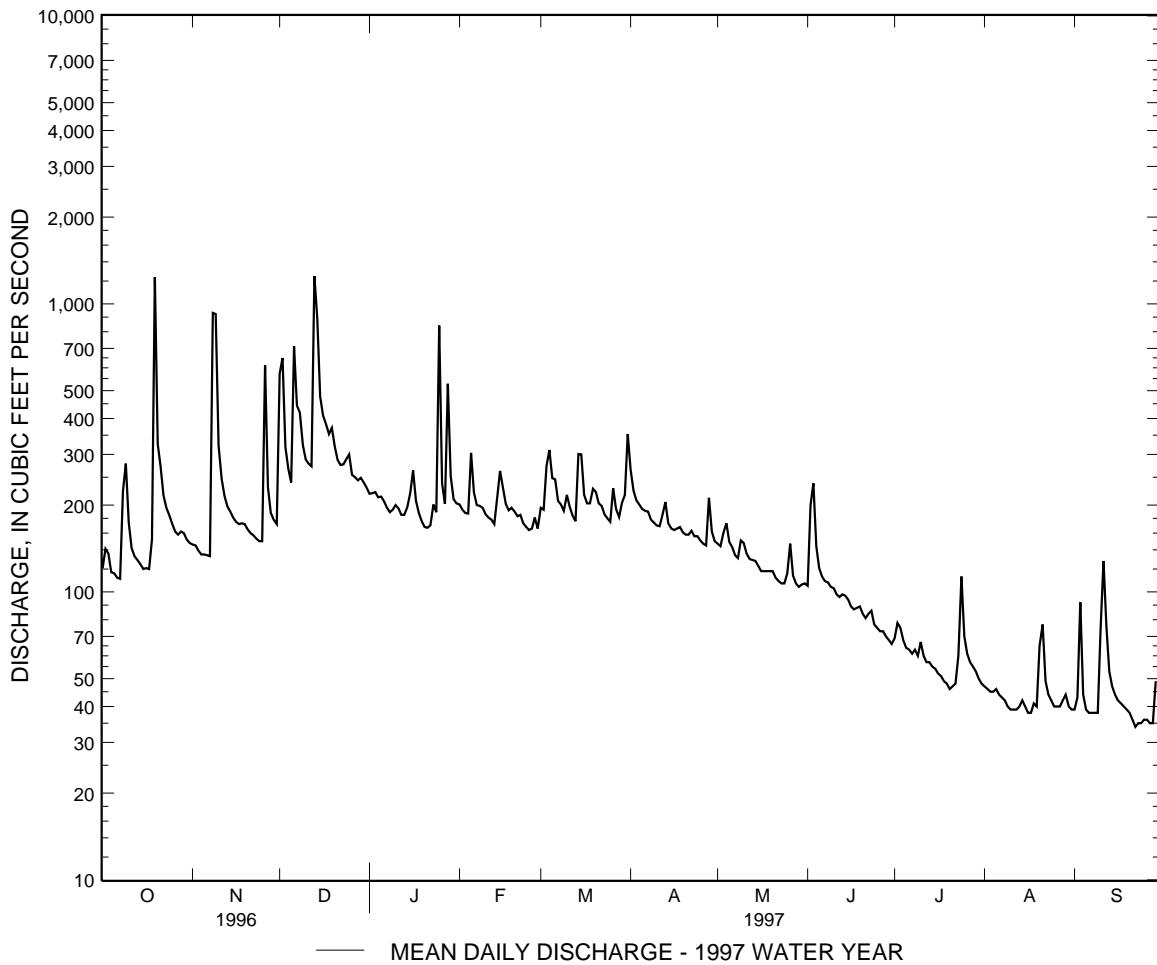
a Sept. 11, 12 1966.

b From rating curve extended above 3,000 ft³/s, on basis of slope-area measurements at gage heights 13.3 ft and 17.7 ft.

c From floodmarks.

d Sept. 22, 23, 27, 28.

f Dec. 16, 1930, Jan. 26, 1939, result of regulation.



BUSH RIVER BASIN

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 mi².

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 ft³/s and fair above except those for estimated daily discharges (ice effect, manometer 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0330	1,860	5.81	Dec. 1	1700	1,110	4.59
Nov. 8	1915	*2,090	*6.13	Dec. 13	1315	1,560	5.35

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	59	450	79	78	98	125	71	39	26	15	12
2	48	58	330	78	75	83	93	68	98	31	14	15
3	45	54	122	79	74	212	81	78	135	27	14	16
4	37	53	e90	78	78	143	75	71	63	23	14	12
5	37	53	e85	78	115	99	74	60	50	22	15	10
6	36	53	e210	76	99	97	73	57	46	20	14	11
7	35	53	e180	74	87	82	74	53	42	21	13	11
8	92	441	e130	74	e82	77	69	52	41	20	12	12
9	79	273	e112	75	e80	74	67	63	39	19	12	12
10	65	115	91	78	e78	95	66	61	37	20	11	83
11	50	98	93	79	e76	79	64	55	35	19	11	76
12	46	91	92	74	e74	74	80	52	34	19	12	33
13	45	87	671	e72	72	72	83	52	37	16	11	21
14	44	81	287	e72	108	160	70	52	37	17	12	17
15	41	79	132	78	160	117	67	51	35	17	11	16
16	40	73	116	136	101	83	66	50	32	16	11	15
17	37	68	112	81	86	77	70	48	32	15	10	14
18	112	65	104	72	80	78	71	48	33	15	14	14
19	647	60	117	e70	79	96	66	47	32	14	13	13
20	146	57	99	e68	76	91	62	47	30	13	47	14
21	100	56	92	e68	74	81	64	43	29	15	31	13
22	73	55	90	e74	74	78	68	42	28	15	18	13
23	76	53	90	85	71	74	63	41	26	20	15	13
24	71	53	96	e120	70	72	62	41	26	37	14	13
25	65	53	98	e220	68	71	61	44	25	24	13	13
26	61	246	87	89	69	97	59	57	24	19	13	13
27	60	96	87	81	75	78	60	44	25	18	13	12
28	63	83	87	163	69	74	114	41	24	22	15	14
29	61	71	87	92	---	74	72	39	23	26	14	24
30	60	69	86	81	---	75	63	40	23	15	13	14
31	58	---	83	79	---	151	---	40	---	15	12	---
TOTAL	2472	2806	4606	2723	2328	2912	2182	1608	1180	616	457	569
MEAN	79.7	93.5	149	87.8	83.1	93.9	72.7	51.9	39.3	19.9	14.7	19.0
MAX	647	441	671	220	160	212	125	78	135	37	47	83
MIN	35	53	83	68	68	71	59	39	23	13	10	10
CFSM	2.29	2.69	4.27	2.52	2.39	2.70	2.09	1.49	1.13	.57	.42	.55
IN.	2.64	3.00	4.92	2.91	2.49	3.11	2.33	1.72	1.26	.66	.49	.61

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1997, BY WATER YEAR (WY)

MEAN	37.8	47.4	56.9	66.1	69.9	69.3	64.4	60.6	52.4	45.0	38.4	40.7
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

BUSH RIVER BASIN

01581700 WINTERS RUN NEAR BENSON, MD--Continued

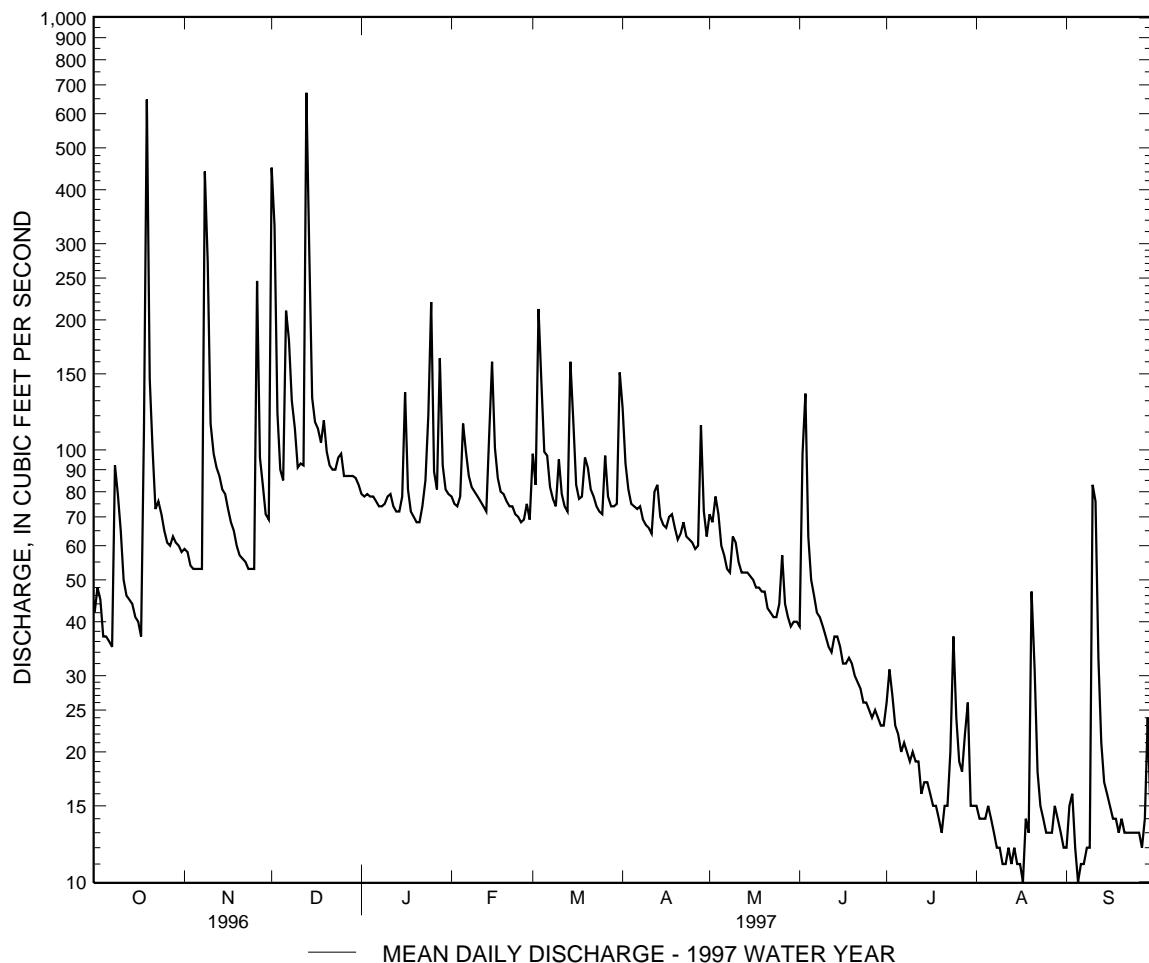
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1967 - 1997
ANNUAL TOTAL	32008	24459	
ANNUAL MEAN	87.5	67.0	53.7
HIGHEST ANNUAL MEAN			86.0
LOWEST ANNUAL MEAN			22.9
HIGHEST DAILY MEAN	2060	Jan 19	3000
LOWEST DAILY MEAN	25	Jul 11	Jun 22 1972
ANNUAL SEVEN-DAY MINIMUM	29	Jul 5	1981
INSTANTANEOUS PEAK FLOW		671 Dec 13	(b)
INSTANTANEOUS PEAK STAGE		10 (a)	6.3
INSTANTANEOUS LOW FLOW		11 Aug 11	7.5
ANNUAL RUNOFF (CFSM)	2.51	2090 Nov 8	Sep 2 1995
ANNUAL RUNOFF (INCHES)	34.22	6.13 Nov 8	11.60
10 PERCENT EXCEEDS	131	10 (c)	Jun 22 1972
50 PERCENT EXCEEDS	61	1.93	(d) 3.0
90 PERCENT EXCEEDS	37	26.15	Jan 10 1982
		102	1.54
		63	20.99
		14	89
			39
			16

a Aug. 17, Sept. 5.

b Aug. 28, 29, 1981, Sept. 7, 1995.

c Aug. 12, 17, Sept. 5-7.

d Result of freezeup.



GUNPOWDER RIVER BASIN

01582000 LITTLE FALLS AT BLUE MOUNT, MD

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

DRAINAGE AREA.--52.9 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1800	*2,580	*7.24	Jan. 25	0030	1,170	4.42
Dec. 13	1345	1,340	4.80				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	78	312	128	110	112	129	78	57	38	23	19
2	78	76	287	130	104	101	115	76	104	40	22	24
3	70	74	158	130	103	166	109	90	94	39	22	29
4	64	73	137	127	104	159	104	85	71	35	21	19
5	62	73	126	127	159	135	101	76	62	34	23	18
6	61	72	318	124	118	134	101	75	59	33	21	18
7	61	73	224	119	109	115	99	73	58	33	20	18
8	151	637	187	116	109	110	94	72	56	31	20	19
9	115	320	158	120	106	103	92	83	54	31	19	20
10	87	166	144	123	100	117	90	77	52	33	18	29
11	75	137	141	118	98	104	90	73	51	30	18	73
12	71	125	135	113	97	99	103	71	51	30	19	34
13	69	118	616	e111	94	95	104	70	52	29	21	26
14	67	109	334	e113	117	180	91	70	51	28	21	24
15	64	104	232	e123	139	144	88	67	48	27	20	24
16	63	101	208	151	120	117	86	65	46	27	20	23
17	63	101	200	112	107	111	89	65	47	26	21	23
18	80	101	188	e109	103	112	88	64	48	25	24	22
19	430	98	202	e108	105	128	85	66	47	24	24	20
20	147	95	174	e107	101	118	84	65	44	24	42	20
21	121	93	160	107	98	111	86	61	43	25	36	20
22	106	91	157	106	100	107	86	60	42	25	25	19
23	97	89	159	118	93	101	84	59	42	33	24	20
24	92	88	169	148	90	98	83	58	40	46	22	20
25	87	87	164	324	89	96	80	66	39	33	20	20
26	83	264	146	123	90	128	78	75	39	30	20	20
27	82	115	144	112	96	104	80	61	39	29	20	19
28	85	102	141	265	89	99	112	58	37	27	24	20
29	82	97	146	128	---	118	84	56	36	26	23	32
30	81	96	139	115	---	111	79	59	36	24	20	23
31	78	---	134	112	---	185	---	58	---	23	20	---
TOTAL	2937	3853	6140	4067	2948	3718	2794	2132	1545	938	693	715
MEAN	94.7	128	198	131	105	120	93.1	68.8	51.5	30.3	22.4	23.8
MAX	430	637	616	324	159	185	129	90	104	46	42	73
MIN	61	72	126	106	89	95	78	56	36	23	18	18
CFSM	1.79	2.43	3.74	2.48	1.99	2.27	1.76	1.30	.97	.57	.42	.45
IN.	2.07	2.71	4.32	2.86	2.07	2.61	1.96	1.50	1.09	.66	.49	.50

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1997, BY WATER YEAR (WY)

MEAN	46.3	56.9	66.8	77.8	88.8	93.7	92.1	84.2	70.2	57.9	47.6	47.8
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	1986	

GUNPOWDER RIVER BASIN

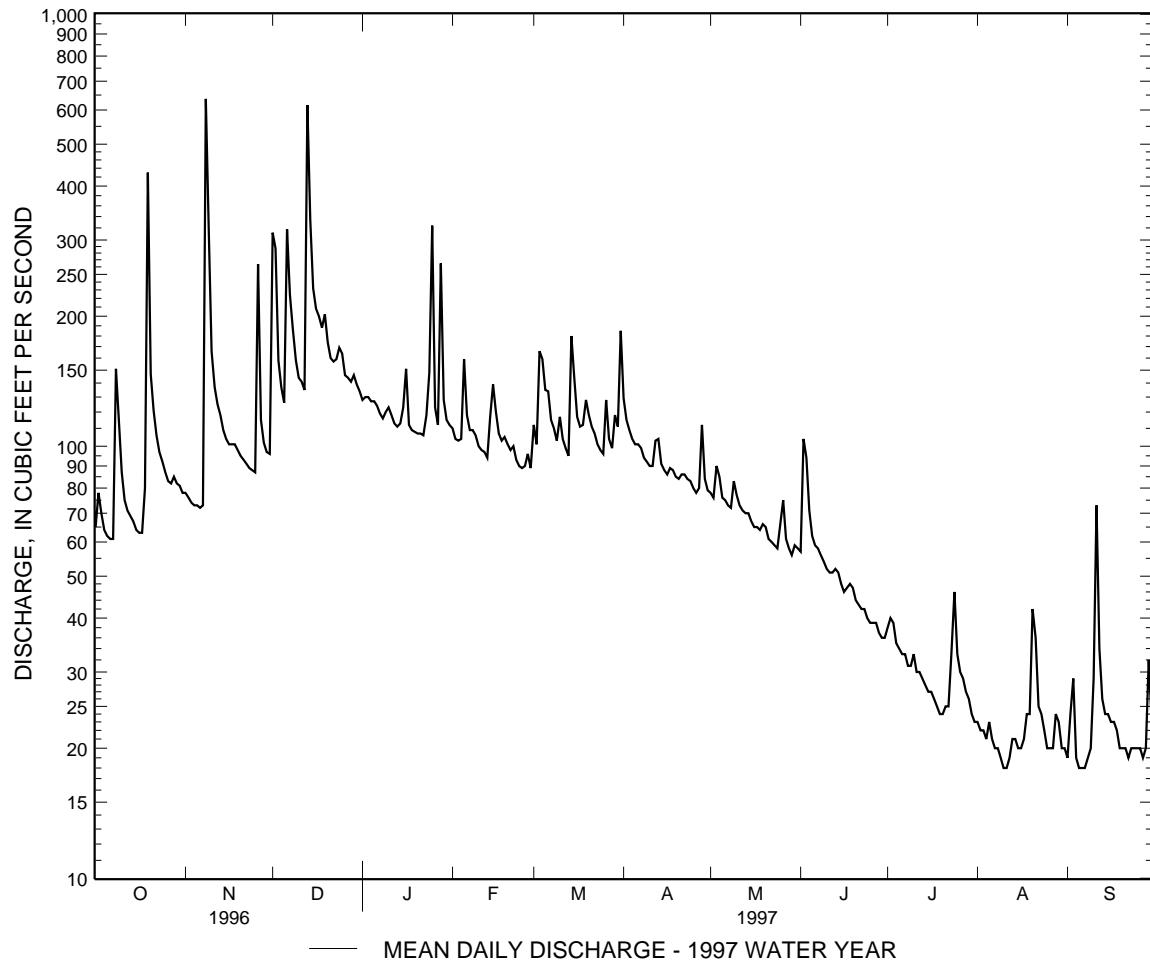
01582000 LITTLE FALLS AT BLUE MOUNT, MD--Continued

SUMMARY STATISTICS	1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1944 -1997
ANNUAL TOTAL	43579	32480	69.1
ANNUAL MEAN	119	89.0	132
HIGHEST ANNUAL MEAN			1972
LOWEST ANNUAL MEAN			31.8
HIGHEST DAILY MEAN	1730	Jan 19	4730
LOWEST DAILY MEAN	52	Jul 11	4.5
ANNUAL SEVEN-DAY MINIMUM	58	Jul 6	18.54
INSTANTANEOUS PEAK FLOW		637 Nov 8	(b) 8280 Jun 22 1972
INSTANTANEOUS PEAK STAGE		18 (a)	Jun 22 1972
INSTANTANEOUS LOW FLOW		19 Aug 6	4.8 Sep 6 1966
ANNUAL RUNOFF (CFSM)	2.25	2580 Nov 8	1.9 Aug 26 1966
ANNUAL RUNOFF (INCHES)	30.65	7.24 Nov 8	1.31
10 PERCENT EXCEEDS	170	16 (c)	17.76
50 PERCENT EXCEEDS	96	1.68	118
90 PERCENT EXCEEDS	64	22.84	52
		84	25
		22	

a Aug. 10, 11, Sept. 5-7.

b From rating curve extended above 1,300 ft³/s on basis of contracted-opening measurement of peak flow.

c Sept. 5, 6.



GUNPOWDER RIVER BASIN

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 mi².

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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 3,430 ft³/s, Nov. 8, gage height, 10.54 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	216	629	364	319	302	431	240	160	123	193	175
2	204	213	1040	360	306	312	353	236	258	127	196	170
3	195	203	653	363	299	401	328	243	315	126	196	177
4	183	194	500	355	296	489	318	267	258	120	195	156
5	180	193	419	353	406	428	304	233	212	117	197	135
6	179	194	810	348	362	434	297	226	189	116	195	122
7	178	195	675	331	323	362	303	214	176	115	208	122
8	279	1060	661	316	318	330	290	201	169	114	230	120
9	289	1160	534	314	319	312	277	220	161	114	190	85
10	234	601	461	333	300	332	262	235	155	118	188	100
11	213	440	435	326	289	316	259	213	150	113	196	170
12	200	363	420	301	283	299	274	201	147	111	226	107
13	193	315	1410	288	278	282	316	197	148	110	240	94
14	190	297	1510	278	315	408	287	196	148	109	259	93
15	184	280	864	273	367	481	264	193	144	108	259	91
16	182	266	682	365	358	382	259	190	142	114	259	92
17	182	261	611	334	331	341	260	180	142	152	259	126
18	195	260	564	310	304	330	268	178	142	151	259	126
19	1050	262	581	e290	307	372	255	180	143	150	216	127
20	598	255	530	e275	301	371	239	186	139	149	223	141
21	461	244	466	271	288	343	240	182	136	150	212	141
22	376	243	443	271	300	337	250	173	135	150	183	140
23	325	232	441	318	284	308	246	163	135	158	179	132
24	299	227	456	317	270	293	245	159	132	187	178	85
25	273	226	503	801	261	285	245	167	130	164	176	85
26	257	569	432	434	259	357	239	206	129	159	176	102
27	246	414	415	349	281	332	233	183	126	156	176	137
28	240	319	402	566	271	310	311	170	122	169	183	139
29	227	285	406	426	---	318	271	163	121	194	181	157
30	220	269	400	355	---	353	249	163	119	191	178	137
31	228	---	382	329	---	491	---	162	---	194	176	---
TOTAL	8445	10256	18735	10914	8595	11011	8373	6120	4783	4329	6382	3784
MEAN	272	342	604	352	307	355	279	197	159	140	206	126
MAX	1050	1160	1510	801	406	491	431	267	315	194	259	177
MIN	178	193	382	271	259	282	233	159	119	108	176	85
(†)	19870	19954	20087	19973	19950	19977	19934	19888	19805	19140	16672	14660

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1980, 1983 - 1997, BY WATER YEAR (WY)

MEAN	167	176	206	247	249	284	275	264	185	176	155	167
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	101	63.3	85.8	127	114	85.5	82.4	94.8	70.8	69.6
(WY)	1987	1993	1993	1983	1983	1992	1992	1992	1992	1985	1985	1983

(†) Month-end contents, in millions of gallons, in Prettyboy Reservoir (contents on Sept. 30, 1996, 19,785,000,000 gal). Records furnished by Baltimore Department of Public Works.

GUNPOWDER RIVER BASIN

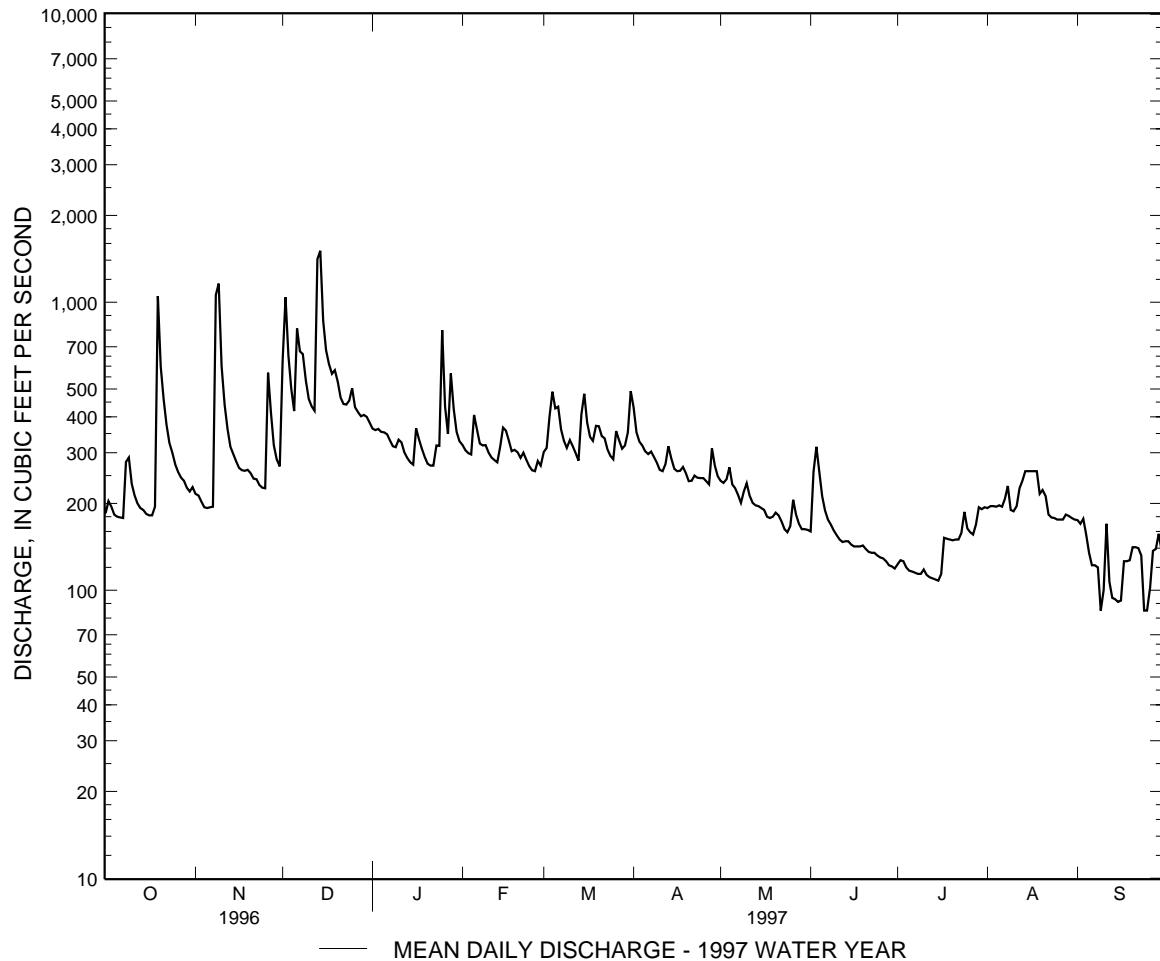
01582500 GUNPOWDER FALLS AT GLENCOE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1978 - 1980 1983 - 1997
ANNUAL TOTAL	120979	101727	
ANNUAL MEAN	331	279	214
HIGHEST ANNUAL MEAN			314
LOWEST ANNUAL MEAN			118
HIGHEST DAILY MEAN	2480	Jan 19	4500
LOWEST DAILY MEAN	129	Jul 11	38
ANNUAL SEVEN-DAY MINIMUM	150	Aug 30	10.54
INSTANTANEOUS PEAK FLOW		3430	Nov 8
INSTANTANEOUS PEAK STAGE			10.54
INSTANTANEOUS LOW FLOW			Nov 8
ANNUAL RUNOFF (CFSM)	2.07	85	15.30
ANNUAL RUNOFF (INCHES)	28.13	(a)	(c) 35
10 PERCENT EXCEEDS	530	23.65	1.33
50 PERCENT EXCEEDS	278	434	18.14
90 PERCENT EXCEEDS	183	246	370
		128	169
			83

a Sept. 9, 24, 25.

b Sept. 9, 10, 24-26.

c Result of freezeup.



GUNPOWDER RIVER BASIN

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 mi².

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, ADR malfunction), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0230	469	4.82	Dec. 13	1230	*506	*4.95
Nov. 8	1645	446	4.74	Jan. 24	2315	486	4.88
Dec. 1	1515	435	4.70				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	20	111	30	25	29	25	20	14	9.4	5.6	5.5
2	21	20	91	31	24	25	23	19	36	9.9	5.6	5.6
3	18	19	37	31	24	53	23	22	23	9.5	5.5	5.5
4	17	19	31	30	25	39	22	20	17	e9.0	5.8	5.3
5	16	19	29	30	39	32	22	19	15	e8.5	6.6	5.2
6	16	19	91	29	27	31	22	18	14	e8.5	5.9	5.2
7	16	19	58	28	25	26	22	18	14	e8.2	5.6	5.1
8	52	137	42	27	25	25	21	17	14	7.8	5.5	5.2
9	30	64	34	29	25	24	21	20	13	7.8	5.4	5.2
10	23	34	31	29	24	25	20	18	13	8.1	5.3	18
11	20	28	31	28	23	24	20	17	12	7.6	5.3	20
12	19	26	30	27	23	23	17	12	7.3	5.6	9.3	
13	18	24	223	e26	22	22	23	17	12	7.0	6.6	
14	18	24	73	e25	28	42	21	17	12	6.8	5.9	6.3
15	17	23	50	27	36	31	20	16	12	6.6	5.7	6.0
16	17	22	44	37	28	25	20	16	12	6.4	5.5	5.6
17	17	22	42	32	25	25	20	15	11	6.5	5.6	
18	41	22	39	e28	25	25	20	15	12	6.2	8.3	5.5
19	129	22	44	e26	25	31	19	16	12	6.1	5.8	5.4
20	34	21	38	e25	24	28	19	15	11	5.8	19	5.4
21	28	21	35	25	23	26	20	14	11	6.1	10	5.3
22	26	21	34	27	24	25	20	14	11	6.2	7.0	5.2
23	25	20	35	30	22	24	19	14	10	7.0	6.3	5.2
24	23	20	39	57	22	23	20	13	9.7	8.6	6.2	5.3
25	22	20	36	62	21	23	19	15	9.4	7.7	6.2	5.4
26	21	62	33	27	22	29	18	17	9.5	6.9	6.0	5.3
27	21	26	33	25	23	24	19	14	9.5	6.7	5.9	5.2
28	23	23	33	58	22	23	26	14	8.9	6.4	7.5	5.4
29	21	23	34	28	--	23	21	13	8.7	6.3	6.5	8.0
30	21	22	32	25	--	23	20	14	8.8	6.0	5.7	5.6
31	20	--	31	25	--	36	--	13	--	5.8	5.6	--
TOTAL	807	862	1544	964	701	864	628	507	387.5	226.7	203.0	197.4
MEAN	26.0	28.7	49.8	31.1	25.0	27.9	20.9	16.4	12.9	7.31	6.55	6.58
MAX	129	137	223	62	39	53	26	22	36	9.9	19	20
MIN	16	19	29	25	21	22	18	13	8.7	5.8	5.3	5.1
CFSM	2.12	2.34	4.05	2.53	2.04	2.27	1.70	1.33	1.05	.59	.53	.53
IN.	2.44	2.61	4.67	2.92	2.12	2.61	1.90	1.53	1.17	.69	.61	.60

e Estimated

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

MEAN	11.1	14.9	20.3	16.0	21.9	19.2	21.8	17.6	12.9	11.1	7.87	8.66
MAX	26.0	28.7	49.8	31.1	37.9	27.9	36.1	27.0	17.5	25.7	18.2	21.3
(WY)	1997	1997	1997	1997	1985	1997	1984	1984	1982	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

GUNPOWDER RIVER BASIN

01583100 PINEY RUN AT DOVER, MD--Continued

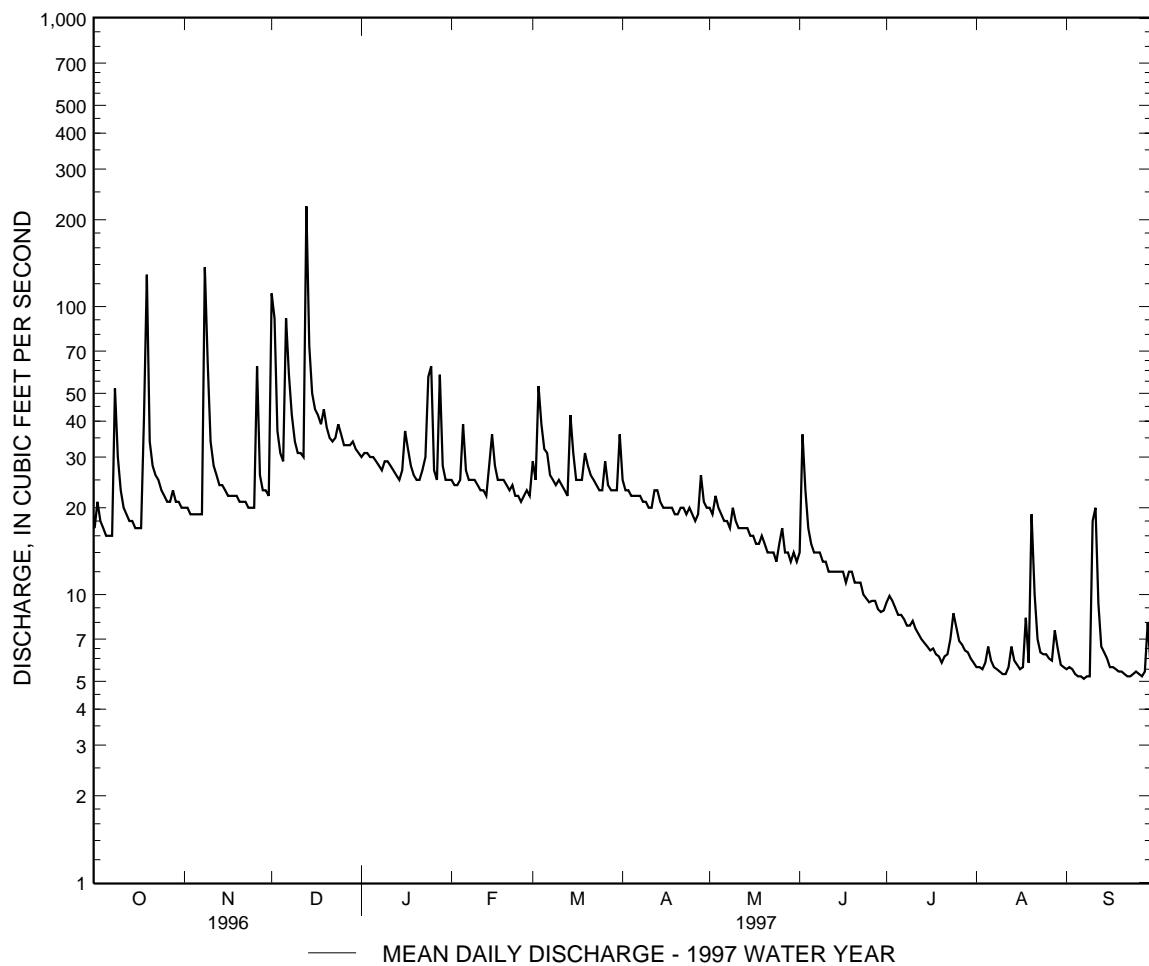
SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1982 - 1997

ANNUAL TOTAL	7891.6		
ANNUAL MEAN	21.6	15.4	
HIGHEST ANNUAL MEAN		21.6	1997
LOWEST ANNUAL MEAN		9.56	1986
HIGHEST DAILY MEAN	223	Dec 13	599
LOWEST DAILY MEAN	5.1	Sep 7	Feb 12 1985
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 3	2.6 Aug 15 1986
INSTANTANEOUS PEAK FLOW	506	Dec 13	3.0 Aug 9 1986
INSTANTANEOUS PEAK STAGE	4.95	Dec 13	3220 Sep 8 1987
INSTANTANEOUS LOW FLOW	4.9	(a)	8.28 Sep 8 1987
ANNUAL RUNOFF (CFSM)	1.76		2.4 Aug 15 1986
ANNUAL RUNOFF (INCHES)	23.87		1.25
10 PERCENT EXCEEDS	34		17.01
50 PERCENT EXCEEDS	20		26
90 PERCENT EXCEEDS	5.7		11
			5.4

a Aug. 17, Sept. 5, 7-9, 28.



GUNPOWDER RIVER BASIN

01583500 WESTERN RUN AT WESTERN RUN, MD

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

DRAINAGE AREA.--59.8 mi².

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.--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 periods have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0515	1,350	4.95	Dec. 13	1700	2,200	6.27
Nov. 8	2115	*2,770	*7.02	Jan. 25	0215	1,140	4.56
Dec. 1	1800	1,190	4.64				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	80	395	130	114	128	119	86	61	43	23	23
2	97	78	361	131	109	115	108	83	157	47	23	22
3	95	76	174	132	108	228	106	93	117	44	22	23
4	89	75	152	128	109	195	103	88	82	39	23	20
5	90	74	140	128	162	146	101	80	71	36	26	20
6	85	74	351	124	123	146	102	79	67	36	24	20
7	83	75	237	120	114	123	101	76	66	35	22	20
8	171	886	199	117	115	117	96	75	64	34	21	21
9	145	419	171	122	113	112	94	82	61	34	20	21
10	101	166	156	125	108	121	93	79	58	36	20	43
11	88	140	154	120	105	112	93	75	57	33	20	93
12	84	126	152	114	104	106	104	73	56	32	20	39
13	82	118	1040	e110	102	103	108	72	57	31	24	30
14	80	114	340	e106	126	180	95	72	56	30	24	27
15	77	109	201	110	161	152	91	71	54	29	22	26
16	77	106	179	151	136	122	89	69	52	28	21	25
17	76	104	171	121	120	116	91	68	52	28	20	24
18	95	104	168	e114	114	118	90	67	52	27	32	24
19	554	102	196	e107	113	150	87	68	52	26	24	23
20	156	99	168	e105	108	138	86	67	50	25	68	23
21	129	96	157	107	106	124	89	64	49	26	53	22
22	114	95	154	109	106	118	91	63	49	27	30	22
23	106	93	155	127	100	111	87	62	48	32	26	22
24	97	92	161	129	98	107	90	61	45	40	25	22
25	91	92	165	352	96	104	89	65	44	35	25	22
26	87	257	144	129	98	128	84	77	43	32	24	22
27	85	127	143	116	105	110	85	63	44	29	24	21
28	90	110	141	227	96	105	125	61	42	27	28	22
29	86	106	143	132	---	105	92	60	40	27	28	33
30	83	104	139	118	---	103	86	62	40	24	24	23
31	80	---	135	116	---	161	---	61	---	24	23	---
TOTAL	3455	4297	6742	4077	3169	4004	2875	2222	1786	996	809	798
MEAN	111	143	217	132	113	129	95.8	71.7	59.5	32.1	26.1	26.6
MAX	554	886	1040	352	162	228	125	93	157	47	68	93
MIN	76	74	135	105	96	103	84	60	40	24	20	20
CFSM	1.86	2.40	3.64	2.20	1.89	2.16	1.60	1.20	1.00	.54	.44	.44
IN.	2.15	2.67	4.19	2.54	1.97	2.49	1.79	1.38	1.11	.62	.50	.50

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1997, BY WATER YEAR (WY)

WY	MEAN	57.6	69.5	82.2	92.7	96.1	90.3	82.5	71.1	56.5	49.2	47.7
1980	209	143	217	222	241	237	209	227	395	164	183	261
1997	1997	1997	1979	1979	1994	1952	1952	1972	1972	1971	1971	1975
1964	16.4	20.4	19.0	20.5	34.4	45.9	39.8	31.5	21.1	11.3	7.78	14.8
1966	1966	1966	1967	1981	1963	1963	1966	1966	1966	1966	1966	1963

GUNPOWDER RIVER BASIN

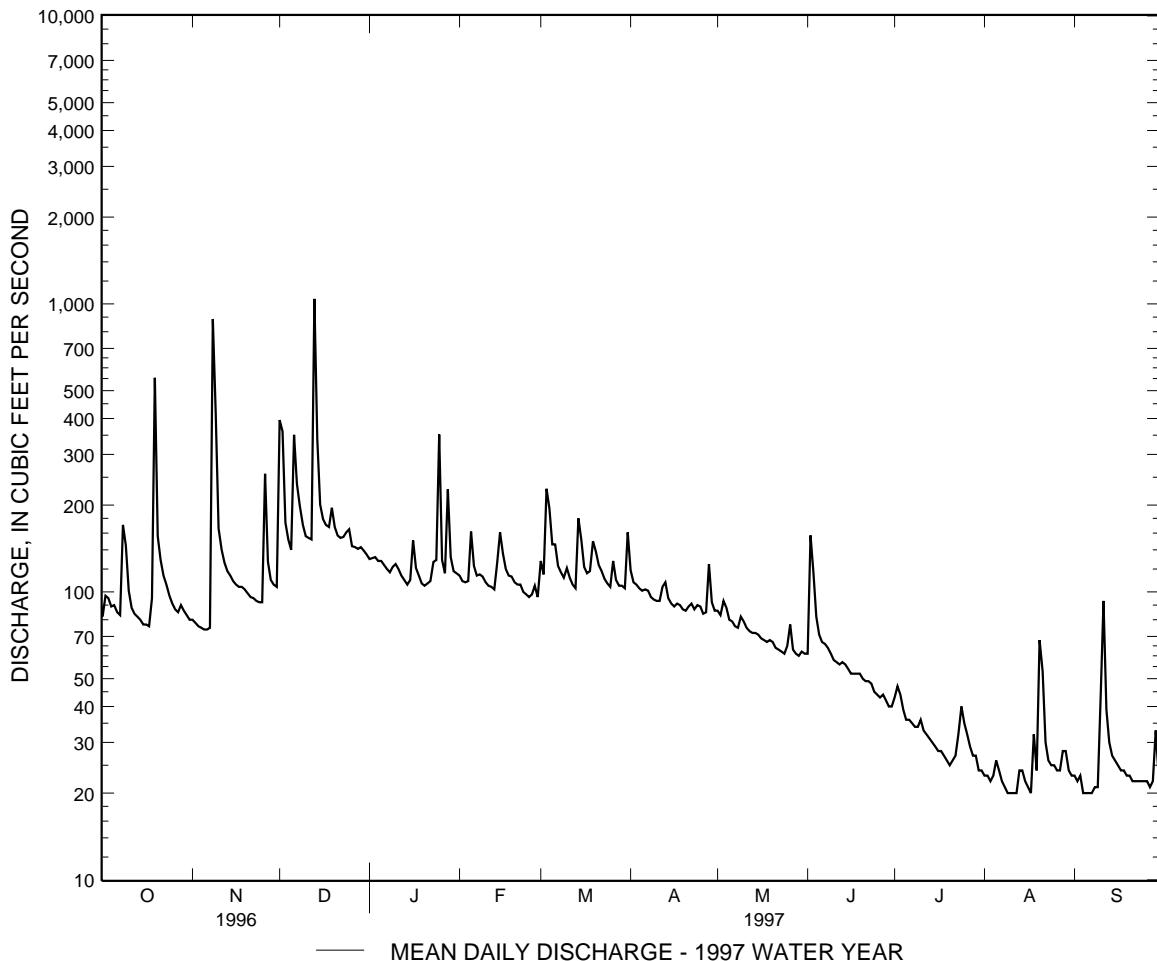
01583500 WESTERN RUN AT WESTERN RUN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1944 - 1997
ANNUAL TOTAL	47222	35230	
ANNUAL MEAN	129	96.5	70.1
HIGHEST ANNUAL MEAN			138
LOWEST ANNUAL MEAN			28.9
HIGHEST DAILY MEAN	2130	Jan 19	7000
LOWEST DAILY MEAN	57	Jan 1	2.5
ANNUAL SEVEN-DAY MINIMUM	67	Jan 12	21 Sep 3
INSTANTANEOUS PEAK FLOW		2770 Nov 8	(b) 38000 Jun 22 1972
INSTANTANEOUS PEAK STAGE		7.02 Nov 8	(c) 26.00 Jun 22 1972
INSTANTANEOUS LOW FLOW		19 Aug 17	2.4 Sep 12 1966
ANNUAL RUNOFF (CFSM)	2.16	1.61	1.17
ANNUAL RUNOFF (INCHES)	29.38	21.92	15.92
10 PERCENT EXCEEDS	176	154	118
50 PERCENT EXCEEDS	96	90	52
90 PERCENT EXCEEDS	74	24	23

a Aug. 9-12, 17, Sept. 4-7.

b From rating curve extended above 3,200 ft³/s, on basis of slope-area measurement and contracted-opening measurement of peak flow.

c From floodmarks.



GUNPOWDER RIVER BASIN

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 mi².

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 (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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0230	707	5.37	Dec. 13	1345	1,020	6.84
Nov. 8	1900	*1,270	*7.96	Jan. 25	0045	652	5.10

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	33	234	46	39	68	50	37	39	24	11	11
2	46	33	166	46	43	37	40	30	140	15	9.3	32
3	32	32	52	47	41	180	38	52	61	14	8.9	16
4	28	29	45	39	52	76	36	33	31	14	9.2	9.7
5	28	28	45	45	78	58	37	25	25	13	11	11
6	27	29	192	43	45	55	40	26	24	11	10	12
7	25	29	114	43	42	45	34	26	24	11	9.7	14
8	98	425	66	42	46	44	30	25	23	11	10	13
9	47	210	52	46	46	43	29	33	21	11	9.9	12
10	35	52	44	48	38	56	28	28	19	12	8.9	37
11	29	42	64	40	32	36	31	25	18	11	8.6	107
12	29	37	54	32	35	33	58	23	17	13	8.1	17
13	30	35	533	33	38	32	40	23	18	13	8.4	13
14	27	37	188	37	74	103	31	24	19	10	8.7	12
15	27	34	82	43	84	55	31	23	18	9.7	8.5	12
16	26	31	66	89	51	42	32	24	16	9.8	8.6	12
17	28	31	61	45	41	36	39	23	17	10	20	11
18	97	31	59	e40	36	48	31	23	18	10	13	10
19	273	31	73	e36	38	78	28	23	17	11	9.5	12
20	53	29	57	e34	40	53	27	22	17	11	134	13
21	42	29	50	33	40	46	35	19	16	11	23	12
22	39	29	53	41	37	43	32	20	15	12	12	11
23	37	29	53	44	31	41	30	21	15	16	11	11
24	35	30	66	96	32	34	41	21	14	25	12	11
25	33	29	56	177	36	32	31	31	15	14	11	11
26	34	134	50	46	41	53	28	30	15	14	9.6	11
27	33	36	50	40	36	38	41	21	15	13	10	12
28	39	35	50	100	30	34	79	21	15	11	15	18
29	34	38	53	53	---	36	33	20	15	11	11	21
30	33	35	48	47	---	35	31	23	13	10	9.7	11
31	32	---	46	41	---	94	---	22	---	9.4	9.9	---
TOTAL	1405	1662	2822	1592	1222	1664	1091	797	730	390.9	459.5	515.7
MEAN	45.3	55.4	91.0	51.4	43.6	53.7	36.4	25.7	24.3	12.6	14.8	17.2
MAX	273	425	533	177	84	180	79	52	140	25	134	107
MIN	25	28	44	32	30	32	27	19	13	9.4	8.1	9.7
CFSM	2.17	2.65	4.36	2.46	2.09	2.57	1.74	1.23	1.16	.60	.71	.82
IN.	2.50	2.96	5.02	2.83	2.18	2.96	1.94	1.42	1.30	.70	.82	.92

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

MEAN	21.4	30.6	33.2	33.3	33.7	42.6	38.5	38.3	26.5	27.8	21.0	20.9
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

GUNPOWDER RIVER BASIN

01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1983 - 1997
ANNUAL TOTAL	19581	14351.1	
ANNUAL MEAN	53.5	39.3	30.6
HIGHEST ANNUAL MEAN			45.8
LOWEST ANNUAL MEAN			17.2
HIGHEST DAILY MEAN	903	Jan 19	903
LOWEST DAILY MEAN	(e)20	(a)	Jan 19
ANNUAL SEVEN-DAY MINIMUM	22	Jan 11	1996
INSTANTANEOUS PEAK FLOW		533	1986
INSTANTANEOUS PEAK STAGE		Dec 13	
INSTANTANEOUS LOW FLOW		8.1	5.5
ANNUAL RUNOFF (CFSM)	2.56	8.5	5.8
ANNUAL RUNOFF (INCHES)	34.85	Aug 10	Aug 10
10 PERCENT EXCEEDS	80	1270	1986
50 PERCENT EXCEEDS	36	Nov 8	(c)3360
90 PERCENT EXCEEDS	27	7.96	Jul 1 1984
		(f)	(d)12.10
		7.5	Jul 1 1984
		1.88	4.1
		25.54	Oct 1 1986
		61	1.47
		31	19.92
		11	52
			22
			11

e Estimated

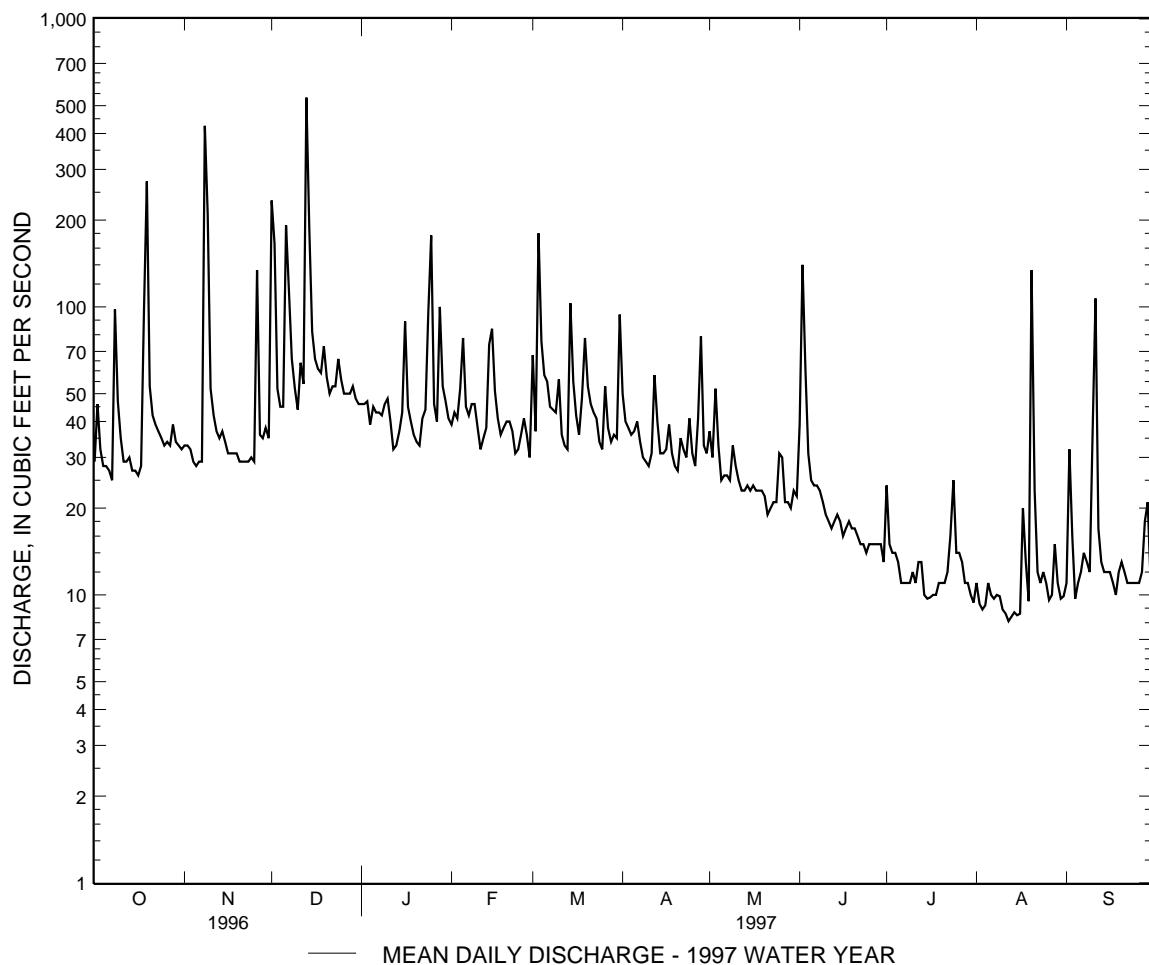
a Jan. 6, 13-15.

b Aug. 16, 1986, Sept. 1, 1992.

c From rating curve extended above 1,000 ft³/s.

d From floodmarks.

f Aug. 12,13,16,17.



GUNPOWDER RIVER BASIN

01584050 LONG GREEN CREEK AT GLEN ARM, MD

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

DRAINAGE AREA.--9.40 mi².

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.--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 periods have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1745	351	3.66	Jan. 24	2330	*431	*3.88
Dec. 13	1230	420	3.85				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	91	16	18	23	27	14	9.2	5.7	3.3	3.1
2	13	9.9	60	17	17	18	19	13	23	6.3	3.5	3.5
3	11	9.3	21	17	17	74	18	15	22	5.4	3.3	3.4
4	9.6	9.3	18	16	19	30	18	13	12	4.8	3.4	2.9
5	9.3	9.1	17	17	38	23	17	12	10	4.3	3.4	2.8
6	9.2	9.0	77	16	20	22	17	12	9.8	4.3	3.3	2.8
7	9.0	9.0	52	15	18	18	17	12	9.6	4.3	3.1	3.0
8	23	86	28	14	18	18	15	12	9.4	4.6	3.3	3.2
9	15	39	21	15	18	17	15	13	9.2	4.5	3.2	3.0
10	13	18	19	16	17	21	15	12	9.1	4.7	3.1	4.2
11	11	15	22	15	16	18	15	12	9.0	4.6	2.9	10
12	10	14	20	14	16	16	19	11	9.1	4.0	3.2	5.3
13	10	13	160	14	15	16	18	11	9.1	4.1	3.2	3.6
14	9.7	13	61	14	27	45	15	11	10	4.0	3.3	3.3
15	9.2	12	29	14	48	25	15	10	11	3.9	3.2	3.2
16	9.2	12	25	28	22	19	14	9.8	11	3.8	3.2	3.1
17	9.2	12	25	16	19	18	15	9.6	12	3.8	3.3	3.1
18	27	12	23	15	18	19	14	9.6	12	3.7	3.7	3.1
19	86	12	28	e13	18	26	13	9.8	11	4.5	3.4	2.9
20	18	12	21	13	17	21	13	9.5	10	3.5	10	3.0
21	15	11	19	13	16	19	14	9.2	12	3.6	5.0	2.9
22	14	11	19	15	16	18	14	8.9	9.7	4.2	3.6	2.8
23	13	10	19	16	15	17	13	8.7	7.8	5.2	3.2	2.8
24	12	10	22	40	15	17	13	9.0	7.1	6.2	3.1	2.9
25	12	10	20	79	14	17	13	9.5	6.8	4.8	3.0	3.0
26	11	51	18	20	15	21	12	10	6.0	4.1	3.1	3.0
27	11	15	19	18	16	18	13	9.1	5.5	4.0	3.1	2.7
28	12	13	18	42	15	17	22	8.6	5.3	3.9	4.9	3.2
29	11	12	18	19	---	17	14	8.3	4.9	4.1	3.9	3.9
30	10	12	17	18	---	17	13	8.8	4.9	3.2	3.2	2.9
31	9.8	---	17	18	---	34	---	8.6	---	3.4	3.1	---
TOTAL	453.2	490.6	1024	613	538	699	470	330.0	297.5	135.5	111.5	102.6
MEAN	14.6	16.4	33.0	19.8	19.2	22.5	15.7	10.6	9.92	4.37	3.60	3.42
MAX	86	86	160	79	48	74	27	15	23	6.3	10	10
MIN	9.0	9.0	17	13	14	16	12	8.3	4.9	3.2	2.9	2.7
CFSM	1.56	1.74	3.51	2.10	2.04	2.40	1.67	1.13	1.05	.46	.38	.36
IN.	1.79	1.94	4.05	2.43	2.13	2.77	1.86	1.31	1.18	.54	.44	.41

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

MEAN	8.16	9.38	12.3	15.3	14.7	17.1	14.5	13.2	10.4	9.41	7.92	7.81
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	2.97	3.05	4.04	3.67	6.16	6.02	7.37	5.94	3.85	2.49	2.87	2.41
(WY)	1987	1982	1981	1981	1992	1981	1981	1986	1986	1986	1995	1986

GUNPOWDER RIVER BASIN

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

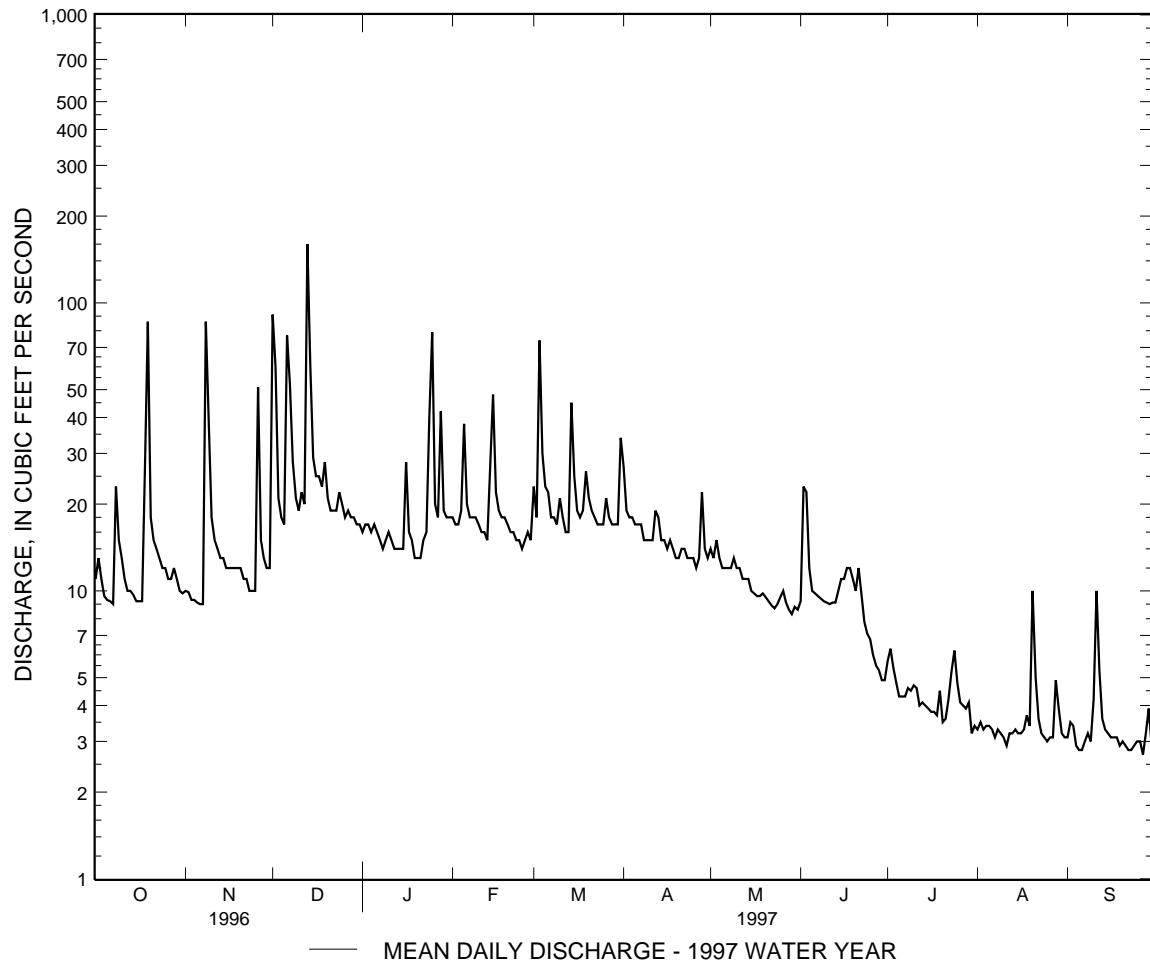
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1976 - 1997
ANNUAL TOTAL	6933.9	5264.9	
ANNUAL MEAN	18.9	14.4	11.7
HIGHEST ANNUAL MEAN			18.1 1979
LOWEST ANNUAL MEAN			5.33 1981
HIGHEST DAILY MEAN	393	Jan 19	408 Jan 26 1978
LOWEST DAILY MEAN	8.3	(a)	1.5 Aug 15 1986
ANNUAL SEVEN-DAY MINIMUM	8.7	Aug 30	1.6 Aug 10 1986
INSTANTANEOUS PEAK FLOW			(b) 3250 Jul 1 1984
INSTANTANEOUS PEAK STAGE			6.70 Jul 1 1984
INSTANTANEOUS LOW FLOW			(d) 1.0 Jan 29 1977
ANNUAL RUNOFF (CFSM)	2.02		1.24
ANNUAL RUNOFF (INCHES)	27.44	20.84	16.87
10 PERCENT EXCEEDS	28	22	18
50 PERCENT EXCEEDS	13	12	8.5
90 PERCENT EXCEEDS	9.6	3.2	3.6

a Sept. 2, 3.

b From rating curve extended above 1,300 ft³/s.

c Aug. 11,12,16,17.

d Result of freezeup.



GUNPOWDER RIVER BASIN

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 mi².

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

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

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

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep. 2	1900	*904	*4.16				No other peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.9	58	1.7	2.5	15	11	3.0	6.9	1.0	.29	.72
2	8.2	1.6	23	1.8	2.3	3.2	3.3	1.7	26	.90	.29	37
3	1.7	1.5	3.6	2.0	2.3	65	2.7	7.5	18	.56	1.3	1.9
4	1.3	1.5	2.7	1.8	11	8.9	2.4	2.1	2.0	.38	.70	.34
5	1.2	1.5	3.9	2.2	18	6.4	2.3	1.5	1.3	.33	.37	.22
6	1.2	1.5	45	1.8	3.6	4.4	3.5	1.5	1.1	.38	.26	.19
7	1.1	1.5	25	1.7	2.9	2.7	2.6	1.4	1.1	.32	.23	.71
8	23	74	6.0	1.6	5.9	2.4	1.9	1.5	1.0	.29	.22	.43
9	6.2	11	3.3	4.0	5.7	2.2	1.9	5.4	.94	.31	.21	.24
10	3.5	3.1	2.6	4.0	3.2	11	2.6	1.7	.86	.35	.20	3.5
11	1.7	2.0	8.7	2.7	2.8	2.6	2.2	1.3	.86	.32	.27	20
12	1.9	1.7	4.1	1.8	2.8	2.2	12	1.3	.81	.34	.30	1.4
13	1.5	1.8	136	e1.6	2.5	2.0	3.2	1.3	2.1	.36	.28	.47
14	1.4	1.7	18	e1.5	22	41	2.2	1.2	.94	.37	.30	.37
15	1.5	1.5	4.5	1.6	26	6.3	2.1	1.2	.72	.40	.27	.35
16	1.5	1.5	3.4	18	4.4	3.2	1.9	1.1	.63	e.35	.23	.46
17	1.5	1.5	3.6	3.9	3.3	2.7	4.6	1.1	.67	e.34	11	.31
18	34	1.5	2.9	2.0	3.0	7.0	2.1	1.1	.72	.29	2.6	.31
19	50	1.5	7.7	e1.7	2.8	19	1.8	1.1	.79	.30	.49	.28
20	3.1	1.4	2.6	e1.6	2.6	4.3	1.7	1.2	.58	.29	48	.32
21	2.1	1.3	2.1	1.6	2.5	3.1	2.3	1.0	.94	.32	3.3	.51
22	1.8	1.3	2.1	4.6	2.5	2.7	2.1	.94	.51	e.40	.72	.42
23	1.7	1.4	2.1	3.1	2.3	2.4	2.0	.92	.47	e.60	.41	.47
24	1.6	1.4	5.5	41	2.3	2.2	1.9	.91	.54	e.95	.34	.46
25	1.6	1.4	2.8	25	2.1	2.1	1.8	1.2	.50	e.40	.32	.48
26	1.6	29	2.0	3.5	3.8	11	1.5	2.0	.86	e.33	.33	.46
27	1.5	2.3	1.9	2.9	2.6	2.7	7.6	.95	.69	e.32	.35	.41
28	2.7	1.8	1.9	20	2.1	2.4	19	.87	.43	e.32	6.7	2.1
29	1.6	1.6	2.1	3.5	--	7.0	2.4	.78	.41	e.26	.95	1.6
30	1.5	3.2	1.8	2.7	--	2.6	2.0	1.3	.42	.23	.45	.33
31	1.5	--	1.7	2.7	--	25	--	.86	--	.30	.35	--
TOTAL	166.1	160.9	390.6	169.6	149.8	274.7	110.6	50.93	73.79	12.61	82.03	76.76
MEAN	5.36	5.36	12.6	5.47	5.35	8.86	3.69	1.64	2.46	.41	2.65	2.56
MAX	50	74	136	41	26	65	19	7.5	26	1.0	48	37
MIN	1.1	1.3	1.7	1.5	2.1	2.0	1.5	.78	.41	.23	.20	.19
CFSM	1.96	1.96	4.62	2.00	1.96	3.25	1.35	.60	.90	.15	.97	.94
IN.	2.26	2.19	5.32	2.31	2.04	3.74	1.51	.69	1.01	.17	1.12	1.05

e Estimated

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

MEAN	8.06	5.86	7.94	8.52	4.27	6.21	4.08	4.26	5.81	3.03	2.88	3.52
MAX	10.8	6.36	12.6	13.2	5.35	8.86	6.58	6.88	13.5	7.22	5.04	5.61
(WY)	1996	1996	1997	1996	1997	1997	1996	1996	1996	1996	1996	1996
MIN	5.36	5.36	3.28	5.47	2.95	4.61	1.99	1.64	1.44	.41	.96	2.41
(WY)	1997	1997	1996	1997	1995	1995	1997	1995	1995	1997	1995	1995

GUNPOWDER RIVER BASIN

01585090 WHITEMARSH RUN NEAR FULLERTON, MD--Continued

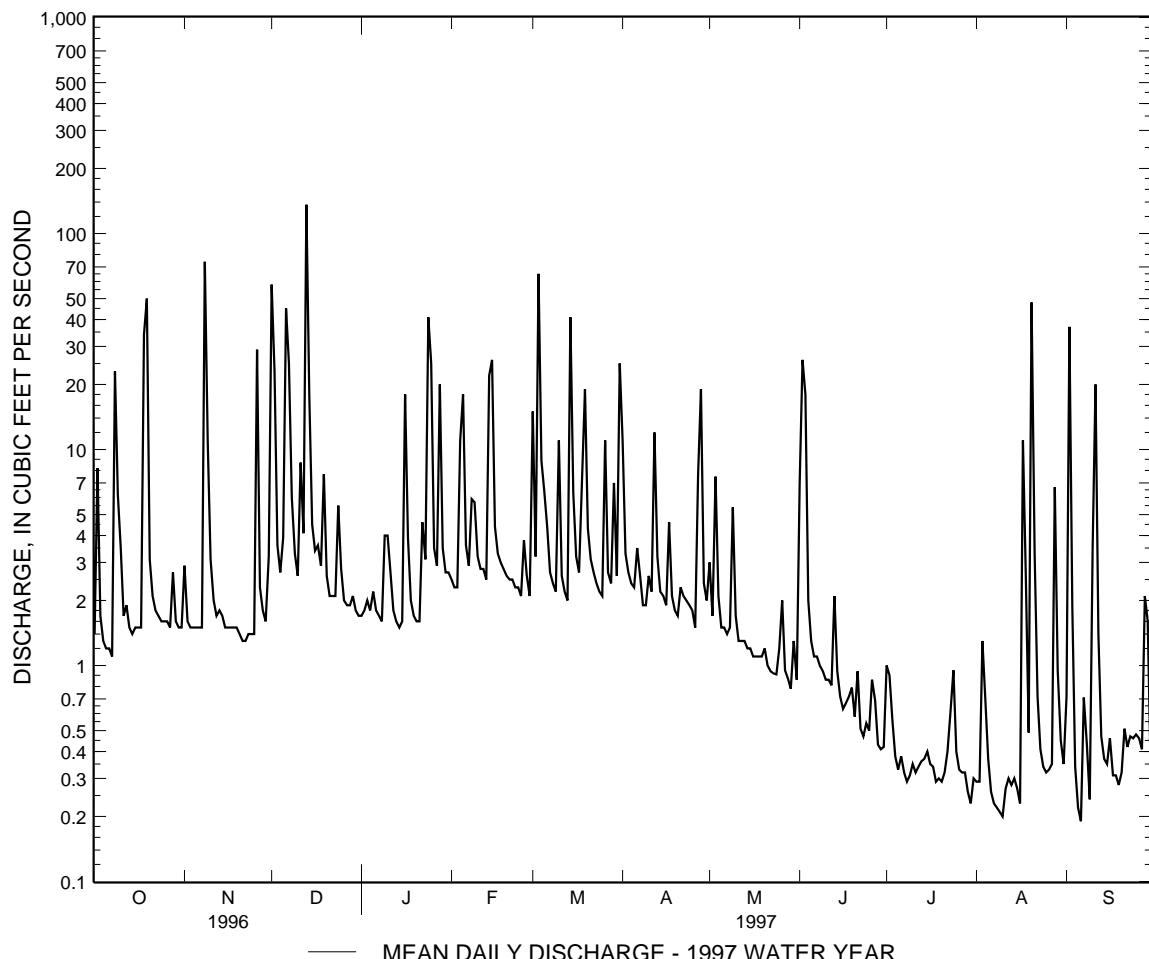
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1995 - 1997
ANNUAL TOTAL	2782.4	1718.42	
ANNUAL MEAN	7.60	4.71	6.03
HIGHEST ANNUAL MEAN			7.35
LOWEST ANNUAL MEAN			4.71
HIGHEST DAILY MEAN	201	Jan 19	201
LOWEST DAILY MEAN	1.0	Jun 16	.19
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 28	.24
INSTANTANEOUS PEAK FLOW			904
INSTANTANEOUS PEAK STAGE			Sep 2
INSTANTANEOUS LOW FLOW			4.16
ANNUAL RUNOFF (CFSM)	2.78		.18
ANNUAL RUNOFF (INCHES)	37.91		(c)
10 PERCENT EXCEEDS	17		1.72
50 PERCENT EXCEEDS	2.4		23.42
90 PERCENT EXCEEDS	1.3		1.7
			.33

a Aug. 25-27, 1995.

b From rating curve extended above 120 ft³/s

c July 30, Aug. 8-11, 16, 17, Sept. 5.

d Aug. 26, 27, 1995.



GUNPOWDER RIVER BASIN

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 mi².

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 ft³/s and fair below except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 13	1115	*250	*3.22				No peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	1.6	32	.50	1.0	7.4	7.1	1.6	3.6	.27	.04	.07
2	5.6	.33	12	.42	.89	1.2	1.2	.60	18	.30	.06	9.4
3	.83	.33	1.4	.55	.86	34	.92	4.3	11	.17	1.2	.58
4	.63	.34	1.0	.50	5.7	4.0	.80	.94	.84	.17	.21	.21
5	.57	.33	2.2	.80	10	3.5	.72	.62	.56	.17	.17	.17
6	.53	.33	22	.59	3.0	2.1	1.2	.56	.42	.17	.09	.17
7	.58	.36	12	.52	1.0	.96	.75	.50	.42	.15	.08	.62
8	14	41	3.0	.53	2.8	.80	.65	.71	.42	.14	.05	.29
9	4.5	6.1	1.4	2.1	2.7	.77	.50	2.7	.42	.14	.05	.17
10	2.0	1.6	1.0	2.3	1.0	5.5	.50	.66	.42	.14	.05	2.5
11	.70	1.0	4.8	1.1	.86	.94	.50	.51	.42	.10	.05	5.7
12	.63	.84	2.6	.66	.99	.69	4.9	.42	.34	.08	.05	.56
13	.59	.68	64	.52	.78	.62	1.0	.42	1.1	.06	.05	.20
14	.59	.65	7.8	.50	13	20	.61	.42	.50	.05	.05	.16
15	.59	.65	1.7	.50	13	2.3	.58	.42	.32	.05	.04	.13
16	.59	.65	1.2	9.7	1.5	.89	.58	.42	.32	.05	.03	.10
17	.59	.65	1.3	.98	.99	.72	2.2	.42	.32	.05	2.2	.15
18	13	.65	1.0	.71	.86	3.2	.62	.42	.30	.05	.67	.15
19	25	.65	3.9	e.58	.79	9.1	.50	.42	.28	.05	.07	.14
20	.95	.65	.96	e.53	.71	1.4	.50	.43	.28	.05	17	.14
21	.62	.65	.70	.67	.65	.85	.78	.42	.28	.09	.64	.17
22	.50	.65	.65	2.7	.69	.69	.68	.42	.28	.08	.21	.13
23	.52	.65	.65	1.5	.72	.57	.65	.42	.28	.37	.09	.14
24	.65	.73	2.9	22	.72	.53	.75	.44	.26	.79	.07	.16
25	.62	.77	.97	13	.72	.50	.59	.68	.23	.16	.08	.12
26	.53	14	.65	1.5	1.9	5.2	.54	.86	.35	.08	.07	.11
27	.56	.92	.65	1.3	.84	.83	3.8	.42	.24	.08	.07	.07
28	1.2	.67	.65	12	.60	.72	9.7	.42	.23	.08	4.1	1.3
29	.41	.65	.73	1.6	--	3.0	.87	.42	.23	.07	.34	.86
30	.37	1.8	.58	1.1	---	.78	.69	.68	.23	.05	.12	.06
31	.54	--	.58	1.1	---	12	--	.42	--	.05	.07	--
TOTAL	79.58	80.88	186.97	83.06	69.27	125.76	45.38	23.09	42.89	4.31	28.07	24.73
MEAN	2.57	2.70	6.03	2.68	2.47	4.06	1.51	.74	1.43	.14	.91	.82
MAX	25	41	64	22	13	34	9.7	4.3	18	.79	17	9.4
MIN	.37	.33	.58	.42	.60	.50	.50	.42	.23	.05	.03	.06
CFSM	1.92	2.01	4.50	2.00	1.85	3.03	1.13	.56	1.07	.10	.68	.62
IN.	2.21	2.25	5.19	2.31	1.92	3.49	1.26	.64	1.19	.12	.78	.69

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

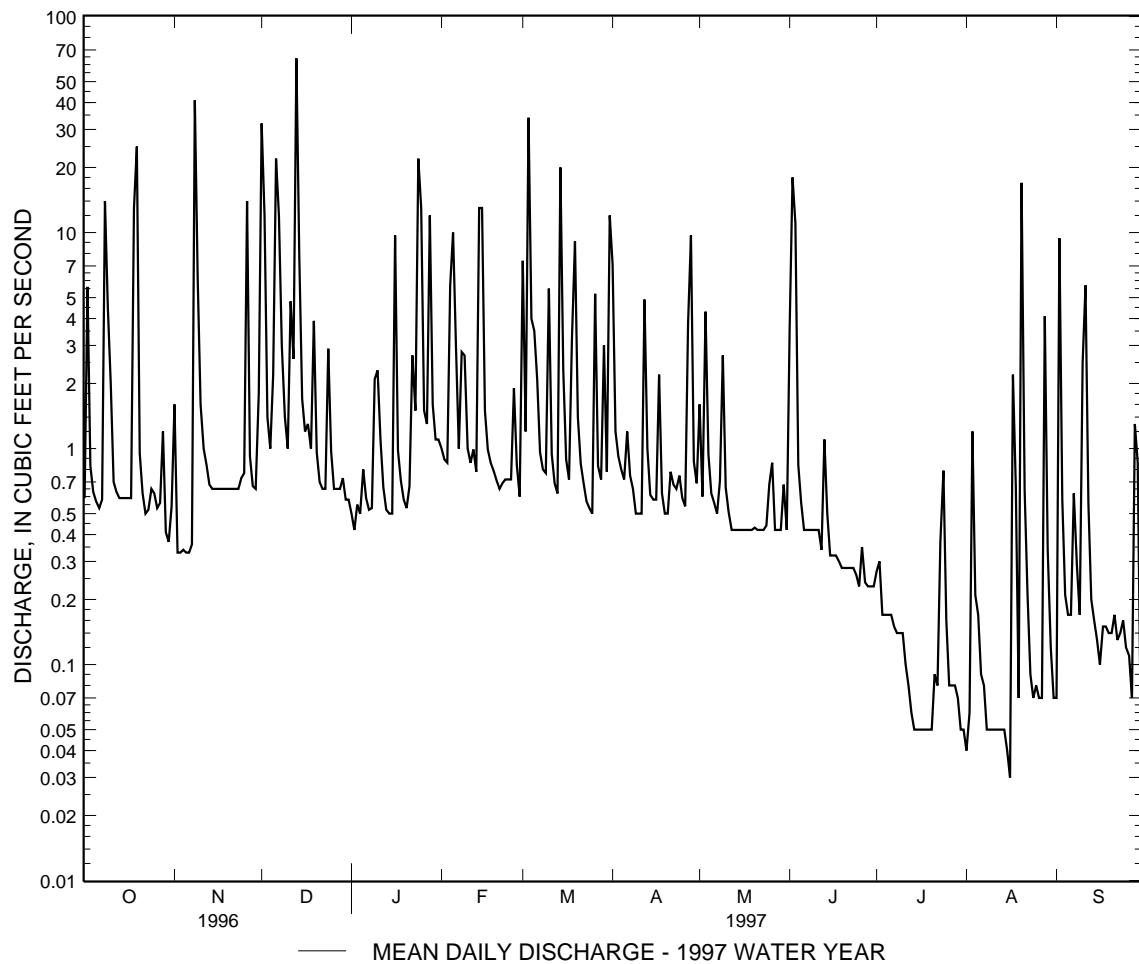
MEAN	2.02	2.69	3.33	3.65	2.54	4.49	2.19	1.80	1.58	1.80	1.51	1.71
MAX	4.75	3.42	6.03	5.39	4.54	6.79	3.61	3.11	4.72	3.82	3.67	3.56
(WY)	1996	1996	1997	1996	1994	1993	1996	1996	1996	1996	1994	1996
MIN	.77	1.94	1.52	2.25	1.53	2.38	.92	.74	.59	.14	.43	.82
(WY)	1995	1995	1996	1993	1995	1996	1995	1997	1994	1997	1992	1997

GUNPOWDER RIVER BASIN

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

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1992 - 1997
ANNUAL TOTAL	1292.16	793.99	
ANNUAL MEAN	3.53	2.18	2.48
HIGHEST ANNUAL MEAN			3.39
LOWEST ANNUAL MEAN			1.63
HIGHEST DAILY MEAN	80 Jan 19	64 Dec 13	80 Jan 19 1996
LOWEST DAILY MEAN	.30 Jul 11	.03 Aug 16	.03 Aug 16 1997
ANNUAL SEVEN-DAY MINIMUM	.45 Jul 1	.05 Aug 10	.05 Aug 10 1997
INSTANTANEOUS PEAK FLOW		250 Dec 13	502 Jun 19 1996
INSTANTANEOUS PEAK STAGE		3.22 Dec 13	5.05 Jun 19 1996
INSTANTANEOUS LOW FLOW		.02 (a)	.02 (a)
ANNUAL RUNOFF (CFSM)	2.63	1.62	1.85
ANNUAL RUNOFF (INCHES)	35.87	22.04	25.16
10 PERCENT EXCEEDS	8.7	4.8	5.3
50 PERCENT EXCEEDS	.90	.63	.69
90 PERCENT EXCEEDS	.55	.08	.19

a Aug. 16, 17, 1997.



GUNPOWDER RIVER BASIN

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 mi².

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 (ice effect), 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.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 13	1300	*694	*4.12				No peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	10	151	4.8	6.2	39	33	8.2	9.0	3.4	.90	1.4
2	24	4.6	74	4.8	5.4	9.6	10	5.2	73	3.6	1.1	40
3	5.1	3.8	11	5.3	5.3	142	7.7	19	59	2.1	3.5	9.1
4	3.4	3.8	7.7	4.5	23	30	6.8	7.3	7.3	1.6	2.4	2.2
5	3.2	3.8	7.7	5.4	58	19	6.0	4.5	4.3	1.4	2.9	1.6
6	3.6	3.8	126	4.4	12	15	8.5	4.0	3.4	1.4	1.3	1.4
7	3.1	4.3	65	3.9	7.4	7.7	6.6	3.5	3.0	1.5	1.1	2.9
8	67	154	21	3.8	15	6.8	4.9	3.8	2.9	1.3	.96	3.0
9	21	55	9.8	9.8	16	5.9	4.6	14	2.8	1.4	.83	2.0
10	16	10	7.4	12	8.5	30	5.0	4.8	2.5	1.4	.93	14
11	4.8	6.3	23	7.4	6.7	7.6	4.9	3.6	2.4	1.6	.93	36
12	4.5	5.0	14	4.3	7.3	5.8	25	3.7	2.4	1.1	1.1	8.2
13	3.8	4.4	291	3.8	6.1	5.4	10	3.4	13	1.2	1.2	2.6
14	3.6	4.3	66	3.6	56	103	5.3	3.4	4.0	1.2	1.2	1.9
15	3.4	3.8	15	3.7	78	22	4.8	3.3	2.7	1.3	1.3	1.6
16	3.4	3.8	10	44	12	8.9	4.8	3.0	2.2	1.2	1.1	1.8
17	3.4	3.8	11	15	8.1	7.4	16	3.0	2.2	1.3	14	1.7
18	49	3.8	8.2	e6.0	6.9	16	6.5	3.0	2.3	1.2	7.6	1.6
19	258	3.8	22	e4.8	6.3	48	4.4	3.2	2.5	1.0	1.7	1.4
20	62	3.4	7.8	e4.0	5.6	13	4.3	3.2	2.0	1.1	99	1.6
21	34	3.4	5.9	3.9	5.5	8.5	5.6	2.7	2.5	1.3	11	1.7
22	21	3.3	5.7	9.4	5.4	7.2	5.0	2.5	1.9	1.4	2.9	1.6
23	12	3.4	5.8	9.7	4.8	6.0	4.5	2.5	1.8	2.4	1.7	1.7
24	7.9	3.4	14	50	4.7	5.5	5.7	2.5	1.8	4.1	1.3	1.7
25	6.5	3.4	9.7	96	4.5	5.2	4.1	3.1	1.7	1.7	1.4	1.9
26	5.8	71	5.8	11	8.4	29	3.8	5.8	2.6	1.3	1.4	1.8
27	5.5	7.1	5.6	7.6	7.7	7.7	15	2.5	2.4	1.2	1.4	1.7
28	8.6	4.8	5.3	57	5.2	6.1	58	2.3	1.5	1.3	14	6.3
29	4.7	4.3	6.2	10	--	16	7.6	2.4	1.5	1.1	3.3	7.3
30	4.4	6.2	5.3	7.2	--	7.7	5.5	3.5	1.5	.90	1.6	1.6
31	4.8	--	4.8	6.7	--	66	--	2.5	--	.90	1.3	--
TOTAL	661.2	405.8	1022.7	423.8	396.0	707.0	293.9	139.4	222.1	48.90	186.35	163.3
MEAN	21.3	13.5	33.0	13.7	14.1	22.8	9.80	4.50	7.40	1.58	6.01	5.44
MAX	258	154	291	96	78	142	58	19	73	4.1	99	40
MIN	3.1	3.3	4.8	3.6	4.5	5.2	3.8	2.3	1.5	.90	.83	1.4
CFSM	2.80	1.78	4.34	1.80	1.86	3.00	1.29	.59	.97	.21	.79	.72
IN.	3.23	1.98	5.00	2.07	1.94	3.46	1.44	.68	1.09	.24	.91	.80

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1988, 1992 - 1997, BY WATER YEAR (WY)

MEAN	7.65	10.6	13.7	14.1	15.6	16.6	13.1	11.4	9.29	9.00	10.2	9.83
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

GUNPOWDER RIVER BASIN

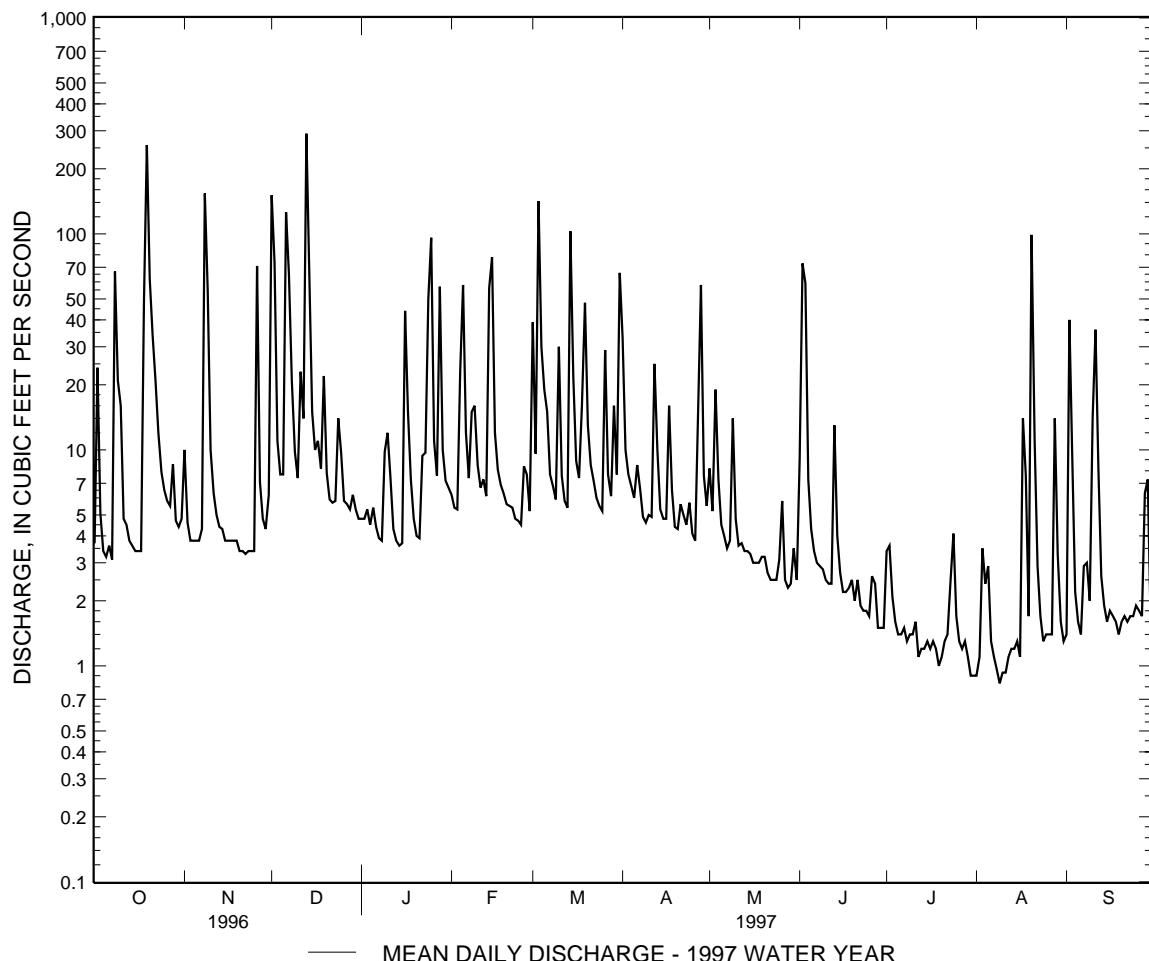
01585100 WHITEMARSH RUN AT WHITE MARSH, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1959 - 1988 1992 - 1997
ANNUAL TOTAL	7625.4	4670.45	
ANNUAL MEAN	20.8	12.8	12.0
HIGHEST ANNUAL MEAN			21.0
LOWEST ANNUAL MEAN			4.27
HIGHEST DAILY MEAN	472	Jan 19	820
LOWEST DAILY MEAN	1.6	Jul 28	Jun 22 1972
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 29	.10 Sep 11 1966
INSTANTANEOUS PEAK FLOW			.39 Sep 1 1966
INSTANTANEOUS PEAK STAGE			(a) 8000 Aug 1 1971
INSTANTANEOUS LOW FLOW			14.05 Aug 1 1971
ANNUAL RUNOFF (CFSM)	2.74	1.68	(c).00 Mar 20 1965
ANNUAL RUNOFF (INCHES)	37.28	22.83	1.58
10 PERCENT EXCEEDS	50	27	21.46
50 PERCENT EXCEEDS	6.7	4.8	21
90 PERCENT EXCEEDS	3.4	1.4	4.1
			1.5

a From rating curve extended above 1,300 ft³/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 July 30, 31, Aug. 9

c Result of construction work upstream from station.



BACK RIVER BASIN

01585200 WEST BRANCH HERRING RUN AT IDLEWYLDE, MD

LOCATION.--Lat 39°22'25", long 76°35'05", Baltimore County, Hydrologic Unit 02060003, on left bank 40 ft downstream from bridge on Regester Avenue, at Idlewylde, 0.1 mi north of Baltimore city limits, 1.0 mi upstream from mouth, and 1.3 mi east of State Highway 45.
 DRAINAGE AREA.--2.13 mi².

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.--Records good except those for estimated daily discharges (ice effect, dead battery, backwater), which are fair. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant upstream from station. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1515	322	3.57	Aug. 28	1645	406	3.89
Nov. 8	1605	393	3.84	Sep. 2	1830	*990	*5.46
Aug. 17	1925	366	3.74	Sep. 11	0125	395	3.85

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.81	1.6	31	1.3	e1.2	11	4.3	2.7	6.8	1.7	.26	2.5
2	5.6	.89	18	1.4	e1.2	2.0	2.3	1.4	24	1.2	.31	22
3	.95	.96	2.2	1.4	e1.3	34	2.4	5.3	9.4	.57	1.4	1.2
4	.89	.80	1.7	1.3	e8.0	3.7	2.2	1.4	2.5	.47	.46	.75
5	.86	.80	3.8	1.4	e9.0	3.5	2.1	1.3	1.7	.42	.34	.33
6	.81	.80	22	1.2	2.4	2.7	3.1	1.6	.97	.42	.27	.53
7	.81	.89	15	1.1	2.8	2.0	2.0	1.2	1.1	.40	.64	1.6
8	15	36	3.4	1.1	4.3	1.9	1.8	1.7	1.4	.37	.24	.50
9	3.1	3.5	2.4	2.1	4.7	1.9	1.7	4.0	1.2	.36	.23	.26
10	1.5	1.4	2.1	2.3	3.0	6.0	1.7	1.4	.87	.40	.22	2.6
11	1.0	.99	5.8	1.6	2.9	2.1	1.7	1.3	.83	.34	.25	18
12	.91	.88	2.3	1.1	2.9	1.9	7.8	1.2	.87	.35	.25	1.1
13	.95	.86	56	1.1	2.8	2.0	2.1	1.2	.98	.32	.27	e.50
14	.92	.85	7.4	1.1	11	19	1.7	1.1	.82	.29	.25	e.34
15	.81	.81	2.8	1.1	12	3.2	1.7	1.1	.77	.28	.28	e.50
16	.82	.99	2.3	11	2.7	2.4	1.6	.99	.74	.25	.23	e1.2
17	.80	1.0	2.5	2.6	2.2	2.8	6.2	.98	.77	.24	11	e.50
18	18	.95	1.9	e1.5	2.1	5.8	1.8	1.0	.78	.22	1.3	e.32
19	18	.75	4.7	e1.2	2.1	11	1.7	1.1	.83	.21	.14	e.30
20	1.5	.71	1.8	e1.1	2.1	5.4	1.6	1.0	.68	.21	31	e.38
21	1.1	.71	1.7	e1.2	2.0	5.5	2.2	.96	.67	.23	.76	.47
22	1.2	.67	1.6	e3.6	1.7	3.1	1.6	.96	.77	.21	.26	.37
23	1.1	.67	1.5	e3.2	1.6	2.8	1.5	.94	.75	.81	.18	e.41
24	.97	.68	3.7	21	1.6	2.7	2.6	.88	.56	5.0	.36	e.42
25	.89	.68	1.7	11	1.5	2.3	1.4	1.4	.59	.52	.17	.39
26	.86	20	1.6	2.3	3.3	7.4	1.3	1.7	.96	.42	.14	.37
27	.84	1.0	1.5	1.8	1.8	2.3	6.5	.86	.65	.34	.15	.35
28	1.3	.85	1.5	10	1.6	2.2	10	.84	.57	.31	10	2.4
29	.86	.83	1.5	1.8	---	2.7	1.7	.83	.51	.31	.59	2.0
30	.88	2.3	1.4	1.3	---	2.1	1.6	1.7	.49	.25	.28	.43
31	1.0	---	1.3	e1.2	---	14	---	1.6	---	.26	.27	---
TOTAL	85.04	84.82	208.1	96.4	95.8	171.4	81.9	45.64	64.53	17.68	62.50	63.02
MEAN	2.74	2.83	6.71	3.11	3.42	5.53	2.73	1.47	2.15	.57	2.02	2.10
MAX	18	36	56	21	12	34	10	5.3	24	5.0	31	22
MIN	.80	.67	1.3	1.1	1.2	1.9	1.3	.83	.49	.21	.14	.26
MED	.95	.87	2.3	1.4	2.3	2.8	1.8	1.2	.82	.34	.27	.50
AC-FT	169	168	413	191	190	340	162	91	128	35	124	125
CFSM	1.29	1.33	3.15	1.46	1.61	2.60	1.28	.69	1.01	.27	.95	.99
IN.	1.49	1.48	3.63	1.68	1.67	2.99	1.43	.80	1.13	.31	1.09	1.10

e Estimated

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

MEAN	2.27	2.83	2.61	3.06	3.23	3.07	2.65	2.41	2.07	2.24	2.39	
MAX	5.74	6.59	6.71	9.14	7.41	6.65	7.80	5.06	9.61	5.64	12.2	7.59
(WY)	1972	1973	1997	1979	1979	1983	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	1970	1970

BACK RIVER BASIN

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

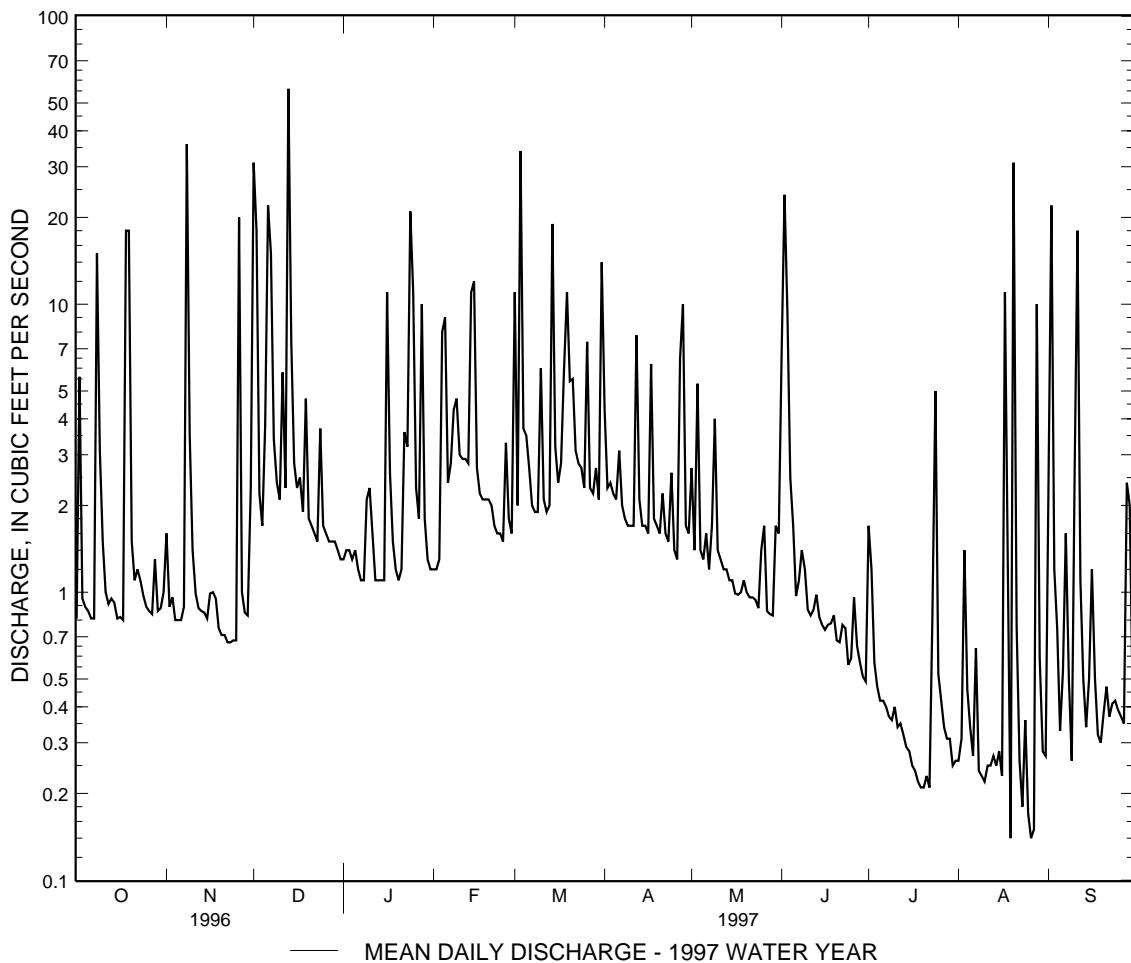
SUMMARY STATISTICS	FOR 1997 WATER YEAR	WATER YEARS 1957 - 1987 1997
ANNUAL TOTAL	1076.83	
ANNUAL MEAN	2.95	2.60
HIGHEST ANNUAL MEAN		4.26
LOWEST ANNUAL MEAN		1.42
HIGHEST DAILY MEAN	56 Dec 13	137 Jun 22 1972
LOWEST DAILY MEAN	.14 (a)	.00 (b)
ANNUAL SEVEN-DAY MINIMUM	.22 Jul 16	.00 Aug 14 1957
INSTANTANEOUS PEAK FLOW	990 Sep 2	(c) 1740 Sep 11 1971
INSTANTANEOUS PEAK STAGE	5.46 Sep 2	6.80 Sep 11 1971
INSTANTANEOUS LOW FLOW	.10 (d)	.00 (b)
ANNUAL RUNOFF (AC-FT)	2140	1890
ANNUAL RUNOFF (CFSM)	1.39	1.22
ANNUAL RUNOFF (INCHES)	18.81	16.60
10 PERCENT EXCEEDS	6.3	5.1
50 PERCENT EXCEEDS	1.3	1.1
90 PERCENT EXCEEDS	.32	.40

a Aug. 19, 26.

b Aug. 14-24, 1957.

c From rating curve extended above 90 ft³/s on the basis of a slope-area measurement at a gage height of 6.37 ft.

d Aug. 19, 20.



BACK RIVER BASIN

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 mi².

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), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

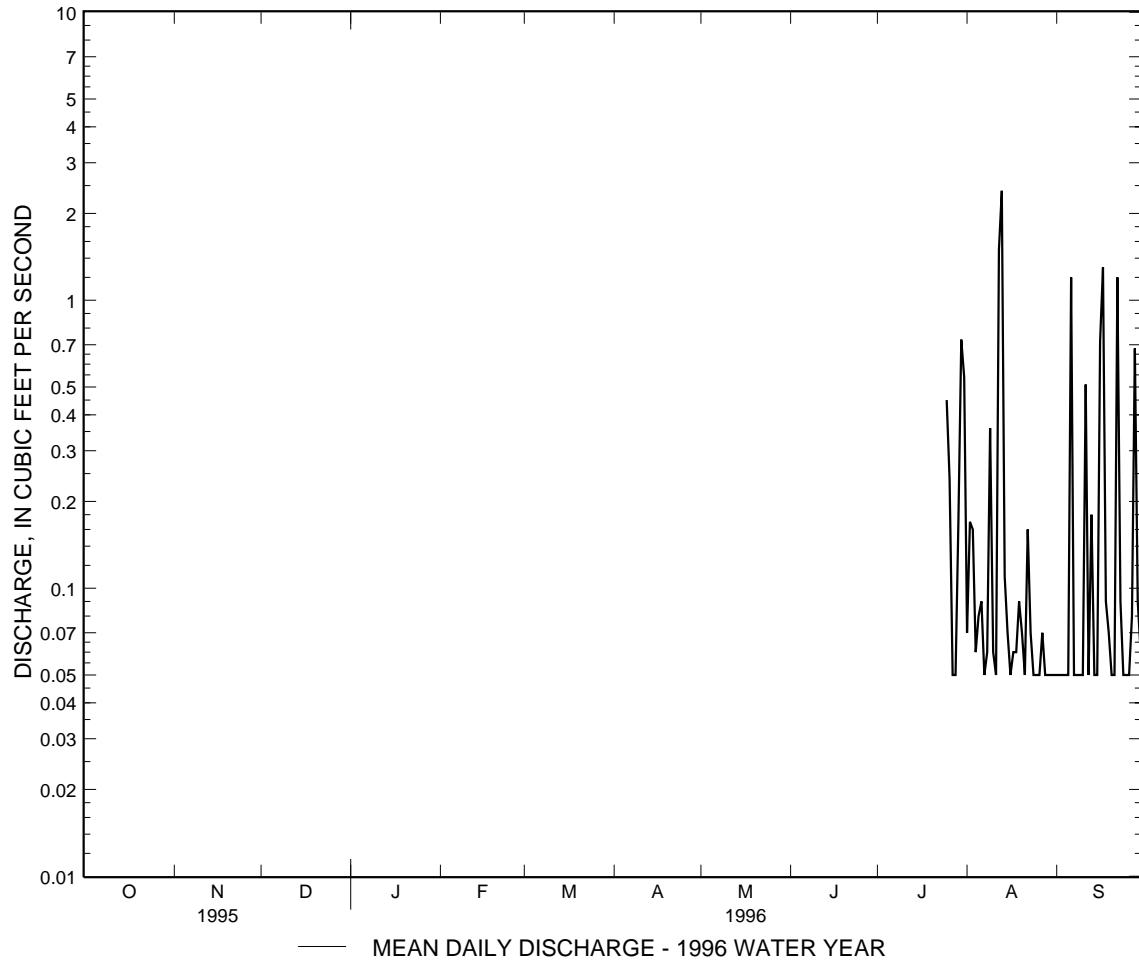
Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep. 6, 1996	2020	65	2.12	June 13, 1996	1045	52	1.90
Nov. 8, 1996	1510	81	2.38	Aug. 17, 1996	1910	*93	*2.39

DISCHARGE, IN CUBIC FEET PER SECOND, JULY 1996 TO SEPTEMBER 1996
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.07	.05
2	---	---	---	---	---	---	---	---	---	---	.17	.05
3	---	---	---	---	---	---	---	---	---	---	.16	.05
4	---	---	---	---	---	---	---	---	---	---	.06	.05
5	---	---	---	---	---	---	---	---	---	---	.08	.05
6	---	---	---	---	---	---	---	---	---	---	.09	1.2
7	---	---	---	---	---	---	---	---	---	---	.05	.05
8	---	---	---	---	---	---	---	---	---	---	.06	.05
9	---	---	---	---	---	---	---	---	---	---	.36	.05
10	---	---	---	---	---	---	---	---	---	---	.06	.05
11	---	---	---	---	---	---	---	---	---	---	.05	.51
12	---	---	---	---	---	---	---	---	---	---	1.5	.05
13	---	---	---	---	---	---	---	---	---	---	2.4	.18
14	---	---	---	---	---	---	---	---	---	---	.11	.05
15	---	---	---	---	---	---	---	---	---	---	.07	.05
16	---	---	---	---	---	---	---	---	---	---	.05	.72
17	---	---	---	---	---	---	---	---	---	---	.06	1.3
18	---	---	---	---	---	---	---	---	---	---	.06	.09
19	---	---	---	---	---	---	---	---	---	---	.09	.07
20	---	---	---	---	---	---	---	---	---	---	.07	.05
21	---	---	---	---	---	---	---	---	---	---	.05	.05
22	---	---	---	---	---	---	---	---	---	---	.16	1.2
23	---	---	---	---	---	---	---	---	---	---	.07	.09
24	---	---	---	---	---	---	---	---	---	---	.05	.05
25	---	---	---	---	---	---	---	---	---	---	.45	.05
26	---	---	---	---	---	---	---	---	---	---	.24	.05
27	---	---	---	---	---	---	---	---	---	---	.05	.07
28	---	---	---	---	---	---	---	---	---	---	.05	.05
29	---	---	---	---	---	---	---	---	---	---	.17	.05
30	---	---	---	---	---	---	---	---	---	---	.73	.05
31	---	---	---	---	---	---	---	---	---	---	.54	.05
TOTAL	---	---	---	---	---	---	---	---	---	---	6.32	7.12
MEAN	---	---	---	---	---	---	---	---	---	---	.20	.24
MAX	---	---	---	---	---	---	---	---	---	---	2.4	1.3
MIN	---	---	---	---	---	---	---	---	---	---	.05	.05
CFSM	---	---	---	---	---	---	---	---	---	---	.97	1.13
IN.	---	---	---	---	---	---	---	---	---	---	1.12	1.26

BACK RIVER BASIN

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



BACK RIVER BASIN

01585225 MOORES RUN TRIBUTARY NEAR TODD AVE AT BALTIMORE, 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	.06	.23	1.7	.09	.09	.82	.24	.09	.66	.10	.02	.20
2	.54	.09	.96	.10	.09	.09	.09	.05	.93	.01	.01	.01
3	.08	.09	.14	.09	.09	2.9	.09	.50	.85	.01	.26	.00
4	.09	.07	.10	.09	.77	.28	.09	.14	.11	.01	.05	.00
5	.07	.05	.52	.10	.59	.35	.08	.08	.05	.01	.13	.00
6	.07	.07	1.4	.09	.14	.17	.20	.05	.05	.00	.05	.00
7	.19	.09	.97	.09	.11	.14	.13	.05	.05	.00	.01	.09
8	e1.0	3.0	.18	.09	.25	.14	.09	.10	.05	.00	.01	.03
9	e.20	.25	.12	.20	.22	.15	.09	.32	.05	.00	.01	.00
10	.10	.09	.24	.11	.54	.09	.07	.05	.05	.01	.01	.31
11	.09	.08	.33	.16	.10	.14	.09	.05	.05	.01	.01	1.1
12	.09	.05	.18	.10	.10	.09	.65	.05	.05	.01	.01	.02
13	.09	.05	4.4	.09	.09	.11	.12	.05	.84	.01	.03	.02
14	.09	.05	.43	.09	1.2	1.9	.09	.05	.04	.01	.05	.02
15	.09	.05	.15	.09	.89	.28	.09	.05	.01	.01	.03	.02
16	.08	.05	.09	.82	.14	.20	.09	.05	.01	.01	.01	.02
17	.05	.05	.13	.14	.11	.14	.41	.05	.01	.01	1.1	.02
18	1.3	.05	.12	.12	.10	.44	.14	.06	.22	.01	.16	.02
19	1.2	.07	.27	.09	.09	.74	.14	.06	.08	.01	.03	.02
20	.13	.07	.09	e.09	.09	.21	.09	.08	.05	.03	3.4	.15
21	.09	.05	.09	.09	.09	.14	.16	.05	.05	.02	.04	e.02
22	.09	.07	e.09	.28	.10	.14	.07	.06	.05	.03	.00	e.02
23	.11	.09	e.09	.11	.09	.09	.05	.05	.05	.08	.00	e.02
24	.09	.09	.30	1.7	.09	.09	.18	.07	.05	.08	.00	e.02
25	.09	.11	.10	.55	.10	.09	.07	.14	.05	.04	.00	e.02
26	.09	1.2	.09	.14	.24	.51	.05	.13	.15	.02	.00	e.02
27	.09	.09	.09	.16	.09	.09	.71	.07	.07	.01	.00	e.02
28	.14	.09	.09	.74	.09	.09	.85	.06	.06	.16	.59	.30
29	.09	.09	.14	.12	---	.24	.13	.05	.05	.04	.05	.21
30	.09	.23	.09	.09	---	.12	.07	.09	.05	.01	.02	.07
31	.09	---	.09	.09	---	.98	---	.05	---	.01	.02	---
TOTAL	6.67	6.71	13.63	7.04	6.26	12.41	5.44	2.82	4.84	0.77	6.11	2.77
MEAN	.22	.22	.44	.23	.22	.40	.18	.091	.16	.025	.20	.16
MAX	.22	.22	.44	.23	.22	.40	.18	.091	.16	.025	.20	.092
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996
MIN	.05	.05	.09	.09	.09	.09	.05	.05	.01	.00	.00	.00
CFSM	1.02	1.07	2.09	1.08	1.06	1.91	.86	.43	.77	.12	.94	.44
IN.	1.18	1.19	2.41	1.25	1.11	2.20	.96	.50	.86	.14	1.08	.49

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

MEAN	.22	.22	.44	.23	.22	.40	.18	.091	.16	.025	.20	.16
MAX	.22	.22	.44	.23	.22	.40	.18	.091	.16	.025	.20	.24
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996
MIN	.22	.22	.44	.23	.22	.40	.18	.091	.16	.025	.20	.092
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

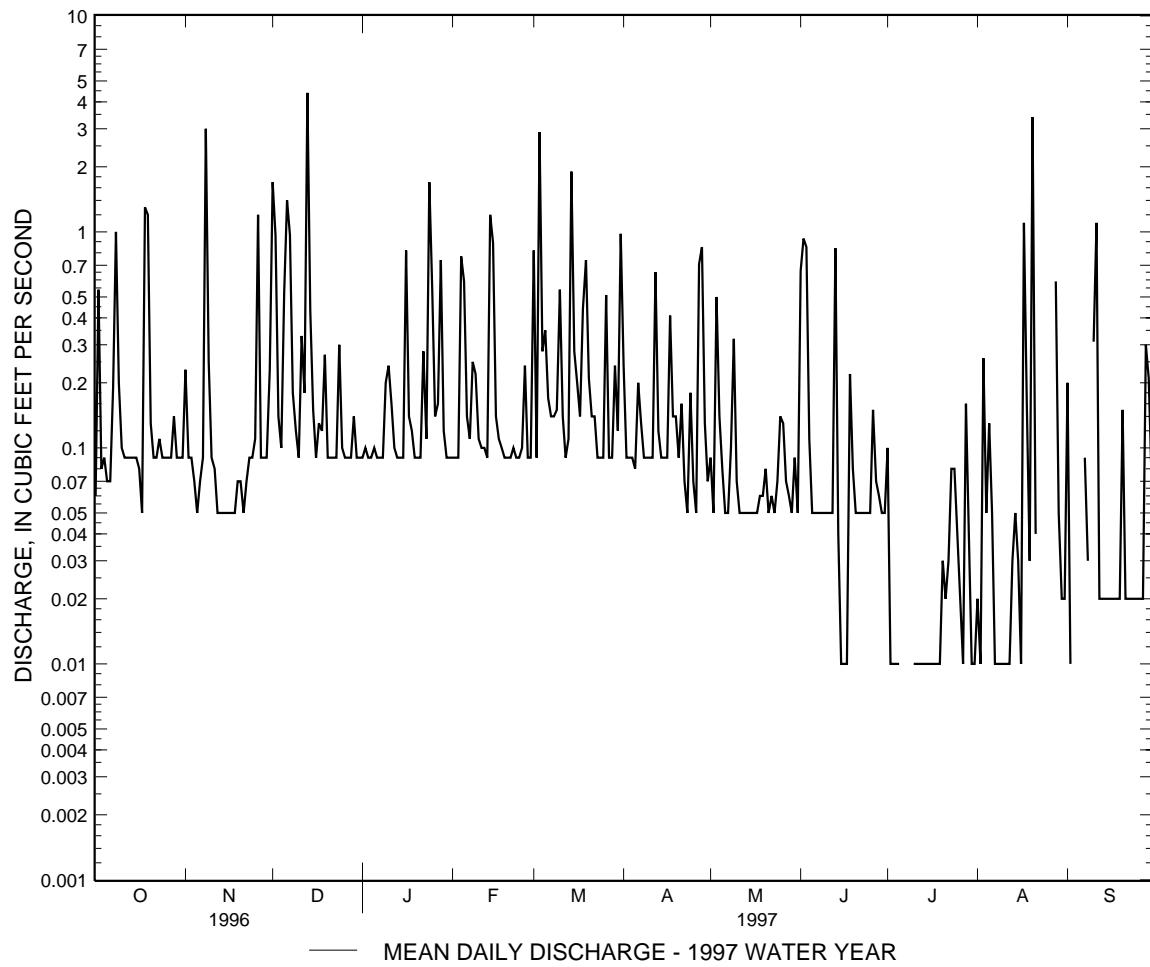
ANNUAL TOTAL	75.47											
ANNUAL MEAN	.21											
HIGHEST ANNUAL MEAN												
LOWEST ANNUAL MEAN												
HIGHEST DAILY MEAN	4.4	Dec 13										
LOWEST DAILY MEAN	.00	(a)										
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 3										
INSTANTANEOUS PEAK FLOW	93	Aug 17										
INSTANTANEOUS PEAK STAGE	2.39	Aug 17										
INSTANTANEOUS LOW FLOW	.00	(b)										
ANNUAL RUNOFF (CFSM)	.98											
ANNUAL RUNOFF (INCHES)	13.37											
10 PERCENT EXCEEDS	.53											
50 PERCENT EXCEEDS	.09											
90 PERCENT EXCEEDS	.01											

a July 6-9, Aug. 22-27, Sept. 3-6, 9, 1997.

b Aug. 17, 21-28, Sept. 2-10, 19, 1997.

BACK RIVER BASIN

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



BACK RIVER BASIN

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 mi².

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), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 13, 1996	0145	812	5.37	Nov. 8, 1996	1515	875	5.48
Sep. 6, 1996	2155	1,010	5.70	Dec. 13, 1996	1050	654	5.07
Sep. 17, 1996	0250	835	5.41	Aug. 17, 1997	1920	*1,200	*6.00

DISCHARGE, IN CUBIC FEET PER SECOND, JULY 1996 TO SEPTEMBER 1996
MEAN DAILY VALUES

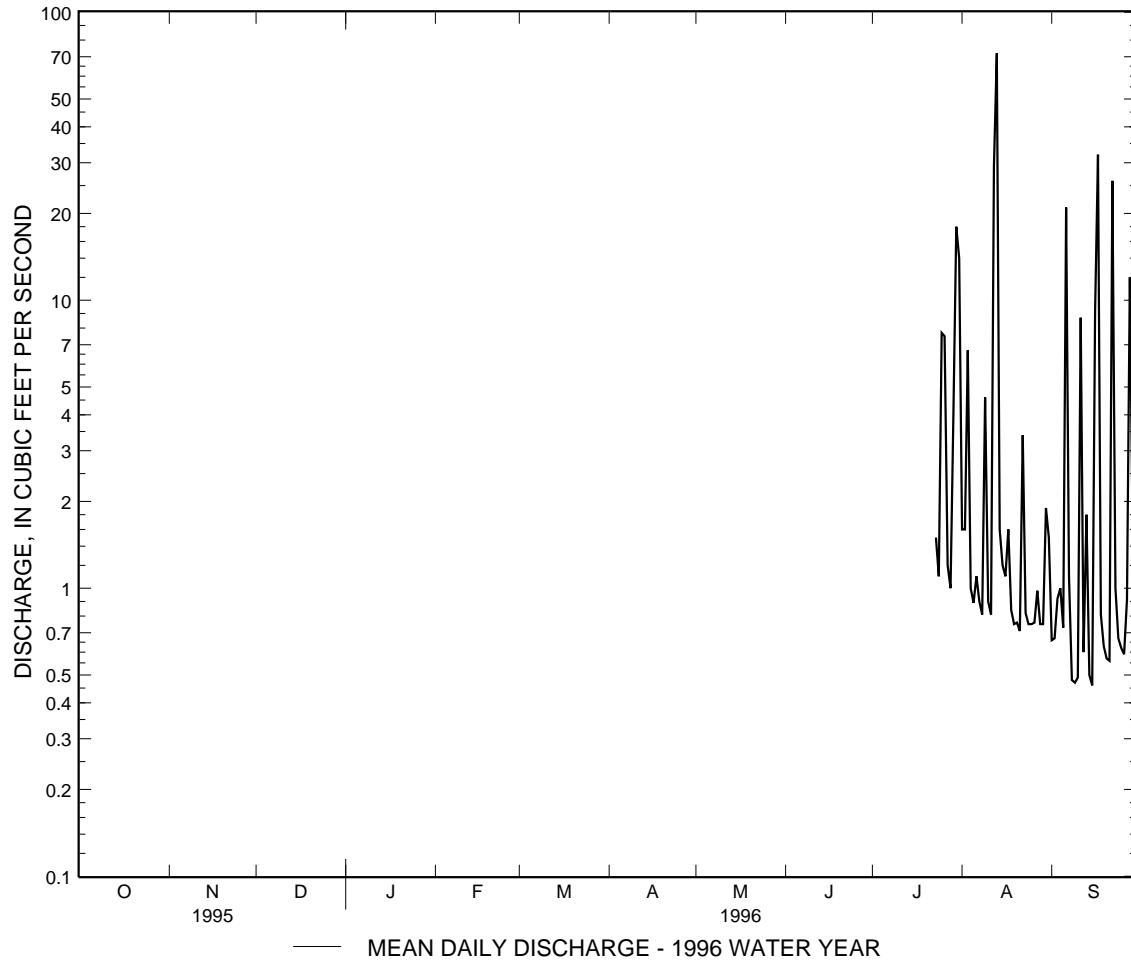
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	1.6	.66
2	---	---	---	---	---	---	---	---	---	---	1.6	.67
3	---	---	---	---	---	---	---	---	---	---	6.7	.92
4	---	---	---	---	---	---	---	---	---	---	1.0	1.0
5	---	---	---	---	---	---	---	---	---	---	.89	.73
6	---	---	---	---	---	---	---	---	---	---	1.1	21
7	---	---	---	---	---	---	---	---	---	---	.90	1.1
8	---	---	---	---	---	---	---	---	---	---	.81	.48
9	---	---	---	---	---	---	---	---	---	---	4.6	.47
10	---	---	---	---	---	---	---	---	---	---	.90	.49
11	---	---	---	---	---	---	---	---	---	---	.81	8.7
12	---	---	---	---	---	---	---	---	---	---	29	.60
13	---	---	---	---	---	---	---	---	---	---	72	1.8
14	---	---	---	---	---	---	---	---	---	---	1.6	.50
15	---	---	---	---	---	---	---	---	---	---	1.2	.46
16	---	---	---	---	---	---	---	---	---	---	1.1	9.2
17	---	---	---	---	---	---	---	---	---	---	1.6	32
18	---	---	---	---	---	---	---	---	---	---	.84	.81
19	---	---	---	---	---	---	---	---	---	---	.75	.63
20	---	---	---	---	---	---	---	---	---	---	.76	.57
21	---	---	---	---	---	---	---	---	---	---	.71	.56
22	---	---	---	---	---	---	---	---	---	---	3.4	26
23	---	---	---	---	---	---	---	---	---	---	1.5	.82
24	---	---	---	---	---	---	---	---	---	---	1.1	.75
25	---	---	---	---	---	---	---	---	---	---	7.7	.75
26	---	---	---	---	---	---	---	---	---	7.5	.76	.59
27	---	---	---	---	---	---	---	---	---	1.2	.98	.91
28	---	---	---	---	---	---	---	---	---	1.0	.75	12
29	---	---	---	---	---	---	---	---	---	4.0	.75	1.4
30	---	---	---	---	---	---	---	---	---	18	1.9	.66
31	---	---	---	---	---	---	---	---	---	14	1.5	---
TOTAL	---	---	---	---	---	---	---	---	---	---	142.83	127.20
MEAN	---	---	---	---	---	---	---	---	---	---	4.61	4.24
MAX	---	---	---	---	---	---	---	---	---	---	72	32
MIN	---	---	---	---	---	---	---	---	---	---	.71	.46
CFSM	---	---	---	---	---	---	---	---	---	---	1.31	1.20
IN.	---	---	---	---	---	---	---	---	---	---	1.51	1.34

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

MEAN	---	---	---	---	---	---	---	---	---	---	4.61	4.24
MAX	---	---	---	---	---	---	---	---	---	---	4.61	4.24
(WY)	---	---	---	---	---	---	---	---	---	---	1996	1996
MIN	---	---	---	---	---	---	---	---	---	---	4.61	4.24
(WY)	---	---	---	---	---	---	---	---	---	---	1996	1996

BACK RIVER BASIN

01585230 MOORES RUN AT RADECKE AVE AT BALTIMORE, MD--Continued



BACK RIVER BASIN

01585230 MOORES RUN AT RADECKE AVE AT BALTIMORE, 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	.58	2.5	47	.77	1.1	16	5.1	1.9	10	1.6	.19	2.1
2	8.8	.66	24	.86	.93	1.5	1.6	.65	19	.53	.19	8.2
3	.77	.62	1.7	.92	.89	71	1.2	7.9	14	.46	2.9	.32
4	.62	.61	1.2	.81	13	3.9	1.1	.90	.67	.20	.27	.20
5	.58	.63	6.4	1.0	13	4.7	.97	.60	.53	.20	.55	.19
6	.58	.66	39	.78	1.6	2.2	2.2	.58	.48	.19	.19	.19
7	.59	.67	23	.75	1.2	1.3	1.0	.57	.47	.21	.21	1.1
8	26	76	3.1	.70	3.6	1.2	.81	1.2	.44	e.50	.19	.22
9	5.9	4.8	1.9	2.6	3.7	1.3	.77	4.7	.46	e.30	.22	.20
10	1.5	1.4	1.2	2.8	1.5	9.6	.75	.63	.44	e.25	.19	4.9
11	.84	.95	7.2	1.7	1.3	1.3	.71	.57	.43	.19	.19	19
12	.77	.77	2.9	.89	1.3	.96	9.9	.57	.43	.19	.19	.43
13	.73	.75	131	.84	1.0	.92	1.2	.55	11	.19	.27	.23
14	.70	.78	9.5	.75	24	40	.74	.54	.48	.19	.19	.23
15	.68	.71	2.1	.74	23	3.1	.70	.54	.36	.19	.21	.21
16	.67	.69	1.6	15	2.1	1.6	.70	.53	.31	.19	.19	.21
17	1.2	.71	1.9	1.1	1.5	1.3	4.6	.54	.25	.19	18	.23
18	32	.72	1.4	1.0	1.3	6.2	.78	.52	2.7	.19	1.6	.21
19	34	.71	4.9	.82	1.2	16	.70	.56	.54	.19	.24	e.21
20	1.5	.72	1.2	.82	1.1	2.4	.67	.69	.32	.19	58	e1.1
21	1.0	.74	.99	.78	1.1	1.8	1.5	.49	.34	.24	.70	.23
22	.91	.72	.95	4.0	1.1	1.5	.64	.51	.33	.25	.51	.20
23	.96	.77	.96	1.4	.96	1.1	.60	.53	.47	.62	.29	.19
24	.87	.81	4.8	42	.93	.93	1.9	.57	.27	.71	.27	.19
25	.85	.89	1.2	14	.91	.96	.60	1.2	.19	.20	.28	.20
26	.83	26	.91	1.5	3.5	9.8	.55	1.5	1.3	.19	.28	.22
27	.79	.96	.91	1.7	1.1	1.3	11	.45	.30	.19	.27	.24
28	1.3	.81	.86	16	.92	1.1	18	.43	.29	1.9	8.7	3.4
29	.67	.75	1.3	1.5	---	4.5	.90	.43	.27	.22	.37	2.0
30	.73	3.0	.90	1.2	---	1.2	.72	.97	.26	.19	.25	.27
31	1.1	---	.85	1.2	---	22	---	.45	---	.19	.26	---
TOTAL	129.02	131.51	326.83	120.93	108.84	232.67	72.61	32.77	67.33	11.24	96.36	46.82
MEAN	4.16	4.38	10.5	3.90	3.89	7.51	2.42	1.06	2.24	.36	3.11	1.56
MAX	34	76	131	42	24	71	18	7.9	19	1.9	58	19
MIN	.58	.61	.85	.70	.89	.92	.55	.43	.19	.19	.19	.19
CFSM	1.18	1.25	3.00	1.11	1.10	2.13	.69	.30	.64	.10	.88	.44
IN.	1.36	1.39	3.45	1.28	1.15	2.46	.77	.35	.71	.12	1.02	.49

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

MEAN	4.16	4.38	10.5	3.90	3.89	7.51	2.42	1.06	2.24	.36	3.86	2.90
MAX	4.16	4.38	10.5	3.90	3.89	7.51	2.42	1.06	2.24	.36	4.61	4.24
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996
MIN	4.16	4.38	10.5	3.90	3.89	7.51	2.42	1.06	2.24	.36	3.11	1.56
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

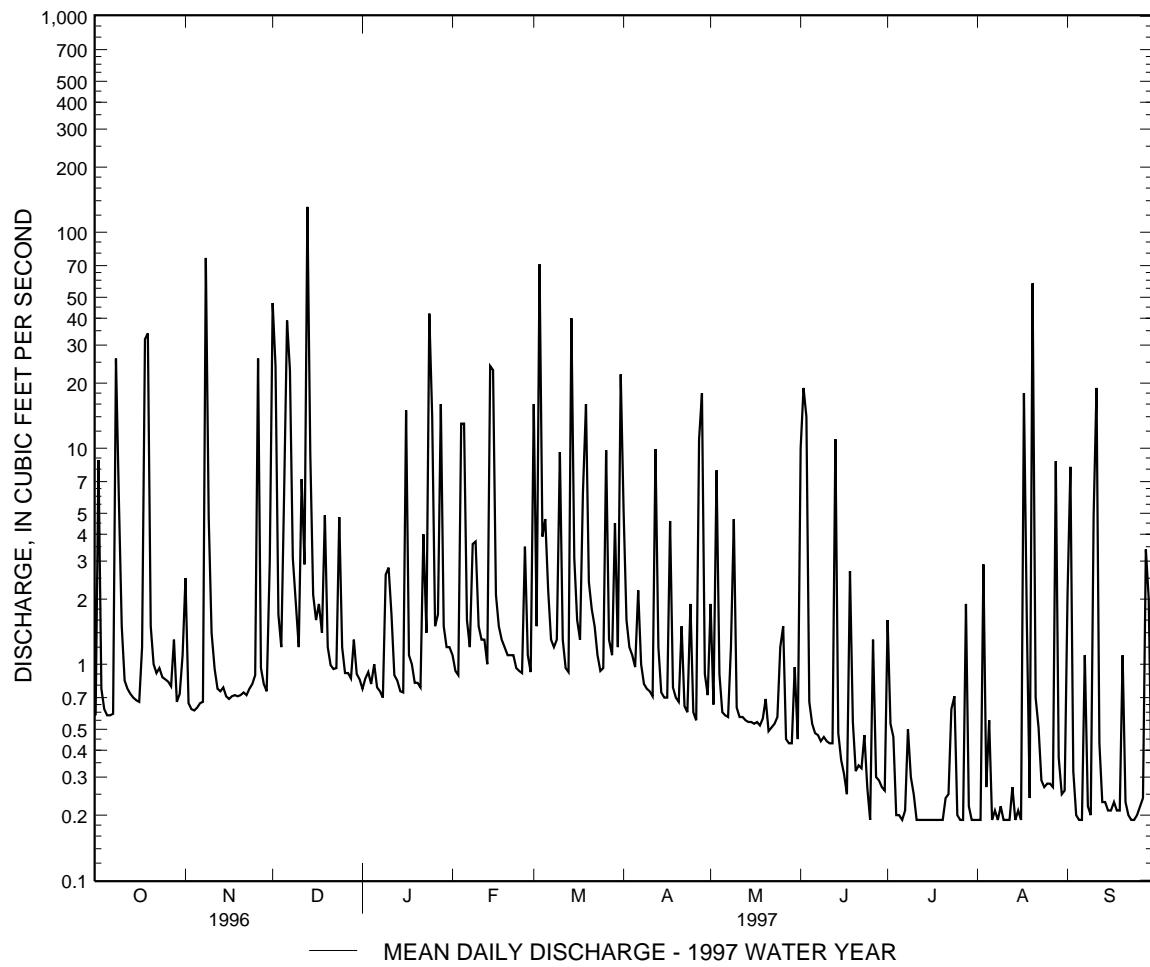
SUMMARY STATISTICS FOR 1997 WATER YEAR WATER YEARS 1996 - 1997

ANNUAL TOTAL	1376.93										
ANNUAL MEAN	3.77										
HIGHEST ANNUAL MEAN	3.77										
LOWEST ANNUAL MEAN	3.77										
HIGHEST DAILY MEAN	131 Dec 13										
LOWEST DAILY MEAN	.19 (a)										
ANNUAL SEVEN-DAY MINIMUM	.19 Jul 11										
INSTANTANEOUS PEAK FLOW	1200 Aug 17										
INSTANTANEOUS PEAK STAGE	6.00 Aug 17										
INSTANTANEOUS LOW FLOW	.17 Sep 8										
ANNUAL RUNOFF (CFSM)	1.07										
ANNUAL RUNOFF (INCHES)	14.55										
10 PERCENT EXCEEDS	9.1										
50 PERCENT EXCEEDS	.82										
90 PERCENT EXCEEDS	.21										

a Many days in 1997 water year.

BACK RIVER BASIN

01585230 MOORES RUN AT RADECKE AVE AT BALTIMORE, MD--Continued



PATAPSCO RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are poor. 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 1972 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	2115	145	3.12	Dec. 13	0845	*151	*3.15
Nov. 8	1915	106	2.92	Dec. 13	1430	147	3.13
Dec. 2	0100	101	2.89				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	4.1	23	4.4	5.8	6.5	5.5	2.5	1.1	.61	.30	.29
2	2.8	4.0	30	4.5	4.9	5.1	4.8	3.2	13	.70	.31	.28
3	2.5	3.9	6.2	4.4	5.5	12	4.9	3.9	4.8	.73	.29	.27
4	2.3	2.2	6.7	4.2	5.3	9.3	5.3	3.4	2.5	.56	.42	.27
5	2.3	2.3	3.9	4.2	9.0	5.8	5.2	3.9	.88	.55	.65	.32
6	2.7	2.3	24	3.8	5.5	7.8	5.2	5.2	.82	.56	.32	.30
7	2.9	2.4	19	3.6	5.2	4.1	5.1	3.8	.85	.56	.29	.27
8	11	30	12	3.4	5.6	4.0	3.8	3.4	.94	.50	.27	.29
9	5.7	12	7.4	3.6	5.4	4.7	4.7	3.3	1.4	.48	.27	.29
10	4.3	7.2	5.0	3.8	4.1	5.2	3.8	2.3	.91	.50	.25	1.1
11	3.4	5.9	5.4	e3.0	3.7	4.6	4.0	3.1	.74	.44	.26	1.4
12	3.2	3.3	5.3	e2.2	4.9	4.6	5.6	1.6	.76	.43	.29	.33
13	3.2	1.2	68	2.0	4.6	4.9	5.3	2.8	.95	.45	.32	.29
14	2.5	3.0	17	e1.9	6.1	12	4.6	3.3	1.1	.42	.30	.27
15	1.5	3.0	11	e2.1	8.4	7.2	4.4	2.8	.96	.43	.27	.26
16	1.5	2.9	6.6	7.0	6.4	6.0	4.3	2.9	.74	.42	.26	.24
17	1.4	3.2	7.9	3.0	5.5	3.7	3.1	1.7	.74	.40	.68	.23
18	19	3.1	10	2.1	4.7	3.9	4.2	1.1	.80	.37	1.4	.24
19	35	4.5	8.9	e1.8	2.4	7.7	3.9	1.5	.78	.39	.39	.24
20	9.4	3.3	5.5	e1.9	3.5	6.9	3.3	1.7	.72	.39	1.6	.32
21	6.2	3.6	6.1	1.9	4.3	4.8	3.4	2.0	.66	.37	1.7	.31
22	2.5	3.4	6.0	3.4	5.1	5.7	3.4	1.4	.66	.38	1.2	.22
23	2.9	3.9	6.4	3.3	4.6	5.4	3.9	1.2	.66	.45	1.2	.24
24	3.5	3.9	8.7	11	4.5	5.2	4.0	.66	1.0	.49	.85	.24
25	2.8	3.9	9.1	12	4.4	5.0	3.9	1.4	1.2	.46	.36	.24
26	2.2	17	6.3	6.0	4.3	7.6	3.8	3.1	.68	.43	.32	.24
27	1.8	5.2	5.7	4.9	4.9	5.4	4.1	2.2	.67	.54	.32	.24
28	4.7	2.4	5.4	14	4.5	3.1	5.6	1.8	.78	.37	.37	.26
29	4.3	1.3	5.8	3.2	--	5.4	2.3	1.2	.63	.31	.32	.31
30	4.3	3.2	5.2	2.9	--	5.4	2.5	.88	.60	.29	.29	.24
31	4.2	--	4.6	3.4	--	14	--	1.2	--	.30	.29	--
TOTAL	158.4	151.6	352.1	132.9	143.1	193.0	127.9	74.44	43.03	14.28	16.36	10.04
MEAN	5.11	5.05	11.4	4.29	5.11	6.23	4.26	2.40	1.43	.46	.53	.33
MAX	35	30	68	14	9.0	14	5.6	5.2	13	.73	1.7	1.4
MIN	1.4	1.2	3.9	1.8	2.4	3.1	2.3	.66	.60	.29	.25	.22
CFSM	1.55	1.54	3.45	1.30	1.55	1.89	1.30	.73	.44	.14	.16	.10
IN.	1.79	1.71	3.98	1.50	1.62	2.18	1.45	.84	.49	.16	.18	.11

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

MEAN	2.20	2.55	3.23	3.62	4.48	4.72	4.67	4.13	3.59	2.77	2.15	2.36
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	.40	.53	.79	.56	.70	.77	.89	.88	.64	.46	.36	.30
(WY)	1987	1974	1996	1992	1992	1981	1992	1986	1986	1997	1986	1977

PATAPSCO RIVER BASIN

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1950 - 1997
ANNUAL TOTAL	2114.21	1417.15	
ANNUAL MEAN	(a)5.78	(a)3.88	(a)3.37
HIGHEST ANNUAL MEAN			7.82
LOWEST ANNUAL MEAN			.86
HIGHEST DAILY MEAN	242	Jan 19	440
LOWEST DAILY MEAN	(e).55	Jan 7	.22
ANNUAL SEVEN-DAY MINIMUM	1.2	Jan 5	.24
INSTANTANEOUS PEAK FLOW			151
INSTANTANEOUS PEAK STAGE			Dec 13
INSTANTANEOUS LOW FLOW			3.15
ANNUAL RUNOFF (CFSM)	1.76		Dec 13
ANNUAL RUNOFF (INCHES)	23.91		1.18
10 PERCENT EXCEEDS	9.2		16.02
50 PERCENT EXCEEDS	3.5		7.1
90 PERCENT EXCEEDS	1.9		3.1
			.30
			(d).00
			(f)
			(g)
			1.02
			13.90
			5.9
			2.3
			.76

a Unadjusted for storage and diversions.

e Estimated.

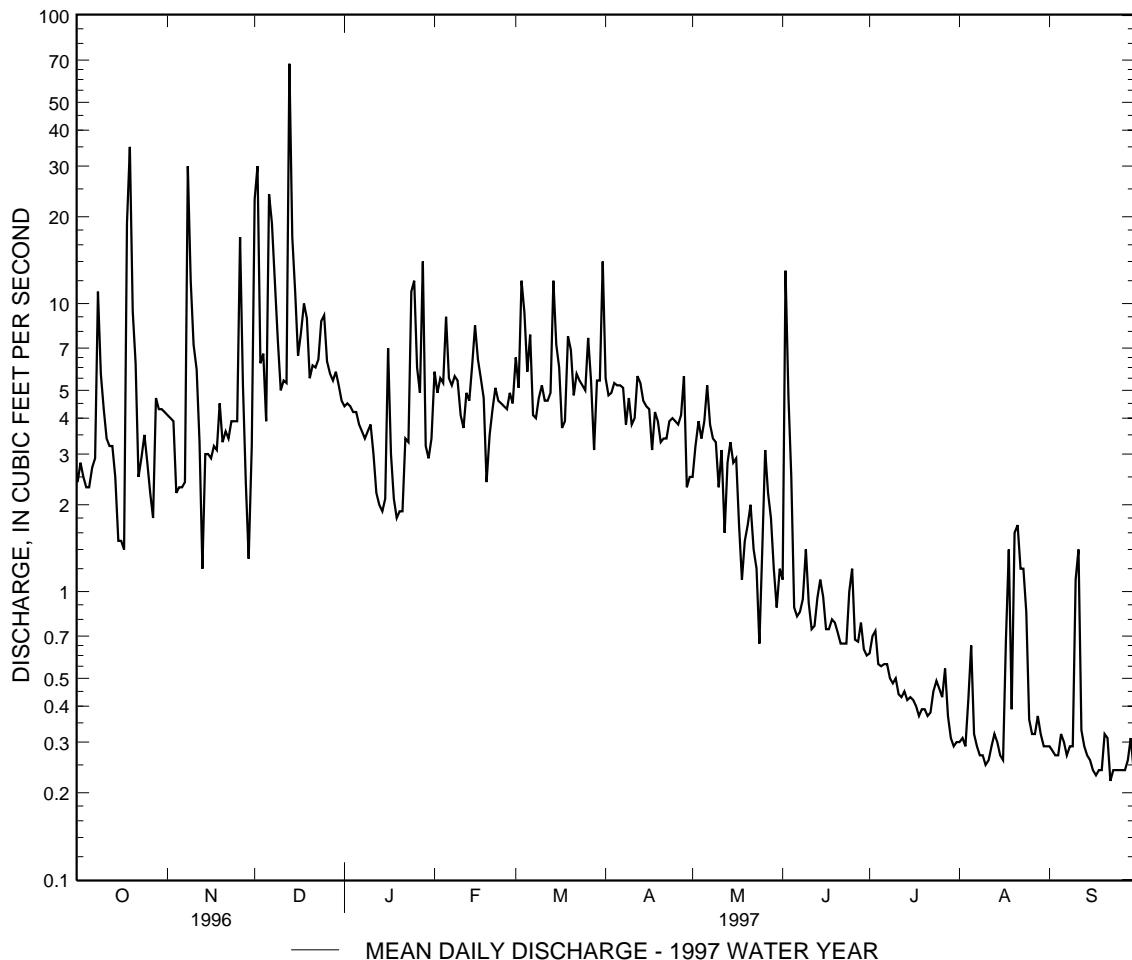
b Sept. 6-16, 1995

c From rating curve extended above 200 ft³/s on the basis of culvert measurements at gage heights 5.54 ft and 7.47 ft.

d Result of regulation.

f Sept. 17, 22.

g Sept. 5-11, 13-16, 1995.



PATAPSCO RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (missing record and ice effect), which are poor. 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 3.08 ft³/s diverted upstream from station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0300	2,170	6.31	Dec. 2	0245	1,180	4.48
Nov. 8	UNKNOWN	1,500	5.13	Dec. 13	1230	*2,270	*6.45
Nov. 26	0845	1,010	4.12	Jan. 25	0045	1,090	4.29
Dec. 1	1545	1,440	5.01				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	e71	488	112	90	112	108	64	44	25	14	17
2	61	e66	557	114	86	94	94	62	161	29	14	16
3	59	e62	182	113	85	248	90	77	97	28	14	16
4	54	e61	146	108	86	176	88	68	63	24	14	14
5	52	e60	128	108	155	131	85	59	51	22	18	15
6	52	e59	451	103	101	142	86	57	47	22	15	15
7	51	e59	303	98	90	108	85	55	46	22	14	15
8	237	e485	217	92	94	101	77	53	46	21	13	15
9	125	e180	169	97	91	96	76	63	44	21	13	15
10	96	e130	145	104	84	101	73	59	41	25	13	38
11	72	e118	141	98	81	92	73	55	37	21	12	73
12	65	e98	133	92	81	86	87	50	37	20	12	33
13	63	e93	1220	88	79	82	93	49	39	19	15	21
14	60	e90	418	83	103	191	75	49	39	18	15	19
15	57	e87	242	90	143	131	71	47	37	18	14	22
16	57	e83	209	136	115	102	70	46	34	17	13	17
17	55	81	197	108	97	95	72	46	34	17	15	16
18	202	81	181	e90	89	96	71	46	35	17	34	17
19	850	79	208	e77	90	137	69	48	36	16	18	16
20	187	74	165	e80	85	119	66	48	32	16	67	16
21	e140	72	149	81	84	104	68	45	30	15	44	15
22	e115	71	143	86	89	100	70	44	30	16	24	14
23	e105	69	146	105	80	92	66	44	29	18	19	14
24	e100	68	171	129	77	85	67	44	28	25	17	15
25	e92	67	165	298	75	83	66	48	27	23	17	15
26	e89	299	133	104	75	138	64	66	27	19	17	15
27	e86	102	131	88	85	95	66	48	28	18	16	15
28	e83	83	127	209	74	87	105	43	26	17	33	15
29	e80	79	132	106	---	89	71	41	25	15	27	26
30	e78	77	124	88	---	89	64	45	24	14	18	16
31	e75	---	119	88	---	195	---	44	---	14	17	---
TOTAL	3554	3104	7440	3373	2564	3597	2316	1613	1274	612	606	586
MEAN	115	103	240	109	91.6	116	77.2	52.0	42.5	19.7	19.5	19.5
MAX	850	485	1220	298	155	248	108	77	161	29	67	73
MIN	51	59	119	77	74	82	64	41	24	14	12	14
CFSM	2.02	1.83	4.24	1.92	1.62	2.05	1.36	.92	.75	.35	.35	.35
IN.	2.34	2.04	4.89	2.22	1.69	2.36	1.52	1.06	.84	.40	.40	.39

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

MEAN	51.8	64.3	75.6	86.8	95.3	87.1	76.4	64.4	50.1	42.3	42.3
MAX	214	114	240	225	212	243	213	201	390	149	165
(WY)	1980	1953	1997	1996	1979	1994	1993	1952	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
(WY)	1964	1966	1966	1966	1992	1959	1969	1969	1966	1966	1964

PATAPSCO RIVER BASIN

01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1945 - 1997
ANNUAL TOTAL	46017	30639	64.4
ANNUAL MEAN	126	83.9	121
HIGHEST ANNUAL MEAN			1972
LOWEST ANNUAL MEAN			30.1
HIGHEST DAILY MEAN	2500	Jan 19	6000
LOWEST DAILY MEAN	38	Jan 7	Jun 22 1972
ANNUAL SEVEN-DAY MINIMUM	52	Aug 29	3.1
INSTANTANEOUS PEAK FLOW		1220 Dec 13	(b)
INSTANTANEOUS PEAK STAGE		2270 Dec 13	3.5
INSTANTANEOUS LOW FLOW		6.45 Dec 13	Sep 7 1966
ANNUAL RUNOFF (CFSM)	2.22	4.8 Jul 12	(d) 20.75
ANNUAL RUNOFF (INCHES)	30.24	1.48	Jun 22 1972
10 PERCENT EXCEEDS	199	20.14	(f) 1.3
50 PERCENT EXCEEDS	83	144	(g)
90 PERCENT EXCEEDS	57	71	114
		16	44
			15.46
			19

a Aug. 11, 12.

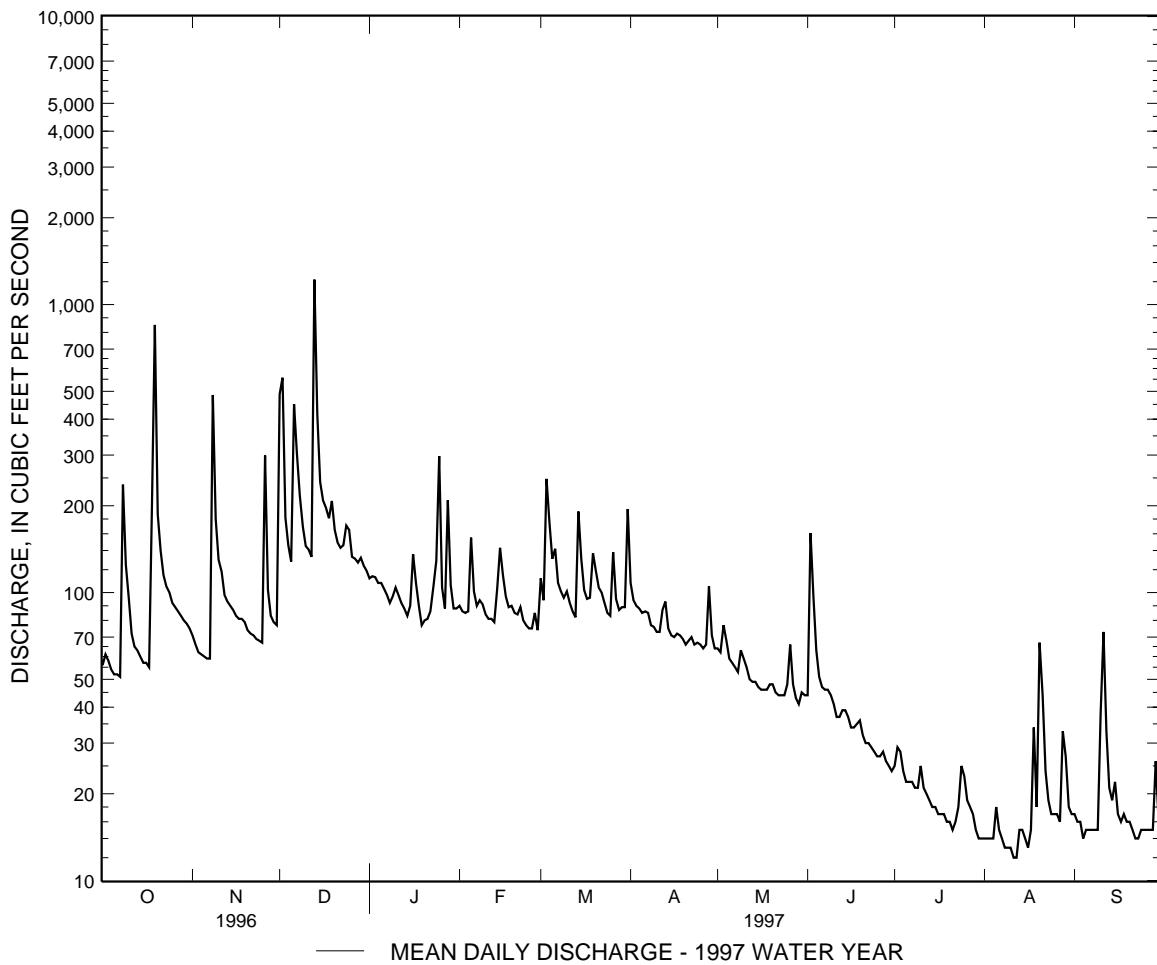
b Sept. 10, 12, 1996.

c From rating curve extended above 4,100 ft³/s on basis of contracted-opening measurement of peak flow.

d From high-water mark in well.

e Result of regulation.

g Sept. 17, 1983 and Aug. 10, 1985.



PATAPSCO RIVER BASIN

01586210 BEAVER RUN NEAR FINKSBURG, MD

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

DRAINAGE AREA.--14.0 mi².

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 (ice effect, backwater from leaves), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	2330	576	3.49				
Dec. 13	1045	*617	*3.59	Dec. 13	1600	546	3.42

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	23	91	29	25	30	27	18	13	7.3	3.8	3.5
2	18	22	116	29	24	25	25	18	35	8.2	3.8	5.4
3	17	21	44	29	24	59	25	20	19	8.1	3.7	4.1
4	15	20	38	28	24	41	24	18	16	7.2	3.6	3.2
5	15	20	34	28	32	33	24	17	14	6.5	4.0	3.0
6	15	20	89	27	26	33	23	17	14	6.3	3.8	2.9
7	15	19	67	26	24	28	23	16	13	6.1	3.8	2.9
8	53	101	50	26	25	27	22	16	13	6.1	3.5	2.9
9	27	53	43	27	24	26	22	17	13	5.9	3.4	3.0
10	23	36	38	27	23	27	21	16	12	6.7	e3.4	9.1
11	19	30	37	26	23	26	21	16	11	6.0	e3.3	13
12	18	28	35	e24	23	24	23	15	11	5.6	e3.3	4.7
13	18	26	262	23	22	24	24	15	11	5.2	e4.0	3.9
14	17	26	88	24	26	42	21	15	11	5.1	e4.0	3.6
15	16	24	64	25	33	30	20	15	11	4.9	e3.4	3.5
16	16	23	57	34	27	26	20	15	10	4.6	e3.2	3.0
17	16	22	53	26	25	26	20	14	9.9	4.5	e6.5	3.0
18	81	22	48	e24	24	27	20	14	10	4.3	e6.5	3.3
19	161	22	54	e21	25	34	20	14	10	4.2	4.6	3.0
20	44	21	43	e22	24	30	20	14	9.6	4.1	5.6	2.9
21	36	20	38	e23	24	28	20	14	9.4	4.2	e4.6	2.9
22	34	20	37	25	24	27	20	14	9.2	4.3	e4.0	2.9
23	31	19	37	26	23	26	20	14	9.2	5.6	e3.9	2.9
24	30	19	42	46	22	25	20	14	8.4	6.3	e3.8	2.9
25	28	18	39	52	22	24	19	14	8.2	6.3	3.7	3.0
26	26	59	34	27	22	31	18	16	7.9	5.5	3.7	3.1
27	26	26	33	25	23	25	18	14	8.0	5.0	3.9	2.9
28	26	23	32	47	22	24	23	13	7.7	4.6	4.3	3.2
29	25	21	33	27	---	25	19	13	7.3	4.3	3.9	5.1
30	24	21	31	25	---	24	18	13	7.2	4.0	3.6	e3.7
31	23	---	30	25	---	41	---	13	---	4.0	3.5	---
TOTAL	929	825	1737	873	685	918	640	472	349.0	171.0	124.7	116.5
MEAN	30.0	27.5	56.0	28.2	24.5	29.6	21.3	15.2	11.6	5.52	4.00	3.88
MAX	161	101	262	52	33	59	27	20	35	8.2	6.5	13
MIN	15	18	30	21	22	24	18	13	7.2	4.0	3.2	2.9
CFSM	2.14	1.96	4.00	2.01	1.75	2.12	1.52	1.09	.83	.39	.29	.28
IN.	2.47	2.19	4.62	2.32	1.82	2.44	1.70	1.25	.93	.45	.33	.31

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

MEAN	10.6	15.0	19.8	20.5	22.5	26.5	25.4	22.4	13.2	11.1	10.3	8.40
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	8.20	8.41	10.7	13.8	11.9	10.1	5.50	4.30	4.00	2.78
(WY)	1987	1983	1983	1983	1992	1990	1985	1986	1986	1991	1997	1986

PATAPSCO RIVER BASIN

01586210 BEAVER RUN NEAR FINKSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1983 - 1997
ANNUAL TOTAL	11501	7839.6	
ANNUAL MEAN	31.4	21.5	17.1
HIGHEST ANNUAL MEAN			25.2
LOWEST ANNUAL MEAN			9.92
HIGHEST DAILY MEAN	528	Jan 19	528
LOWEST DAILY MEAN	11	Jan 7	2.1
ANNUAL SEVEN-DAY MINIMUM	13	Jun 10	2.2
INSTANTANEOUS PEAK FLOW		617 Dec 13	(c) 2150
INSTANTANEOUS PEAK STAGE		3.59 Dec 13	(d) 5.70
INSTANTANEOUS LOW FLOW		2.9 (f)	2.0
ANNUAL RUNOFF (CFSM)	2.24	1.53	1.22
ANNUAL RUNOFF (INCHES)	30.56	20.83	16.60
10 PERCENT EXCEEDS	48	37	30
50 PERCENT EXCEEDS	23	20	13
90 PERCENT EXCEEDS	16	3.8	5.2

a Sept. 6-8, 20-24, 27.

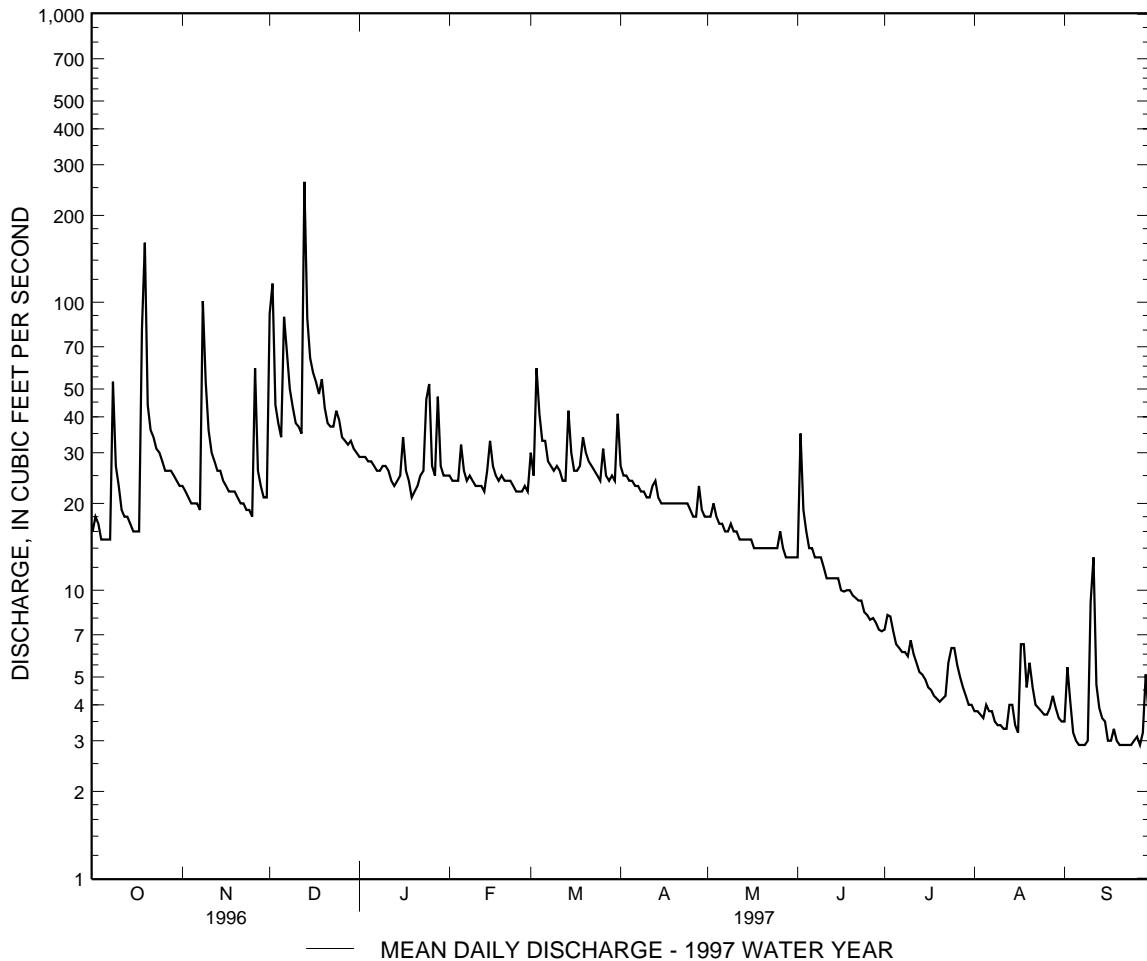
b Sept. 17, 18, 1986.

c From rating curve extended above 600 ft³/s.

d From floodmarks.

e Sept. 4-9, 16, 17, 19-28.

g Sept. 12, 1983, Sept. 17, 18, 1986.



PATAPSICO RIVER BASIN

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 mi².

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 and ice effect), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0145	893	4.54	Dec. 13	1445	*1,200	*5.17
Nov. 8	1915	836	4.41				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e36	47	183	67	55	62	64	35	23	13	8.7	7.3
2	e41	45	293	67	52	53	59	33	59	15	8.6	7.8
3	e38	42	108	67	50	147	57	36	35	15	8.6	8.0
4	36	41	86	65	53	106	55	33	28	13	8.7	6.8
5	35	40	77	65	72	82	52	32	26	12	10	6.5
6	34	40	202	61	57	82	51	30	24	12	9.4	6.6
7	31	40	174	58	53	70	51	29	24	12	8.5	6.7
8	113	260	136	55	55	67	48	29	23	11	8.0	6.9
9	70	145	107	58	53	62	47	31	22	11	7.7	6.9
10	57	86	90	59	50	62	46	29	21	13	7.7	12
11	46	69	86	56	49	59	44	28	21	11	7.6	17
12	42	62	79	52	48	56	52	28	21	11	7.5	9.6
13	40	58	586	e51	46	54	51	28	22	19	8.3	8.3
14	39	57	227	e49	57	87	43	28	21	33	8.6	7.7
15	38	55	159	55	74	69	41	27	20	19	7.9	7.5
16	37	53	139	71	64	59	41	27	19	11	7.4	7.3
17	37	51	128	53	57	57	41	26	19	10	13	6.9
18	95	51	113	e48	55	59	41	26	19	10	13	7.6
19	392	50	128	e46	55	76	39	26	19	9.8	8.4	6.8
20	114	48	105	e48	52	70	38	26	18	9.5	29	6.7
21	85	46	92	e48	48	64	39	25	17	9.8	15	6.3
22	78	45	89	50	49	62	39	24	17	9.9	10	6.2
23	70	43	89	57	44	58	38	23	16	12	9.1	6.4
24	64	42	96	75	43	56	37	23	15	14	8.6	6.4
25	59	42	84	107	42	53	36	26	14	13	8.3	6.5
26	57	129	74	59	44	68	35	29	14	12	8.2	6.5
27	53	58	74	55	48	58	36	24	15	11	8.1	6.1
28	52	50	71	87	43	55	48	23	14	11	8.8	6.4
29	50	48	73	60	---	56	37	22	13	11	8.5	9.0
30	50	48	69	55	---	54	35	24	13	9.4	7.6	6.5
31	48	---	69	56	---	98	---	23	---	8.9	7.5	---
TOTAL	2037	1891	4086	1860	1468	2121	1341	853	632	392.3	296.3	227.2
MEAN	65.7	63.0	132	60.0	52.4	68.4	44.7	27.5	21.1	12.7	9.56	7.57
MAX	392	260	586	107	74	147	64	36	59	33	29	17
MIN	31	40	69	46	42	53	35	22	13	8.9	7.4	6.1
CFSM	2.35	2.25	4.71	2.14	1.87	2.44	1.60	.98	.75	.45	.34	.27
IN.	2.71	2.51	5.43	2.47	1.95	2.82	1.78	1.13	.84	.52	.39	.30

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

MEAN	21.1	29.0	42.0	43.9	45.6	59.8	56.9	46.4	29.3	22.5	19.5	17.9
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	15.5	17.0	20.6	29.1	27.0	20.5	11.5	7.47	6.48	5.15
(WY)	1987	1992	1983	1992	1992	1985	1985	1986	1986	1986	1986	1986

PATAPSCO RIVER BASIN

01586610 MORGAN RUN NEAR LOUISVILLE, MD--Continued

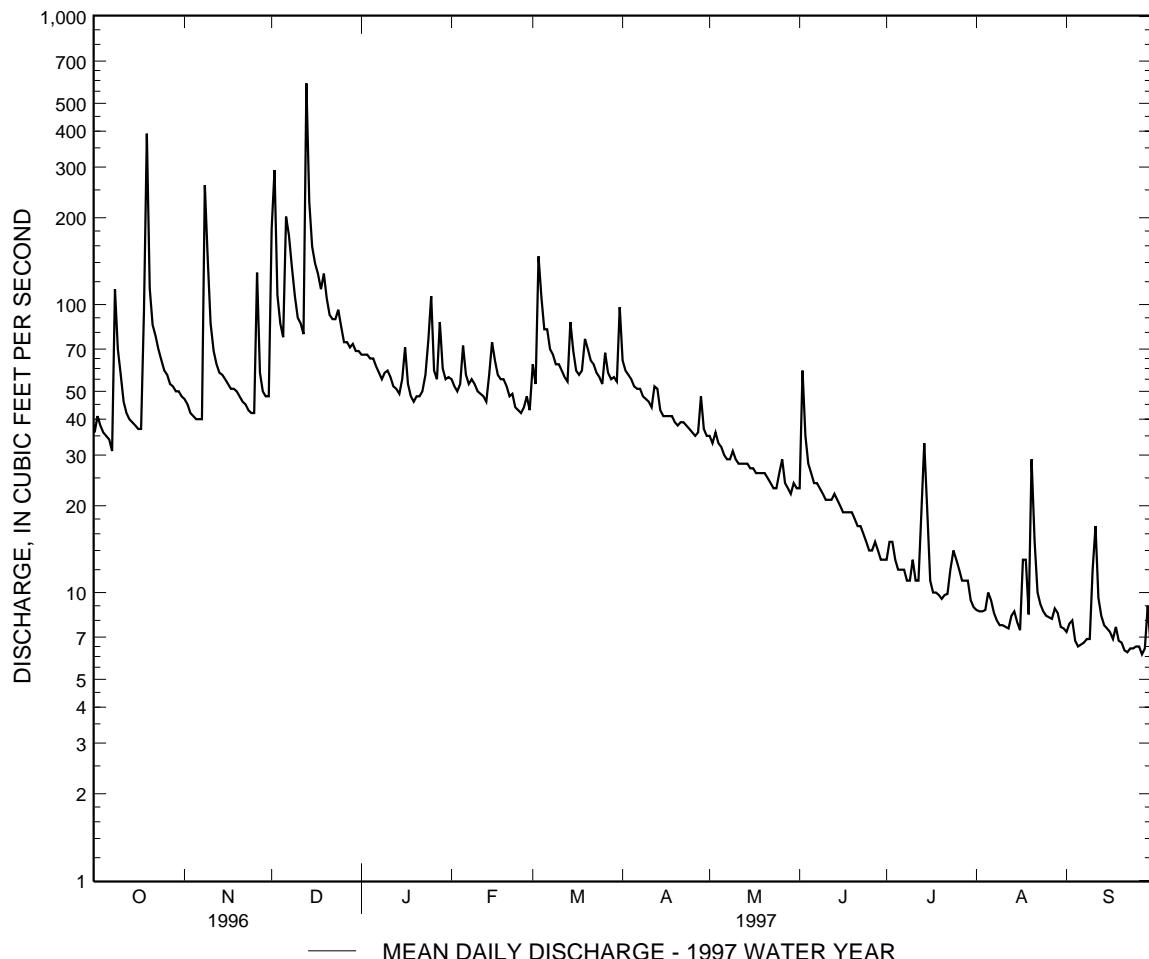
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1983 - 1997
ANNUAL TOTAL	26805	17204.8	
ANNUAL MEAN	73.2	47.1	36.1
HIGHEST ANNUAL MEAN			58.3
LOWEST ANNUAL MEAN			19.5
HIGHEST DAILY MEAN	1370	Jan 19	1370
LOWEST DAILY MEAN	(e)20	Jan 7	6.1
ANNUAL SEVEN-DAY MINIMUM	30	Jun 10	Sep 27
INSTANTANEOUS PEAK FLOW			5.3
INSTANTANEOUS PEAK STAGE			1200
INSTANTANEOUS LOW FLOW			Dec 13
ANNUAL RUNOFF (CFSM)	2.62	5.17	5.17
ANNUAL RUNOFF (INCHES)	35.61	22.86	1.68
10 PERCENT EXCEEDS	109	85	1.29
50 PERCENT EXCEEDS	50	41	17.53
90 PERCENT EXCEEDS	36	8.3	67
			25
			9.8

e Estimated.

a Sept. 18-20, 1986.

b From rating curve extended above 1,900 ft³/s.

c Sept. 21, 22, 27, 28.



PATAPSCO RIVER BASIN

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 mi².

PERIOD OF RECORD.--February 1957 to September 1988, October 1996 to September 1997.

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 except those for estimated daily discharges (ice effect), 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 collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21, 1956, reached a stage of 12.6 ft, discharge, 5,270 ft³/s on basis of contracted-opening measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0145	1,490	6.39	Dec. 6	0415	1,050	5.27
Nov. 9	0015	*3,040	*9.53	Dec. 13	1715	2,160	7.85
Nov. 26	0915	798	4.55	Jan. 25	0245	1,120	5.47
Dec. 1	1630	1,190	5.64	Mar. 3	1745	1,270	5.84
Dec. 2	0400	924	4.92	Aug. 20	1430	815	4.60

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	32	519	40	43	124	56	41	27	23	14	39
2	67	31	365	41	39	53	41	36	270	22	12	18
3	34	29	67	41	39	449	39	56	81	17	15	24
4	27	29	52	39	56	129	37	41	40	15	19	13
5	26	29	50	40	135	63	35	30	30	13	21	12
6	25	29	378	38	51	61	38	29	27	12	14	13
7	25	30	192	35	44	44	37	27	25	13	13	17
8	214	752	98	34	52	41	33	27	24	14	12	18
9	75	485	60	39	54	39	32	40	23	16	12	13
10	40	67	51	47	44	63	32	30	22	18	12	81
11	32	48	88	41	40	41	32	26	21	15	12	166
12	29	42	67	e33	40	37	59	26	21	15	12	27
13	28	38	1080	e32	38	36	49	27	24	16	20	18
14	27	37	200	e32	102	170	34	25	30	16	13	15
15	26	35	76	44	160	77	32	24	22	16	12	14
16	26	34	64	116	64	44	32	23	19	15	11	13
17	25	33	62	43	54	41	38	23	19	15	58	13
18	128	34	56	e36	44	54	35	23	19	14	51	13
19	603	33	85	e32	45	136	32	25	20	14	16	12
20	64	33	54	e32	41	67	31	24	18	13	303	12
21	46	33	46	33	40	49	37	21	17	14	59	12
22	41	33	45	42	40	44	37	20	17	15	23	11
23	37	33	47	e47	36	40	32	20	16	20	18	11
24	35	32	59	99	35	38	32	19	16	33	16	12
25	32	31	59	328	34	37	31	22	15	20	15	10
26	31	260	45	55	41	75	29	50	16	17	14	10
27	31	51	45	44	47	40	42	22	17	15	14	9.7
28	33	38	44	196	36	37	136	20	15	30	17	15
29	32	35	48	55	--	39	39	19	14	21	16	34
30	31	36	44	44	--	37	33	24	14	14	13	13
31	31	--	42	43	--	164	--	20	--	12	13	--
TOTAL	1927	2462	4188	1821	1494	2369	1202	860	939	523	870	688.7
MEAN	62.2	82.1	135	58.7	53.4	76.4	40.1	27.7	31.3	16.9	28.1	23.0
MAX	603	752	1080	328	160	449	136	56	270	33	303	166
MIN	25	29	42	32	34	36	29	19	14	12	11	9.7
CFSM	1.91	2.53	4.16	1.81	1.64	2.35	1.23	.85	.96	.52	.86	.71
IN.	2.21	2.82	4.79	2.08	1.71	2.71	1.38	.98	1.07	.60	1.00	.79

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1988, 1997, BY WATER YEAR (WY)

MEAN	33.5	42.9	43.5	52.3	54.0	49.7	42.0	36.2	25.7	29.2	31.8
MAX	111	82.1	135	146	130	103	129	78.9	244	79.5	186
(WY)	1980	1997	1997	1979	1979	1978	1973	1983	1972	1975	1984
MIN	7.10	10.4	9.18	10.5	23.0	21.4	20.7	14.4	8.95	6.37	5.02
(WY)	1964	1966	1966	1981	1969	1981	1963	1969	1986	1966	1986

PATAPSCO RIVER BASIN

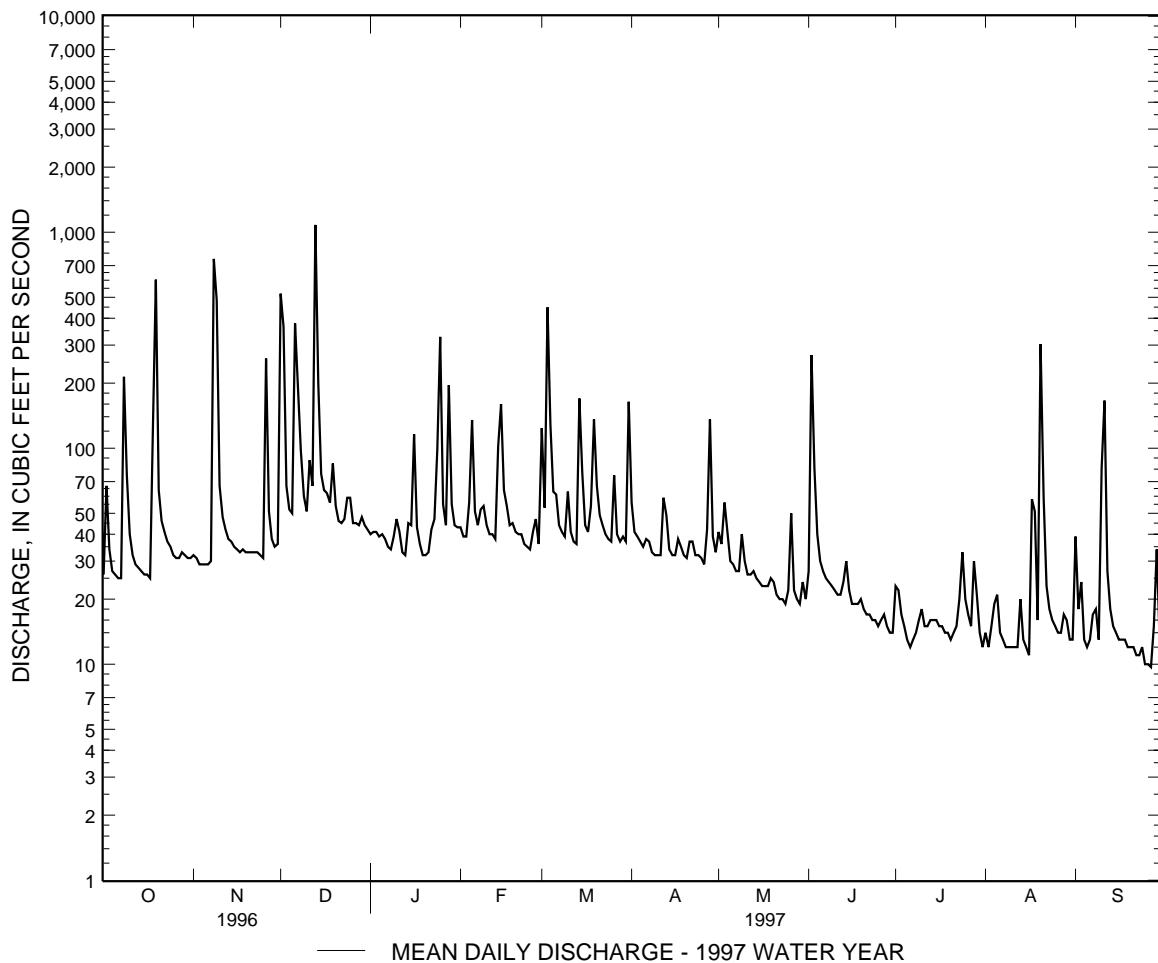
01589300 GWYNNS FALLS AT VILLA NOVA, MD--Continued

SUMMARY STATISTICS	FOR 1997 WATER YEAR	WATER YEARS 1957 - 1988 1997
ANNUAL TOTAL	19343.7	
ANNUAL MEAN	53.0	39.1
HIGHEST ANNUAL MEAN		76.8
LOWEST ANNUAL MEAN		20.5
HIGHEST DAILY MEAN	1080	5000
LOWEST DAILY MEAN	9.7	1.7
ANNUAL SEVEN-DAY MINIMUM	11	2.1
INSTANTANEOUS PEAK FLOW	3040	(b) 16200
INSTANTANEOUS PEAK STAGE	9.53	(c) 21.50
INSTANTANEOUS LOW FLOW	7.5	1.7
ANNUAL RUNOFF (CFSM)	1.63	1.20
ANNUAL RUNOFF (INCHES)	22.14	16.34
10 PERCENT EXCEEDS	75	65
50 PERCENT EXCEEDS	33	22
90 PERCENT EXCEEDS	14	9.5

a Sept. 7, 8, 1966.

b From rating curve extended above 4,200 ft³/s on basis of contracted-opening measurement of peak flow.

c From floodmark.



PATAPSCO RIVER BASIN

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 mi².

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 (ice effect), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0145	881	7.24	Dec. 13	1645	1,410	8.34
Nov. 8	2145	*1,620	*8.71	Jan. 25	0115	906	7.30
Dec. 1	1645	621	6.55	Mar. 3	1800	717	6.82

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	30	252	43	46	74	55	41	25	20	9.7	19
2	43	30	191	44	43	48	47	37	161	19	9.5	28
3	33	29	52	44	43	244	44	46	63	17	10	18
4	29	28	41	43	50	92	42	37	37	16	12	12
5	28	29	37	44	87	61	41	33	30	15	12	11
6	27	29	216	42	51	60	44	33	28	14	10	11
7	28	29	107	41	46	51	42	31	27	14	9.6	11
8	94	519	69	40	49	50	39	31	27	13	9.4	12
9	48	215	46	44	49	47	38	38	25	13	9.0	12
10	34	64	40	47	45	61	38	33	23	13	9.1	26
11	28	50	55	43	44	47	38	31	23	13	9.1	91
12	27	43	47	39	43	44	51	30	23	12	8.8	18
13	27	39	673	e38	42	42	46	30	24	12	9.5	14
14	26	37	168	e38	69	101	38	29	24	12	9.5	12
15	25	35	81	42	101	64	37	29	23	12	9.4	11
16	26	34	70	78	60	48	37	28	21	11	8.9	11
17	26	34	67	54	51	45	43	27	21	11	17	11
18	88	33	60	e41	49	51	39	27	21	11	17	11
19	321	33	70	e37	48	83	37	28	21	10	11	9.9
20	51	32	55	e37	46	59	36	27	20	10	124	9.7
21	40	32	50	e37	45	50	38	25	21	11	27	9.8
22	38	32	50	e40	45	48	38	25	19	11	14	9.7
23	36	31	51	44	43	45	36	24	18	12	13	9.5
24	35	31	57	84	42	43	37	23	17	17	13	9.5
25	33	31	54	246	42	43	36	26	17	14	11	9.3
26	32	128	48	55	45	60	35	35	17	13	11	9.1
27	31	39	48	48	48	45	39	26	17	12	11	8.6
28	32	33	48	107	41	43	80	24	16	12	14	10
29	31	31	48	54	---	44	40	23	16	12	12	17
30	31	32	46	47	---	42	36	25	15	11	11	10
31	29	---	45	47	---	89	---	24	---	10	11	---
TOTAL	1405	1792	2942	1688	1413	1924	1247	926	840	403	472.5	461.1
MEAN	45.3	59.7	94.9	54.5	50.5	62.1	41.6	29.9	28.0	13.0	15.2	15.4
MAX	321	519	673	246	101	244	80	46	161	20	124	91
MIN	25	28	37	37	41	42	35	23	15	10	8.8	8.6
CFSM	1.80	2.37	3.77	2.16	2.00	2.46	1.65	1.19	1.11	.52	.60	.61
IN.	2.07	2.65	4.34	2.49	2.09	2.84	1.84	1.37	1.24	.59	.70	.68

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1988, 1997, BY WATER YEAR (WY)

MEAN	25.0	27.6	35.7	35.7	40.5	41.8	40.9	34.8	31.2	25.2	23.3	26.5
MAX	100	60.4	94.9	105	97.9	70.1	95.7	66.7	150	73.0	72.3	132
(WY)	1980	1973	1997	1979	1979	1978	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	1986	1986

PATAPSCO RIVER BASIN

01589440 JONES FALLS AT SORRENTO, MD--Continued

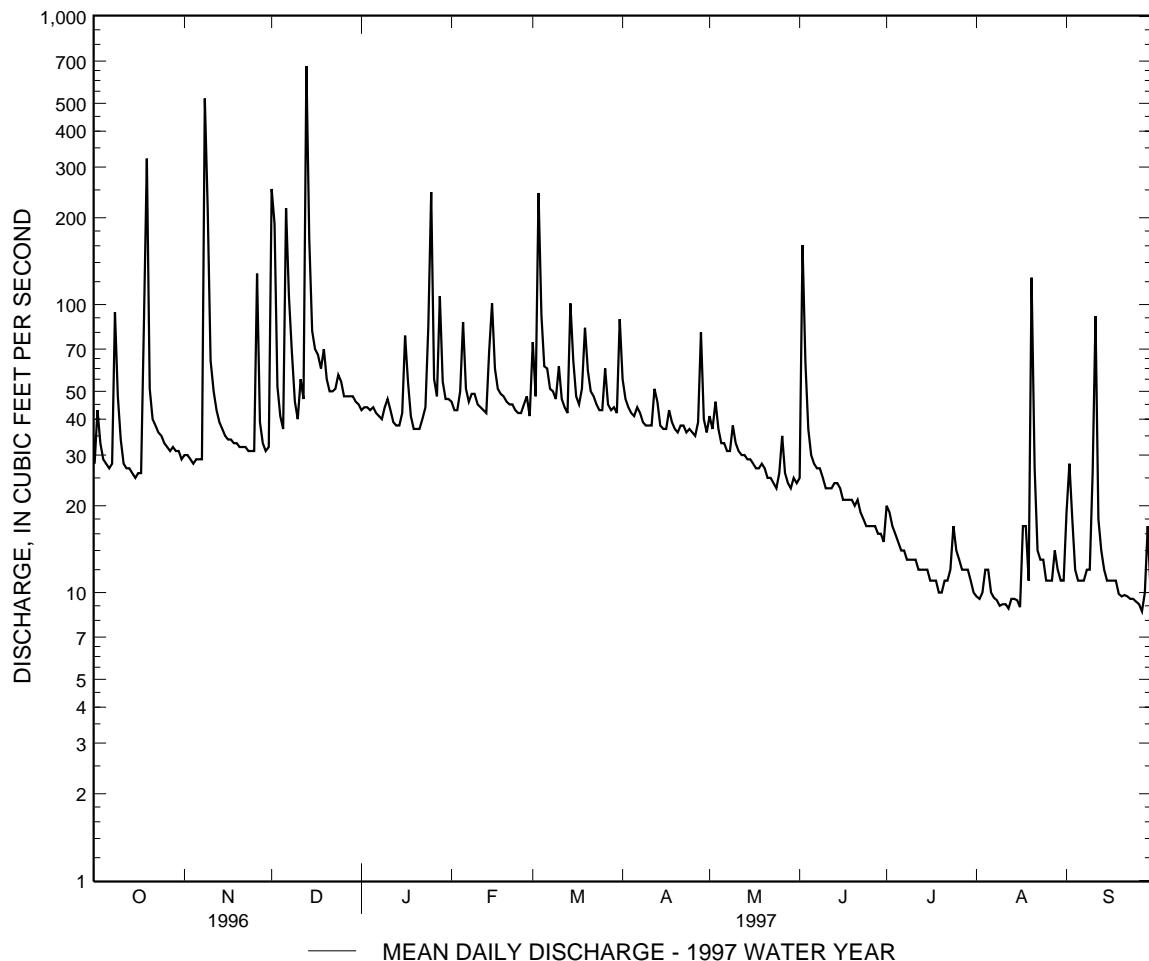
SUMMARY STATISTICS	FOR 1997 WATER YEAR	WATER YEARS 1966 - 1988 1997
ANNUAL TOTAL	15513.6	
ANNUAL MEAN	42.5	32.7
HIGHEST ANNUAL MEAN		62.5 1972
LOWEST ANNUAL MEAN		17.0 1986
HIGHEST DAILY MEAN	673 Dec 13	2600 Jun 22 1972
LOWEST DAILY MEAN	8.6 Sep 27	2.1 (a)
ANNUAL SEVEN-DAY MINIMUM	9.2 Aug 10	2.2 Aug 28 1966
INSTANTANEOUS PEAK FLOW	1620 Nov 8	(b) 13800 Jun 22 1972
INSTANTANEOUS PEAK STAGE	8.71 Nov 8	(c) 18.11 Jun 22 1972
INSTANTANEOUS LOW FLOW	8.0 Aug 17	1.8 (d)
ANNUAL RUNOFF (CFSM)	1.69	1.30
ANNUAL RUNOFF (INCHES)	22.90	17.62
10 PERCENT EXCEEDS	63	53
50 PERCENT EXCEEDS	34	22
90 PERCENT EXCEEDS	11	9.6

a Sept. 2, 3, 7, 1966

b From rating curve extended above 1,400 ft³/s on the basis of slope-area measurement of peak flow.

c From floodmarks.

d Sept. 7, 8, 1966.



PATAPSICO RIVER BASIN

01589500 SAWMILL CREEK AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'12", long 76°37'51", Anne Arundel County, Hydrologic Unit 02060003, on left bank 300 ft upstream from bridge on State Highway 648, 0.25 mi southeast of State Highway 3, and 0.5 mi northwest of Glen Burnie.

DRAINAGE AREA.--4.97 mi².

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 (ice effect, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0230	59	3.06	Mar. 3	1900	65	3.19
Nov. 8	2230	36	2.63	May 26	0045	52	2.92
Dec. 2	0415	31	2.53	Aug. 20	1615	69	3.25
Dec. 13	1545	*84	*3.51				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.8	13	6.8	6.8	13	8.8	8.2	6.6	4.9	3.5	4.0
2	5.6	4.7	20	7.1	6.5	10	7.7	7.6	19	5.3	3.6	3.5
3	5.0	4.5	8.2	7.0	6.3	27	7.4	8.1	20	5.3	3.6	3.3
4	4.2	4.5	6.2	6.8	7.7	20	7.3	7.7	10	4.6	3.7	3.1
5	4.1	4.5	5.8	7.0	14	11	7.2	6.8	7.7	4.4	4.8	3.1
6	4.1	4.5	17	6.7	8.3	9.6	7.6	6.8	7.0	4.2	4.5	3.2
7	4.3	4.9	11	6.5	7.0	8.2	7.6	6.5	6.8	4.4	3.8	3.3
8	13	12	11	6.5	7.8	8.0	7.0	6.5	6.5	4.4	3.6	3.4
9	11	21	7.2	7.2	7.9	7.9	6.8	7.2	6.1	4.4	3.4	3.2
10	6.8	7.5	6.2	8.2	7.1	11	6.8	7.0	5.8	4.3	3.4	3.5
11	5.0	5.8	6.3	7.5	6.8	8.6	6.8	6.4	5.5	3.9	3.4	4.4
12	4.7	5.4	6.4	6.5	6.7	7.9	8.5	6.6	5.6	3.8	3.5	3.5
13	4.5	5.1	45	6.2	6.4	7.9	8.9	6.6	6.6	3.7	3.5	3.2
14	4.5	5.1	28	6.2	10	13	7.1	6.5	6.4	3.7	3.4	3.0
15	4.3	5.0	11	e6.5	16	11	6.8	7.0	5.7	3.7	3.3	3.0
16	4.3	4.8	8.9	e13	9.1	8.2	6.8	6.6	5.2	3.6	3.2	3.0
17	4.3	4.9	8.6	7.4	7.2	7.9	7.5	5.7	5.3	3.5	6.7	3.0
18	6.7	5.1	8.3	6.1	6.8	8.3	7.5	5.6	5.9	3.7	8.5	3.0
19	31	5.0	9.8	5.7	6.8	13	6.8	5.8	6.7	4.1	4.2	3.0
20	9.4	5.1	8.0	e5.7	6.6	9.9	6.5	5.8	5.3	3.5	26	3.0
21	6.2	4.8	7.2	e5.6	6.7	8.4	7.0	5.5	5.0	3.7	12	3.0
22	5.6	4.6	7.3	e5.6	6.8	8.0	7.4	5.4	4.9	3.8	5.0	2.9
23	5.4	4.5	7.5	e6.5	6.3	7.9	7.0	5.3	4.8	5.2	4.1	3.0
24	5.2	4.5	8.1	e7.5	6.2	7.7	7.5	5.3	4.6	6.4	3.8	3.0
25	4.9	4.6	8.1	18	6.2	7.5	6.7	12	4.6	4.9	3.7	3.1
26	4.8	11	7.2	8.1	6.7	12	6.5	23	5.6	4.4	3.6	3.0
27	4.8	6.2	7.3	6.9	7.1	8.5	8.2	8.2	5.9	4.1	3.6	2.9
28	5.0	4.9	7.2	11	6.4	7.9	18	7.0	4.7	4.6	3.6	3.9
29	5.0	4.8	8.0	8.0	---	8.2	9.0	6.7	4.6	4.9	3.4	4.8
30	4.9	4.9	7.4	6.9	---	7.7	7.7	6.7	4.6	3.6	3.2	3.3
31	4.7	---	7.1	6.9	---	13	---	6.3	---	3.5	3.2	---
TOTAL	197.7	179.0	328.3	231.6	214.2	318.2	232.4	226.4	203.0	132.5	152.8	98.6
MEAN	6.38	5.97	10.6	7.47	7.65	10.3	7.75	7.30	6.77	4.27	4.93	3.29
MAX	31	21	45	18	16	27	18	23	20	6.4	26	4.8
MIN	4.1	4.5	5.8	5.6	6.2	7.5	6.5	5.3	4.6	3.5	3.2	2.9
CFSM	1.28	1.20	2.13	1.50	1.54	2.07	1.56	1.47	1.36	.86	.99	.66
IN.	1.48	1.34	2.46	1.73	1.60	2.38	1.74	1.69	1.52	.99	1.14	.74

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1952, 1983 - 1997 BY WATER YEAR (WY)

MEAN	3.66	4.23	4.78	5.02	5.06	5.98	5.65	5.71	5.00	4.58	4.52	4.38
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	1952	1952	1948	1952	1948	1952	1952
MIN	.030	.19	.13	.30	.76	.75	.11	.081	.10	.15	.024	
(WY)	1987	1987	1989	1989	1989	1986	1985	1986	1985	1986	1986	1986

PATAPSICO RIVER BASIN

01589500 SAWMILL CREEK AT GLEN BURNIE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1944 - 1997 1983 - 1997
ANNUAL TOTAL	2330.5	2514.7	4.88
ANNUAL MEAN	6.37	6.89	11.0 .43
HIGHEST ANNUAL MEAN			1949 1986
LOWEST ANNUAL MEAN			
HIGHEST DAILY MEAN	54	Jan 19	84
LOWEST DAILY MEAN	1.9	Jan 7	.01 (b)
ANNUAL SEVEN-DAY MINIMUM	3.3	Jan 11	.01 Jul 25 1986
INSTANTANEOUS PEAK FLOW			
INSTANTANEOUS PEAK STAGE			(c) 178 Aug 29 1989
INSTANTANEOUS LOW FLOW			5.12 Aug 29 1989
ANNUAL RUNOFF (CFSM)	1.28	1.39	.00 (f)
ANNUAL RUNOFF (INCHES)	17.44	18.82	.98 13.33
10 PERCENT EXCEEDS	9.1	10	9.4
50 PERCENT EXCEEDS	4.9	6.4	4.3
90 PERCENT EXCEEDS	3.8	3.5	.41

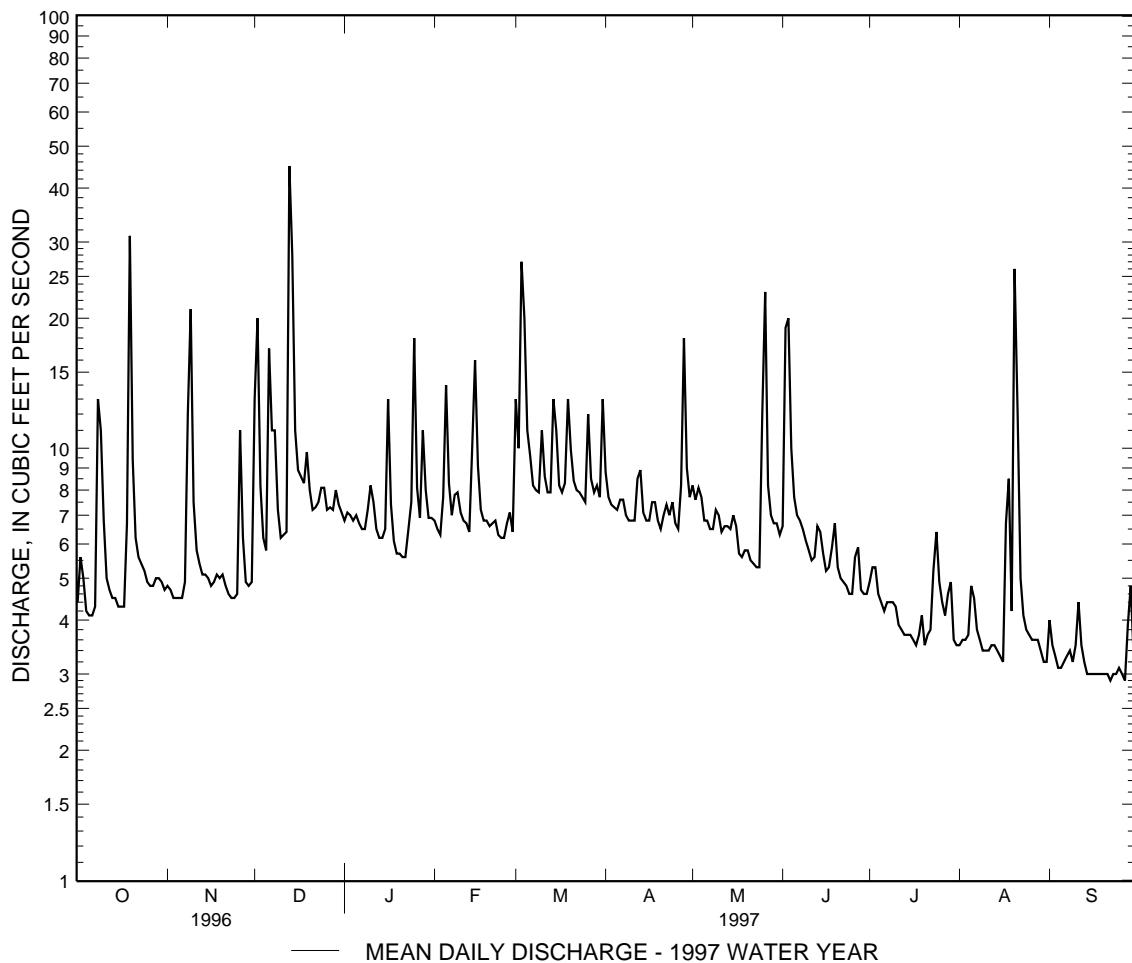
a Sept. 22, 27.

b Many days in 1985-87.

c From rating curve extended above 157 ft³/s, on basis of contracted-opening measurement at gage height 4.77 ft.

d Sept. 16-23, 26-28.

f Part of each day Sept. 6, 7, 1985, July 29, Aug. 2, 1986.



PATAPSCO RIVER BASIN

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 mi².

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 (missing record, backwater), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft³/s and maximum (*):

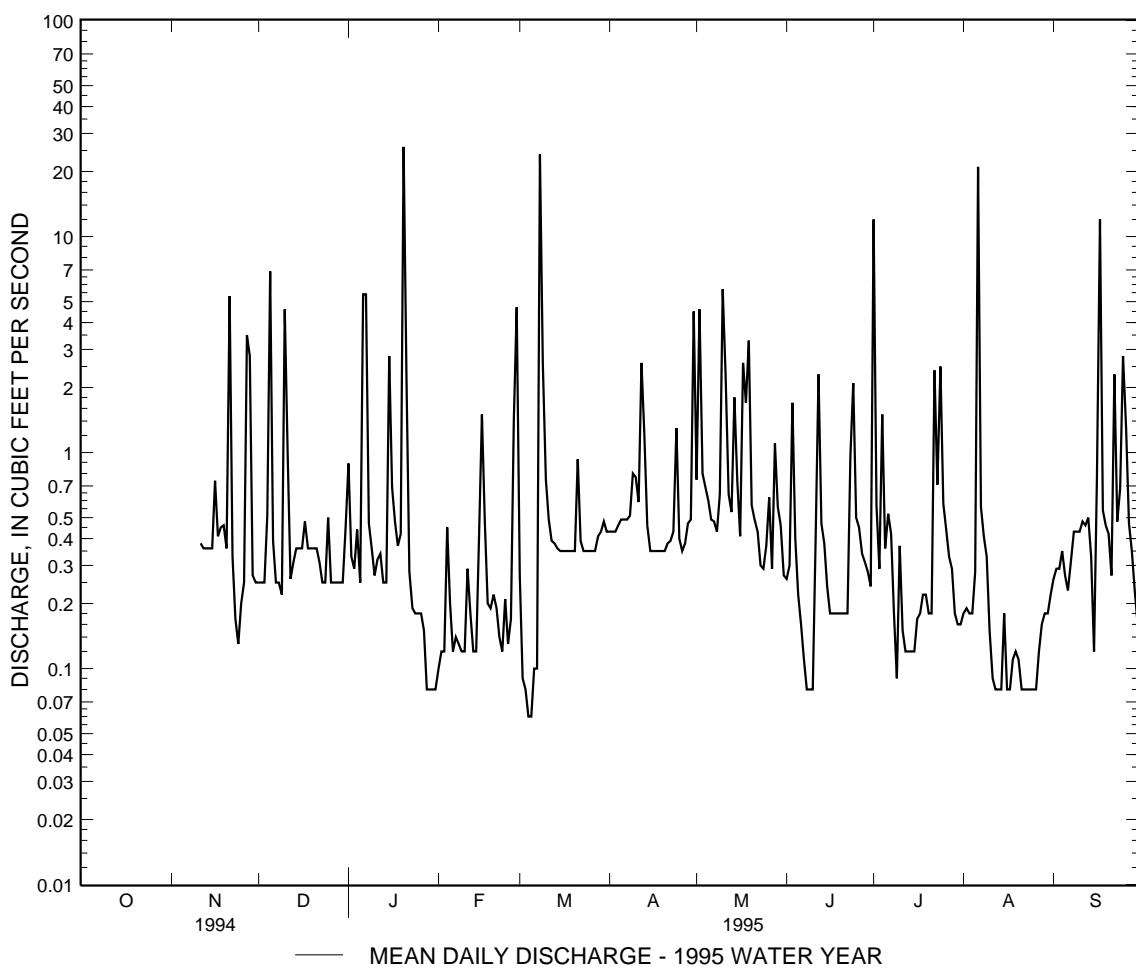
Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 20, 1995	0530	136	2.55	Sep. 17, 1995	0445	69	2.03
Mar. 8, 1995	1600	73	2.07				
July 1, 1995	1500	70	2.04	Dec. 13, 1996	1515	*53	*1.83
Aug. 6, 1995	0930	*147	*2.62	Aug. 20, 1997	1515	51	1.80

DISCHARGE, IN CUBIC FEET PER SECOND, NOVEMBER 1994 TO SEPTEMBER 1995
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.25	.89	.10	.27	.43	.75	.26	12	.18	.26
2	---	---	.25	.33	.12	.09	.43	4.6	.30	.57	.19	.29
3	---	---	.25	.29	.12	.08	.43	.80	1.7	.29	.18	.29
4	---	---	.51	.44	.45	.06	.46	.69	.40	1.5	.18	.35
5	---	---	6.9	.25	.20	.06	.49	.60	.22	.36	.28	.27
6	---	---	.39	5.4	.12	.10	.49	.49	.16	.52	21	.23
7	---	---	.25	5.4	.14	.10	.49	.48	.11	.42	.56	.31
8	---	---	.25	.47	.13	24	.51	.43	.08	.18	.41	.43
9	---	---	.22	.36	.12	2.6	.80	.64	.08	.09	.33	.43
10	---	---	4.6	.27	.12	.75	.77	5.7	.08	.37	.15	.43
11	---	.38	1.0	.32	.29	.49	.59	2.3	.40	.15	.09	.48
12	---	.36	.26	.34	.18	.39	2.6	.64	2.3	.12	.08	.46
13	---	.36	.31	.25	.12	.38	1.2	.53	.47	.12	.08	.50
14	---	.36	.36	.25	.12	.36	.46	1.8	.38	.12	.08	.33
15	---	.36	.36	2.8	.41	.35	.35	.74	.24	.12	.18	.12
16	---	.74	.36	.69	1.5	.35	.35	.41	.18	.17	.08	.76
17	---	.41	.48	.48	.48	.35	.35	2.6	.18	.18	.08	12
18	---	.45	.36	.37	.20	.35	.35	1.7	.18	.22	.11	.54
19	---	.46	.36	.42	.19	.35	.35	3.3	.18	.22	.12	.46
20	---	.36	.36	26	.22	.35	.35	.57	.18	.18	.11	.42
21	---	5.3	.36	2.2	.19	.93	.38	.49	.18	.18	.08	.27
22	---	.33	.31	.28	.14	.39	.39	.43	.18	2.4	.08	2.3
23	---	.17	.25	.19	.12	.35	.43	.30	.96	.71	.08	.48
24	---	.13	.25	.18	.21	.35	1.3	.29	2.1	2.5	.08	.68
25	---	.20	.50	.18	.13	.35	.40	.37	.50	.58	.08	2.8
26	---	.25	.25	.18	.17	.35	.35	.62	.45	.44	.08	1.3
27	---	3.5	.25	.15	1.4	.35	.38	.29	.34	.33	.12	.47
28	---	2.8	.25	.08	4.7	.41	.47	1.1	.31	.29	.16	.35
29	---	.27	.25	.08	---	.43	.49	.56	.28	.18	.18	.23
30	---	.25	.25	.08	---	.48	4.5	.46	.24	.16	.18	.16
31	---	---	.45	.08	---	.43	---	.27	---	.16	.22	---
TOTAL	---	---	21.45	49.70	12.39	36.65	21.34	34.95	13.62	25.83	25.81	28.40
MEAN	---	---	.69	1.60	.44	1.18	.71	1.13	.45	.83	.83	.95
MAX	---	---	6.9	26	4.7	24	4.5	5.7	2.3	12	21	12
MIN	---	---	.22	.08	.10	.06	.35	.27	.08	.09	.08	.12
CFSM	---	---	1.19	2.76	.76	2.04	1.23	1.94	.78	1.44	1.44	1.63
IN.	---	---	1.38	3.19	.79	2.35	1.37	2.24	.87	1.66	1.66	1.82

PATAPSCO RIVER BASIN

01589501 SAWMILL CREEK TRIBUTARY AT BWI AIRPORT NEAR FERNDALE, MD--Continued



PATAPSICO RIVER BASIN

01589501 SAWMILL CREEK TRIBUTARY AT BWI AIRPORT NEAR FERNDALE, 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	e.21	.66	11	.25	.35	8.0	1.2	1.3	.83	.47	.21	3.2
2	e.70	e.28	13	.24	.35	2.4	.42	.79	9.4	.72	.19	.25
3	e.32	e.27	.38	.24	.35	14	.39	1.7	13	.29	.23	.24
4	.19	e.27	.29	.24	2.9	13	.38	.60	4.2	.26	.24	.24
5	.19	e.27	1.1	.27	6.9	1.2	.35	.29	.35	.24	.38	.28
6	.19	e.27	12	.24	.46	.72	.92	.29	.32	.25	.26	.24
7	.24	e.55	6.4	.24	.38	.37	.43	.29	.30	.24	.24	.70
8	12	11	.96	.24	2.1	.38	.35	.30	.29	.24	.24	.25
9	5.6	15	.39	1.1	1.5	.42	.35	1.1	.29	.26	.24	.19
10	1.1	.20	.29	1.8	.49	3.6	.35	.38	.29	.24	.24	.64
11	.26	.18	1.9	.54	.45	.39	.35	.29	.29	.24	.24	.43
12	.24	.18	.78	.29	.51	.35	3.1	.29	.28	.25	.29	.21
13	.24	.18	25	.25	.37	.35	.76	.29	.29	.27	.31	.19
14	.24	.49	16	.24	6.0	6.9	.29	.27	.29	.29	.29	.19
15	.24	.68	.45	.29	7.8	2.2	.29	.30	.29	.24	.29	.19
16	.24	.18	.41	5.8	.52	.39	.29	.26	.29	.24	.32	.19
17	.29	.18	.54	.35	.37	.35	1.4	.24	.29	.27	1.8	.19
18	4.0	.25	.41	.29	.35	1.5	.48	.29	1.2	.42	6.2	.28
19	23	.24	2.8	.29	.38	5.5	.35	.29	.93	.22	.43	.23
20	.83	.24	.31	.29	.36	.59	.35	.34	.24	.19	16	.24
21	.30	.24	.29	.29	.38	.41	1.1	.29	.24	.19	13	.24
22	.29	.24	.29	1.7	.41	.41	.52	.29	.27	.19	1.3	.24
23	.29	.26	.29	.94	.41	.41	.35	.29	.29	1.1	.41	.29
24	.33	.29	1.9	2.4	.41	.36	.86	.35	.29	1.1	.40	.41
25	.29	.29	.49	13	.41	.35	.35	3.7	.32	.31	.35	.49
26	.29	8.0	.29	.32	1.1	3.8	.35	11	1.9	.26	.35	.41
27	.35	.26	.40	.29	.53	.41	1.9	.44	1.4	.24	.35	.36
28	.63	.24	.29	6.2	.35	.35	11	.29	.24	2.4	.37	2.4
29	.30	.24	.95	.34	--	1.1	.61	.27	.24	1.2	.32	1.3
30	.38	.62	.31	.30	--	.46	.35	.44	.24	.24	.32	.19
31	.48	--	.29	.35	--	7.2	--	.29	--	.24	.31	--
TOTAL	54.25	42.25	100.20	39.62	36.89	77.87	30.19	27.55	39.09	13.31	46.12	14.90
MEAN	1.75	1.41	3.23	1.28	1.32	2.51	1.01	.89	1.30	.43	1.49	.50
MAX	23	15	25	13	7.8	14	11	11	13	2.4	16	3.2
MIN	.19	.18	.29	.24	.35	.35	.29	.24	.24	.19	.19	.19
CFSM	3.02	2.43	5.57	2.20	2.27	4.33	1.74	1.53	2.25	.74	2.57	.86
IN.	3.48	2.71	6.43	2.54	2.37	4.99	1.94	1.77	2.51	.85	2.96	.96

e Estimated

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

MEAN	1.75	1.41	1.96	1.44	.88	1.85	.86	1.01	.88	.63	1.16	.72
MAX	1.75	1.41	3.23	1.60	1.32	2.51	1.01	1.13	1.30	.83	1.49	.95
(WY)	1997	1997	1997	1995	1997	1997	1997	1995	1997	1995	1997	1995
MIN	1.75	1.41	.69	1.28	.44	1.18	.71	.89	.45	.43	.83	.50
(WY)	1997	1997	1995	1997	1995	1995	1997	1995	1997	1997	1995	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1995, 1997

ANNUAL TOTAL					522.24							
ANNUAL MEAN					1.43					1.43		
HIGHEST ANNUAL MEAN										1.43		1997
LOWEST ANNUAL MEAN										1.43		1997
HIGHEST DAILY MEAN					25	Dec 13				26	Jan 20	1995
LOWEST DAILY MEAN					.18	(a)				.06	(b)	
ANNUAL SEVEN-DAY MINIMUM					.21	Sep 12				.08	Aug 20	1995
INSTANTANEOUS PEAK FLOW					53	Dec 13				147	Aug 6	1995
INSTANTANEOUS PEAK STAGE					1.83	Dec 13				2.62	Aug 6	1995
INSTANTANEOUS LOW FLOW					.13	Nov 13				.06	(c)	
ANNUAL RUNOFF (CFSM)					2.47					2.47		
ANNUAL RUNOFF (INCHES)					33.50					33.52		
10 PERCENT EXCEEDS					3.4					2.3		
50 PERCENT EXCEEDS					.35					.35		
90 PERCENT EXCEEDS					.24					.18		

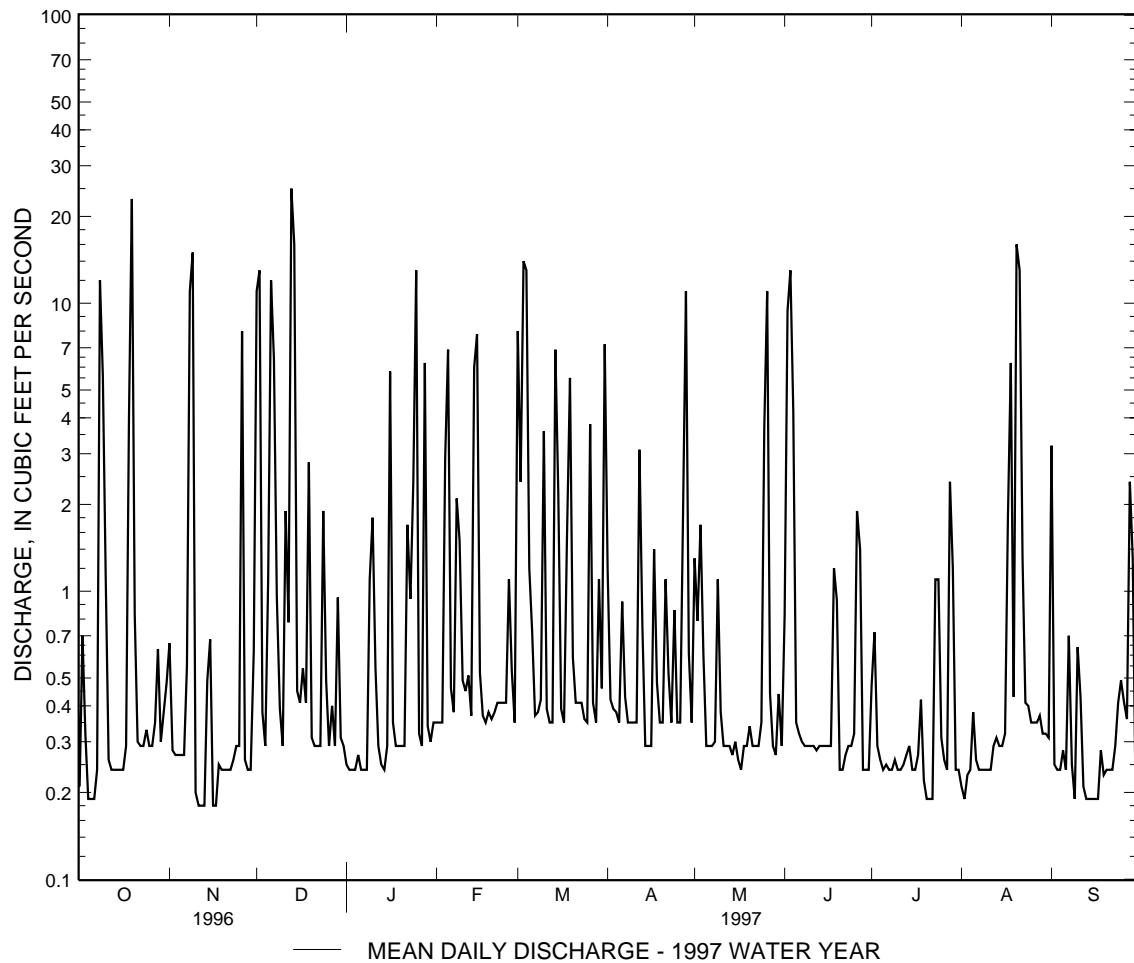
a Nov. 11-13, 16, 17.

b Mar. 4, 5, 1995.

c Mar. 4-6, 1995.

PATAPSCO RIVER BASIN

01589501 SAWMILL CREEK TRIBUTARY AT BWI AIRPORT NEAR FERNDALE, MD--Continued



PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD

LOCATION.--Lat 39°14'18", long 77°03'23", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 0.6 mi upstream from Cattail Creek, 0.8 mi upstream from Triadelphia Reservoir, 1.1 mi northeast of Unity, and 97 mi upstream from mouth.

DRAINAGE AREA.--34.8 mi².

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.--Water-discharge records good except those for estimated daily discharges (ice effect), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 770 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0630	1,220	6.46	Dec. 13	1730	*1,290	*6.60
Nov. 8	2215	1,260	6.54	Mar. 3	1915	830	5.58
Dec. 2	0445	958	5.90				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	51	278	71	64	85	69	42	25	13	7.4	7.9
2	51	49	412	72	59	74	63	40	48	16	7.3	7.3
3	45	47	130	70	58	295	61	46	40	16	7.6	7.1
4	40	46	103	68	60	164	58	43	32	13	9.7	6.2
5	38	45	92	67	87	109	56	39	27	12	9.9	5.6
6	38	45	284	64	67	99	56	38	26	11	9.5	5.6
7	38	46	227	62	61	83	55	35	25	11	8.4	5.6
8	127	381	164	59	63	77	51	35	24	11	7.5	5.4
9	87	258	125	63	61	72	50	40	23	11	6.9	5.6
10	60	103	109	65	58	76	49	37	22	13	6.7	13
11	49	81	122	62	57	69	49	35	21	11	6.5	19
12	46	72	113	58	57	65	59	34	21	10	6.5	11
13	45	67	638	e58	55	63	63	34	22	9.8	7.4	8.7
14	43	65	251	e58	64	87	50	33	24	9.4	7.4	7.9
15	41	62	161	e55	100	77	49	32	23	9.0	6.8	7.6
16	40	59	139	86	83	65	47	30	20	8.7	6.2	7.5
17	40	58	130	67	69	62	48	31	19	8.5	6.8	7.0
18	90	58	117	e60	64	65	49	30	19	8.3	12	7.8
19	543	58	135	e56	64	106	45	31	22	8.1	8.4	7.2
20	124	56	108	e55	62	88	44	30	19	7.6	34	6.7
21	92	55	96	54	60	75	46	28	18	7.9	20	6.5
22	81	54	93	56	60	70	47	27	17	8.2	11	6.3
23	74	53	95	66	57	64	44	26	16	9.3	9.3	6.3
24	68	53	101	83	55	61	44	26	15	12	8.8	6.3
25	63	53	98	168	54	59	44	28	14	12	8.4	6.5
26	60	165	85	73	56	84	41	34	15	11	8.4	6.4
27	58	75	84	63	61	65	43	28	16	9.7	8.4	6.0
28	58	63	81	112	55	61	71	26	14	9.4	8.0	7.2
29	56	60	83	75	---	61	48	24	13	16	7.6	12
30	55	59	79	65	---	58	44	26	13	8.9	7.4	8.1
31	52	---	75	65	---	107	---	25	---	7.6	7.2	---
TOTAL	2343	2397	4808	2156	1771	2646	1543	1013	653	329.4	287.4	231.3
MEAN	75.6	79.9	155	69.5	63.3	85.4	51.4	32.7	21.8	10.6	9.27	7.71
MAX	543	381	638	168	100	295	71	46	48	16	34	19
MIN	38	45	75	54	54	58	41	24	13	7.6	6.2	5.4
CFSM	2.17	2.30	4.46	2.00	1.82	2.45	1.48	.94	.63	.31	.27	.22
IN.	2.50	2.56	5.14	2.30	1.89	2.83	1.65	1.08	.70	.35	.31	.25

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1997, BY WATER YEAR (WY)

MEAN	22.4	29.5	41.4	48.0	55.0	62.0	58.4	49.5	36.5	26.5	22.3	26.8
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

PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

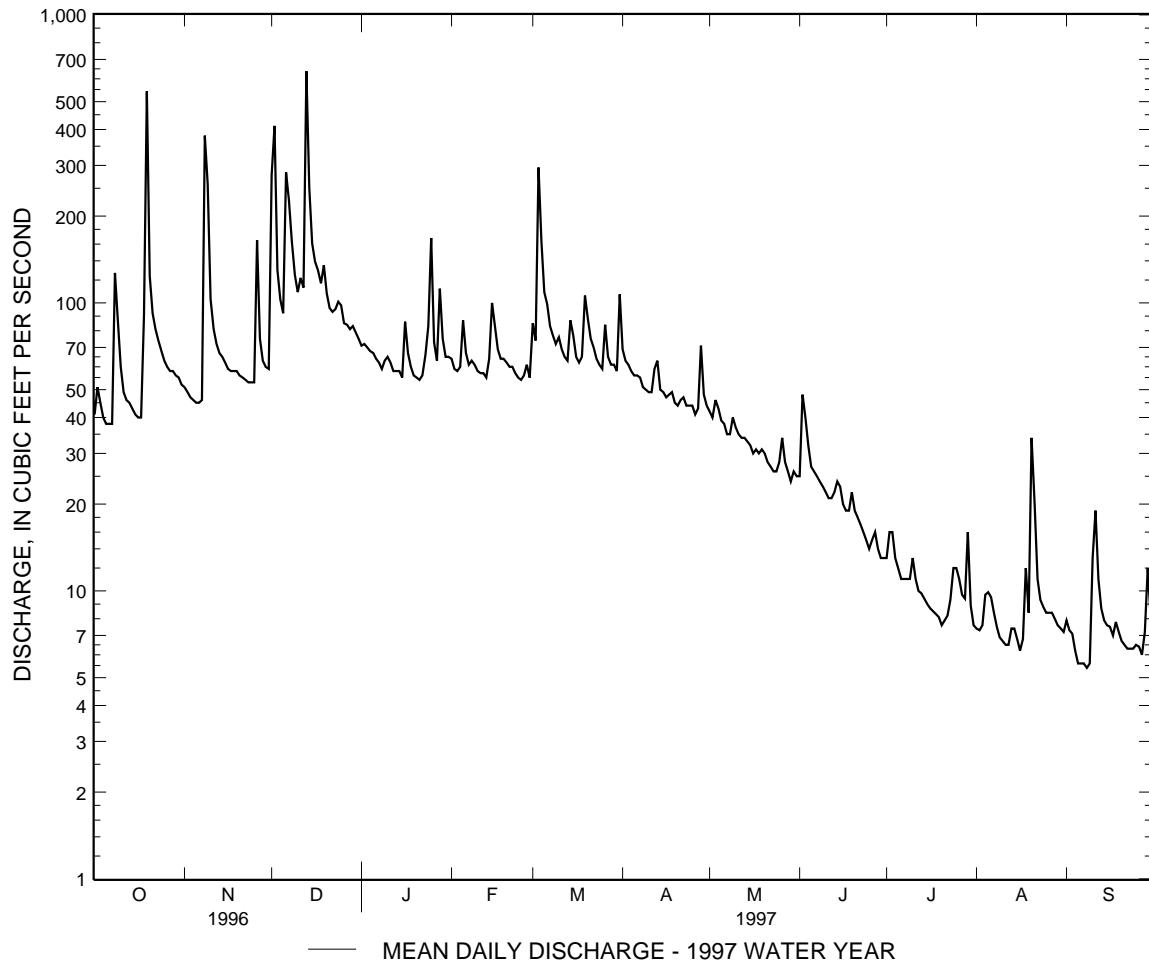
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1944 - 1997
ANNUAL TOTAL	31309	20178.1	
ANNUAL MEAN	85.5	55.3	39.8
HIGHEST ANNUAL MEAN			82.3
LOWEST ANNUAL MEAN			19.8
HIGHEST DAILY MEAN	1840	Jan 19	2590
LOWEST DAILY MEAN	28	Jan 1	Sep 26 1975 (a)
ANNUAL SEVEN-DAY MINIMUM	36	Aug 28	.20
INSTANTANEOUS PEAK FLOW		638 Dec 13	.40
INSTANTANEOUS PEAK STAGE		1290 Dec 13	(b) 21800 Sep 11 1971
INSTANTANEOUS LOW FLOW		6.60 Dec 13	18.60 Sep 11 1971
ANNUAL RUNOFF (CFSM)	2.46	5.4 (c)	.20
ANNUAL RUNOFF (INCHES)	33.47	1.59	1.14
10 PERCENT EXCEEDS	126	21.57	15.55
50 PERCENT EXCEEDS	58	98	72
90 PERCENT EXCEEDS	40	48	26
		7.6	9.0

a Sept. 10, 11, 1966.

b From rating curve extended above 1,500 ft³/s on basis of slope-area measurement at gage height 13.00 ft.

c Sept. 5-9.

d Sept. 10-12, 1966.



PATUXENT RIVER BASTN

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 1996 only at time of publication.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

01591000 - PATUXENT R NR UNITY, MD

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	ALKALINITY	SILICA,	RESIDUE	PHEO-	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	NITROGEN,	NITRATE	NITROGEN,
	MG/L AS CACO3 (00419)	TOTAL DIS- SOLVED FIELD (MG/L CACO3 (00955)	AS (00530)	PENDED (32218)	ACID M. (UG/L) (32230)	UNCORR. (UG/L) (32231)	UNCORR. (UG/L) (32232)	TOTAL (MG/L AS NO3 (00600)	SOLVED (71851)	NITRITE (MG/L AS N) (00613)
OCT 1995										
11...	27	--	5	--	--	--	--	1.7	--	<0.001
21...	--	11	100	--	--	--	--	2.7	7.3	0.004
26...	22	9.8	3	0.028	0.062	0.00	0.00	2.2	8.8	0.002
NOV										
07...	23	--	3	--	--	--	--	2.0	--	<0.001
14...	--	--	--	--	--	--	--	--	--	<0.001
14...	--	--	--	--	--	--	--	--	--	<0.001
14...	--	--	--	--	--	--	--	--	--	<0.001
15...	--	--	--	--	--	--	--	--	--	<0.001
28...	--	8.3	1	0.007	0.053	0.00	0.00	3.1	13	0.005
DEC										
04...	17	--	2	--	--	--	--	3.0	--	<0.001
13...	14	7.4	1	0.013	0.068	0.008	0.00	3.3	14	0.005
JAN 1996										
17...	14	--	8	--	--	--	--	3.0	--	<0.001
19...	--	4.4	580	--	--	--	--	2.3	4.1	0.010
19...	--	4.4	250	--	--	--	--	2.2	4.1	0.018
19...	--	4.4	255	--	--	--	--	2.0	3.7	0.054
19...	--	4.7	230	--	--	--	--	2.0	4.2	0.050
19...	--	6.6	112	--	--	--	--	2.2	6.6	0.047
FEB										
07...	13	--	18	--	--	--	--	3.7	--	<0.001
MAR										
05...	13	--	4	--	--	--	--	3.7	--	<0.001
25...	11	6.6	2	0.029	0.198	0.024	0.00	3.4	14	0.002
APR										
02...	14	--	82	--	--	--	--	2.8	--	<0.001
22...	12	4.4	11	0.068	0.901	0.056	0.268	2.8	12	0.011
MAY										
01...	17	--	10	--	--	--	--	2.7	--	<0.001
20...	14	7.6	11	0.161	0.289	0.046	0.00	3.0	12	0.012
JUN										
19...	--	4.7	1380	--	--	--	--	7.6	8.6	0.020
19...	--	5.8	240	--	--	--	--	3.9	8.6	0.021
19...	--	9.0	120	--	--	--	--	2.5	6.9	0.013
20...	--	8.1	630	--	--	--	--	3.1	7.4	0.008
20...	--	5.2	750	--	--	--	--	3.7	4.6	0.014
24...	--	17	--	14	--	--	--	3.3	--	<0.001
27...	15	8.5	11	--	0.075	0.00	0.00	3.1	13	0.007
JUL										
15...	20	--	9	--	--	--	--	3.0	--	<0.001
22...	18	8.8	6	0.025	0.103	0.024	0.019	3.0	12	0.009
31...	--	8.9	405	--	--	--	--	2.8	5.2	0.007
31...	--	10	68	--	--	--	--	1.8	5.2	0.005
AUG										
14...	20	--	15	--	--	--	--	2.0	--	<0.001
26...	16	8.1	1	0.182	0.200	0.005	0.00	4.0	17	0.006
SEP										
06...	--	5.1	1430	--	--	--	--	6.2	7.1	0.017
06...	--	6.2	740	--	--	--	--	3.5	5.4	0.012
06...	--	3.4	850	--	--	--	--	3.7	4.2	0.014
06...	--	--	570	--	--	--	--	--	--	<0.001
11...	--	5.2	1310	--	--	--	--	8.4	6.4	0.012
11...	--	5.9	460	--	--	--	--	3.5	6.0	0.013
13...	--	10	128	--	--	--	--	2.1	7.4	0.005
17...	--	10	63	--	--	--	--	1.9	6.9	0.005
22...	--	8.9	168	--	--	--	--	2.4	7.4	0.008
23...	21	--	3	--	--	--	--	3.4	--	<0.001
24...	18	8.7	3	--	--	--	--	3.0	13	0.005

PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	NITRO-	NITRO-	NITRO-		PHOS-		CARBON,		SEDI-	
	GEN,	GEN, AM-	GEN, AM-		PHOS-	PHORUS	ORTHO,	CARBON,	ORGANIC	SEDI-
	AMMONIA	MONIA +	MONIA +		PHORUS	DIS-	DIS-	DIS-	MENT,	DIS-
SOLVED	TOTAL	DIS.	TOTAL		SOLVED	SOLVED	TOTAL	SOLVED	SUS-	SUS-
(MG/L)	(MG/L)	(MG/L)	(MG/L)		(MG/L)	(MG/L)	(MG/L)	(MG/L)	PENDED	PENDED
AS N)	AS N)	AS N)	AS P)		AS P)	AS P)	AS C)	AS C)	(MG/L)	(T/DAY)
(00608)	(00625)	(00623)	(00665)		(00666)	(00671)	(00680)	(00681)	(80154)	(80155)
OCT 1995										
11...	--	0.28	--	0.020	--	--	2.8	--	--	--
21...	0.013	1.0	0.44	0.167	0.013	0.004	7.3	6.3	142	114
26...	0.012	0.16	0.26	0.010	0.081	0.009	2.4	--	2	0.05
NOV										
07...	--	0.17	--	0.020	--	--	2.3	--	--	--
14...	--	--	--	--	--	--	--	--	289	341
14...	--	--	--	--	--	--	--	--	14	17
14...	--	--	--	--	--	--	--	--	30	45
15...	--	--	--	--	--	--	--	--	2	2.0
28...	0.008	0.26	0.26	<0.010	<0.010	0.010	1.5	--	4	0.25
DEC										
04...	--	0.20	--	0.013	--	--	1.5	--	--	--
13...	0.010	0.15	0.15	<0.010	<0.010	0.007	1.2	--	3	0.18
JAN 1996										
17...	--	0.26	--	0.012	--	--	3.5	--	--	--
19...	0.115	1.4	0.42	0.483	0.048	0.027	7.3	--	309	3600
19...	0.112	1.2	0.41	0.398	0.034	0.027	7.9	--	238	2760
19...	0.107	1.1	0.41	0.349	0.035	0.027	7.2	7.5	222	2310
19...	0.093	0.97	0.30	0.292	0.028	0.028	7.0	--	198	1610
19...	0.107	0.66	0.29	0.196	0.052	0.042	6.8	6.6	99	354
FEB										
07...	--	0.14	--	0.025	--	--	1.3	--	--	--
MAR										
05...	--	0.43	--	0.120	--	--	2.1	--	--	--
25...	0.013	0.26	0.21	<0.006	<0.003	0.011	1.7	--	4	0.54
APR										
02...	--	0.68	--	0.128	--	--	3.9	--	--	--
22...	0.012	0.16	0.22	0.026	0.017	0.009	1.9	2.0	1	0.21
MAY										
01...	--	0.30	--	0.034	--	--	3.4	--	--	--
20...	0.025	0.24	0.22	0.015	<0.002	0.009	2.0	1.6	9	1.4
JUN										
19...	0.148	5.6	0.78	1.90	0.054	<0.003	9.3	--	2480	6260
19...	0.090	1.9	0.72	0.497	0.067	0.023	9.5	9.7	466	3130
19...	0.026	0.89	0.39	0.158	0.039	0.008	6.6	6.4	136	122
20...	0.044	1.4	0.22	0.406	0.016	0.012	4.3	4.6	707	1160
20...	0.043	2.7	0.49	0.882	0.062	0.028	7.2	7.4	1150	2880
24...	--	0.29	--	0.044	--	--	2.1	--	--	--
27...	0.022	0.12	0.11	0.090	0.061	<0.003	1.5	--	11	1.5
JUL										
15...	--	0.36	--	<0.010	--	--	2.2	--	--	--
22...	0.018	0.21	0.18	0.018	0.013	0.015	1.7	--	8	0.98
31...	0.042	1.6	0.38	0.460	0.048	0.052	4.9	4.8	543	830
31...	0.034	0.61	0.32	0.109	0.032	--	3.8	--	80	37
AUG										
14...	--	0.33	--	0.045	--	--	2.8	--	--	--
26...	0.010	0.16	0.10	0.013	<0.004	<0.004	2.4	2.0	2	0.20
SEP										
06...	0.041	4.6	0.58	1.50	0.066	0.023	8.5	8.4	1490	2930
06...	0.052	2.2	0.53	0.900	0.077	0.027	7.9	7.8	690	5460
06...	0.061	2.8	0.57	1.10	0.083	0.028	9.2	8.8	875	9210
06...	--	--	--	--	--	--	9.2	--	601	7150
11...	0.149	6.9	0.56	2.20	0.042	0.014	7.7	6.6	2790	3810
11...	0.108	2.1	0.46	0.647	0.060	0.027	6.9	--	732	1470
13...	0.017	0.46	0.24	0.130	0.021	0.017	3.2	2.8	118	52
17...	0.015	0.33	0.20	0.080	0.030	0.016	3.3	3.7	56	25
22...	0.015	0.74	0.25	0.222	0.064	0.041	3.4	3.2	183	108
23...	--	0.47	--	0.050	--	--	2.8	--	--	--
24...	0.009	0.21	0.20	0.033	0.015	0.022	1.8	--	2	0.24

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PATUXENT RIVER BASIN

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 mi².

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 (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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0430	1,590	5.79	Dec. 6	0500	915	4.75
Nov. 8	2030	1,710	5.94	Dec. 13	1645	*1,890	*6.17
Nov. 26	0845	581	4.04	Jan. 25	0030	644	4.19
Dec. 1	1630	827	4.58	Mar. 3	1845	1,040	4.97
Dec. 2	0345	915	4.75				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	32	250	43	41	57	41	28	18	10	5.6	5.3
2	37	32	269	43	39	44	37	26	34	12	5.6	5.2
3	32	31	56	43	38	282	36	30	28	12	5.7	5.2
4	28	30	48	42	41	84	35	27	23	10	7.4	4.6
5	26	31	44	42	61	53	34	24	20	9.4	6.9	4.4
6	26	31	265	40	43	50	35	24	18	9.0	6.4	4.3
7	26	31	129	39	39	42	35	23	18	8.9	5.8	4.4
8	98	471	76	37	41	41	32	22	18	8.8	5.3	4.4
9	53	127	55	40	41	39	31	26	17	8.5	4.9	4.4
10	37	53	50	42	38	43	30	25	16	11	4.8	8.0
11	32	42	62	40	37	39	30	23	15	9.1	4.6	12
12	30	38	56	37	37	37	39	22	15	8.3	4.6	7.4
13	29	37	800	37	36	36	40	22	16	7.8	4.8	6.2
14	28	37	120	37	46	55	32	22	17	7.1	5.1	5.6
15	27	34	69	36	75	46	30	21	18	6.7	4.9	5.7
16	27	33	62	61	50	38	30	20	15	6.8	4.5	5.4
17	27	33	61	42	42	37	31	20	15	6.7	4.9	5.4
18	56	34	57	e38	40	42	31	20	15	6.3	6.8	5.8
19	477	33	71	e36	40	71	29	21	16	6.2	5.3	5.4
20	60	32	54	34	38	51	28	20	14	6.0	27	5.2
21	45	31	49	34	37	43	30	19	13	6.1	13	5.2
22	41	31	48	37	37	41	32	18	13	6.3	7.6	5.0
23	39	30	51	46	34	37	30	18	12	6.7	6.5	4.9
24	38	30	58	72	33	36	30	17	12	7.5	6.2	4.9
25	36	30	55	145	33	36	30	18	11	7.8	6.0	5.1
26	35	136	47	45	34	53	28	23	11	7.6	6.0	5.1
27	34	42	48	40	39	40	30	19	12	7.0	5.8	5.0
28	35	36	46	88	35	37	50	18	11	7.2	5.7	5.3
29	34	35	48	47	---	37	32	17	10	9.4	5.5	8.9
30	33	35	46	41	---	36	29	18	10	6.5	5.4	e6.0
31	32	---	44	42	---	67	---	18	---	5.8	5.2	---
TOTAL	1585	1658	3194	1446	1145	1650	987	669	481	248.5	203.8	169.7
MEAN	51.1	55.3	103	46.6	40.9	53.2	32.9	21.6	16.0	8.02	6.57	5.66
MAX	477	471	800	145	75	282	50	30	34	12	27	12
MIN	26	30	44	34	33	36	28	17	10	5.8	4.5	4.3
CFSM	2.23	2.41	4.50	2.04	1.79	2.32	1.44	.94	.70	.35	.29	.25
IN.	2.57	2.69	5.19	2.35	1.86	2.68	1.60	1.09	.78	.40	.33	.28

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1997, BY WATER YEAR (WY)

MEAN	19.6	23.6	31.2	35.1	39.3	39.9	37.2	31.8	22.3	17.1	13.6	17.0
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

PATUXENT RIVER BASIN

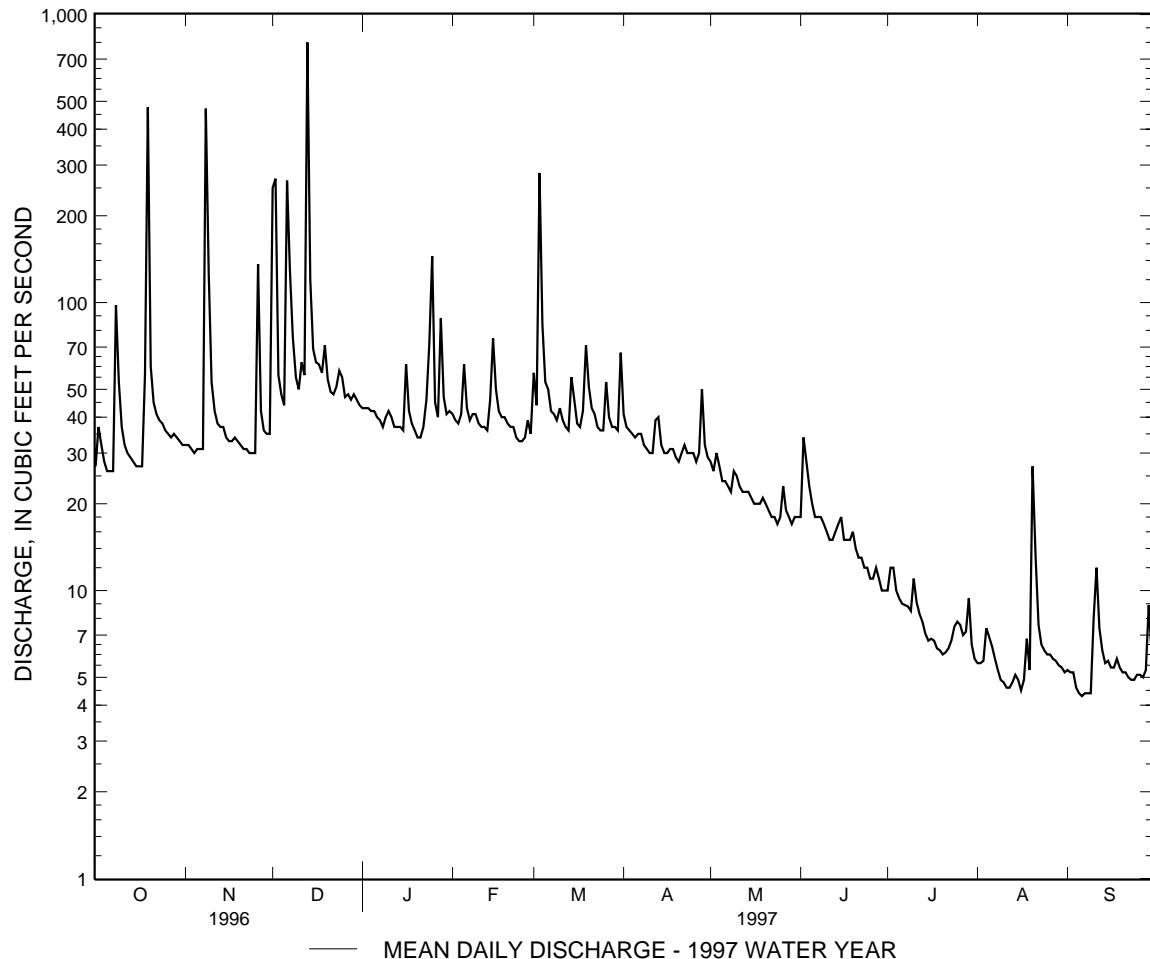
01591400 CATTAIL CREEK NEAR GLENWOOD, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1978 - 1997
ANNUAL TOTAL	21151	13437.0	
ANNUAL MEAN	57.8	36.8	27.4
HIGHEST ANNUAL MEAN			45.7 1996
LOWEST ANNUAL MEAN			13.1 1981
HIGHEST DAILY MEAN	2100	Jan 19	2100 Jan 19 1996
LOWEST DAILY MEAN	(e)17	Jan 7	4.3 Sep 3 1995
ANNUAL SEVEN-DAY MINIMUM	22	Aug 28	4.5 Sep 3 1995
INSTANTANEOUS PEAK FLOW			1890 Dec 13
INSTANTANEOUS PEAK STAGE			6.17 Dec 13
INSTANTANEOUS LOW FLOW			4.1 (b)
ANNUAL RUNOFF (CFSM)	2.52		1.61
ANNUAL RUNOFF (INCHES)	34.36		21.83
10 PERCENT EXCEEDS	72		55
50 PERCENT EXCEEDS	32		31
90 PERCENT EXCEEDS	23		5.6

e Estimated.

a From rating curve extended above 175 ft³/s on basis of contracted-opening and flow-over-road measurement at gage height of 8.41 ft.

b Sept. 6, 8.



PATUXENT RIVER BASIN

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 mi².

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 ft³/s. Data provided by Washington Suburban Sanitary Commission.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 481 ft³/s, Dec. 15, gage height, 3.09 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	141	234	79	148	231	205	97	11	56	50	258
2	104	147	314	79	95	198	143	165	27	55	50	180
3	117	151	370	77	95	108	237	245	51	55	50	115
4	135	151	360	77	96	243	232	242	44	55	50	111
5	135	152	383	77	92	243	185	137	41	55	51	101
6	135	152	368	75	89	339	87	93	24	55	51	74
7	163	149	373	176	88	383	88	93	16	55	50	74
8	246	176	365	270	89	295	66	93	16	55	50	75
9	138	387	300	252	89	178	21	90	16	55	50	67
10	139	451	141	251	187	87	28	92	16	55	75	47
11	142	378	175	165	246	87	85	90	15	55	96	47
12	139	181	237	93	150	86	234	90	15	53	96	47
13	148	90	296	91	99	181	258	90	16	54	97	47
14	156	90	355	90	195	239	208	90	16	55	103	46
15	137	90	366	90	248	239	102	90	16	55	126	46
16	137	91	281	141	246	199	103	90	37	54	127	46
17	138	79	233	246	245	93	103	90	56	53	125	46
18	105	92	227	178	147	91	103	90	56	54	127	46
19	186	89	227	90	97	184	97	90	56	50	127	45
20	227	88	231	89	96	244	96	93	56	46	127	46
21	214	88	223	100	196	144	96	93	56	46	126	46
22	185	80	219	99	161	93	98	93	56	46	125	46
23	159	61	138	142	92	93	100	93	56	47	125	46
24	152	61	85	252	90	92	100	92	56	48	125	46
25	152	163	85	251	90	191	100	72	55	47	124	46
26	152	252	179	260	147	246	100	63	62	47	185	46
27	88	245	229	239	238	190	100	77	57	47	245	44
28	50	235	226	257	236	90	97	109	56	48	292	44
29	52	234	223	250	--	90	96	65	56	48	272	44
30	52	232	148	239	--	88	96	15	56	49	284	44
31	100	--	79	235	--	188	--	11	--	50	280	--
TOTAL	4287	4976	7670	5010	4087	5453	3664	3033	1167	1603	3861	2016
MEAN	138	166	247	162	146	176	122	97.8	38.9	51.7	125	67.2
MAX	246	451	383	270	248	383	258	245	62	56	292	258
MIN	50	61	79	75	88	86	21	11	11	46	50	44
(+)	6380	6280	6180	6130	6180	6400	6300	5900	6230	5700	3800	2700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1997, BY WATER YEAR (WY)

MEAN	64.9	59.3	92.5	82.4	86.8	120	130	96.5	75.6	60.0	68.8	82.3
MAX	138	166	247	162	146	176	122	97.8	38.9	51.7	125	67.2
(WY)	1997	1997	1984	1991	1994	1993	1993	1989	1989	1996	143	219
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, 1996, 6,175,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

PATUXENT RIVER BASIN

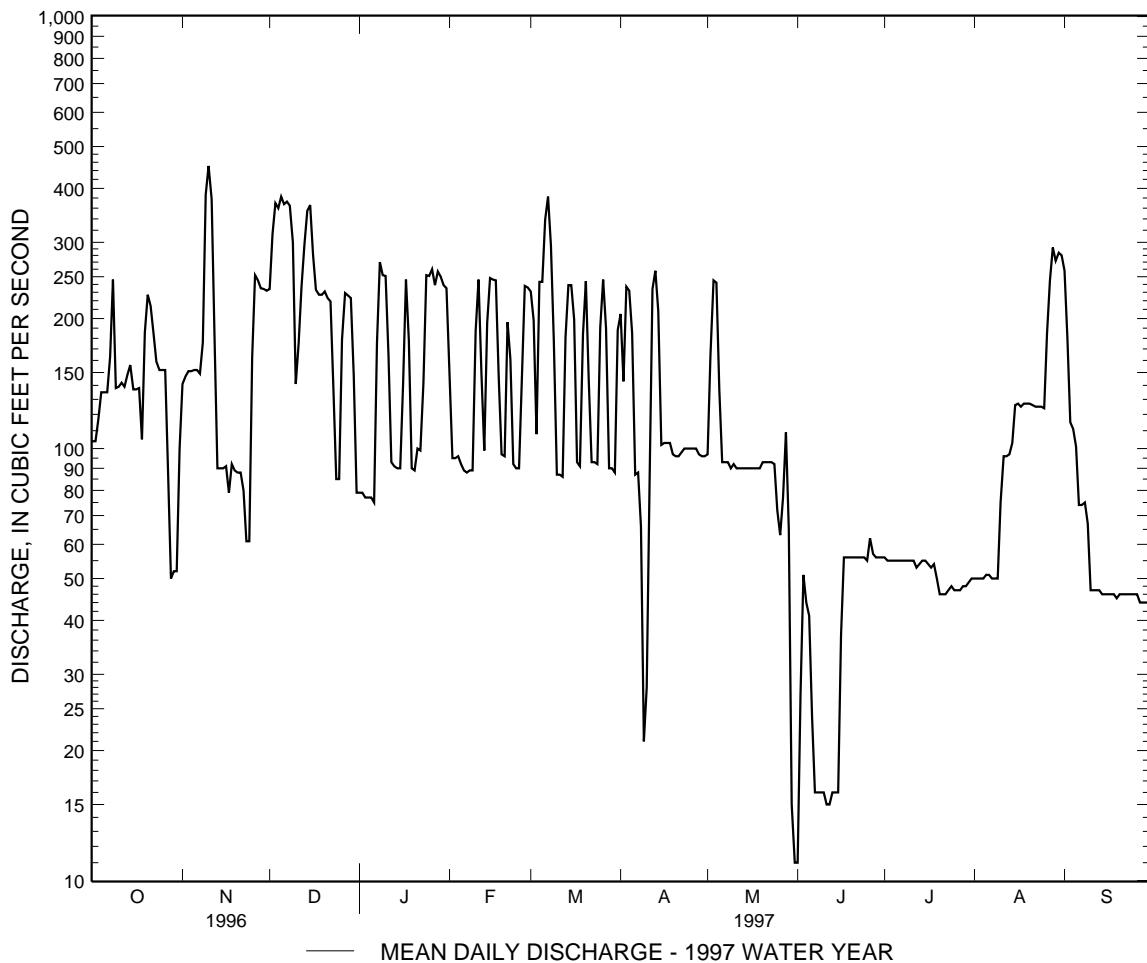
01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1981 - 1997
ANNUAL TOTAL	55750.7	46827	
ANNUAL MEAN	152	128	84.9
ANNUAL MEAN#	163	113	83.5
HIGHEST ANNUAL MEAN			134 1984
LOWEST ANNUAL MEAN			47.5 1992
HIGHEST DAILY MEAN	1300	Sep 7	1730 May 6 1989
LOWEST DAILY MEAN	8.1	Jan 18	11 (a) 2.1 (b)
ANNUAL SEVEN-DAY MINIMUM	11	Jan 12	16 Jun 7 4.0 Oct 16 1980
INSTANTANEOUS PEAK FLOW			481 Dec 15 2650 May 6 1989
INSTANTANEOUS PEAK STAGE			3.09 Dec 15 10.26 May 6 1985
INSTANTANEOUS LOW FLOW			11 May 31 1.2 Dec 3 1985
ANNUAL RUNOFF (CFSM)	1.94		1.44 1.08
ANNUAL RUNOFF (CFSM)#	2.07		1.63 1.06
ANNUAL RUNOFF (INCHES)	26.39		22.16 14.68
ANNUAL RUNOFF (INCHES)#	28.16		19.53 14.43
10 PERCENT EXCEEDS	278		246 187
50 PERCENT EXCEEDS	127		96 55
90 PERCENT EXCEEDS	50		46 9.4

Adjusted for change in reservoir contents.

a May 31, June 1.

b Jan. 27, 28, 1983.



PATUXENT RIVER BASIN

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 mi².

PERIOD OF RECORD.--June 1978 to current year.

REMARKS--Records good except those for estimated daily discharges (ice effect 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0645	992	5.28	Dec. 13	1915	1,100	5.56
Nov. 8	2400	*1,370	*6.18	Mar. 3	1800	805	4.78

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	32	194	43	46	91	52	30	18	9.7	4.5	11
2	37	32	298	42	42	66	44	28	48	14	4.5	5.9
3	31	30	83	42	41	308	41	32	48	13	4.5	e4.8
4	25	29	61	41	43	144	39	38	29	9.7	4.5	e4.4
5	24	30	52	41	85	79	37	29	23	8.6	5.2	e4.0
6	25	30	301	39	54	66	39	27	20	8.1	5.6	e3.7
7	25	31	140	37	46	52	40	25	19	7.3	4.9	e3.6
8	107	377	109	35	47	48	36	24	18	6.7	4.5	e3.6
9	78	359	71	39	48	45	35	29	17	6.5	4.4	e3.4
10	42	82	57	43	45	52	35	28	16	8.1	4.3	11
11	32	54	68	42	42	46	35	24	14	7.1	4.3	23
12	29	44	71	e34	42	41	42	23	14	6.2	4.2	10
13	28	40	562	e34	40	40	47	23	15	6.2	4.1	7.5
14	26	40	174	34	60	66	35	23	16	6.0	4.1	5.8
15	25	39	88	34	125	59	33	22	18	5.8	4.1	5.3
16	24	36	72	73	77	45	32	21	14	5.8	4.2	4.3
17	24	35	68	53	56	42	33	20	14	5.8	11	4.1
18	50	37	61	e34	49	46	33	20	15	5.8	11	4.6
19	494	37	79	33	47	95	31	20	18	5.5	5.8	4.5
20	102	35	60	34	44	74	30	20	14	5.0	50	4.3
21	61	34	53	34	43	55	31	19	12	4.9	25	e3.9
22	47	33	50	37	42	48	33	18	12	4.9	10	e3.8
23	42	32	52	51	38	42	31	17	12	6.2	7.3	e3.7
24	40	32	57	72	37	40	32	17	e10	10	5.8	e3.6
25	36	31	59	242	36	39	30	19	e10	8.2	5.4	e3.6
26	35	132	47	66	38	70	29	35	e11	6.8	4.8	e3.9
27	34	56	48	49	45	49	32	22	e13	6.5	4.7	e3.8
28	35	42	48	115	38	43	78	19	e11	5.7	4.6	e4.3
29	36	38	48	64	---	42	40	18	e9.5	5.7	4.6	e10
30	33	37	47	50	---	40	33	19	9.7	5.2	4.5	e6.0
31	32	---	45	47	---	89	---	18	---	4.5	4.5	---
TOTAL	1684	1896	3223	1634	1396	2062	1118	727	518.2	219.5	230.9	175.4
MEAN	54.3	63.2	104	52.7	49.9	66.5	37.3	23.5	17.3	7.08	7.45	5.85
MAX	494	377	562	242	125	308	78	38	48	14	50	23
MIN	24	29	45	33	36	39	29	17	9.5	4.5	4.1	3.4
CFSM	2.01	2.34	3.85	1.95	1.85	2.46	1.38	.87	.64	.26	.28	.22
IN.	2.32	2.61	4.44	2.25	1.92	2.84	1.54	1.00	.71	.30	.32	.24

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1997, BY WATER YEAR (WY)

MEAN	23.0	29.8	35.5	39.4	43.8	48.6	41.6	36.7	26.9	17.3	13.5	17.4
MAX	129	68.8	104	115	112	116	90.7	94.3	68.3	52.4	36.6	90.2
(WY)	1980	1994	1997	1996	1979	1993	1993	1989	1989	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	1987	1987	1986

PATUXENT RIVER BASIN

01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD--Continued

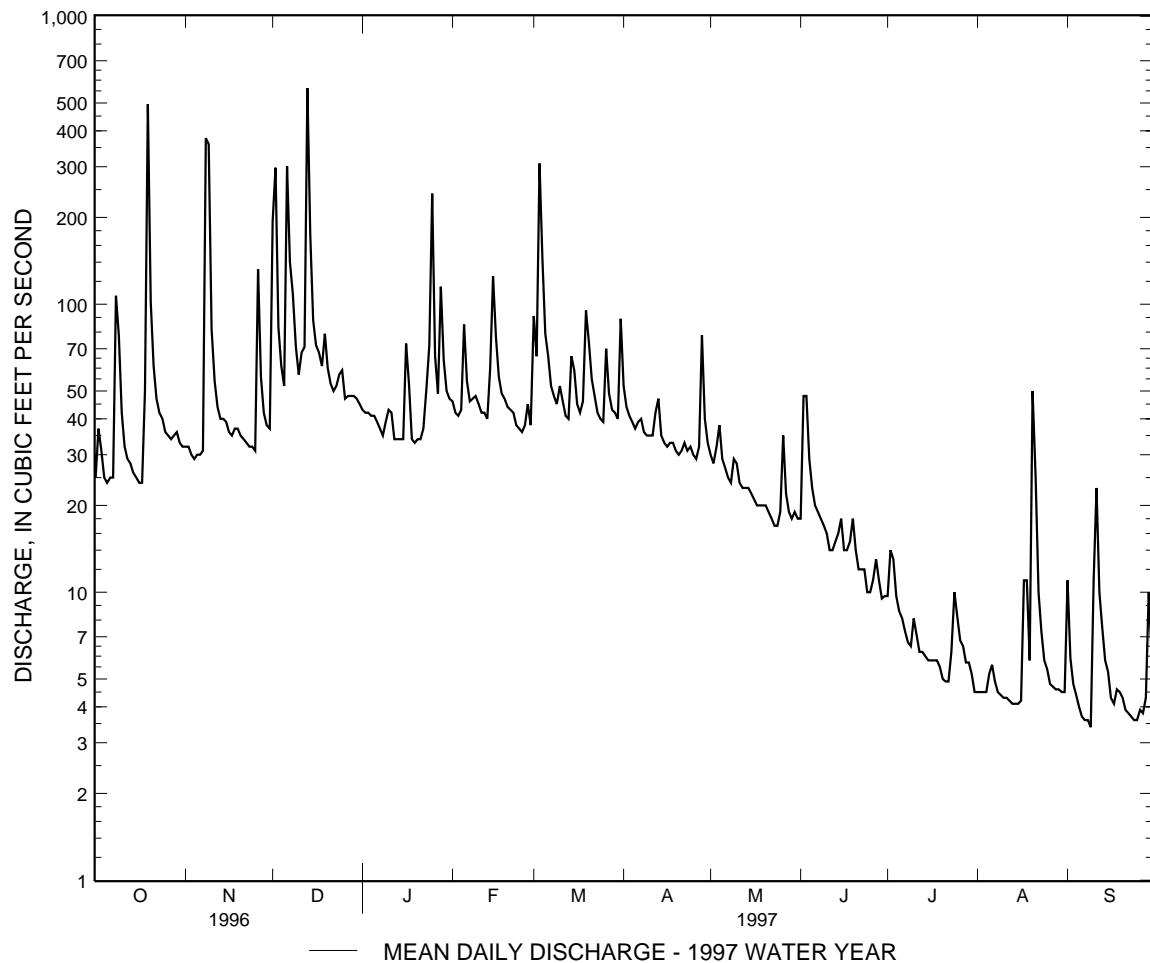
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1978 - 1997
ANNUAL TOTAL	23249	14884.0	
ANNUAL MEAN	63.5	40.8	31.0
HIGHEST ANNUAL MEAN			52.9
LOWEST ANNUAL MEAN			16.0
HIGHEST DAILY MEAN	1840	Jan 19	1840
LOWEST DAILY MEAN	15	Sep 2	(a) 1.7
ANNUAL SEVEN-DAY MINIMUM	18	Aug 28	1.8
INSTANTANEOUS PEAK FLOW		562 Dec 13	Sep 10 1995
INSTANTANEOUS PEAK STAGE		(e) 3.4 Sep 9	Jan 19 1996
INSTANTANEOUS LOW FLOW		3.8 Sep 21	(b) 1.7 Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.35	1370 Nov 8	9.24 Jan 19 1996
ANNUAL RUNOFF (INCHES)	32.03	6.18 Nov 8	(c) .75 Jan 30 1981
10 PERCENT EXCEEDS	97	UNKNOWN	1.15
50 PERCENT EXCEEDS	36	1.51	15.58
90 PERCENT EXCEEDS	23	20.51	51
		70	19
		33	5.7
		4.6	

e Estimated.

a Sept. 11-13, 1995.

b From rating curve extended above 1,200 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

c Result of freezeup.



PATUXENT RIVER BASIN

01592500 PATUXENT RIVER NEAR LAUREL, MD

LOCATION.--Lat 39°06'56", long 76°52'27", Prince Georges County, Hydrologic Unit 02060006, on right bank at Rocky Gorge pumping station, 600 ft downstream from T. Howard Duckett Reservoir, 0.7 mi upstream from Walker Branch, 1.3 mi northwest of Laurel, and 81 mi upstream from mouth.

DRAINAGE AREA.--132 mi².

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.--No estimated daily discharges. Records good. Records do not include diversion at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Flow regulated by Tridadelphia 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 1,210 ft³/s, Dec. 16, gage height, 7.91 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	152	300	152	326	158	204	158	23	20	20	20
2	153	154	700	149	324	92	207	158	31	19	20	20
3	155	154	828	121	211	532	206	159	131	19	20	21
4	155	144	803	150	152	584	192	159	152	20	20	21
5	152	154	556	150	151	607	203	159	153	20	20	21
6	152	153	283	153	151	332	206	159	153	20	20	21
7	188	153	738	152	150	154	226	127	121	21	20	21
8	365	228	1060	152	152	159	207	91	84	20	20	21
9	154	733	610	140	150	160	159	49	53	20	20	21
10	156	612	153	152	151	115	159	23	20	21	20	20
11	154	424	265	151	115	90	159	23	20	21	21	20
12	154	242	345	152	114	234	159	24	20	21	20	20
13	152	156	557	152	275	322	157	24	20	20	20	20
14	153	156	1050	152	341	359	161	24	20	20	20	20
15	154	156	1090	152	341	383	160	24	20	19	20	20
16	154	156	840	152	346	324	125	24	20	19	20	20
17	154	157	469	150	221	161	159	24	21	20	20	20
18	155	159	390	152	157	160	157	24	21	20	21	20
19	306	144	154	152	243	159	156	24	21	20	21	20
20	316	156	154	151	247	159	157	24	21	20	21	20
21	315	156	154	151	247	160	159	24	21	20	21	20
22	224	156	152	152	202	161	159	24	21	19	21	20
23	151	157	152	151	157	161	159	24	21	19	21	20
24	154	156	293	153	157	161	159	24	21	19	21	20
25	131	150	342	178	158	197	141	24	19	20	21	20
26	80	156	338	349	161	208	159	23	20	20	21	20
27	80	154	336	349	156	208	160	23	20	20	20	20
28	127	129	336	346	154	208	158	23	20	20	20	20
29	160	154	335	346	---	208	158	23	20	20	20	20
30	155	154	226	336	---	208	159	23	20	20	20	20
31	150	---	152	328	---	208	---	23	---	20	20	---
TOTAL	5361	6065	14161	5826	5710	7332	5090	1739	1328	617	630	607
MEAN	173	202	457	188	204	237	170	56.1	44.3	19.9	20.3	20.2
MAX	365	733	1090	349	346	607	226	159	153	21	21	21
MIN	80	129	152	121	114	90	125	23	19	19	20	20
(†)	11920	12080	11680	12000	11720	12080	11930	11870	11720	10590	9480	7690
(#)	75.6	73.6	78.0	77.5	76.0	73.4	74.9	72.0	71.3	81.2	89.0	102

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

MEAN	45.6	50.7	80.5	108	119	137	140	113	86.3	60.6	50.4	65.9
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	1985	1985	1967	1967	1966	1966

† Combined month-end total contents, in millions of gallons, in Tridadelphia and T. Howard Duckett Reservoirs (contents on Sept. 30, 1996, 11,120,000,000 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.

PATUXENT RIVER BASIN

01592500 PATUXENT RIVER NEAR LAUREL, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1945 - 1997
ANNUAL TOTAL	77682	54466	
ANNUAL MEAN	212	1.49	87.9
ANNUAL MEAN#	283	222	
HIGHEST ANNUAL MEAN			241 1972
LOWEST ANNUAL MEAN			9.09 1966
HIGHEST DAILY MEAN	1420	Sep 7	13000 Jun 22 1972
LOWEST DAILY MEAN	21	Feb 6	1.1 Jun 26 1956
ANNUAL SEVEN-DAY MINIMUM	23	Jan 1	3.7 Aug 29 1966
INSTANTANEOUS PEAK FLOW		1210 Dec 16	(b) 26000 Jun 22 1972
INSTANTANEOUS PEAK STAGE		7.91 Dec 16	(c) 25.00 Jun 22 1972
INSTANTANEOUS LOW FLOW		4.9 Sep 17	(d) .05 Jul 18 1985
ANNUAL RUNOFF (CFSM)	1.61	1.13	.67
ANNUAL RUNOFF (INCHES)	21.89	15.35	9.05
10 PERCENT EXCEEDS	354	333	192
50 PERCENT EXCEEDS	156	152	23
90 PERCENT EXCEEDS	89	20	11

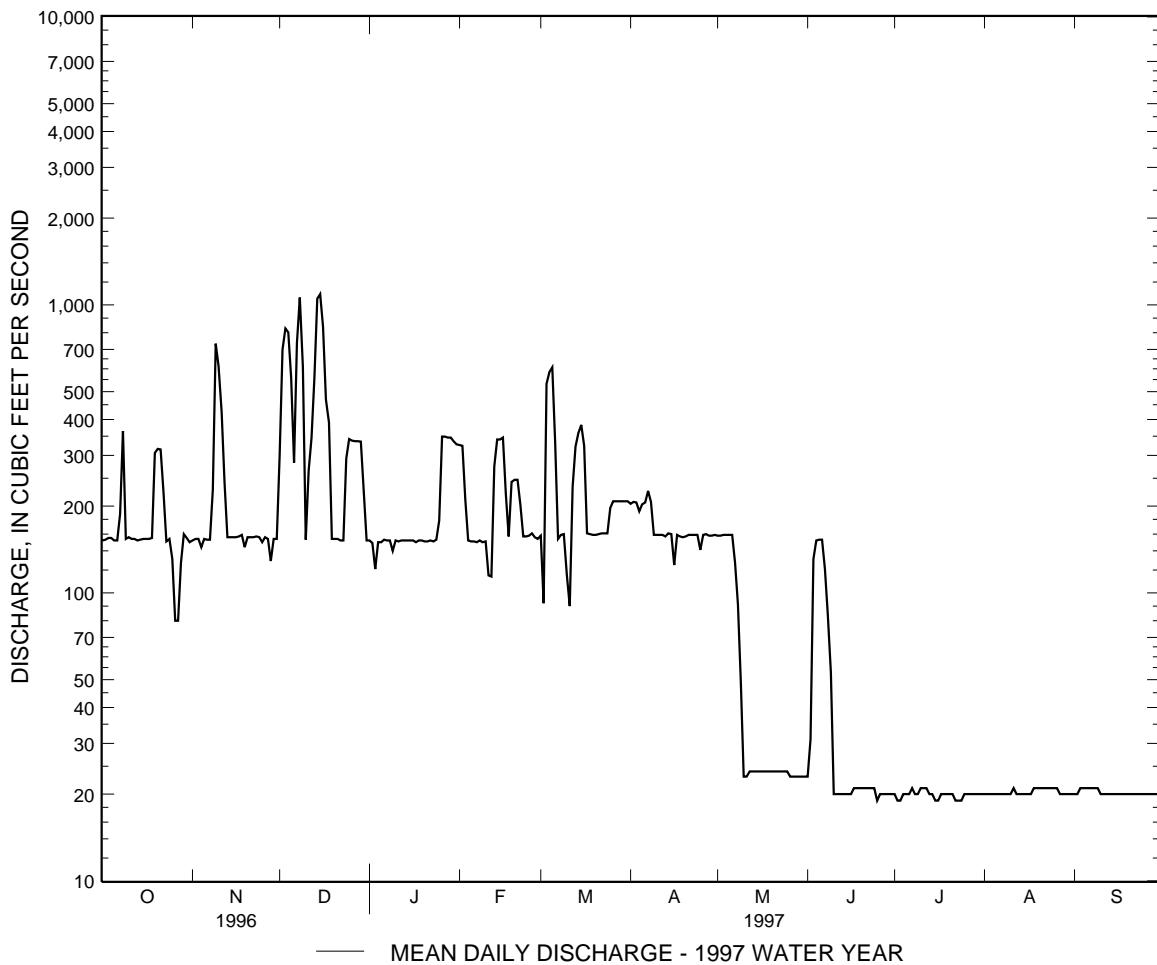
Adjusted for diversions.

a June 25, July 2, 3, 15, 16, 22-24.

b From rating curve extended above 6,600 ft³/s on basis of contracted-opening measurement of peak flow.

c From floodmarks.

d Valve closed for repair.



PATUXENT RIVER BASIN

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 mi².

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 and ice effect), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1030	1,160	7.63	Dec. 13	2030	1,760	9.33
Nov. 8	2330	*3,950	*12.19	Jan. 25	0130	897	6.53
Dec. 2	0400	812	6.11	Mar. 3	2000	1,010	7.04

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	33	366	e43	50	145	73	44	25	17	6.9	44
2	59	33	480	e44	46	83	54	40	113	20	6.6	15
3	42	30	68	e44	45	436	49	55	116	17	7.4	9.9
4	30	29	52	e42	52	304	48	57	51	15	8.6	7.7
5	28	31	47	e42	112	91	44	37	36	14	17	6.6
6	27	35	386	e40	65	80	48	34	31	13	9.5	6.5
7	27	35	134	e37	55	61	50	32	29	12	7.2	6.7
8	193	948	96	35	60	57	42	30	28	11	6.6	9.8
9	85	1000	59	40	64	55	40	42	27	8.5	6.0	7.7
10	45	70	51	49	55	74	37	39	26	11	5.6	35
11	34	53	61	45	49	58	37	32	26	8.6	5.4	74
12	31	47	60	38	47	52	60	30	24	8.9	5.4	21
13	30	43	821	e37	46	50	70	29	42	7.9	5.6	14
14	29	43	390	e36	96	127	44	28	34	7.2	5.7	11
15	28	41	73	56	194	97	39	28	28	7.0	5.8	9.3
16	29	39	62	97	88	61	38	27	24	6.7	5.3	7.9
17	28	39	61	65	63	57	42	27	25	6.5	20	7.7
18	131	39	56	e38	56	68	44	27	33	6.6	38	7.7
19	772	40	72	e36	54	135	37	28	36	6.0	15	7.0
20	72	38	56	e37	49	91	34	27	23	5.6	316	6.5
21	52	36	e53	e38	48	66	39	26	21	6.1	60	6.8
22	43	35	e50	39	48	61	43	25	20	6.6	20	6.6
23	40	34	e52	61	44	53	38	24	19	20	14	6.2
24	38	34	e57	89	42	50	38	24	17	31	11	6.0
25	36	33	e65	500	42	49	35	30	17	18	9.5	6.2
26	35	191	e53	74	47	102	34	61	41	14	8.3	6.2
27	34	53	e55	54	58	64	45	31	32	12	7.9	5.9
28	35	41	e50	155	46	54	154	26	21	9.6	7.6	7.9
29	33	38	e49	72	---	55	56	25	17	28	7.0	25
30	32	38	e48	54	---	54	41	26	17	11	6.4	12
31	32	---	e46	52	---	146	---	25	---	7.8	6.3	---
TOTAL	2161	3199	4029	2089	1721	2936	1453	1016	999	373.6	661.6	403.8
MEAN	69.7	107	130	67.4	61.5	94.7	48.4	32.8	33.3	12.1	21.3	13.5
MAX	772	1000	821	500	194	436	154	61	116	31	316	74
MIN	27	29	46	35	42	49	34	24	17	5.6	5.3	5.9
CFSM	1.83	2.81	3.42	1.77	1.62	2.49	1.27	.86	.88	.32	.56	.35
IN.	2.12	3.13	3.94	2.05	1.68	2.87	1.42	.99	.98	.37	.65	.40

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

MEAN	38.2	45.8	53.2	60.6	65.8	58.8	49.5	38.9	30.1	28.0	30.9
MAX	107	108	130	145	147	181	160	197	265	119	130
(WY)	1980	1973	1997	1978	1979	1993	1973	1989	1972	1945	1955
MIN	5.90	9.31	11.6	12.9	19.7	24.9	21.0	15.7	9.32	6.66	4.91
(WY)	1942	1942	1966	1955	1947	1981	1947	1955	1986	1966	1957

PATUXENT RIVER BASIN

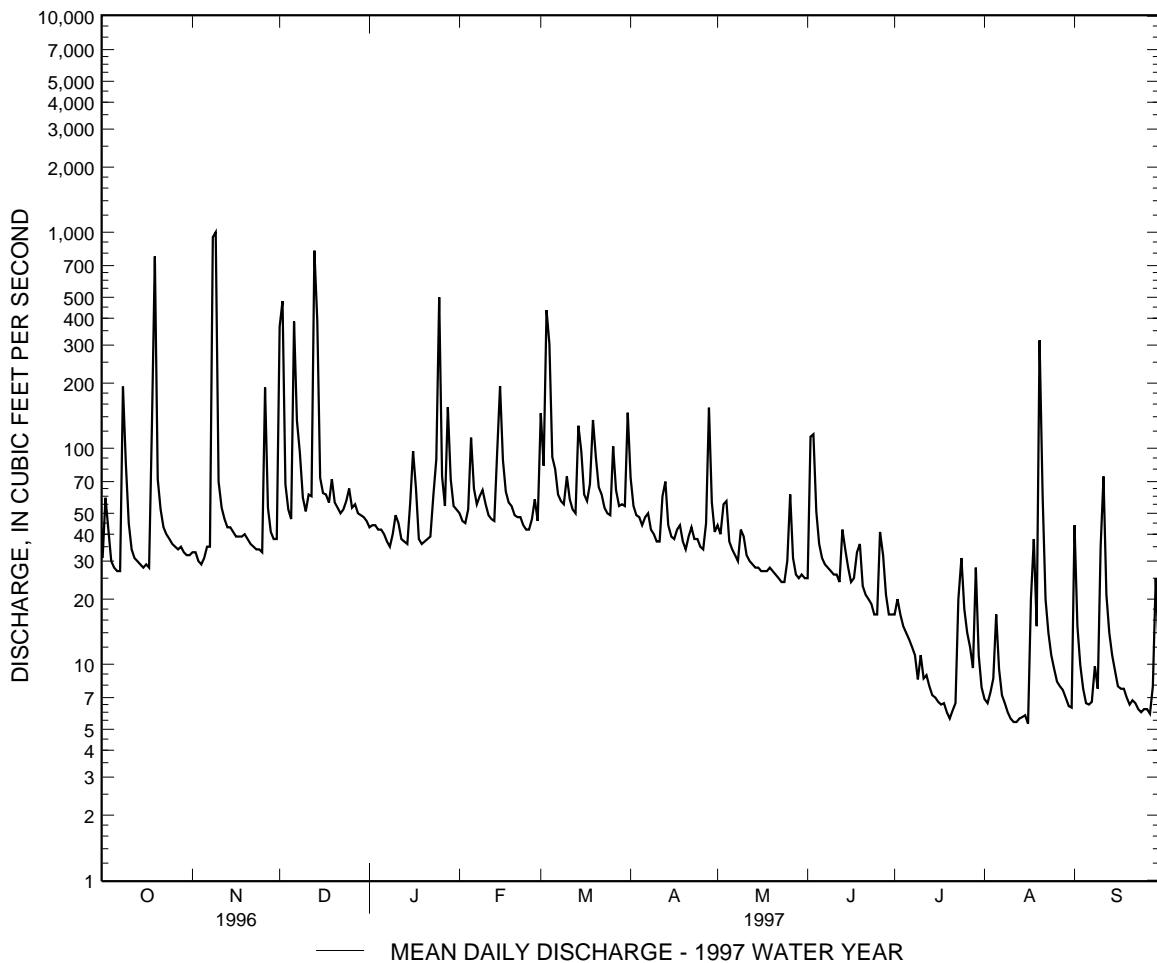
01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1932 - 1997
ANNUAL TOTAL	29427	21042.0	
ANNUAL MEAN	80.4	57.6	43.8
HIGHEST ANNUAL MEAN			93.7
LOWEST ANNUAL MEAN			17.7
HIGHEST DAILY MEAN	1380	Jan 19	4680
LOWEST DAILY MEAN	17	Aug 26	.00
ANNUAL SEVEN-DAY MINIMUM	19	Aug 20	.73
INSTANTANEOUS PEAK FLOW		3950 Nov 8	(a) 12400
INSTANTANEOUS PEAK STAGE		12.19 Nov 8	(b) 18.38
INSTANTANEOUS LOW FLOW		5.2 Aug 17	(c)
ANNUAL RUNOFF (CFSM)	2.12	1.52	1.15
ANNUAL RUNOFF (INCHES)	28.81	20.60	15.64
10 PERCENT EXCEEDS	118	84	72
50 PERCENT EXCEEDS	40	38	26
90 PERCENT EXCEEDS	26	7.3	10

a From rating curve extended above 1,800 ft³/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.



PATUXENT RIVER BASIN

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 mi².

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.--Water-discharge records good. Some diurnal fluctuation at low flow caused by plant 0.5 mi upstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0515	3,480	10.56	Dec. 6	0645	2,130	8.93
Nov. 8	2399	*7,440	*13.89	Dec. 13	1945	5,070	12.07
Dec. 1	1900	1,760	8.37	Jan. 25	0415	2,730	9.71
Dec. 2	0545	2,060	8.83	Mar. 3	2030	3,010	10.04

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	101	773	139	166	369	191	124	74	43	22	75
2	145	103	1150	140	148	243	147	111	243	52	20	37
3	118	96	260	141	143	1060	139	132	278	52	21	28
4	90	95	188	137	155	738	136	153	125	44	26	25
5	86	97	164	138	373	278	131	108	90	39	37	21
6	85	103	1020	135	197	248	134	102	80	38	29	21
7	85	103	444	125	161	187	142	96	76	36	24	21
8	352	2020	428	119	173	173	122	93	74	35	22	24
9	323	1960	220	131	181	162	116	111	71	34	20	26
10	143	247	180	155	157	211	114	114	68	35	18	57
11	107	173	211	147	144	169	114	95	67	33	17	137
12	97	148	233	126	140	150	149	92	66	31	17	50
13	96	136	2320	127	139	142	188	90	86	30	18	33
14	94	139	1040	127	250	312	126	90	79	29	17	28
15	89	128	303	132	566	280	116	89	75	28	19	27
16	88	121	247	314	287	168	115	84	64	26	17	25
17	88	121	233	188	192	153	118	82	62	27	22	24
18	191	120	211	125	169	170	125	82	74	26	80	26
19	1810	119	270	120	165	384	113	85	87	24	33	23
20	266	113	208	129	153	262	107	83	62	22	471	20
21	178	111	174	129	147	189	111	78	56	22	159	20
22	142	107	169	e136	147	171	125	73	54	25	53	19
23	127	104	176	204	136	150	113	71	52	41	37	19
24	120	103	191	199	133	143	113	71	47	71	31	18
25	111	102	213	1220	130	140	108	102	46	44	29	18
26	108	492	161	245	134	272	105	155	85	36	29	20
27	106	176	164	181	168	176	116	86	85	32	27	18
28	108	126	156	503	138	148	388	77	52	29	27	20
29	108	116	157	239	---	149	153	72	45	51	24	52
30	104	113	154	177	---	147	122	77	42	28	23	29
31	103	---	145	169	---	373	---	76	---	24	22	---
TOTAL	5757	7793	11963	6297	5192	7917	4097	2954	2465	1087	1411	961
MEAN	186	260	386	203	185	255	137	95.3	82.2	35.1	45.5	32.0
MAX	1810	2020	2320	1220	566	1060	388	155	278	71	471	137
MIN	85	95	145	119	130	140	105	71	42	22	17	18
CFSM	1.89	2.64	3.92	2.06	1.88	2.60	1.39	.97	.84	.36	.46	.33
IN.	2.18	2.95	4.52	2.38	1.96	2.99	1.55	1.12	.93	.41	.53	.36

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1958, 1985 - 1997, BY WATER YEAR (WY)

MEAN	74.2	101	123	149	142	166	140	127	95.0	77.3	65.1	67.7
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

PATUXENT RIVER BASIN

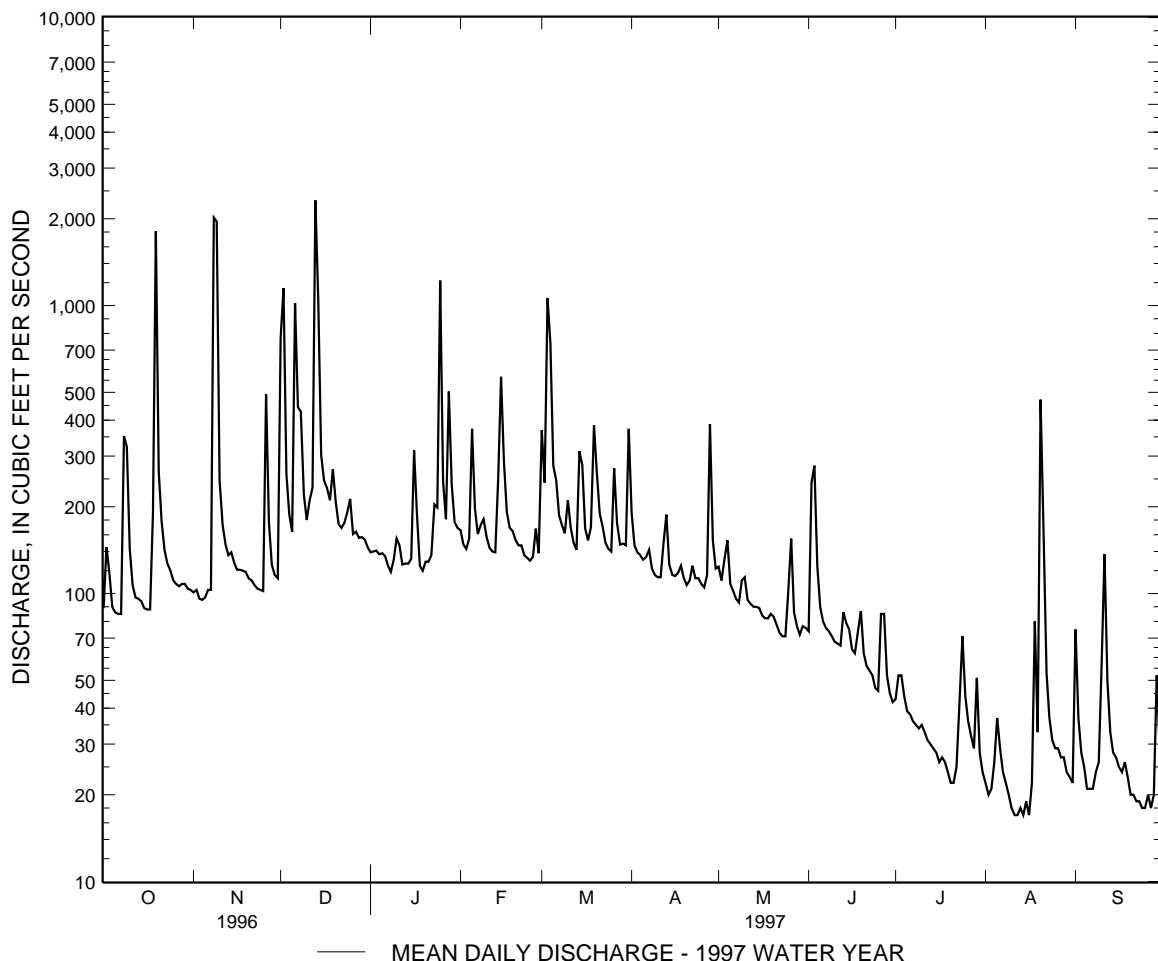
01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1940 - 1958 1985 - 1997
ANNUAL TOTAL	77807	57894	
ANNUAL MEAN	213	159	111
HIGHEST ANNUAL MEAN			196
LOWEST ANNUAL MEAN			59.3
HIGHEST DAILY MEAN	3700	Jan 19	5250
LOWEST DAILY MEAN	67	Aug 26	Sep 6 1979
LOWEST DAILY MEAN	17	(a)	7.0
ANNUAL SEVEN-DAY MINIMUM	71	Aug 20	Sep 19 1943
INSTANTANEOUS PEAK FLOW		18 Aug 10	8.7
INSTANTANEOUS PEAK STAGE		7440 Nov 8	Oct 6 1986
INSTANTANEOUS LOW FLOW		13.89 Nov 8	(b) 35400 Jun 22 1972
ANNUAL RUNOFF (CFSM)	2.16	15 Aug 17	(c) 25.40 Jun 22 1972
ANNUAL RUNOFF (INCHES)	29.41	1.61	1.6 Aug 26 1944
10 PERCENT EXCEEDS	346	21.89	1.13
50 PERCENT EXCEEDS	116	254	15.29
90 PERCENT EXCEEDS	81	114	188
		25	73
			28

a Aug. 11, 12, 14, 16.

b From rating curve extended above 11,000 ft³/s on basis of contracted-opening measurement of peak flow.

c From floodmarks.



PATUXENT RIVER BASIN

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 1996 only at time of publication.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DIS-	PH			OXYGEN			OXYGEN	ALKA-
		CHARGE,	SPE-	WATER	INST.	CIFIC	WHOLE	TUR-	ICAL	LINITY
		CUBIC	CON-	FIELD	TEMPER-	TEMPER-	BID-	CHEM-	BIO-	WAT WH
		FEET	DUCT-	(STAND-	ATURE	ATURE	ITY	(LOW	ICAL,	FIELD
		SECOND	PER	ANCE	ARD	WATER	AIR	LEVEL)	5 DAY	MG/L AS
		(00061)	(00095)	(00400)	(00010)	(DEG C)	(DEG C)	(NTU)	(MG/L)	(MG/L)
								(00076)	(00335)	CACO3
									(00310)	(00419)
OCT 1995										
15...	0010	354	--	--	--	--	110	20	--	--
21...	0940	892	--	--	--	--	750	33	--	--
21...	1450	844	--	--	--	--	250	31	--	--
26...	1230	48	259	7.1	11.5	13.0	1.7	<10	<2.0	58
28...	1200	326	--	--	--	--	52	60	--	--
NOV										
12...	0215	1190	--	--	--	--	400	24	--	--
12...	0600	1090	--	--	--	--	310	28	--	--
12...	1045	719	--	--	--	--	160	23	--	--
14...	1530	1190	--	--	--	--	--	--	--	--
14...	1845	1330	--	--	--	--	--	--	--	--
15...	0115	1320	--	--	--	--	--	--	--	--
15...	0430	1220	--	--	--	--	--	--	--	--
28...	0930	65	264	--	8.0	12.0	3.3	<10	<2.0	--
DEC										
13...	1215	68	359	6.9	0.0	-2.0	1.9	<10	3.0	54
JAN 1996										
19...	0745	985	--	--	--	--	700	18	--	--
19...	1530	6400	--	--	--	--	750	10	--	--
MAR										
25...	1600	112	299	7.1	11.0	19.5	3.4	<10	1.0	44
29...	0340	805	--	--	--	--	210	<10	--	--
APR										
02...	0630	610	--	--	--	--	120	13	--	--
16...	0415	1070	--	--	--	--	400	26	--	--
16...	0815	1010	--	--	--	--	340	33	--	--
16...	1350	578	--	--	--	--	220	28	--	--
22...	1445	112	264	8.1	21.0	30.0	1.9	<10	0.9	48
MAY										
20...	0830	103	267	7.5	19.0	22.5	2.8	<10	<0.8	50
29...	2245	382	--	--	--	--	130	<10	--	--
JUN										
13...	0330	362	--	--	--	--	430	12	--	--
18...	0145	1220	--	--	--	--	820	110	--	--
18...	0345	2580	--	--	--	--	1500	150	--	--
18...	1100	1040	--	--	--	--	510	60	--	--
19...	0730	576	--	--	--	--	160	31	--	--
27...	0645	79	262	7.1	19.0	17.0	4.0	<10	--	55
JUL										
13...	1015	3810	--	--	--	--	570	86	--	--
22...	1200	89	251	7.3	20.0	20.5	3.7	<10	0.9	56
31...	0630	551	--	--	--	--	360	58	--	--
31...	1330	1030	--	--	--	--	470	69	--	--
31...	1815	730	--	--	--	--	330	60	--	--
AUG										
13...	0345	1730	--	--	--	--	420	62	--	--
26...	1030	65	267	7.5	21.0	26.0	0.80	<10	--	57
27...	2100	1170	--	--	--	--	1000	130	--	--
SEP										
06...	2200	1800	--	--	--	--	1200	230	--	--
11...	1020	874	--	--	--	--	270	60	--	--
11...	1315	950	--	--	--	--	200	50	--	--
11...	1825	707	--	--	--	--	120	32	--	--
17...	0315	1470	--	--	--	--	370	65	--	--
17...	0900	1180	--	--	--	--	330	65	--	--
17...	1200	920	--	--	--	--	190	41	--	--
24...	1015	91	242	7.0	16.0	19.0	2.7	11	0.9	54

PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	SILICA,	RESIDUE	PHEO-	CHLORO-	CHLORO-	CHLORO-		NITRO-	NITRO-	NITRO-
	DIS-	TOTAL	PHYTIN	PHYLL A	PHYLL B	PHYLL C	NITRO-	GEN,	GEN,	GEN,
	SOLVED	AT 105	PHYTO-	PHYTO-	PHYTO-	PHYTO-	GEN,	DIS-	DIS-	DIS-
	(MG/L)	DEG. C.	PLANK-	PLANK-	PLANK-	PLANK-	DIS-	DIS-	DIS-	DIS-
	AS	SUS-	TON,	TON,	TON,	TON,	TOTAL	SOLVED	SOLVED	SOLVED
	SIO2)	(MG/L)	PENDED	ACID M.	UNCORR.	UNCORR.	(MG/L)	(MG/L)	(MG/L)	(MG/L)
	(00955)	(00530)	(00530)	(32218)	(32230)	(32231)	(32232)	(00600)	(71851)	(00613)
OCT 1995										
15...	8.5	536	--	--	--	--	3.2	4.2	0.011	0.953
21...	5.0	1330	--	--	--	--	5.3	2.5	0.009	0.584
21...	5.6	410	--	--	--	--	2.4	3.7	0.012	0.841
26...	15	2	0.043	0.056	0.001	0.00	2.0	7.8	0.002	1.76
28...	9.1	250	--	--	--	--	1.8	5.0	0.010	1.15
NOV										
12...	6.2	750	--	--	--	--	3.1	3.1	0.010	0.700
12...	6.9	660	--	--	--	--	3.0	4.2	0.011	0.961
12...	6.8	225	--	--	--	--	2.5	4.1	0.010	0.928
14...	--	--	--	--	--	--	--	--	<0.001	--
14...	--	--	--	--	--	--	--	--	<0.001	--
15...	--	--	--	--	--	--	--	--	<0.001	--
15...	--	--	--	--	--	--	--	--	<0.001	--
28...	15	2	0.047	0.254	0.020	0.055	2.4	9.4	0.006	2.14
DEC										
13...	14	1	--	0.432	0.00	0.056	2.7	11	0.013	2.56
JAN 1996										
19...	7.1	1670	--	--	--	--	8.3	4.7	0.011	1.08
19...	3.6	1880	--	--	--	--	6.0	2.4	0.004	0.548
MAR										
25...	13	3	0.118	0.441	0.090	0.063	2.5	10	0.004	2.26
29...	7.8	376	--	--	--	--	3.2	6.0	0.001	1.35
APR										
02...	8.9	312	--	--	--	--	2.5	6.9	0.008	1.56
16...	5.7	680	--	--	--	--	3.6	4.8	0.014	1.11
16...	5.9	695	--	--	--	--	3.1	5.2	0.015	1.19
16...	6.8	--	--	--	--	--	2.7	5.2	0.014	1.19
22...	6.8	13	0.205	0.873	0.079	0.241	1.6	6.4	0.010	1.46
MAY										
20...	13	7	0.184	0.539	0.103	0.124	2.1	8.2	0.014	1.87
29...	11	330	--	--	--	--	2.8	6.4	0.018	1.47
JUN										
13...	8.8	590	--	--	--	--	4.4	8.0	0.040	1.84
18...	5.5	1640	--	--	--	--	5.7	4.4	0.029	1.02
18...	4.0	1820	--	--	--	--	7.8	7.1	0.034	1.64
18...	5.3	870	--	--	--	--	4.2	4.9	0.028	1.12
19...	8.9	330	--	--	--	--	2.3	4.6	0.023	1.05
27...	3.6	7	0.137	0.214	0.051	0.00	2.3	8.8	0.010	2.00
JUL										
13...	4.8	1160	--	--	--	--	3.2	2.0	0.012	0.468
22...	15	4	0.125	0.286	0.015	0.00	2.2	8.9	0.006	2.01
31...	8.8	470	--	--	--	--	3.7	6.5	0.012	1.48
31...	6.1	640	--	--	--	--	3.4	3.5	0.012	0.809
31...	7.1	470	--	--	--	--	3.0	3.4	0.013	0.776
AUG										
13...	6.6	905	--	--	--	--	3.3	4.0	0.012	0.918
26...	14	2	0.217	0.383	0.043	0.114	2.6	11	0.007	2.42
27...	5.8	1400	--	--	--	--	6.3	6.2	0.020	1.41
SEP										
06...	7.1	1320	--	--	--	--	6.4	4.5	0.012	1.04
11...	8.2	540	--	--	--	--	2.9	2.9	0.011	0.674
11...	6.3	370	--	--	--	--	2.7	3.6	0.016	0.826
11...	6.9	186	--	--	--	--	2.3	3.5	0.015	0.797
17...	--	630	--	--	--	--	3.5	5.0	0.053	1.18
17...	6.4	660	--	--	--	--	3.1	3.7	0.016	0.856
17...	6.8	285	--	--	--	--	2.2	3.4	0.015	0.792
24...	14	3	--	--	--	--	2.2	8.1	0.006	1.84

PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	NITRO-	NITRO-	NITRO-	PHOS-				CARBON,	SEDI-	
	GEN,	GEN, AM-	GEN, AM-	PHOS-	PHORUS	ORTHO,	CARBON,	ORGANIC	SEDI-	DIS-
	AMMONIA	MONIA +	MONIA +	PHORUS	DIS-	DIS-	ORGANIC	DIS-	MENT,	CHARGE,
	SOLVED	TOTAL	DIS.	TOTAL	SOLVED	SOLVED	TOTAL	SOLVED	SUS-	SUS-
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(T/DAY)
	AS N)	AS N)	AS N)	AS P)	AS P)	AS P)	AS C)	AS C)	(00681)	(80155)
	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(00681)	(80154)	(80155)
OCT 1995										
15...	<0.008	2.3	0.73	0.411	0.064	0.048	7.3	7.1	463	442
21...	0.019	4.7	0.49	1.70	0.045	0.028	15	5.6	1640	3960
21...	0.047	1.6	0.45	0.511	0.033	0.025	11	6.9	339	773
26...	0.008	0.24	0.17	0.013	<0.010	0.017	3.9	4.1	2	0.27
28...	0.009	0.68	0.34	0.165	0.037	0.034	6.1	6.2	174	153
NOV										
12...	<0.008	2.4	0.39	0.700	0.071	0.052	6.9	6.8	806	2590
12...	0.009	2.0	0.53	0.600	0.098	0.066	7.9	--	543	1600
12...	0.009	1.5	0.48	0.489	0.094	0.073	9.0	--	262	508
14...	--	--	--	--	--	--	--	--	479	1540
14...	--	--	--	--	--	--	--	--	592	2130
15...	--	--	--	--	--	--	--	--	515	1840
15...	--	--	--	--	--	--	--	--	499	1640
28...	<0.008	0.26	0.22	<0.010	<0.010	0.011	2.2	2.4	5	0.86
DEC										
13...	0.008	<0.10	<0.10	<0.010	<0.010	0.007	1.8	1.8	4	0.64
JAN 1996										
19...	0.152	7.2	0.68	2.20	0.017	0.015	6.8	--	2830	7530
19...	0.190	5.5	0.53	2.00	0.019	0.017	7.5	--	2620	45300
MAR										
25...	0.010	0.26	0.18	<0.008	<0.007	0.011	2.4	2.7	3	0.79
29...	0.060	1.8	0.29	0.547	0.021	0.020	5.4	4.3	839	1820
APR										
02...	0.035	0.95	0.67	0.164	0.014	0.016	4.8	--	272	448
16...	0.109	2.5	0.51	0.763	0.023	0.016	4.6	--	836	2410
16...	0.107	2.0	0.60	0.621	0.025	0.020	6.2	--	680	1860
16...	0.109	1.5	0.46	0.371	0.024	0.023	6.6	6.5	347	541
22...	<0.006	0.18	0.09	<0.009	<0.009	0.009	2.7	--	3	0.76
MAY										
20...	<0.008	0.23	0.16	0.044	0.040	0.008	2.3	2.7	3	0.89
29...	0.093	1.3	0.40	0.284	0.017	0.010	6.0	6.0	171	176
JUN										
13...	0.079	2.5	0.42	0.749	0.039	0.022	17	6.9	645	630
18...	0.101	4.7	0.43	1.60	0.029	<0.003	6.9	7.0	1630	5350
18...	0.157	6.2	0.62	2.60	0.037	0.006	7.6	7.7	2950	20600
18...	0.100	3.1	0.63	1.10	0.049	0.013	9.2	9.4	1040	2910
19...	0.054	1.3	0.38	0.315	0.043	0.034	6.6	6.3	290	451
27...	0.012	0.29	0.23	0.078	0.083	<0.003	2.0	--	9	2.0
JUL										
13...	0.098	2.8	0.58	1.10	0.061	0.035	7.8	7.6	1950	20100
22...	0.010	0.19	0.16	0.022	0.013	0.018	2.9	--	8	1.9
31...	0.035	2.2	0.33	0.800	0.017	--	5.3	5.2	788	1170
31...	0.037	2.6	0.45	0.800	0.042	--	6.2	6.4	782	2170
31...	0.045	2.3	0.53	0.700	0.072	0.050	6.7	7.1	602	1190
AUG										
13...	0.034	2.4	0.41	0.800	0.057	0.018	5.6	5.9	850	3970
26...	<0.005	0.20	0.18	0.016	<0.003	<0.004	2.2	--	4	0.65
27...	0.058	4.9	0.52	2.20	0.059	0.026	7.1	--	1750	5520
SEP										
06...	0.058	5.4	0.43	1.90	0.139	0.017	7.2	--	2080	10100
11...	0.065	2.3	0.36	0.630	0.060	0.024	5.9	5.5	684	1620
11...	0.138	1.9	0.57	0.574	0.103	0.035	7.0	--	452	1160
11...	0.091	1.5	0.56	0.373	0.099	0.037	7.0	7.0	254	484
17...	--	2.3	--	0.900	--	--	5.6	--	81	320
17...	0.066	2.3	0.57	0.900	0.091	0.036	7.2	7.0	558	1780
17...	0.065	1.4	0.57	0.450	0.102	0.036	6.7	--	262	650
24...	<0.005	0.33	0.22	0.033	0.012	0.021	3.0	--	2	0.42

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PATUXENT RIVER BASIN

01594440 PATUXENT RIVER NEAR BOWIE, MD

LOCATION.--Lat 38°57'21", long 76°41'36", Anne Arundel County, Hydrologic Unit 02060006, on left bank 45 ft upstream from bridge on U.S. Highway 50 (John Hanson Highway), 3.0 mi west of Bowie City Hall, 3.1 mi downstream from mouth of Little Patuxent River, 4.2 mi northwest of Davidsonville, and 60 mi upstream from mouth.

DRAINAGE AREA.--348 mi².

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 (orifice line leak and missing record), which are fair. Flow regulated by T. Howard Duckett Reservoir, usable capacity 5,600,000,000 gal, 21 mi upstream from station.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 6,900 ft³/s, Jan. 20, gage height, 15.00 ft.DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	356	373	657	502	764	653	e1300	456	233	157	104	147
2	374	381	2730	489	725	1310	e700	475	652	170	102	191
3	489	371	2290	472	691	867	e550	436	1220	205	106	166
4	350	365	1390	465	525	3330	e500	542	1070	165	109	129
5	318	354	1250	477	1030	1910	481	423	526	150	113	120
6	313	369	1930	478	932	1420	499	393	420	143	143	114
7	310	376	1850	442	599	936	547	371	385	142	113	117
8	583	534	1820	e410	574	594	519	321	329	139	106	121
9	1690	4190	1660	437	670	549	441	315	292	140	101	120
10	830	3360	1310	535	e620	647	399	318	246	140	101	136
11	481	1460	669	e560	538	565	393	255	209	131	100	285
12	396	1200	851	e470	e460	450	426	235	203	127	101	205
13	373	683	1570	e420	e480	615	696	228	231	125	101	145
14	e362	511	5220	e400	761	749	486	224	243	125	103	130
15	351	487	2800	e410	1540	1190	420	222	220	119	101	125
16	340	454	1880	e650	e1430	e870	396	213	197	116	102	121
17	339	443	1650	e870	e930	e680	398	208	188	112	116	117
18	356	445	1030	e510	e660	525	460	207	247	113	186	122
19	2030	450	1050	e590	579	868	407	209	430	110	150	123
20	2860	414	e790	e590	619	1030	389	208	228	107	568	116
21	1020	412	e600	e430	598	690	387	200	190	105	1300	113
22	786	407	e560	e430	600	e600	441	190	179	110	260	113
23	575	397	568	642	498	e550	409	187	173	119	164	115
24	474	396	591	569	448	e500	438	190	167	227	142	110
25	439	399	862	1680	e436	e480	406	257	168	164	135	111
26	386	713	808	e1540	e436	e800	379	2690	165	132	132	112
27	338	1070	776	889	515	e1100	393	1050	264	127	127	112
28	e334	527	768	976	473	e600	1210	345	182	122	132	115
29	387	439	762	e1270	--	e500	948	272	158	141	138	178
30	407	435	780	e840	--	e470	529	252	156	129	122	154
31	390	--	587	779	--	e950	--	251	--	108	118	--
TOTAL	19037	22415	42059	20222	19131	26998	15947	12143	9571	4220	5496	4083
MEAN	614	747	1357	652	683	871	532	392	319	136	177	136
MAX	2860	4190	5220	1680	1540	3330	1300	2690	1220	227	1300	285
MIN	310	354	560	400	436	450	379	187	156	105	100	110
CFSM	1.76	2.15	3.90	1.87	1.96	2.50	1.53	1.13	.92	.39	.51	.39
IN.	2.03	2.40	4.50	2.16	2.05	2.89	1.70	1.30	1.02	.45	.59	.44

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1997, BY WATER YEAR (WY)

MEAN	258	310	425	509	471	604	515	479	332	218	209	238
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

PATUXENT RIVER BASIN

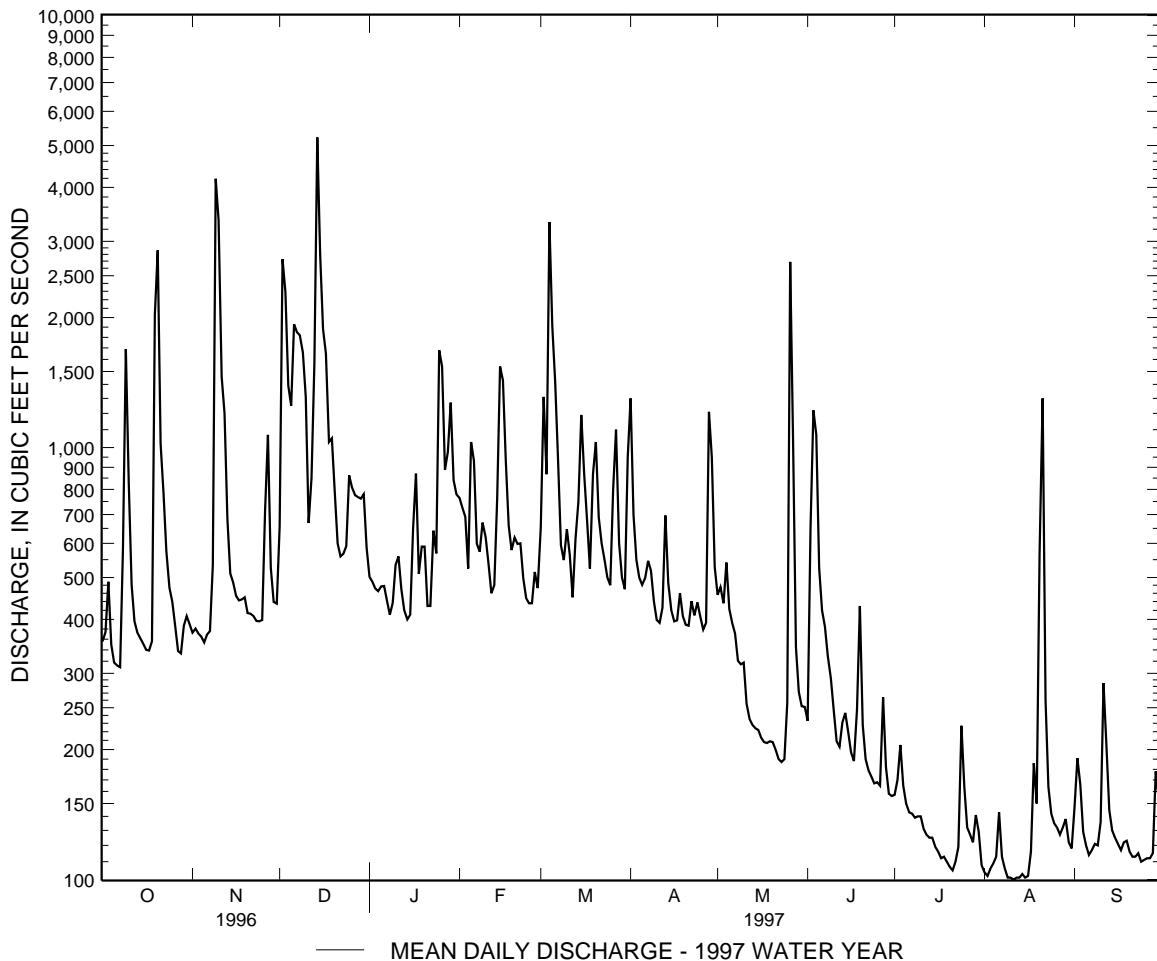
01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1977 - 1997
ANNUAL TOTAL	258243	201322	
ANNUAL MEAN	706	552	382
HIGHEST ANNUAL MEAN			637 1979
LOWEST ANNUAL MEAN			175 1981
HIGHEST DAILY MEAN	6350	Jan 20	8860 Jan 27 1978
LOWEST DAILY MEAN	211	Jan 8	56 (a)
ANNUAL SEVEN-DAY MINIMUM	248	Jun 6	57 Sep 15 1986
INSTANTANEOUS PEAK FLOW		6900 Nov 9	(b) 31100 Jun 22 1972
INSTANTANEOUS PEAK STAGE		15.00 Nov 9	(c) 27.90 Jun 22 1972
INSTANTANEOUS LOW FLOW		97 Aug 17	32 Aug 9 1966
ANNUAL RUNOFF (CFSM)	2.03	1.58	1.10
ANNUAL RUNOFF (INCHES)	27.61	21.52	14.91
10 PERCENT EXCEEDS	1450	1140	792
50 PERCENT EXCEEDS	446	412	224
90 PERCENT EXCEEDS	289	118	101

a Sept. 17-19, 1986.

b On basis of contracted-opening measurement of peak flow.

c From floodmarks.



PATUXENT RIVER BASIN

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: Maximum 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 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC DUCT- ANCE (00061)	PH WATER WHOLE (US/CM) (00095)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
		CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC DUCT- ANCE (00061)	PH WATER WHOLE (US/CM) (00095)	BARO- METRIC PRES- SURE (MM HG)	OXYGEN, DIS- SOLVED (PER- CENT DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 1996							
24...	1600	467	224	7.3	15.0	20.0	759 9.2 92
28...	1130	329	243	7.1	15.5	19.5	758 6.4 65
NOV							
09...	1030	3340	109	6.4	13.0	15.0	759 6.0 57
26...	1030	635	217	7.1	9.0	15.0	754 10 87
DEC							
02...	1030	2900	147	7.3	8.5	8.5	761 9.5 81
14...	1800	5870	99	6.8	7.5	8.0	768 -- --
17...	1515	1680	151	7.3	7.0	10.0	756 10.9 91
JAN 1997							
30...	1215	841	213	7.4	2.5	3.0	772 13.1 95
FEB							
05...	1415	1170	243	7.3	6.0	9.0	760 11.6 94
APR							
03...	1045	--	222	7.3	11.5	21.5	766 10 91
MAY							
13...	0930	225	284	7.2	15.5	15.5	754 7.8 79
JUN							
03...	1215	1170	178	7.2	15.5	14.0	762 7.7 78
JUL							
15...	1000	116	316	7.1	24.0	32.5	760 6.2 73
AUG							
13...	1030	98	325	7.1	24.0	27.0	759 5.9 70
20...	1500	825	183	7.1	20.5	22.0	756 6.7 75
21...	1330	1470	--	7.0	20.5	29.0	755 6.4 --
SEP							
17...	1115	115	312	7.3	20.5	28.0	761 6.2 69

PATUXENT RIVER BASIN

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALKALINITY	BICARBONATE	SILICA,	NITROGEN, GEN,	NITRATE	NITROGEN, GEN,	NITROGEN, GEN,	NITROGEN, GEN, AMMONIA
	WAT DIS	WATER	DIS-	NITROGEN,	DIS-	NITRITE	NO ₂ +NO ₃	AMMONIA + ORGANIC
	TOT IT	DIS IT	SOLVED	GEN,	DIS-	SOLVED	DIS-	DIS-
	FIELD	FIELD	(MG/L)	TOTAL	(MG/L)	SOLVED	SOLVED	TOTAL
	MG/L AS	MG/L AS	AS	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)
	CACO ₃	HCO ₃	SIO ₂)	AS N)	AS NO ₃)	AS N)	AS N)	AS N)
	(39086)	(00453)	(00955)	(00600)	(71851)	(00613)	(00631)	(00608)
OCT 1996								
24...	45	54	10	1.8	6.1	0.020	1.40	0.130
28...	51	62	11	1.8	6.1	0.020	1.40	0.110
NOV								
09...	22	27	4.8	1.1	2.3	0.020	0.530	0.050
26...	38	47	8.7	1.9	6.1	0.030	1.40	0.140
DEC								
02...	27	33	5.9	1.5	3.1	0.020	0.730	0.060
14...	--	--	5.2	1.3	2.8	0.020	0.650	0.030
17...	--	--	7.5	2.0	6.5	0.040	1.50	0.130
JAN 1997								
30...	30	36	6.8	1.9	7.0	0.020	1.60	0.040
FEB								
05...	30	37	6.7	2.0	5.7	0.025	1.32	0.102
APR								
03...	35	43	5.4	--	--	<0.010	1.60	0.020
MAY								
13...	46	56	7.6	1.9	6.3	0.036	1.46	0.095
JUN								
03...	--	--	6.4	1.6	2.8	0.019	0.655	0.166
JUL								
15...	56	69	8.3	1.9	6.6	0.016	1.51	0.080
AUG								
13...	55	--	7.5	1.7	5.5	0.015	1.26	0.070
20...	--	--	5.3	1.2	3.5	0.030	0.826	0.108
21...	26	--	5.8	1.5	3.4	0.025	0.799	0.101
SEP								
17...	52	--	8.1	1.7	--	<0.010	1.21	0.045

DATE	NITROGEN, AMMONIA + ORGANIC	PHOSPHORUS	PHOSPHORUS	CARBON, ORGANIC	SEDI-MENT,	SEDIMENT,	SIEVE DIAM.
	DIS.	TOTAL	SOLVED	SOLVED	TOTAL	SUSPENDED	% FINER THAN
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	.062 MM
	AS N)	AS P)	AS P)	AS C)	(00680)	(80154)	(70331)
OCT 1996							
24...	0.30	0.040	<0.010	0.010	4.5	10	13
28...	0.40	0.050	<0.010	<0.010	4.4	9	8.0
NOV							
09...	0.30	0.150	0.030	0.040	7.8	146	1320
26...	0.40	0.120	<0.010	0.020	5.5	33	57
DEC							
02...	0.40	0.210	0.030	0.030	8.9	97	760
14...	0.30	0.230	0.010	0.020	--	99	1570
17...	0.30	0.090	<0.010	0.010	3.6	14	64
JAN 1997							
30...	0.30	0.080	0.010	<0.010	4.4	22	50
FEB							
05...	0.33	0.153	0.012	0.006	6.0	81	257
APR							
03...	<0.20	0.020	<0.010	<0.010	3.2	7	--
MAY							
13...	0.29	0.038	<0.010	0.013	3.9	12	7.3
JUN							
03...	0.55	0.202	0.017	0.032	11	56	178
JUL							
15...	0.23	0.080	0.010	0.032	4.9	11	3.4
AUG							
13...	0.37	0.063	0.012	0.021	4.1	11	3.0
20...	0.29	0.125	0.055	0.047	9.3	183	408
21...	0.39	0.126	0.034	0.031	6.8	33	131
SEP							
17...	0.32	0.064	0.015	0.030	3.8	9	2.9

PATUXENT RIVER BASIN

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 mi².

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 (ice effect), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1645	1,020	8.97	Dec. 14	0030	1,990	11.92
Nov. 9	1000	1,160	9.66	May 26	1815	*2,030	*11.98

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	49	233	88	104	237	147	87	55	24	8.2	18
2	66	49	725	87	90	333	102	72	317	57	8.1	19
3	59	45	394	87	84	320	89	72	489	47	8.5	30
4	37	43	153	83	94	701	85	67	288	29	8.0	20
5	30	44	116	82	507	256	79	59	109	22	9.0	15
6	29	46	528	80	308	186	83	62	78	20	8.7	14
7	27	48	379	73	151	137	92	57	66	19	8.5	13
8	251	198	420	69	159	121	75	50	59	17	8.1	13
9	599	1010	188	85	175	106	70	62	52	17	8.2	13
10	183	435	134	140	148	139	67	76	46	14	7.9	25
11	92	137	117	135	127	119	67	55	41	14	7.9	40
12	65	97	112	97	113	100	89	49	39	14	8.7	24
13	55	83	648	e80	108	92	146	44	75	12	8.5	27
14	47	79	1270	e77	215	147	87	43	81	11	10	17
15	42	75	493	e75	581	159	73	43	72	10	9.9	15
16	38	70	211	184	371	107	69	39	43	9.0	8.0	14
17	37	67	167	e130	173	92	83	37	36	8.7	28	13
18	47	70	144	e90	139	97	110	37	65	8.2	179	18
19	824	75	211	e75	126	317	75	35	294	14	37	16
20	494	67	164	e70	113	244	68	32	80	8.3	456	13
21	158	62	120	e67	105	143	70	29	49	7.9	584	19
22	102	60	109	e70	104	120	80	27	38	7.9	103	13
23	83	56	110	123	94	98	70	26	32	12	51	11
24	74	57	117	97	88	88	98	26	28	35	34	11
25	66	56	169	399	85	85	77	49	24	24	26	11
26	63	274	116	181	86	195	66	1310	137	16	21	11
27	60	164	130	110	105	147	65	833	91	14	20	8.6
28	59	91	110	201	88	107	553	147	39	11	22	8.2
29	56	76	101	169	---	102	262	81	29	15	26	29
30	55	69	99	111	---	104	114	64	25	11	23	17
31	53	---	95	102	---	233	---	59	---	9.3	20	---
TOTAL	3896	3752	8083	3517	4641	5432	3211	3729	2877	538.3	1766.2	515.8
MEAN	126	125	261	113	166	175	107	120	95.9	17.4	57.0	17.2
MAX	824	1010	1270	399	581	701	553	1310	489	57	584	40
MIN	27	43	95	67	84	85	65	26	24	7.9	7.9	8.2
CFSM	1.40	1.39	2.91	1.26	1.85	1.95	1.19	1.34	1.07	.19	.64	.19
IN.	1.62	1.56	3.35	1.46	1.92	2.25	1.33	1.55	1.19	.22	.73	.21

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

MEAN	53.4	89.2	108	125	129	185	112	87.6	51.0	49.1	43.0	38.1
MAX	145	125	261	260	220	445	191	164	118	108	95.5	90.4
(WY)	1996	1996	1997	1996	1994	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

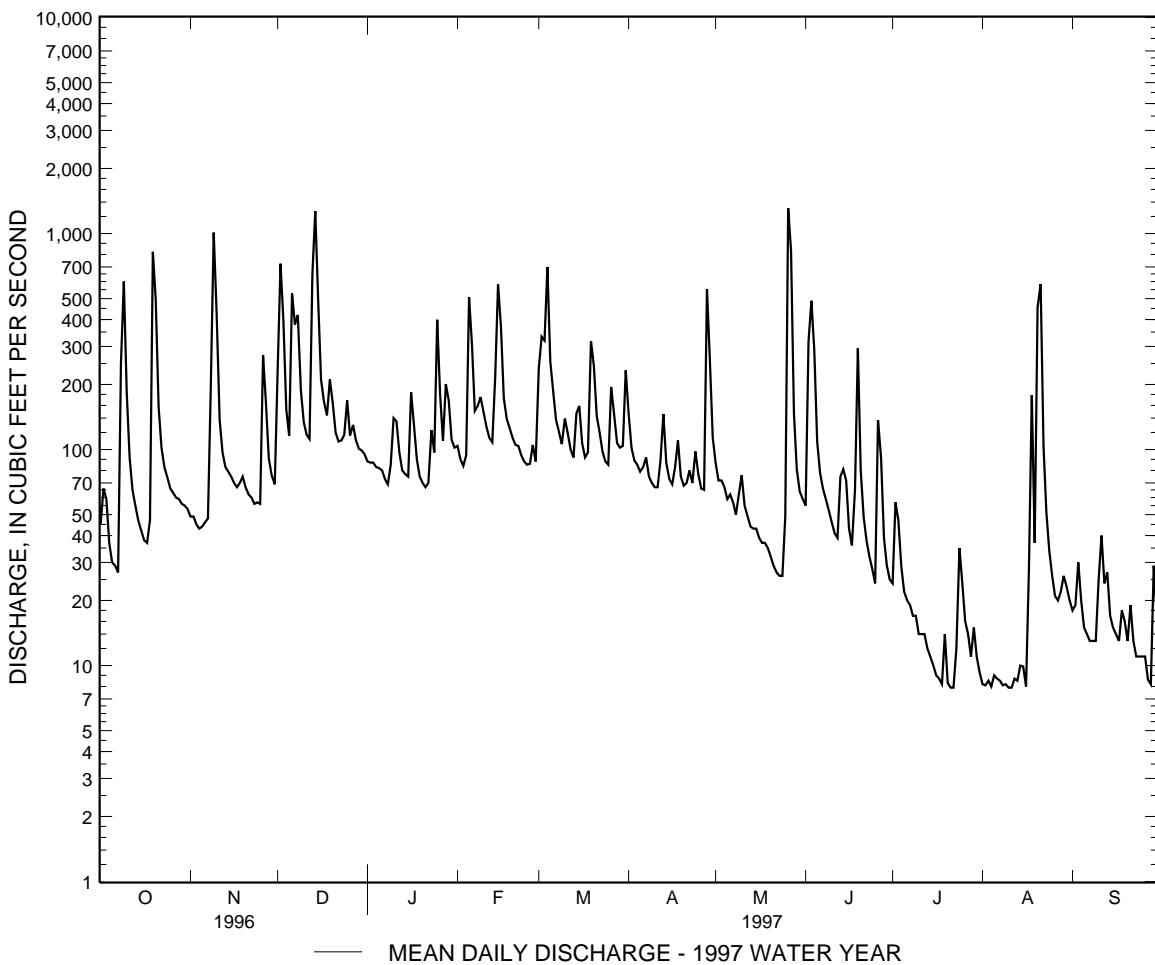
PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1986 - 1997
ANNUAL TOTAL	53241	41958.3	
ANNUAL MEAN	145	115	92.0
HIGHEST ANNUAL MEAN			133
LOWEST ANNUAL MEAN			54.8
HIGHEST DAILY MEAN	1960	Jan 20	2100
LOWEST DAILY MEAN	13	Sep 3	Mar 3
ANNUAL SEVEN-DAY MINIMUM	22	Aug 20	1994
INSTANTANEOUS PEAK FLOW		1310	2100
INSTANTANEOUS PEAK STAGE		May 26	Mar 3
INSTANTANEOUS LOW FLOW		7.9 (a)	1986
ANNUAL RUNOFF (CFSM)	1.62	8.3 Aug 7	2.1 (b)
ANNUAL RUNOFF (INCHES)	22.08	2030 May 26	2.4 Sep 7 1995
10 PERCENT EXCEEDS	322	11.98 May 26	3630 Jan 19 1996
50 PERCENT EXCEEDS	90	6.3 Aug 16	13.20 Jan 19 1996
90 PERCENT EXCEEDS	32	1.28	1.9 (b)
		17.40	1.03
		240	13.93
		72	186
		13	52
			11

a July 21, 22, Aug. 10, 11.

b Sept. 11, 12, 1995.



PATUXENT RIVER BASIN

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 1996 only at time of publication.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DIS-	PH						OXYGEN	OXYGEN
		CHARGE,	SPE-	WATER					DEMAND,	DEMAND,
INST.	CIFIC	WHOLE							CHEM-	BIO-
CUBIC	CON-	FIELD	TEMPER-	TEMPER-	TUR-	OXYGEN,	ICAL	CHEM-		
FEET	DUCT-	(STAND-	ATURE	ATURE	BID-	DIS-	(LOW	ICAL,		
	PER	ANCE	ARD	WATER	AIR	ITY	SOLVED	LEVEL)	5 DAY	
	SECOND	(US/CM)	UNITS)	(DEG C)	(DEG C)	(NTU)	(MG/L)	(MG/L)	(MG/L)	(00310)
		(00061)	(00095)	(00400)	(00010)	(00020)	(00076)	(00300)	(00335)	
OCT 1995										
06...	0020	147	--	--	--	56	--	14	--	
10...	0920	10	30	7.3	16.5	22.0	--	8.3	--	--
14...	2345	663	--	--	--	580	--	28	--	
15...	1145	1000	--	--	--	110	--	30	--	
15...	1845	855	--	--	--	100	--	26	--	
21...	1600	1000	--	--	--	190	--	24	--	
21...	2130	1240	--	--	--	120	--	19	--	
22...	0315	1080	--	--	--	98	--	25	--	
26...	0810	34	27	7.4	12.0	8.5	--	9.2	--	--
26...	1015	33	276	6.8	12.0	10.0	11	--	19	<2.0
28...	0545	627	--	--	--	220	--	25	--	
28...	1040	679	--	--	--	140	--	23	--	
28...	2125	513	--	--	--	83	--	22	--	
NOV										
12...	0615	503	--	--	--	190	--	20	--	
27...	1055	52	24	7.6	6.5	16.0	--	11.4	--	--
27...	1545	52	262	--	6.0	15.0	8.7	--	10	<2.0
DEC										
12...	1055	50	40	7.1	1.5	3.0	--	13.1	--	--
13...	1000	45	388	6.5	1.0	-0.5	9.2	--	<10	3.0
JAN 1996										
19...	0445	690	--	--	--	290	--	11	--	
23...	0940	143	33	7.8	1.5	-1.0	--	12.7	--	--
FEB										
20...	1000	103	80	7.2	3.5	6.0	--	12.5	--	--
MAR										
07...	1225	149	42	6.9	8.0	5.0	--	10.5	--	--
20...	0045	637	--	--	--	460	--	16	--	
20...	1115	614	--	--	--	210	--	10	--	
21...	0935	187	34	6.9	6.5	8.0	--	10.7	--	--
25...	1115	81	330	6.5	8.0	20.5	9.6	--	10	1.1
29...	0100	542	--	--	--	200	--	<10	--	
29...	0640	610	--	--	--	110	--	<10	--	
APR										
02...	1215	575	--	--	--	100	--	22	--	
04...	1200	138	--	--	--	--	--	--	--	
16...	1400	823	--	--	--	210	--	85	--	
16...	1735	845	--	--	--	160	--	21	--	
17...	0200	753	--	--	--	140	--	27	--	
18...	1110	150	25	7.4	11.5	19.0	--	10.0	--	--
22...	0930	87	270	6.7	15.5	19.0	6.8	--	10	0.9
MAY										
06...	1035	618	18	6.9	16.5	17.5	--	7.6	--	--
20...	1000	72	266	7.2	20.0	29.0	7.8	--	<10	<0.5
20...	1140	72	26	7.1	22.0	32.0	--	8.2	--	--
JUN										
03...	1120	54	26	7.0	16.5	21.0	--	9.0	--	--
17...	0935	21	28	7.7	24.0	31.0	--	9.9	--	--
18...	1225	490	--	--	--	270	--	35	--	
19...	0030	527	--	--	--	220	--	33	--	
20...	1930	439	--	--	--	560	--	71	--	
26...	1430	103	192	6.6	23.0	30.0	38	--	20	<0.3
JUL										
02...	1020	70	21	7.2	24.0	30.0	--	7.0	--	--
13...	1045	774	--	--	--	350	--	66	--	
13...	2145	1010	--	--	--	120	--	26	--	
14...	0945	644	--	--	--	100	--	29	--	
16...	0955	82	22	7.2	24.0	29.0	--	7.2	--	--
24...	0830	37	270	7.1	21.0	24.0	11	--	14	0.3
AUG										
01...	0955	97	21	7.2	22.5	20.0	--	7.2	--	--
19...	1005	36	25	7.3	23.0	28.0	--	8.0	--	--
26...	1200	16	304	7.7	23.5	29.0	9.3	--	12	--

PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

	ALKALINITY	SILICA, MG/L AS CACO3 (00419)	RESIDUE TOTAL PENDED (00955)	PHEO-PHYTIN (MG/L) AS SIO2 (00530)	CHLOROPHYLL A (UG/L) ACID M. (32218)	CHLOROPHYLL B (UG/L) UNCORR. (32230)	CHLOROPHYLL C (UG/L) UNCORR. (32231)	CHLOROPHYLL C (UG/L) UNCORR. (32232)	NITROGEN, TOTAL (MG/L) AS N (00600)	NITRATE DISOLVED (MG/L) AS NO3 (71851)	NITROGEN, SOLVED (MG/L) AS N (00613)	NITROGEN, SOLVED (MG/L) AS N (00631)
OCT 1995												
06...	--	6.8	72	--	--	--	--	--	1.2	1.4	0.017	0.328
10...	--	12	6	--	--	--	--	--	--	--	<0.001	0.176
14...	--	5.0	127	--	--	--	--	--	4.8	1.8	0.012	0.429
15...	--	5.9	146	--	--	--	--	--	2.1	2.8	0.015	0.639
15...	--	6.7	146	--	--	--	--	--	2.0	2.6	0.010	0.600
21...	--	4.8	258	--	--	--	--	--	1.7	2.1	0.010	0.495
21...	--	5.1	184	--	--	--	--	--	1.4	1.8	0.009	0.419
22...	--	5.6	132	--	--	--	--	--	1.4	1.9	0.008	0.448
26...	--	14	7	--	--	--	--	--	--	--	<0.001	0.253
26...	47	13	10	--	0.354	0.029	0.002	0.63	1.1	0.002	0.259	
28...	--	7.0	450	--	--	--	--	--	2.0	1.6	0.009	0.366
28...	--	6.2	320	--	--	--	--	--	1.6	1.7	0.014	0.396
28...	--	7.8	214	--	--	--	--	--	1.1	1.5	0.007	0.337
NOV												
12...	--	6.1	315	--	--	--	--	--	1.8	1.2	0.008	0.273
27...	--	14	4	--	--	--	--	--	--	--	<0.001	0.380
27...	--	15	<1	0.074	0.179	0.019	0.00	0.69	1.7	0.005	0.383	
DEC												
12...	--	15	6	--	--	--	--	--	--	--	<0.001	0.478
13...	43	15	9	0.012	0.144	0.001	0.00	0.71	1.9	0.008	0.430	
JAN 1996												
19...	--	6.5	330	--	--	--	--	--	3.5	2.8	0.014	0.656
23...	--	12	16	--	--	--	--	--	--	--	<0.001	0.851
FEB												
20...	--	13	6	--	--	--	--	--	--	--	<0.001	0.927
MAR												
07...	--	9.7	19	--	--	--	--	--	--	--	<0.001	0.594
20...	--	5.7	600	--	--	--	--	--	3.2	2.1	0.012	0.487
20...	--	6.5	220	--	--	--	--	--	1.6	2.4	0.012	0.543
21...	--	9.8	53	--	--	--	--	--	--	--	<0.001	0.591
25...	28	13	8	0.019	0.292	0.075	0.00	0.91	2.8	0.010	0.647	
29...	--	6.7	376	--	--	--	--	--	1.8	2.2	0.005	0.508
29...	--	6.5	216	--	--	--	--	--	1.7	2.1	0.004	0.488
APR												
02...	--	6.7	138	--	--	--	--	--	1.4	2.3	0.010	0.521
04...	--	--	--	--	--	--	--	--	--	--	<0.001	--
16...	--	5.5	625	--	--	--	--	--	2.5	2.3	0.015	0.528
16...	--	5.7	172	--	--	--	--	--	1.5	2.2	0.022	0.524
17...	--	6.0	116	--	--	--	--	--	1.3	2.2	0.012	0.499
18...	--	11	24	--	--	--	--	--	--	--	<0.001	0.506
22...	31	11	19	0.354	0.815	0.039	0.201	0.55	1.6	0.006	0.362	
MAY												
06...	--	6.9	200	--	--	--	--	--	--	--	<0.001	0.384
20...	36	16	12	0.025	0.309	0.095	0.070	0.82	2.0	0.018	0.470	
20...	--	14	9	--	--	--	--	--	--	--	<0.001	0.462
JUN												
03...	--	16	5	--	--	--	--	--	--	--	<0.001	0.554
17...	--	15	6	--	--	--	--	--	--	--	<0.001	0.410
18...	--	6.5	420	--	--	--	--	--	2.2	2.1	0.034	0.515
19...	--	6.1	370	--	--	--	--	--	1.9	1.9	0.024	0.461
20...	--	7.2	800	--	--	--	--	--	3.1	2.2	0.022	0.519
26...	33	11	33	0.059	0.701	0.171	0.174	0.93	1.3	0.015	0.318	
JUL												
02...	--	11	16	--	--	--	--	--	--	--	<0.001	0.361
13...	--	6.7	600	--	--	--	--	--	2.2	1.2	0.010	0.290
13...	--	6.8	152	--	--	--	--	--	1.1	1.0	0.010	0.244
14...	--	7.7	140	--	--	--	--	--	1.1	0.92	0.009	0.217
16...	--	13	18	--	--	--	--	--	--	--	<0.001	0.304
24...	56	16	7	0.010	0.217	0.016	0.00	0.69	1.4	0.011	0.321	
AUG												
01...	--	11	61	--	--	--	--	--	--	--	<0.001	0.313
19...	--	13	4	--	--	--	--	--	--	--	<0.001	0.292
26...	66	14	5	0.121	0.672	0.075	0.163	0.57	0.68	0.007	0.160	

PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	NITRO-	NITRO-	NITRO-	PHOS-				CARBON,	SEDI-	
	GEN,	GEN, AM-	GEN, AM-	PHOS-	PHORUS	ORTHO,	CARBON,	ORGANIC	SEDI-	MENT,
	AMMONIA	MONIA +	MONIA +	PHORUS	DIS-	DIS-	ORGANIC	DIS-	MENT,	DIS-
	SOLVED	TOTAL	DIS.	TOTAL	SOLVED	SOLVED	TOTAL	SOLVED	SUS-	CHARGE,
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(AS P)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(T/DAY)
	(AS N)	(AS N)	(AS N)	(AS P)	(AS P)	(AS C)	(AS C)	(AS C)	(00681)	(80155)
	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(00681)	(80154)	(80155)
OCT 1995										
06...	0.065	0.83	0.38	0.252	0.034	0.030	7.0	7.3	83	33
10...	0.023	--	--	0.082	0.039	0.027	--	--	--	--
14...	0.065	4.4	0.77	2.00	0.049	0.027	6.2	--	1230	2200
15...	0.040	1.4	0.74	0.363	0.031	0.022	7.6	7.6	289	779
15...	0.037	1.3	0.76	0.290	0.031	0.022	7.8	7.9	165	382
21...	0.028	1.2	0.41	0.635	0.034	0.020	9.1	6.3	295	796
21...	0.034	0.93	0.44	0.403	0.021	0.012	7.5	--	133	444
22...	0.024	0.91	0.43	0.269	0.025	0.008	7.9	6.5	100	293
26...	0.038	--	--	0.069	0.022	0.015	--	--	--	--
26...	0.030	0.37	0.29	0.072	<0.010	0.012	5.3	--	7	0.61
28...	0.011	1.7	0.41	1.20	0.024	0.029	9.5	5.6	446	755
28...	0.013	1.2	0.41	0.543	0.046	0.027	7.7	7.6	421	772
28...	0.014	0.77	0.35	0.285	0.021	0.022	7.6	7.6	215	297
NOV										
12...	<0.008	1.5	0.35	0.800	0.039	0.028	7.5	--	385	523
27...	0.042	--	--	0.045	0.021	0.011	--	--	--	--
27...	0.047	0.30	0.27	0.039	<0.010	0.013	3.6	--	5	0.63
DEC										
12...	0.071	--	--	0.045	0.010	0.006	--	--	--	--
13...	0.067	0.28	0.26	0.043	<0.010	0.011	3.4	--	8	0.92
JAN 1996										
19...	0.254	2.8	1.1	1.20	0.013	0.015	5.5	--	905	1690
23...	0.109	--	--	0.068	0.019	0.012	--	--	--	--
FEB										
20...	0.138	--	--	0.035	0.010	0.005	--	--	--	--
MAR										
07...	0.076	--	--	0.079	0.023	0.011	--	--	--	--
20...	0.169	2.7	0.56	1.40	0.028	0.017	6.6	5.0	915	1570
20...	0.131	1.1	0.50	0.368	0.011	0.011	6.0	6.1	271	449
21...	0.067	--	--	0.121	0.027	0.014	--	--	--	--
25...	0.035	0.26	<0.10	0.024	<0.003	0.016	3.3	--	8	1.7
29...	0.112	1.3	0.30	0.717	0.015	0.023	6.7	6.0	565	827
29...	0.117	1.2	0.42	0.389	0.025	0.021	6.9	7.2	308	507
APR										
02...	0.067	0.89	0.60	0.257	0.015	0.013	6.8	6.0	159	247
04...	--	--	--	--	--	--	--	--	--	--
16...	0.114	2.0	0.50	1.10	0.043	0.027	6.9	6.1	1020	2270
16...	0.106	1.0	0.49	0.380	0.045	0.021	7.0	6.6	215	491
17...	0.084	0.81	0.50	0.254	0.030	0.020	7.5	7.5	165	336
18...	0.044	--	--	0.096	0.028	0.010	--	--	--	--
22...	0.016	0.19	0.12	0.031	0.016	0.017	4.9	4.4	9	2.1
MAY										
06...	0.102	--	--	0.360	0.048	0.023	--	--	--	--
20...	0.058	0.35	0.29	0.059	0.015	0.019	4.1	4.2	15	2.9
20...	0.065	--	--	0.088	0.053	0.027	--	--	--	--
JUN										
03...	0.053	--	--	0.061	0.031	0.020	--	--	--	--
17...	0.031	--	--	0.065	0.031	0.021	--	--	--	--
18...	0.140	1.7	0.53	0.900	0.047	<0.003	8.2	--	366	484
19...	0.081	1.5	0.53	0.491	0.043	0.005	8.8	8.5	31	44
20...	0.040	2.6	0.42	1.40	0.038	0.017	8.1	8.2	866	1030
26...	0.047	0.62	0.37	0.216	0.111	0.009	6.5	--	37	10
JUL										
02...	0.060	--	--	0.108	0.049	0.032	--	--	--	--
13...	0.099	1.9	0.45	1.30	0.035	0.026	7.4	7.6	833	1740
13...	0.076	0.82	0.47	0.327	0.036	0.020	7.7	--	226	616
14...	0.062	0.89	0.41	0.266	0.024	0.017	7.6	--	172	299
16...	0.058	--	--	0.125	0.052	0.029	--	--	--	--
24...	0.040	0.37	0.31	0.087	0.018	0.027	5.6	--	8	0.80
AUG										
01...	0.048	--	--	0.281	0.067	0.044	--	--	--	--
19...	0.050	--	--	0.085	0.039	0.024	--	--	--	--
26...	0.015	0.41	0.31	0.081	0.018	0.011	5.2	5.3	6	0.27

PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	TIME	DIS-	PH				OXYGEN		
		CHARGE,	SPE-	WATER				DEMAND,	CHEM-
		INST.	CIFIC	WHOLE	FIELD	TEMPER-	TEMPER-	TUR-	OXYGEN,
CUBIC	CON-		(STAND-	ATURE	ATURE	BID-	DIS-	(LOW	
FETE	DUCT-		PER	ARD	WATER	AIR	ITY	SOLVED	LEVEL)
SECOND	ANCE		(US/CM)	UNITS)	(DEG C)	(DEG C)	(NTU)	(MG/L)	(MG/L)
			(00061)	(00095)	(00400)	(00010)	(00020)	(00076)	(00300)
									(00335)

SEP 1996

03...	1110	13	29	7.8	21.5	27.0	--	9.5	--
11...	1745	475	--	--	--	--	250	--	57
12...	0045	494	--	--	--	--	150	--	43
12...	0730	443	--	--	--	--	150	--	30
16...	1200	32	23	7.3	18.5	18.0	--	8.1	--
17...	1045	358	--	--	--	--	190	--	53
24...	1200	49	219	6.9	17.0	20.0	16	--	20

DATE	5 DAY	OXYGEN	ALKA-	SILICA,	RESIDUE	NITRO-	NITRO-	NITRO-	NITRO-	
		DEMAND,	LINITY	WAT WH	DIS-	AT 105	NITRO-	NITRATE	NITRITE	GEN, NO2+NO3
		BIO-	CHEM-	TOT IT	SOLVED	DEG. C,	GEN,	DIS-	DIS-	AMMONIA
ICAL,	FIELD	(MG/L)	SUS-	TOTAL	SOLVED	SOLVED	SOLVED	DIS-		
		(MG/L)								
		(00310)	(00419)	(00955)	(00530)	(00600)	(71851)	(00613)	(00608)	

SEP 1996

03...	--	--	14	2	--	--	<0.001	0.217	0.029
11...	--	--	6.6	360	2.3	1.7	0.016	0.400	0.051
12...	--	--	6.8	172	1.8	2.0	0.019	0.480	0.075
12...	--	--	7.2	124	1.5	1.2	0.013	0.276	0.057
16...	--	--	13	4	--	--	<0.001	0.263	0.059
17...	--	--	6.8	270	2.0	1.3	0.015	0.305	0.050
24...	1.2	46	11	3	0.71	1.2	0.007	0.272	0.034

DATE		NITRO-	NITRO-	PHOS-	PHOS-	CARBON,	SEDI-	MENT,	
		GEN, AM-	GEN, AM-	PHOS-	PHORUS	CARBON,	ORGANIC	SEDIMENT,	DIS-
		MONIA +	MONIA +	PHOS-	PHORUS	DIS-	ORGANIC	DIS-	CHARGE,
ORGANIC	ORGANIC	PHORUS	DIS-	DIS-	SOLVED	SOLVED	SUS-		
TOTAL	DIS.	TOTAL	SOLVED	SOLVED	TOTAL	PENDED	SUS-		
(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)		
AS N)	AS N)	AS P)	AS P)	AS P)	AS C)	AS C)	(T/DAY)		
(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(00681)	(80154)		
							(80155)		

SEP 1996

03...	--	--	0.067	0.029	0.016	--	--	--	--
11...	1.9	0.43	1.00	0.050	0.020	8.2	--	566	725
12...	1.3	0.51	0.531	0.070	0.020	8.6	--	280	373
12...	1.3	0.67	0.371	0.052	0.021	8.6	--	223	267
16...	--	--	0.089	0.046	0.031	--	--	--	--
17...	1.7	0.38	0.800	0.047	0.023	7.8	7.3	432	418
24...	0.44	0.33	0.085	0.019	0.021	5.6	--	7	0.93

PATUXENT RIVER BASIN

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 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and timber control. Elevation of gage is 10 ft above sea level, from topographic map.

REMARKS.--Water-discharge records good above 1.0 ft³/s and poor below due to leakage around and under control except those for estimated daily discharges (ice effect, missing record), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 20	1830	*124	*7.18				No peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	7.4	17	13	13	23	21	12	7.8	1.9	.46	.44
2	2.9	7.4	63	13	12	24	19	11	18	12	.31	.83
3	3.4	7.5	22	12	12	31	18	11	16	7.7	.32	8.6
4	2.7	7.1	15	12	12	37	18	9.7	11	3.1	1.9	2.8
5	2.4	6.9	13	12	36	24	18	8.7	6.7	2.2	2.1	1.4
6	2.3	7.7	29	12	24	27	19	e8.3	4.9	1.9	8.3	.87
7	2.3	8.6	23	11	20	21	21	e8.1	4.3	1.6	2.1	.74
8	43	11	31	11	22	21	16	e7.8	4.1	1.5	1.3	.54
9	41	28	19	13	23	20	15	e9.0	3.6	1.5	.68	.45
10	22	14	16	20	21	22	14	e11	3.1	5.7	.32	.38
11	10	9.4	15	16	19	21	15	e9.0	2.7	2.3	.17	.36
12	7.2	8.2	14	12	18	19	18	e8.0	2.4	1.6	.06	1.1
13	6.2	7.7	45	11	18	22	22	e7.2	8.4	1.3	.06	1.1
14	5.7	7.5	52	10	26	21	17	e6.7	13	.75	.43	.58
15	4.9	7.8	22	11	40	21	15	e6.3	7.0	.53	.40	.42
16	4.2	7.6	20	22	26	17	15	e6.0	3.7	.40	.24	.38
17	4.2	7.4	19	17	22	16	16	e5.7	2.9	.36	.19	.32
18	5.0	7.4	17	e10	21	17	19	e5.3	3.7	.43	.17	.42
19	59	8.3	e21	9.7	21	36	15	e5.0	22	.70	.27	.51
20	23	8.0	e17	9.8	20	26	14	e4.7	7.5	.63	54	.56
21	16	7.3	15	11	20	21	14	e4.4	3.8	.57	39	2.7
22	11	7.1	15	13	21	20	15	e4.2	2.6	.44	8.9	1.6
23	10	6.6	15	18	19	19	17	e4.1	2.2	.70	3.2	.90
24	9.3	6.4	15	14	18	17	28	e4.1	1.9	4.3	2.1	.47
25	8.4	6.4	18	15	17	17	20	e4.6	1.6	3.5	1.5	.44
26	7.9	16	14	12	17	33	16	e21	6.0	2.1	1.3	.41
27	7.8	14	17	11	22	24	16	e8.0	16	1.6	1.2	.36
28	7.8	8.8	15	20	19	21	36	4.9	3.8	1.3	.96	1.3
29	7.8	7.8	14	18	---	20	18	3.9	2.3	2.4	1.1	3.6
30	7.8	7.6	13	13	---	21	14	3.6	1.9	1.3	.98	1.5
31	7.7	---	14	13	---	25	---	3.6	---	.74	.68	---
TOTAL	355.9	272.9	655	415.5	579	700	539	226.9	194.9	67.05	134.70	36.08
MEAN	11.5	9.10	21.1	13.4	20.7	22.6	18.0	7.32	6.50	2.16	4.35	1.20
MAX	59	28	63	22	40	37	36	21	22	12	54	8.6
MIN	2.3	6.4	13	9.7	12	16	14	3.6	1.6	.36	.06	.32
CFSM	1.22	.97	2.25	1.43	2.20	2.41	1.92	.78	.69	.23	.46	.13
IN.	1.41	1.08	2.60	1.65	2.30	2.78	2.14	.90	.77	.27	.53	.14

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

MEAN	5.19	6.90	9.12	12.5	12.8	21.0	16.8	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

PATUXENT RIVER BASIN

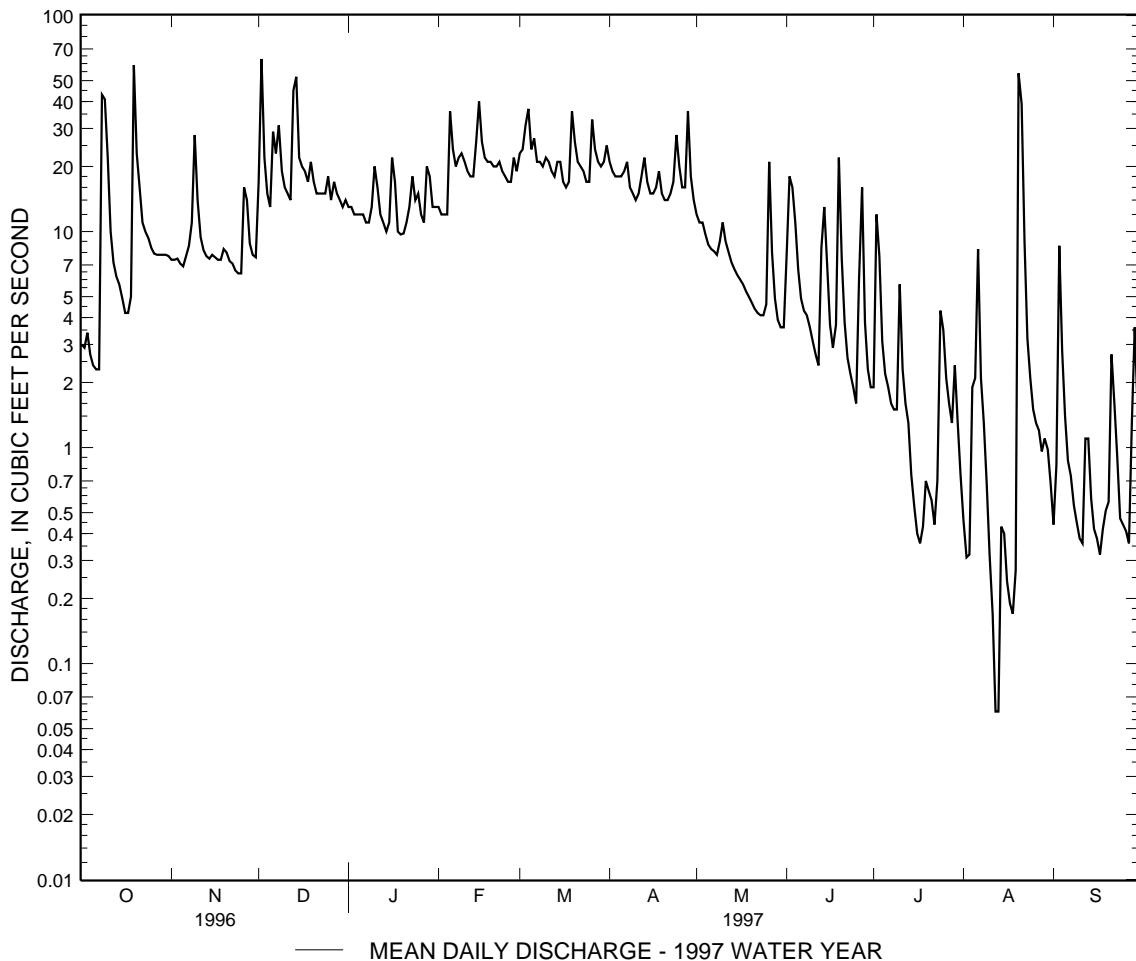
01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1989 - 1997
ANNUAL TOTAL	4582.8	4176.93	
ANNUAL MEAN	12.5	11.4	10.5
HIGHEST ANNUAL MEAN			14.7
LOWEST ANNUAL MEAN			5.79
HIGHEST DAILY MEAN	137	Jan 19	274
LOWEST DAILY MEAN	1.1	Sep 3	Mar 3 1994
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 29	.00
INSTANTANEOUS PEAK FLOW		.22 Aug 11	.00 Aug 27 1993
INSTANTANEOUS PEAK STAGE		124 Aug 20	568 Jun 15 1990
INSTANTANEOUS LOW FLOW		7.18 Aug 20	9.54 Jun 15 1990
ANNUAL RUNOFF (CFSM)	1.33	.05 (a)	.00 (c)
ANNUAL RUNOFF (INCHES)	18.17	1.22	1.12
10 PERCENT EXCEEDS	22	16.57	15.24
50 PERCENT EXCEEDS	10	22	22
90 PERCENT EXCEEDS	2.6	9.0	7.0
		.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.



PATUXENT RIVER BASIN

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 1996 only at time of publication.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	DIS-	PH				OXYGEN	OXYGEN	ALKA-		
		CHARGE, INST.	SPE- CIFIC CUBIC FEET	WATER WHOLE FIELD (STAND- DUCT- PER SECOND (00061)	ARD UNITS (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00400)	TEMPER- ATURE AIR (DEG C) (00010)	TUR- BID- ITY (NTU) (00020)	ICAL (LOW LEVEL) (00076)	DEMAND, CHEM- ICAL (MG/L) (00335)	DEMAND, BIO- ICAL (MG/L) (00310)
OCT 1995											
15...	0330	65	--	--	--	--	46	29	--	--	
15...	0745	57	--	--	--	--	37	25	--	--	
15...	1415	40	--	--	--	--	20	22	--	--	
19...	1100	1.1	211	6.4	11.0	15.0	8.7	26	<2.0	10	
NOV											
27...	1245	4.2	153	--	7.0	17.0	2.4	<10	<2.0	--	
27...	1545	4.3	153	--	7.0	17.0	--	--	--	--	
DEC											
12...	1400	3.4	167	6.2	2.0	1.5	3.0	<10	2.6	16	
JAN 1996											
19...	1100	117	--	--	--	--	210	16	--	--	
19...	1300	167	--	--	--	--	20	11	--	--	
19...	1555	221	--	--	--	--	67	14	--	--	
19...	1820	236	--	--	--	--	94	14	--	--	
19...	2100	201	--	--	--	--	59	14	--	--	
20...	0450	103	--	--	--	--	31	13	--	--	
MAR											
20...	0100	49	--	--	--	--	29	<10	--	--	
20...	0755	38	--	--	--	--	20	<10	--	--	
25...	1400	13	133	6.6	12.0	22.0	2.7	<10	1.1	18	
APR											
16...	0915	41	--	--	--	--	10	30	--	--	
16...	1300	45	--	--	--	--	13	25	--	--	
22...	1245	14	137	6.6	19.5	31.5	3.6	73	0.7	24	
MAY											
21...	0800	5.1	166	6.8	23.0	23.0	7.6	16	<0.8	48	
JUN											
19...	0130	89	--	--	--	--	220	28	--	--	
19...	0430	92	--	--	--	--	120	22	--	--	
19...	0845	60	--	--	--	--	72	21	--	--	
20...	1700	51	--	--	--	--	37	19	--	--	
20...	1930	84	--	--	--	--	76	18	--	--	
26...	0800	5.9	164	6.1	21.5	24.0	23	21	<0.8	50	
JUL											
13...	0245	56	--	--	--	--	--	--	--	--	
13...	0600	104	--	--	--	--	43	22	--	--	
13...	0805	122	--	--	--	--	47	22	--	--	
13...	1015	123	--	--	--	--	45	26	--	--	
13...	1230	111	--	--	--	--	--	--	--	--	
13...	1500	99	--	--	--	--	--	--	--	--	
13...	1815	77	--	--	--	--	26	26	--	--	
13...	2245	48	--	--	--	--	--	--	--	--	
24...	1000	5.3	168	6.7	21.0	25.5	24	17	0.3	51	
AUG											
13...	0215	45	--	--	--	--	67	23	--	--	
13...	0600	74	--	--	--	--	33	15	--	--	
13...	0915	69	--	--	--	--	40	12	--	--	
13...	1300	57	--	--	--	--	27	16	--	--	
26...	1330	1.8	205	6.7	23.0	29.0	54	22	--	66	
SEP											
24...	1500	2.6	176	6.6	17.5	19.0	26	19	1.2	56	

PATUXENT RIVER BASIN

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	SILICA,	RESIDUE	PHEO-	CHLORO-	CHLORO-	CHLORO-		NITRO-	NITRO-	NITRO-
	DIS-	TOTAL	PHYTIN	PHYLL A	PHYLL B	PHYLL C	NITRO-	GEN,	GEN,	GEN,
	SOLVED	AT 105	PHYTO-	PHYTO-	PHYTO-	PHYTO-	GEN,	DIS-	DIS-	NO2+NO3
	(MG/L)	DEG. C.	PLANK-	PLANK-	PLANK-	PLANK-	DIS-	DIS-	DIS-	
	AS	SUS-	TON,	TON,	TON,	TON,	TOTAL	SOLVED	SOLVED	SOLVED
	SIO2)	(MG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)
	(00955)	(00530)	(32218)	(32230)	(32231)	(32232)	(00600)	(71851)	(00613)	(00631)
OCT 1995										
15...	13	100	--	--	--	--	1.3	0.74	0.003	0.170
15...	14	34	--	--	--	--	1.0	--	<0.002	0.135
15...	16	21	--	--	--	--	0.84	--	<0.002	0.057
19...	23	9	0.006	0.335	0.024	0.020	0.63	0.07	0.003	0.018
NOV										
27...	16	3	0.024	0.074	0.006	0.00	0.26	0.14	0.003	0.035
27...	--	--	--	--	--	--	--	--	--	--
DEC										
12...	17	1	--	0.052	0.00	0.00	0.15	0.18	0.009	0.050
JAN 1996										
19...	8.7	28	--	--	--	--	0.49	0.75	0.053	0.223
19...	8.1	41	--	--	--	--	0.60	0.65	0.061	0.207
19...	7.4	64	--	--	--	--	0.73	0.92	0.001	0.208
19...	6.7	49	--	--	--	--	0.70	--	<0.001	0.181
19...	7.3	33	--	--	--	--	0.68	--	<0.001	0.204
20...	8.8	151	--	--	--	--	0.53	--	<0.001	0.181
MAR										
20...	12	28	--	--	--	--	0.52	0.46	0.004	0.107
20...	11	13	--	--	--	--	0.36	0.27	0.003	0.064
25...	14	2	0.058	0.256	0.065	0.018	0.29	--	<0.001	0.040
APR										
16...	12	17	--	--	--	--	0.42	0.27	0.004	0.066
16...	13	17	--	--	--	--	0.38	0.25	0.003	0.060
22...	14	14	0.110	0.391	0.086	0.074	0.35	0.10	0.004	0.027
MAY										
21...	17	5	0.164	0.450	0.119	0.063	0.55	0.15	0.009	0.044
JUN										
19...	9.1	130	--	--	--	--	1.3	1.1	0.019	0.259
19...	9.5	48	--	--	--	--	--	0.82	0.018	0.204
19...	11	34	--	--	--	--	0.82	0.60	0.015	0.150
20...	14	34	--	--	--	--	0.69	0.41	0.008	0.101
20...	12	36	--	--	--	--	0.78	0.53	0.010	0.130
26...	19	11	0.122	0.241	0.093	0.00	0.46	0.11	0.006	0.031
JUL										
13...	--	--	--	--	--	--	--	--	<0.001	--
13...	11	28	--	--	--	--	0.57	0.23	0.006	0.059
13...	9.9	27	--	--	--	--	0.53	0.23	0.006	0.058
13...	9.9	23	--	--	--	--	0.59	0.24	0.006	0.060
13...	--	--	--	--	--	--	--	--	<0.001	--
13...	--	--	--	--	--	--	--	--	<0.001	--
13...	11	12	--	--	--	--	0.49	0.16	0.007	0.043
13...	--	--	--	--	--	--	--	--	<0.001	--
24...	19	6	--	0.135	0.004	0.00	0.40	0.21	0.006	0.053
AUG										
13...	13	72	--	--	--	--	0.86	0.67	0.012	0.164
13...	11	20	--	--	--	--	0.55	0.41	0.009	0.101
13...	12	21	--	--	--	--	0.61	0.45	0.007	0.108
13...	13	15	--	--	--	--	0.49	0.18	0.007	0.048
26...	19	15	--	0.198	0.008	0.00	0.55	0.29	0.008	0.074
SEP										
24...	2.7	6	--	--	--	--	0.39	0.33	0.005	0.079

PATUXENT RIVER BASIN

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996 -- Continued

DATE	NITRO-	NITRO-	NITRO-	PHOS-		CARBON,		SEDI-	
	GEN,	GEN, AM-	GEN, AM-	PHOS-	PHORUS	ORTHO,	CARBON,	ORGANIC	MENT,
	AMMONIA	MONIA +	MONIA +	PHORUS	DIS-	DIS-	DIS-	SUS-	DIS-
DATE	SOLVED (MG/L)	TOTAL (MG/L)	DIS. (AS N)	TOTAL (MG/L)	SOLVED (AS P)	SOLVED (MG/L)	TOTAL (AS C)	SOLVED (MG/L)	CHARGE, (T/DAY)
	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(00681)	(80154)
OCT 1995									
15...	0.010	1.1	0.67	0.207	0.026	0.017	7.9	7.8	--
15...	0.011	0.89	0.66	0.143	0.018	0.014	7.8	7.5	--
15...	0.014	0.79	0.61	0.088	0.015	0.010	7.2	6.8	--
19...	0.061	0.61	0.54	0.050	0.015	0.013	4.5	4.0	25 0.07
NOV									
27...	0.018	0.22	0.21	<0.010	0.011	0.012	3.4	--	6 0.07
27...	--	--	--	--	--	--	--	--	--
DEC									
12...	0.022	<0.10	<0.10	<0.010	<0.010	0.011	3.4	--	7 0.07
JAN 1996									
19...	0.029	0.26	0.20	0.050	0.013	0.011	5.1	--	60 19
19...	0.029	0.39	0.17	0.107	0.014	0.013	5.2	5.4	93 42
19...	0.033	0.52	0.21	0.190	0.017	0.011	6.3	6.0	128 76
19...	0.036	0.52	0.20	0.204	<0.007	0.011	6.9	6.4	85 54
19...	0.030	0.47	0.22	0.144	0.017	0.012	7.4	7.7	45 24
20...	0.021	0.35	0.22	0.097	0.013	0.010	8.0	7.8	20 5.6
MAR									
20...	0.019	0.41	0.25	0.097	0.012	0.010	4.8	5.0	50 6.6
20...	0.013	0.30	0.25	0.058	<0.007	0.009	5.3	5.2	16 1.6
25...	0.017	0.25	0.14	0.012	0.010	0.013	3.8	3.6	2 0.05
APR									
16...	0.025	0.36	0.46	0.058	0.025	0.016	5.0	--	20 2.3
16...	0.021	0.32	0.27	0.053	0.019	0.015	5.5	5.8	19 2.4
22...	0.009	0.32	0.20	0.028	<0.090	0.013	5.5	--	6 0.22
MAY									
21...	0.033	0.51	0.36	0.060	<0.005	0.014	7.4	7.5	13 0.17
JUN									
19...	0.084	1.0	0.41	0.404	0.046	0.006	9.2	8.4	139 33
19...	0.052	--	--	0.278	0.026	<0.003	8.8	8.1	73 18
19...	0.039	0.67	0.29	0.199	0.024	<0.003	8.9	8.9	42 6.8
20...	0.020	0.59	0.30	0.193	0.063	0.016	8.1	8.1	56 7.8
20...	0.030	0.65	0.42	0.203	0.039	0.011	9.0	8.0	58 13
26...	0.035	0.43	0.30	0.137	0.053	0.007	8.4	8.1	17 0.28
JUL									
13...	--	--	--	--	--	--	--	--	65 9.9
13...	0.036	0.51	0.25	0.185	0.037	0.022	8.2	7.5	100 28
13...	0.039	0.47	0.26	0.169	0.012	0.016	8.1	7.1	38 12
13...	0.037	0.52	0.18	0.153	0.002	0.010	9.5	7.5	50 17
13...	--	--	--	--	--	--	--	--	55 17
13...	--	--	--	--	--	--	--	--	32 8.7
13...	0.025	0.45	0.26	0.136	0.015	0.011	9.5	8.7	38 7.8
13...	--	--	--	--	--	--	--	--	31 4.0
24...	0.026	0.35	0.28	0.115	0.043	0.045	6.9	--	16 0.22
AUG									
13...	0.021	0.70	0.28	0.371	0.039	0.011	7.3	6.6	103 12
13...	0.021	0.45	0.33	0.154	0.031	0.010	7.9	--	33 6.7
13...	0.022	0.50	0.28	0.189	0.032	0.010	7.6	--	26 4.9
13...	0.016	0.45	0.29	0.139	0.038	0.010	8.4	7.4	17 2.7
26...	0.033	0.47	0.42	0.214	0.088	0.030	9.3	9.0	24 0.12
SEP									
24...	0.030	0.31	0.28	0.173	0.094	0.042	6.3	--	13 0.09

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PATUXENT RIVER BASIN

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

REVISED RECORDS.--WRD MD-DE-95: Drainage area.

GAGE.--Water-stage recorder and concrete block control. Elevation of gage is 50 ft above sea level, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily discharges (ice effect, missing record, backwater), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 14, 1995	2145	145	3.70	July 13, 1996	0400	*217	*5.12
Oct. 21, 1995	0715	110	3.04	July 19, 1996	1830	141	3.62
Oct. 28, 1995	0315	156	3.90				
Jan. 19, 1996	1415	184	4.48	Nov. 8, 1996	1845	*117	*3.17
June 24, 1996	1945	115	3.12				

REVISIONS.--The maximum discharge for water year 1995 has been revised to 137 ft³/s, Jan. 20, 1995, gage height, 3.55 ft, superseding figure published in the report for 1995. Peak discharge for Sept. 22, 1994 (2100 hours) has been revised to 181 ft³/s, gage height 4.41 ft, superseding figure published in the report for 1994. Peak discharge for Mar. 8, 1995 (2230 hours) has been revised to 137 ft³/s, gage height 3.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	2.4	2.6	3.7	4.5	e3.8	11	5.7	3.7	3.4	4.2	1.6
2	.49	2.4	2.5	6.2	e4.5	e4.4	9.5	5.0	3.5	2.7	3.4	1.4
3	.49	3.0	2.4	7.0	e4.4	e4.4	7.6	4.7	3.5	2.9	3.2	1.4
4	.61	3.2	2.4	4.8	e4.4	e3.7	7.0	7.3	4.9	2.7	3.0	2.1
5	3.9	2.4	2.4	3.6	e4.3	e3.8	6.1	11	5.6	2.5	2.9	1.7
6	2.1	2.3	2.4	3.4	e4.3	e6.0	5.9	7.2	3.6	2.3	2.6	4.2
7	1.0	4.7	2.7	e3.3	e4.3	e9.7	5.8	6.3	3.4	2.1	2.5	2.8
8	.80	3.4	3.0	e3.3	e10	e7.2	5.5	6.8	3.2	3.8	2.4	4.5
9	.66	3.1	4.1	e3.3	e12	e6.5	6.2	8.4	6.9	5.8	3.0	3.1
10	.64	2.9	3.0	e3.3	e8.1	e6.0	6.1	6.0	4.7	4.1	3.0	2.3
11	.57	7.7	2.5	3.3	e7.0	e5.6	5.4	5.6	3.9	2.9	2.4	2.9
12	.57	12	2.4	3.6	e6.0	e5.3	5.1	5.3	3.9	8.9	6.8	2.5
13	.57	3.6	2.4	3.6	e5.5	e5.1	5.1	4.4	3.5	56	13	3.6
14	23	12	2.4	3.5	e5.0	e5.1	4.7	4.4	3.0	7.8	4.5	2.5
15	7.1	7.6	2.4	4.3	e4.8	4.8	4.5	4.5	2.8	8.4	3.5	2.1
16	1.7	4.2	5.6	4.4	e4.6	4.8	14	11	2.6	6.0	3.2	2.6
17	1.3	3.1	3.2	5.4	e4.5	7.2	7.3	6.1	2.5	4.1	3.3	3.4
18	1.1	2.9	3.2	15	e4.4	6.1	6.1	5.3	8.5	4.4	2.9	2.4
19	1.1	2.7	12	68	e4.4	11	6.3	4.6	5.9	23	2.6	1.9
20	1.0	2.4	5.9	11	e5.9	8.4	5.9	4.0	4.9	8.8	2.4	1.7
21	18	2.4	3.9	7.5	e9.2	6.3	5.7	3.8	4.0	5.2	2.4	1.7
22	2.7	2.4	3.4	6.1	e6.9	5.7	5.5	5.6	3.1	4.8	2.7	3.2
23	1.9	2.2	3.4	5.5	e7.1	5.4	5.4	3.5	2.5	4.7	2.7	2.0
24	1.6	2.6	3.1	8.8	e6.0	5.1	5.2	3.3	11	3.9	2.1	1.7
25	1.4	2.6	2.9	6.1	e4.9	5.3	5.1	3.3	5.0	4.3	1.9	1.6
26	1.2	2.2	2.7	5.2	e4.5	5.3	5.1	3.7	2.7	4.9	1.7	1.6
27	5.8	2.2	2.6	8.7	e4.4	5.1	5.0	5.4	2.3	3.4	2.0	1.6
28	38	2.2	2.6	6.3	e4.3	13	4.8	7.6	2.2	3.2	2.5	3.7
29	3.6	3.5	2.5	5.4	e4.1	13	4.8	6.2	2.4	3.3	2.1	5.1
30	2.6	2.8	2.5	5.1	--	8.1	6.9	4.9	3.0	4.3	1.9	2.2
31	2.3	--	2.8	4.6	--	7.0	--	4.0	--	3.9	1.7	--
TOTAL	128.29	113.1	101.9	233.3	164.3	198.2	188.6	174.9	122.7	208.5	98.5	75.1
MEAN	4.14	3.77	3.29	7.53	5.67	6.39	6.29	5.64	4.09	6.73	3.18	2.50
MAX	38	12	12	68	12	13	14	11	11	56	13	5.1
MIN	.49	2.2	2.4	3.3	4.1	3.7	4.5	3.3	2.2	2.1	1.7	1.4
CFSM	1.27	1.16	1.01	2.31	1.74	1.96	1.93	1.73	1.25	2.06	.97	.77
IN.	1.46	1.29	1.16	2.66	1.87	2.26	2.15	2.00	1.40	2.38	1.12	.86

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1996, BY WATER YEAR (WY)

MEAN	3.28	3.22	3.62	4.78	4.89	6.67	5.33	4.68	3.20	2.71	2.12	2.04
MAX	4.83	7.20	5.92	7.53	8.07	14.1	7.81	9.43	8.10	6.73	4.49	5.46
(WY)	1990	1986	1987	1996	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

PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

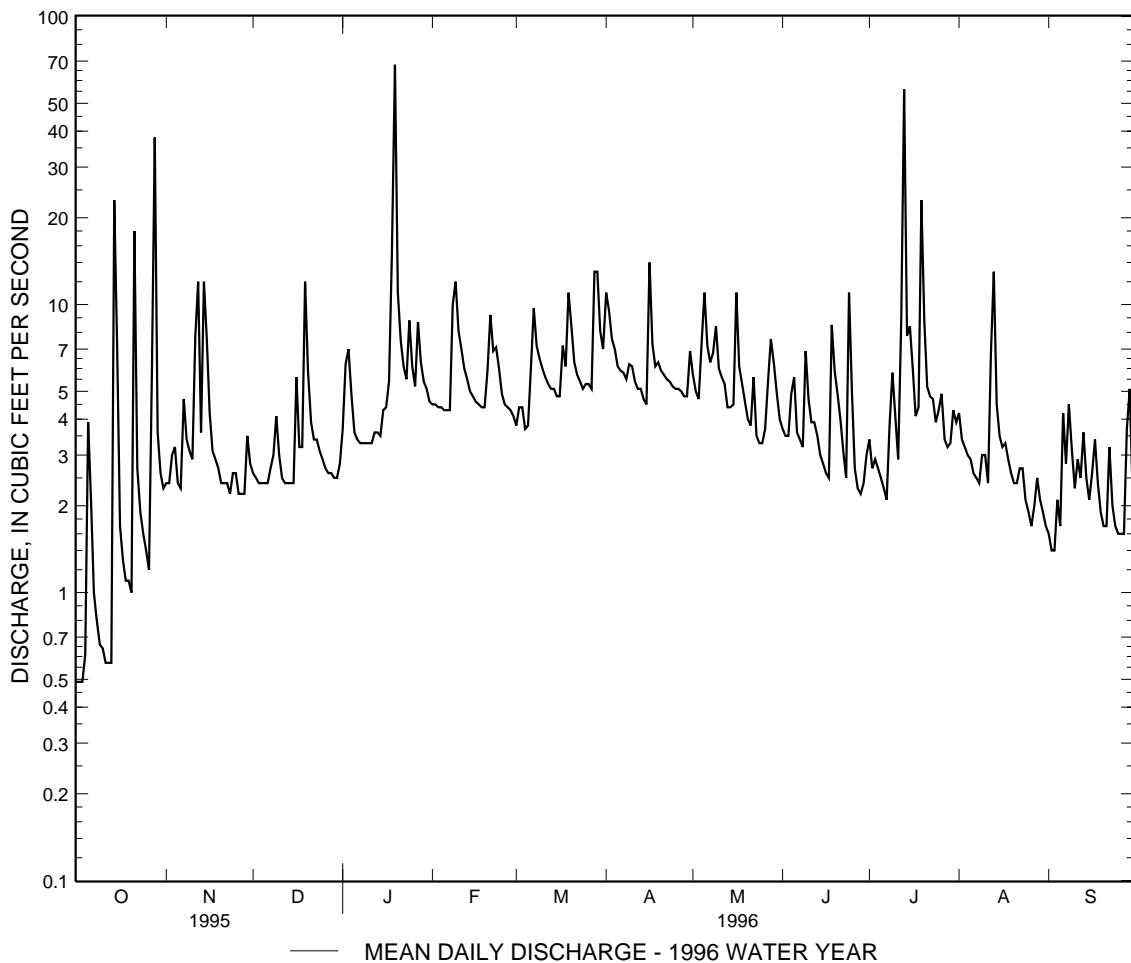
SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR	FOR 1996 WATER YEAR	WATER YEARS 1986 - 1996
ANNUAL TOTAL	971.88	1807.39	
ANNUAL MEAN	2.66	4.94	3.80
HIGHEST ANNUAL MEAN			5.33
LOWEST ANNUAL MEAN			2.30
HIGHEST DAILY MEAN	38 Oct 28	68 Jan 19	86 Mar 4 1993
LOWEST DAILY MEAN	.22 Sep 6	.49 (a)	.22 (b)
ANNUAL SEVEN-DAY MINIMUM	.28 Sep 1	.69 Oct 7	.28 Sep 1 1995
INSTANTANEOUS PEAK FLOW		217 Jul 13	255 May 29 1990
INSTANTANEOUS PEAK STAGE		5.12 Jul 13	5.50 May 29 1990
INSTANTANEOUS LOW FLOW		.49 (c)	.13 (d)
ANNUAL RUNOFF (CFSM)	.82	1.51	1.17
ANNUAL RUNOFF (INCHES)	11.09	20.62	15.83
10 PERCENT EXCEEDS	4.2	7.7	7.0
50 PERCENT EXCEEDS	2.5	3.9	2.9
90 PERCENT EXCEEDS	.45	2.0	.81

a Oct. 1-3.

b Sept. 6, 15, 1995.

c Oct. 1-4.

d Sept. 14-16, 1995.



PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, 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	1.7	3.3	16	6.3	5.4	8.1	7.1	5.8	3.0	1.7	.51	1.3
2	2.7	3.5	19	5.9	5.1	6.4	6.7	5.4	3.6	12	.46	1.2
3	2.4	3.6	7.0	5.8	4.7	18	6.7	5.6	7.9	3.6	1.2	1.3
4	1.9	3.1	5.9	5.5	6.7	10	6.3	5.3	4.4	2.0	1.3	1.0
5	1.9	3.0	5.7	5.5	14	8.9	5.9	5.1	3.4	1.6	1.1	.83
6	1.9	3.0	14	5.4	6.6	9.0	7.0	5.0	3.2	1.3	.98	.83
7	1.9	3.0	18	5.1	5.8	7.2	6.3	4.7	3.3	1.3	.98	.83
8	20	21	9.8	5.1	7.4	7.0	5.9	4.3	3.2	.94	.94	.91
9	9.7	11	6.9	7.5	6.9	6.7	5.7	5.4	3.1	2.3	.75	.98
10	7.2	6.1	6.4	8.4	5.8	6.8	5.5	4.8	2.9	2.9	.60	.98
11	4.1	5.3	6.2	6.6	5.5	6.1	5.5	4.4	2.7	1.5	.57	1.7
12	3.5	4.9	5.9	5.6	5.2	5.9	9.0	4.2	2.5	1.3	.53	1.9
13	3.3	4.8	27	5.5	5.0	5.9	7.5	4.2	6.5	1.4	.49	1.7
14	3.2	4.8	11	5.2	10	7.5	6.3	4.2	4.2	1.2	.50	1.4
15	3.0	4.2	7.9	5.1	16	6.3	6.1	4.4	3.3	1.1	.48	1.4
16	3.0	4.3	6.8	10	7.3	5.8	5.9	3.8	2.6	1.1	.50	1.2
17	3.0	4.2	6.7	6.1	6.1	5.5	7.2	3.8	2.6	1.1	.46	1.1
18	8.2	4.2	6.4	e5.7	5.7	7.1	6.6	3.7	4.8	.86	.92	3.7
19	23	4.3	10	e5.3	5.5	17	6.1	3.5	4.0	.83	.57	1.4
20	6.6	4.2	6.7	5.1	5.5	8.9	5.7	3.2	2.6	.83	e20	3.1
21	4.9	3.9	5.9	4.9	5.5	7.2	6.0	3.1	2.4	.83	4.6	2.0
22	4.1	3.8	5.5	5.4	5.9	6.3	6.1	2.7	2.3	.86	2.4	1.3
23	3.9	3.6	5.5	6.2	5.4	5.7	6.8	2.7	2.0	3.5	1.9	1.1
24	3.9	3.7	6.7	5.5	5.1	5.1	8.7	2.6	1.8	4.2	1.7	.83
25	3.9	3.8	6.5	5.9	5.1	5.1	6.1	2.7	1.7	2.1	1.4	.93
26	3.6	9.5	5.9	5.3	5.7	21	5.3	6.5	3.1	1.6	1.4	.99
27	3.6	5.0	6.5	5.1	6.3	8.4	7.0	3.8	2.4	1.2	1.4	.98
28	3.5	4.2	5.5	11	5.5	7.4	21	3.0	1.7	1.2	2.2	1.2
29	3.6	4.0	5.5	6.7	--	12	7.5	2.8	1.3	1.2	1.8	1.4
30	3.5	3.9	5.1	5.6	--	7.9	5.9	2.9	1.4	.83	1.4	1.3
31	3.3	--	7.6	5.5	--	11	--	2.9	--	.75	1.4	--
TOTAL	154.0	151.2	269.5	187.8	184.7	261.2	209.4	126.5	93.9	59.13	55.44	40.79
MEAN	4.97	5.04	8.69	6.06	6.60	8.43	6.98	4.08	3.13	1.91	1.79	1.36
MAX	23	21	27	11	16	21	21	6.5	7.9	12	20	3.7
MIN	1.7	3.0	5.1	4.9	4.7	5.1	5.3	2.6	1.3	.75	.46	.83
CFSM	1.52	1.55	2.67	1.86	2.02	2.58	2.14	1.25	.96	.59	.55	.42
IN.	1.76	1.73	3.08	2.14	2.11	2.98	2.39	1.44	1.07	.67	.63	.47

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

MEAN	2.59	3.37	4.05	4.89	5.03	6.82	5.47	4.63	3.20	2.64	2.09	1.98
MAX	4.97	7.20	8.69	7.53	8.07	14.1	7.81	9.43	8.10	6.73	4.49	5.46
(WY)	1997	1986	1997	1996	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

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1986 - 1997
ANNUAL TOTAL	2038.8	1793.56	
ANNUAL MEAN	5.57	4.91	3.89
HIGHEST ANNUAL MEAN			5.33
LOWEST ANNUAL MEAN			2.30
HIGHEST DAILY MEAN	68	Jan 19	86 Mar 4 1993
LOWEST DAILY MEAN	1.4	(a)	.22 (c)
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 30	.28 Sep 1 1995
INSTANTANEOUS PEAK FLOW		117 Nov 8	255 May 29 1990
INSTANTANEOUS PEAK STAGE		3.17 Nov 8	5.50 May 29 1990
INSTANTANEOUS LOW FLOW		.39 Aug 3	.13 (d)
ANNUAL RUNOFF (CFSM)	1.71	1.51	1.19
ANNUAL RUNOFF (INCHES)	23.26	20.47	16.22
10 PERCENT EXCEEDS	8.7	8.1	7.1
50 PERCENT EXCEEDS	4.5	4.6	3.0
90 PERCENT EXCEEDS	2.4	1.1	.84

a Sept. 2, 3.

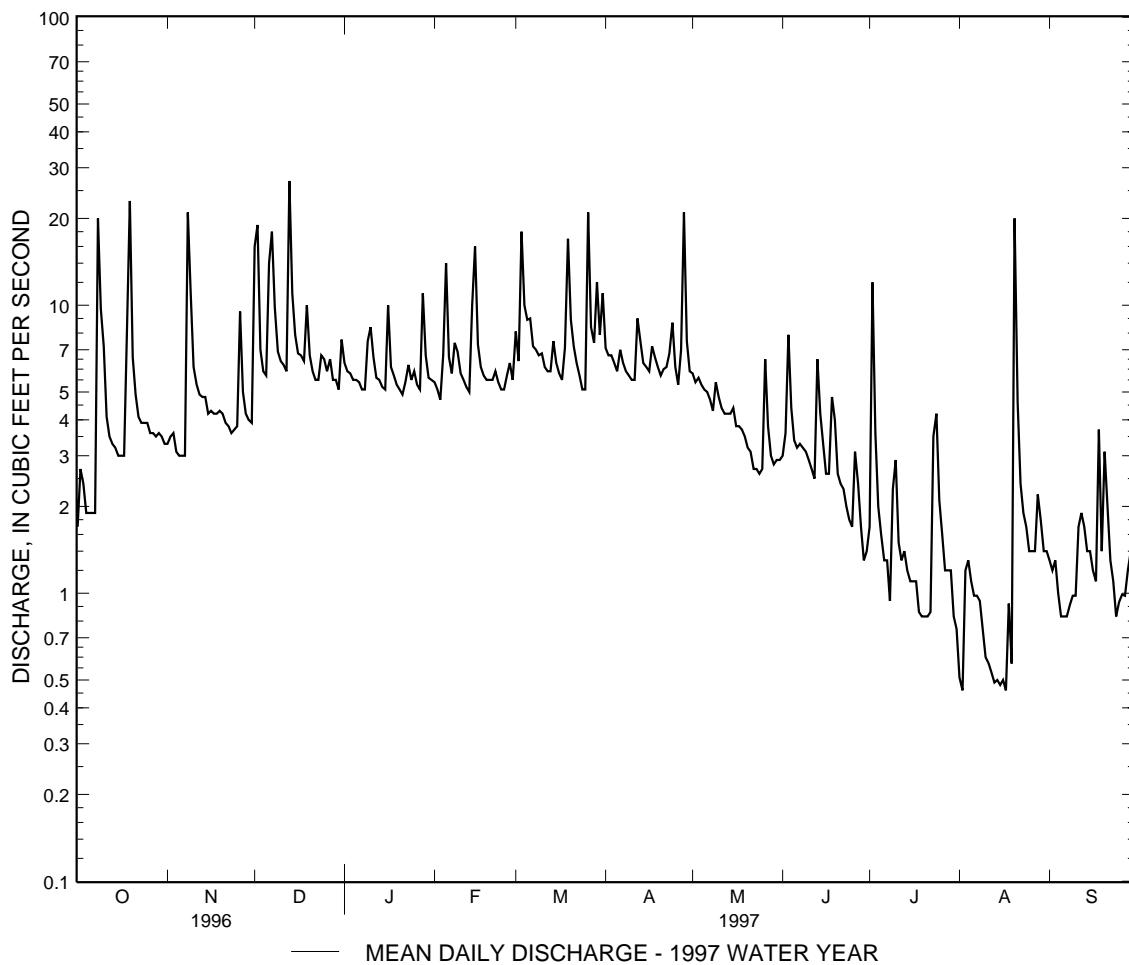
b Aug. 2, 17.

c Sept. 6, 15, 1995.

d Sept. 14-16, 1995.

PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued



PATUXENT RIVER BASIN

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 1996 only at time of publication.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	SILICA, DIS- SOLVED (MG/L)	RESIDUE TOTAL SUS- AS SIO2 (00955)	PHEO- PHYTO- PLANK- TON, ACID M. (00530)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (32218)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (32230)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (32231)	NITRO- GEN, NITRO- GEN, TOTAL AS N (00600)	NITRO- GEN, NITRATE DIS- SOLVED AS NO3 (71851)	NITRO- GEN, NITRITE DIS- SOLVED AS N (00613)	NITRO- GEN, NO2+NO3 (00631)
	TOTAL (MG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(MG/L)	(MG/L)	(MG/L)	
OCT 1995										
14...	6.4	187	--	--	--	--	6.2	3.6	0.012	0.830
14...	3.7	256	--	--	--	--	7.9	2.3	0.035	0.545
14...	4.9	1070	--	--	--	--	3.9	2.4	0.008	0.539
21...	4.1	805	--	--	--	--	3.1	1.6	0.011	0.381
26...	11	4	--	0.119	0.00	0.029	2.2	8.3	0.004	1.88
27...	3.5	2430	--	--	--	--	8.5	2.9	0.020	0.669
28...	3.7	990	--	--	--	--	3.2	1.6	0.014	0.377
28...	4.1	770	--	--	--	--	2.0	1.3	0.008	0.302
NOV										
27...	11	<1	0.001	0.029	0.024	0.00	2.1	7.6	0.008	1.73
DEC										
12...	3.8	3	0.007	0.157	0.00	0.00	1.9	7.7	0.009	1.74
JAN 1996										
18...	4.4	745	--	--	--	--	2.8	--	<0.001	0.461
19...	3.6	2270	--	--	--	--	5.8	1.4	0.004	0.323
19...	3.0	730	--	--	--	--	4.3	1.2	0.010	0.292
19...	2.9	810	--	--	--	--	2.5	0.93	0.049	0.259
19...	3.6	940	--	--	--	--	2.3	1.1	0.052	0.309
MAR										
25...	8.7	5	0.047	0.253	0.034	0.016	2.0	7.5	0.006	1.71
APR										
22...	8.4	16	0.076	0.526	0.055	0.114	1.7	6.1	0.015	1.40
MAY										
21...	9.9	5	0.032	0.153	0.030	0.00	2.0	7.2	0.016	1.65
JUN										
26...	10	8	--	0.297	0.026	0.047	1.9	7.4	0.013	1.68
JUL										
13...	--	--	--	--	--	--	--	--	<0.001	--
13...	3.5	1310	--	--	--	--	4.1	0.95	0.009	0.223
13...	--	--	--	--	--	--	--	--	<0.001	--
13...	3.1	480	--	--	--	--	2.1	0.68	0.009	0.163
13...	3.8	400	--	--	--	--	2.0	0.73	0.007	0.173
13...	--	--	--	--	--	--	--	--	<0.001	--
24...	11	5	0.049	0.074	0.004	0.00	2.0	7.3	0.018	1.66
AUG										
26...	10	4	0.007	0.052	0.00	0.00	2.2	8.2	0.024	1.88
SEP										
24...	10	3	--	--	--	--	2.0	8.1	0.008	1.85

PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	NITRO-	NITRO-	NITRO-	PHOS-			CARBON,	SEDI-	SEDI-
	GEN,	GEN, AM-	GEN, AM-	PHOS-	PHORUS	ORTHO,	ORGANIC	MENT,	MENT,
	AMMONIA	MONIA +	MONIA +	PHORUS	DIS-	SOLVED	TOTAL	SOLVED	SUS-
	SOLVED	TOTAL	DIS.	TOTAL	SOLVED	(MG/L)	(MG/L)	(MG/L)	(MG/L)
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(AS P)	(AS C)	(AS C)	(T/DAY)
	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(00681)	(80154)
									(80155)
OCT 1995									
14...	0.314	5.4	1.1	2.70	0.058	0.054	9.1	8.9	2200
14...	0.255	7.4	1.6	3.20	0.068	0.044	9.7	9.6	3710
14...	0.032	3.3	0.88	1.00	0.042	0.030	10	11	1420
21...	0.164	2.7	0.65	1.20	0.055	0.050	15	8.4	1050
26...	0.027	0.29	0.35	0.031	0.023	0.020	3.9	--	184
27...	0.096	7.8	0.96	3.50	0.091	0.078	13	13	4620
28...	0.020	2.8	0.44	1.30	0.101	0.060	12	10	537
28...	0.015	1.7	0.50	0.800	0.078	0.062	13	11	2390
NOV									743
27...	0.044	0.35	0.28	0.035	<0.010	0.016	3.1	3.3	1330
DEC								6	547
12...	0.055	0.14	0.13	0.126	0.022	0.018	2.7	--	0.04
JAN 1996									
18...	0.071	2.3	0.36	1.10	0.029	0.018	7.0	--	1470
19...	0.058	5.5	0.37	2.50	0.044	0.026	8.9	8.9	243
19...	0.059	4.0	0.47	1.70	0.122	0.035	10	10	4310
19...	0.059	2.2	0.63	0.900	0.062	0.036	11	--	1620
19...	0.043	2.0	0.41	0.800	0.043	0.028	11	11	1010
MAR									
25...	0.054	0.26	0.23	0.028	0.010	0.021	3.1	3.4	1040
APR								5	514
22...	0.016	0.31	0.18	0.042	<0.009	0.021	3.7	--	1640
MAY								5	506
21...	0.050	0.31	0.27	0.067	0.106	0.021	3.5	--	0.08
JUN								8	
26...	0.057	0.27	0.21	0.070	0.047	0.008	4.3	--	0.06
JUL								7	
13...	--	--	--	--	--	--	--	2900	392
13...	0.056	3.9	0.35	2.10	0.051	0.029	11	11	3310
13...	--	--	--	--	--	--	--	700	1450
13...	0.099	2.0	0.49	1.00	0.055	0.030	12	12	376
13...	0.049	1.8	0.48	0.778	0.047	0.024	12	--	580
13...	--	--	--	--	--	--	--	811	338
24...	0.056	0.30	0.29	0.066	0.027	0.033	4.3	--	429
AUG								1490	301
26...	0.025	0.27	0.23	0.060	0.034	0.018	4.1	4.2	0.14
SEP								5	0.02
24...	0.031	0.18	0.17	0.050	0.036	0.032	3.2	3.6	0.01

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POTOMAC RIVER BASIN

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 mi².

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 170 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1600	191	3.93	Mar. 2	1415	210	4.08
Nov. 26	0630	233	4.26	Mar. 26	0745	180	3.84
Dec. 2	0145	*338	*5.06	May 26	0130	304	4.81
Mar. 1	1530	206	4.05				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	24	112	21	26	88	30	21	e18	e5.5	e2.2	e3.1
2	e14	22	185	20	22	145	29	17	e22	e4.6	e1.8	e2.9
3	e13	20	68	19	21	121	26	17	e26	e3.8	e1.5	e3.0
4	e12	19	47	18	26	127	23	29	31	e3.4	e7.0	e3.0
5	e11	18	37	18	52	98	21	21	e21	e3.0	e6.0	e3.2
6	e11	18	33	16	37	102	20	19	e17	e3.2	e3.0	e3.6
7	e10	18	29	15	30	62	18	17	e15	e2.8	e2.5	e2.3
8	e10	101	26	13	27	49	16	18	e14	e2.7	e2.3	e1.8
9	e11	77	24	14	23	42	15	31	e13	e5.0	e2.2	e2.1
10	30	48	22	15	20	46	15	40	e12	e6.0	e1.7	e6.0
11	15	38	43	15	19	40	14	40	e11	e4.0	e1.4	e5.5
12	13	33	42	14	17	34	14	32	e11	e2.5	e1.5	e3.0
13	e12	28	50	13	16	29	14	34	e32	e2.0	e2.9	e2.7
14	e11	25	42	13	16	30	17	29	18	e1.7	e3.8	e2.1
15	e10	22	36	14	18	40	16	25	e13	e1.9	e2.5	e1.9
16	e9.7	20	31	21	15	29	14	25	e11	e2.0	e2.1	e1.8
17	e9.4	19	27	18	15	25	18	21	e8.5	e2.1	e20	e1.9
18	e9.0	26	24	e15	16	31	20	19	e10	e3.6	e30	e3.6
19	e13	32	22	e13	32	71	19	17	12	e4.0	e10	e3.0
20	88	26	20	e12	59	49	18	34	e8.0	e3.4	e15	e3.8
21	86	24	23	e11	39	40	19	24	e6.0	e3.0	e21	e4.2
22	82	22	16	e10	34	34	19	21	e5.0	e6.0	e15	e2.5
23	54	20	27	45	26	29	17	19	e4.2	e13	e11	e2.2
24	41	19	38	26	23	24	16	17	e4.6	23	e8.0	e2.0
25	34	19	38	44	20	22	20	42	e4.8	e9.0	e6.0	e1.9
26	30	124	29	35	19	87	18	155	28	e5.0	e5.0	e1.9
27	31	56	26	28	19	43	18	53	20	e3.4	e4.0	6.7
28	37	41	24	85	16	35	34	38	e10	e3.0	e18	19
29	34	34	26	46	---	33	27	31	e8.5	e3.6	e9.0	35
30	30	51	24	35	---	27	23	26	e7.0	e2.6	e5.0	e9.0
31	26	---	22	30	---	35	---	22	---	e2.1	e3.9	---
TOTAL	812.1	1044	1213	712	703	1667	588	954	421.6	140.9	225.3	144.7
MEAN	26.2	34.8	39.1	23.0	25.1	53.8	19.6	30.8	14.1	4.55	7.27	4.82
MAX	88	124	185	85	59	145	34	155	32	23	30	35
MIN	9.0	18	16	10	15	22	14	17	4.2	1.7	1.4	1.8
CFSM	3.18	4.23	4.75	2.79	3.05	6.53	2.38	3.74	1.71	.55	.88	.59
IN.	3.67	4.72	5.48	3.22	3.18	7.53	2.66	4.31	1.91	.64	1.02	.65

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY)

MEAN	20.4	31.0	26.7	36.4	40.9	31.4	30.3	18.5	18.0	12.7	8.74	
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	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

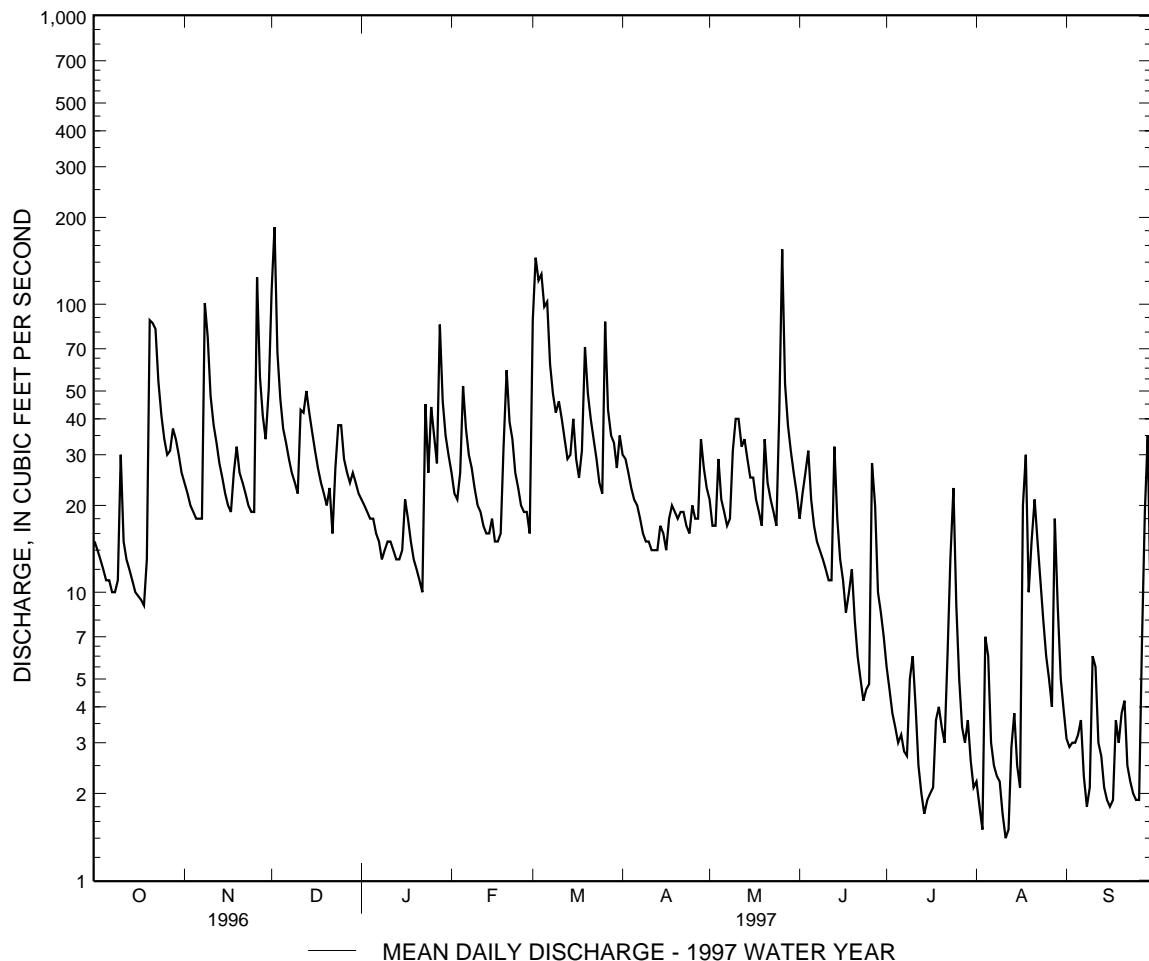
POTOMAC RIVER BASIN

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1980 - 1997
ANNUAL TOTAL	14504.0	8625.6	
ANNUAL MEAN	39.6	23.6	23.5
HIGHEST ANNUAL MEAN			35.6 1996
LOWEST ANNUAL MEAN			16.2 1995
HIGHEST DAILY MEAN	443	Jan 19	492 Feb 9 1994
LOWEST DAILY MEAN	(e)3.5	Jul 14	(e)1.4 Aug 11 1.1 (a)
ANNUAL SEVEN-DAY MINIMUM	4.6	Jul 11	2.1 Aug 7 1.3 Aug 23 1993
INSTANTANEOUS PEAK FLOW			338 Dec 2 (b)863 Nov 5 1985
INSTANTANEOUS PEAK STAGE			5.06 Dec 2 10.10 Nov 5 1985
INSTANTANEOUS LOW FLOW			UNKNOWN UNKNOWN
ANNUAL RUNOFF (CFSM)	4.82	2.87	2.85
ANNUAL RUNOFF (INCHES)	65.56	38.99	38.77
10 PERCENT EXCEEDS	77	43	49
50 PERCENT EXCEEDS	27	19	16
90 PERCENT EXCEEDS	10	3.0	4.0

e Estimated.

a Aug. 15, 27, 1993.

b From rating curve extended above 450 ft³/s on basis of runoff comparisons with nearby stations.

POTOMAC RIVER BASIN

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 mi².

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.--No estimated daily discharges. Records good above 0.5 ft³/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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 26	0430	50	3.39	Mar. 1	1145	42	3.27
Dec. 1	2345	*85	*3.85	May 25	2300	84	3.83

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	3.6	25	3.7	4.9	18	6.0	4.0	3.2	1.2	.41	.57
2	2.3	3.3	31	3.6	3.8	25	5.4	3.7	5.0	.94	.37	.50
3	2.0	3.0	13	3.5	3.8	19	4.7	3.4	7.3	.70	.28	.56
4	1.9	2.7	9.4	3.2	5.2	24	4.0	4.3	7.3	.62	1.3	.56
5	1.8	2.6	7.0	3.2	11	20	3.8	3.2	4.6	.56	1.1	.59
6	1.2	2.4	5.8	3.0	6.7	18	3.3	3.3	4.0	.61	.55	.62
7	1.2	2.2	5.1	2.8	5.5	13	3.1	3.2	3.5	.53	.47	.41
8	1.5	18	4.2	2.3	4.8	11	2.9	3.6	3.0	.52	.42	.32
9	2.0	14	3.7	2.5	3.9	8.2	2.7	5.4	2.7	.88	.40	.38
10	3.5	9.3	3.4	2.5	3.6	9.7	2.5	7.1	2.4	1.0	.34	1.1
11	2.5	6.9	8.4	2.1	3.4	7.4	2.4	6.1	2.2	.63	.26	.98
12	2.5	5.5	7.7	1.6	3.2	5.9	2.3	5.0	2.1	.48	.27	.57
13	2.4	4.5	9.2	1.6	2.9	4.8	2.2	6.4	3.6	.37	.57	.50
14	2.2	4.0	7.1	1.5	3.0	8.2	1.9	5.1	2.8	.33	.64	.42
15	1.9	3.7	5.6	1.4	3.3	6.8	1.7	4.7	1.7	.36	.42	.33
16	1.5	3.3	4.8	4.2	2.6	4.6	1.6	4.9	1.4	.37	.37	.32
17	1.4	3.1	4.3	2.6	2.5	4.1	2.0	4.0	1.5	.39	4.5	.33
18	1.7	3.9	3.8	1.9	3.7	5.8	2.5	3.3	1.6	.46	6.0	.57
19	4.2	4.9	3.6	1.6	8.6	12	2.3	3.2	1.8	.92	1.8	.40
20	15	3.9	3.2	1.5	11	8.8	2.6	6.0	1.3	.63	3.1	.67
21	15	3.7	3.1	1.7	7.5	7.3	2.7	3.7	1.1	.53	4.0	.72
22	14	3.3	2.7	3.2	6.5	6.1	2.5	3.4	1.0	1.2	2.4	.40
23	10	3.1	5.3	10	4.6	4.8	2.3	3.2	.73	1.2	1.4	.38
24	7.8	3.0	7.7	6.5	3.9	4.0	2.4	3.0	.79	4.3	.89	.37
25	6.0	2.8	6.8	9.4	3.7	3.8	3.7	12	.86	1.7	.83	.34
26	5.0	22	4.6	6.5	3.6	17	3.2	24	5.6	.93	.86	.34
27	5.3	9.4	4.2	4.9	3.5	8.4	3.3	9.4	2.9	.62	.70	.41
28	5.8	6.7	4.0	16	3.1	6.6	7.9	6.5	1.7	.53	3.3	4.0
29	5.2	4.9	5.1	8.2	--	6.2	5.3	4.9	1.4	.64	1.5	9.0
30	4.2	9.6	5.0	6.1	--	5.2	4.2	4.3	1.3	.48	.98	2.2
31	3.8	--	3.9	5.1	--	6.6	--	3.6	--	.38	.72	--
TOTAL	137.2	173.3	217.7	127.9	133.8	310.3	97.4	167.9	80.38	25.01	41.15	28.86
MEAN	4.43	5.78	7.02	4.13	4.78	10.0	3.25	5.42	2.68	.81	1.33	.96
MAX	15	22	31	16	11	25	7.9	24	7.3	4.3	6.0	9.0
MIN	1.2	2.2	2.7	1.4	2.5	3.8	1.6	3.0	.73	.33	.26	.32
CFSM	2.32	3.02	3.68	2.16	2.50	5.24	1.70	2.84	1.40	.42	.69	.50
IN.	2.67	3.38	4.24	2.49	2.61	6.04	1.90	3.27	1.57	.49	.80	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY)

MEAN	1.59	4.38	5.84	5.55	7.57	8.71	6.51	6.00	3.31	3.26	2.18	1.61
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

POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

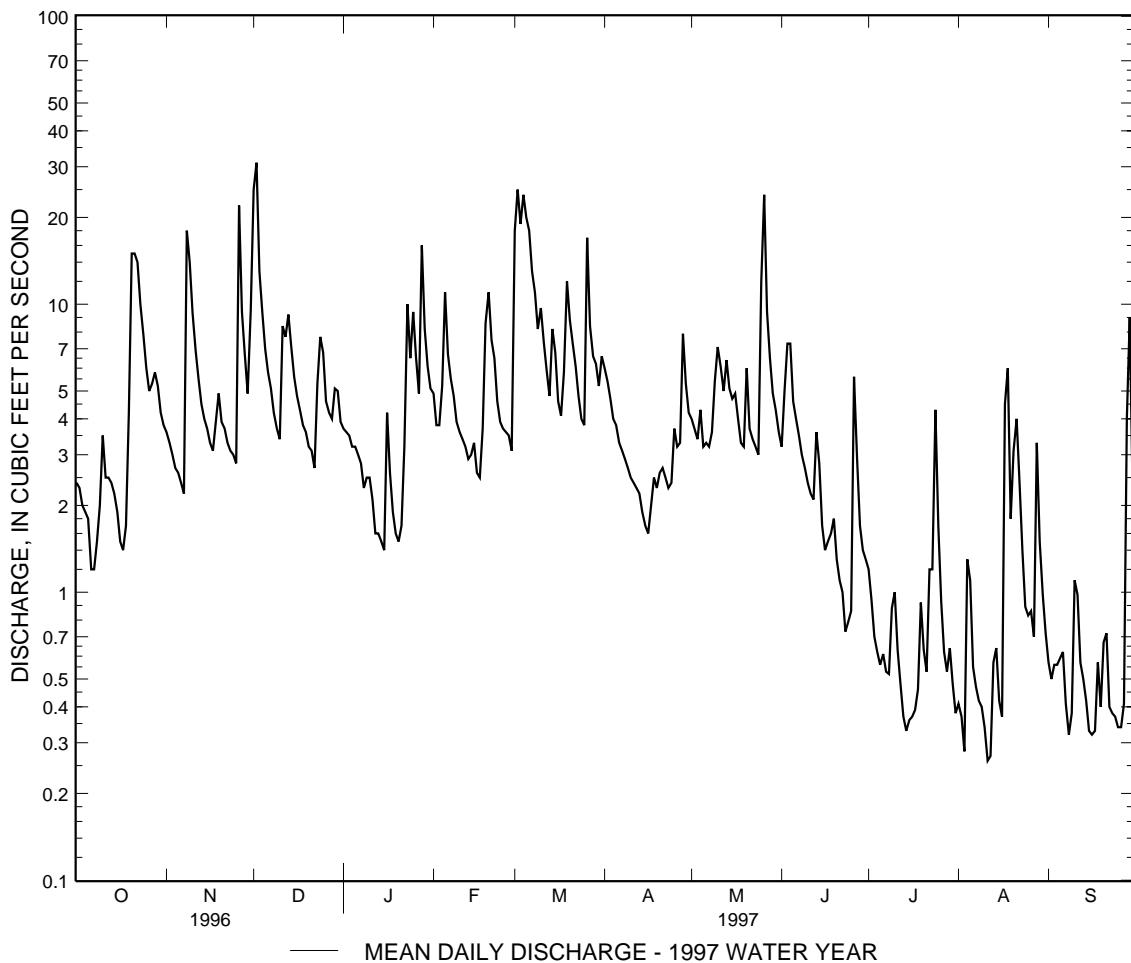
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1980 - 1997
ANNUAL TOTAL	3008.33	1540.90	
ANNUAL MEAN	8.22	4.22	4.65
HIGHEST ANNUAL MEAN			7.72
LOWEST ANNUAL MEAN			3.43
HIGHEST DAILY MEAN	140	Jan 19	141
LOWEST DAILY MEAN	.52	Jul 14	.26
ANNUAL SEVEN-DAY MINIMUM	.72	Jul 11	.39
INSTANTANEOUS PEAK FLOW			85
INSTANTANEOUS PEAK STAGE			3.85
INSTANTANEOUS LOW FLOW			.24
ANNUAL RUNOFF (CFSM)	4.30		(c)
ANNUAL RUNOFF (INCHES)	58.59	30.01	2.21
10 PERCENT EXCEEDS	16	8.7	2.43
50 PERCENT EXCEEDS	5.1	3.2	33.06
90 PERCENT EXCEEDS	1.7	.51	10
			.01
			.46
			(d)

a Aug. 22, 1985, Aug. 24, 1993.

b From rating curve extended above 90 ft³/s on basis of contracted-opening measurement of peak flow.

c Aug. 3, 4, 11, 12.

d July 18 and Aug. 9, 1988, result of beaver activity upstream.



POTOMAC RIVER BASIN

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 mi².

WATER-DISCHARGE RECORDS

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.--Water-discharge records good except those for estimated daily discharges (ice effect), which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 26	0345	46	2.37				
Dec. 1	2330	*100	*3.45	May 25	2215	74	2.99

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.8	27	3.6	5.1	17	5.7	3.4	3.5	.32	.04	.26
2	1.9	2.5	36	3.5	4.4	27	5.4	2.7	4.8	.31	.04	.19
3	1.7	2.1	16	3.3	4.3	22	4.9	2.8	6.2	.26	.04	.19
4	1.4	1.8	10	3.0	5.0	29	4.4	3.7	7.1	.21	.22	.16
5	1.2	1.5	7.8	3.0	11	25	3.9	2.7	5.0	.18	.16	.12
6	1.1	1.4	6.5	2.7	7.2	23	3.6	3.3	4.2	.17	.07	.08
7	.89	1.2	5.6	2.3	5.9	15	3.1	2.8	3.5	.16	.05	.06
8	1.1	16	5.0	2.3	5.3	12	2.7	3.1	3.0	.14	.04	.04
9	1.5	12	4.4	2.1	4.6	9.3	2.5	5.2	2.5	.16	.04	.04
10	2.7	8.0	4.0	e2.0	4.0	10	2.2	6.2	2.1	.23	.04	.36
11	1.6	6.3	8.0	e1.9	3.6	7.9	2.0	6.0	1.8	.14	.04	.35
12	1.2	5.1	8.4	e1.8	3.3	6.4	2.0	5.2	1.6	.12	.03	.16
13	1.0	4.4	9.2	e1.7	3.8	5.5	1.9	5.6	3.1	.11	.11	.09
14	.87	4.0	7.5	e1.6	2.8	7.8	1.6	4.8	1.9	.11	.08	.06
15	.77	3.6	6.2	e1.5	2.8	6.9	1.4	4.4	1.4	.11	.04	.03
16	.70	3.2	5.5	e2.5	2.8	5.6	1.2	4.3	1.1	.11	.03	.03
17	.66	3.0	4.9	e2.0	2.8	5.1	1.4	3.6	.97	.09	1.3	.03
18	1.2	3.4	4.3	e1.7	3.0	6.1	1.5	3.2	.95	.11	2.2	.03
19	3.6	3.8	3.9	e1.5	9.1	11	1.3	3.0	.97	.13	.44	.03
20	16	3.3	4.1	e1.4	12	8.9	1.1	5.0	.65	.09	1.4	.08
21	16	3.1	3.9	e1.3	8.4	8.1	1.3	3.6	.58	.08	1.8	.14
22	13	2.8	2.7	e1.3	7.2	7.0	1.2	3.1	.50	.20	1.0	.05
23	8.9	2.5	4.5	19	5.6	5.9	1.1	2.7	.43	.11	.59	.03
24	6.5	2.4	6.9	4.8	4.8	5.1	1.1	2.4	.36	3.6	.37	.03
25	5.0	2.4	6.4	7.3	4.1	4.5	2.0	11	.32	.88	.27	.03
26	4.4	22	5.0	5.6	3.9	18	2.2	25	2.6	.29	.25	.03
27	4.4	9.3	4.5	4.6	3.7	9.7	2.4	11	1.5	.18	.19	.03
28	4.6	6.8	4.1	16	3.2	7.6	5.7	7.4	.57	.13	3.9	2.9
29	4.1	5.6	4.6	8.3	---	7.0	4.6	5.7	.40	.13	1.1	6.2
30	3.6	9.4	4.4	6.5	---	6.0	3.6	4.8	.32	.08	.59	1.4
31	3.2	---	4.0	5.6	---	6.7	---	4.0	---	.05	.37	---
TOTAL	116.99	155.7	235.3	125.7	143.7	346.1	79.0	161.7	63.92	8.99	16.84	13.23
MEAN	3.77	5.19	7.59	4.05	5.13	11.2	2.63	5.22	2.13	.29	.54	.44
MAX	16	22	36	19	12	29	5.7	25	7.1	3.6	3.9	6.2
MIN	.66	1.2	2.7	1.3	2.8	4.5	1.1	2.4	.32	.05	.03	.03
CFSM	1.64	2.26	3.30	1.76	2.23	4.85	1.14	2.27	.93	.13	.24	.19
IN.	1.89	2.52	3.81	2.03	2.32	5.60	1.28	2.62	1.03	.15	.27	.21

e Estimated

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

MEAN	1.51	3.45	6.03	7.18	7.32	9.35	6.15	6.75	2.00	2.71	2.06	1.71
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	.12
(WY)	1995	1992	1990	1992	1993	1990	1995	1993	1993	1993	1993	1991

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

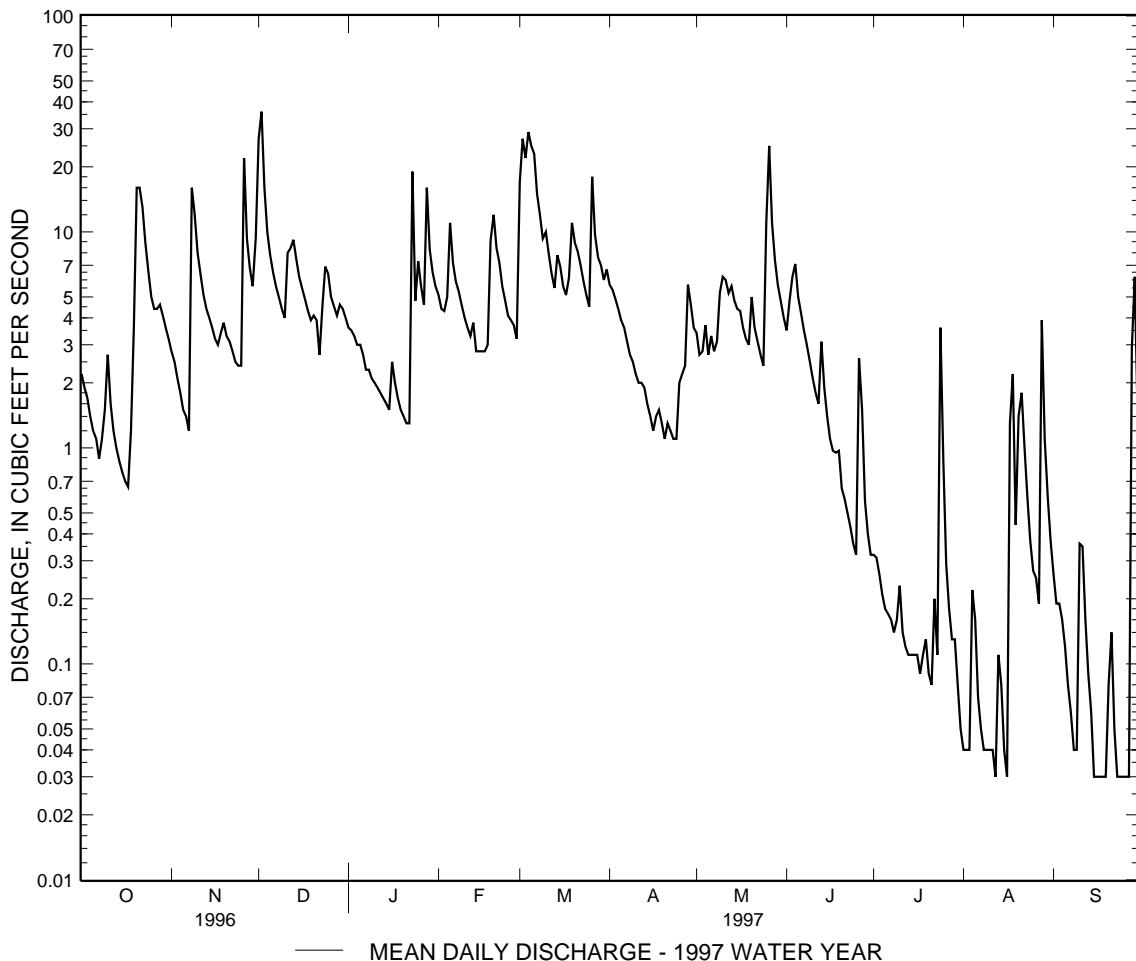
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	2954.38	1467.17	
ANNUAL MEAN	8.07	4.02	4.68
HIGHEST ANNUAL MEAN			7.49
LOWEST ANNUAL MEAN			2.91
HIGHEST DAILY MEAN	(e) 90	Jan 19	110
LOWEST DAILY MEAN	.15	Jul 17	May 26 1990
ANNUAL SEVEN-DAY MINIMUM	.19	Jul 11	.02 (b)
INSTANTANEOUS PEAK FLOW		36 Dec 2	.03 Aug 23 1993
INSTANTANEOUS PEAK STAGE		.04 Sep 14	340 Feb 9 1994
INSTANTANEOUS LOW FLOW		100 Dec 1	7.23 Feb 9 1994
ANNUAL RUNOFF (CFSM)	3.51	3.45 Dec 1	.01 (b)
ANNUAL RUNOFF (INCHES)	47.78	.03 (c)	2.03
10 PERCENT EXCEEDS	17	1.75	27.64
50 PERCENT EXCEEDS	4.9	23.73	11
90 PERCENT EXCEEDS	1.2	8.6	3.0
		2.8	
		.10	.14

e Estimated.

a Aug. 12, 16, Sept. 15-19, 23-27.

b Aug. 4, 5, Oct. 11-13, 1995.

c Aug. 16, 17, Sept. 19, 20, 27, 28.



POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1987 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1986 to September 1997 (Discontinued).

pH: November 1986 to September 1997 (Discontinued).

WATER TEMPERATURE: November 1986 to September 1997 (Discontinued).

INSTRUMENTATION.--Water-quality monitor since November 1986. Digital recorder set for one-hour-interval punches.

REMARKS.--Periods of missing record due to monitor/probe malfunction or dead batteries.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 366 microsiemens, July 16, 1996; minimum, 54 microsiemens, Feb. 9, 1994.

pH: Maximum, 9.4 units, Sept. 15, 1993; minimum, 4.9 units, Nov. 21, 22, 1988.

WATER TEMPERATURE: Maximum, 25.6°C, Aug. 16, 1997; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 355 microsiemens, July 29; minimum, 72 microsiemens, Nov. 26, Jan. 28.

WATER TEMPERATURE: Maximum, 25.6°C, Aug. 16; minimum, 0.0°C, on many days during winter periods.

pH: Maximum, 8.4 units, July 21, Sept., 16, 18; minimum, 5.6 units, May 26.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	211	136	152	154	147	149	97	77	88	127	125	126
2	143	138	140	149	147	148	89	77	82	129	126	128
3	188	140	147	150	149	149	101	89	94	129	126	127
4	143	140	142	215	147	176	108	99	102	137	127	130
5	149	143	144	210	204	207	112	108	110	135	127	131
6	149	145	147	230	159	196	120	111	116	135	128	133
7	230	146	154	241	169	201	121	118	119	137	134	135
8	150	143	147	190	102	151	121	119	120	142	134	137
9	162	138	146	106	90	95	128	120	125	137	134	136
10	142	132	137	136	92	117	130	128	129	137	133	136
11	159	128	134	101	95	98	130	108	121	142	133	136
12	201	134	153	109	101	105	111	108	109	142	141	141
13	201	138	158	114	108	111	111	107	108	145	141	143
14	218	141	167	119	114	116	111	107	109	145	142	143
15	252	142	167	123	119	121	116	108	111	144	140	143
16	264	144	171	131	123	126	120	116	118	140	115	122
17	286	147	166	139	123	129	126	118	121	131	122	126
18	214	130	158	128	124	125	129	125	127	133	130	131
19	145	105	130	124	120	122	129	126	128	133	130	132
20	126	74	92	123	120	122	134	126	128	132	124	130
21	98	81	87	129	123	127	137	134	136	138	124	131
22	123	92	99	132	129	130	139	136	138	137	102	125
23	124	94	101	133	130	131	138	126	131	122	91	102
24	136	104	111	133	132	133	129	100	116	92	80	89
25	142	119	131	137	119	133	108	101	103	88	78	85
26	212	141	156	119	72	84	112	108	110	92	83	89
27	185	155	162	92	81	88	120	109	115	93	89	91
28	229	156	165	102	90	97	122	119	121	89	72	78
29	209	141	163	112	99	106	122	116	120	93	80	86
30	220	146	160	112	89	104	121	118	119	103	90	97
31	231	151	163	---	---	---	127	118	121	111	100	106
MONTH	286	74	144	241	72	130	139	77	116	145	72	121

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

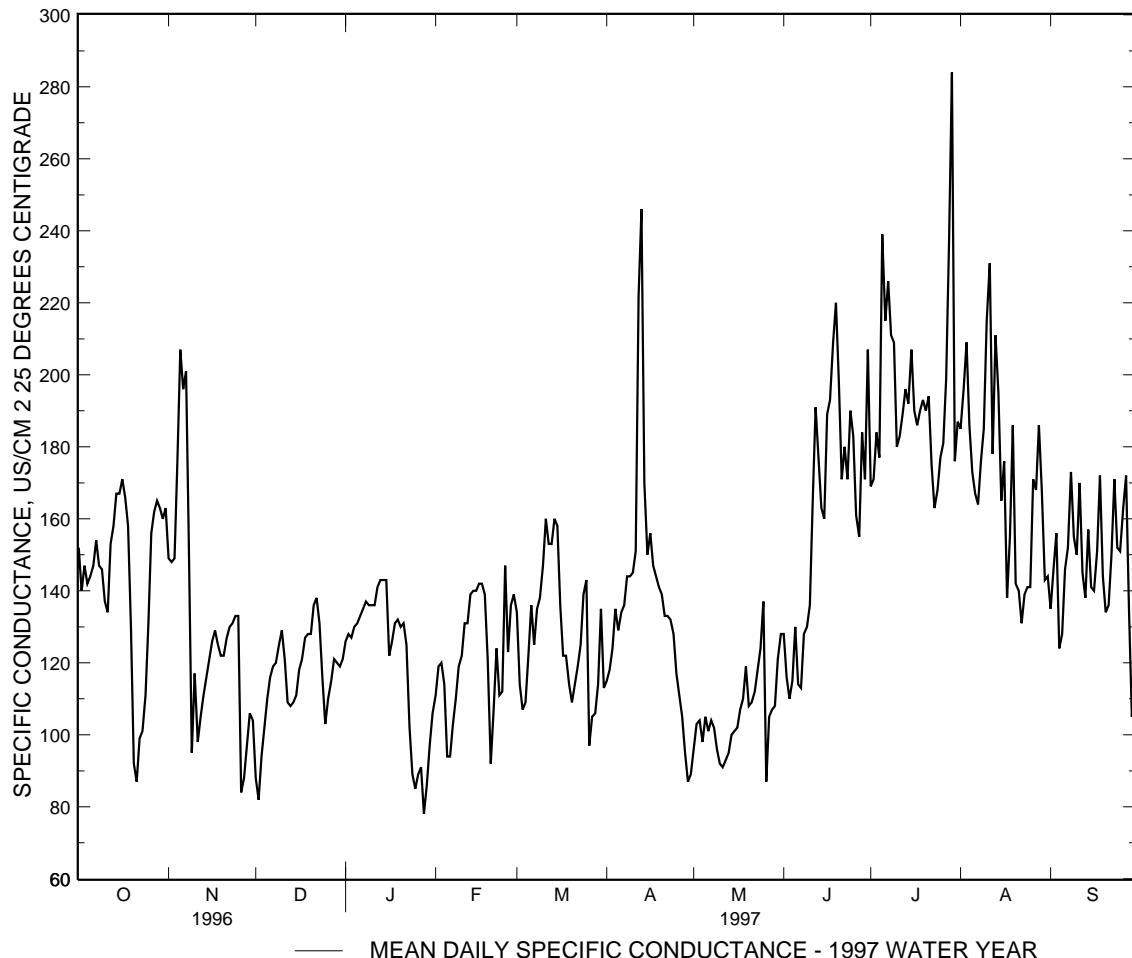
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	113	110	111	190	110	134	121	112	115	103	94	96
2	121	112	119	142	100	114	143	113	118	106	98	103
3	121	119	120	113	100	107	163	115	124	106	97	104
4	119	103	114	143	90	109	186	122	135	103	94	98
5	103	90	94	143	100	122	142	125	129	140	102	105
6	101	91	94	153	113	136	137	133	134	105	93	101
7	109	100	103	150	90	125	137	134	136	105	102	104
8	113	109	110	152	122	135	168	136	144	112	92	102
9	123	112	119	153	122	138	174	136	144	102	92	96
10	128	120	122	179	140	147	147	142	145	95	90	92
11	133	128	131	193	143	160	229	144	151	93	89	91
12	133	130	131	171	120	153	239	147	222	94	91	93
13	143	132	139	180	120	153	292	225	246	99	91	95
14	141	139	140	181	150	160	241	145	170	106	97	100
15	141	139	140	199	132	158	166	147	150	106	99	101
16	143	140	142	170	122	136	208	148	156	107	99	102
17	143	140	142	123	120	122	158	141	147	109	105	107
18	148	128	139	123	120	122	148	139	144	115	107	110
19	142	90	121	122	108	114	142	139	141	162	107	119
20	99	90	92	133	102	109	141	137	139	135	104	108
21	162	90	107	153	110	114	139	127	133	121	103	109
22	139	98	124	123	112	119	137	128	133	132	109	112
23	138	101	111	140	120	125	137	127	132	152	111	118
24	118	110	112	174	131	139	129	119	128	161	112	124
25	188	118	147	182	139	143	119	109	117	153	90	137
26	128	120	123	139	90	97	116	107	111	110	73	87
27	190	122	136	144	91	105	113	94	105	132	80	105
28	193	131	139	113	101	106	99	88	95	153	90	107
29	---	---	---	155	103	114	89	86	87	150	100	108
30	---	---	---	195	112	135	95	86	89	160	110	121
31	---	---	---	114	112	113	---	---	---	182	120	128
MONTH	193	90	122	199	90	128	292	86	137	182	73	106
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	150	120	128	242	153	169	249	165	185	220	118	135
2	159	102	116	242	159	171	263	166	196	220	126	146
3	119	100	110	253	160	184	274	172	209	219	121	156
4	158	100	115	219	167	177	274	132	186	163	116	124
5	202	100	130	321	218	239	258	131	173	160	122	128
6	153	110	114	269	176	215	248	151	167	224	129	146
7	122	110	113	282	216	226	235	151	164	343	129	152
8	179	112	128	260	187	211	245	159	176	223	138	173
9	191	120	130	284	177	209	243	160	185	258	136	155
10	192	129	136	242	158	180	264	167	215	216	127	150
11	240	130	165	273	175	183	329	169	231	250	120	170
12	222	142	191	272	178	189	273	166	178	216	125	145
13	223	129	177	272	179	196	276	138	211	204	123	138
14	209	130	163	230	187	192	241	145	195	213	130	157
15	231	138	160	284	187	207	239	146	165	218	129	141
16	241	141	189	191	179	190	263	155	176	210	122	140
17	251	151	193	219	128	186	188	92	138	337	127	151
18	240	158	209	201	181	190	216	106	155	292	127	172
19	252	158	220	283	178	193	228	137	186	180	126	144
20	270	159	198	276	178	190	186	123	142	194	109	134
21	252	160	171	296	181	194	206	123	140	168	116	136
22	251	168	180	232	148	175	197	125	131	240	116	150
23	173	168	171	211	150	163	205	123	139	257	138	171
24	211	170	190	291	113	168	203	122	141	153	150	152
25	191	180	183	250	155	177	199	121	141	153	148	151
26	193	109	161	235	160	181	192	113	171	231	149	163
27	213	140	155	282	167	199	278	120	168	233	151	172
28	293	141	184	281	168	237	280	119	186	161	80	135
29	251	152	171	355	186	284	198	121	168	113	92	105
30	342	158	207	288	157	176	176	116	143	153	108	116
31	---	---	---	285	165	187	195	118	144	---	---	---
MONTH	342	100	162	355	113	195	329	92	171	343	80	147

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.4	7.2	7.3	7.5	7.3	7.3	6.5	6.1	6.4	7.4	7.3	7.4
2	7.6	7.3	7.5	7.3	7.1	7.2	6.5	6.1	6.3	7.6	7.4	7.5
3	7.6	7.4	7.6	7.1	6.9	7.0	6.8	6.5	6.7	7.7	7.5	7.7
4	7.4	7.3	7.4	7.0	6.9	6.9	6.8	6.8	6.8	7.9	7.7	7.8
5	7.4	7.3	7.4	7.1	7.0	7.0	6.9	6.8	6.8	7.8	7.7	7.8
6	7.5	7.3	7.4	7.2	7.0	7.1	6.9	6.8	6.9	7.7	7.5	7.5
7	7.5	7.3	7.4	7.4	7.2	7.3	7.0	6.9	6.9	7.5	7.2	7.3
8	7.5	7.4	7.5	7.5	6.7	7.1	6.9	6.8	6.9	7.3	7.2	7.2
9	7.5	7.3	7.4	6.7	6.5	6.6	6.8	6.7	6.8	7.3	7.1	7.2
10	7.3	7.1	7.1	6.6	6.6	6.6	6.9	6.8	6.8	7.3	7.2	7.2
11	7.2	7.1	7.1	6.7	6.6	6.6	6.9	6.8	6.9	7.3	7.1	7.2
12	7.3	7.1	7.2	6.7	6.6	6.6	6.9	6.7	6.8	7.2	7.2	7.2
13	7.4	7.2	7.3	6.7	6.6	6.7	6.8	6.6	6.7	7.2	7.1	7.2
14	7.4	7.3	7.3	6.7	6.6	6.7	6.8	6.6	6.7	7.2	7.1	7.1
15	7.3	7.1	7.2	6.6	6.4	6.6	6.9	6.7	6.8	7.2	7.0	7.1
16	7.3	7.1	7.2	6.8	6.5	6.6	7.0	6.8	6.8	7.1	7.0	7.0
17	7.3	7.1	7.2	6.8	6.6	6.7	7.1	6.9	7.0	7.0	6.9	6.9
18	7.3	7.0	7.2	7.0	6.8	6.9	7.0	6.9	7.0	6.9	6.9	6.9
19	7.0	6.3	6.7	7.1	6.9	7.0	6.9	6.7	6.8	6.9	6.8	6.8
20	6.3	6.1	6.2	7.3	7.1	7.2	6.7	6.6	6.7	7.0	6.8	6.9
21	6.4	6.2	6.3	7.3	7.2	7.3	6.7	6.6	6.7	7.0	6.9	7.0
22	6.7	6.3	6.5	7.3	7.3	7.3	6.8	6.6	6.7	7.1	6.9	7.0
23	6.8	6.6	6.7	7.4	7.3	7.3	7.0	6.7	6.8	6.9	6.4	6.6
24	6.9	6.8	6.8	7.4	7.3	7.3	7.2	6.7	7.0	7.0	6.7	6.9
25	7.0	6.7	6.8	7.4	7.3	7.3	6.9	6.7	6.8	7.0	6.9	6.9
26	7.1	7.0	7.1	7.3	6.2	6.5	7.1	6.8	7.0	7.1	6.9	7.0
27	7.3	7.1	7.2	6.5	6.3	6.4	7.3	7.1	7.2	7.3	7.1	7.2
28	7.4	7.3	7.4	6.7	6.5	6.6	7.5	7.2	7.4	7.2	6.7	6.7
29	7.5	7.3	7.4	6.7	6.5	6.6	7.6	7.4	7.5	7.0	6.7	6.8
30	7.8	7.5	7.7	6.8	6.4	6.6	7.6	7.4	7.5	7.1	6.8	7.0
31	7.7	7.5	7.6	---	---	---	7.5	7.4	7.5	7.3	7.0	7.2
MONTH	7.8	6.1	7.2	7.5	6.2	6.9	7.6	6.1	6.9	7.9	6.4	7.1
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.3	7.2	7.3	7.8	6.8	7.2	7.1	6.8	6.9	6.9	6.6	6.7
2	7.4	7.2	7.3	6.9	6.8	6.8	7.2	6.8	7.0	7.0	6.6	6.8
3	7.4	7.2	7.3	6.8	6.6	6.7	7.3	6.9	7.1	7.1	6.7	6.9
4	7.3	7.2	7.2	6.8	6.7	6.7	7.6	7.2	7.3	6.8	6.5	6.7
5	7.3	6.8	6.9	7.0	6.7	6.9	7.5	7.2	7.3	7.1	6.6	6.8
6	7.1	6.9	7.0	6.9	6.7	6.9	7.5	7.3	7.4	6.9	6.8	6.9
7	7.2	7.0	7.1	7.2	6.9	7.1	7.6	7.3	7.4	7.1	6.7	6.9
8	7.2	7.0	7.1	7.3	7.1	7.2	7.5	7.3	7.4	7.1	6.7	6.9
9	7.2	7.1	7.2	7.6	7.2	7.4	7.4	7.2	7.3	6.8	6.6	6.7
10	7.2	7.1	7.2	7.6	7.3	7.4	7.3	7.1	7.3	6.6	6.4	6.5
11	7.2	7.1	7.2	7.7	7.4	7.5	7.5	7.2	7.3	6.9	6.3	6.6
12	7.3	7.2	7.2	7.7	7.5	7.6	7.4	7.3	7.4	7.1	6.5	6.8
13	7.2	7.1	7.1	7.8	7.5	7.7	7.4	7.3	7.4	6.9	6.7	6.8
14	7.2	7.1	7.2	7.7	7.4	7.6	7.5	7.2	7.3	7.0	6.6	6.8
15	7.3	7.2	7.2	7.6	7.3	7.4	7.5	7.2	7.4	7.3	6.8	7.0
16	7.3	7.2	7.2	7.7	7.4	7.5	7.4	7.2	7.3	7.2	6.8	7.0
17	7.3	7.2	7.2	7.8	7.6	7.7	7.2	7.1	7.1	7.3	6.9	7.1
18	7.4	7.1	7.3	7.8	7.3	7.7	7.3	7.1	7.2	7.6	7.0	7.2
19	7.2	6.8	7.1	7.3	7.0	7.1	7.3	7.1	7.2	7.7	7.2	7.4
20	7.0	6.7	6.8	7.5	7.2	7.3	7.3	7.2	7.2	7.3	6.3	6.8
21	7.3	6.8	7.0	7.6	7.3	7.4	7.2	7.1	7.2	7.1	6.2	6.7
22	7.2	7.0	7.1	7.5	7.4	7.5	7.3	7.1	7.2	7.2	6.9	7.1
23	7.2	6.9	7.1	7.7	7.5	7.6	7.3	7.2	7.2	7.2	6.9	7.1
24	7.2	7.1	7.2	7.9	7.5	7.7	7.3	7.1	7.2	7.2	6.9	7.0
25	7.2	7.0	7.2	7.6	7.4	7.5	7.1	6.8	7.0	6.9	5.8	6.7
26	7.4	7.1	7.2	7.4	6.6	6.7	7.0	6.6	6.8	6.1	5.6	5.8
27	7.8	7.4	7.7	7.1	6.6	6.8	6.8	6.5	6.7	6.4	5.9	6.1
28	7.8	7.6	7.7	7.2	6.8	7.0	6.5	6.2	6.4	6.7	6.1	6.4
29	---	---	---	7.2	7.0	7.1	6.7	6.1	6.4	6.9	6.5	6.7
30	---	---	---	7.4	7.1	7.2	6.9	6.2	6.6	7.2	6.7	7.0
31	---	---	---	7.2	6.8	6.9	---	---	---	7.2	6.9	7.1
MONTH	7.8	6.7	7.2	7.9	6.6	7.3	7.6	6.1	7.1	7.7	5.6	6.8

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

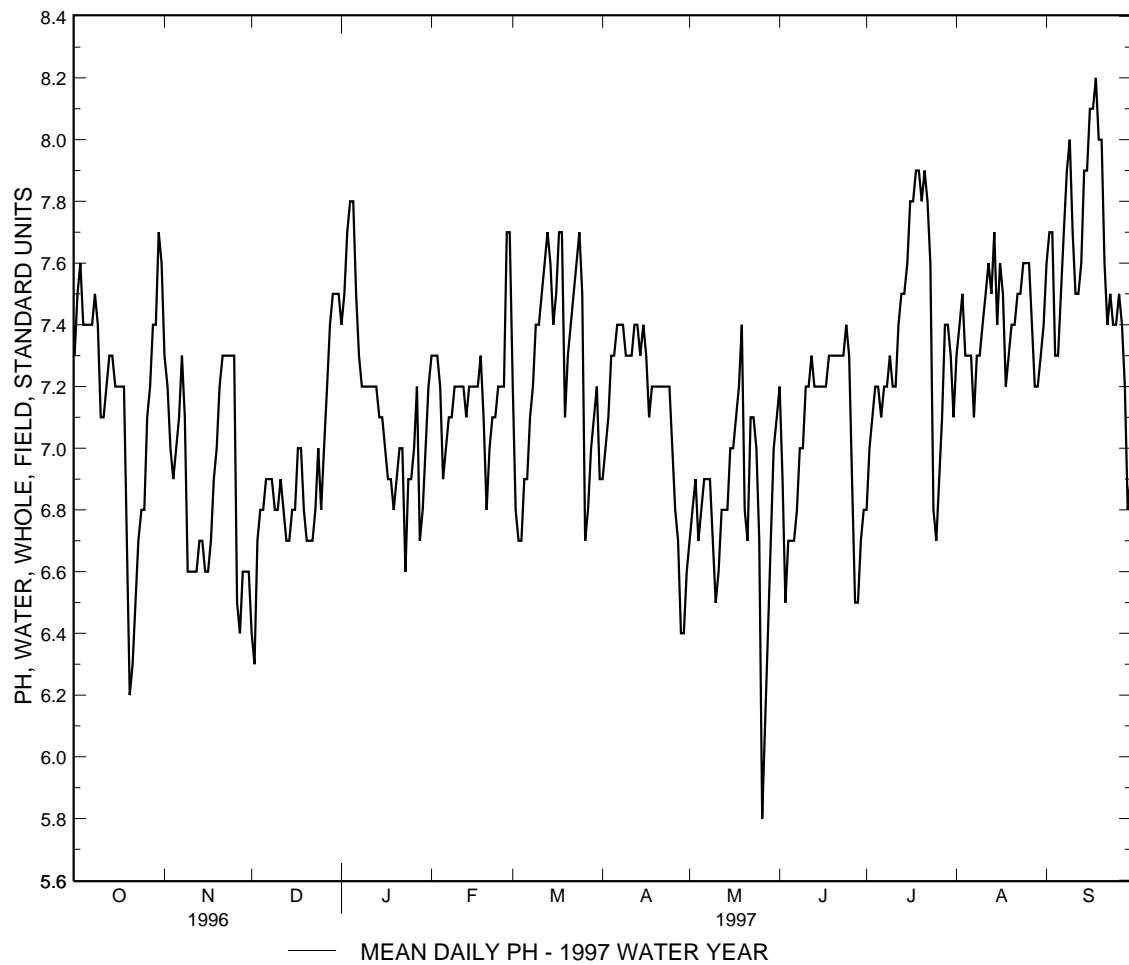
PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.3	6.9	7.2	7.0	6.7	6.8	7.6	6.9	7.3	7.8	7.4	7.6
2	7.2	6.7	6.9	7.2	6.7	7.0	7.8	7.1	7.4	8.0	7.5	7.7
3	6.8	6.0	6.5	7.4	6.9	7.1	7.9	7.2	7.5	7.8	7.4	7.7
4	6.8	6.4	6.7	7.3	7.0	7.2	7.5	7.2	7.3	7.4	7.1	7.3
5	6.9	6.6	6.7	7.4	7.0	7.2	7.5	7.1	7.3	7.6	7.1	7.3
6	6.8	6.6	6.7	7.5	6.8	7.1	7.6	6.9	7.3	7.9	7.2	7.5
7	6.8	6.6	6.8	7.5	6.9	7.2	7.6	6.8	7.1	8.0	7.4	7.7
8	7.1	6.7	7.0	7.7	6.9	7.2	7.8	6.8	7.3	8.2	7.7	7.9
9	7.1	6.9	7.0	7.6	7.1	7.3	7.6	7.0	7.3	8.3	7.8	8.0
10	7.3	7.0	7.2	7.5	7.0	7.2	7.8	7.1	7.4	8.0	7.5	7.7
11	7.3	7.2	7.2	7.7	6.9	7.2	7.9	7.1	7.5	7.7	7.4	7.5
12	7.4	7.2	7.3	7.8	7.0	7.4	8.0	7.4	7.6	7.7	7.3	7.5
13	7.3	7.1	7.2	7.8	7.1	7.5	7.7	7.4	7.5	7.9	7.3	7.6
14	7.3	7.1	7.2	7.9	7.2	7.5	7.9	7.4	7.7	8.1	7.6	7.9
15	7.3	7.1	7.2	8.0	7.2	7.6	7.7	7.2	7.4	8.1	7.7	7.9
16	7.4	6.9	7.2	8.1	7.4	7.8	7.8	7.4	7.6	8.4	7.8	8.1
17	7.3	7.1	7.2	8.2	7.5	7.8	7.7	7.3	7.5	8.3	7.9	8.1
18	7.4	7.2	7.3	8.3	7.6	7.9	7.3	7.1	7.2	8.4	8.0	8.2
19	7.3	7.2	7.3	8.2	7.6	7.9	7.5	7.2	7.3	8.3	7.7	8.0
20	7.4	7.2	7.3	8.3	7.4	7.8	7.5	7.2	7.4	8.2	7.8	8.0
21	7.3	7.2	7.3	8.4	7.5	7.9	7.5	7.2	7.4	7.8	7.3	7.6
22	7.4	7.2	7.3	8.0	7.6	7.8	7.6	7.4	7.5	7.8	7.2	7.4
23	7.4	7.3	7.3	7.8	7.2	7.6	7.6	7.5	7.5	7.9	7.3	7.5
24	7.5	7.3	7.4	7.2	6.5	6.8	7.7	7.6	7.6	7.7	7.1	7.4
25	7.5	7.3	7.3	6.8	6.5	6.7	7.7	7.6	7.6	7.8	7.2	7.4
26	7.3	6.4	6.9	7.1	6.8	6.9	7.7	7.2	7.6	7.9	7.2	7.5
27	6.6	6.4	6.5	7.5	6.9	7.1	7.7	7.1	7.4	7.9	7.1	7.4
28	6.7	6.3	6.5	7.5	7.3	7.4	7.4	7.0	7.2	7.6	6.4	7.2
29	7.0	6.4	6.7	7.7	7.3	7.4	7.3	7.1	7.2	6.9	6.5	6.8
30	7.0	6.6	6.8	7.5	7.0	7.3	7.4	7.1	7.3	7.0	6.8	6.9
31	---	---	---	7.4	6.8	7.1	7.6	7.2	7.4	---	---	---
MONTH	7.5	6.0	7.0	8.4	6.5	7.3	8.0	6.8	7.4	8.4	6.4	7.6

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.9	9.3	10.8	7.4	5.8	6.5	7.2	4.6	6.2	5.6	3.5	4.3
2	12.4	10.2	11.4	5.8	4.0	4.9	6.2	4.6	5.3	6.6	4.1	5.7
3	12.4	8.4	10.7	4.1	3.5	3.8	5.7	4.1	4.9	8.1	6.6	7.6
4	8.4	6.6	7.3	5.3	2.5	4.0	5.4	4.0	4.6	9.2	7.7	8.4
5	7.8	5.9	6.8	6.7	4.6	5.6	4.2	3.0	3.6	8.7	6.5	8.2
6	8.5	5.6	7.1	8.1	5.3	6.7	4.1	3.4	3.7	6.5	3.0	4.4
7	8.8	6.0	7.4	10.8	7.7	9.2	4.6	3.5	4.1	3.0	.0	1.3
8	9.7	7.9	9.0	10.9	7.7	9.6	4.0	2.0	3.2	.5	.0	.1
9	9.8	8.9	9.4	7.7	5.7	6.7	2.0	1.1	1.5	.6	.0	.2
10	9.3	8.0	8.5	5.7	4.2	5.1	3.4	1.5	2.4	.6	.0	.2
11	8.0	6.3	7.6	4.2	3.3	3.8	5.2	3.4	4.3	.0	.0	.0
12	7.4	4.7	6.2	3.4	2.7	3.0	7.1	5.2	6.1	.0	.0	.0
13	9.1	6.6	7.8	3.3	2.0	2.7	6.1	4.9	5.6	.0	.0	.0
14	10.8	8.7	9.9	3.0	1.5	2.6	4.9	3.2	4.4	.0	.0	.0
15	9.7	7.4	8.7	1.6	.0	.8	3.7	2.0	3.0	.0	.0	.0
16	10.9	7.7	9.3	2.6	.3	1.4	4.2	2.5	3.4	.0	.0	.0
17	10.6	8.2	9.4	3.1	.7	2.0	5.9	3.7	4.8	.0	.0	.0
18	10.9	8.3	9.4	5.2	3.0	4.2	5.1	3.0	4.2	.0	.0	.0
19	8.3	6.4	7.2	5.2	4.0	4.7	3.2	.0	1.7	.0	.0	.0
20	8.1	6.1	7.2	4.1	2.5	3.4	.0	.0	.0	.0	.0	.0
21	8.9	7.5	8.2	3.0	2.5	2.6	.1	.0	.0	.0	.0	.0
22	10.4	8.8	9.5	2.5	2.0	2.2	1.1	.0	.6	.2	.0	.0
23	10.8	8.8	9.7	2.7	1.0	2.0	3.0	1.0	1.8	.1	.0	.0
24	9.6	8.1	8.8	4.7	2.2	3.6	4.7	2.0	3.7	.2	.0	.1
25	9.2	7.3	8.3	5.5	3.5	4.4	2.0	.4	.9	.7	.0	.5
26	10.4	8.7	9.5	6.5	3.5	5.3	2.2	.1	1.1	.2	.0	.0
27	11.2	9.9	10.5	3.5	2.0	2.7	4.1	2.0	3.1	1.6	.2	.9
28	11.8	9.6	11.1	3.0	1.5	2.2	6.1	3.5	4.7	2.0	.6	1.5
29	9.8	7.5	8.9	3.2	1.1	2.1	7.7	5.0	6.5	1.6	.0	.7
30	11.9	9.4	10.7	4.6	2.5	3.4	6.7	5.2	6.1	2.2	.0	1.0
31	10.2	7.4	8.4	---	---	---	6.7	5.2	6.1	3.2	1.0	2.2
MONTH	12.4	4.7	8.9	10.9	.0	4.0	7.7	.0	3.6	9.2	.0	1.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.2	2.0	2.7	6.2	4.5	5.2	6.2	1.6	3.6	12.1	8.4	10.0
2	3.6	1.6	2.6	7.5	5.6	6.6	7.6	2.5	4.9	11.1	6.9	8.9
3	4.2	2.5	3.2	5.7	2.6	4.3	8.6	3.5	5.9	12.6	8.8	10.5
4	3.0	2.0	2.5	6.1	4.0	4.8	10.7	6.2	8.2	8.8	6.8	7.7
5	3.0	1.6	2.5	6.2	4.2	5.3	10.4	7.5	8.9	10.8	5.8	8.2
6	2.2	1.5	1.8	6.1	3.5	4.1	10.9	8.5	9.7	9.9	7.9	8.8
7	3.2	1.5	2.3	5.0	2.5	3.5	9.7	6.2	8.4	10.5	6.4	8.2
8	2.7	1.0	1.4	5.7	3.5	4.5	7.6	4.1	5.8	9.5	5.8	7.8
9	1.6	1.1	1.3	5.7	3.5	4.5	5.0	1.9	3.1	10.0	6.9	8.9
10	1.5	.6	1.0	6.5	4.0	5.2	4.6	.4	2.4	7.0	5.9	6.4
11	.9	.0	.4	5.7	3.5	4.4	7.1	2.9	4.7	10.9	4.9	7.5
12	1.1	.1	.5	5.1	2.5	3.6	6.9	3.9	5.5	11.0	6.3	8.5
13	.1	.0	.0	5.1	2.2	3.6	6.8	3.5	5.4	9.3	6.8	8.0
14	1.1	.0	.7	6.5	4.0	5.1	5.9	3.0	4.1	8.0	5.5	7.1
15	1.5	.0	1.0	5.0	1.5	2.8	6.8	1.9	4.3	10.4	7.0	8.2
16	.9	.0	.2	3.1	.5	1.6	8.0	2.4	5.4	9.0	5.5	7.0
17	.7	.0	.1	3.7	1.0	2.4	6.9	3.1	5.4	9.9	6.3	7.8
18	2.5	.0	1.0	4.4	3.5	3.9	5.4	2.0	3.5	13.4	7.3	10.3
19	4.2	1.5	2.9	3.6	2.0	2.9	6.1	2.5	4.2	15.0	11.3	12.8
20	5.2	2.5	3.6	5.8	3.0	4.1	6.8	2.5	4.6	13.4	10.0	11.9
21	7.7	3.5	5.5	8.0	3.1	5.3	5.3	3.1	4.2	10.6	7.9	9.1
22	6.5	2.7	5.0	6.7	3.7	5.5	8.0	3.5	5.8	10.9	6.4	8.6
23	3.7	1.6	2.6	5.2	3.1	4.0	7.0	5.5	6.2	11.6	6.5	9.0
24	3.4	1.6	2.4	6.0	2.1	3.9	7.1	5.4	6.0	13.1	6.9	10.3
25	2.7	.6	1.5	8.7	3.6	5.8	7.5	5.1	6.3	12.4	10.9	11.6
26	3.7	1.0	2.3	7.7	4.1	5.4	9.0	4.4	6.7	12.6	9.8	10.9
27	8.7	3.5	6.4	8.6	3.9	5.8	6.8	5.0	6.0	12.8	8.5	10.2
28	6.7	4.6	5.5	8.7	4.5	6.6	7.9	6.0	7.0	12.1	8.0	9.8
29	---	---	---	8.5	6.5	7.3	10.6	4.4	7.3	10.3	8.4	9.4
30	---	---	---	8.6	6.5	7.3	11.5	5.1	8.4	13.7	9.5	11.4
31	---	---	---	6.6	2.5	4.3	---	---	---	12.7	9.5	11.2
MONTH	8.7	.0	2.2	8.7	.5	4.6	11.5	.4	5.7	15.0	4.9	9.2

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

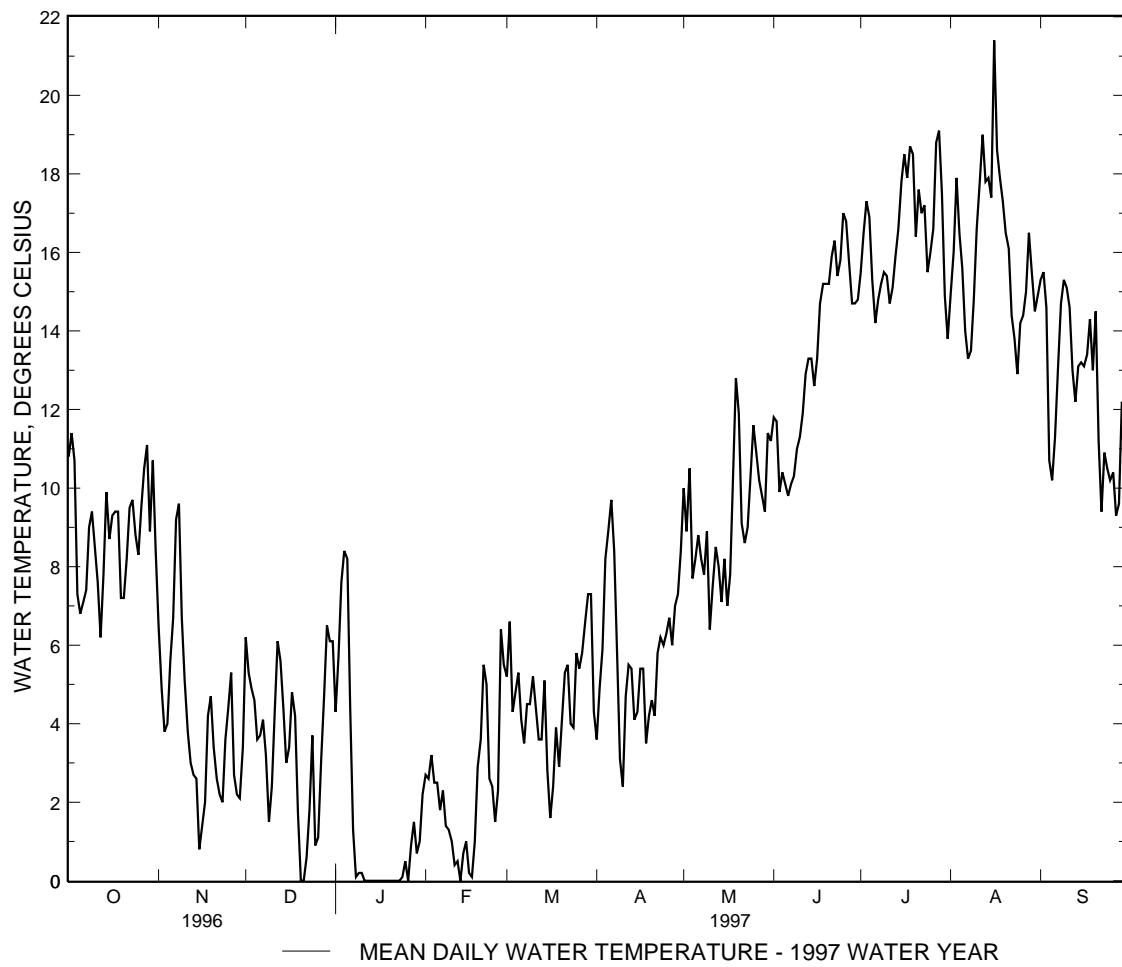
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.2	11.2	11.8	17.0	14.6	15.5	19.2	11.3	14.9	17.1	13.7	15.3
2	12.2	11.0	11.7	18.5	15.1	16.5	19.2	13.7	16.0	17.2	13.8	15.5
3	11.1	9.0	9.9	19.3	15.7	17.3	20.8	15.3	17.9	15.8	12.3	14.6
4	12.5	8.9	10.4	18.3	15.8	16.9	18.2	15.5	16.5	12.3	9.6	10.7
5	12.2	8.1	10.1	16.7	13.6	15.3	17.3	13.7	15.6	12.6	8.3	10.2
6	10.9	8.4	9.8	17.2	11.6	14.2	17.8	11.6	14.0	13.9	9.1	11.3
7	11.1	9.2	10.1	17.7	12.6	14.8	17.2	10.3	13.3	15.9	10.3	13.0
8	11.7	9.0	10.3	19.0	12.6	15.2	18.3	9.2	13.5	16.8	12.7	14.7
9	13.0	9.1	11.0	17.9	13.6	15.5	19.1	11.1	14.8	18.1	13.2	15.3
10	13.6	9.0	11.3	17.0	13.9	15.4	20.3	13.1	16.6	15.3	14.7	15.1
11	13.4	10.2	11.9	18.4	12.0	14.7	21.8	14.2	17.8	15.3	13.1	14.6
12	14.2	12.1	12.9	19.0	12.1	15.1	23.2	15.6	19.0	14.2	11.7	13.0
13	14.1	12.5	13.3	19.5	13.1	15.9	18.8	16.6	17.8	13.8	10.2	12.2
14	14.1	12.6	13.3	20.5	13.5	16.6	20.3	15.7	17.9	15.1	11.1	13.1
15	14.5	10.6	12.6	21.5	14.6	17.8	21.6	14.2	17.4	15.3	11.0	13.2
16	15.2	11.2	13.3	21.1	16.4	18.5	25.6	17.7	21.4	15.7	11.1	13.1
17	16.2	13.7	14.7	21.6	15.0	17.9	20.8	17.1	18.6	16.8	10.1	13.4
18	16.7	14.1	15.2	22.0	16.4	18.7	18.4	17.4	17.9	15.3	11.8	14.3
19	16.3	14.3	15.2	21.1	15.6	18.5	18.2	16.8	17.3	16.6	9.7	13.0
20	17.2	13.2	15.2	20.6	13.1	16.4	16.9	16.2	16.5	16.0	13.2	14.5
21	18.1	13.8	15.9	21.6	14.1	17.6	16.7	15.6	16.1	13.2	9.0	11.2
22	17.8	15.0	16.3	18.1	16.1	17.0	15.6	13.7	14.4	12.3	7.2	9.4
23	17.6	13.3	15.4	19.0	15.9	17.2	14.7	13.1	13.8	12.6	9.1	10.9
24	18.3	13.6	15.8	16.1	14.6	15.5	14.1	11.3	12.9	12.7	8.5	10.5
25	19.2	14.7	17.0	17.1	15.1	16.0	15.4	12.8	14.2	12.4	8.0	10.2
26	17.8	15.7	16.8	18.1	15.0	16.6	16.1	12.7	14.4	12.6	8.1	10.4
27	17.2	14.6	15.7	21.5	17.0	18.8	16.8	13.1	15.0	12.9	7.5	9.3
28	16.7	12.6	14.7	21.6	18.1	19.1	17.7	15.6	16.5	11.9	7.1	9.6
29	17.1	12.6	14.7	19.6	15.1	17.5	16.3	14.6	15.5	13.0	11.6	12.2
30	15.8	13.6	14.8	18.1	12.5	14.9	15.7	13.3	14.5	12.2	11.6	11.9
31	---	---	---	18.1	10.4	13.8	16.3	13.3	14.9	---	---	---
MONTH	19.2	8.1	13.4	22.0	10.4	16.5	25.6	9.2	16.0	18.1	7.1	12.5

POTOMAC RIVER BASIN

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



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POTOMAC RIVER BASIN

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 mi².

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above sea level.

REMARKS.--Records fair except those for estimated daily discharges (missing record, ice effect), 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 OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft³/s, from rating curve extended as explained above.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	0030	*2,780	*6.80				No other peak greater than base discharge.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	122	e900	143	214	565	238	145	137	56	34	43
2	96	126	1400	138	190	919	226	124	216	60	34	44
3	84	111	548	127	184	770	204	131	276	59	36	38
4	85	101	359	124	211	925	186	183	349	52	64	40
5	77	103	280	127	483	767	170	133	221	42	71	37
6	70	99	241	115	304	758	135	132	180	33	38	38
7	65	85	211	109	246	490	125	120	151	39	34	34
8	74	656	195	104	221	406	123	124	133	49	29	41
9	100	583	175	e100	187	344	118	222	115	51	38	38
10	144	346	153	e98	162	386	116	262	101	54	37	49
11	109	261	321	e95	144	311	110	247	94	34	33	50
12	93	214	344	e92	131	253	106	207	87	33	37	41
13	84	193	368	e90	121	215	94	255	165	29	42	32
14	79	175	304	e97	126	315	89	225	124	36	44	28
15	68	152	243	e95	148	297	98	187	87	21	31	27
16	60	140	212	e130	126	228	89	187	74	39	35	29
17	57	129	192	e110	119	207	98	168	77	44	105	28
18	59	146	163	e100	143	241	107	137	73	36	154	29
19	129	191	157	e90	333	513	118	124	76	49	75	29
20	433	147	132	e85	534	395	114	234	67	33	92	43
21	464	133	190	e80	344	321	116	182	61	29	142	45
22	454	126	246	e200	301	270	125	155	50	53	88	29
23	314	117	244	680	235	228	112	135	49	54	76	36
24	235	110	278	291	199	196	117	127	59	225	61	27
25	186	106	272	346	170	177	124	244	56	95	57	30
26	165	e900	200	264	164	617	132	974	121	62	50	30
27	167	e400	185	204	163	360	117	392	142	53	46	36
28	200	e300	171	629	137	283	238	264	69	47	86	61
29	200	e240	170	355	---	269	205	210	48	44	59	305
30	163	e500	164	268	---	226	158	176	47	36	56	91
31	135	---	149	231	---	266	---	166	---	36	43	---
TOTAL	4755	7012	9167	5717	6040	12518	4108	6572	3505	1583	1827	1428
MEAN	153	234	296	184	216	404	137	212	117	51.1	58.9	47.6
MAX	464	900	1400	680	534	925	238	974	349	225	154	305
MIN	57	85	132	80	119	177	89	120	47	21	29	27
CFSM	2.10	3.20	4.05	2.53	2.95	5.53	1.88	2.90	1.60	.70	.81	.65
IN.	2.42	3.57	4.67	2.91	3.08	6.38	2.09	3.35	1.79	.81	.93	.73

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1997, BY WATER YEAR (WY)

MEAN	73.4	138	231	237	263	344	275	202	118	92.7	79.6	56.0
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

POTOMAC RIVER BASIN

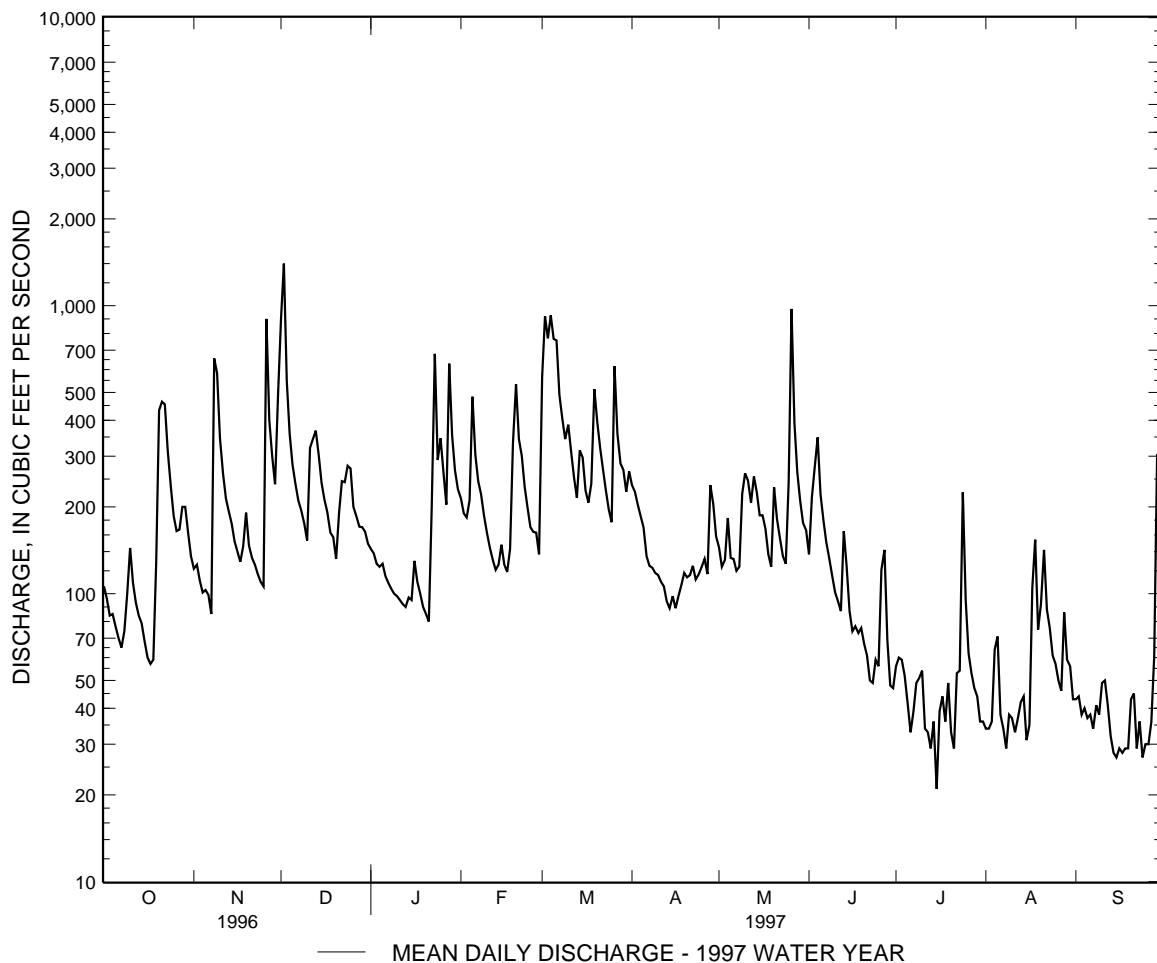
01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1956 - 1997
ANNUAL TOTAL	116924	64232	
ANNUAL MEAN	319	176	175
HIGHEST ANNUAL MEAN			297 1996
LOWEST ANNUAL MEAN			115 1959
HIGHEST DAILY MEAN	4380	Jan 19	4530 Feb 9 1994
LOWEST DAILY MEAN	41	(a)	3.1 Sep 9 1965
ANNUAL SEVEN-DAY MINIMUM	52	Jul 11	29 Sep 23 1959
INSTANTANEOUS PEAK FLOW		2780 Dec 2	(b) 11500 Nov 5 1985
INSTANTANEOUS PEAK STAGE		6.80 Dec 2	13.14 Nov 5 1985
INSTANTANEOUS LOW FLOW		16 (c)	2.9 Sep 10 1965
ANNUAL RUNOFF (CFSM)	4.38	2.41	2.40
ANNUAL RUNOFF (INCHES)	59.58	32.73	32.56
10 PERCENT EXCEEDS	626	345	386
50 PERCENT EXCEEDS	208	127	105
90 PERCENT EXCEEDS	84	38	21

a July 13, 14.

b From rating curve extended above 3,000 ft³/s on basis of slope-area measurement at gage height 10.30 ft.

c July 15, 16, Aug. 8.



POTOMAC RIVER BASIN

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 mi², revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above sea level.

REMARKS.--Water-discharge records fair except those for estimated daily discharges (ice effect, doubtful gage heights), which are poor. 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 1,900 ft³/s, Dec. 1, gage height, 6.95 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	704	25	753	329	54	178	131	80	82	30	9.6	6.3
2	24	25	709	305	49	707	135	65	329	26	7.8	6.1
3	16	17	126	287	62	159	139	59	514	23	6.5	9.8
4	18	17	185	259	76	573	130	72	531	16	10	10
5	12	18	284	245	152	772	110	61	455	12	12	9.7
6	11	17	239	232	101	304	101	64	291	11	9.8	7.0
7	12	19	200	176	88	128	92	58	119	10	9.8	5.6
8	80	278	78	e20	83	124	85	55	78	13	9.3	5.4
9	200	155	39	e19	76	133	70	74	71	14	6.8	8.5
10	75	162	48	e18	71	576	39	76	70	13	6.1	18
11	24	346	98	e17	67	228	28	92	66	10	5.9	16
12	17	118	96	e16	66	194	24	114	63	8.1	8.7	11
13	12	112	154	e15	62	70	24	136	72	7.5	10	7.0
14	12	107	181	e14	58	145	24	227	59	7.2	9.8	6.2
15	15	99	182	e13	87	175	31	166	51	10	9.4	5.9
16	14	91	323	e17	117	168	23	62	50	10	6.8	5.7
17	10	75	325	e15	103	182	22	53	53	11	11	8.3
18	15	81	181	e12	101	189	24	48	51	9.6	17	8.9
19	36	88	39	e11	201	291	25	47	50	8.9	13	8.5
20	112	78	27	e20	265	462	20	62	44	7.0	23	7.3
21	135	73	28	e27	260	107	26	54	37	6.5	29	13
22	146	65	24	50	304	81	32	48	32	14	15	6.8
23	267	62	46	110	333	101	31	41	32	15	9.6	8.6
24	327	60	58	58	673	164	31	36	35	50	8.1	8.9
25	282	69	56	78	245	158	36	44	31	24	7.5	8.2
26	223	311	214	50	67	273	41	183	46	11	9.1	5.9
27	117	203	150	42	65	221	40	117	45	9.1	10	5.3
28	34	806	32	155	62	182	114	118	31	8.3	16	20
29	36	192	30	93	---	152	88	111	26	11	11	71
30	33	90	42	67	---	135	89	102	25	10	8.3	17
31	29	---	129	60	---	144	---	87	---	10	6.8	---
TOTAL	3048	3859	5076	2830	3948	7476	1805	2612	3439	426.2	332.7	335.9
MEAN	98.3	129	164	91.3	141	241	60.2	84.3	115	13.7	10.7	11.2
MAX	704	806	753	329	673	772	139	227	531	50	29	71
MIN	10	17	24	11	49	70	20	36	25	6.5	5.9	5.3

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY)

MEAN	49.3	87.8	112	119	142	219	155	123	71.0	47.2	35.2	36.6
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

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

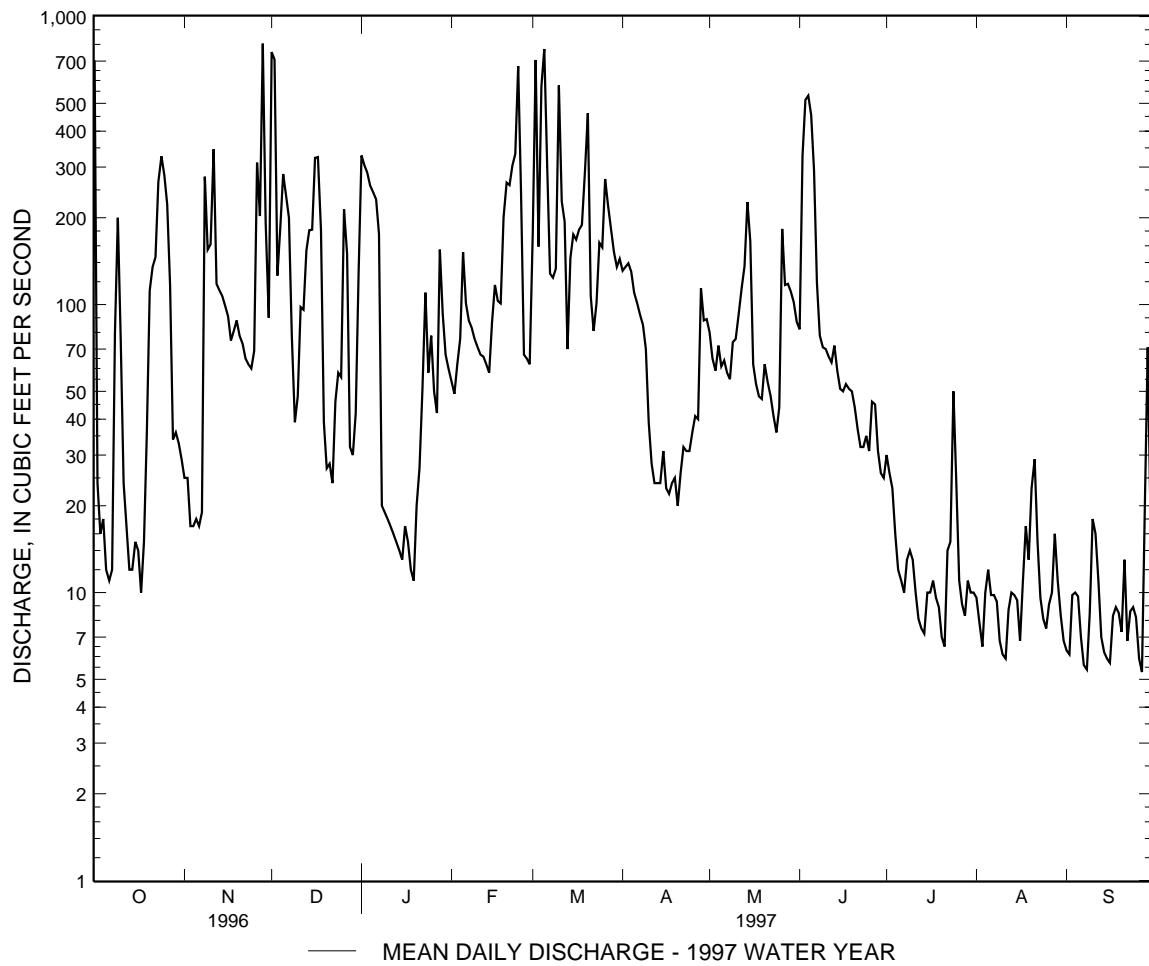
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1962 - 1997
ANNUAL TOTAL	67389	35187.8	
ANNUAL MEAN	184	(a) 96.4	(a) 99.6
HIGHEST ANNUAL MEAN			166 1996
LOWEST ANNUAL MEAN			42.0 1964
HIGHEST DAILY MEAN	2900	Sep 6	9880 Nov 5 1985
LOWEST DAILY MEAN	10	Oct 17	1.3 Aug 28 1988
ANNUAL SEVEN-DAY MINIMUM	14	Oct 12	7.2 Aug 28 1988
INSTANTANEOUS PEAK FLOW		1900 Dec 1	(b) 14000 Nov 5 1985
INSTANTANEOUS PEAK STAGE		6.95 Dec 1	(c) 16.41 Nov 5 1985
INSTANTANEOUS LOW FLOW		5.1 Sep 28	1.3 (d)
10 PERCENT EXCEEDS	379	245	233
50 PERCENT EXCEEDS	107	51	49
90 PERCENT EXCEEDS	27	8.9	8.7

a Unadjusted.

b From rating curve extended above 7,500 ft³/s on basis of slope-area measurement of peak flow.

c From floodmarks.

d Aug. 22, 23, 28, 29, 1988.



POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to March 1974, September 1974 to September 1995, October 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 Oct. 16, 1995, to Apr. 23, 1996, due to equipment removal, and Aug. 19 to Sept. 24 1996 due to equipment malfunction. No temperature record Oct. 12, to Nov. 18, 1996, due to equipment malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 27.5°C, Aug. 14, 1984, July 19, 1990; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES.--

(1996 WATER YEAR).--Maximum recorded, 25.0°C, Aug. 13; minimum recorded, 10.0°C, May 1.

(1997 WATER YEAR).--Maximum, 25.0°C, July 18; minimum, 0.0°C, Jan. 11-31.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	---	---	---	---	---	---	13.5	21.0	21.5	21.0	---
2	16.0	---	---	---	---	---	---	12.5	21.5	21.5	20.0	---
3	15.0	---	---	---	---	---	---	13.5	22.0	21.0	22.0	---
4	15.0	---	---	---	---	---	---	15.0	20.5	18.5	22.5	---
5	15.0	---	---	---	---	---	---	16.0	19.0	17.5	22.0	---
6	16.5	---	---	---	---	---	---	18.0	20.0	19.0	22.0	---
7	16.5	---	---	---	---	---	---	17.0	21.5	19.0	23.0	---
8	15.5	---	---	---	---	---	---	14.5	21.5	19.0	23.0	---
9	14.0	---	---	---	---	---	---	15.5	21.5	19.0	21.5	---
10	12.5	---	---	---	---	---	---	17.5	20.5	19.0	21.0	---
11	13.0	---	---	---	---	---	---	17.0	20.5	18.5	20.5	---
12	12.5	---	---	---	---	---	---	16.0	20.5	18.5	20.5	---
13	12.5	---	---	---	---	---	---	15.0	20.0	19.5	25.0	---
14	13.5	---	---	---	---	---	---	14.5	21.0	20.5	20.5	---
15	13.0	---	---	---	---	---	---	17.0	21.0	20.5	22.0	---
16	---	---	---	---	---	---	---	18.0	21.0	20.5	22.0	---
17	---	---	---	---	---	---	---	16.0	22.0	20.5	22.5	---
18	---	---	---	---	---	---	---	20.0	22.0	20.5	22.5	---
19	---	---	---	---	---	---	---	20.5	22.0	18.5	---	---
20	---	---	---	---	---	---	---	21.0	21.5	20.5	---	---
21	---	---	---	---	---	---	---	21.0	21.0	21.5	---	---
22	---	---	---	---	---	---	---	19.0	21.0	21.5	---	---
23	---	---	---	---	---	---	---	19.5	22.0	21.5	---	---
24	---	---	---	---	---	---	14.5	19.5	22.0	22.0	---	---
25	---	---	---	---	---	---	14.5	19.0	21.5	22.0	---	17.0
26	---	---	---	---	---	---	14.5	18.0	20.0	19.5	---	17.0
27	---	---	---	---	---	14.0	17.0	20.0	19.5	---	18.0	---
28	---	---	---	---	---	14.0	16.5	19.5	19.5	---	18.0	---
29	---	---	---	---	---	14.5	17.5	20.5	19.5	---	18.0	---
30	---	---	---	---	---	14.5	20.5	21.5	19.5	---	22.0	---
31	---	---	---	---	---	---	20.5	---	20.5	---	---	---
MAX	16.5	---	---	---	---	---	14.5	21.0	22.0	22.0	25.0	22.0

WTR YR 1996 MAX 25.0

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MINIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	---	---	---	---	---	---	10.0	20.0	21.0	19.5	---
2	13.5	---	---	---	---	---	---	10.5	21.0	21.0	19.5	---
3	14.5	---	---	---	---	---	---	13.0	20.5	18.5	20.0	---
4	15.0	---	---	---	---	---	---	13.5	19.0	15.5	22.0	---
5	15.0	---	---	---	---	---	---	13.0	17.5	15.5	22.0	---
6	15.0	---	---	---	---	---	---	16.0	17.0	16.5	22.0	---
7	15.5	---	---	---	---	---	---	13.0	19.5	16.5	22.0	---
8	14.0	---	---	---	---	---	---	13.0	20.5	17.5	21.5	---
9	12.5	---	---	---	---	---	---	14.5	20.0	18.5	21.0	---
10	12.5	---	---	---	---	---	---	15.0	19.5	18.5	20.5	---
11	12.5	---	---	---	---	---	---	16.0	20.5	18.5	20.5	---
12	12.5	---	---	---	---	---	---	14.5	19.5	18.5	20.5	---
13	12.5	---	---	---	---	---	---	14.5	19.0	18.5	20.5	---
14	12.5	---	---	---	---	---	---	12.5	19.0	18.5	20.5	---
15	12.0	---	---	---	---	---	---	14.0	19.5	19.0	20.5	---
16	---	---	---	---	---	---	---	16.0	19.5	18.5	21.5	---
17	---	---	---	---	---	---	---	14.5	20.0	18.5	22.0	---
18	---	---	---	---	---	---	---	15.0	22.0	18.5	22.5	---
19	---	---	---	---	---	---	---	19.5	19.5	18.5	---	---
20	---	---	---	---	---	---	---	19.5	20.5	18.5	---	---
21	---	---	---	---	---	---	---	19.0	21.0	20.5	---	---
22	---	---	---	---	---	---	---	18.0	20.5	19.5	---	---
23	---	---	---	---	---	---	---	18.0	21.0	20.0	---	---
24	---	---	---	---	---	---	---	13.0	19.0	21.5	---	---
25	---	---	---	---	---	---	---	13.5	18.0	20.0	19.5	17.0
26	---	---	---	---	---	---	14.0	17.0	19.5	19.5	---	17.0
27	---	---	---	---	---	---	13.5	15.0	19.5	19.5	---	17.0
28	---	---	---	---	---	---	13.5	15.0	19.0	19.5	---	18.0
29	---	---	---	---	---	---	13.5	16.5	19.5	19.5	---	18.0
30	---	---	---	---	---	---	13.5	17.5	20.5	19.5	---	18.0
31	---	---	---	---	---	---	---	19.0	--	19.5	---	---
MIN	12.0	---	---	---	---	---	---	13.0	10.0	17.0	15.5	17.0

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MAXIMUM VALUES

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

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MINIMUM VALUES

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

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POTOMAC RIVER BASIN

01596500 SAVAGE RIVER NEAR BARTON, MD

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, Hydrologic Unit 02070002, on right bank 0.9 mi upstream from Bear Pen Run, 1.5 mi downstream from Poplar Lick Run, 5.4 mi northwest of Barton, and 10 mi upstream from mouth.

DRAINAGE AREA.--49.1 mi².

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.--Records good except those for estimated daily discharges (ice effect and periods of lagging intake), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1745	805	3.33	June 2	0815	812	3.34
Dec. 2	0200	*1,380	*4.07				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	40	583	51	e60	114	74	34	59	9.5	e4.4	e3.9
2	37	37	957	51	e65	200	66	34	511	13	e4.1	e3.7
3	34	34	424	52	69	249	62	34	525	11	e3.9	e3.5
4	29	30	243	50	87	243	59	33	562	9.2	e3.8	e3.4
5	25	28	165	48	232	390	54	30	317	8.1	e4.3	e3.2
6	24	27	133	44	238	591	51	28	183	7.2	4.8	e3.1
7	22	26	104	40	170	374	47	28	126	6.8	e4.4	e3.0
8	25	385	89	35	134	247	41	27	93	6.4	e3.9	e2.9
9	33	548	78	36	104	191	38	37	72	6.2	e3.6	e2.8
10	46	297	67	37	87	170	36	42	60	6.8	e3.4	17
11	38	188	82	e34	73	142	33	42	51	7.0	e3.3	18
12	34	131	239	e30	66	116	32	44	46	6.2	e3.1	11
13	33	98	437	e26	51	97	37	50	59	5.7	e3.0	7.4
14	32	81	359	e25	53	170	32	51	50	5.3	e4.0	5.8
15	29	67	225	e28	53	302	27	50	38	4.9	5.0	5.0
16	26	58	160	e33	44	224	25	47	31	4.7	e3.8	e4.4
17	25	52	127	e27	40	161	25	44	29	4.4	12	4.2
18	36	50	100	e23	43	136	25	43	25	4.2	33	e4.1
19	144	50	85	e21	195	166	24	57	22	4.6	14	e3.9
20	354	45	66	e26	524	160	23	102	19	e4.4	18	e3.8
21	338	40	80	e24	481	176	22	106	17	e4.1	36	4.1
22	235	37	94	e28	535	171	22	91	17	e3.9	18	e3.8
23	181	33	63	e32	306	136	21	75	15	e3.8	12	e3.5
24	140	32	62	e33	190	109	21	64	13	19	e9.5	e3.3
25	105	31	57	e34	136	92	21	87	11	20	e7.5	e3.1
26	83	250	53	e40	107	134	19	228	12	11	e6.5	e3.0
27	70	243	55	e48	96	134	19	174	19	e8.5	e5.8	e2.9
28	64	169	55	e50	87	126	36	124	12	e7.0	e5.2	e3.6
29	57	123	57	e53	---	112	36	95	10	e5.7	e4.7	38
30	50	120	56	e56	---	94	34	78	9.0	e5.2	e4.4	16
31	46	---	52	e58	---	86	---	65	---	e4.7	e4.1	---
TOTAL	2437	3350	5407	1173	4326	5813	1062	2044	3013.0	228.5	253.5	195.4
MEAN	78.6	112	174	37.8	155	188	35.4	65.9	100	7.37	8.18	6.51
MAX	354	548	957	58	535	591	74	228	562	20	36	38
MIN	22	26	52	21	40	86	19	27	9.0	3.8	3.0	2.8
CFSM	1.60	2.27	3.55	.77	3.15	3.82	.72	1.34	2.05	.15	.17	.13
IN.	1.85	2.54	4.10	.89	3.28	4.40	.80	1.55	2.28	.17	.19	.15

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

MEAN	27.8	51.9	92.1	96.6	127	182	141	94.2	47.5	21.0	17.8	19.1
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

POTOMAC RIVER BASIN

01596500 SAVAGE RIVER NEAR BARTON, MD--Continued

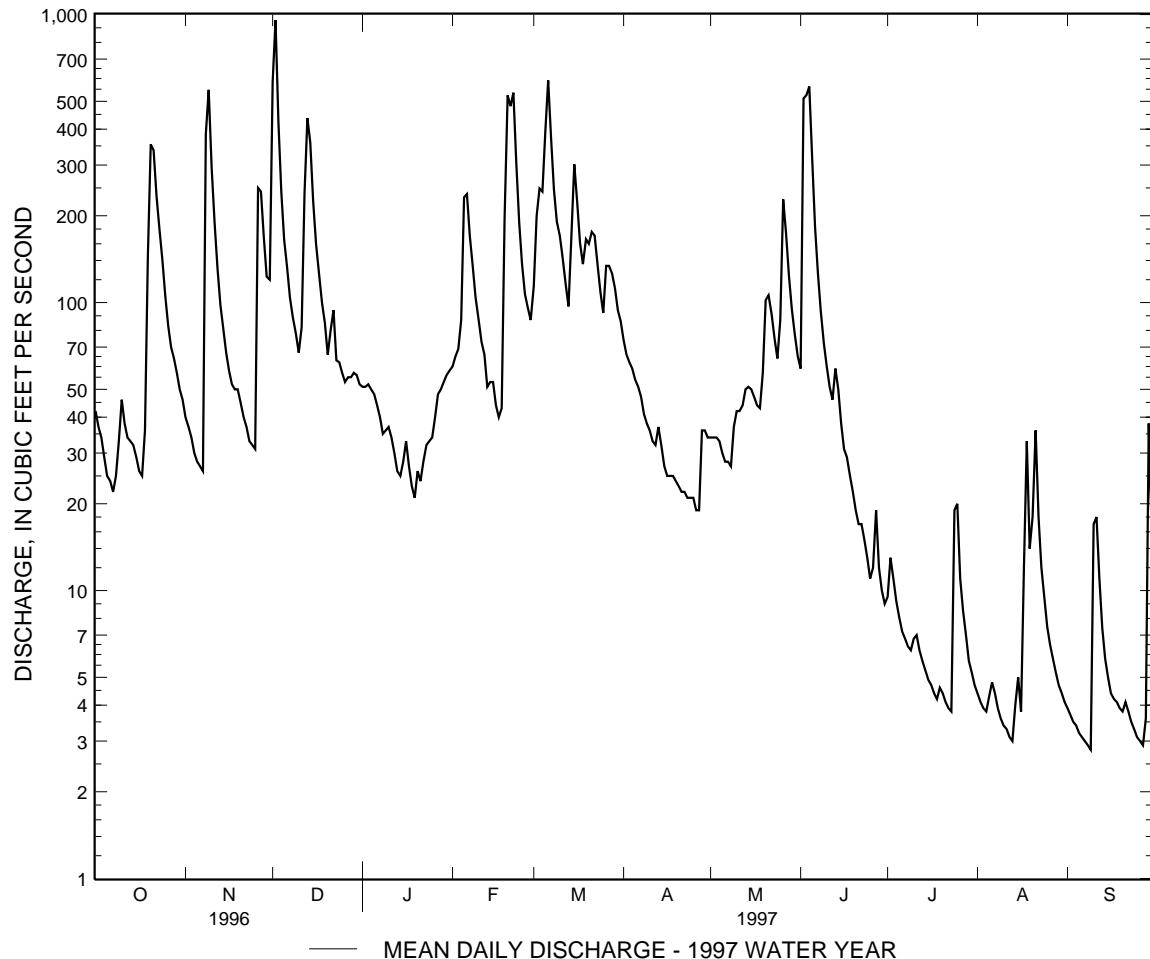
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1948 - 1997
ANNUAL TOTAL	57750.1	29302.4	
ANNUAL MEAN	158	80.3	76.3
HIGHEST ANNUAL MEAN			138
LOWEST ANNUAL MEAN			34.9
HIGHEST DAILY MEAN	(e) 2000	Jan 19	1954
LOWEST DAILY MEAN	8.1	Sep 3	.50
ANNUAL SEVEN-DAY MINIMUM	11	Jul 11	.63
INSTANTANEOUS PEAK FLOW		957 Dec 2	Aug 29 1966
INSTANTANEOUS PEAK STAGE		(e) 2.8 Sep 9	Oct 15 1954
INSTANTANEOUS LOW FLOW		3.1 Sep 3	Oct 15 1954
ANNUAL RUNOFF (CFSM)	3.21	1380 Dec 2	
ANNUAL RUNOFF (INCHES)	43.75	4.07 Dec 2	
10 PERCENT EXCEEDS	361	UNKNOWN	188
50 PERCENT EXCEEDS	86	1.64	34
90 PERCENT EXCEEDS	27	22.20	4.0
		1.97	
		38	
		4.2	

e Estimated.

a Sept. 2, 3, 12, 1966

b From rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow.

c Sept. 3, 4, 1966.



— MEAN DAILY DISCHARGE - 1997 WATER YEAR

POTOMAC RIVER BASIN

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 mi².

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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 1,610 ft³/s, June 4, gage height, 3.93 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	200	241	155	170	214	179	53	158	73	60	58
2	118	822	862	123	170	217	137	53	633	65	60	58
3	112	850	1210	134	170	220	124	53	1150	61	60	58
4	102	161	1200	151	173	390	124	53	1410	61	60	57
5	102	160	1180	151	177	715	124	53	812	61	60	56
6	101	152	1160	101	204	1070	124	53	466	61	59	200
7	101	165	1150	105	272	1070	107	53	344	61	59	134
8	102	174	1130	104	303	1060	99	53	343	62	59	55
9	102	178	590	105	302	1040	99	54	228	60	59	55
10	101	265	271	105	299	761	99	53	142	62	59	55
11	101	314	269	103	216	275	99	53	124	62	59	55
12	101	312	272	105	170	196	99	54	90	61	59	54
13	101	310	504	105	170	168	99	54	78	61	59	54
14	101	310	821	105	147	154	82	54	109	61	59	54
15	101	309	939	105	109	157	60	81	124	68	59	54
16	101	306	925	105	109	158	53	122	112	61	59	54
17	101	304	681	105	109	177	53	122	96	61	59	54
18	102	302	271	107	109	212	53	123	80	61	59	54
19	103	300	269	107	111	242	53	154	74	61	59	54
20	104	297	198	107	118	291	53	198	73	61	59	54
21	226	295	158	106	475	351	53	279	73	61	59	54
22	283	293	157	105	777	374	53	263	73	61	59	54
23	285	291	157	101	777	371	53	192	73	61	58	54
24	285	289	157	98	580	243	53	170	73	61	58	54
25	284	200	157	95	306	180	53	161	73	61	58	54
26	282	155	157	92	214	180	53	438	74	61	58	54
27	282	156	156	92	214	229	53	388	74	61	58	53
28	243	157	155	97	214	256	53	254	73	61	58	54
29	221	157	155	103	--	193	53	180	73	60	58	54
30	207	158	155	148	--	192	53	157	73	60	58	54
31	200	--	155	172	--	211	--	157	--	60	58	--
TOTAL	4861	8342	15862	3497	7165	11567	2450	4185	7378	1913	1825	1866
MEAN	157	278	512	113	256	373	81.7	135	246	61.7	58.9	62.2
MAX	285	850	1210	172	777	1070	179	438	1410	73	60	200
(†)	17930	15200	9110	8620	13240	18000	17880	19510	18480	15640	13020	9950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)

MEAN	109	123	217	220	275	340	216	203	115	69.8	73.2	94.0
MAX	446	641	655	713	596	842	813	563	329	329	262	472
(WY)	1955	1986	1973	1952	1956	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, 1996, 18,690 acre-feet). Records furnished by U.S. Army Corps of Engineers.

POTOMAC RIVER BASIN

01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1951 - 1997
ANNUAL TOTAL	130719	70911	
ANNUAL MEAN	357	194	171
ANNUAL MEAN#	357	182	171
HIGHEST ANNUAL MEAN			300 1996
LOWEST ANNUAL MEAN			69.7 1954
HIGHEST DAILY MEAN	4320	Sep 7	4320 Sep 7 1996
LOWEST DAILY MEAN	61	(a)	.60 (c)
ANNUAL SEVEN-DAY MINIMUM	62	Jul 12	.64 Aug 4 1951
INSTANTANEOUS PEAK FLOW		1410 Jun 4	9190 Sep 7 1996
INSTANTANEOUS PEAK STAGE		53 Apr 16	10.09 Sep 7 1996
INSTANTANEOUS LOW FLOW		1610 Jun 4	.35 Oct 27 1966
ANNUAL RUNOFF (CFSM)	3.37	3.93	1.61
ANNUAL RUNOFF (INCHES)	45.87	1.83	21.90
10 PERCENT EXCEEDS	908	24.89	421
50 PERCENT EXCEEDS	215	347	85
90 PERCENT EXCEEDS	97	106	23
		54	

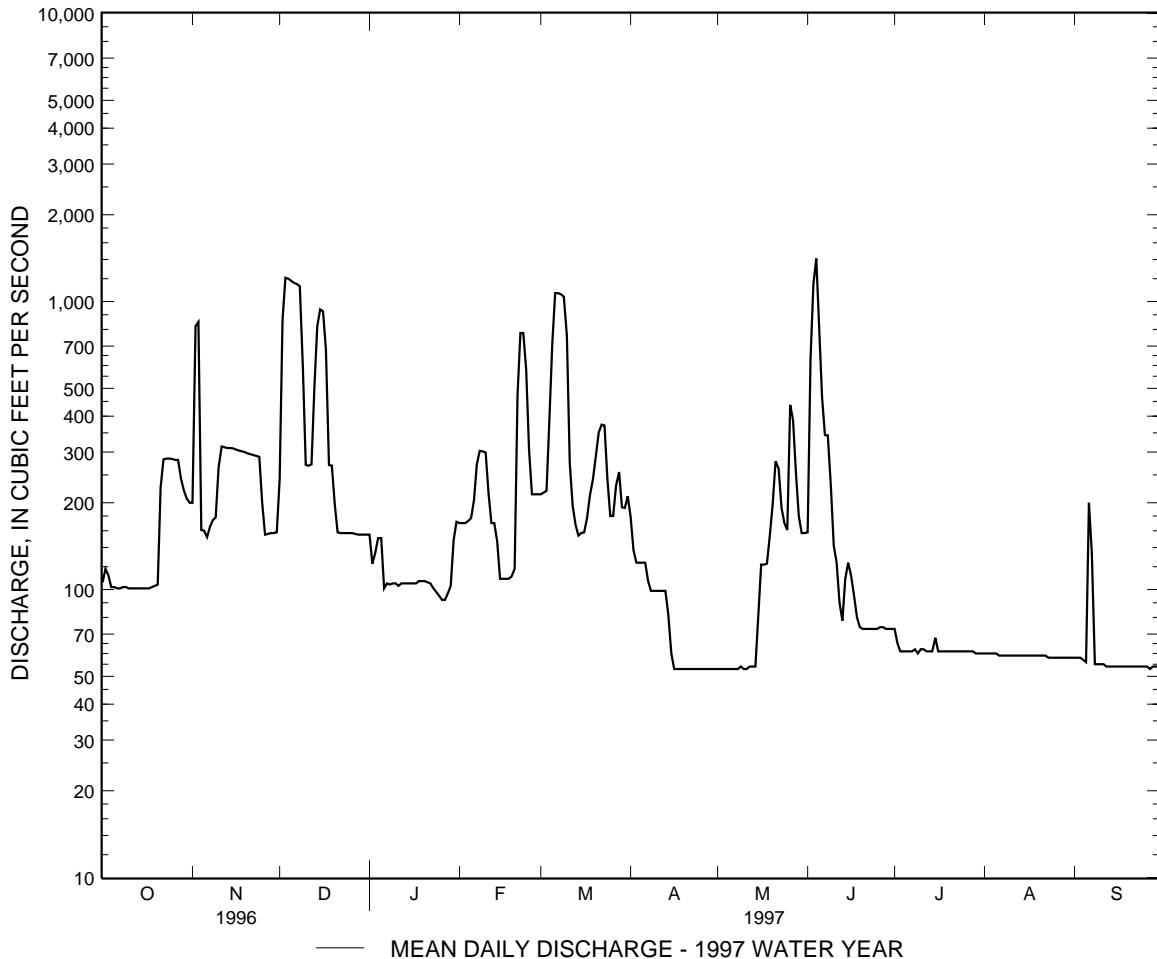
Adjusted for change in reservoir contents since December 1950.

a July 13-17.

b Apr. 16-30, May 1-11, Sept. 27.

c July 27-31, Aug. 5, 6, 9, 10, 1951.

d May have been lower during period of missing gage height record on Oct. 2.



POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 mi².

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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 3,970 ft³/s, June 4, gage height, 6.68 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	480	552	1280	786	849	1140	638	442	726	331	272	273
2	487	1330	3390	763	845	2330	543	439	2250	322	271	272
3	482	1540	3640	763	850	2680	477	440	3570	311	270	271
4	472	546	3540	784	880	2850	418	440	3650	309	275	270
5	472	521	3480	784	1020	3160	416	436	2520	309	273	276
6	472	512	3420	604	998	3520	415	436	1790	308	271	862
7	470	525	3380	731	1060	3150	396	434	1400	307	270	720
8	477	1520	3300	670	1090	2620	385	407	1070	306	270	277
9	483	2390	2100	522	1070	2470	384	392	712	295	270	283
10	482	1710	933	518	1050	2050	382	805	543	277	269	289
11	474	1330	944	513	940	1200	380	917	508	275	269	285
12	472	1300	1280	510	859	714	832	452	477	274	270	309
13	471	1270	1810	508	769	768	973	617	551	274	271	339
14	469	1260	1980	509	643	1150	457	763	651	273	269	339
15	469	1250	2040	508	551	1300	388	792	596	279	267	339
16	467	1240	2020	516	543	890	351	671	523	273	267	339
17	465	1230	1860	507	540	707	351	597	478	272	274	338
18	480	1230	1540	501	551	833	348	539	461	273	274	336
19	492	1220	1530	506	655	1540	343	511	449	685	269	337
20	517	1210	1270	505	740	1920	341	643	445	568	280	341
21	614	1200	1020	492	1390	1780	343	776	441	270	273	339
22	678	1190	1010	485	2050	1490	345	652	437	271	269	339
23	673	1180	1010	499	1900	1330	346	534	399	271	267	339
24	668	1180	1150	499	1620	1140	345	748	357	350	267	337
25	663	950	1280	504	1370	1030	343	749	356	371	267	336
26	661	902	1170	503	1160	1250	564	1530	346	275	267	336
27	659	805	1010	503	950	1480	574	1690	331	275	266	336
28	575	786	1010	653	716	1280	365	1180	328	274	267	354
29	555	779	1000	763	---	1210	353	916	327	273	267	347
30	534	805	995	803	---	1090	383	832	327	273	273	334
31	519	---	932	839	---	894	---	759	---	272	273	---
TOTAL	16352	33463	56324	18551	27659	50966	13179	21539	27019	9696	8377	10492
MEAN	527	1115	1817	598	988	1644	439	695	901	313	270	350
MAX	678	2390	3640	839	2050	3520	973	1690	3650	685	280	862
MIN	465	512	932	485	540	707	341	392	327	270	266	270
CFSM	1.31	2.76	4.50	1.48	2.45	4.07	1.09	1.72	2.23	.77	.67	.87
IN.	1.51	3.08	5.19	1.71	2.55	4.69	1.21	1.98	2.49	.89	.77	.97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1906, 1950 - 1997 BY WATER YEAR (WY)

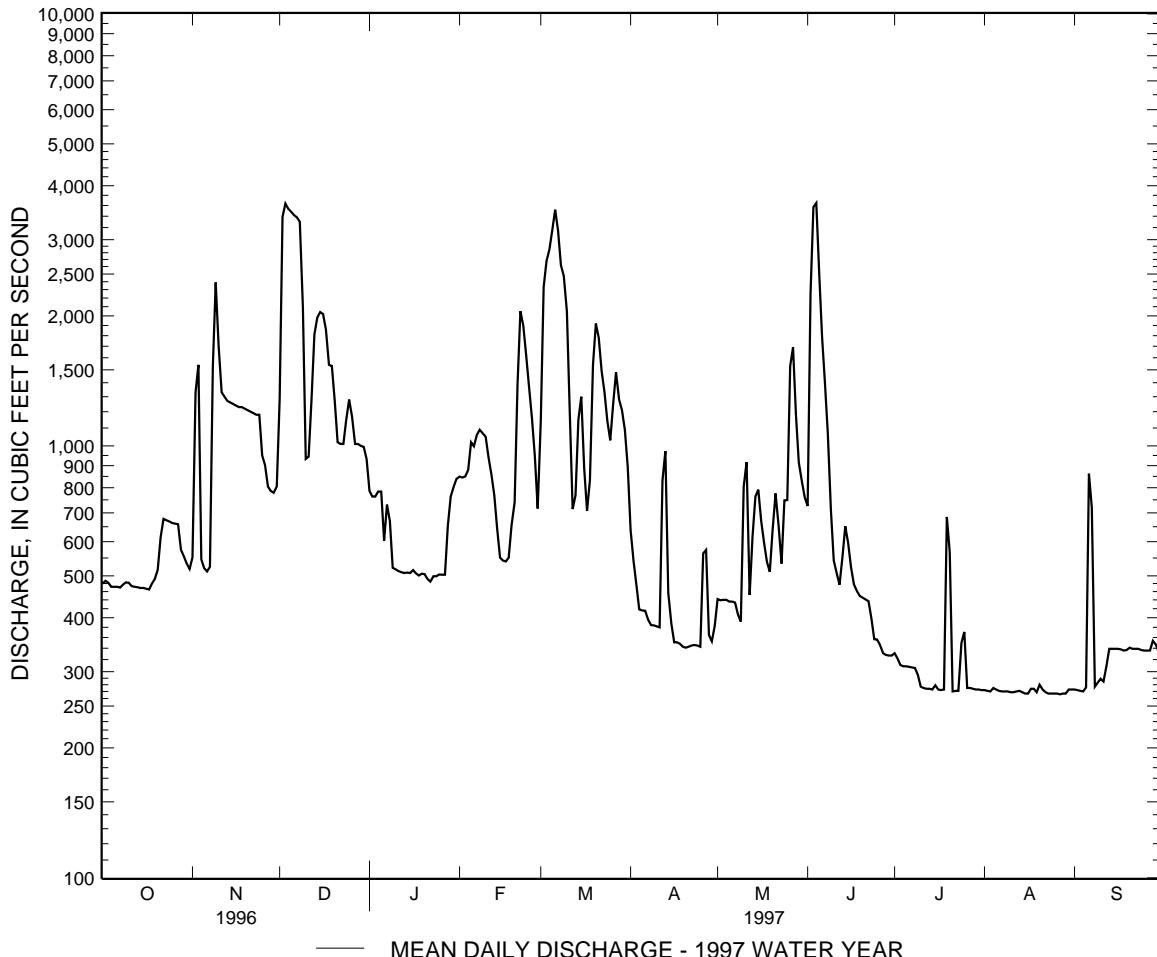
MEAN	336	455	833	922	1086	1568	1200	911	538	341	321	285
MAX	1423	2806	2536	2368	2487	3414	3098	2484	1493	1294	1525	1998
(WY)	1955	1986	1973	1996	1994	1963	1993	1996	1981	1990	1996	1996
MIN	27.6	33.5	131	166	99.8	467	278	165	108	91.4	37.0	17.1
(WY)	1905	1905	1954	1977	1905	1988	1995	1982	1969	1953	1904	1904

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1899 - 1906 1950 - 1997
ANNUAL TOTAL	556165	293617	
ANNUAL MEAN	1520	804	734
ANNUAL MEAN#	1525	766	735
HIGHEST ANNUAL MEAN			1342 1996
LOWEST ANNUAL MEAN			412 1969
HIGHEST DAILY MEAN	9130	Sep 8	18400 Aug 18 1955
LOWEST DAILY MEAN	285	Jul 17	6.0 Sep 4 1904
ANNUAL SEVEN-DAY MINIMUM	295	Jul 12	11 Aug 29 1904
INSTANTANEOUS PEAK FLOW		3650 Jun 4	(a) 39400 Oct 15 1954
INSTANTANEOUS PEAK STAGE		3970 Jun 4	17.15 Oct 15 1954
INSTANTANEOUS LOW FLOW		6.68 Jun 4	UNKNOWN
ANNUAL RUNOFF (CFSM)	3.76	216 Jul 15	1.82
ANNUAL RUNOFF (CFSM)#	3.77		1.82
ANNUAL RUNOFF (INCHES)	51.21		24.68
ANNUAL RUNOFF (INCHES)#	51.25		24.71
10 PERCENT EXCEEDS	3380	1540	1650
50 PERCENT EXCEEDS	1020	525	411
90 PERCENT EXCEEDS	426	273	110

Adjusted for change in reservoir contents since October 1949.

a From rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow.

POTOMAC RIVER BASIN

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 mi².

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.--Records good. Records include about 0.5 ft³/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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1330	1,600	7.06	Dec. 1	2245	*1,640	*7.12

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	57	749	63	68	195	102	53	54	23	10	8.8
2	63	53	913	62	68	240	89	51	394	27	11	8.6
3	58	49	465	62	79	249	81	48	474	22	11	8.4
4	52	46	338	60	113	324	77	47	507	19	13	8.1
5	48	44	271	59	242	409	71	45	335	19	14	7.9
6	45	41	241	58	219	506	68	43	273	18	12	7.8
7	43	39	207	56	187	377	65	42	206	17	10	7.8
8	41	852	186	55	172	316	60	41	157	17	9.6	8.7
9	45	571	165	53	143	265	58	43	122	17	9.1	8.9
10	74	338	143	52	123	244	57	46	92	19	9.0	20
11	66	248	167	50	106	211	57	46	75	16	8.9	21
12	57	194	256	47	93	181	56	45	65	15	9.0	14
13	50	155	390	42	78	158	56	45	67	14	14	11
14	46	135	325	40	77	318	55	48	73	14	14	10
15	42	113	269	40	78	328	55	50	60	13	11	9.6
16	39	100	231	42	67	255	54	51	54	13	10	9.1
17	37	92	206	41	64	224	52	51	51	12	14	9.0
18	40	90	181	37	74	215	51	51	49	14	24	8.9
19	142	85	161	35	219	305	50	52	46	18	15	8.3
20	173	77	134	34	374	254	49	68	42	14	28	8.8
21	156	72	109	34	362	252	48	62	39	13	33	8.5
22	141	69	108	33	384	229	47	59	35	13	18	8.2
23	123	65	108	35	287	202	46	57	32	16	14	8.1
24	109	62	116	37	228	179	45	56	28	30	12	8.0
25	94	60	101	39	188	160	44	55	26	23	11	8.1
26	81	353	81	41	164	192	43	100	27	17	11	7.6
27	75	206	78	41	152	159	42	68	28	15	10	7.5
28	72	160	76	62	130	140	56	60	24	14	11	15
29	70	138	76	66	---	134	59	58	22	14	10	39
30	66	174	76	59	---	123	56	57	21	12	9.6	17
31	61	---	67	57	---	116	---	56	---	11	9.1	---
TOTAL	2278	4738	6994	1492	4539	7460	1749	1654	3478	519	405.3	331.7
MEAN	73.5	158	226	48.1	162	241	58.3	53.4	116	16.7	13.1	11.1
MAX	173	852	913	66	384	506	102	100	507	30	33	39
MIN	37	39	67	33	64	116	42	41	21	11	8.9	7.5
CFSM	1.01	2.18	3.12	.66	2.24	3.32	.81	.74	1.60	.23	.18	.15
IN.	1.17	2.43	3.59	.77	2.33	3.83	.90	.85	1.79	.27	.21	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1906, 1930 - 1997, BY WATER YEAR (WY)

MEAN	33.1	42.9	75.9	94.0	125	207	172	121	58.9	31.1	23.0	23.0
MAX	270	355	314	371	283	682	420	294	171	185	120	277
(WY)	1943	1986	1973	1937	1971	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

POTOMAC RIVER BASIN

01599000 GEORGES CREEK AT FRANKLIN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1905 - 1906 1930 - 1997
ANNUAL TOTAL	59713	35638.0	
ANNUAL MEAN	163	97.6	82.8
HIGHEST ANNUAL MEAN			136 1996
LOWEST ANNUAL MEAN			30.7 1969
HIGHEST DAILY MEAN	1970	Sep 6	4130 Mar 17 1936
LOWEST DAILY MEAN	17	Jul 17	1.6 (a)
ANNUAL SEVEN-DAY MINIMUM	19	Jul 11	1.6 Sep 29 1930
INSTANTANEOUS PEAK FLOW		1640 Dec 1	(b) 8500 Mar 17 1936
INSTANTANEOUS PEAK STAGE		7.12 Dec 1	(c) 9.60 Mar 17 1936
INSTANTANEOUS LOW FLOW		7.2 (d)	1.6 (f)
ANNUAL RUNOFF (CFSM)	2.25	1.35	1.14
ANNUAL RUNOFF (INCHES)	30.68	18.31	15.55
10 PERCENT EXCEEDS	328	246	200
50 PERCENT EXCEEDS	109	56	38
90 PERCENT EXCEEDS	39	11	7.2

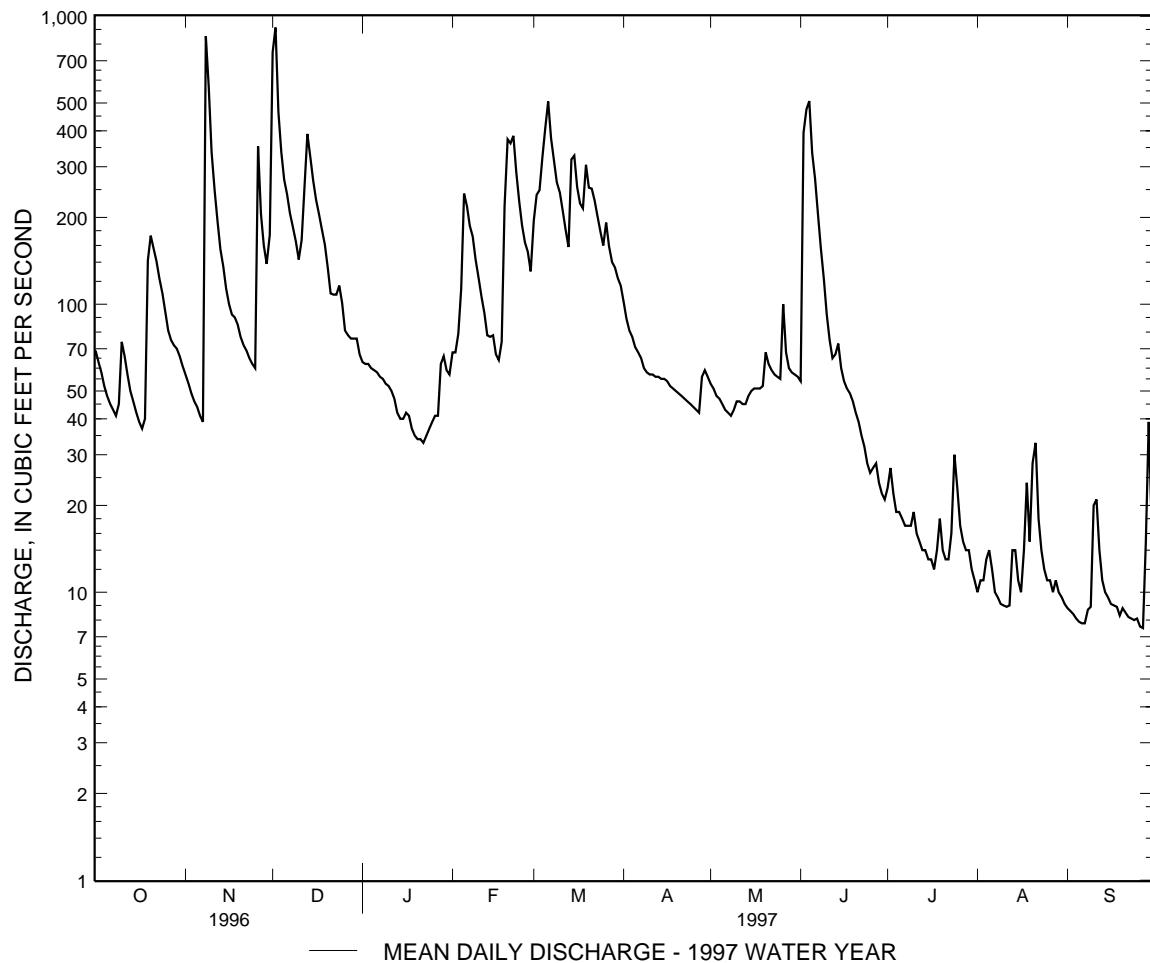
a Sept. 29, 30, 1930.

b From rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow.

c At site then in use.

d Sept. 8, 26-28.

f Sept. 29 to Oct. 13, 1930.



POTOMAC RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1700	*8,390	*8.87	Dec. 2	0100	7,200	8.40

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	217	2820	263	329	566	377	135	255	79	37	32
2	220	201	5220	264	320	788	327	132	1050	93	37	30
3	205	188	2060	264	346	984	296	131	1360	84	37	30
4	184	170	1250	253	477	1100	277	134	1970	68	37	27
5	167	159	914	248	1090	1470	260	128	1290	61	38	25
6	156	153	783	239	1030	2460	249	127	832	58	37	24
7	148	148	641	215	845	1730	237	137	600	55	37	24
8	173	4870	558	185	724	1220	216	130	457	52	34	23
9	198	3890	495	202	594	984	205	158	359	56	32	25
10	222	1640	429	213	504	940	196	158	292	59	30	45
11	176	1040	470	182	441	801	187	150	250	57	28	72
12	153	752	874	162	391	684	189	147	229	50	48	61
13	144	584	1630	138	328	578	209	167	236	46	67	44
14	138	493	1540	e125	328	1090	187	169	222	43	64	38
15	133	413	1100	e110	319	1140	170	163	176	42	48	35
16	128	355	844	182	274	976	160	151	154	40	41	32
17	126	319	701	139	264	815	157	145	148	38	40	30
18	170	305	585	e115	279	742	158	145	169	41	81	29
19	591	301	506	e108	728	1000	152	181	159	47	74	26
20	1170	269	409	e115	2060	846	149	219	124	42	112	26
21	1210	245	311	149	2100	825	145	215	111	40	157	25
22	900	227	329	139	2490	783	144	217	103	39	87	27
23	695	207	328	160	1500	677	141	206	95	50	62	28
24	579	200	336	172	1000	581	139	193	88	82	50	26
25	472	195	308	187	748	511	132	302	83	73	45	23
26	395	839	249	190	613	698	126	922	84	60	45	22
27	340	665	267	178	548	709	128	735	88	49	39	23
28	313	604	265	253	488	657	167	503	78	46	38	63
29	296	531	268	290	---	581	156	379	70	45	37	301
30	265	635	281	296	---	498	140	317	66	41	37	127
31	242	---	264	306	---	438	---	266	---	38	34	---
TOTAL	10546	20815	27035	6042	21158	27872	5776	7262	11198	1674	1590	1343
MEAN	340	694	872	195	756	899	193	234	373	54.0	51.3	44.8
MAX	1210	4870	5220	306	2490	2460	377	922	1970	93	157	301
MIN	126	148	249	108	264	438	126	127	66	38	28	22
CFSM	1.38	2.81	3.53	.79	3.06	3.64	.78	.95	1.51	.22	.21	.18
IN.	1.59	3.13	4.07	.91	3.19	4.20	.87	1.09	1.69	.25	.24	.20

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1906, 1930 - 1997, BY WATER YEAR (WY)

MEAN	140	201	334	395	512	817	675	458	233	116	90.6	87.0
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

POTOMAC RIVER BASIN

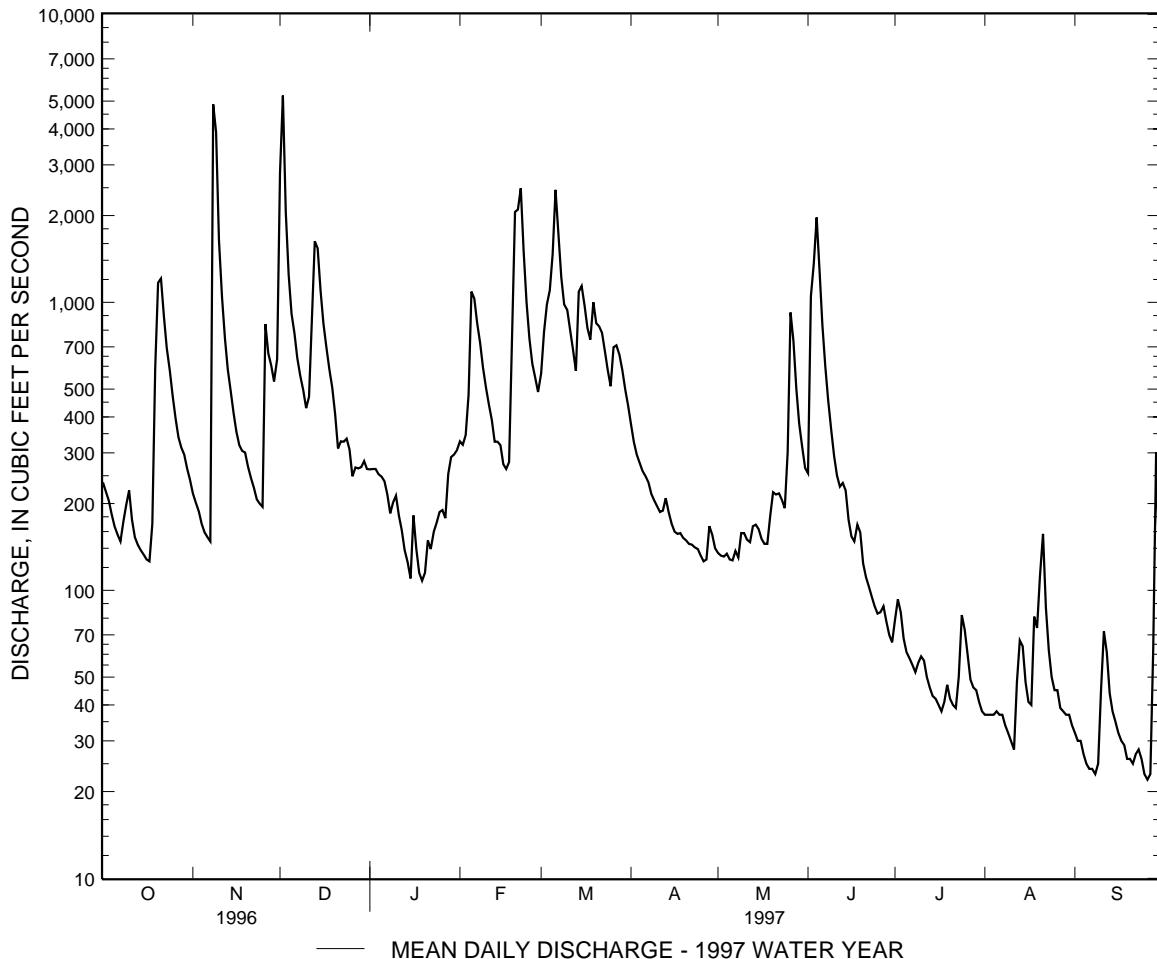
01601500 WILLS CREEK NEAR CUMBERLAND, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1905 - 1906 1930 - 1997
ANNUAL TOTAL	253891	142311	
ANNUAL MEAN	694	390	338
HIGHEST ANNUAL MEAN			599
LOWEST ANNUAL MEAN			122
HIGHEST DAILY MEAN	19200	Jan 19	19200
LOWEST DAILY MEAN	45	Sep 3	22
ANNUAL SEVEN-DAY MINIMUM	53	Aug 28	Sep 26
INSTANTANEOUS PEAK FLOW			8.87
INSTANTANEOUS PEAK STAGE			Nov 8
INSTANTANEOUS LOW FLOW			22
ANNUAL RUNOFF (CFSM)	2.81		1.58
ANNUAL RUNOFF (INCHES)	38.24		21.43
10 PERCENT EXCEEDS	1350		929
50 PERCENT EXCEEDS	356		195
90 PERCENT EXCEEDS	112		38

a Oct. 8-10, 1930.

b From rating curve extended above 11,000 ft³/s on basis of slope-area measurements at gage heights of 13.45 and 20.2 ft.

c From floodmarks at present site.



POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'18", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.
 DRAINAGE AREA.--875 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. 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 ft³/s.
 Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft³/s.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 14,800 ft³/s, Dec. 2, gage height, 12.91 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	974	993	5800	1320	1480	1830	1490	710	1140	604	335	323
2	927	1240	12400	1280	1490	3520	1230	735	3230	601	335	320
3	921	2480	7620	1230	1500	4730	1120	733	6290	532	336	322
4	857	1310	5990	1260	1740	5280	991	756	8080	482	342	313
5	821	890	5220	1240	2970	6090	939	751	5670	458	367	306
6	803	887	4960	1200	2910	7850	912	748	3750	452	343	366
7	787	867	4640	983	2550	6580	888	774	2780	444	334	1310
8	834	7210	4430	1070	2420	5010	813	761	2190	437	326	414
9	914	9630	3970	961	2180	4310	784	789	1700	441	320	326
10	983	5140	1860	914	2020	4090	757	855	1320	434	320	398
11	871	3340	1830	859	1870	2860	737	1490	1130	394	317	449
12	810	2790	2480	797	1640	2030	782	956	1060	380	353	402
13	788	2490	4340	757	1520	1790	1530	959	1060	372	408	416
14	774	2330	4520	e720	1390	2890	1020	1150	1220	368	392	424
15	764	2190	3980	e750	1260	3650	765	1280	1140	362	353	419
16	758	2100	3530	841	1150	2780	655	1150	974	361	334	413
17	750	2040	3280	758	1120	2210	636	1010	899	346	344	405
18	797	2010	2620	e610	1110	2110	635	976	929	360	452	405
19	1560	2000	2450	e580	1790	3290	609	917	959	403	409	396
20	2130	1940	2220	e600	3860	3680	599	1000	792	1120	495	403
21	2320	1890	1660	796	3860	3610	594	1180	751	421	592	400
22	2090	1840	1660	726	5510	3080	603	1160	725	350	442	398
23	1840	1800	1650	772	4260	2570	597	957	710	391	378	399
24	1690	1770	1690	836	3260	2320	600	946	619	480	352	395
25	1530	1720	1850	876	2670	2030	586	1180	584	694	339	392
26	1430	3130	1730	953	2180	2280	593	2180	580	471	334	388
27	1380	2520	1540	894	2060	2700	816	2880	592	388	329	385
28	1320	2150	1520	1090	1620	2290	941	1950	534	378	330	507
29	1160	1960	1520	1400	---	2200	708	1530	509	374	321	1000
30	1110	2050	1520	1370	---	2010	645	1370	494	351	325	591
31	1030	---	1480	1430	---	1810	---	1220	---	342	326	---
TOTAL	35723	74707	105960	29873	63390	103480	24575	35053	52411	13991	11283	13385
MEAN	1152	2490	3418	964	2264	3338	819	1131	1747	451	364	446
MAX	2320	9630	12400	1430	5510	7850	1530	2880	8080	1120	592	1310
MIN	750	867	1480	580	1110	1790	586	710	494	342	317	306
CFSM	1.32	2.85	3.91	1.10	2.59	3.81	.94	1.29	2.00	.52	.42	.51
IN.	1.52	3.18	4.50	1.27	2.69	4.40	1.04	1.49	2.23	.59	.48	.57

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1997, BY WATER YEAR (WY)

	605	781	1322	1588	1995	2916	2341	1739	909	528	463	444
MAX	3791	5350	4652	5115	4125	8763	5866	4070	2375	2270	2152	4117
(WY)	1943	1986	1973	1937	1961	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

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

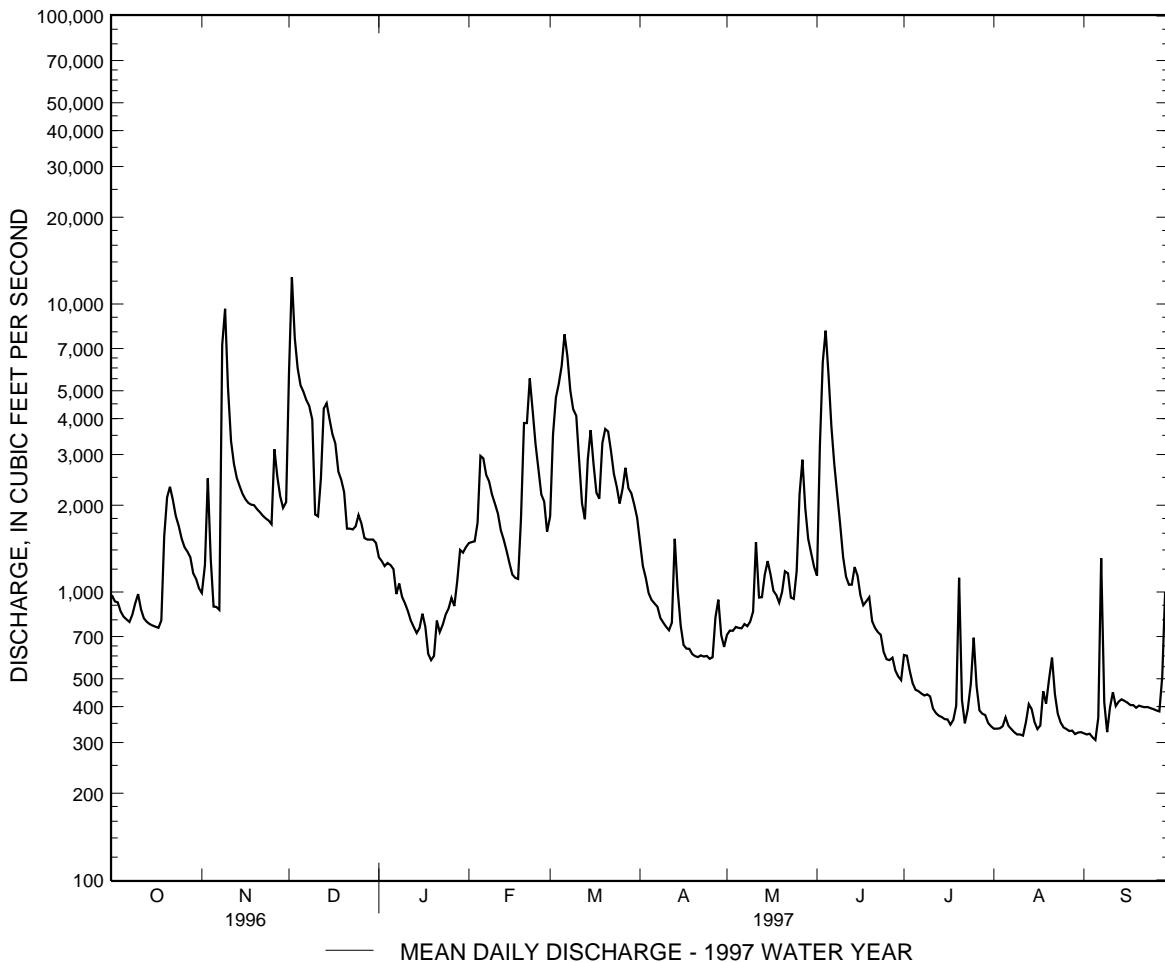
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1929 - 1997
ANNUAL TOTAL	1012039	563831	
ANNUAL MEAN	2765	1545	1301
ANNUAL MEAN#	2770	1506	1301
HIGHEST ANNUAL MEAN			2390 1996
LOWEST ANNUAL MEAN			632 1969
HIGHEST DAILY MEAN	29400	Jan 19	47400 Mar 18 1936
LOWEST DAILY MEAN	446	Jul 17	13 (a)
ANNUAL SEVEN-DAY MINIMUM	464	Jul 11	16 Sep 20 1932
INSTANTANEOUS PEAK FLOW		12400 Dec 2	(b) 88200 Mar 17 1936
INSTANTANEOUS PEAK STAGE		14800 Dec 2	29.10 Mar 17 1936
INSTANTANEOUS LOW FLOW		12.91 Dec 2	12 Sep 22 1932
ANNUAL RUNOFF (CFSM)	3.16	302 (c)	1.49
ANNUAL RUNOFF (CFSM)#	3.17		1.49
ANNUAL RUNOFF (INCHES)	43.03		20.20
ANNUAL RUNOFF (INCHES)#	42.99		20.20
10 PERCENT EXCEEDS	5860	3410	3000
50 PERCENT EXCEEDS	1810	976	684
90 PERCENT EXCEEDS	775	367	169

Adjusted for change in reservoir contents since October 1981.

a Sept. 21-24, 1932.

b From rating curve extended above 33,000 ft³/s on basis of slope-area measurement of peak flow.

c Aug. 12, Sept. 4-6.



POTOMAC RIVER BASIN

01604500 PATTERTON 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 mi², revised.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40.

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 good except those for estimated daily discharges (doubtful gage heights, ice effect), which are poor. The flow from 115 mi² 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 PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s, Aug. 19, 1955, gage height, 12.20 ft, from rating curve extended above 4,900 ft³/s, on basis of contracted-opening measurement at gage height 11.53 ft; minimum daily discharge, 1.2 ft³/s, Aug. 18, 1988.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 2,460 ft³/s, Dec. 2, gage height, 8.77 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	86	1140	155	267	363	237	84	62	32	18	12
2	85	82	1790	154	253	568	214	80	218	37	16	12
3	79	78	976	154	237	1060	194	78	438	42	15	11
4	72	73	759	151	240	1280	172	76	791	37	15	11
5	68	69	656	150	496	907	155	75	586	32	22	11
6	64	73	616	143	546	934	143	73	498	29	22	10
7	60	85	569	139	492	803	133	71	422	27	20	10
8	67	583	528	130	450	672	123	69	365	24	17	9.7
9	80	1070	489	126	411	591	115	76	302	23	16	11
10	105	543	436	140	381	559	110	76	249	25	15	13
11	92	420	398	137	354	518	105	74	212	22	14	17
12	81	344	401	114	323	464	105	72	180	21	14	20
13	75	292	647	e100	292	413	109	75	154	19	15	20
14	70	259	632	e85	282	578	105	77	137	18	16	18
15	65	223	530	e75	281	647	99	79	113	18	15	16
16	62	182	469	e80	286	545	94	75	94	16	14	15
17	60	158	419	e75	289	496	91	72	82	16	14	14
18	63	141	375	e65	300	463	88	70	72	15	20	13
19	104	133	345	e60	425	951	86	72	71	15	19	12
20	132	144	285	e55	489	948	83	68	61	16	21	12
21	163	127	242	e50	454	742	82	64	54	16	26	11
22	184	86	214	99	424	640	84	61	49	15	26	11
23	171	72	208	129	381	554	83	56	45	17	24	11
24	152	70	216	159	345	502	83	53	40	23	22	11
25	132	74	212	190	302	450	81	52	37	36	20	11
26	122	1040	189	254	278	437	78	76	36	38	18	11
27	118	748	176	243	266	391	79	78	44	33	17	10
28	117	593	173	320	244	359	90	73	41	28	16	10
29	106	524	171	340	---	334	91	67	36	25	15	36
30	99	508	168	296	---	292	88	64	33	22	14	45
31	93	---	161	273	---	266	---	60	---	20	13	---
TOTAL	3037	8880	14590	4641	9788	18727	3400	2196	5522	757	549	434.7
MEAN	98.0	296	471	150	350	604	113	70.8	184	24.4	17.7	14.5
MAX	184	1070	1790	340	546	1280	237	84	791	42	26	45
MIN	60	69	161	50	237	266	78	52	33	15	13	9.7
CFSM	.46	1.40	2.23	.71	1.66	2.86	.54	.34	.87	.12	.08	.07
IN.	.54	1.57	2.57	.82	1.73	3.30	.60	.39	.97	.13	.10	.08

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

MEAN	75.6	83.9	168	210	307	432	314	225	109	60.6	58.8	50.1
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

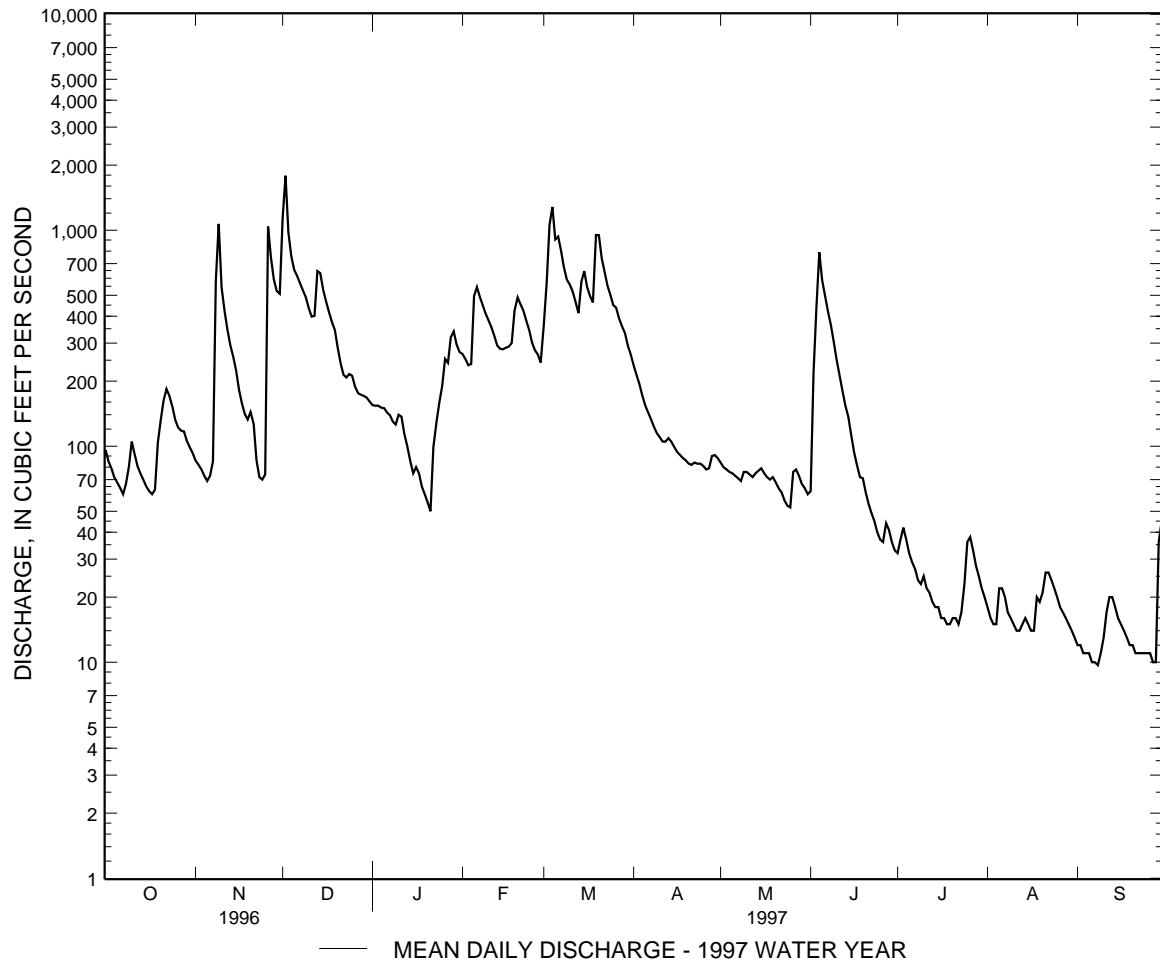
POTOMAC RIVER BASIN

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1938 - 1997
ANNUAL TOTAL	158451	72521.7	
ANNUAL MEAN	433	199	174
HIGHEST ANNUAL MEAN			387 1996
LOWEST ANNUAL MEAN			35.1 1969
HIGHEST DAILY MEAN	7330	Jan 19	11100 Oct 15 1942
LOWEST DAILY MEAN	30	Jul 17	9.7 Sep 8 1.2 Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	36	Jul 12	11 Sep 3 1.7 Sep 5 1965
INSTANTANEOUS PEAK FLOW		2460 Dec 2	(a) 16000 Aug 19 1955
INSTANTANEOUS PEAK STAGE		8.77 Dec 2	12.20 Aug 19 1955
INSTANTANEOUS LOW FLOW		9.7 Sep 8	1.1 (b)
ANNUAL RUNOFF (CFSM)	2.05	.94	.82
ANNUAL RUNOFF (INCHES)	27.94	12.79	11.20
10 PERCENT EXCEEDS	842	529	443
50 PERCENT EXCEEDS	288	88	60
90 PERCENT EXCEEDS	72	15	10

a From rating curve extended above 4,900 ft³/s on basis of contracted-opening measurement of peak flow.

b Aug. 18, 1988.



POTOMAC RIVER BASIN

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 mile 74.7.

DRAINAGE AREA.--676 mi², revised.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38.

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 October, which are fair, and those for periods of estimated daily discharges (doubtful or missing gage-height record), 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 21.2 ft, from floodmarks at previous site and datum.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 8	2100	*13,000	*8.63	Mar. 2	0200	7,270	6.90
Nov. 26	1500	7,180	6.87	Mar. 3	2200	9,680	7.68
Dec. 2	0600	9,990	7.77				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	433	448	2880	693	e1200	2660	1110	794	535	211	146	117
2	416	429	7760	656	e1000	6480	1030	708	2330	225	139	113
3	404	409	4870	642	e900	6410	1000	627	2890	227	135	110
4	384	387	3340	612	e850	7650	961	618	3730	196	144	106
5	366	368	2480	580	1250	5480	885	582	2660	181	153	104
6	359	357	2090	575	1470	5050	811	524	1830	171	155	100
7	358	347	1690	531	1340	4040	750	491	1350	164	144	100
8	388	4100	1530	481	1300	3240	661	454	1050	158	133	98
9	492	7870	1310	473	1160	2570	598	524	849	151	129	98
10	526	4120	1120	510	1020	2270	553	640	705	161	123	112
11	484	2710	1150	523	920	1940	513	750	597	169	119	146
12	439	1920	2250	e450	845	1600	511	774	536	155	117	163
13	421	1440	3320	e400	770	1330	592	765	526	144	120	134
14	409	1190	3560	e380	752	1350	555	784	508	138	122	119
15	376	1000	2810	e340	887	1660	483	716	456	135	124	112
16	362	857	2230	e360	927	1410	450	696	398	135	126	108
17	345	772	1840	e330	894	1280	438	647	361	144	122	104
18	359	738	1520	e310	859	1250	451	634	344	141	120	102
19	430	778	1320	e290	1120	3270	451	585	336	136	119	99
20	439	760	1070	e270	2200	4160	439	587	315	127	140	100
21	468	700	817	e250	2260	3440	427	575	286	124	447	101
22	528	679	809	e240	2530	2780	430	524	274	135	315	102
23	e640	607	808	e600	2220	2160	439	492	251	177	209	102
24	845	568	884	e1100	1710	1720	494	458	234	552	171	98
25	735	562	987	e1600	1370	1400	505	443	219	571	152	97
26	654	4210	905	e1400	1170	1500	483	1070	219	308	145	95
27	600	4230	859	e1200	1070	1470	481	1210	256	223	143	93
28	563	2890	841	e2000	959	1270	868	888	282	190	143	103
29	543	2150	804	e1700	---	1180	968	730	225	187	136	445
30	515	1730	762	e1500	---	1100	873	655	203	178	130	413
31	478	---	708	e1300	---	1140	---	580	---	159	122	---
TOTAL	14759	49326	59324	22296	34953	84260	19210	20525	24755	6073	4743	3894
MEAN	476	1644	1914	719	1248	2718	640	662	825	196	153	130
MAX	845	7870	7760	2000	2530	7650	1110	1210	3730	571	447	445
MIN	345	347	708	240	752	1100	427	443	203	124	117	93
CFSM	.70	2.43	2.83	1.06	1.85	4.02	.95	.98	1.22	.29	.23	.19
IN.	.81	2.71	3.26	1.23	1.92	4.64	1.06	1.13	1.36	.33	.26	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

MEAN	492	720	930	1150	1632	1265	1014	538	296	293	257
MAX	1863	5569	2511	3386	3519	4090	2888	3546	2175	1479	1601
(WY)	1977	1986	1973	1996	1994	1936	1993	1996	1949	1949	1996
MIN	49.3	62.7	95.1	143	212	543	399	233	128	70.5	54.1
(WY)	1931	1931	1966	1981	1934	1990	1986	1930	1991	1930	1930

POTOMAC RIVER BASIN

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1928 - 1997
ANNUAL TOTAL	682886	344118	
ANNUAL MEAN	1866	943	741
HIGHEST ANNUAL MEAN			1619 1996
LOWEST ANNUAL MEAN			365 1969
HIGHEST DAILY MEAN	(e) 35000	Jan 19	7870 Nov 9
LOWEST DAILY MEAN	259	Jul 15	93 Sep 27
ANNUAL SEVEN-DAY MINIMUM	290	Jul 12	98 Sep 21
INSTANTANEOUS PEAK FLOW			13000 Nov 8
INSTANTANEOUS PEAK STAGE			8.63 Nov 8
INSTANTANEOUS LOW FLOW			92 Sep 28
ANNUAL RUNOFF (CFSM)	2.76		1.39 1.10
ANNUAL RUNOFF (INCHES)	37.58		18.94 14.89
10 PERCENT EXCEEDS	3540		2240 1660
50 PERCENT EXCEEDS	1110		553 380
90 PERCENT EXCEEDS	417		125 96

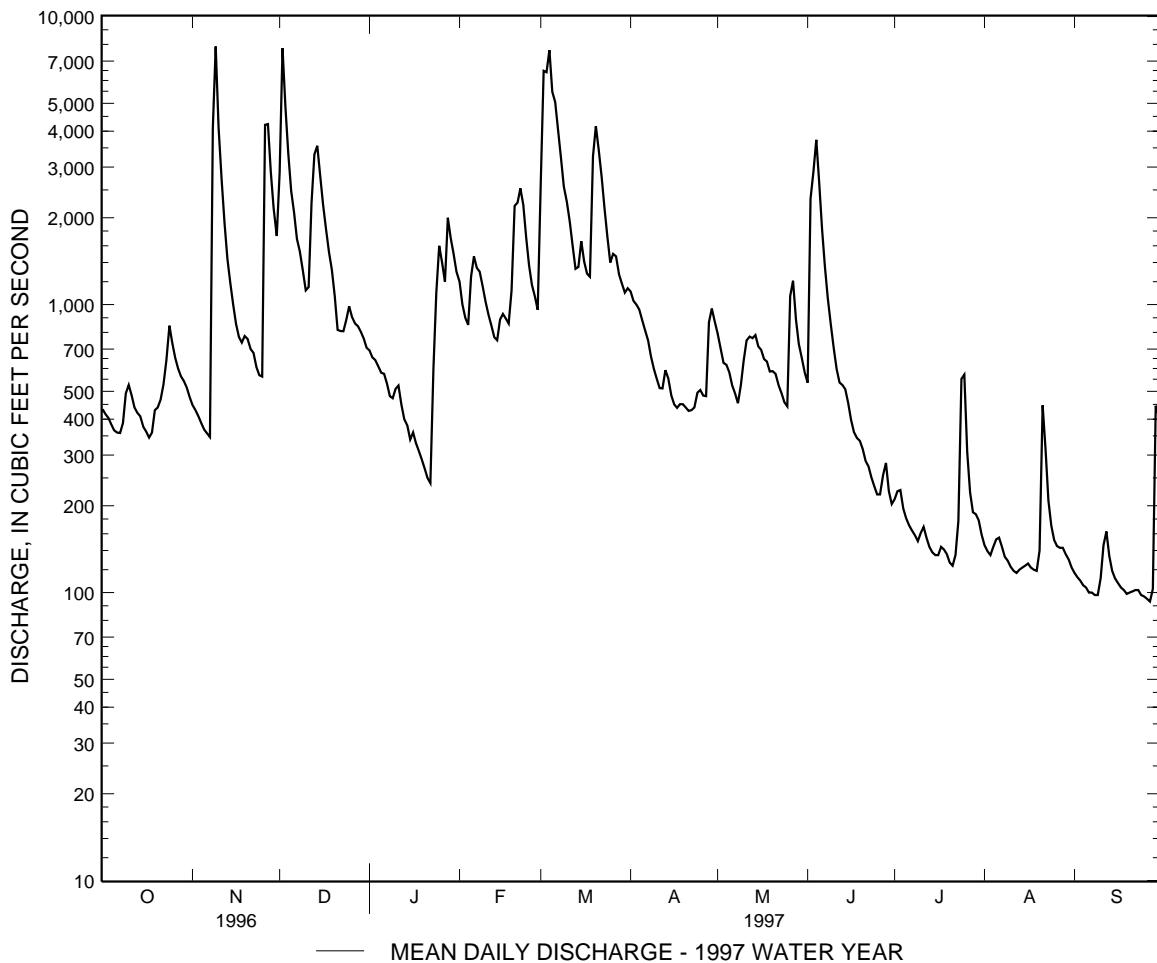
e Estimated.

a Sept. 27-29, 1959, Sept. 11, 12, 1966.

b From rating curve extended above 63,000 ft³/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.



POTOMAC RIVER BASIN

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 mile 5.3.

DRAINAGE AREA.--277 mi², revised.

WATER-DISCHARGE RECORDS

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: 1931(M), 1935(M).

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.--Water-discharge records good except those for estimated daily discharges (doubtful gage-height record, ice effect), which are poor. The flow from 92.7 mi² 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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 5,160 ft³/s, Mar. 4, gage height, 6.63 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	92	547	238	345	482	260	143	93	56	53	27
2	133	89	1870	222	299	1420	229	142	932	52	47	25
3	123	85	1320	213	258	2030	215	137	1900	47	43	24
4	113	80	976	201	239	3860	207	133	1390	44	45	24
5	104	76	742	192	264	2240	199	126	849	41	46	24
6	96	74	536	187	308	1500	191	119	556	38	39	24
7	89	71	462	176	333	1050	184	112	399	37	36	25
8	86	667	490	162	348	793	173	105	302	34	32	25
9	90	2640	490	160	331	627	163	106	240	33	29	25
10	103	1270	451	164	295	528	152	106	197	34	28	26
11	114	701	391	158	271	451	144	102	169	32	27	27
12	119	470	381	e135	254	382	143	96	151	30	26	28
13	121	348	949	e115	238	326	151	95	148	30	29	28
14	130	286	493	e100	235	304	152	98	134	30	29	28
15	148	240	425	e90	270	319	138	97	126	30	29	28
16	143	203	351	e80	327	292	129	91	115	30	29	28
17	137	180	278	e90	352	264	126	89	103	30	27	28
18	131	169	258	e80	336	259	124	86	96	30	26	28
19	141	167	e250	e75	357	615	119	84	90	30	25	27
20	167	158	e245	e70	507	1260	115	87	83	30	28	27
21	197	148	e240	e65	595	966	112	85	76	30	53	27
22	199	147	e240	e80	530	741	110	82	73	30	88	27
23	173	136	247	128	458	571	111	76	67	31	64	26
24	155	129	291	166	384	456	116	73	63	558	50	26
25	141	126	375	244	330	376	115	72	58	523	42	26
26	131	1330	380	408	295	357	109	97	56	239	43	26
27	123	1660	358	390	272	325	105	110	57	139	41	25
28	116	942	335	393	246	288	115	109	63	103	38	25
29	110	638	308	593	---	267	128	98	64	88	34	34
30	104	486	280	476	---	254	136	94	56	74	30	39
31	99	---	254	396	---	277	---	91	---	63	28	---
TOTAL	3980	13808	15213	6247	9277	23880	4471	3141	8706	2596	1184	807
MEAN	128	460	491	202	331	770	149	101	290	83.7	38.2	26.9
MAX	199	2640	1870	593	595	3860	260	143	1900	558	88	39
MIN	86	71	240	65	235	254	105	72	56	30	25	24
CFSM	.46	1.66	1.77	.73	1.20	2.78	.54	.37	1.05	.30	.14	.10
IN.	.53	1.85	2.04	.84	1.25	3.21	.60	.42	1.17	.35	.16	.11

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1935, 1938 - 1997, BY WATER YEAR (WY)

MEAN	130	177	211	267	324	488	404	329	169	85.3	108	93.0
MAX	776	2951	879	1267	902	1327	1787	946	1071	510	801	1341
(WY)	1977	1986	1974	1996	1994	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

POTOMAC RIVER BASIN

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1928 - 1935 1938 - 1997
ANNUAL TOTAL	199031	93310	
ANNUAL MEAN	544	256	232
HIGHEST ANNUAL MEAN			480
LOWEST ANNUAL MEAN			85.9
HIGHEST DAILY MEAN	10700	Sep 7	28000
LOWEST DAILY MEAN	42	Jul 17	4.4
ANNUAL SEVEN-DAY MINIMUM	44	Jul 12	Sep 10 1966
INSTANTANEOUS PEAK FLOW		3860 Mar 4	5.3
INSTANTANEOUS PEAK STAGE		24 (a)	Sep 5 1966
INSTANTANEOUS LOW FLOW		24 Sep 2	(b) 110000 Nov 5 1985
ANNUAL RUNOFF (CFSM)	1.96	5160 Mar 4	(c) 19.99 Nov 5 1985
ANNUAL RUNOFF (INCHES)	26.73	6.63 Mar 4	4.4 (f)
10 PERCENT EXCEEDS	1160	24 (d)	.84
50 PERCENT EXCEEDS	259	532	11.36
90 PERCENT EXCEEDS	98	130	506
90 PERCENT EXCEEDS	24	29	97
		49	21
			21

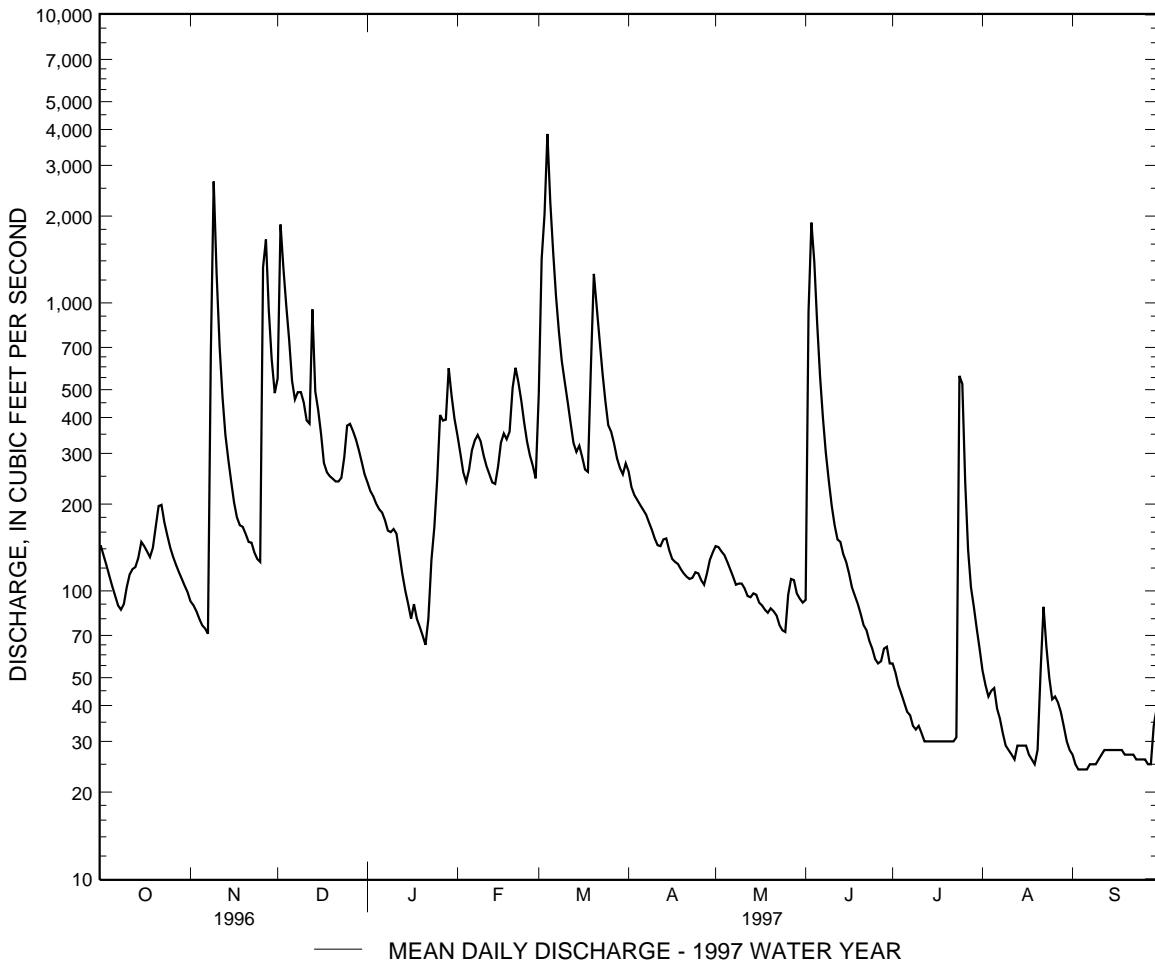
a Sept. 3-6.

b From rating curve extended above 39,000 ft³/s on basis of slope-area measurement of peak flow.

c From floodmarks.

d Aug. 11, 12, Sept. 2-7.

f Sept. 10, 11, 1965, Sept. 9-11, 1966.



POTOMAC RIVER BASIN

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	PH	BARO-		OXYGEN,			
		CHARGE, INST. CUBIC FEET	SPE- CIFIC CON- DUCT-	WATER WHOLE FIELD	TEMPER- (STAND- ARD)	SURE ATURE WATER (DEG C)	(MM HG)	DIS- SOLVED OF (MM)	SOLVED (MG/L)
		(00061)	(00095)	(00400)	(00010)	(00025)	(00300)	(00301)	
NOV 1995									
28...	1035	114	122	7.4	9.0	736	9.3	83	
JAN 1996									
23...	1400	1170	100	7.5	4.0	736	11.7	92	
MAR									
12...	1400	329	126	6.5	6.0	742	11.9	98	
JUL									
24...	0830	136	90	6.8	20.0	737	7.9	90	

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POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.5.

DRAINAGE AREA.--1,486 mi², revised.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft 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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	1100	*18,500	13.78			Mar. 4	1100
Nov. 27	0400	10,800	9.98				17,400

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	841	3600	1410	2360	1730	1910	1240	889	419	265	192
2	1010	802	8040	1370	2060	7140	1760	1160	2170	470	230	174
3	915	769	8620	1320	1780	8050	1650	1080	5950	456	207	158
4	857	740	5720	1280	1640	15200	1590	994	6410	418	204	152
5	811	710	4210	1230	2210	10500	1530	981	5040	383	254	140
6	766	687	3490	1180	2650	8080	1450	935	3400	348	262	133
7	732	670	3100	1130	2460	6620	1360	871	2500	327	224	131
8	723	1310	2830	1060	2310	5130	1260	832	1990	304	207	134
9	859	14300	2700	1010	2240	4130	1150	811	1620	318	181	124
10	1350	8010	2410	1040	2020	3490	1070	863	1360	323	162	189
11	1370	4730	2170	1040	1850	3130	1010	956	1170	293	149	219
12	1210	3360	2360	e870	1710	2700	972	1040	1030	292	139	239
13	1070	2590	3020	e740	1610	2340	1010	1070	966	286	144	278
14	980	2170	4370	e660	1530	2380	1060	1100	962	263	140	265
15	908	1890	4980	e610	1630	2880	995	1100	899	241	135	222
16	853	1640	3980	e570	1840	2580	908	1010	824	237	135	188
17	815	1460	3300	e530	1910	2260	863	980	752	239	164	170
18	802	1360	2840	e550	1860	2120	834	938	693	220	185	162
19	1030	1340	2520	e500	1950	4230	830	931	759	232	135	153
20	1370	1350	2240	e470	2490	7280	827	886	682	217	147	141
21	1730	1280	1840	e430	3250	5920	812	867	618	210	198	139
22	1670	1210	1580	e400	3150	4720	800	852	567	199	416	140
23	1630	1170	1560	908	3110	3750	800	804	534	206	571	135
24	1490	1080	1680	1710	2620	3040	820	769	494	290	417	131
25	1330	1030	1920	1990	2220	2560	865	741	460	1250	334	137
26	1200	4170	1950	2530	1940	2340	866	834	444	1080	284	130
27	1110	8640	1810	2500	1790	2430	837	1480	472	671	263	124
28	1040	5220	1750	2360	1670	2200	882	1420	473	480	249	128
29	983	3800	1680	4000	---	2020	1270	1170	511	381	241	256
30	945	3040	1610	3450	---	1910	1320	1030	456	330	226	480
31	891	---	1500	2770	---	1880	---	953	---	301	207	---
TOTAL	33610	81369	95380	41618	59860	134740	33311	30698	45095	11684	7075	5364
MEAN	1084	2712	3077	1343	2138	4346	1110	990	1503	377	228	179
MAX	1730	14300	8620	4000	3250	15200	1910	1480	6410	1250	571	480
MIN	723	670	1500	400	1530	1730	800	741	444	199	135	124
CFSM	.73	1.83	2.07	.90	1.44	2.92	.75	.67	1.01	.25	.15	.12
IN.	.84	2.04	2.39	1.04	1.50	3.37	.83	.77	1.13	.29	.18	.13

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1906, 1928 - 1997, BY WATER YEAR (WY)

MEAN	630	861	1254	1639	2022	3005	2362	1829	1028	531	548	467
MAX	4629	12850	5000	6928	6150	10490	6421	5785	5231	2638	3923	6538
(WY)	1977	1986	1973	1996	1994	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

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1899 - 1906 1928 - 1997
ANNUAL TOTAL	1238287	579804	
ANNUAL MEAN	3383	1589	1345
HIGHEST ANNUAL MEAN			2975
LOWEST ANNUAL MEAN			566
HIGHEST DAILY MEAN	93900	Sep 7	145000
LOWEST DAILY MEAN	354	Jul 17	52
ANNUAL SEVEN-DAY MINIMUM	384	Jul 12	54
INSTANTANEOUS PEAK FLOW		18500	(b) 240000
INSTANTANEOUS PEAK STAGE		13.78	(c) 44.22
INSTANTANEOUS LOW FLOW		114	(d) 29
ANNUAL RUNOFF (CFSM)	2.28	1.07	.90
ANNUAL RUNOFF (INCHES)	31.00	14.51	12.29
10 PERCENT EXCEEDS	5870	3380	3010
50 PERCENT EXCEEDS	1860	1030	650
90 PERCENT EXCEEDS	764	199	154

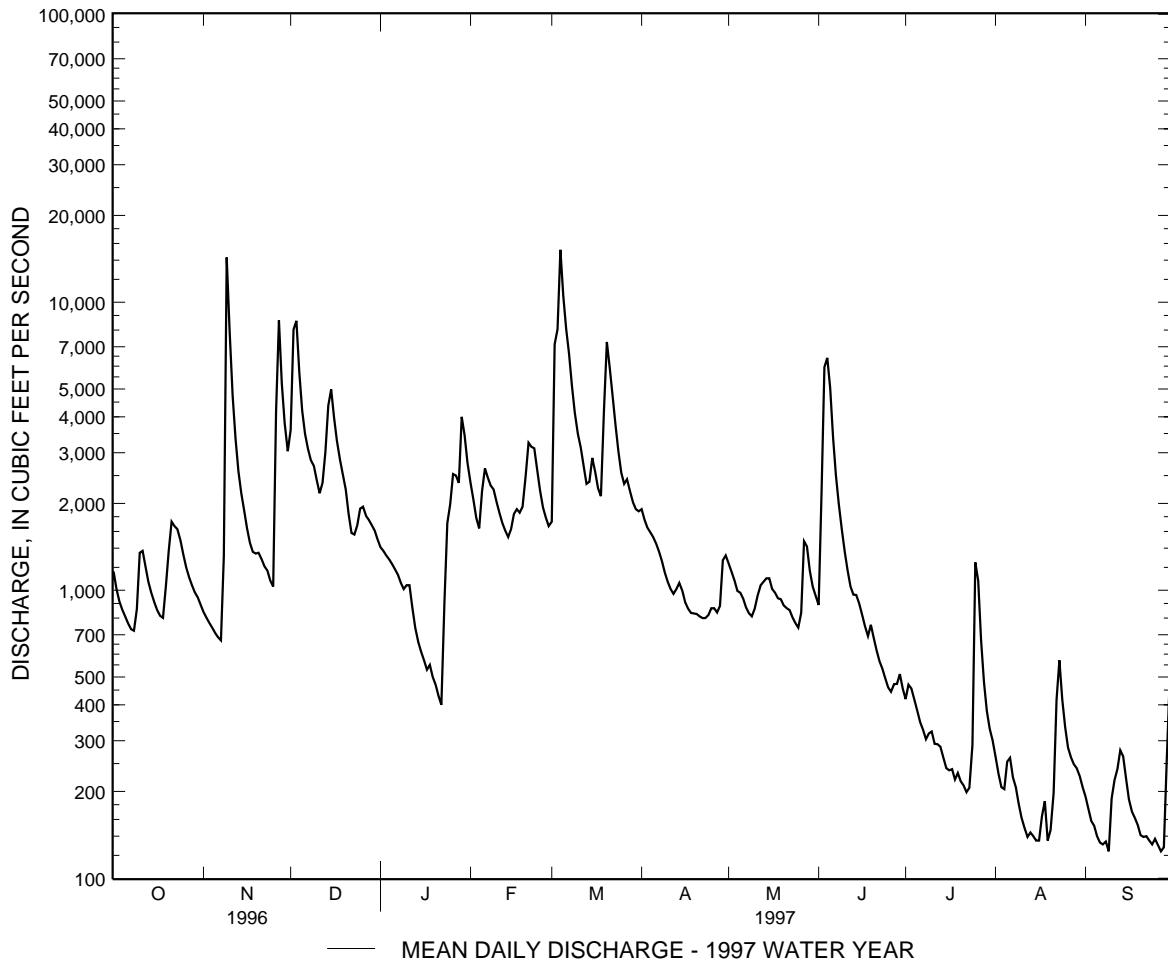
a Sept. 11, 12, 1966.

b From rating curve extended above 145,000 ft³/s on basis of slope-area measurement of peak flow.

c From floodmarks.

d Sept. 9, 27, 28.

f Jan. 28, 1956 (result of freeze-up), July 30, 1966 (result of temporary dam).



POTOMAC RIVER BASIN

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 mile 277.

DRAINAGE AREA.--3,109 mi².

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 ft³/s, from rating curve extended above 85,000 ft³/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	1300	34,400	20.44	Mar. 4	1430	26,800	17.95
Dec. 2	1700	*36,100	*20.99				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2800	2150	10900	3680	4900	4320	4540	2200	2340	993	701	568
2	2400	2100	30900	3410	4680	10200	4070	2160	3720	1240	657	557
3	2220	3110	24200	3310	4320	14800	3680	2070	13400	1140	636	543
4	2070	3020	16300	3220	4420	24600	3450	1960	16500	1010	633	521
5	1940	1870	12500	3140	7280	21200	3230	1920	13700	933	655	501
6	1840	1760	10800	3040	8470	20500	3060	1880	9120	870	714	495
7	1780	1730	9980	2710	7290	17400	2910	1810	6780	833	663	904
8	1750	4440	9260	2600	6580	13200	2680	1750	5430	803	634	1110
9	1970	29600	8830	2450	6110	10700	2440	1740	4460	786	601	538
10	2630	18900	6870	2290	5550	9510	2280	1820	3590	850	574	557
11	2840	11100	5610	2280	5120	8060	2170	2240	2970	772	562	709
12	2460	8250	5850	2050	4670	6500	2100	2450	2600	721	557	720
13	2180	6710	9310	1830	4350	5530	2670	2030	2430	706	639	667
14	2030	5870	14700	1800	4050	6830	2840	2340	2570	677	663	729
15	1910	5340	12400	1860	3970	10100	2220	2520	2420	648	619	691
16	1820	4860	10000	2020	4080	8050	1990	2400	2120	634	582	650
17	1760	4500	8700	1820	4110	6610	1850	2180	1910	625	579	625
18	1740	4290	7600	1460	4050	5920	1800	2060	1760	610	688	616
19	3180	4220	6640	1480	4610	9070	1760	2060	2350	631	697	596
20	4480	4160	6100	1800	7670	14500	1720	2030	1880	908	664	587
21	5620	4010	5120	2010	8740	12700	1700	2110	1590	1050	866	580
22	5120	3780	4460	1940	10100	10400	1690	2180	1460	610	874	571
23	4680	3600	4330	1920	9210	8520	1670	2000	1370	613	1060	570
24	4270	3420	4350	2370	7530	7170	1690	1810	1270	742	884	567
25	3800	3290	4700	3640	6260	6150	1730	1970	1140	1470	746	563
26	3410	8890	4720	4190	5390	5960	1720	2740	1100	2000	678	562
27	3130	15300	4450	4440	4960	6370	1870	4650	1120	1370	641	554
28	2960	10000	4220	4530	4450	5880	2020	4270	1130	1050	631	573
29	2690	7660	4160	6130	---	5450	2190	3310	1080	903	607	1280
30	2500	6450	4080	6140	---	5090	2300	2810	1050	796	585	1200
31	2320	---	3900	5360	---	4880	---	2530	---	740	582	---
TOTAL	86300	194380	275940	90920	162920	306170	72040	72000	114360	27734	20872	19904
MEAN	2784	6479	8901	2933	5819	9876	2401	2323	3812	895	673	663
MAX	5620	29600	30900	6140	10100	24600	4540	4650	16500	2000	1060	1280
MIN	1740	1730	3900	1460	3970	4320	1670	1740	1050	610	557	495
CFSM	.90	2.08	2.86	.94	1.87	3.18	.77	.75	1.23	.29	.22	.21
IN.	1.03	2.33	3.30	1.09	1.95	3.66	.86	.86	1.37	.33	.25	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

WY	MEAN	2039	3382	4011	5295	7518	5971	4523	2585	1367	1276	1161
1977	9709	17180	12300	13040	12910	17440	15620	11210	7612	5071	6775	12080
1996	1986	1973	1996	1994	1994	1993	1996	1972	1949	1996	1996	1996
1952	261	327	388	679	1116	2043	1882	1074	544	303	278	252
1966	1.03	2.33	3.30	1.09	1.95	3.66	.86	.86	1.37	.33	.25	.24

POTOMAC RIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, WV--Continued

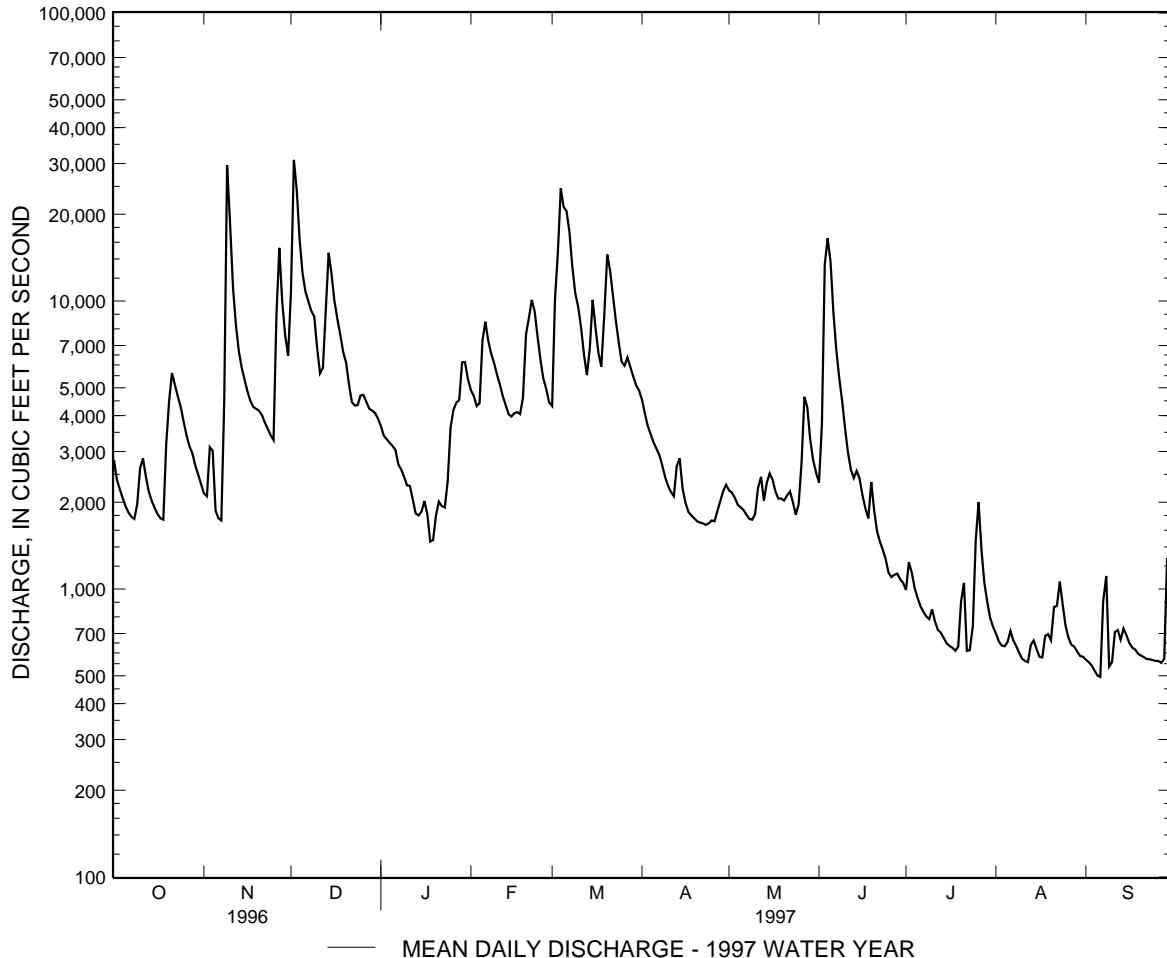
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1939 - 1997
ANNUAL TOTAL	2726444	1443540	
ANNUAL MEAN	7449	3955	3380
HIGHEST ANNUAL MEAN			6433 1996
LOWEST ANNUAL MEAN			1499 1969
HIGHEST DAILY MEAN	103000	Jan 20	125000 Nov 6 1985
LOWEST DAILY MEAN	933	Jul 17	172 (a)
ANNUAL SEVEN-DAY MINIMUM	982	Jul 12	179 Sep 7 1966
INSTANTANEOUS PEAK FLOW		30900 Dec 2	(b) 235000 Nov 5 1985
INSTANTANEOUS PEAK STAGE		495 Sep 6	53.58 Nov 5 1985
INSTANTANEOUS LOW FLOW		538 Aug 31	164 (d)
ANNUAL RUNOFF (CFSM)	2.40	36100 Dec 2	1.09
ANNUAL RUNOFF (INCHES)	32.62	492 (c)	14.77
10 PERCENT EXCEEDS	15100	1.27	7660
50 PERCENT EXCEEDS	4710	17.27	1810
90 PERCENT EXCEEDS	1860	9090	443

a Sept. 10, 12, 13, 1966.

b From rating curve extended above 85,000 ft³/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.

c Sept. 5-7.

d Sept. 10, 11, 1966.



POTOMAC RIVER BASIN

01610155 SIDELING HILL CREEK NEAR BELLEGROVE, MD

LOCATION.--Lat 39°38'58", long 78°20'40", Washington County, Hydrologic Unit 02070003, on left bank at bridge on Pearre Road, 1.2 mi upstream from mouth, 4.0 mi south of Bellegrove.

DRAINAGE AREA.--102 mi².

PERIOD OF RECORD.--Water years 1985, 1986, October 1996 to September 1997.

WATER QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	SEDI-	
		CHARGE, INST. CUBIC FEET	MENT, SEDIMENT, CHARGE, SUS- PER SECOND (00061)	DIS- CHARGE, SUS- PENDED (MG/L) (80154)
JUN 1997 04...	1200	780	47	99
JUL 01...	1330	6.6	2	0.03
SEP 15...	1245	1.5	1	0.01

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POTOMAC RIVER BASIN

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 mi², revised.

PERIOD OF RECORD.--December 1922 to September 1995, October 1996 to September 1997.

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37. WSP 1552: 1925-26(M), 1928, 1929(M), 1932.

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. 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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1100	*10,900	*11.20	Dec. 2	1800	6,230	8.49
Nov. 27	0400	4,030	6.95	Mar. 4	1200	5,280	7.84

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	664	543	1280	658	630	562	873	460	260	153	95	81
2	536	505	4030	619	607	926	778	433	419	150	91	81
3	481	473	3770	598	561	1440	703	414	2050	145	89	82
4	442	445	2410	585	523	4050	658	389	1990	135	89	80
5	411	420	1790	554	604	3350	625	370	1830	130	94	77
6	384	399	1520	525	866	2920	590	356	1320	125	101	79
7	362	386	1400	497	873	2290	562	339	972	118	111	78
8	361	538	1510	455	823	1770	527	321	753	114	114	77
9	419	7290	1510	432	801	1480	485	319	595	111	101	80
10	744	4000	1300	433	741	1280	449	312	485	111	93	88
11	1110	2340	1140	441	678	1150	427	311	412	146	88	90
12	856	1730	1100	387	634	951	417	308	361	118	87	96
13	716	1380	1580	365	598	828	432	297	326	118	90	101
14	612	1130	3340	e340	568	816	465	296	311	116	94	136
15	540	969	2400	e330	560	1230	435	309	314	106	92	127
16	487	859	1820	e340	649	1080	392	316	285	100	93	109
17	449	771	1520	e320	715	913	370	293	250	96	99	98
18	437	726	1310	e300	746	848	358	273	230	97	98	93
19	1070	718	1130	e290	778	1240	352	269	213	100	90	89
20	2400	750	1030	e270	938	2670	345	263	331	95	92	86
21	2490	692	840	e260	1000	2330	334	246	299	92	107	86
22	2040	594	689	e250	943	1910	331	235	228	91	109	83
23	1610	527	751	355	872	1550	334	229	198	94	102	82
24	1330	497	774	434	750	1250	338	221	177	98	99	82
25	1100	474	1030	514	656	1050	351	219	162	101	97	83
26	898	738	993	628	597	951	360	239	154	139	92	81
27	788	3110	897	700	570	1000	342	288	156	176	88	80
28	741	1930	869	680	563	873	349	328	188	154	85	84
29	683	1440	826	824	---	791	408	317	197	127	85	112
30	638	1180	780	765	---	750	484	278	174	112	82	132
31	588	---	718	659	---	757	---	259	---	99	81	---
TOTAL	26387	37554	46057	14808	19844	45006	13874	9507	15640	3667	2928	2733
MEAN	851	1252	1486	478	709	1452	462	307	521	118	94.5	91.1
MAX	2490	7290	4030	824	1000	4050	873	460	2050	176	114	136
MIN	361	386	689	250	523	562	331	219	154	91	81	77
CFSM	1.26	1.85	2.20	.71	1.05	2.15	.69	.45	.77	.18	.14	.13
IN.	1.45	2.07	2.54	.82	1.09	2.48	.76	.52	.86	.20	.16	.15

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1995, 1997, BY WATER YEAR (WY)

MEAN	336	366	526	639	875	1287	1120	866	433	196	233	176
MAX	2976	2577	2121	1683	2261	5708	2976	3565	3525	936	2791	1636
(WY)	1943	1986	1973	1991	1994	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

POTOMAC RIVER BASIN

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV--Continued

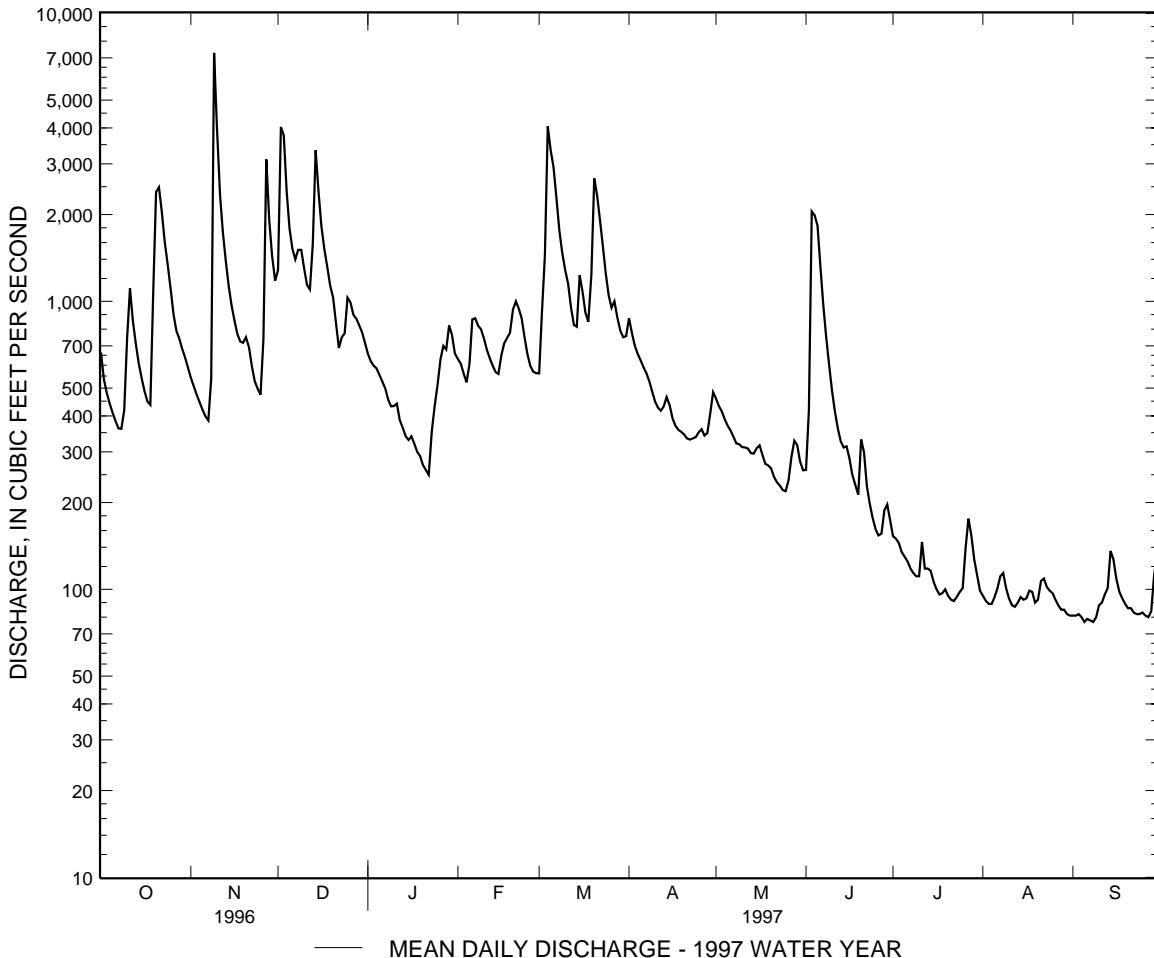
SUMMARY STATISTICS	FOR 1997 WATER YEAR	WATER YEARS 1923 - 1995 1997
ANNUAL TOTAL	238005	
ANNUAL MEAN	652	590
HIGHEST ANNUAL MEAN		1135 1972
LOWEST ANNUAL MEAN		180 1969
HIGHEST DAILY MEAN	7290 Nov 9	67900 Mar 18 1936
LOWEST DAILY MEAN	77 (a)	26 Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	79 Sep 3	28 Sep 7 1966
INSTANTANEOUS PEAK FLOW	10900 Nov 9	(b) 87600 Mar 18 1936
INSTANTANEOUS PEAK STAGE	11.20 Nov 9	30.10 Mar 18 1936
INSTANTANEOUS LOW FLOW	77 (c)	26 (d)
ANNUAL RUNOFF (CFSM)	.97	.87
ANNUAL RUNOFF (INCHES)	13.12	11.87
10 PERCENT EXCEEDS	1440	1330
50 PERCENT EXCEEDS	433	245
90 PERCENT EXCEEDS	92	67

a Sept. 5, 8.

b From rating curve extended above 52,000 ft³/s.

c Sept. 5-9.

d Sept. 11-13, 1966.



POTOMAC RIVER BASIN

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39° 41' 49", long 78° 10' 39", Washington County, Hydrologic Unit 02070004, on left bank, 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. 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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	1800	41,200	18.05	Mar. 4		2030	29,300
Dec. 2	2230	*41,400	*18.10				14.99

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3710	2930	10600	4300	5790	4830	5570	2880	2830	1230	828	648
2	3230	2740	32000	3990	5490	7080	5110	2780	3560	1270	789	633
3	2890	2800	32300	3880	5160	15000	4600	2710	12100	1470	747	624
4	2690	3950	19800	3800	5100	24200	4330	2550	16900	1310	726	600
5	2490	2880	14800	3730	7540	25700	4100	2430	17100	1160	735	575
6	2340	2310	12600	3610	10600	23500	3890	2370	11600	1060	777	558
7	2230	2240	11500	3450	9180	20900	3710	2290	8430	986	819	554
8	2200	2650	10700	3100	8010	16000	3520	2200	6650	943	785	1030
9	2300	29600	10300	3070	7400	12800	3230	2170	5440	920	734	1080
10	2940	26800	8880	2960	6710	11000	3010	2160	4490	920	693	678
11	3970	15000	6860	2900	6110	9850	2850	2240	3740	965	659	672
12	3580	10500	6670	2750	5610	8050	2750	2860	3260	903	641	801
13	3130	8330	10500	2560	5150	6660	2790	2650	3000	825	656	808
14	2820	7080	19000	2190	4840	6600	3540	2530	2910	816	729	789
15	2610	6290	15900	2360	4610	12200	3130	2780	2990	785	754	862
16	2440	5670	12500	2540	4690	10500	2690	2890	2730	758	706	807
17	2310	5170	10500	e2200	4830	8360	2460	2700	2400	727	690	753
18	2310	4860	9160	e2000	4860	7220	2330	2510	2300	719	729	718
19	4960	4730	7850	e1800	5090	8060	2270	2450	2990	787	770	695
20	7700	4670	7150	e2200	7730	16000	2230	2420	2840	730	822	676
21	8760	4540	6140	e2500	10100	15900	2180	2360	2280	1050	798	659
22	7920	4290	5050	e2400	10500	13200	2150	2440	1920	1070	996	643
23	6860	4070	4890	e2350	10600	10800	2150	2440	1720	729	988	633
24	6030	3900	4850	e2700	8860	8920	2150	2200	1590	770	1150	634
25	5280	3750	5290	e3400	7360	7650	2170	2090	1450	883	969	629
26	4620	6640	5570	e4600	6370	6960	2210	2500	1330	1900	838	626
27	4170	18500	5250	e5000	5650	7170	2170	3890	1310	2040	765	622
28	3900	13600	4930	e5500	5320	7170	2380	5030	1330	1500	727	645
29	3690	9890	4820	8080	---	6390	2630	4030	1350	1170	702	806
30	3380	8120	4720	7610	---	6040	2940	3350	1290	1010	678	1500
31	3160	---	4550	6400	---	5740	---	3000	---	889	654	---
TOTAL	120620	228500	325630	109930	189260	350450	91240	83900	133830	32295	24054	21958
MEAN	3891	7617	10500	3546	6759	11300	3041	2706	4461	1042	776	732
MAX	8760	29600	32300	8080	10600	25700	5570	5030	17100	2040	1150	1500
MIN	2200	2240	4550	1800	4610	4830	2150	2090	1290	719	641	554
CFSM	.96	1.87	2.58	.87	1.66	2.78	.75	.66	1.10	.26	.19	.18
IN.	1.10	2.09	2.97	1.00	1.73	3.20	.83	.77	1.22	.29	.22	.20

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1997, BY WATER YEAR (WY)

MEAN	2055	2505	4081	5168	6532	9437	7632	5567	3127	1597	1608	1451
MAX	13270	20090	15160	17180	16720	32280	19170	13260	13390	6677	9479	15100
(WY)	1977	1986	1973	1996	1971	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

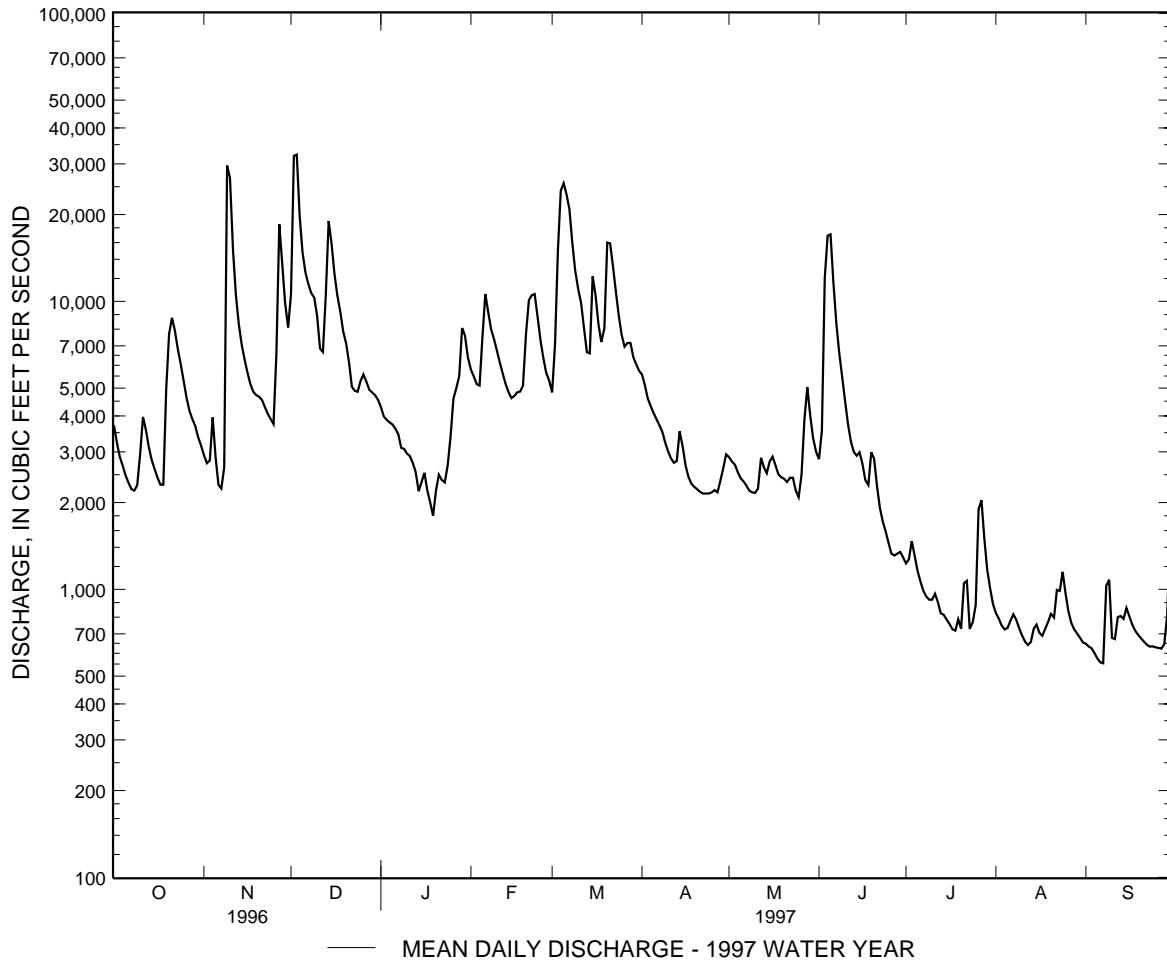
POTOMAC RIVER BASIN

01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1933 - 1997
ANNUAL TOTAL	3330960	1711667	
ANNUAL MEAN	9101	4689	4219
HIGHEST ANNUAL MEAN			7932 1996
LOWEST ANNUAL MEAN			1770 1969
HIGHEST DAILY MEAN	138000	Jan 20	261000 Mar 18 1936
LOWEST DAILY MEAN	1080	Jul 18	184 Oct 3 1932
ANNUAL SEVEN-DAY MINIMUM	1150	Jul 12	215 Sep 7 1966
INSTANTANEOUS PEAK FLOW		41400 Dec 2	(a) 340000 Mar 18 1936
INSTANTANEOUS PEAK STAGE		18.10 Dec 2	47.60 Mar 18 1936
INSTANTANEOUS LOW FLOW		554 (b)	180 Oct 4 1932
ANNUAL RUNOFF (CFSM)	2.23	1.15	1.04
ANNUAL RUNOFF (INCHES)	30.42	15.63	14.07
10 PERCENT EXCEEDS	18700	10500	9610
50 PERCENT EXCEEDS	5700	2910	2190
90 PERCENT EXCEEDS	2320	730	540

a From rating curve extended above 120,000 ft³/s on basis of slope-area measurement of peak flow.

b Sept. 6-8.



POTOMAC RIVER BASIN

01614500 CONOCOKEEAGUE 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 mi².

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.--Water-discharge records good except those for estimated daily discharges (missing record), which are fair. 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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1100	6,280	9.14	Dec. 2	1145	*6,340	*9.18
Nov. 8	0430	4,600	7.78	Dec. 14	0730	6,230	9.10

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e700	720	1600	790	698	773	755	312	295	165	124	104
2	e650	684	5710	766	745	869	663	298	505	304	125	103
3	e600	621	3750	760	787	936	623	292	613	272	118	99
4	e575	578	2280	734	876	1250	601	286	584	215	119	95
5	e540	555	1800	713	1720	1480	582	280	491	185	138	102
6	e520	538	1760	708	1890	2450	561	271	421	174	140	91
7	e500	1220	1880	647	1440	1930	548	264	380	174	131	85
8	e580	3960	1950	595	1250	1530	520	257	356	166	118	87
9	e570	2050	1790	593	1110	1320	496	282	332	157	112	89
10	e550	e1600	1540	607	992	1200	477	312	309	160	108	113
11	513	e1300	1420	582	899	1100	466	287	286	156	105	596
12	466	e1150	1470	514	837	985	469	263	276	148	102	526
13	441	e1050	3900	544	771	885	535	254	279	144	107	256
14	427	948	5610	554	744	1760	504	254	270	140	115	191
15	414	865	3370	515	743	2970	448	250	256	135	112	164
16	398	798	2430	527	762	1870	424	236	235	128	106	154
17	386	753	2020	504	731	1510	413	229	226	126	109	143
18	396	728	1750	419	721	1360	408	226	241	126	132	134
19	3810	720	1580	423	922	1540	395	247	720	123	135	127
20	5670	684	1400	576	1260	1490	381	258	387	118	138	122
21	3090	640	1190	467	1180	1330	370	234	299	118	263	114
22	2210	607	1080	440	1110	1210	368	215	263	165	215	110
23	1760	571	1040	469	997	1080	360	208	243	169	164	109
24	1510	547	1040	539	886	971	363	203	229	258	139	110
25	1300	530	1070	830	810	893	363	214	211	273	128	108
26	1140	1360	935	1190	767	927	341	604	201	213	122	106
27	1020	1400	868	811	760	913	327	524	206	176	122	102
28	957	1010	856	1090	718	802	367	375	190	164	121	107
29	921	873	869	1110	---	756	373	331	181	154	117	321
30	840	799	907	821	---	728	334	305	179	140	111	367
31	777	---	837	735	---	749	---	286	---	131	105	---
TOTAL	34231	29859	59702	20573	27126	39567	13835	8857	9664	5277	4001	4935
MEAN	1104	995	1926	664	969	1276	461	286	322	170	129	165
MAX	5670	3960	5710	1190	1890	2970	755	604	720	304	263	596
MIN	386	530	837	419	698	728	327	203	179	118	102	85
CFSM	2.24	2.01	3.90	1.34	1.96	2.58	.93	.58	.65	.34	.26	.33
IN.	2.58	2.25	4.50	1.55	2.04	2.98	1.04	.67	.73	.40	.30	.37

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

MEAN	337	446	636	679	838	1191	1061	736	513	330	233	264
MAX	2177	1453	1926	2404	2446	3725	2991	1736	3278	1358	921	1886
(WY)	1977	1933	1997	1996	1984	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

POTOMAC RIVER BASIN

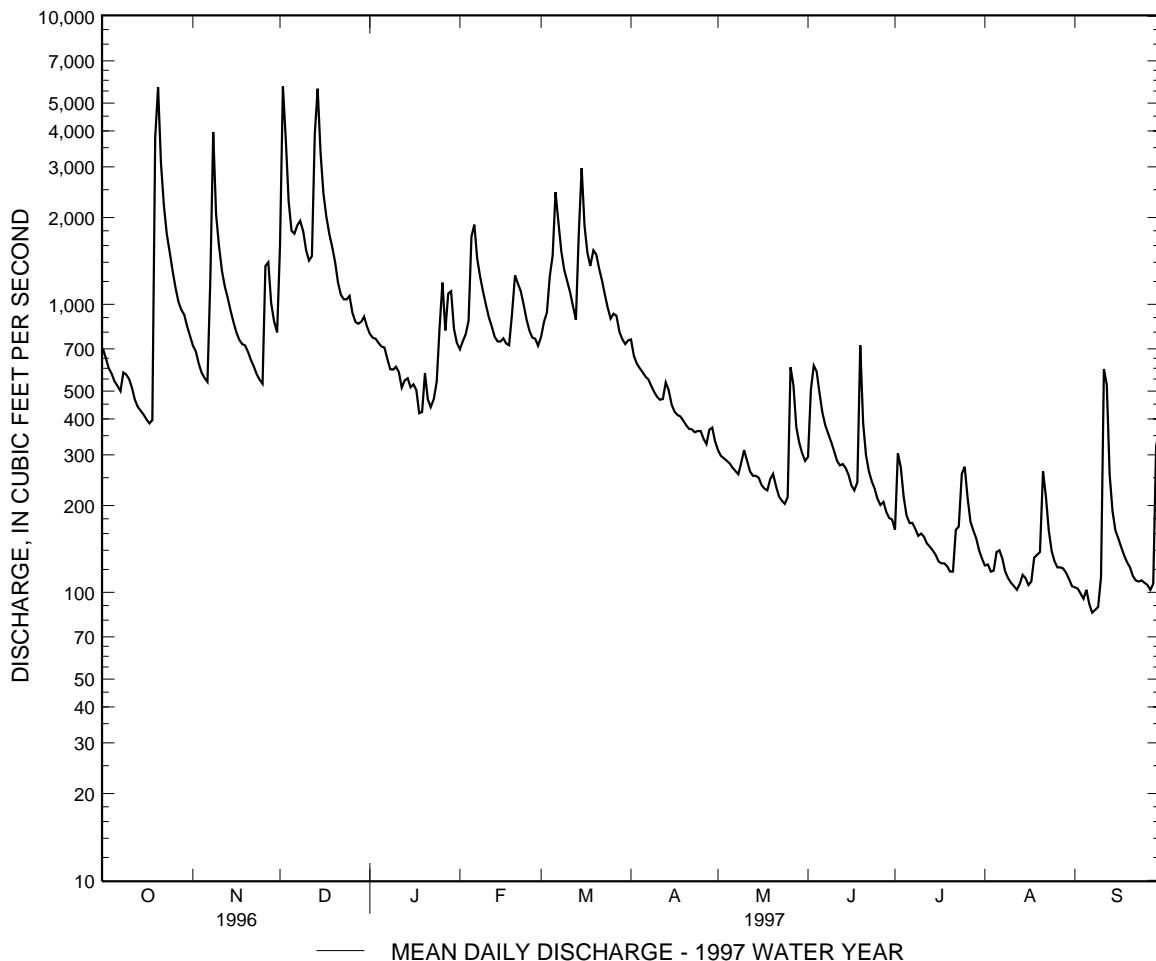
01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1928 - 1997
ANNUAL TOTAL	507817	257627	
ANNUAL MEAN	1387	706	
HIGHEST ANNUAL MEAN			604
LOWEST ANNUAL MEAN			1183
HIGHEST DAILY MEAN	14600	Jan 20	1996
LOWEST DAILY MEAN	234	Sep 3	301
ANNUAL SEVEN-DAY MINIMUM	261	Aug 29	1954
INSTANTANEOUS PEAK FLOW		5710 Dec 2	26700 Jun 23 1972
INSTANTANEOUS PEAK STAGE		85 Sep 7	25 Nov 28 1930
INSTANTANEOUS LOW FLOW		93 Sep 3	28 Sep 7 1966
ANNUAL RUNOFF (CFSM)	2.81	6340 Dec 2	(a) 32400 Jun 23 1972
ANNUAL RUNOFF (INCHES)	38.24	9.18 Dec 2	(b) 24.50 Jun 23 1972
10 PERCENT EXCEEDS	2640	83 Sep 7	21 (c)
50 PERCENT EXCEEDS	942	1500	1320
90 PERCENT EXCEEDS	447	514	336
		122	103

a From rating curve extended above 15,000 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

b From floodmark.

c Aug. 8, Sept. 12, 1966.



POTOMAC RIVER BASIN

01614500 CONOCOKEEAGUE 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.

WATER QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	PH			BARO-			OXYGEN,	NITRO-		
		CHARGE, INST.	SPE- CIFIC CUBIC FEET	WATER WHOLE CON- DUCT- ANCE PER SECOND (00061)	FIELD (US/CM) (00095)	TEMPER- ATURE ARD (STAND- UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TEMPER- ATURE AIR (DEG C) (00020)	PRES- SURE (MM HG) (00025)	SOLVED OF (MG/L) (00025)	DIS- CENT TOTAL (MG/L AS N) (00301)	GEN, DIS- TOTAL (MG/L AS NO3) (00600)
OCT 1996												
09...	1245	567		400	7.8	13.0	17.0	728	10.7	106	--	20
NOV												
13...	1530	1030		330	7.7	6.0	4.0	768	12.2	97	--	18
DEC												
01...	1638	1840	--	--	--	--	--	--	--	4.0	14	
01...	2057	2790	--	270	--	--	--	--	--	--	--	
01...	2355	3590	--	--	--	--	--	--	--	4.2	11	
02...	0212	4430	--	216	--	--	--	--	--	--	--	
02...	0404	5050	--	--	--	--	--	--	--	4.3	11	
02...	0543	5490	--	201	--	--	--	--	--	--	--	
02...	0713	5810	--	--	--	--	--	--	--	4.1	11	
02...	0838	6030	--	193	--	--	--	--	--	--	--	
02...	0959	6240	--	--	--	--	--	--	--	4.1	11	
02...	1118	6310	--	188	--	--	--	--	--	--	--	
02...	1236	6320	--	--	--	--	--	--	--	3.9	11	
02...	1353	6190	--	186	--	--	--	--	--	--	--	
02...	1512	6160	--	--	--	--	--	--	--	3.6	11	
02...	1633	6040	--	189	--	--	--	--	--	--	--	
02...	1754	6000	--	--	--	--	--	--	--	3.5	11	
02...	1916	5980	--	192	--	--	--	--	--	--	--	
02...	2039	5980	--	--	--	--	--	--	--	3.5	12	
02...	2201	5960	--	189	--	--	--	--	--	--	--	
02...	2324	5900	--	--	--	--	--	--	--	3.5	12	
03...	0048	5820	--	188	--	--	--	--	--	--	--	
03...	0214	5600	--	--	--	--	--	--	--	3.4	11	
13...	0626	2030	--	--	--	--	--	--	--	3.6	15	
13...	1025	3450	--	262	--	--	--	--	--	--	--	
13...	1250	4540	--	--	--	--	--	--	--	3.4	12	
13...	1446	5130	--	222	--	--	--	--	--	--	--	
13...	1630	5490	--	--	--	--	--	--	--	3.4	12	
13...	1808	5730	--	208	--	--	--	--	--	--	--	
13...	1942	5870	--	--	--	--	--	--	--	4.0	13	
13...	2115	5960	--	204	--	--	--	--	--	--	--	
13...	2247	5960	--	--	--	--	--	--	--	7.1	11	
14...	0018	6000	--	207	--	--	--	--	--	--	--	
14...	0149	6060	--	--	--	--	--	--	--	3.4	12	
14...	0318	6120	--	210	--	--	--	--	--	--	--	
14...	0447	6190	--	--	--	--	--	--	--	3.2	12	
14...	0615	6190	--	212	--	--	--	--	--	--	--	
14...	0742	6200	--	--	--	--	--	--	--	3.5	13	
14...	0910	6160	--	212	--	--	--	--	--	--	--	
14...	1039	6110	--	--	--	--	--	--	--	3.4	13	
14...	1209	5960	--	213	--	--	--	--	--	--	--	
16...	1500	2350	--	273	7.7	7.0	5.5	758	10.8	89	3.8	16
JAN 1997												
23...	1600	443	--	380	8.3	3.0	5.5	757	15.4	115	--	21
FEB												
13...	1500	754	--	338	8.5	3.5	-2.0	770	--	--	--	17

POTOMAC RIVER BASIN

01614500 CONOCOKEEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-	NITRO-	NITRO-	NITRO-	NITRO-		PHOS-	PHORUS	CARBON,	SEDI-	MENT,
	GEN,	GEN,	GEN,	AM+,	AM+,		PHORUS	ORTHO,	ORGANIC	SUS-	DIS-
	NITRITE	NO ₂ +NO ₃	AMMONIA	MONIA +	MONIA +	PHOS-	PHORUS	DIS-	DIS-	SUS-	CHARGE,
	SOLVED	SOLVED	SOLVED	TOTAL	DIS.	TOTAL	SOLVED	TOTAL	(MG/L)	PENDED	SUS-
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(T/DAY)	
	AS N)	AS N)	AS N)	AS N)	AS N)	AS P)	AS P)	AS P)	AS C)	(MG/L)	(80155)
	(00613)	(00631)	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(00680)	(80154)	
OCT 1996											
09...	0.010	4.60	<0.015	<0.20	<0.20	0.050	0.050	0.050	2.8	4	6.4
NOV											
13...	0.030	4.10	0.030	<0.20	<0.20	0.040	0.030	0.040	1.9	5	13
DEC											
01...	0.020	3.20	0.060	0.80	0.30	0.140	0.040	0.040	--	--	--
01...	--	--	--	--	--	--	--	--	96	720	
01...	0.020	2.60	0.120	1.6	0.50	0.410	0.110	0.110	--	--	--
02...	--	--	--	--	--	--	--	--	213	2550	
02...	0.030	2.50	0.190	1.8	0.50	0.490	0.150	0.130	--	--	--
02...	--	--	--	--	--	--	--	--	240	3550	
02...	0.020	2.40	0.120	1.7	0.50	0.480	0.140	0.140	--	--	--
02...	--	--	--	--	--	--	--	--	222	3620	
02...	0.020	2.40	0.090	1.7	0.40	0.480	0.130	0.130	--	--	--
02...	--	--	--	--	--	--	--	--	171	2910	
02...	0.010	2.40	0.070	1.5	0.40	0.410	0.110	0.110	--	--	--
02...	--	--	--	--	--	--	--	--	134	2240	
02...	0.030	2.50	0.070	1.1	0.40	0.300	0.090	0.100	--	--	--
02...	--	--	--	--	--	--	--	--	105	1720	
02...	0.020	2.60	0.050	0.90	0.30	0.240	0.080	0.080	--	--	--
02...	--	--	--	--	--	--	--	--	86	1390	
02...	0.010	2.70	0.050	0.80	0.30	0.170	0.050	0.060	--	--	--
02...	--	--	--	--	--	--	--	--	91	1460	
02...	0.020	2.70	0.040	0.80	0.30	0.200	0.060	0.050	--	--	--
03...	--	--	--	--	--	--	--	--	95	1490	
03...	0.020	2.60	0.040	0.80	0.30	0.200	0.050	0.050	--	--	--
13...	0.020	3.30	<0.015	0.30	0.20	0.070	0.050	0.060	--	--	--
13...	--	--	--	--	--	--	--	--	113	1060	
13...	0.020	2.80	0.060	0.60	0.40	0.140	0.110	0.100	--	--	--
13...	--	--	--	--	--	--	--	--	172	2390	
13...	0.020	2.70	0.070	0.70	0.40	0.140	0.110	0.110	--	--	--
13...	--	--	--	--	--	--	--	--	148	2290	
13...	0.020	2.90	0.030	1.1	0.20	0.260	0.050	0.050	--	--	--
13...	--	--	--	--	--	--	--	--	121	1940	
13...	0.020	2.60	0.110	4.5	0.40	0.130	0.100	0.100	--	--	--
14...	--	--	--	--	--	--	--	--	89	1440	
14...	0.020	2.70	0.060	0.70	0.30	0.170	0.090	0.080	--	--	--
14...	--	--	--	--	--	--	--	--	84	1390	
14...	0.020	2.80	0.050	0.40	0.30	0.090	0.090	0.070	--	--	--
14...	--	--	--	--	--	--	--	--	82	1370	
14...	0.020	2.90	0.040	0.60	0.30	0.130	0.060	0.050	--	--	--
14...	--	--	--	--	--	--	--	--	78	1300	
14...	0.020	2.90	0.030	0.50	0.20	0.120	0.040	0.040	--	--	--
14...	--	--	--	--	--	--	--	--	67	1070	
16...	0.015	3.55	<0.015	0.22	<0.20	0.026	0.021	0.023	2.4	22	138
JAN 1997											
23...	0.030	4.80	<0.015	<0.20	0.20	0.030	0.040	0.040	2.2	2	2.6
FEB											
13...	0.020	3.80	<0.015	<0.20	0.40	0.020	<0.010	0.020	2.2	2	4.3

POTOMAC RIVER BASIN

01614500 CONOCOHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	PH			BARO-			OXYGEN,		NITRO-	
		CHARGE,	SPE-	WATER		METRIC	PRES-	SURE	OXYGEN,	(PER-	GEN,	
INST.	CIFIC	WHOLE				(MM	DIS-	SOLVED	(MG/L)	DIS-		
CUBIC	CON-	FIELD	TEMPER-	TEMPER-					TOTAL	SOLVED		
FEET	DUCT-	(STAND-	ATURE	ATURE		(HG)	OF	SOLVED	(MG/L)	(MG/L)		
PER	ANCE	ARD	WATER	AIR				SATUR-	AS N)	AS NO3)		
SECOND	(US/CM)	UNITS)	(DEG C)	(DEG C)	(00020)	(00025)	(000300)	(00301)	(00600)	(71851)		
	(00061)	(00095)	(00400)	(00010)								
MAR 1997												
05...	2240	1700	--	--	--	--	--	--	5.2	16		
06...	0319	2330	287	--	--	--	--	--	--	--	--	
06...	0656	2590	--	--	--	--	--	--	5.0	15		
06...	1023	2610	269	--	--	--	--	--	--	--		
06...	1349	2600	--	--	--	--	--	--	4.7	15		
06...	1720	2520	263	--	--	--	--	--	--	--		
06...	2102	2380	--	--	--	--	--	--	4.4	15		
07...	0100	2240	271	--	--	--	--	--	--	--		
07...	0513	2110	--	--	--	--	--	--	4.1	16		
07...	0949	1960	272	--	--	--	--	--	--	--		
14...	1542	1930	--	--	--	--	--	--	4.4	--		
14...	1930	3300	267	--	--	--	--	--	--	--		
14...	2217	3580	--	--	--	--	--	--	5.0	12		
15...	0100	3530	229	--	--	--	--	--	--	--		
15...	0347	3430	--	--	--	--	--	--	4.4	12		
15...	0642	3310	231	--	--	--	--	--	--	--		
15...	0944	3150	--	--	--	--	--	--	4.0	14		
15...	1300	2950	240	--	--	--	--	--	--	--		
15...	1635	2710	--	--	--	--	--	--	3.9	14		
15...	2036	2430	250	--	--	--	--	--	--	--		
16...	0111	2180	--	--	--	--	--	--	3.8	15		
16...	0626	1990	275	--	--	--	--	--	--	--		
17...	1615	1460	287	7.8	5.5	10.5	758	13.5	108	--	--	
APR	16...	1415	413	354	8.3	14.5	20.0	755	13.3	132	4.0	16
MAY	15...	1400	252	400	8.2	18.5	20.5	747	11.6	126	4.4	18
JUN	20...	1230	377	340	7.8	23.0	30.0	755	8.4	99	4.6	18
JUL	08...	1515	164	417	8.3	27.0	31.0	756	9.7	123	4.0	16
AUG	21...	1115	347	451	7.7	20.0	24.5	748	7.6	85	5.0	18
SEP	09...	1600	86	491	7.9	20.0	22.0	753	7.3	81	4.8	20

POTOMAC RIVER BASIN

01614500 CONOCOKEEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	NITRO- GEN, NITRITE SOLVED DATE	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA SOLVED (MG/L AS N) (00631)	NITRO- GEN, AM- MONIA + TOTAL (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + TOTAL (MG/L AS N) (00625)	PHOS- PHORUS DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS. (MG/L AS P) (00665)	PHOS- PHORUS DIS. (MG/L AS P) (00666)	PHOS- PHORUS DIS. (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS C) (00680)	SEDI- MENT, CHARGE, SUS- PENDED (T/DAY)	DIS- CHARGE, SUS- PENDED (80154)	
MAR 1997													
05...	0.010	3.60	<0.015	1.6	0.20	0.260	<0.010	0.020	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	129	811	
06...	0.020	3.40	0.110	1.6	0.40	0.280	0.030	0.050	--	--	--	--	
06...	--	--	--	--	--	--	--	--	--	--	179	1260	
06...	0.020	3.40	0.070	1.3	0.30	0.220	0.030	0.040	--	--	--	--	
06...	--	--	--	--	--	--	--	--	--	--	106	723	
06...	0.010	3.50	0.030	0.90	0.20	0.170	0.010	0.030	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	67	404	
07...	0.010	3.60	0.030	0.50	<0.20	0.070	0.010	0.020	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	52	276	
14...	<0.010	3.20	<0.015	1.2	<0.20	0.180	<0.010	0.020	--	--	--	--	
14...	--	--	--	--	--	--	--	--	--	--	280	2490	
14...	0.020	2.70	0.250	2.3	0.60	0.480	0.050	0.070	--	--	--	--	
15...	--	--	--	--	--	--	--	--	--	--	251	2390	
15...	0.020	2.80	0.090	1.6	0.40	0.310	0.030	0.050	--	--	--	--	
15...	--	--	--	--	--	--	--	--	--	--	147	1320	
15...	0.020	3.10	0.070	0.90	0.30	0.150	0.020	0.030	--	--	--	--	
15...	--	--	--	--	--	--	--	--	--	--	92	733	
15...	0.010	3.20	0.050	0.70	0.30	0.100	0.020	0.030	--	--	--	--	
15...	--	--	--	--	--	--	--	--	--	--	62	406	
16...	0.010	3.30	<0.015	0.50	0.20	0.060	0.010	0.020	--	--	--	--	
16...	--	--	--	--	--	--	--	--	--	--	46	244	
17...	<0.010	3.70	<0.015	<0.20	<0.20	0.030	<0.010	0.020	6.9	6	25		
APR													
16...	0.023	3.68	0.020	0.34	<0.20	0.069	0.031	0.045	2.2	2	2.6		
MAY													
15...	0.041	4.21	0.025	0.23	<0.20	0.134	0.085	0.085	5.8	3	2.0		
JUN													
20...	0.067	4.04	0.062	0.56	0.42	0.176	0.117	0.108	6.4	22	23		
JUL													
08...	0.019	3.65	0.020	0.38	0.26	0.146	0.133	0.115	4.6	5	2.1		
AUG													
21...	0.033	4.03	0.087	0.94	0.42	0.288	0.216	0.190	3.7	38	36		
SEP													
09...	0.020	4.46	0.029	0.29	0.35	0.187	0.177	0.183	2.7	7	1.5		

POTOMAC RIVER BASIN

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 mi², revised.

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.

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 above 1,000 ft³/s, which are fair, and those for estimated daily discharges (ice effect), which are poor. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 19	2100	5,820	12.37	Dec. 2	0500	2,670	9.98
Nov. 9	0915	*6,110	*12.53	Dec. 14	0100	3,570	10.91
Nov. 26	2000	2,130	8.82	Mar. 4	1100	2,980	10.36

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	320	622	356	262	274	367	196	130	108	77	61
2	358	310	2090	346	254	501	323	185	190	116	78	61
3	346	297	1140	341	246	627	302	178	183	113	76	63
4	322	286	768	332	249	2180	293	172	166	107	80	64
5	308	283	628	323	393	926	281	166	149	102	136	61
6	298	277	624	310	395	765	274	163	134	99	100	62
7	292	272	718	296	334	606	269	159	127	100	83	61
8	312	864	1110	285	319	516	256	155	124	97	81	62
9	521	4600	923	290	318	455	246	160	118	96	78	62
10	515	1060	734	296	307	438	237	161	115	120	74	73
11	399	696	663	285	297	404	233	155	111	102	73	134
12	346	561	680	264	291	367	237	150	109	95	72	120
13	321	487	1830	247	283	341	257	146	107	92	73	92
14	305	452	2040	e230	283	391	235	147	111	89	72	80
15	293	421	980	e210	318	444	220	146	106	87	72	74
16	282	386	789	e220	489	366	217	139	99	87	68	71
17	273	366	696	e210	454	339	214	136	100	84	68	69
18	356	356	630	e200	403	338	211	135	99	85	67	68
19	4390	359	613	e190	396	737	204	137	217	88	65	70
20	1750	347	577	e180	366	1020	199	138	164	83	80	66
21	870	322	489	e170	334	758	195	130	130	82	106	64
22	700	308	461	e170	321	592	200	125	122	84	87	62
23	605	292	455	238	291	486	199	123	114	90	77	62
24	541	286	496	244	274	424	208	117	109	117	72	61
25	475	283	504	305	261	388	209	124	107	148	70	61
26	432	1250	439	327	257	409	198	149	110	105	70	59
27	403	1010	423	274	265	397	190	141	161	92	69	58
28	385	587	414	317	254	356	246	127	127	91	67	61
29	368	485	401	311	---	338	238	121	118	89	65	123
30	359	438	387	276	---	323	210	120	110	84	63	126
31	337	---	368	264	---	395	---	119	---	78	62	---
TOTAL	17848	18261	23692	8307	8914	16901	7168	4520	3867	3010	2381	2211
MEAN	576	609	764	268	318	545	239	146	129	97.1	76.8	73.7
MAX	4390	4600	2090	356	489	2180	367	196	217	148	136	134
MIN	273	272	368	170	246	274	190	117	99	78	62	58
CFSM	2.11	2.23	2.80	.98	1.17	2.00	.88	.53	.47	.36	.28	.27
IN.	2.43	2.49	3.23	1.13	1.21	2.30	.98	.62	.53	.41	.32	.30

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1997, BY WATER YEAR (WY)

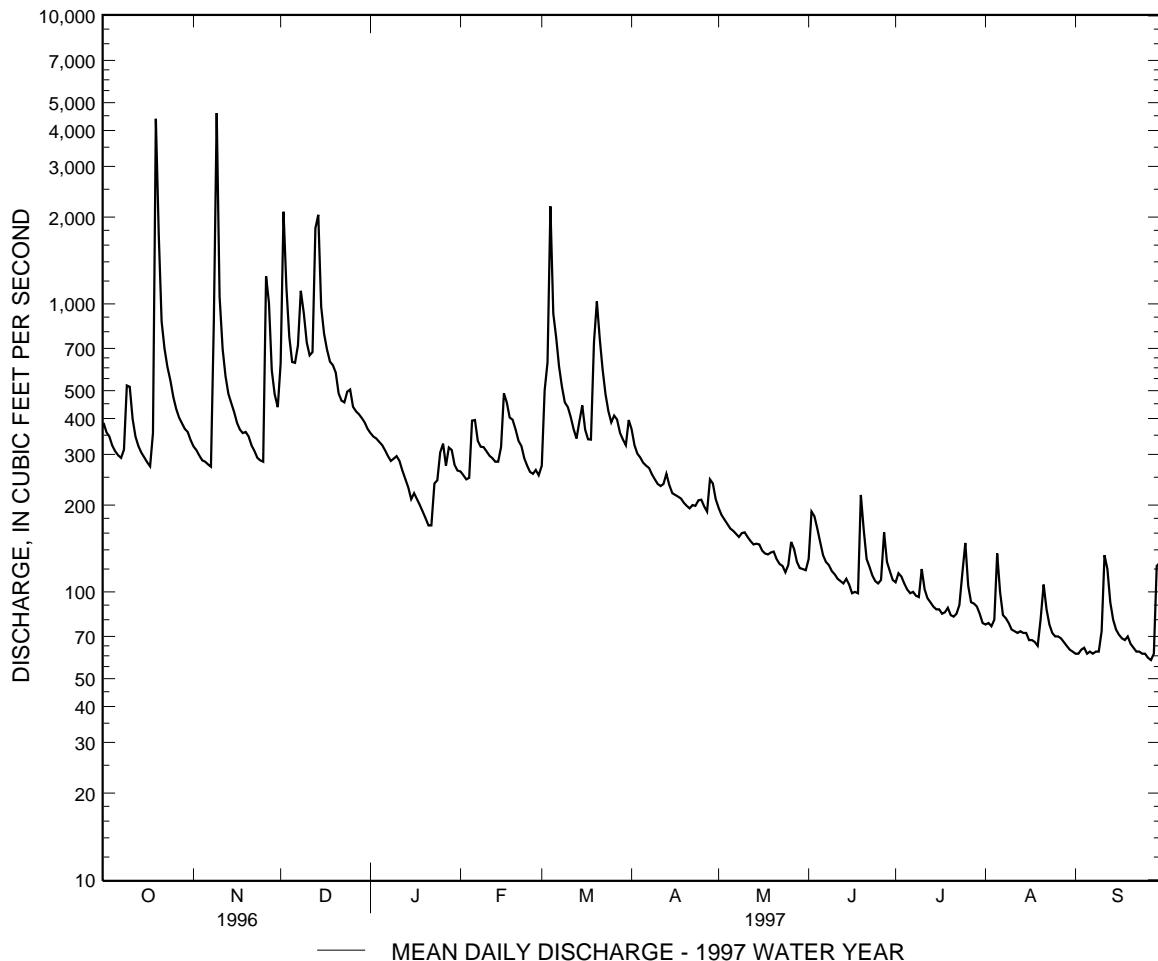
MEAN	152	171	248	283	339	445	381	279	213	141	139	130
MAX	788	609	821	1337	1022	1461	1199	1091	1190	456	772	970
(WY)	1977	1997	1973	1996	1984	1993	1984	1988	1972	1972	1996	1996
MIN	30.5	35.1	33.7	39.6	76.6	119	97.8	86.0	65.4	49.4	36.6	35.2
(WY)	1948	1966	1966	1966	1954	1959	1954	1969	1969	1966	1966	1947

POTOMAC RIVER BASIN

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1995 CALENDAR YEAR	FOR 1996 WATER YEAR	WATER YEARS 1947 - 1996
ANNUAL TOTAL	249905	117080	
ANNUAL MEAN	683	321	243
HIGHEST ANNUAL MEAN			581 1996
LOWEST ANNUAL MEAN			85.7 1954
HIGHEST DAILY MEAN	(e)15000	Jan 20	(e)15000 Jan 20 1996
LOWEST DAILY MEAN	182	Jul 7	26 Oct 25 1947
ANNUAL SEVEN-DAY MINIMUM	195	Jul 12	27 Sep 7 1966
INSTANTANEOUS PEAK FLOW		4600 Nov 9	(a)23400 Jan 20 1996
INSTANTANEOUS PEAK STAGE		58 Sep 27	18.76 Jan 20 1996
INSTANTANEOUS LOW FLOW		61 Sep 22	25 Oct 25 1947
ANNUAL RUNOFF (CFSM)	2.50	6110 Nov 9	.89
ANNUAL RUNOFF (INCHES)	34.05	12.53 Nov 9	12.10
10 PERCENT EXCEEDS	1060	56 Sep 27	473
50 PERCENT EXCEEDS	439	609	140
90 PERCENT EXCEEDS	268	244	56
		72	

e Estimated.

a From rating curve extended above 7,100 ft³/s.

POTOMAC RIVER BASIN

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 mi².

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.72 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0500	*104	*2.36	Dec. 2	0330	76	2.12
Nov. 8	2030	93	2.27	Dec. 13	1515	90	2.25

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	25	36	25	20	19	23	13	10	5.4	2.9	2.3
2	19	25	63	27	20	20	21	12	15	5.9	2.9	2.2
3	18	24	43	27	20	25	20	12	12	5.6	2.9	2.0
4	16	23	39	26	20	29	20	12	11	5.6	3.0	.73
5	16	22	37	26	25	25	18	12	10	4.2	3.1	.55
6	18	21	42	25	22	27	18	12	10	4.1	2.9	.55
7	18	21	45	24	21	23	18	12	10	4.2	2.9	.53
8	20	49	46	23	22	23	17	11	10	4.0	2.7	.47
9	22	60	40	24	21	21	17	10	9.4	3.7	2.7	.53
10	22	42	38	24	21	22	16	11	8.2	4.5	2.6	1.3
11	19	37	38	23	21	20	16	11	8.0	3.8	2.6	7.2
12	18	35	37	22	20	20	17	10	7.7	3.8	2.6	3.2
13	15	34	71	21	20	19	18	9.9	8.4	4.9	2.8	2.7
14	16	33	60	21	20	27	17	11	8.2	4.4	2.8	2.1
15	18	29	49	20	20	26	16	10	7.7	3.3	2.7	1.0
16	17	27	45	21	19	21	15	9.4	7.4	3.2	2.2	1.0
17	17	27	43	20	19	21	15	9.3	7.2	3.2	1.4	1.0
18	25	28	40	20	19	21	15	9.4	7.1	3.8	2.1	1.0
19	89	28	42	19	20	29	15	10	7.1	4.0	2.0	1.1
20	55	26	36	20	19	27	14	9.8	6.7	3.9	3.7	1.1
21	42	26	33	20	19	24	14	9.2	6.4	2.7	3.2	1.2
22	41	25	33	20	19	23	14	9.0	6.4	2.4	2.7	1.3
23	37	24	34	20	18	22	14	8.9	6.3	3.2	2.7	1.4
24	35	23	36	20	18	21	15	8.8	5.8	3.5	2.7	1.3
25	33	23	33	26	18	21	14	9.4	4.9	3.6	2.6	1.4
26	32	39	31	22	18	23	14	11	4.9	3.3	2.6	1.2
27	30	28	31	20	18	21	13	9.4	4.9	3.5	2.7	1.2
28	27	25	31	25	17	20	15	9.2	4.8	3.5	2.9	1.6
29	26	25	30	21	--	20	14	8.8	6.0	3.3	2.4	3.2
30	27	25	29	20	--	20	13	8.8	5.7	3.2	2.5	1.4
31	26	--	27	20	--	29	--	8.8	--	3.0	2.4	--
TOTAL	833	879	1238	692	554	709	486	318.1	237.2	120.7	82.9	47.76
MEAN	26.9	29.3	39.9	22.3	19.8	22.9	16.2	10.3	7.91	3.89	2.67	1.59
MAX	89	60	71	27	25	29	23	13	15	5.9	3.7	7.2
MIN	15	21	27	19	17	19	13	8.8	4.8	2.4	1.4	.47
CFSM	1.42	1.55	2.11	1.18	1.05	1.21	.86	.54	.42	.21	.14	.08
IN.	1.64	1.73	2.44	1.36	1.09	1.40	.96	.63	.47	.24	.16	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

MEAN	8.28	8.20	11.5	12.9	15.1	19.1	19.4	16.1	13.5	9.95	7.66	6.70
MAX	39.5	29.3	39.9	30.1	32.2	48.6	49.8	36.2	48.2	32.4	24.2	31.8
(WY)	1977	1997	1997	1979	1973	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

POTOMAC RIVER BASIN

01617800 MARSH RUN AT GRIMES, MD--Continued

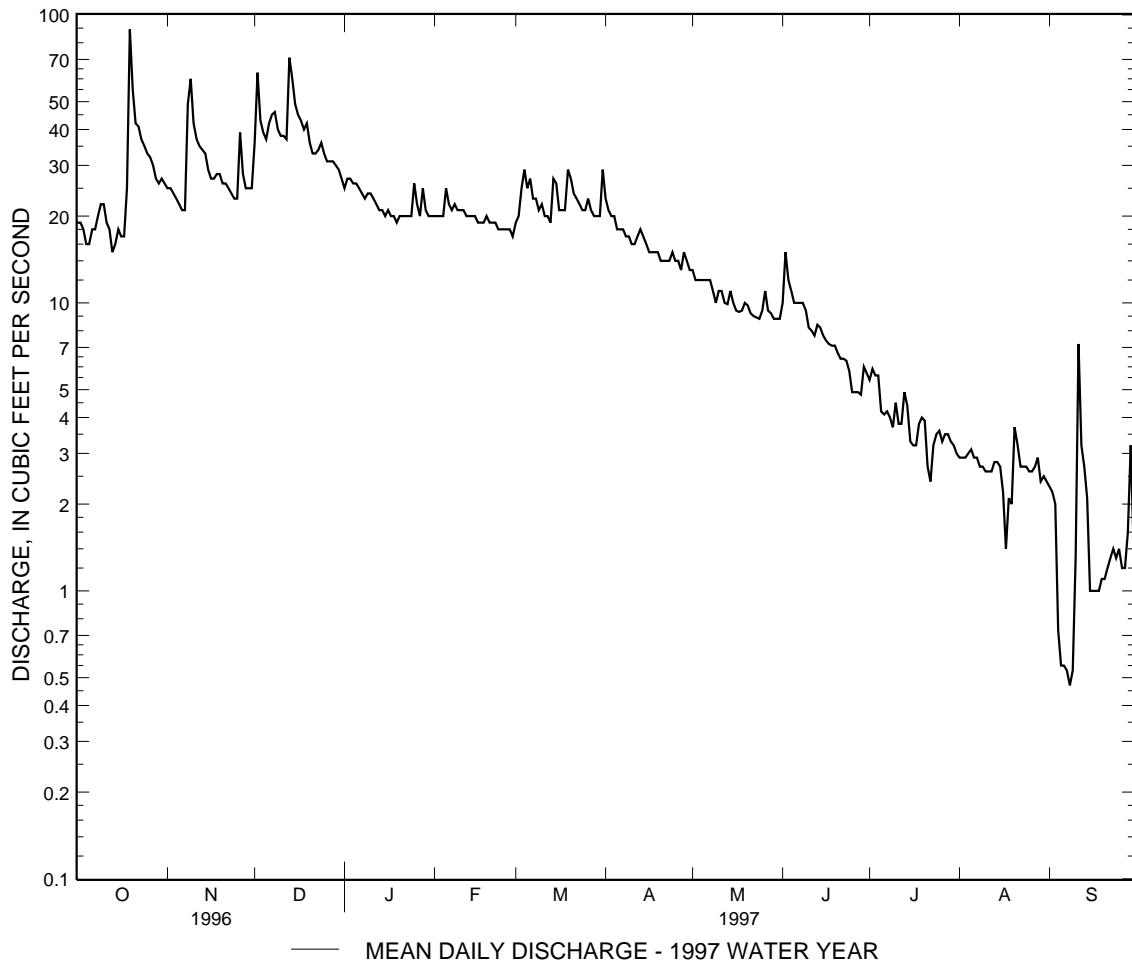
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1964 - 1997
ANNUAL TOTAL	9404.5	6197.66	
ANNUAL MEAN	25.7	17.0	12.5
HIGHEST ANNUAL MEAN			23.9
LOWEST ANNUAL MEAN			4.31
HIGHEST DAILY MEAN	90	Jul 19	223 Jun 23 1972
LOWEST DAILY MEAN	(e)6.0	Jan 8	(a).00 Oct 1 1977
ANNUAL SEVEN-DAY MINIMUM	7.1	Jan 8	.60 Oct 21 1986
INSTANTANEOUS PEAK FLOW			(b)459 Feb 12 1985
INSTANTANEOUS PEAK STAGE			4.45 Feb 12 1985
INSTANTANEOUS LOW FLOW			(a).00 Oct 1 1977
ANNUAL RUNOFF (CFSM)	1.36	.90	.66
ANNUAL RUNOFF (INCHES)	18.51	12.20	9.00
10 PERCENT EXCEEDS	40	33	25
50 PERCENT EXCEEDS	23	18	9.2
90 PERCENT EXCEEDS	16	2.6	3.0

e Estimated.

a Result of regulation caused by construction work upstream from station.

b From rating curve extended above 220 ft³/s.

c Sept. 8, 9.



POTOMAC RIVER BASIN

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 current year.

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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 19 ft³/s, Oct. 19, gage height, 1.73 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	11	11	10	9.2	11	9.2	8.2	7.2	6.4	6.5
2	11	11	13	11	9.7	9.2	11	9.2	8.2	7.2	6.5	6.4
3	11	11	12	11	9.7	9.3	11	9.1	8.1	7.1	6.5	6.2
4	11	11	12	11	9.7	9.5	11	9.0	7.9	7.0	6.5	6.2
5	11	11	12	11	9.7	9.5	11	9.0	7.7	7.0	6.5	6.2
6	11	11	12	10	9.7	9.7	10	9.0	7.7	7.0	6.5	6.2
7	11	11	12	10	9.7	9.7	10	8.8	7.7	7.0	6.5	6.2
8	11	11	12	10	9.7	9.7	10	8.7	7.7	7.0	6.5	6.2
9	11	12	12	10	9.7	9.7	9.8	8.7	7.7	7.0	6.5	6.2
10	11	11	12	10	9.7	9.7	9.7	8.7	7.7	7.0	6.5	6.3
11	11	11	11	10	9.7	9.7	9.7	8.7	7.5	7.0	6.5	9.5
12	11	11	11	10	9.7	9.5	9.7	8.7	7.5	7.0	6.4	8.4
13	11	11	13	10	9.7	9.5	9.6	8.7	7.5	7.0	6.2	7.7
14	11	11	13	10	9.7	9.6	9.5	8.7	7.5	6.9	6.2	7.5
15	10	11	13	10	9.7	9.8	9.5	8.6	7.4	6.7	6.2	7.3
16	10	11	13	10	9.7	9.7	9.5	8.5	7.2	6.7	6.2	7.1
17	10	11	12	10	9.7	9.7	9.5	8.5	7.2	6.6	6.2	6.7
18	11	11	12	10	9.5	9.7	9.5	8.5	7.2	6.6	6.3	6.5
19	16	11	12	10	9.5	9.7	9.5	8.5	7.2	6.5	6.3	6.5
20	14	11	12	10	9.3	9.7	9.5	8.5	7.2	6.5	6.2	6.5
21	13	11	11	10	9.2	9.7	9.5	8.5	7.2	6.5	6.6	6.4
22	13	10	11	10	9.4	9.7	9.5	8.3	7.2	6.5	6.6	6.2
23	12	10	11	10	9.5	9.7	9.3	8.2	7.2	6.5	6.6	6.2
24	12	10	11	10	9.5	9.7	9.2	8.2	7.3	6.5	6.5	6.2
25	12	10	11	10	9.4	9.5	9.2	8.2	7.5	6.5	6.5	6.2
26	12	11	11	10	9.2	9.7	9.3	8.2	7.4	6.5	6.5	6.2
27	12	11	11	10	9.2	9.7	9.2	8.2	7.2	6.5	6.5	6.2
28	12	11	11	10	9.2	9.7	9.2	8.2	7.2	6.5	6.5	6.2
29	12	11	11	10	--	9.9	9.2	8.2	7.2	6.5	6.5	6.3
30	12	11	11	10	--	10	9.2	8.2	7.2	6.5	6.5	6.3
31	11	--	11	10	--	11	--	8.2	--	6.5	6.5	--
TOTAL	358	327	363	315	268.1	300.1	292.8	265.9	224.6	209.5	199.4	198.7
MEAN	11.5	10.9	11.7	10.2	9.57	9.68	9.76	8.58	7.49	6.76	6.43	6.62
MAX	16	12	13	11	10	11	11	9.2	8.2	7.2	6.6	9.5
MIN	10	10	11	10	9.2	9.2	9.2	8.2	7.2	6.5	6.2	6.2

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

MEAN	7.13	6.85	7.97	8.44	8.42	9.31	9.33	9.17	8.65	7.88	7.35	7.15
MAX	11.5	10.9	11.7	10.8	10.8	14.1	13.4	11.9	11.1	10.6	10.7	11.7
(WY)	1997	1997	1997	1996	1994	1994	1993	1993	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	1990	1997	1991	1988

POTOMAC RIVER BASIN

01619320 ALBERT POWELL FISH HATCHERY SPRING AT BEAVER CREEK, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	3989.7	3322.1	
ANNUAL MEAN	10.9	9.10	7.99
HIGHEST ANNUAL MEAN			9.68
LOWEST ANNUAL MEAN			6.51
HIGHEST DAILY MEAN	25	Jan 19	25
LOWEST DAILY MEAN	7.5	(a)	5.0
ANNUAL SEVEN-DAY MINIMUM	7.9	Jan 1	5.1
INSTANTANEOUS PEAK FLOW		19 Oct 19	(d) 20
INSTANTANEOUS PEAK STAGE		1.73 Oct 19	(f) 2.45
INSTANTANEOUS LOW FLOW		6.0 Sep 10	4.9
10 PERCENT EXCEEDS	12	11	11
50 PERCENT EXCEEDS	11	9.5	7.6
90 PERCENT EXCEEDS	10	6.5	5.9

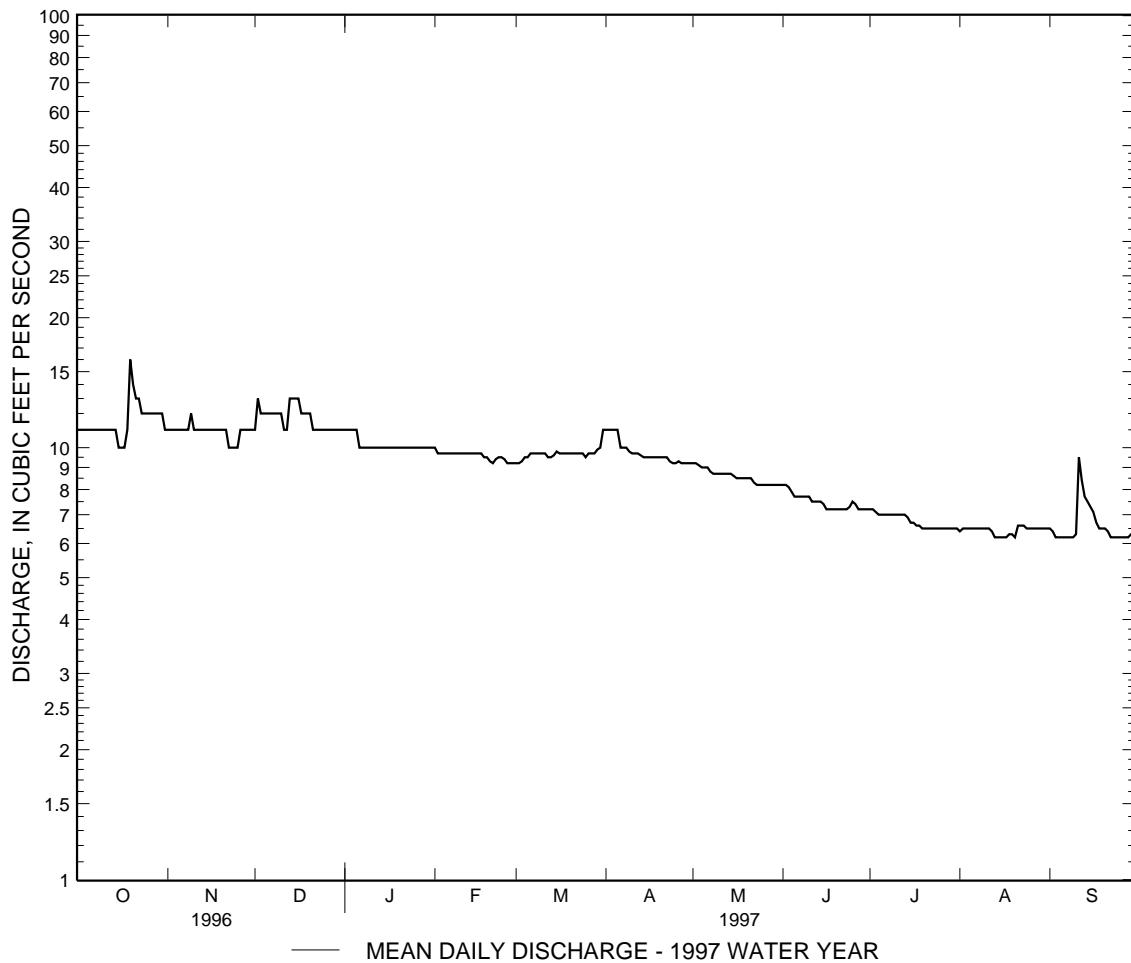
a Jan. 1, 2.

b Aug. 13-18, 20, Sept. 3-9, 22-28.

c Dec. 18, 19, 1988.

d May have been greater during period of backwater from Beaver Creek on Jan. 19, 1996.

f Affected by backwater from Beaver Creek.



POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, Hydrologic Unit 02070004, on left bank 400 ft downstream from Burnside Bridge, 1.0 mi southeast of Sharpsburg, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--281 mi².

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 (missing record, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1945	*3,080	*7.57	Dec. 14	0330	2,560	6.86
Nov. 9	0900	1,580	5.36	Sept. 11	0300	2,900	7.32
Dec. 2	1315	1,790	5.71				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	517	597	629	560	394	390	568	297	217	146	120	103
2	499	576	1550	550	387	422	509	288	289	165	118	103
3	493	550	1130	539	380	456	495	284	270	160	118	103
4	469	525	955	522	380	585	488	283	262	147	121	99
5	453	513	857	515	462	e550	474	273	237	140	164	97
6	440	500	913	504	468	e650	460	268	225	136	130	97
7	435	491	955	484	425	e550	451	264	213	216	123	97
8	471	710	1060	470	424	e500	432	258	207	176	119	98
9	539	1380	934	472	427	e450	419	277	203	149	114	100
10	532	961	845	475	410	e400	412	279	198	301	112	193
11	460	822	800	454	400	e380	405	259	193	182	111	1460
12	433	754	774	429	393	e360	410	252	190	153	111	e315
13	418	709	1720	413	384	e500	444	249	196	146	110	e195
14	409	685	2190	409	386	e650	402	248	194	144	115	e175
15	400	655	1500	403	393	e800	382	244	189	142	111	e160
16	397	622	1280	419	394	e680	371	238	182	140	106	e150
17	392	602	1150	406	386	e600	367	233	179	136	105	e140
18	456	593	1040	368	380	e550	363	228	178	132	147	e135
19	2520	578	997	382	392	e650	354	241	186	130	124	e130
20	2170	551	906	369	409	e620	342	233	188	126	141	e125
21	1410	527	814	368	397	e605	334	219	172	127	158	e120
22	1220	512	775	365	395	584	337	213	168	127	139	e117
23	1050	494	754	379	393	554	328	209	178	127	122	e114
24	954	485	760	378	386	531	332	207	161	159	115	e110
25	865	473	762	472	381	511	325	212	157	175	113	e109
26	808	757	688	452	378	580	321	286	159	145	112	e108
27	755	654	663	393	377	556	309	238	161	136	110	e107
28	729	542	646	468	366	507	339	214	156	133	110	e110
29	712	516	633	464	--	509	322	207	149	147	114	e240
30	668	504	615	408	--	505	303	208	147	135	108	e180
31	631	--	582	398	--	611	--	206	--	124	105	--
TOTAL	22705	18838	29877	13688	11147	16796	11798	7615	5804	4702	3726	5390
MEAN	732	628	964	442	398	542	393	246	193	152	120	180
MAX	2520	1380	2190	560	468	800	568	297	289	301	164	1460
MIN	392	473	582	365	366	360	303	206	147	124	105	97
(†)	-16.9	-15.8	-15.8	-16.7	-14.4	-14.1	-14.7	-14.7	-14.7	-15.5	-16.2	-16.4
MEAN#	715	612	948	425	384	528	378	231	178	136	104	165
CFSM#	2.54	2.18	3.37	1.51	1.37	1.88	1.35	0.82	0.63	0.48	0.37	0.59
IN#	2.93	2.43	3.88	1.74	1.43	2.17	1.51	0.94	0.70	0.55	0.43	0.66

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1997, BY WATER YEAR (WY)

MEAN	179	193	262	300	354	463	467	373	290	215	175	174
MAX	916	628	964	943	938	1299	1201	779	1278	604	531	1090
(WY)	1977	1997	1997	1996	1984	1994	1993	1952	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.

POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1931 - 1997
ANNUAL TOTAL	257365	152086	
ANNUAL MEAN	703	417	287
ANNUAL MEAN#	687	401	278
HIGHEST ANNUAL MEAN			554 1996
LOWEST ANNUAL MEAN			124 1966
HIGHEST DAILY MEAN	5390	Jan 20	8970 Sep 26 1975
LOWEST DAILY MEAN	(e)180	Jan 8	97 (a) 37 Jan 30 1966
ANNUAL SEVEN-DAY MINIMUM	228	Jan 8	99 Sep 3 49 Jan 26 1966
INSTANTANEOUS PEAK FLOW		3080 Oct 19	(b)12600 Jul 20 1956
INSTANTANEOUS PEAK STAGE		7.57 Oct 19	16.73 Jul 20 1956
INSTANTANEOUS LOW FLOW		93 (a)	(c)9.4 Nov 22 1957
ANNUAL RUNOFF (CFSM)	2.50	1.48	1.02
ANNUAL RUNOFF (CFSM)#	2.44	1.43	0.98
ANNUAL RUNOFF (INCHES)	34.07	20.13	13.86
ANNUAL RUNOFF (INCHES)#	33.22	19.39	13.44
10 PERCENT EXCEEDS	1090	758	550
50 PERCENT EXCEEDS	575	382	208
90 PERCENT EXCEEDS	399	120	98

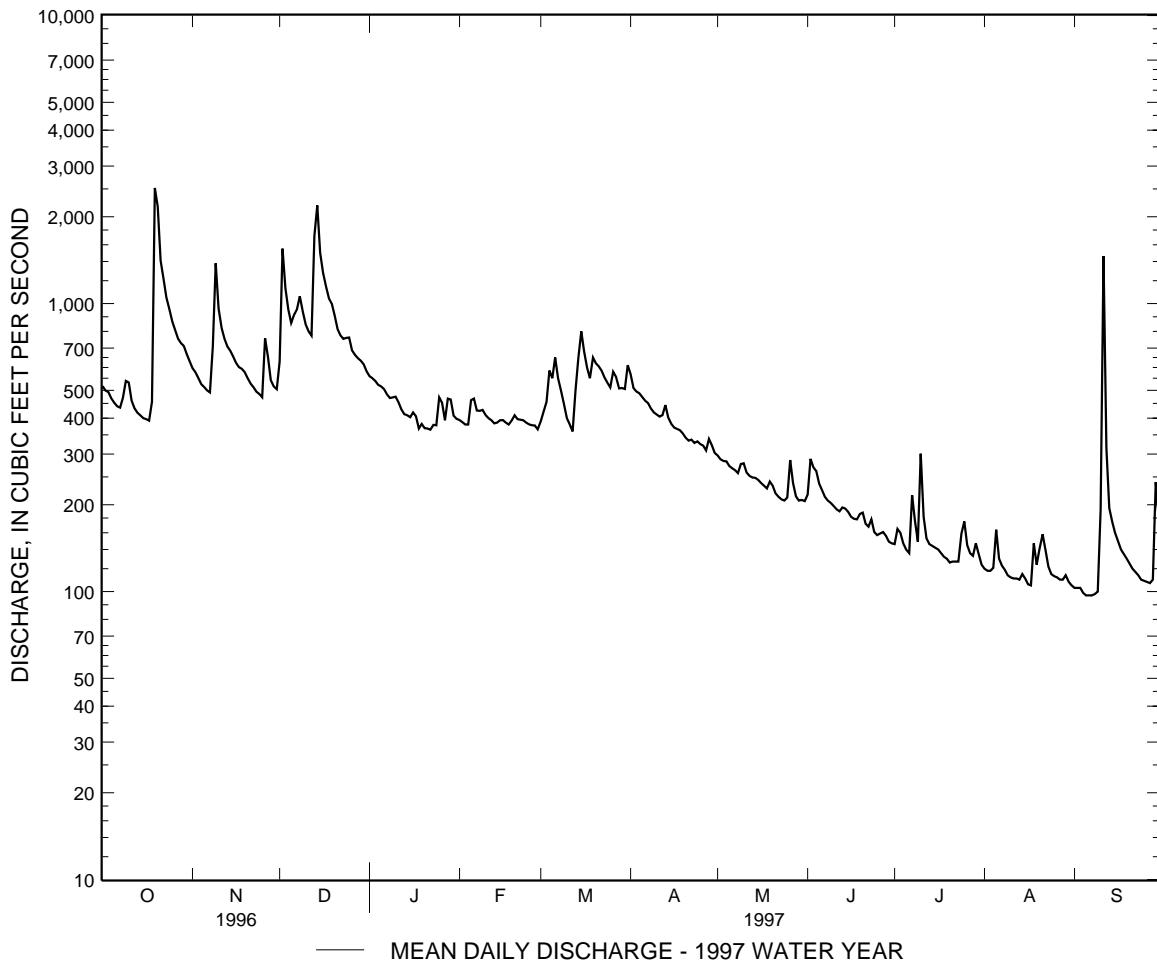
Adjusted for inflow since January 1930.

e Estimated.

a Sept. 5-7.

b From rating curve extended above 7,300 ft³/s on basis of contracted-opening measurement of peak flow.

c Result of regulation caused by construction work upstream from station.



POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 4.7.

DRAINAGE AREA.--3,022 mi², revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft 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. Water-discharge 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.

XTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 3	0915	20,700	9.65	Mar. 5	0400	*23,300	*10.24
Dec. 14	2100	17,200	8.80	June 4	0145	16,900	8.71

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4240	2570	5200	4080	4350	3630	4100	2550	1510	1400	1150	774
2	3550	2480	8990	3930	4110	5760	4020	2480	1860	1340	1070	750
3	3210	2370	19300	3820	3890	7480	3710	2410	11900	1310	1020	769
4	2960	2340	13900	3720	3650	17500	3510	2340	15200	1320	1010	746
5	2810	2290	10100	3520	3510	20200	3390	2270	11700	1400	1050	717
6	2640	2210	8210	3430	3540	13600	3220	2190	8320	1280	1310	696
7	2530	2150	7370	3290	3690	10700	3170	2150	6190	1170	1070	688
8	2610	2370	7830	3190	3600	8590	3060	2050	4990	1130	803	658
9	3470	8600	8920	3090	3710	7180	2960	2000	4210	1100	806	643
10	4010	12500	7920	3070	3730	6270	2820	2000	3600	1070	920	749
11	4610	10000	6860	3050	3720	5630	2650	1970	3060	1100	885	1530
12	4550	7280	6320	3000	3520	5110	2620	1910	2660	1090	884	1700
13	4060	5780	7750	2840	3450	4680	2610	1910	2460	1000	842	2320
14	3800	4900	14900	2670	3420	4470	2700	1920	2470	939	842	1720
15	3470	4370	14000	2510	3410	4460	2840	1860	2220	990	829	1340
16	3240	3950	10700	2520	3780	4470	2690	1780	2080	975	837	1010
17	3020	3600	8840	2570	4400	4350	2480	1840	1960	909	828	982
18	2980	3430	7580	2650	4710	4080	2460	1790	1970	877	795	900
19	7920	3360	6860	2400	4570	4430	2400	1730	3240	868	792	872
20	5970	3230	6460	2350	4600	7010	2300	1660	2730	837	870	864
21	5750	3120	5990	2740	4700	9720	2290	1650	1950	804	906	823
22	5110	2980	5210	3110	4880	8520	2280	1620	1720	801	905	798
23	4520	2880	4760	2980	4830	7070	2230	1580	1680	859	966	768
24	4130	2780	4660	2890	4630	6050	2230	1500	1630	983	1070	760
25	3770	2750	4930	3010	4300	5280	2310	1480	1470	1260	998	763
26	3470	3150	5110	3710	3990	4940	2310	1620	1480	3110	891	744
27	3290	6760	4970	4770	3840	4690	2260	1750	1540	2930	836	726
28	3130	8350	4770	4720	3700	4510	2300	1710	1690	2060	820	754
29	2970	6870	4620	4510	---	4260	2360	1710	1550	1690	806	1080
30	2850	5700	4490	4580	---	4000	2500	1670	1470	1470	840	1260
31	2710	---	4280	4670	---	4010	---	1520	---	1280	792	---
TOTAL	117350	135120	241800	103390	112230	212650	82780	58620	110510	39352	28443	28904
MEAN	3785	4504	7800	3335	4008	6860	2759	1891	3684	1269	918	963
MAX	7920	12500	19300	4770	4880	20200	4100	2550	15200	3110	1310	2320
MIN	2530	2150	4280	2350	3410	3630	2230	1480	1470	801	792	643
CFSM	1.25	1.49	2.58	1.10	1.33	2.27	.91	.63	1.22	.42	.30	.32
IN.	1.44	1.66	2.98	1.27	1.38	2.62	1.02	.72				

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1909, 1928 - 1997, BY WATER YEAR (WY)

MEAN	1968	1857	2523	3209	3820	5031	4385	3356	2417	1460	1655	1467
MAX	16250	13350	8164	13470	13100	17540	12840	8701	10380	4809	10390	14780
(WY)	1943	1986	1973	1996	1897	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

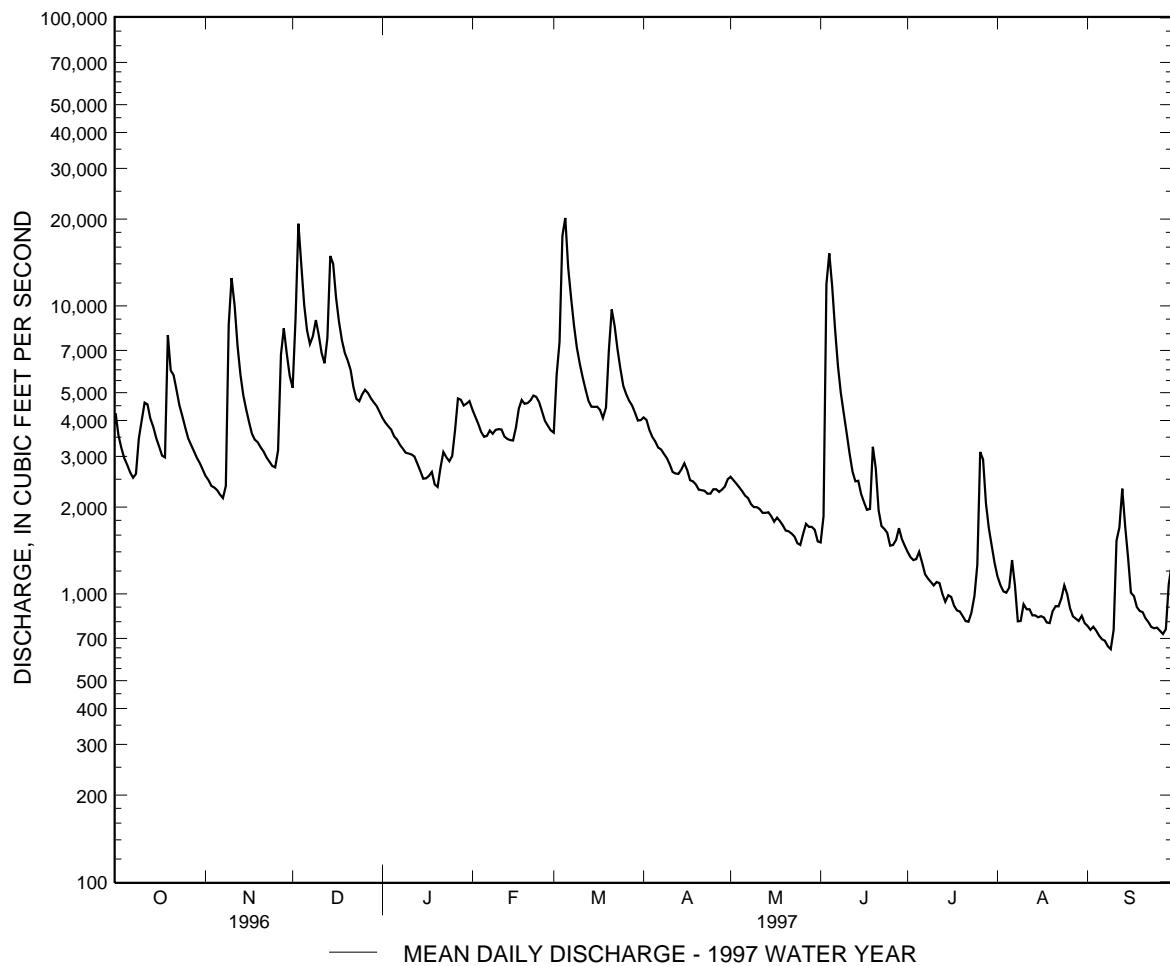
POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1895 - 1909 1928 - 1997
ANNUAL TOTAL	2286220	1271149	2757
ANNUAL MEAN	6247	3483	5618 1111
HIGHEST ANNUAL MEAN			1996 1981
LOWEST ANNUAL MEAN			
HIGHEST DAILY MEAN	133000	Sep 8	192000 Oct 16 1942
LOWEST DAILY MEAN	1390	Jul 28	194 Jul 24 1930
ANNUAL SEVEN-DAY MINIMUM	1530	Jul 13	240 Sep 7 1966
INSTANTANEOUS PEAK FLOW		23300 Mar 5	230000 Oct 16 1942
INSTANTANEOUS PEAK STAGE		10.24 Mar 5	(a) 32.40 Oct 16 1942
INSTANTANEOUS LOW FLOW		633 (b)	59 Oct 4 1930
ANNUAL RUNOFF (CFSM)	2.07	1.15	.91
ANNUAL RUNOFF (INCHES)	28.14	15.65	12.39
10 PERCENT EXCEEDS	10100	6930	5560
50 PERCENT EXCEEDS	4120	2810	1620
90 PERCENT EXCEEDS	2180	862	610

a From floodmarks.

b Sept. 9, 10.



POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.
INSTRUMENTATION.--Water-quality monitor October 1980 to September 1983.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983.

WATER TEMPERATURES: October 1980 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1981-82): Maximum, 778 microsiemens, Dec. 29, 1980; minimum, 212 microsiemens, Jan. 17, 1982.

WATER TEMPERATURE: Maximum, 30.0°C , July 20, 21, 1981; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

FEB												
19...	1345	4560	294	8.8	6.5	20.5	758	13.4	110	140	38	9.6
MAR												
18...	1230	4030	290	8.2	8.0	12.5	762	11.9	101	140	40	10

	ALKA-				BICAR-				CAR-				SOLIDS,				NITRO-	
	POTAS-	LINITY	BONATE	BONATE		CHLO-	FLUO-	SILICA,	RESIDUE	GEN,	GEN,							
SODIUM,	SIUM,	WAT DIS	WATER	WATER	SULFATE	RIDE,	RIDE,	DIS-	AT 180	NITRATE	NITRITE							
DIS-	DIS-	TOT IT	DIS IT	DIS IT	DIS-	DIS-	DIS-	SOLVED	DEG. C	DIS-	DIS-							
SOLVED	SOLVED	FIELD	FIELD	FIELD	SOLVED	SOLVED	SOLVED	(MG/L	DIS-	SOLVED	SOLVED							
(MG/L	(MG/L	MG/L AS	MG/L AS	MG/L AS	(MG/L	(MG/L	(MG/L	AS	SOLVED	(MG/L	(MG/L							
AS NA)	AS K)	CACO3	HCO3	CO3	AS SO4)	AS CL)	AS F)	SIO2)	(MG/L)	AS NO3)	AS N)							
(00930)	(00935)	(39086)	(00453)	(00452)	(00945)	(00940)	(00950)	(00955)	(70300)	(71851)	(00613)							

FEB												
19...	6.5	1.7	107	118	6	15	11	0.10	0.32	164	5.4	0.101
MAR												
18...	4.7	1.7	120	139	4	13	7.7	0.10	3.4	161	7.9	0.010

	NITRO-	NITRO-	NITRO-	NITRO-	PHOS-	PHOS-	MANGA-	CARBON,	CARBON,	ORGANIC	THOL,
	GEN,	GEN,	GEN, AM-	GEN, AM-	PHOS-	PHORUS	ORTHO,	IRON,	NESE,	ORGANIC	SUS-
	NO2+NO3	AMMONIA	MONIA +	MONIA +	PHORUS	PHORUS	DIS-	DIS-	DIS-	PENDED	WATER,
	DIS-	DIS-	ORGANIC	ORGANIC	DIS-	DIS-	DIS-	DIS-	DIS-	FLTRD,	
	SOLVED	SOLVED	TOTAL	DIS.	TOTAL	SOLVED	SOLVED	SOLVED	SOLVED	TOTAL	GF 0.7U
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(UG/L)	(UG/L)	(MG/L)	REC
DATE	AS N)	AS N)	AS N)	AS N)	AS P)	AS P)	AS P)	AS FE)	AS MN)	AS C)	(UG/L)
	(00631)	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(01046)	(01056)	(00681)	(49295)

FEB
19... 1.33 <0.015 <0.20 <0.20 <0.010 <0.010 27 3.7 3.5 0.50 <0.007
MAR
18... 1.80 <0.015 0.50 <0.20 0.140 0.020 0.020 10 4.0 1.6 0.30 <0.007

		ACIFL-	ALDI-	ALDI-	ALDICA-		DEETHYL	METHYL	
	2,4-DB	UORFEN	ALA-	CARB,	CARB	RB SUL-	ATRA-	ATRA-	AZIN-
	WATER,	WATER,	CHLOR,	WATER,	SULFONE	FOXIDE,	ZINE,	ZINE,	PHOS
2,4,5-T	2,4-D,	FLTRD,	FLTRD,	WATER,	FLTRD,	WAT,FLT	WAT,FLT	WATER,	WAT FLT
DATE	DIS-	DIS-	GF 0.7U	GF 0.7U	DISS,	GF 0.7U	GF 0.7U	DISS,	DISS,
	SOLVED	SOLVED	REC						
	(UG/L)								
	(39742)	(39732)	(38746)	(49315)	(46342)	(49312)	(49313)	(49314)	(39632)
								(04040)	(82686)

FEB 19... <0.035 <0.035 <0.035 <0.035 <0.002 <0.016 <0.016 <0.021 0.021 E0.026 <0.001
 MAR 18 <0.035 <0.035 <0.035 <0.035 <0.002 <0.016 <0.016 <0.021 0.031 E0.015 <0.001

E Denotes concentration is less than the method detection limit (MDL).

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	BEN-	BENTA-	BRO-	CAR-	CAR-	CARBO-	CARBO-	3HYDRXY	CHLOR-
DATE	FLUR-	ZON,	BRO- ALIN	MOXYNIL WATER, WATER,	BUTYL- ATE, WATER,	BARYL, WATER, WATER,	FURAN, WATER, WATER	FURAN, WATER, WATER	CARBO- AMBEN, WATER,
	WAT FLD	FLTRD,	WATER,	FLTRD,	WATER,	FLTRD,	FLTRD	FLTRD	FLTRD
	0.7 U	GF	0.7U	DISS,	GF 0.7U	DISS,	GF 0.7U	0.7 U	GF 0.7U
	GF, REC	REC	REC	REC	REC	GF, REC	REC	GF, REC	REC
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(82673)	(38711)	(04029)	(49311)	(04028)	(49310)	(82680)	(49309)	(82674)
								(49308)	(49307)

FEB
19... <0.002 <0.014 <0.035 <0.035 <0.002 <0.008 <0.003 <0.028 <0.003 <0.014 <0.011
MAR
18... <0.002 <0.014 <0.035 <0.035 <0.002 <0.008 <0.003 <0.028 <0.003 <0.014 <0.011

FEB 19... <0.035 <0.004 <0.050 <0.004 <0.017 <0.002 <0.006 <0.002 <0.035 <0.020 <0.032
 MAR 18 <0.035 <0.004 <0.050 <0.004 <0.017 <0.002 <0.006 <0.002 <0.035 <0.020 <0.032

	2,6-DI-		DISUL-		ESFN-		ETHAL-		ETHO-		FEN-	
	ETHYL	DINOSEB	FOTON	DIURON,	EPTC	VAL-	FLUR-	PROP	URON,	WATER,	WATER,	
DI-	ANILINE	WATER,	WATER	WATER, DNOC	WATER	ERATE,	ALIN	WATER	WATER,	WATER,	WATER,	
ELDRIN	WAT FLT	FLTRD,	FLTRD,	WAT,FLT	FLTRD	WAT,FLT	WAT,FLT	FLTRD	FLTRD,	FLTRD,	FLTRD,	
DIS-	0.7 U	GF 0.7U	0.7 U	GF 0.7U	GF 0.7U	0.7 U	GF 0.7U	0.7 U	0.7 U	0.7 U	GF 0.7U	
DATE	SOLVED	GF, REC	REC	GF, REC	REC	REC	GF, REC	REC	GF, REC	GF, REC	REC	
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	
	(39381)	(82660)	(49301)	(82677)	(49300)	(49299)	(82668)	(49298)	(82663)	(82672)	(49297)	

FEB 19... <0.001 <0.003 <0.035 <0.017 <0.020 <0.035 <0.002 <0.019 <0.004 <0.003 <0.013
 MAR 18 <0.001 <0.003 <0.035 <0.017 <0.020 <0.035 <0.002 <0.019 <0.004 <0.003 <0.013

	FLUO-METURON			LIN-URON			MCPA, MCPB,			METHIO-CARB,		METH-OMYL,
	WATER, FONOFO	ALPHA	LINURON	WATER, FLTRD,	WATER	MALA-THION,	WATER, FLTRD,					
	FLTRD, GF 0.7U	WATER DISS	BHC	LINDANE	FLTRD, GF 0.7U	0.7 U	DIS-	GF 0.7U	GF 0.7U	GF 0.7U	GF 0.7U	GF 0.7U
DATE	REC	REC	SOLVED	SOLVED	REC	GF, REC	SOLVED	REC	REC	REC	REC	REC
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(38811)	(04095)	(34253)	(39241)	(38478)	(82666)	(39532)	(38482)	(38487)	(38501)	(49296)	

FEB 19... <0.035 <0.003 <0.002 <0.004 <0.018 <0.002 <0.005 <0.050 <0.035 <0.026 <0.017
 MAR 18 <0.035 <0.003 <0.002 <0.004 <0.018 <0.002 <0.005 <0.050 <0.035 <0.026 <0.017

POTOMAC RIVER BASTIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

FEB	19...	<0.006	0.016	<0.004	<0.004	<0.003	<0.015	<0.024	<0.019	<0.018	<0.004	<0.004
MAR	18...	<0.006	0.012	<0.004	<0.004	<0.003	<0.015	<0.024	<0.019	<0.018	<0.004	<0.004

FEB												
19...	<0.004	<0.005	<0.002	<0.050	E0.006	<0.003	<0.007	<0.004	<0.013	<0.035	<0.035	
MAR												
18...	<0.004	<0.005	<0.002	<0.050	E0.006	<0.003	<0.007	<0.004	<0.013	<0.035	<0.035	

	TEBU-	TER-	TER-	THIO-	TRIAL-	TRI-	TRI-	SEDI-	
	SI-	THIURON	BACIL	BUFOS	BENCARB	LATE	CLOPYR,	FLUR-	MENT,
SILVEX,	MAZINE,	WATER	WATER	WATER	WATER	WATER	WATER,	ALIN	SEDI- MENT,
DIS-	DISS,	0.7 U	GF 0.7U	0.7 U	CHARGE, DIS- SUS-				
DATE	SOLVED	REC	GF, REC	GF, REC	GF, REC	GF, REC	REC	GF, REC	PENDED PENDED
	(UG/L)	(MG/L) (T/DAY)							
	(39762)	(04035)	(82670)	(82665)	(82675)	(82681)	(82678)	(49235)	(82661) (80154) (80155)

FEB	19...	<0.021	0.008	<0.010	<0.007	<0.013	<0.002	<0.001	<0.050	<0.002	8	101
MAR	18...	<0.021	0.008	E0.004	<0.007	<0.013	<0.002	<0.001	<0.050	<0.002	79	864

E Denotes concentration is less than the method detection limit (MDL).

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POTOMAC RIVER BASIN

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 mi².

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 (ice effect, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0315	1,770	5.35	Dec. 2	0245	*1,900	*5.52
Nov. 26	0600	1,490	4.95	Dec. 13	1245	1,710	5.27

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	102	414	101	79	96	161	47	28	7.3	2.3	1.8
2	87	95	963	99	75	104	141	44	64	9.5	2.2	1.8
3	83	86	440	97	73	184	130	46	63	10	2.3	1.8
4	71	81	342	93	78	240	118	51	48	7.9	2.3	1.7
5	67	76	278	91	136	232	112	42	37	e6.5	5.3	1.6
6	63	73	342	87	113	260	107	41	31	e6.0	7.9	1.4
7	61	70	348	80	103	207	104	39	29	e5.5	5.2	1.4
8	96	242	330	73	103	187	92	37	28	e5.0	3.4	1.4
9	115	351	278	78	98	163	84	44	26	e5.0	2.7	1.2
10	116	248	236	79	90	153	80	46	24	e6.0	2.3	3.2
11	80	198	217	70	86	137	74	40	21	e5.0	2.2	117
12	70	166	205	58	83	120	77	37	20	e4.6	3.3	23
13	66	146	1130	e50	75	110	105	36	22	e4.4	3.9	9.8
14	63	135	625	e48	85	160	78	36	27	e4.0	3.9	3.8
15	59	121	449	e55	94	215	68	35	20	e3.8	3.0	e3.2
16	56	110	368	75	101	147	64	32	17	e3.6	2.6	e2.8
17	55	104	316	45	94	135	62	30	16	e3.4	2.4	e2.5
18	178	101	265	61	90	132	61	30	16	e3.2	4.5	e4.6
19	1250	97	252	76	104	195	58	37	16	2.9	5.8	e3.6
20	592	89	206	88	125	172	55	33	15	2.5	13	e2.9
21	422	82	172	85	107	163	54	29	13	2.4	24	e2.5
22	377	77	159	80	106	152	56	26	13	2.5	12	e2.3
23	296	72	152	87	94	136	53	25	14	3.7	5.2	e2.1
24	247	69	167	105	88	119	55	24	11	5.9	4.3	e2.0
25	209	66	165	166	84	111	54	27	9.3	9.2	3.6	e1.8
26	181	558	131	104	83	207	54	54	9.6	9.3	3.0	e1.7
27	161	230	126	77	88	161	49	35	12	6.2	3.0	e1.7
28	152	180	125	150	80	143	72	27	9.7	6.8	3.3	e1.6
29	138	156	124	105	---	140	60	25	7.8	5.6	2.9	e10
30	125	140	119	88	---	171	51	26	6.7	3.5	2.3	e4.5
31	111	---	110	80	---	217	---	26	---	2.9	2.0	---
TOTAL	5738	4321	9554	2631	2615	5069	2389	1107	674.1	164.1	146.1	220.7
MEAN	185	144	308	84.9	93.4	164	79.6	35.7	22.5	5.29	4.71	7.36
MAX	1250	558	1130	166	136	260	161	54	64	10	24	117
MIN	55	66	110	45	73	96	49	24	6.7	2.4	2.0	1.2
CFSM	2.77	2.15	4.61	1.27	1.40	2.44	1.19	.53	.34	.08	.07	.11
IN.	3.19	2.40	5.31	1.46	1.45	2.82	1.33	.62	.37	.09	.08	.12

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1997, BY WATER YEAR (WY)

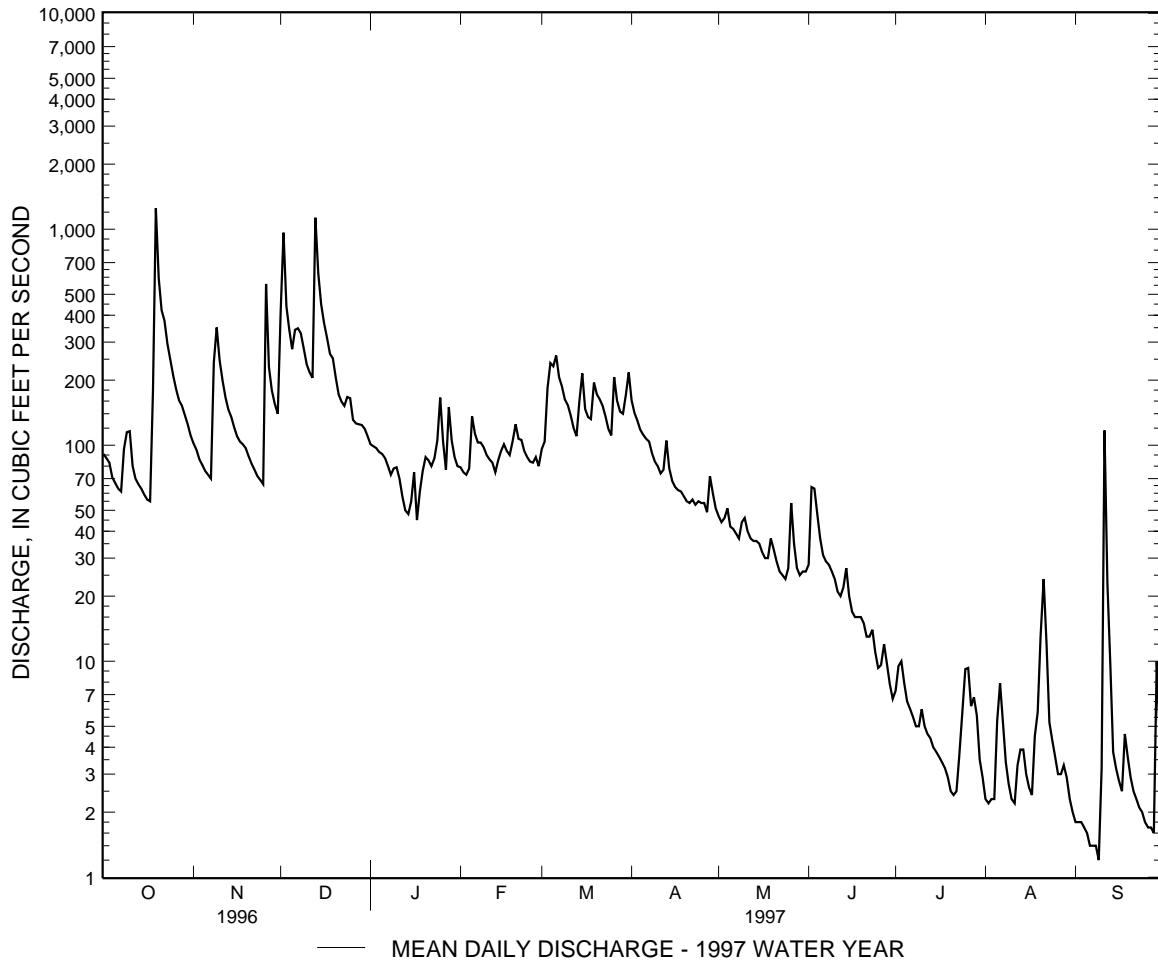
MEAN	49.8	88.6	102	121	154	140	98.7	60.5	34.5	23.0	27.5
MAX	399	162	318	328	357	407	360	391	439	214	208
(WY)	1977	1986	1993	1996	1984	1994	1993	1988	1972	1949	1955
MIN	2.62	3.61	3.80	4.25	28.8	46.3	40.1	29.2	13.5	4.86	2.04
(WY)	1964	1966	1966	1966	1954	1969	1995	1963	1954	1966	1965

POTOMAC RIVER BASIN

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1947 - 1997
ANNUAL TOTAL	75141	34629.0	
ANNUAL MEAN	205	94.9	77.8
HIGHEST ANNUAL MEAN			164 1996
LOWEST ANNUAL MEAN			29.7 1954
HIGHEST DAILY MEAN	3940	Jan 19	4880 Oct 9 1976
LOWEST DAILY MEAN	43	Jul 12	.00 (a)
ANNUAL SEVEN-DAY MINIMUM	47	Jan 10	.00 Aug 27 1966
INSTANTANEOUS PEAK FLOW		1900 Dec 2	(b) 12000 Oct 9 1976
INSTANTANEOUS PEAK STAGE		5.52 Dec 2	14.13 Oct 9 1976
INSTANTANEOUS LOW FLOW		UNKNOWN	.00 (a)
ANNUAL RUNOFF (CFSM)	3.07	1.42	1.16
ANNUAL RUNOFF (INCHES)	41.78	19.26	15.79
10 PERCENT EXCEEDS	378	207	176
50 PERCENT EXCEEDS	125	69	39
90 PERCENT EXCEEDS	63	2.9	5.7

a Aug. 27 to Sept. 12, 1966.

b From rating curve extended above 2,600 ft³/s on basis of slope-area measurement of peak flow.

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi².

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 ft³/s from rating curve extended as explained in footnotes.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0830	36,800	8.81	Dec. 14	2100	62,100	12.61
Nov. 10	1000	70,900	13.81	Mar. 5	1000	62,100	12.61
Nov. 28	0500	35,800	8.65	Mar. 21	1400	35,500	8.60
Dec. 3	1030	*85,200	*15.65				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11800	8920	19000	12000	14700	12000	13600	6960	5630	3290	2540	1750
2	10300	8420	40700	11400	13400	13500	13100	6860	5890	3200	2340	1690
3	9250	7930	79900	11000	12500	21200	12000	6620	15100	3220	2230	1670
4	8410	7660	56200	10600	12000	40700	11100	6460	31700	3660	2160	1650
5	7860	8580	38900	10400	12500	59100	10500	6180	33900	3450	2220	1560
6	7420	7850	31700	10000	18800	50100	10000	5960	28300	3140	2430	1570
7	7050	6950	28900	9700	20900	46100	9650	5760	20500	2810	2290	1600
8	7330	7540	29000	9250	18400	37600	9170	5590	15800	2920	2140	1570
9	8310	24300	28900	8690	16700	30100	8730	5450	12700	2660	1900	1560
10	9110	64800	26800	8640	15500	25400	8200	5420	10600	2690	2050	2050
11	10200	44000	23000	8480	14300	22500	7760	5380	8920	2680	1970	5730
12	11000	30000	20100	8170	13200	20000	7620	5320	7620	2530	1840	3900
13	10000	23300	27400	7460	12500	17100	7630	5620	6820	2410	1840	3970
14	9130	19200	53400	6920	11800	15500	7620	5780	6530	2290	1810	3460
15	8370	16400	52100	6570	11500	19900	8210	5420	6150	2270	1820	2830
16	7760	14400	38600	6580	11600	25600	7940	5530	5930	2440	1840	2430
17	7350	13000	31200	6960	12400	21200	7160	5660	5570	2200	1880	2290
18	7480	12000	26700	6100	13000	18100	6800	5520	5290	1980	1850	2210
19	21200	11400	23800	5650	12900	17500	6490	5350	5570	1960	1920	2030
20	34600	11100	21300	5920	13700	23800	6320	5180	7770	1950	2040	1950
21	29900	10800	19200	5940	17900	34500	6230	5030	6100	1940	2390	1710
22	25500	10300	16500	7090	20200	31700	6170	4860	5120	1940	2320	1780
23	21400	9770	14600	7660	20600	26700	6110	4770	4520	2370	2290	1830
24	18200	9330	14300	7690	19500	22500	6060	4790	4220	2430	2460	1730
25	16000	9030	14500	8450	16900	19200	6090	4620	3700	2490	2460	1740
26	14100	10900	14900	9870	14800	17500	6110	4720	3770	3730	2400	1700
27	12600	22300	14700	12900	13500	16400	6080	5400	3620	4900	2160	1700
28	11500	33800	14000	13700	12400	16100	6270	6680	3660	4850	2060	1740
29	10800	25600	13400	14300	---	15400	6370	7980	3500	4000	1930	2340
30	10300	20500	13100	14900	---	14200	6650	7040	3400	3360	1820	2890
31	9520	---	12700	16500	---	14000	---	6110	---	2720	1810	---
TOTAL	393750	510080	859500	289490	418100	765200	241740	178020	287900	88480	65210	66630
MEAN	12700	17000	27730	9338	14930	24680	8058	5743	9597	2854	2104	2221
MAX	34600	64800	79900	16500	20900	59100	13600	7980	33900	4900	2540	5730
MIN	7050	6950	12700	5650	11500	12000	6060	4620	3400	1940	1810	1560
CFSM	1.32	1.76	2.87	.97	1.55	2.56	.83	.60	.99	.30	.22	.23
IN.	1.52	1.97	3.31	1.12	1.61	2.95	.93	.69	1.11	.34	.25	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1997, BY WATER YEAR (WY)

MEAN	5085	5635	8677	11480	14280	19750	16480	12330	8031	4549	4314	3793
MAX	37030	39000	32610	42160	42640	68360	43840	41970	40400	16000	23580	38300
(WY)	1943	1986	1973	1996	1897	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

POTOMAC RIVER BASIN

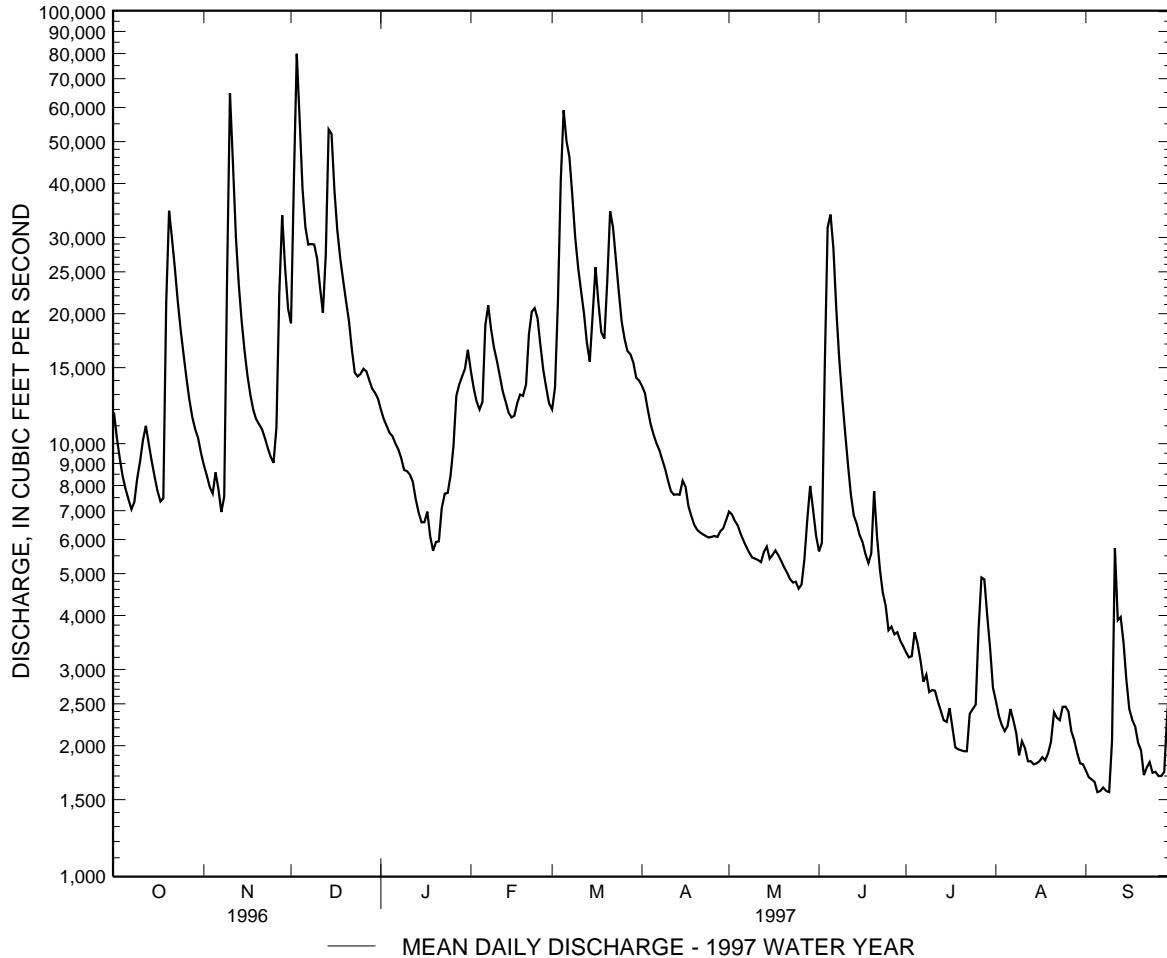
01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1895 - 1997
ANNUAL TOTAL	7920860	4164100	
ANNUAL MEAN	21640	11410	9520
HIGHEST ANNUAL MEAN			18750 1996
LOWEST ANNUAL MEAN			4366 1969
HIGHEST DAILY MEAN	288000	Sep 8	434000 Mar 19 1936
LOWEST DAILY MEAN	3930	Jul 18	540 Sep 10 1914
ANNUAL SEVEN-DAY MINIMUM	4410	Jul 12	593 Sep 6 1966
INSTANTANEOUS PEAK FLOW		1600 Sep 3	(b) 480000 Mar 19 1936
INSTANTANEOUS PEAK STAGE		85200 Dec 3	41.03 Mar 19 1936
INSTANTANEOUS LOW FLOW		15.65 Dec 3	
ANNUAL RUNOFF (CFSM)	2.24	1500 Sep 5	530 (c)
ANNUAL RUNOFF (INCHES)	30.53	1.18	.99
10 PERCENT EXCEEDS	38900	16.05	13.40
50 PERCENT EXCEEDS	14600	25400	20700
90 PERCENT EXCEEDS	7340	7850	5400
		2010	1680

a September 5, 9.

b From rating curve extended above 300,000 ft³/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.

c September 11, 12, 1966.



POTOMAC RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. Occasional regulation at low flow from unknown source upstream from station. 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 ft³/s. Stage exceeded that of June 1889, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0900	8,330	14.02	Dec. 13	1830	*8,930	*14.56
Nov. 9	0215	6,830	12.61	Mar. 14	1945	5,520	11.28
Dec. 2	0730	7,110	12.88				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	102	1370	140	161	141	285	58	32	11	4.2	5.2
2	96	96	4190	130	172	286	170	54	112	11	3.4	4.4
3	102	90	711	136	173	430	140	51	419	20	3.1	4.1
4	83	82	469	129	197	933	125	70	236	18	3.2	3.7
5	73	77	350	125	982	861	114	57	122	13	4.1	3.3
6	68	75	596	142	481	1020	106	46	89	10	5.2	3.0
7	65	74	1000	106	292	397	103	42	71	13	5.0	2.8
8	194	849	1060	90	254	283	92	40	67	14	4.5	2.6
9	675	3130	698	88	236	232	81	45	62	12	4.4	2.4
10	658	724	396	102	212	220	78	68	54	12	4.2	15
11	224	375	333	92	208	202	74	54	49	20	3.9	585
12	143	263	336	e80	168	162	77	43	44	15	3.2	147
13	115	211	5080	e68	151	139	174	39	42	11	3.5	64
14	102	184	2170	e65	147	2020	111	37	45	8.8	3.8	39
15	87	158	676	65	232	1210	87	37	41	7.2	3.8	26
16	79	162	500	83	408	401	76	34	36	6.4	4.6	18
17	75	156	446	100	313	291	73	31	33	5.5	7.8	14
18	127	155	400	70	304	262	71	31	4.8	8.0	12	
19	5610	166	504	54	513	556	70	32	36	4.4	4.7	9.6
20	977	147	427	52	380	552	63	41	44	3.8	6.8	8.6
21	753	132	246	63	241	326	58	32	25	2.9	71	7.1
22	474	122	227	62	214	257	59	28	26	2.6	44	6.6
23	358	100	206	112	166	198	59	24	22	3.9	19	6.1
24	316	93	252	140	137	166	58	23	18	22	11	5.9
25	237	92	403	711	121	145	61	27	15	66	8.2	5.6
26	193	1490	216	506	112	220	57	123	13	34	6.9	6.2
27	166	476	189	195	130	199	53	74	12	20	5.8	6.1
28	153	267	183	1050	121	145	88	44	12	14	4.7	6.3
29	176	219	198	487	---	140	99	33	12	11	5.8	25
30	139	170	200	237	---	152	69	31	11	8.4	6.8	57
31	120	---	162	172	---	574	---	32	---	6.0	5.9	---
TOTAL	12750	10437	24194	5652	7226	13120	2831	1381	1831	411.7	280.5	1101.6
MEAN	411	348	780	182	258	423	94.4	44.5	61.0	13.3	9.05	36.7
MAX	5610	3130	5080	1050	982	2020	285	123	419	66	71	585
MIN	65	74	162	52	112	139	53	23	11	2.6	3.1	2.4
CFSM	2.38	2.01	4.51	1.05	1.49	2.45	.55	.26	.35	.08	.05	.21
IN.	2.74	2.24	5.20	1.22	1.55	2.82	.61	.30	.39	.09	.06	.24

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

MEAN	96.5	183	276	298	377	455	298	210	136	83.5	60.4	84.9
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

POTOMAC RIVER BASIN

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

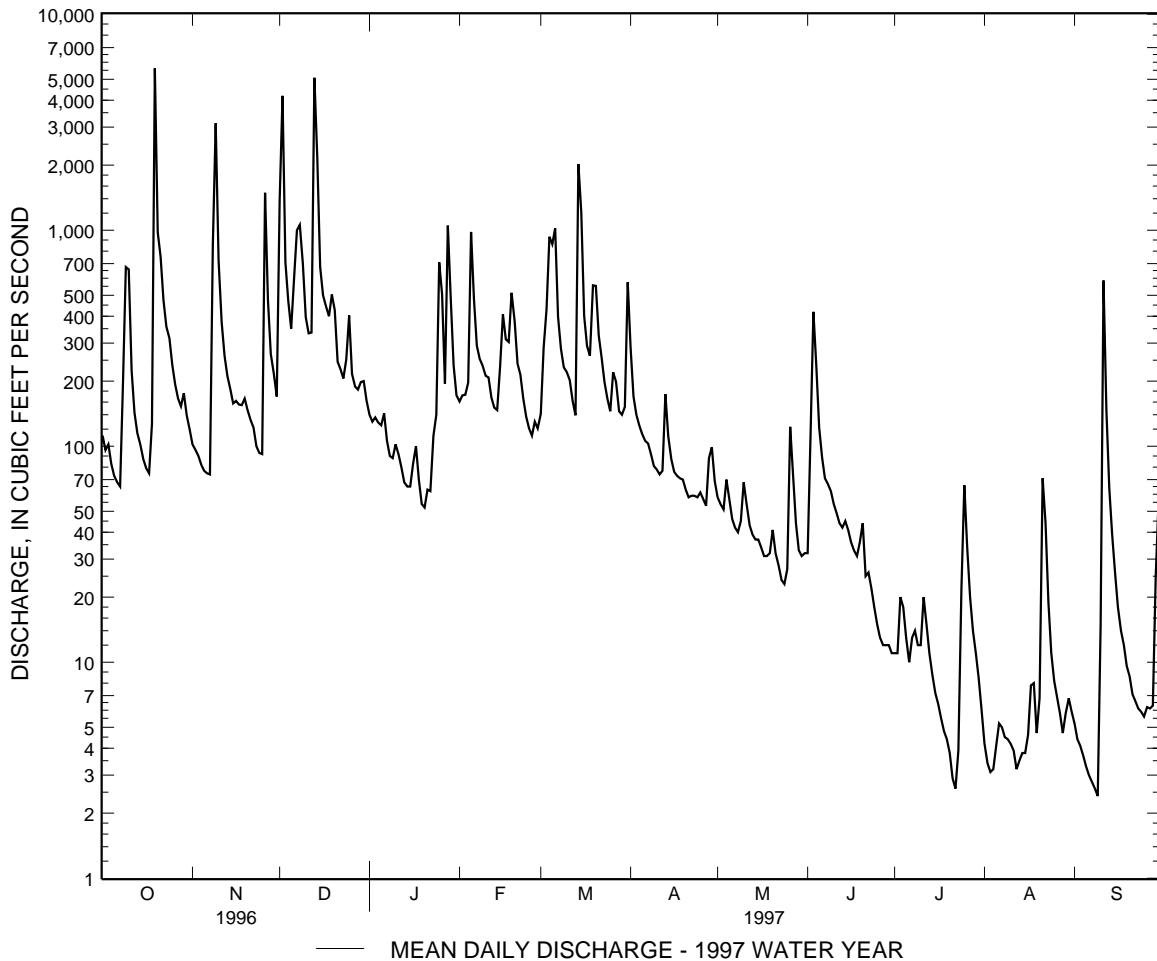
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1942 - 1997
ANNUAL TOTAL	191889	81215.8	
ANNUAL MEAN	524	223	212
HIGHEST ANNUAL MEAN			447
LOWEST ANNUAL MEAN			76.8
HIGHEST DAILY MEAN	13700	Jun 19	16700
LOWEST DAILY MEAN	28	Sep 4	.00
ANNUAL SEVEN-DAY MINIMUM	35	Aug 30	.04
INSTANTANEOUS PEAK FLOW		5610 Oct 19	(a)
INSTANTANEOUS PEAK STAGE		2.4 Sep 9	Jul 22 1966
INSTANTANEOUS LOW FLOW		3.1 Sep 3	Jun 19 1996
ANNUAL RUNOFF (CFSM)	3.03	8930 Dec 13	(b) 24400
ANNUAL RUNOFF (INCHES)	41.26	14.56 Dec 13	25.42
10 PERCENT EXCEEDS	1090	2.4 (c)	Jun 19 1996
50 PERCENT EXCEEDS	192	483	448
90 PERCENT EXCEEDS	75	87	65
		5.8	8.2

a July 25-28, 1966.

b From rating curve extended above 14,000 ft³/s on basis of slope-conveyance study.

c July 22, Sept. 8-10.

d July 24-29, 1966



POTOMAC RIVER BASIN

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 mi².

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 (ice effect, 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s (revised) and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0315	1,730	6.57	Dec. 2	0515	1,020	5.03
Nov. 8	2115	1,340	5.82	Dec. 13	1445	*1,980	*6.95
Nov. 26	0745	1,480	6.16				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	262	29	33	37	64	11	e5.0	e1.6	.24	e.36
2	20	26	454	28	31	41	49	10	e21	e2.2	.21	e.36
3	21	23	109	28	32	112	43	19	e26	e2.3	.17	e.29
4	16	21	78	26	36	140	38	30	e14	e1.6	.37	e.29
5	14	20	62	27	132	98	34	12	e8.0	e1.3	.54	e.20
6	13	19	116	26	60	95	31	10	e6.6	e1.2	.30	e.23
7	13	18	197	21	47	54	29	9.1	e6.0	e3.6	.17	e.17
8	85	336	164	18	45	47	24	8.3	e5.6	e4.0	.19	e.24
9	79	299	106	19	43	41	21	11	e5.2	1.6	.08	e.36
10	50	101	75	22	38	40	19	12	e4.8	1.2	.17	e.55
11	33	65	68	20	34	36	17	9.5	e4.6	1.4	.20	e4.7
12	26	51	63	e16	32	31	24	8.6	e4.4	.98	.20	e4.9
13	25	43	1080	e13	29	27	45	e8.3	e4.6	.83	.32	e.90
14	23	40	256	e11	31	272	24	e8.2	e5.0	.61	.34	e.55
15	20	34	120	e12	65	118	18	e7.7	e4.4	.55	.27	e.50
16	19	30	94	22	71	62	16	e7.2	e3.9	.48	.27	e.46
17	19	28	86	29	57	52	16	e6.6	e3.6	.31	.41	e.46
18	102	27	71	e13	61	50	15	e6.5	e3.8	.23	e1.5	e.36
19	877	27	117	e9.0	66	107	14	e7.0	e4.2	.30	e.70	e.42
20	166	25	69	e8.5	53	75	13	e7.3	e3.4	.22	e2.5	e.34
21	117	22	51	e11	45	55	12	e6.5	e3.0	.18	e7.0	e.34
22	96	20	44	23	42	47	13	e5.9	e2.9	.17	e1.5	e.28
23	73	18	45	45	34	39	12	e5.4	e2.9	.35	e.65	e.28
24	63	17	69	46	30	35	13	e5.2	e2.4	.63	e.44	e.28
25	50	16	71	135	26	32	13	e5.7	e2.2	1.8	e.44	e.32
26	44	603	42	49	25	68	11	e14	e2.0	1.7	e.40	e.34
27	40	93	41	31	31	42	11	e7.0	e2.3	1.0	e.36	e.38
28	41	59	41	126	25	35	27	e5.5	e1.9	.86	e.70	e.25
29	40	49	42	48	---	73	16	e4.9	e1.8	.66	e1.2	e.38
30	33	44	39	36	---	57	12	e5.3	e1.6	.48	e.65	e.55
31	30	---	33	32	---	162	---	e5.5	---	.32	e.32	---
TOTAL	2269	2200	4165	979.5	1254	2180	694	280.2	167.1	34.66	22.81	20.04
MEAN	73.2	73.3	134	31.6	44.8	70.3	23.1	9.04	5.57	1.12	.74	.67
MAX	877	603	1080	135	132	272	64	30	26	4.0	7.0	4.9
MIN	13	16	33	8.5	25	27	11	4.9	1.6	.17	.08	.17
CFSM	2.34	2.34	4.29	1.01	1.43	2.25	.74	.29	.18	.04	.02	.02
IN.	2.70	2.61	4.95	1.16	1.49	2.59	.82	.33	.20	.04	.03	.02

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

MEAN	25.2	46.8	76.8	76.1	44.6	109	55.3	23.3	17.2	23.6	11.6	15.8
MAX	73.2	73.3	134	200	93.0	237	183	59.1	62.0	101	43.5	77.3
(WY)	1997	1997	1997	1996	1994	1993	1993	1990	1996	1996	1996	1996
MIN	3.27	7.84	37.0	18.8	27.1	31.1	10.7	9.04	1.99	.57	.74	.67
(WY)	1992	1992	1996	1992	1991	1995	1995	1997	1991	1991	1997	1997

POTOMAC RIVER BASIN

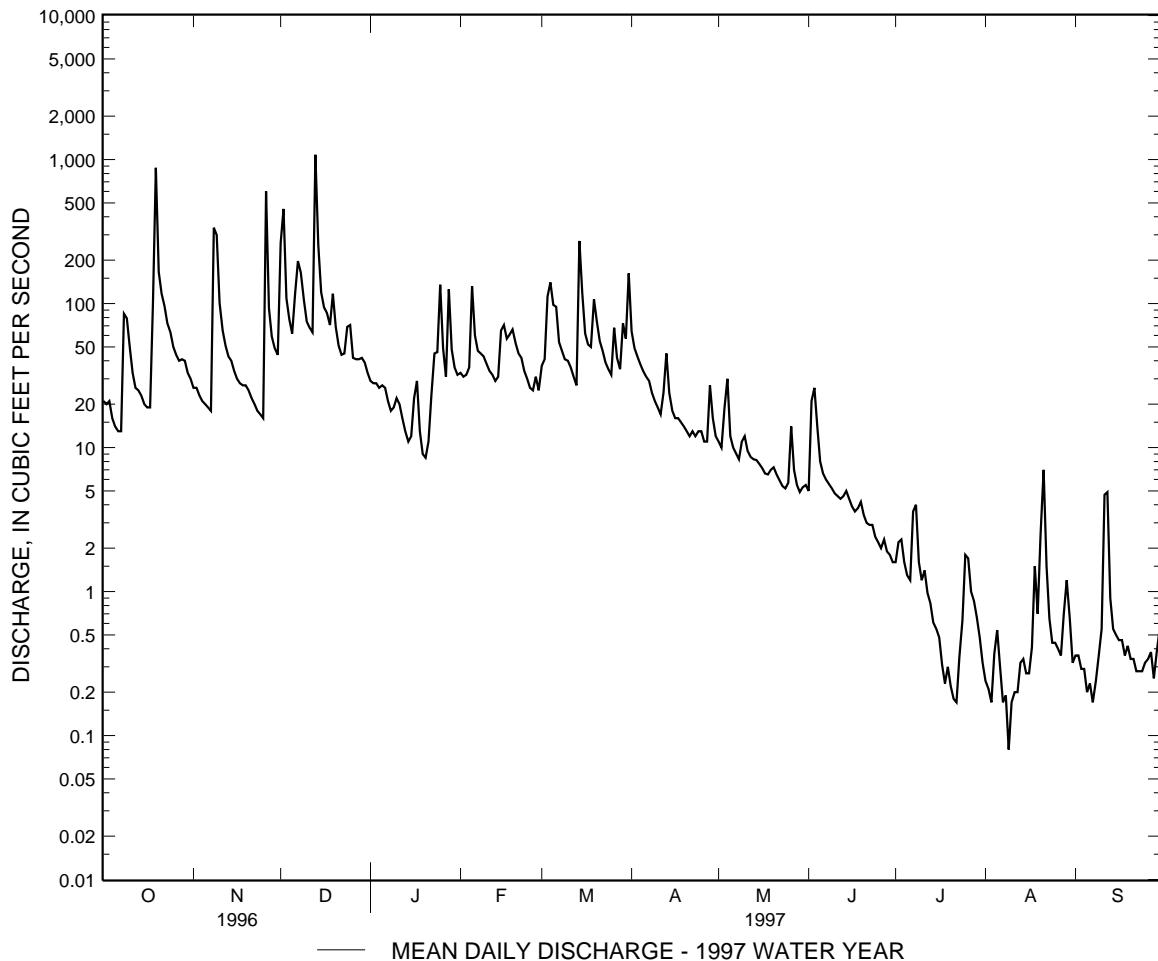
01639140 PINEY CREEK NEAR TANEYTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1990 - 1997
ANNUAL TOTAL	30530.8	14266.31	
ANNUAL MEAN	83.4	39.1	43.6
HIGHEST ANNUAL MEAN			68.5 1996
LOWEST ANNUAL MEAN			24.3 1992
HIGHEST DAILY MEAN	2770	Jan 19	2770 Jan 19 1996
LOWEST DAILY MEAN	8.6	Sep 3	.00 (a)
ANNUAL SEVEN-DAY MINIMUM	10	Aug 29	.19 Aug 6 .03 Aug 2 1991
INSTANTANEOUS PEAK FLOW			1980 Dec 13 7520 Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.95 Dec 13 (b) 11.41 Jan 19 1996
INSTANTANEOUS LOW FLOW			.06 Aug 9 .00 (c)
ANNUAL RUNOFF (CFSM)	2.67		1.25 1.39
ANNUAL RUNOFF (INCHES)	36.29		16.96 18.92
10 PERCENT EXCEEDS	177		78 86
50 PERCENT EXCEEDS	39		19 16
90 PERCENT EXCEEDS	17		.35 1.9

a Aug. 4, 5, Sept. 2, 3, 1991.

b From floodmark.

c Aug. 3-9, 17, Sept. 1-4, 1991.



POTOMAC RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (ice effect), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0330	3,120	8.03	Dec. 2	0500	2,170	6.25
Nov. 8	2130	2,700	7.28	Dec. 13	1500	*3,580	*8.81
Nov. 26	0730	2,770	7.40				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	125	651	179	147	159	256	93	58	33	17	19
2	103	122	1320	179	140	171	208	89	149	38	17	19
3	102	116	383	180	140	343	189	143	173	39	17	17
4	91	112	295	172	147	407	176	187	93	32	18	17
5	89	111	248	172	335	276	162	100	73	30	19	14
6	88	109	489	163	206	288	155	90	67	28	18	15
7	87	110	660	150	170	201	153	82	64	31	17	13
8	236	706	585	141	166	187	136	77	63	32	16	16
9	291	1050	360	148	161	170	130	93	60	27	15	19
10	157	342	289	155	147	171	124	94	57	32	14	21
11	125	240	270	148	140	157	123	80	56	28	14	51
12	112	201	250	e130	136	144	141	76	55	26	14	51
13	108	181	2140	e120	130	135	179	73	56	25	15	28
14	103	172	1220	e112	147	569	128	73	58	24	17	23
15	97	159	504	e117	221	377	119	71	54	23	16	22
16	95	149	402	e135	230	225	115	68	50	22	15	21
17	93	145	363	164	187	198	114	66	49	22	16	21
18	221	145	318	128	181	190	113	65	50	21	30	19
19	2010	144	411	e110	193	313	109	68	52	20	22	20
20	471	135	299	e100	175	252	104	67	48	19	36	18
21	329	129	241	e110	156	206	103	63	45	19	62	18
22	277	125	229	153	160	188	110	61	44	19	29	17
23	228	120	240	187	139	166	104	59	44	21	23	17
24	202	118	286	206	130	155	106	58	41	32	21	17
25	177	116	310	498	122	147	101	61	38	33	21	18
26	163	1150	223	178	122	249	96	97	37	28	20	18
27	154	276	221	142	139	178	94	66	39	26	19	19
28	156	199	214	423	123	154	135	60	36	24	22	16
29	152	180	215	192	---	234	108	57	35	22	27	21
30	140	168	206	151	---	218	96	59	33	20	22	23
31	132	---	191	147	---	531	---	60	---	18	18	---
TOTAL	6895	7155	14033	5290	4590	7359	3987	2456	1777	814	647	628
MEAN	222	239	453	171	164	237	133	79.2	59.2	26.3	20.9	20.9
MAX	2010	1150	2140	498	335	569	256	187	173	39	62	51
MIN	87	109	191	100	122	135	94	57	33	18	14	13
CFSM	2.18	2.34	4.44	1.67	1.61	2.33	1.30	.78	.58	.26	.20	.21
IN.	2.51	2.61	5.12	1.93	1.67	2.68	1.45	.90	.65	.30	.24	.23

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

	62.5	88.6	129	151	175	196	165	121	99.3	73.0	55.0	65.7
MEAN	222	239	453	171	164	237	133	79.2	59.2	26.3	20.9	20.9
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

POTOMAC RIVER BASIN

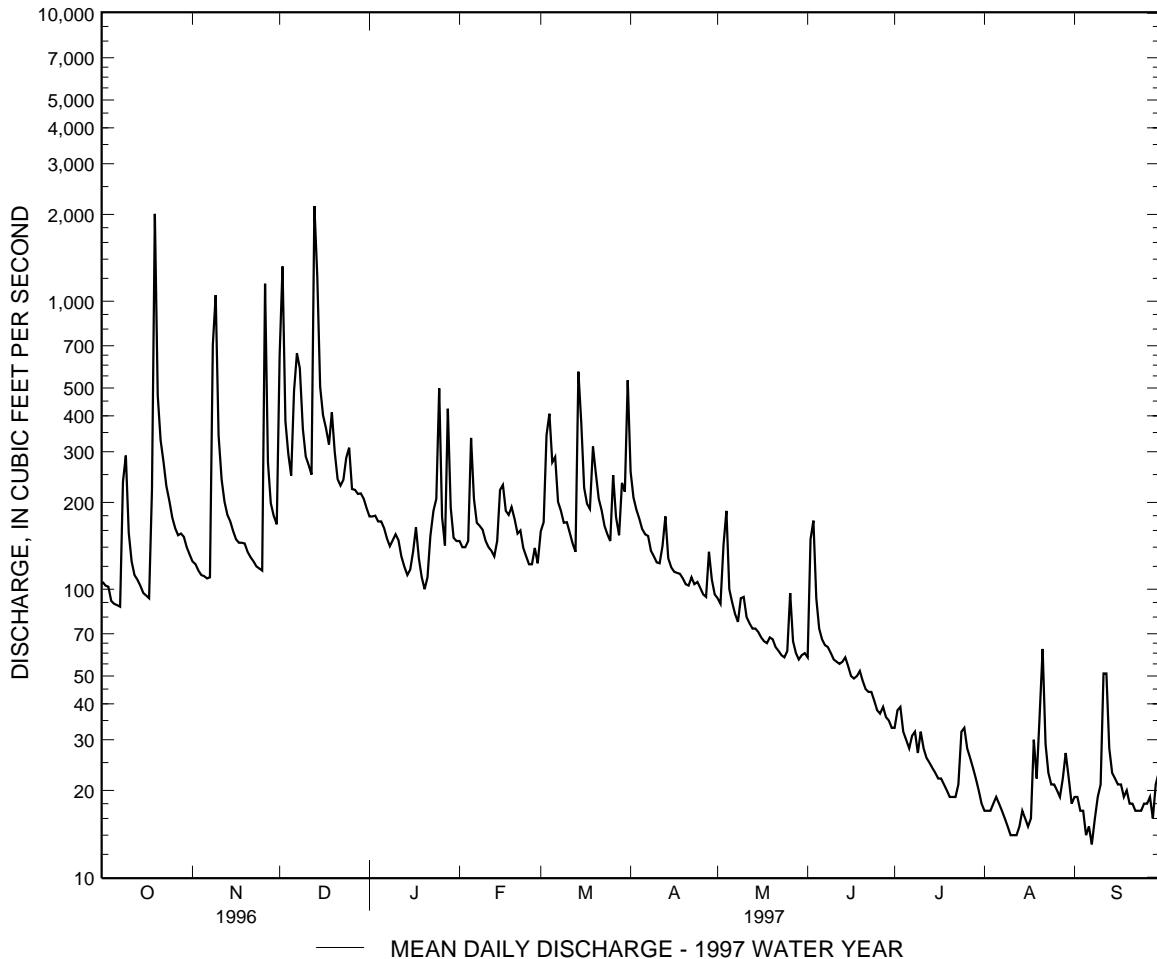
01639500 BIG PIPE CREEK AT BRUCEVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1948 - 1997
ANNUAL TOTAL	92685	55631	
ANNUAL MEAN	253	152	115
HIGHEST ANNUAL MEAN			227
LOWEST ANNUAL MEAN			50.8
HIGHEST DAILY MEAN	4960	Jan 19	14400
LOWEST DAILY MEAN	(e)65	Jan 8	1.0
ANNUAL SEVEN-DAY MINIMUM	73	Aug 29	1.4
INSTANTANEOUS PEAK FLOW		3580	(a)28000
INSTANTANEOUS PEAK STAGE		8.81	18.98
INSTANTANEOUS LOW FLOW		12	(b)
ANNUAL RUNOFF (CFSM)	2.48	1.49	1.13
ANNUAL RUNOFF (INCHES)	33.80	20.29	15.29
10 PERCENT EXCEEDS	494	287	215
50 PERCENT EXCEEDS	154	114	67
90 PERCENT EXCEEDS	92	19	24

e Estimated.

a From rating curve extended above 3,900 ft³/s on the basis of contracted-opening measurement at gage height of 17.86 ft.

b Sept. 5, 7.



POTOMAC RIVER BASIN

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 mi².

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 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2400	19,300	16.70	Dec. 2	2000	15,400	14.87
Nov. 9	1430	12,900	13.44	Dec. 14	0930	*22,600	*18.15
Nov. 26	2000	9,150	11.06	Mar. 15	0630	9,120	11.04

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	881	936	2820	1180	1070	959	2140	544	306	150	101	98
2	780	875	13100	1120	1040	1330	1420	535	433	165	98	94
3	757	817	5800	1120	1010	1770	1260	534	1000	175	96	92
4	683	756	2790	1100	1040	3910	1180	666	1110	169	97	87
5	607	719	2200	1070	2290	3000	1100	604	713	159	111	79
6	578	695	2640	1060	2300	3180	1030	503	542	143	111	77
7	560	681	3830	964	1490	2180	1010	460	449	131	102	74
8	872	1470	5160	878	1330	1660	920	435	397	142	97	75
9	2530	10200	3440	865	1300	1480	843	449	375	159	94	76
10	1940	3460	2460	918	1200	1370	788	489	350	152	90	104
11	1330	2170	2110	909	1110	1320	760	483	322	151	87	490
12	967	1680	1990	741	1070	1180	779	435	305	146	99	924
13	822	1440	8780	674	1000	1070	1060	408	302	135	93	332
14	747	1320	18500	710	1010	1980	944	400	310	124	91	199
15	676	1220	4630	690	1290	6280	755	397	308	118	88	153
16	619	1120	3280	825	1850	2150	693	375	279	111	88	130
17	594	1080	2830	808	1570	1650	669	358	256	108	89	119
18	721	1040	2560	593	1350	1520	661	349	246	102	104	131
19	12800	1040	2710	560	1600	2340	636	364	249	99	117	107
20	10100	998	2670	625	1550	2690	606	363	240	96	194	103
21	3470	906	1860	711	1310	1950	585	342	238	93	224	98
22	2650	847	1640	685	1210	1620	600	317	212	93	269	92
23	2200	794	1620	861	1110	1410	588	299	207	95	186	89
24	1890	734	1680	978	974	1260	582	288	190	108	135	89
25	1630	705	2170	2330	900	1160	578	287	181	138	115	91
26	1430	5120	1630	2170	869	1520	548	393	172	208	106	90
27	1300	3660	1430	1190	924	1570	526	514	179	168	103	87
28	1230	1640	1400	2040	875	1210	676	392	167	147	104	114
29	1230	1360	1390	2640	---	1150	730	326	158	136	99	174
30	1140	1240	1400	1270	---	1420	601	305	149	120	107	164
31	1040	---	1270	1130	---	2320	---	304	---	109	101	---
TOTAL	58774	50723	111790	33415	35642	59609	25268	12918	10345	4150	3596	4632
MEAN	1896	1691	3606	1078	1273	1923	842	417	345	134	116	154
MAX	12800	10200	18500	2640	2300	6280	2140	666	1110	208	269	924
MIN	560	681	1270	560	869	959	526	287	149	93	87	74
CFSM	2.32	2.07	4.41	1.32	1.56	2.35	1.03	.51	.42	.16	.14	.19
IN.	2.68	2.31	5.09	1.52	1.62	2.71	1.15	.59	.47	.19	.16	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

	521	731	1062	1213	1458	1818	1530	1016	724	466	416	490
MEAN	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

POTOMAC RIVER BASIN

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD--Continued

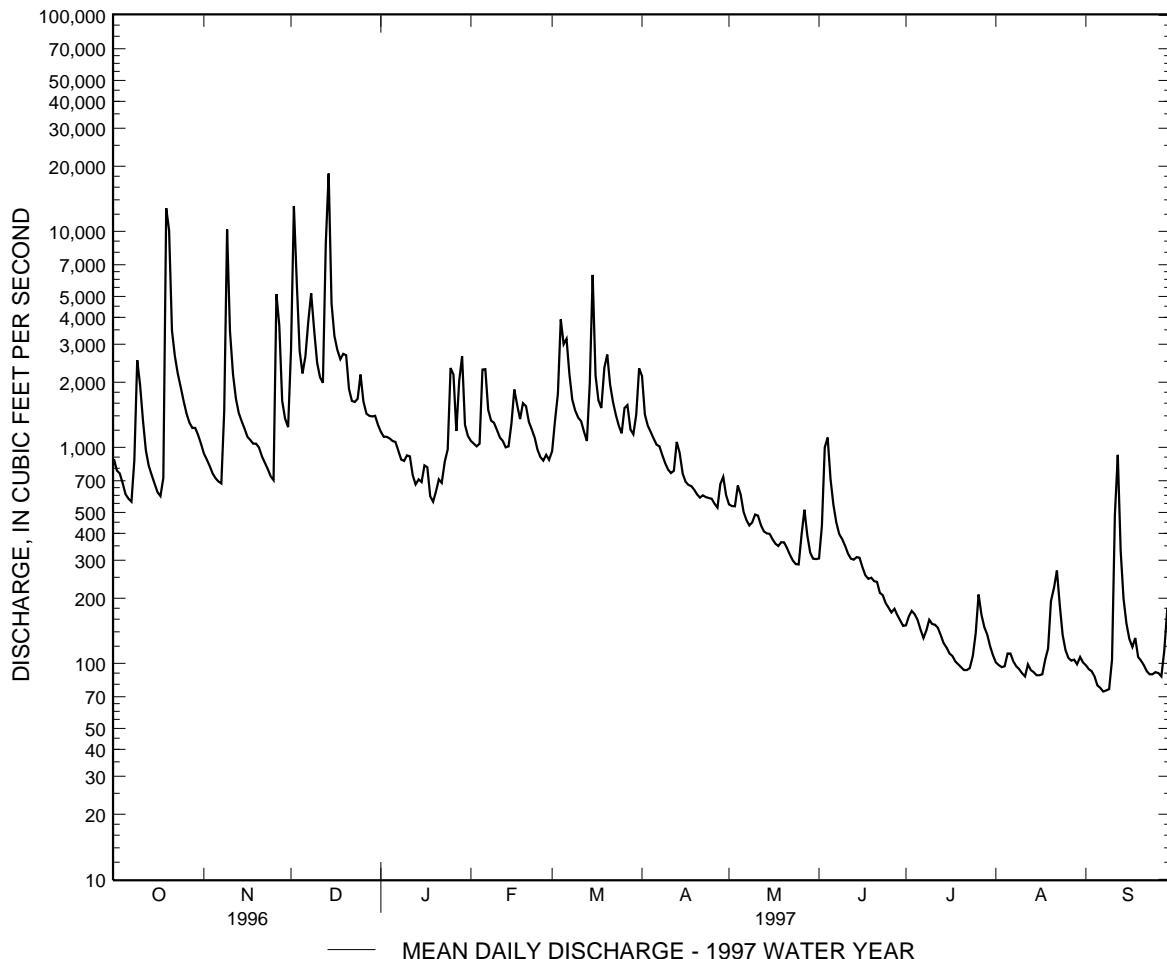
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1930 - 1997
ANNUAL TOTAL	817654	410862	
ANNUAL MEAN	2234	1126	
HIGHEST ANNUAL MEAN			951
LOWEST ANNUAL MEAN			1834 1972
HIGHEST DAILY MEAN	33200	Jan 20	345 1931
LOWEST DAILY MEAN	367	Sep 3	19 (a)
ANNUAL SEVEN-DAY MINIMUM	441	Aug 30	19 Sep 7 1966
INSTANTANEOUS PEAK FLOW			81600 Jun 23 1972
INSTANTANEOUS PEAK STAGE			(b) 35.90 Jun 23 1972
INSTANTANEOUS LOW FLOW			17 (d)
ANNUAL RUNOFF (CFSM)	2.73	1.38	1.16
ANNUAL RUNOFF (INCHES)	37.23	18.71	15.81
10 PERCENT EXCEEDS	4280	2290	2000
50 PERCENT EXCEEDS	1300	719	480
90 PERCENT EXCEEDS	691	101	124

a Sept. 7-13, 1966.

b From floodmark.

c Sept. 7, 8.

d Sept. 11 and 13, 1966.



POTOMAC RIVER BASIN

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 mi².

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), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0300	3,150	6.96	Dec. 13	1530	2,680	6.38
Nov. 8	2200	*3,230	*7.06	Mar. 3	1915	1,960	5.41
Dec. 2	0430	2,430	6.06				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	86	475	118	96	132	126	64	40	21	8.3	9.9
2	82	84	1020	113	90	114	109	59	81	25	8.4	9.4
3	77	79	272	114	87	632	102	62	61	23	8.8	9.7
4	68	77	203	112	84	353	98	59	49	19	9.4	8.9
5	66	76	171	108	132	210	93	56	44	18	18	7.6
6	65	75	378	106	106	187	92	54	41	17	16	7.5
7	65	76	444	99	95	147	90	54	40	16	11	7.5
8	239	1050	339	95	98	134	82	53	40	15	9.7	7.5
9	167	598	251	93	96	121	80	57	39	15	8.8	7.7
10	122	230	206	102	91	122	77	55	36	19	8.2	22
11	94	170	229	99	87	113	76	52	35	15	8.2	40
12	85	142	207	96	86	104	88	51	35	14	9.2	19
13	82	128	1410	e90	84	98	96	51	35	14	9.1	14
14	77	123	472	e80	101	153	77	51	36	14	9.8	11
15	73	113	309	e85	163	131	73	49	33	13	8.5	11
16	72	105	258	107	139	107	72	48	31	12	7.3	11
17	70	102	231	e90	118	99	71	46	31	11	11	10
18	223	100	205	e85	107	103	71	46	32	11	31	14
19	1330	99	259	e82	106	207	69	48	35	10	13	11
20	297	95	192	e80	100	168	66	46	30	8.9	62	9.4
21	207	92	175	e80	96	138	68	43	28	9.7	37	9.1
22	169	87	169	80	96	127	71	41	26	9.7	17	8.8
23	149	83	161	91	87	112	67	41	25	13	14	8.8
24	135	81	172	82	84	104	67	40	23	18	12	8.7
25	121	80	156	224	81	99	66	41	23	17	12	8.9
26	112	342	139	118	82	134	66	51	23	14	12	8.8
27	106	130	136	96	90	107	65	42	26	12	11	8.1
28	104	105	130	134	81	99	99	40	21	14	10	14
29	98	99	138	117	---	99	72	39	20	17	10	33
30	96	98	126	97	---	96	66	41	20	10	9.5	12
31	90	---	123	96	---	218	---	41	---	9.0	9.4	---
TOTAL	4816	4805	9156	3169	2763	4768	2415	1521	1039	454.3	429.6	368.3
MEAN	155	160	295	102	98.7	154	80.5	49.1	34.6	14.7	13.9	12.3
MAX	1330	1050	1410	224	163	632	126	64	81	25	62	40
MIN	65	75	123	80	81	96	65	39	20	8.9	7.3	7.5
CFSM	2.47	2.55	4.70	1.63	1.57	2.45	1.28	.78	.55	.23	.22	.20
IN.	2.85	2.85	5.42	1.88	1.64	2.82	1.43	.90	.62	.27	.25	.22

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

MEAN	40.4	50.7	81.6	90.2	99.2	116	106	86.0	68.4	43.6	35.9	39.9
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

POTOMAC RIVER BASIN

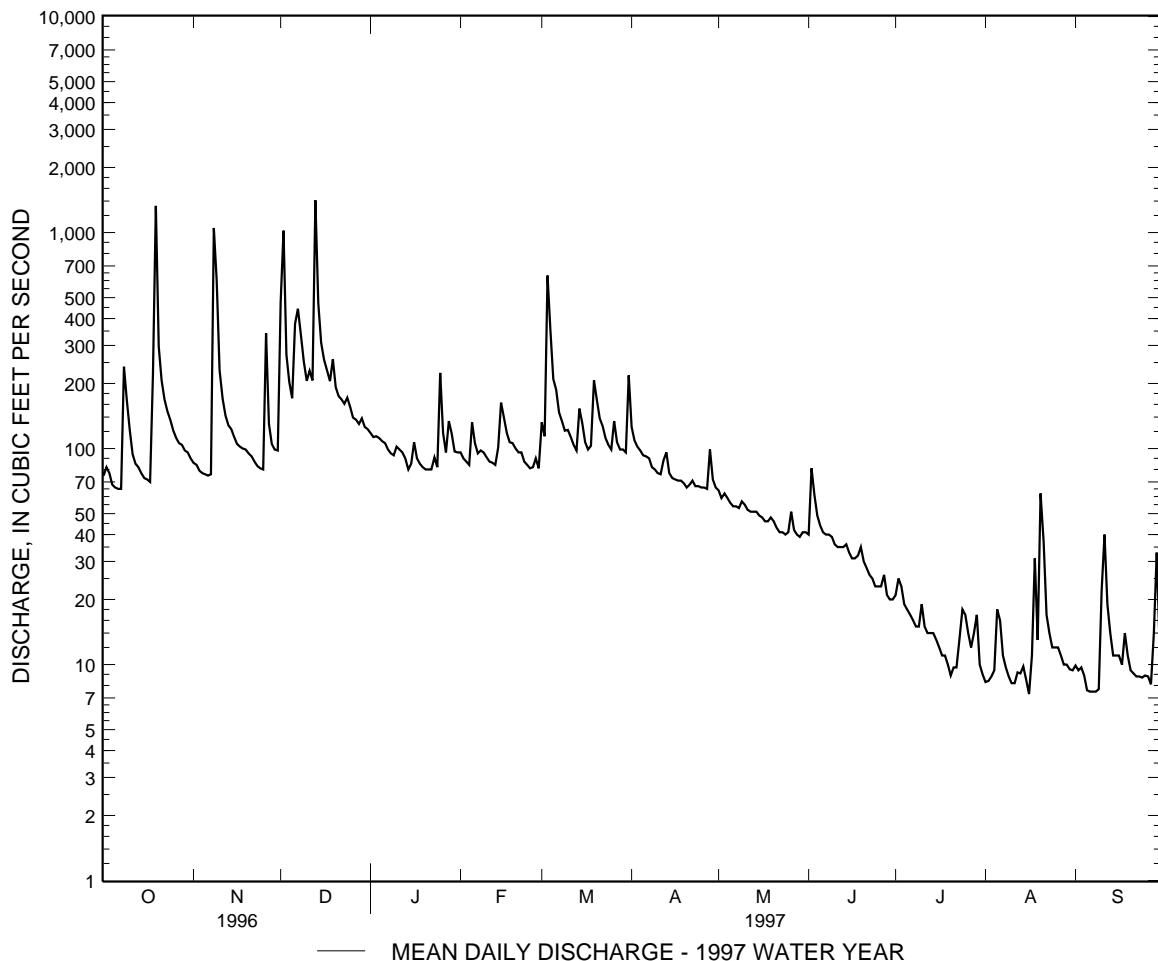
01643500 BENNETT CREEK AT PARK MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1948 - 1997
ANNUAL TOTAL	61057	35704.2	
ANNUAL MEAN	167	97.8	71.4
HIGHEST ANNUAL MEAN			141
LOWEST ANNUAL MEAN			32.0
HIGHEST DAILY MEAN	3500	Jan 19	5500
LOWEST DAILY MEAN	47	Sep 2	7.3
ANNUAL SEVEN-DAY MINIMUM	51	Aug 29	.40
INSTANTANEOUS PEAK FLOW		1410 Dec 13	.91
INSTANTANEOUS PEAK STAGE		3230 Nov 8	(a) 32200 Jun 21 1972
INSTANTANEOUS LOW FLOW		7.06 Nov 8	(b) 22.10 Jun 21 1972
ANNUAL RUNOFF (CFSM)	2.66	6.3 (c)	.30 Sep 8 1966
ANNUAL RUNOFF (INCHES)	36.17	1.56	1.14
10 PERCENT EXCEEDS	277	21.15	15.45
50 PERCENT EXCEEDS	98	173	133
90 PERCENT EXCEEDS	65	77	44
		10	14

a From rating curve extended above 2,700 ft³/s on basis of contracted-opening measurements at gage heights of 11.15, 14.33, and 22.1 ft.

b From floodmark.

c Aug. 16, 17.



POTOMAC RIVER BASIN

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 mi².

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 (ice effect), which are fair. Small diversion at times 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. National Weather Service gage-height telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1130	*3,880	*8.49	Dec. 7	2300	1,310	5.58
Nov. 9	0445	3,620	8.33	Dec. 13	1300	3,210	8.06
Dec. 2	0245	2,550	7.52	Mar. 3	1845	2,430	7.40
Dec. 6	0745	1,720	6.49				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	100	668	163	165	275	188	116	79	56	25	40
2	131	102	1720	163	157	229	166	120	161	58	24	35
3	117	102	445	163	153	986	162	129	160	59	25	27
4	97	104	292	160	157	950	157	151	103	52	28	25
5	94	105	242	160	255	391	154	117	89	48	36	23
6	92	106	1110	155	192	254	154	107	82	45	31	23
7	92	121	689	149	166	196	135	98	80	45	28	23
8	320	1070	586	145	177	182	125	94	79	45	25	23
9	332	1880	335	151	183	171	119	107	77	46	24	23
10	173	356	278	163	167	179	116	104	74	59	24	99
11	148	234	262	158	156	167	115	91	69	48	23	124
12	143	185	261	146	149	156	133	87	68	43	23	54
13	126	160	2090	139	144	144	180	83	73	42	23	38
14	117	189	1010	e125	191	198	150	84	74	41	24	32
15	100	148	410	e130	302	178	143	86	70	38	24	30
16	100	131	316	220	246	157	116	82	67	38	23	28
17	98	131	285	181	198	168	116	80	64	34	23	27
18	304	131	259	e140	178	176	117	79	67	34	35	38
19	2920	132	323	e135	174	340	110	80	89	33	28	31
20	613	124	257	e130	172	260	106	80	69	31	163	28
21	264	117	220	e125	181	210	111	77	64	31	106	25
22	203	116	209	136	175	194	139	75	64	32	47	24
23	184	112	208	156	168	177	141	75	63	33	35	24
24	171	111	220	191	166	157	131	75	58	37	30	24
25	130	110	231	623	149	142	117	85	51	38	29	25
26	135	645	194	230	146	255	111	208	244	35	28	25
27	128	235	189	178	156	203	115	127	182	33	27	25
28	131	163	181	283	146	179	219	99	78	32	28	30
29	137	142	184	212	--	177	137	80	63	33	28	80
30	130	137	179	174	--	166	119	85	57	28	25	42
31	116	--	168	169	--	287	--	82	--	25	24	--
TOTAL	7944	7499	14021	5553	4969	7904	4102	3043	2618	1252	1066	1095
MEAN	256	250	452	179	177	255	137	98.2	87.3	40.4	34.4	36.5
MAX	2920	1880	2090	623	302	986	219	208	244	59	163	124
MIN	92	100	168	125	144	142	106	75	51	25	23	23
CFSM	2.54	2.47	4.48	1.77	1.76	2.52	1.35	.97	.86	.40	.34	.36
IN.	2.93	2.76	5.16	2.05	1.83	2.91	1.51	1.12	.96	.46	.39	.40

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	69.0	85.2	112	130	147	160	148	127	105	76.7	67.9	76.7
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

POTOMAC RIVER BASIN

01645000 SENECA CREEK AT DAWSONVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1930 - 1997
ANNUAL TOTAL	98549	61066	
ANNUAL MEAN	269	167	108
HIGHEST ANNUAL MEAN			251
LOWEST ANNUAL MEAN			32.8
HIGHEST DAILY MEAN	5310	Jan 19	1972
LOWEST DAILY MEAN	76	Sep 3	1931
ANNUAL SEVEN-DAY MINIMUM	86	Jul 6	9900 Jun 22
INSTANTANEOUS PEAK FLOW		2920 Oct 19	(c) 26100 Jun 22 1972
INSTANTANEOUS PEAK STAGE		8.49 Oct 19	(d) 16.40 Jun 22 1972
INSTANTANEOUS LOW FLOW		22 (f)	1.7 (g)
ANNUAL RUNOFF (CFSM)	2.67	1.66	1.07
ANNUAL RUNOFF (INCHES)	36.30	22.49	14.59
10 PERCENT EXCEEDS	405	260	189
50 PERCENT EXCEEDS	149	125	69
90 PERCENT EXCEEDS	92	28	26

a Aug. 11-13, 16, 17, Sept. 5-9.

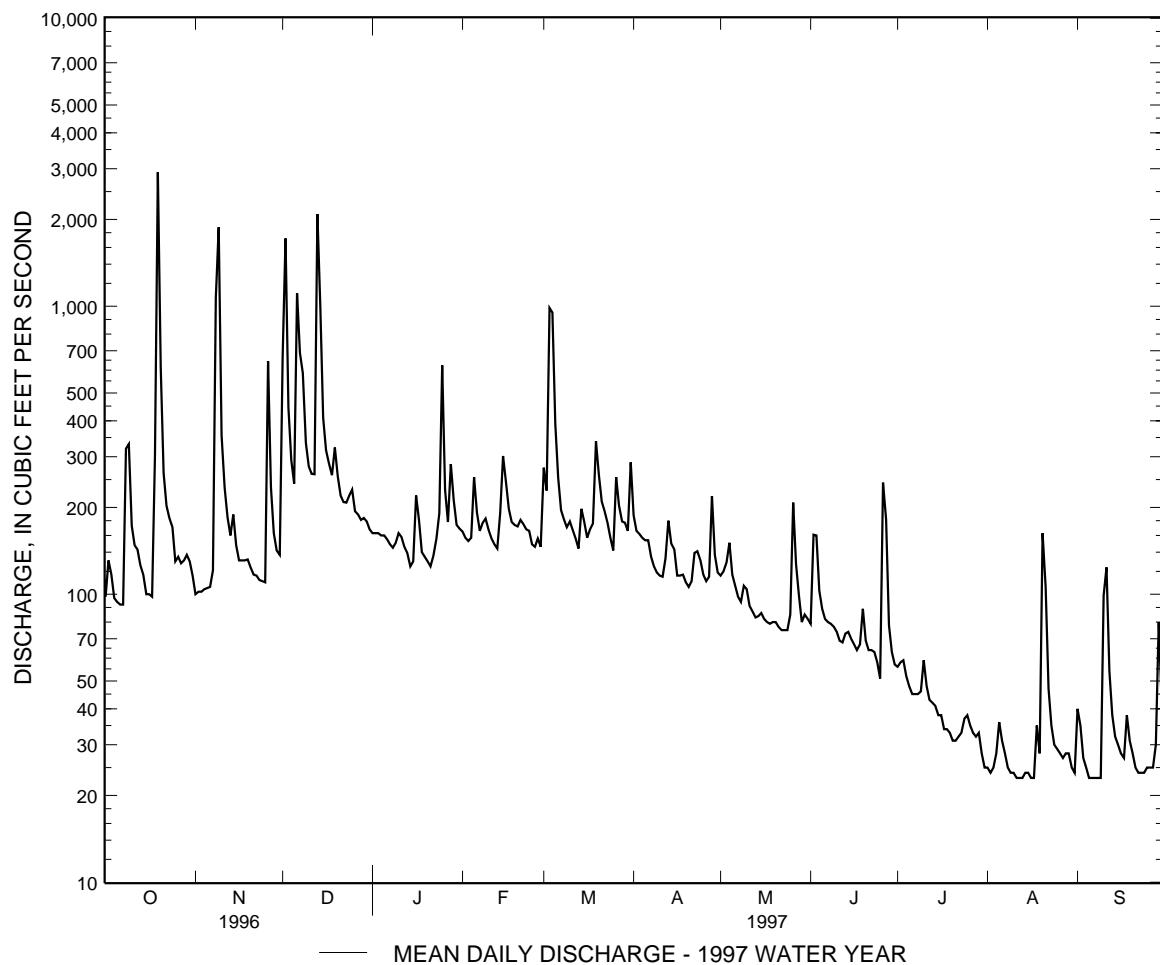
b Sept. 29, 1930, Sept. 12, 1966.

c From rating curve extended above 3,000 ft³/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.

d From high-water mark in gage house.

e Aug. 16, 17, Sept. 5-9.

f Sept. 28, 29, 1930.



POTOMAC RIVER BASIN

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 mile 117.4.

DRAINAGE AREA.--11,560 mi².

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 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1445	61,400	7.26	Dec. 15	0045	91,100	8.52
Nov. 10	1800	84,200	8.25	Mar. 5	1645	75,400	7.89
Dec. 3	1500	*105,000	*9.02				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14100	11800	25300	15500	18600	16600	19300	8970	6540	3360	2310	1560
2	13600	11100	51000	14700	16700	17800	17300	8910	7060	3350	2020	1600
3	12000	10500	95800	14200	15400	24400	16000	8560	9390	3320	1820	1650
4	10700	10000	79400	13700	14700	52900	14700	8400	28000	3160	1650	1500
5	9780	9970	52400	13300	15400	69500	13700	8080	37600	3540	1780	1400
6	9160	10800	45400	12900	19500	65600	13100	7580	35000	3370	1760	1320
7	8680	9540	40100	12300	25400	58000	12600	7090	25900	2940	1890	1290
8	9630	12400	42600	11700	23300	49200	12000	6750	19500	2590	1840	1240
9	13300	31700	39200	11200	21000	39200	11400	6730	15500	2640	1610	1240
10	13400	72300	35900	11100	19400	32600	10900	6630	12900	2450	1300	1780
11	13100	62400	31500	11100	17900	28300	10400	6420	10800	2440	1350	2470
12	13200	40100	27800	10600	16600	25600	10200	6250	9200	2390	1340	6430
13	13200	29500	42000	9770	15700	22300	10600	6070	8140	2240	1340	4990
14	11900	24100	76100	8820	15200	20100	10600	6430	7530	2030	1380	4350
15	10900	20800	77600	8420	16700	24800	10500	6410	7140	1840	1350	3570
16	10200	18400	53800	8800	16700	32800	10900	6010	6590	1760	1360	2900
17	9470	16700	42200	9180	16500	28800	10200	6050	6320	1890	1400	2400
18	10000	15400	35700	7900	16600	24200	9470	6150	6380	1640	2150	2470
19	35500	14500	32300	5810	16500	24200	8920	6000	6810	1530	1760	2280
20	55900	14000	29500	6820	16800	27700	8550	5670	7080	1320	2730	1890
21	42500	13400	25700	8020	18500	39000	8320	5360	7980	1420	2960	1760
22	34500	12900	22400	8460	23200	40900	8410	5250	6250	1390	2630	1470
23	28800	12300	19600	9700	23600	34500	8330	5020	5280	1550	2360	1510
24	24100	11700	18500	10300	23800	29100	8210	4870	4630	1910	2330	1560
25	21000	11200	18700	14700	21300	24700	8170	5590	4240	2110	2260	1480
26	18600	14700	19100	13800	18700	22500	8250	7910	3700	2120	2280	1450
27	16400	24700	18700	14900	17000	21700	8180	5700	4510	3390	2200	1440
28	14900	38600	17900	16600	15700	20200	9720	6400	3860	4500	1920	1500
29	13800	34200	17200	19100	---	19600	9280	7630	3710	4530	1900	1930
30	13200	26500	16800	18400	---	18400	8910	8630	3470	3570	1640	2360
31	12700	---	16200	18600	---	19100	---	7500	---	2870	1550	---
TOTAL	538220	646210	1166400	370400	516400	974300	327120	209020	321010	79160	58170	64790
MEAN	17360	21540	37630	11950	18440	31430	10900	6743	10700	2554	1876	2160
MAX	55900	72300	95800	19100	25400	69500	19300	8970	37600	4530	2960	6430
MIN	8680	9540	16200	5810	14700	16600	8170	4870	3470	1320	1300	1240
(†)	597	557	544	562	550	551	568	615	608	754	718	589
MEAN#	17957	22097	38174	12512	18990	31981	11468	7358	11308	3308	2594	2749
CFSM#	1.55	1.91	3.30	1.08	1.64	2.77	0.99	0.64	0.98	0.29	0.22	0.24
IN#	1.79	2.13	3.81	1.25	1.71	3.19	1.11	0.73	1.09	0.33	0.26	0.27

† 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.

POTOMAC RIVER BASIN

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
LOWEST ANNUAL MEAN	4525
HIGHEST DAILY MEAN	426000
LOWEST DAILY MEAN	448
ANNUAL SEVEN-DAY MINIMUM	499
INSTANTANEOUS PEAK FLOW	484000
INSTANTANEOUS PEAK STAGE	(a) 28.10
INSTANTANEOUS LOW FLOW	430
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 - 1997, BY WATER YEAR (WY)

MEAN	6227	7767	11870	14010	17080	25190	20790	15360	9523	4852	4188	4842
MAX	36790	42030	37630	52890	39460	67370	57850	40410	46630	17160	21720	44620
(WY)	1977	1986	1997	1996	1984	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1959 - 1997

ANNUAL TOTAL	10175720	5271200
ANNUAL MEAN	27800	14440
ANNUAL MEAN#	28410	15040
HIGHEST ANNUAL MEAN		11780
HIGHEST ANNUAL MEAN#		11851
LOWEST ANNUAL MEAN		23760
LOWEST ANNUAL MEAN#		1996
HIGHEST DAILY MEAN	326000	Jan 21
LOWEST DAILY MEAN	5500	Jul 18
LOWEST DAILY MEAN#	6210	Jul 18
ANNUAL SEVEN-DAY MINIMUM	7180	Jul 6
INSTANTANEOUS PEAK FLOW		105000
INSTANTANEOUS PEAK STAGE		9.02
INSTANTANEOUS LOW FLOW		1090
ANNUAL RUNOFF (CFSM)	2.41	Dec 3
ANNUAL RUNOFF (CFSM)#	2.46	1.25
ANNUAL RUNOFF (INCHES)	32.75	1.30
ANNUAL RUNOFF (INCHES)#	33.46	16.96
10 PERCENT EXCEEDS	50800	32700
50 PERCENT EXCEEDS	19200	10400
90 PERCENT EXCEEDS	9600	1760

a At previous site, 1 mi upstream at same datum.

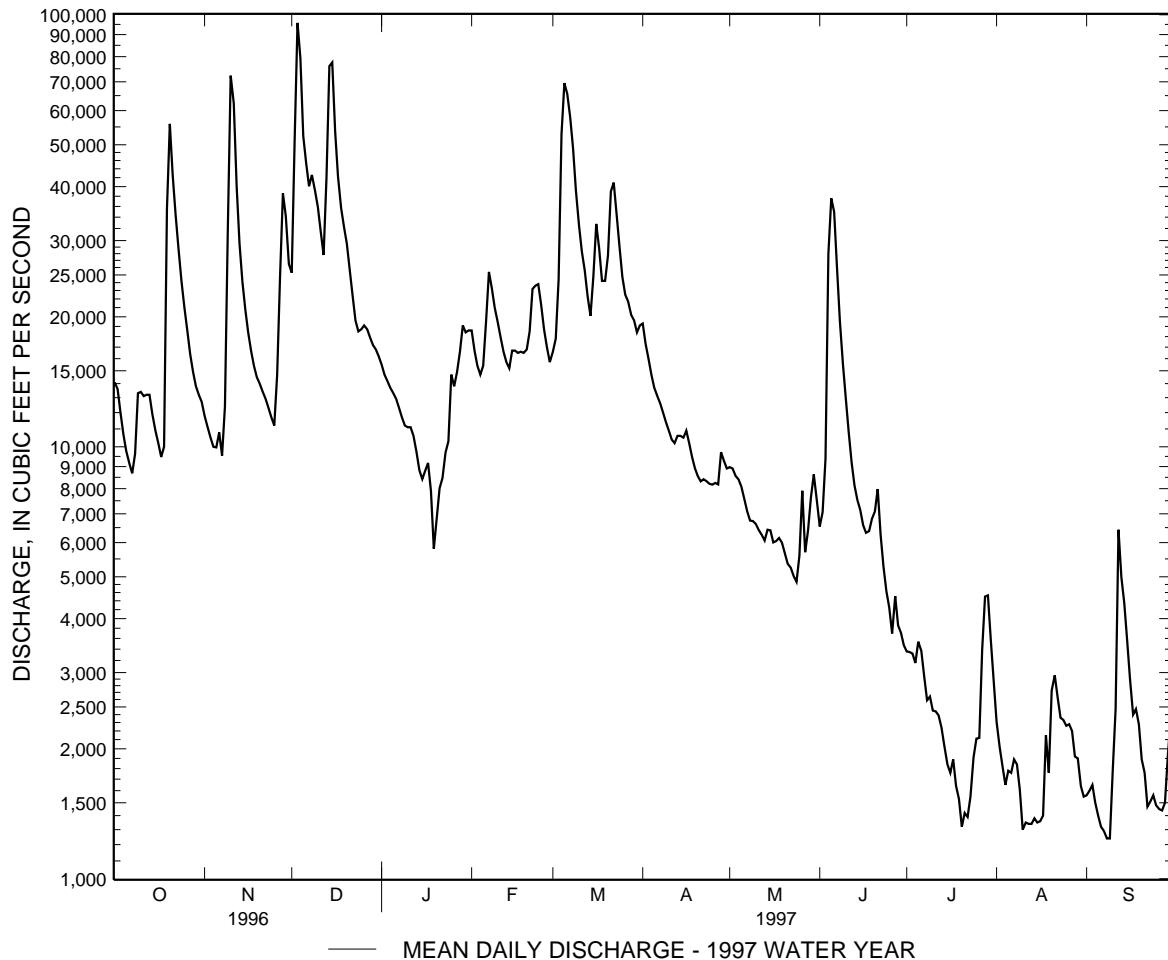
Adjusted for diversion.

b Sept. 8, 9.

c Minimum daily discharge observed at gaging station, does not include diversion of 489 ft³/s.d Includes diversion of 449 ft³/s for municipal use.

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued



POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

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 PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 711 microsiemens, Feb. 14; minimum, 112 microsiemens, Nov. 8.

WATER TEMPERATURE: Maximum, 32.5°C, July 17; minimum, 0.0°C, Jan. 22, 23.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	324	308	317	301	295	297	223	175	207	302	300	301
2	323	283	313	307	301	302	204	169	191	301	297	300
3	323	317	321	312	307	309	207	174	192	299	297	298
4	324	316	322	314	307	311	183	171	177	299	298	299
5	329	321	325	315	308	312	194	183	188	303	299	301
6	332	324	328	322	313	316	195	155	181	306	302	303
7	333	328	330	323	315	319	212	195	203	308	305	306
8	335	222	306	322	112	275	217	207	210	310	307	308
9	305	252	294	248	151	231	231	217	223	436	310	323
10	304	291	298	280	216	257	237	231	235	544	415	464
11	323	304	312	216	190	201	244	235	240	544	451	480
12	329	322	324	215	205	209	245	241	243	484	434	455
13	337	328	332	225	214	218	255	149	212	450	422	437
14	355	337	345	231	225	229	214	176	193	449	396	417
15	384	354	371	236	230	233	212	189	199	396	363	378
16	357	325	345	246	236	240	209	204	206	593	360	473
17	326	314	321	256	246	251	217	209	214	485	389	416
18	317	199	310	263	256	260	224	217	221	415	380	393
19	243	142	211	271	263	268	230	224	227	415	391	399
20	249	194	224	279	271	275	240	230	234	---	---	---
21	252	218	237	286	279	283	253	240	247	---	---	---
22	231	221	225	293	286	290	259	252	256	369	363	365
23	243	231	238	298	293	295	269	259	263	380	359	366
24	251	242	246	300	298	298	280	268	273	383	361	364
25	257	251	255	305	300	302	286	279	282	383	250	312
26	263	257	260	308	197	273	294	286	292	326	322	324
27	272	263	268	273	231	257	299	288	295	337	324	328
28	278	272	276	302	234	278	297	294	296	351	337	344
29	284	278	281	262	217	226	295	293	294	341	310	330
30	289	283	286	221	217	219	298	291	295	315	291	297
31	296	289	292	---	---	---	301	298	300	295	290	292
MONTH	384	142	294	323	112	268	301	149	235	---	---	---

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

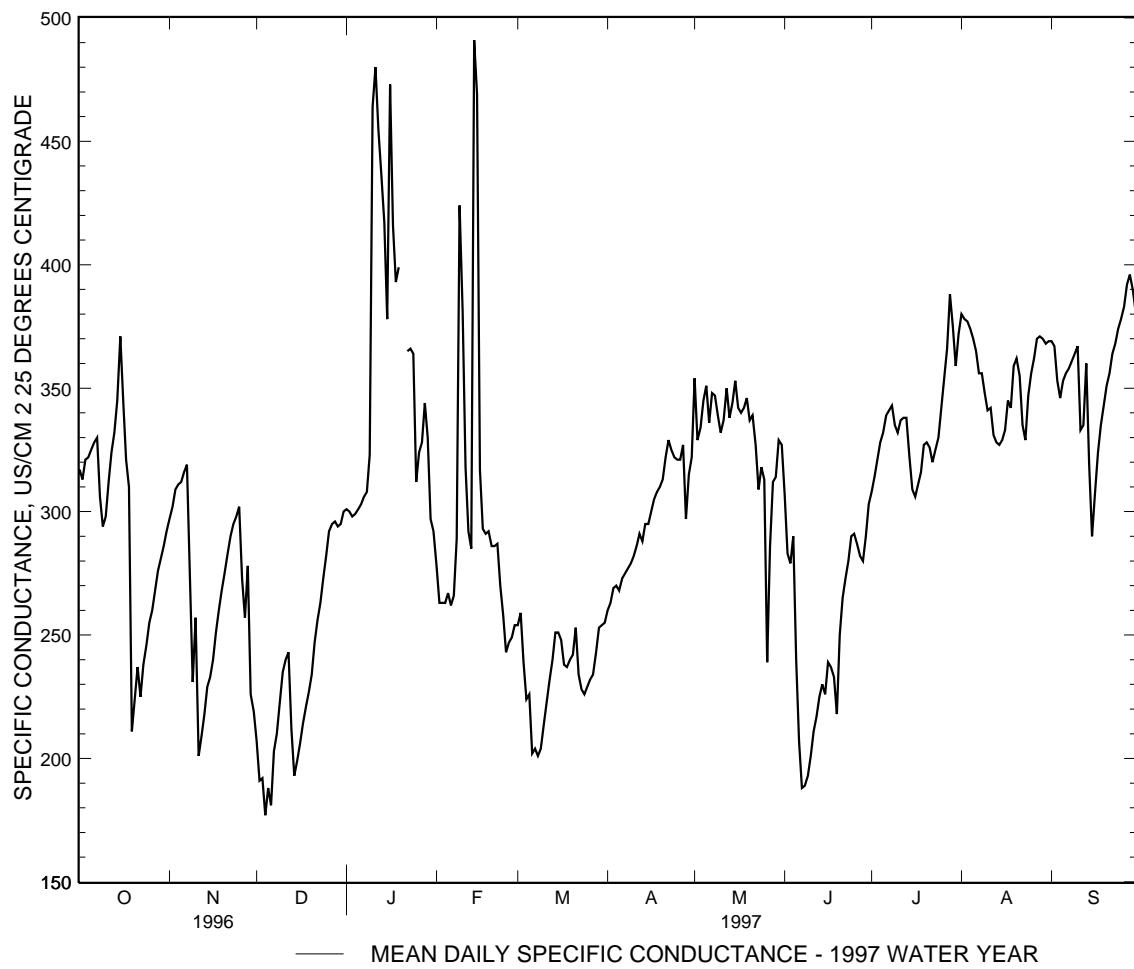
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	290	267	278	275	239	254	263	255	260	379	328	354
2	267	260	263	263	254	259	264	260	263	337	324	329
3	266	260	263	284	178	239	273	264	269	340	331	334
4	272	260	263	233	218	224	273	266	270	350	340	345
5	273	261	267	252	207	226	272	264	268	354	345	351
6	263	261	262	207	201	202	278	268	273	347	332	336
7	269	261	266	206	201	204	279	273	275	355	333	348
8	390	260	289	205	198	201	281	275	277	356	341	347
9	475	390	424	210	201	204	286	274	279	347	333	339
10	451	343	381	218	210	214	290	277	282	339	330	332
11	343	299	318	227	218	223	291	280	286	348	333	337
12	299	287	292	236	227	232	296	286	291	355	340	350
13	289	283	285	243	236	240	293	283	288	341	335	338
14	711	287	491	258	243	251	299	290	295	358	337	344
15	618	344	469	253	249	251	300	290	295	358	351	353
16	344	301	317	254	241	248	306	296	300	357	336	342
17	301	290	293	255	225	238	309	301	305	345	337	340
18	294	289	291	242	231	237	312	305	308	346	336	342
19	294	290	292	247	238	240	312	307	310	354	335	346
20	291	285	286	246	241	242	316	310	313	345	332	337
21	288	281	286	257	246	253	329	316	322	345	332	339
22	300	280	287	247	231	234	336	325	329	338	310	327
23	287	259	270	233	223	228	326	323	325	321	298	309
24	263	247	258	228	223	226	325	318	322	325	310	318
25	248	239	243	230	227	229	324	318	321	325	270	313
26	252	242	247	241	229	232	323	318	321	270	205	239
27	255	247	249	237	232	234	332	323	327	304	249	286
28	257	250	254	249	237	243	332	280	297	326	303	312
29	---	---	---	255	249	253	318	307	315	326	309	314
30	---	---	---	256	251	254	334	318	322	336	323	329
31	---	---	---	267	250	255	---	---	---	336	316	327
MONTH	711	239	299	284	178	235	336	255	297	379	205	331
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	318	300	307	312	303	308	383	376	380	371	368	369
2	300	275	283	320	312	314	380	376	378	370	361	367
3	289	267	279	323	320	321	380	374	377	364	347	353
4	310	256	290	330	322	328	380	372	374	353	340	346
5	256	218	240	337	330	332	373	367	370	356	351	353
6	229	186	207	341	333	339	369	359	365	358	354	356
7	189	186	188	345	336	341	362	348	356	360	355	358
8	192	187	189	346	340	343	362	344	356	364	358	361
9	198	188	193	340	330	335	355	343	348	367	361	364
10	206	198	201	337	330	332	358	336	341	369	364	367
11	217	203	211	340	331	337	351	335	342	364	301	333
12	225	211	217	340	336	338	351	324	331	361	302	335
13	233	220	225	341	336	338	337	320	328	373	332	360
14	236	209	230	336	316	323	333	320	327	332	305	319
15	238	203	226	319	303	309	333	326	329	305	281	290
16	242	233	239	308	303	306	342	327	333	317	293	307
17	244	231	237	316	307	311	351	339	345	330	317	324
18	238	188	233	327	311	316	356	331	342	341	328	335
19	240	189	218	331	320	327	364	356	359	347	339	343
20	261	240	250	341	320	328	367	353	362	354	347	351
21	272	258	265	342	321	326	358	353	355	359	352	356
22	278	265	273	325	316	320	361	320	335	368	359	364
23	290	273	280	329	321	325	341	322	329	370	365	368
24	295	283	290	333	327	330	354	339	347	378	368	374
25	299	284	291	361	333	342	362	351	356	382	373	378
26	294	277	287	364	348	354	368	357	362	389	377	383
27	287	274	282	378	358	366	379	362	370	400	385	392
28	288	272	280	391	378	388	379	368	371	400	393	396
29	300	278	290	389	357	375	372	369	370	397	377	390
30	307	297	303	361	357	359	369	365	368	383	376	381
31	---	---	---	379	361	372	371	367	369	---	---	---
MONTH	318	186	250	391	303	335	383	320	354	400	281	356

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.5	17.7	18.1	14.2	13.1	13.8	7.4	4.7	5.8	6.2	5.2	5.6
2	18.7	17.8	18.3	13.1	11.3	12.4	8.2	6.6	7.2	5.6	5.0	5.3
3	19.1	17.5	18.4	11.3	10.0	10.8	7.3	6.3	6.7	6.2	5.5	5.7
4	17.5	16.0	17.0	10.7	9.5	10.0	7.1	6.9	7.0	7.7	6.2	7.0
5	16.7	15.4	16.0	10.9	9.5	10.1	6.9	6.3	6.5	9.0	7.7	8.4
6	16.5	15.0	15.6	10.8	10.1	10.5	6.3	5.5	5.7	8.9	8.1	8.6
7	16.2	14.9	15.4	12.3	10.6	11.4	5.7	5.3	5.5	8.2	6.2	7.4
8	15.9	14.6	15.3	16.0	12.0	13.5	5.3	4.9	5.1	6.2	4.6	5.3
9	15.6	14.6	15.1	14.1	12.6	13.1	5.1	4.7	4.9	4.7	3.6	4.2
10	15.5	14.7	15.1	12.6	11.2	11.7	5.0	4.5	4.7	4.4	3.5	3.8
11	14.8	14.1	14.4	11.2	9.7	10.5	5.1	4.7	4.8	4.0	2.4	3.3
12	14.4	13.5	13.9	9.7	8.2	8.9	5.6	4.9	5.1	2.6	1.3	2.1
13	14.6	13.7	14.1	8.2	7.1	7.5	7.7	5.6	6.5	1.4	.3	.9
14	15.5	14.2	14.7	7.1	6.2	6.6	6.9	6.5	6.7	1.2	.3	.5
15	15.5	14.3	14.8	6.2	5.3	5.6	6.8	6.4	6.5	1.4	.3	.6
16	16.1	14.4	15.1	5.7	4.9	5.2	6.7	6.5	6.6	2.2	.6	1.3
17	16.9	15.1	15.9	5.2	4.5	4.9	6.7	6.5	6.6	1.2	.3	.5
18	17.0	15.5	16.3	5.6	5.0	5.2	7.0	6.7	6.8	.3	.3	.3
19	15.5	13.0	13.7	6.5	5.6	6.0	6.7	5.5	6.3	.3	.3	.3
20	13.0	12.4	12.7	6.7	6.1	6.3	5.5	4.2	4.6	.3	.3	.3
21	12.6	12.2	12.4	6.4	5.7	5.9	4.2	3.4	3.7	.3	.3	.3
22	12.4	12.0	12.2	5.7	5.3	5.5	3.6	2.9	3.2	.2	.2	.3
23	12.9	12.2	12.5	5.8	5.1	5.3	3.5	3.1	3.2	.2	.2	.4
24	13.3	12.3	12.7	5.9	5.3	5.6	4.6	3.3	3.8	.5	.6	.8
25	13.3	12.7	13.0	6.4	5.6	6.0	4.6	3.5	3.9	2.6	1.5	2.1
26	13.5	12.9	13.2	9.0	6.2	7.4	3.6	3.0	3.2	2.2	1.1	1.5
27	14.5	13.3	13.8	7.3	5.9	6.5	4.1	3.0	3.5	1.4	1.1	1.2
28	14.5	14.2	14.3	5.9	5.1	5.3	4.7	3.9	4.2	2.8	1.4	2.0
29	14.4	13.5	14.0	5.2	4.8	5.0	5.5	4.7	5.0	2.2	1.4	1.9
30	15.0	14.1	14.5	5.0	4.6	4.8	5.9	5.1	5.5	2.2	1.3	1.7
31	15.1	14.0	14.6	---	---	---	6.3	5.8	6.0	2.6	1.9	2.2
MONTH	19.1	12.0	14.7	16.0	4.5	8.0	8.2	2.9	5.3	9.0	.2	2.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.3	2.2	2.8	9.3	8.8	9.1	11.4	9.7	10.6	18.7	16.7	17.6
2	3.2	2.8	3.0	9.7	9.1	9.3	11.8	9.8	10.8	18.6	16.5	17.4
3	4.2	3.1	3.6	9.6	6.9	8.4	13.1	11.3	12.2	18.8	17.1	17.9
4	4.2	3.8	3.9	7.8	7.3	7.5	14.6	12.7	13.6	18.5	16.7	17.5
5	4.7	4.1	4.4	8.2	7.6	7.9	14.8	14.1	14.4	18.7	16.3	17.3
6	5.2	4.2	4.7	7.8	7.2	7.6	14.5	14.2	14.3	19.0	17.1	18.1
7	5.2	4.4	4.6	7.6	6.9	7.2	16.3	14.5	15.2	18.7	16.8	17.7
8	4.6	3.5	3.9	7.9	7.0	7.4	15.4	14.1	14.7	18.3	16.5	17.4
9	3.9	3.1	3.5	7.8	6.8	7.3	14.3	12.0	13.5	17.4	16.5	16.9
10	3.9	3.4	3.6	8.3	6.9	7.6	12.9	11.1	11.9	16.7	15.3	15.8
11	4.1	3.3	3.7	8.7	7.2	7.9	12.8	11.2	11.9	17.0	14.0	15.4
12	4.0	3.5	3.8	8.5	7.2	7.9	12.4	11.5	12.0	18.7	15.0	16.8
13	3.9	3.2	3.5	8.5	7.3	7.9	14.4	12.1	13.0	17.7	16.5	17.1
14	3.5	2.9	3.2	8.5	7.5	7.8	13.6	12.1	12.8	17.2	15.5	16.4
15	4.4	3.5	3.9	7.8	7.1	7.4	14.8	12.3	13.4	18.6	16.0	17.3
16	4.5	3.3	3.9	7.4	6.0	6.7	15.7	13.2	14.2	18.2	16.1	17.0
17	4.5	3.6	4.0	6.9	5.7	6.4	14.6	13.4	14.3	17.4	15.7	16.7
18	5.3	3.6	4.3	7.2	6.3	6.6	13.4	11.4	12.3	19.0	16.1	17.5
19	6.7	5.0	5.7	7.2	6.5	6.7	12.6	10.1	11.2	21.3	17.9	19.6
20	7.4	6.3	6.9	7.0	6.2	6.5	14.4	11.2	12.6	22.6	20.1	21.1
21	8.5	6.8	7.5	8.2	6.5	7.3	13.0	12.3	12.6	21.2	19.7	20.5
22	9.2	8.3	8.8	9.0	7.5	8.2	13.3	12.1	12.6	20.5	18.3	19.4
23	8.9	7.8	8.3	8.9	7.7	8.4	13.3	12.7	13.0	20.7	17.7	19.3
24	8.6	7.6	8.2	9.6	7.8	8.7	14.5	12.4	13.3	21.9	18.4	20.3
25	8.5	7.3	7.9	9.5	8.5	9.0	15.8	13.3	14.5	22.2	20.2	21.3
26	8.0	7.0	7.6	10.1	9.0	9.5	17.0	14.0	15.3	21.4	19.9	20.6
27	9.6	7.9	8.6	11.3	9.2	10.3	16.4	15.0	15.6	21.1	19.5	20.4
28	9.6	9.2	9.3	12.0	10.4	11.2	15.4	14.1	14.8	21.9	19.0	20.5
29	--	--	--	12.6	11.6	12.2	16.8	14.5	15.4	22.3	19.7	20.9
30	--	--	--	13.7	12.0	12.8	18.3	15.2	16.6	21.6	20.5	21.1
31	--	--	--	13.7	11.4	12.7	--	--	--	22.9	20.3	21.5
MONTH	9.6	2.2	5.3	13.7	5.7	8.4	18.3	9.7	13.4	22.9	14.0	18.5

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

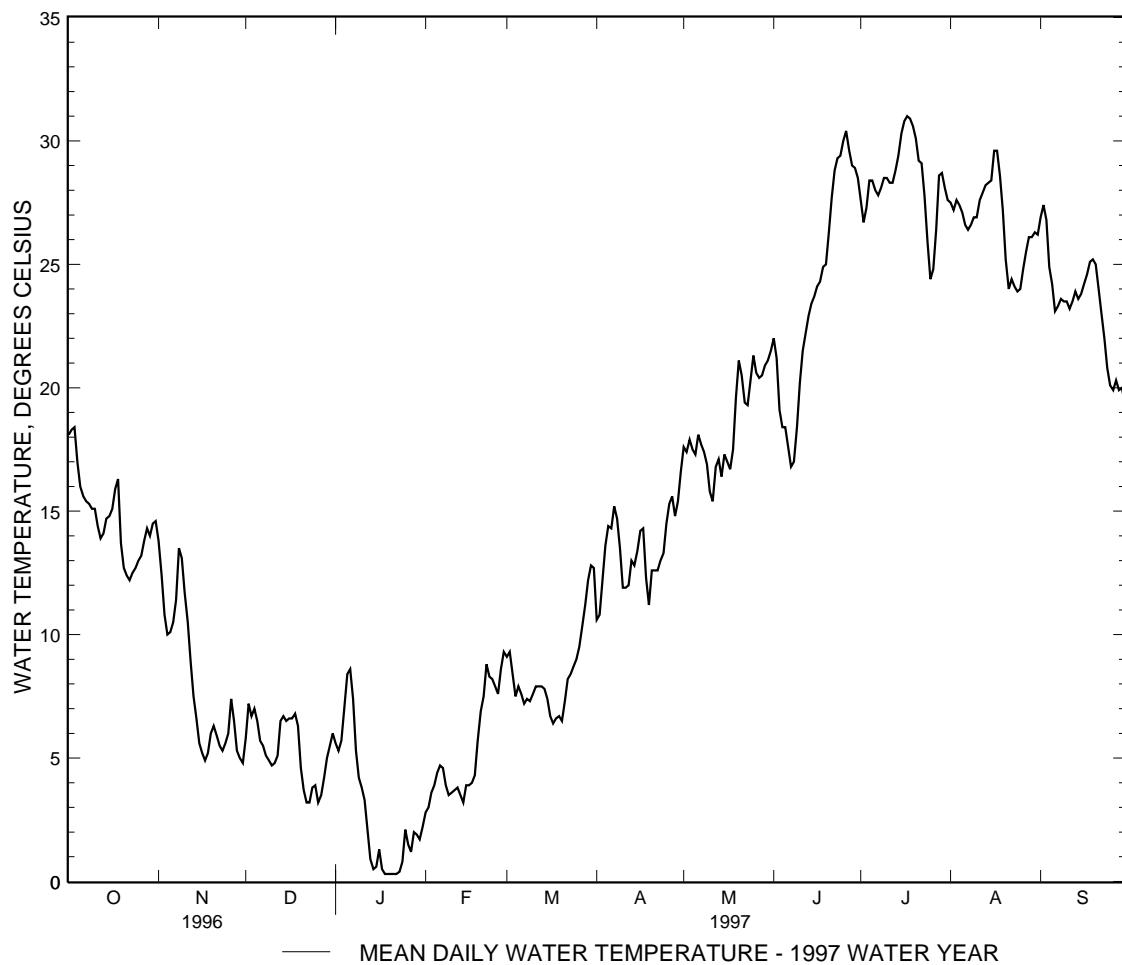
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.3	21.6	22.0	28.7	27.0	27.6	29.0	26.3	27.5	28.9	25.9	26.9
2	21.8	20.6	21.2	27.3	26.0	26.7	27.7	26.8	27.2	29.0	26.3	27.4
3	20.6	18.0	19.1	29.0	25.9	27.3	28.7	26.7	27.6	27.4	26.3	26.8
4	19.2	17.7	18.4	29.8	26.9	28.4	27.8	27.1	27.4	26.3	24.2	24.9
5	19.0	17.8	18.4	29.0	27.4	28.4	27.8	26.3	27.1	25.2	23.3	24.2
6	18.3	17.3	17.6	29.3	26.5	28.0	27.8	25.6	26.6	24.4	22.4	23.1
7	17.3	16.5	16.8	28.7	26.8	27.8	27.8	25.6	26.4	25.3	22.2	23.3
8	18.0	16.1	17.0	29.3	26.7	28.1	28.3	25.7	26.6	24.4	22.9	23.6
9	19.5	17.4	18.4	29.3	27.4	28.5	28.6	25.9	26.9	24.0	23.3	23.5
10	21.1	19.4	20.2	29.3	27.4	28.5	27.5	26.1	26.9	24.0	23.1	23.5
11	22.1	20.9	21.5	29.4	27.2	28.3	29.2	26.4	27.6	23.7	22.9	23.2
12	22.9	21.4	22.2	29.8	27.3	28.3	29.9	26.9	27.9	24.7	22.3	23.5
13	24.2	21.8	22.9	30.3	27.9	28.8	29.0	27.5	28.2	25.0	23.0	23.9
14	23.8	22.4	23.4	30.7	28.4	29.4	28.9	27.6	28.3	24.4	22.5	23.6
15	25.0	22.4	23.7	32.2	29.2	30.3	29.1	27.6	28.4	24.9	22.8	23.8
16	25.2	23.0	24.1	32.0	29.9	30.8	31.1	28.0	29.6	25.7	23.0	24.2
17	25.5	23.1	24.3	32.5	30.0	31.0	30.8	28.6	29.6	25.5	23.8	24.6
18	26.0	23.8	24.9	31.9	30.3	30.9	29.5	28.2	28.6	25.5	24.8	25.1
19	26.5	23.7	25.0	31.4	29.6	30.6	28.2	26.6	27.2	26.3	24.3	25.2
20	27.8	24.8	26.3	31.1	28.9	30.1	26.6	24.0	25.2	25.4	24.7	25.0
21	29.0	26.4	27.7	30.0	28.8	29.2	25.1	23.0	24.0	24.7	23.6	24.0
22	30.1	27.5	28.8	29.6	28.4	29.1	24.9	23.7	24.4	23.8	22.1	23.0
23	30.4	28.1	29.3	28.9	26.9	27.8	24.6	23.4	24.1	23.0	21.6	22.0
24	30.6	27.7	29.4	26.9	25.0	25.9	25.1	23.2	23.9	21.8	20.5	20.8
25	31.7	28.3	30.0	25.0	23.9	24.4	24.5	23.7	24.0	20.6	19.6	20.1
26	31.5	29.2	30.4	26.7	23.7	24.8	25.7	24.1	24.8	20.6	19.2	19.9
27	30.6	28.3	29.6	27.9	25.4	26.4	26.3	24.7	25.5	21.2	19.4	20.3
28	30.3	27.3	29.0	29.9	26.9	28.6	26.9	25.4	26.1	20.7	19.8	19.9
29	29.8	27.4	28.9	29.7	27.7	28.7	26.6	25.5	26.1	20.5	19.4	20.0
30	29.4	27.2	28.5	29.0	26.7	28.1	27.6	25.2	26.3	19.9	19.1	19.4
31	---	---	---	28.8	26.0	27.6	26.8	25.5	26.2	---	---	---
MONTH	31.7	16.1	24.0	32.5	23.7	28.3	31.1	23.0	26.7	29.0	19.1	23.3

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997



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POTOMAC RIVER BASIN

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 mi².

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: Maximum daily mean, 812 mg/L, Sept. 6, 1979; minimum daily mean, 1 mg/L on many days 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 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-	PH			BARO-			OXYGEN,			
		CHARGE, INST. CUBIC FEET	SPE- CIFIC CON- DUCT- PER SECOND	WATER WHOLE FIELD (STAND- ANCE (US/CM)	TEMPER- ATURE ARD (DEG C)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	METRIC PRES- SURE (MM HG)	OXYGEN, (PER- CENT OF SOLVED HG)	(PER- CENT OF SOLVED (MG/L HG)	HARD- NESS SOLVED AS AS CA) (00300)	
		(00061)	(00095)	(00400)	(00010)	(00020)	(00025)	(00300)	(00301)	(00900)	(00915)	
MAR 1997												
25...	0930	25000		214	7.6	8.5	4.0	774	12.3	103	90	26
APR												
29...	0900	9340		308	7.9	15.0	12.0	759	9.5	94	140	40
MAY												
29...	1100	7500		298	8.5	21.0	24.0	767	8.4	94	130	36
JUN												
25...	0830	3580		289	7.8	29.0	27.5	760	7.3	95	120	33
JUL												
21...	0930	1510		304	7.4	28.5	25.0	764	5.8	75	120	30
AUG												
28...	0830	1890		363	7.8	25.5	23.0	757	7.0	86	150	40
SEP												
30...	0830	2400		380	7.9	19.5	21.0	748	8.1	90	150	41
DATE	TIME	MAGNE-	POTAS-	ALKA-	BICAR-	CAR-						SOLIDS,
		SIUM, (MG/L AS MG)	SODIUM, (MG/L AS NA)	SIUM, (MG/L AS KA)	WAT DIS TOT IT SOLVED FIELD	BONATE WATER FIELD	BONATE WATER FIELD	SULFATE DIS IT SOLVED FIELD	CHLO- RIDE, DIS- SOLVED	FLUO- RIDE, DIS- SOLVED	SILICA, AS SI02)	RESIDUE AT 180 DIS- DEG. C DIS- AS SOLVED (MG/L AS SI02) (MG/L AS SI02) (70300)
		(00925)	(00930)	(00935)	(39086)	(00453)	(00452)	(00945)	(00940)	(00950)	(00955)	
MAR 1997												
25...	6.0	5.1	1.7	65	79	--	23	8.4	<0.10	6.2	129	
APR												
29...	9.7	8.7	2.0	99	120	--	27	14	<0.10	1.1	179	
MAY												
29...	9.3	9.1	2.3	97	106	6	31	14	0.11	0.89	182	
JUN												
25...	8.1	8.0	2.6	84	102	--	29	12	0.11	5.1	169	
JUL												
21...	11	12	2.9	77	94	--	32	19	0.17	7.4	185	
AUG												
28...	12	15	3.2	106	129	--	38	22	0.15	4.9	222	
SEP												
30...	12	14	3.1	104	127	--	45	21	0.16	3.5	224	

POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-	NITRO-	NITRO-	NITRO-	NITRO-	NITRO-			PHOS-	PHOS-	
	GEN,	GEN,	GEN,	GEN,	AM-	AM-	PHOS-	PHORUS	ORTHO,	IRON,	
	NITRO-	NITRATE	NITRITE	NO ₂ +NO ₃	AMMONIA	MONIA +	MONIA +	DIS-	DIS-	DIS-	
	GEN,	DIS-	DIS-	DIS-	ORGANIC	ORGANIC	PHORUS	TOTAL	SOLVED	SOLVED	
TOTAL	SOLVED	SOLVED	SOLVED	SOLVED	TOTAL	TOTAL	TOTAL	SOLVED	SOLVED	SOLVED	
(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	
AS N)	AS NO ₃)	AS N)	AS N)	AS N)	AS N)	AS N)	AS P)	AS P)	AS P)	AS P)	(UG/L)
(00600)	(71851)	(00613)	(00631)	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(01046)	
MAR 1997											
25...	2.0	--	<0.010	1.40	<0.015	0.60	<0.20	0.640	<0.010	0.010	21
APR											
29...	1.7	5.8	0.012	1.32	<0.015	0.40	0.22	0.087	0.017	<0.010	27
MAY											
29...	1.2	3.1	0.016	0.723	<0.015	0.49	0.27	0.037	<0.010	<0.010	18
JUN											
25...	1.0	2.7	0.013	0.618	0.038	0.38	<0.20	0.048	<0.010	<0.010	8.7
JUL											
21...	0.67	0.93	0.010	0.220	0.041	0.45	0.35	0.028	<0.010	0.015	18
AUG											
28...	1.2	4.1	0.012	0.937	0.038	0.29	0.27	0.056	0.028	0.034	6.8
SEP											
30...	1.3	4.3	0.010	0.986	0.019	0.28	0.24	0.046	0.034	0.029	12
DATE	CARBON,	CARBON,	CARBON,	ETHAL-	PHORATE	TER-	TRI-	1-NAPH			
	MANGA-	ORGANIC	ORGANIC	FLUR-	BACIL	FLUR-	THOL,		2,4-DB		
	NESE,	SUS-	SUS-	ALIN	WATER	WATER	WATER,		WATER,		
	DIS-	DIS-	PENDED	WAT FLT	FLTRD	FLTRD	WAT FLT	FLTRD,	2,4-D,	FLTRD,	2,4,5-T
SOLVED	SOLVED	TOTAL	0.7 U	0.7 U	0.7 U	0.7 U	GF 0.7U	DIS-	GF 0.7U	DIS-	
(UG/L)	(MG/L)	(MG/L)	(GF, REC)	(GF, REC)	(GF, REC)	(GF, REC)	(GF, REC)	SOLVED	REC	SOLVED	
AS MN)	AS C)	AS C)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
(01056)	(00681)	(00689)	(82663)	(82664)	(82665)	(82661)	(49295)	(39732)	(38746)	(39742)	
MAR 1997											
25...	12	2.0	1.1	<0.004	<0.002	<0.007	<0.002	<0.007	<0.035	<0.035	<0.035
APR											
29...	2.6	--	--	<0.004	<0.002	<0.007	<0.002	--	--	--	--
MAY											
29...	1.4	2.7	0.80	<0.004	<0.002	<0.007	<0.002	--	--	--	--
JUN											
25...	1.2	3.2	0.50	<0.004	<0.002	<0.007	<0.002	--	--	--	--
JUL											
21...	2.8	--	--	<0.004	<0.002	E0.003	<0.002	--	--	--	--
AUG											
28...	8.0	--	--	<0.004	<0.002	<0.007	<0.002	--	--	--	--
SEP											
30...	7.5	--	--	<0.004	<0.002	<0.007	<0.002	--	--	--	--
DATE	2,6-DI-	3HYDRXY	ACETO-	ALA-	ATRA-	BEN-		CAR-	CARBO-	CAR-	
	ETHYL	CARBO-	CARBO-	CHLOR,	CHLOR,	FLUR-	BUTYL-	BRO-	BARYL	FURAN	BARYL,
	ANILINE	FURAN	FURAN	WAT,FLT	WATER	WATER,	WATER,	MACIL,	WATER	WATER	WATER,
	WAT FLT	WAT,FLT	WATER	WATER	WATER	WAT FLD	WATER,	WATER,	FLTRD	FLTRD	FLTRD,
0.7 U	GF 0.7U	FLTRD	DISS,	DISS,	0.7 U	DISS,	0.7 U	0.7 U	0.7 U	GF 0.7U	
GF, REC	REC	REC	REC,	REC	GF, REC	REC	REC	GF, REC	GF, REC	REC	
(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
(82660)	(49308)	(49260)	(46342)	(39632)	(82673)	(04028)	(04029)	(82680)	(82674)	(49310)	
MAR 1997											
25...	<0.003	<0.014	<0.002	<0.002	0.029	<0.002	<0.002	<0.035	<0.003	<0.003	<0.008
APR											
29...	<0.003	--	<0.002	<0.002	0.073	<0.002	<0.002	--	<0.003	<0.003	--
MAY											
29...	<0.003	--	<0.002	E0.003	0.110	<0.002	<0.002	--	<0.003	<0.003	--
JUN											
25...	<0.003	--	<0.002	E0.003	0.215	<0.002	<0.002	--	<0.003	<0.003	--
JUL											
21...	<0.003	--	<0.002	<0.002	0.136	<0.002	<0.002	--	E0.005	<0.003	--
AUG											
28...	<0.003	--	<0.002	<0.002	0.063	<0.002	<0.002	--	<0.003	<0.003	--
SEP											
30...	<0.003	--	<0.002	<0.002	0.051	<0.002	<0.002	--	E0.015	<0.003	--

E Estimated value

POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	CYANA-	DCPA	DEETHYL	DICAMBA	DISUL-	EPTC	ETHO-				
DATE	CHLOR-ZINE, PYRIFOS DIS- SOLVED (UG/L)	WATER, FLTRD DISS, REC (UG/L)	P,P' DDE GF, REC (UG/L)	ZINE, WATER, DISS, REC (UG/L)	AZINON, FLTRD, SOLVED (UG/L)	WATER, ELDRIN REC (UG/L)	FOTON FLTRD DIS- REC (UG/L)	WATER FLTRD 0.7 U GF, REC (UG/L)	WATER FLTRD 0.7 U GF, REC (UG/L)	WATER FLTRD 0.7 U GF, REC (UG/L)	WATER FLTRD 0.7 U GF, REC (UG/L)
	(38933)	(04041)	(82682)	(34653)	(04040)	(39572)	(38442)	(39381)	(82677)	(82668)	(82672)
MAR 1997											
25...	<0.004	<0.004	<0.002	<0.006	E0.017	<0.002	<0.035	<0.001	<0.017	<0.002	<0.003
APR											
29...	<0.004	<0.004	<0.002	<0.006	E0.058	0.005	--	<0.001	<0.017	<0.002	<0.003
MAY											
29...	<0.004	<0.004	<0.002	<0.006	E0.046	E0.003	--	<0.001	<0.017	<0.002	<0.003
JUN											
25...	<0.004	0.007	<0.002	<0.006	E0.044	<0.002	--	<0.001	<0.017	<0.002	<0.003
JUL											
21...	<0.004	0.034	<0.002	<0.006	E0.057	<0.002	--	<0.001	<0.017	<0.002	<0.003
AUG											
28...	<0.004	<0.004	<0.002	<0.006	E0.060	<0.002	--	<0.001	<0.017	<0.002	<0.003
SEP											
30...	<0.004	<0.004	<0.002	<0.006	E0.024	<0.002	--	<0.001	<0.017	<0.002	<0.003
			LIN-	METH-	METHYL	METHYL				MOL-	
DATE	FONOFO WATER DISS REC (UG/L)	LINDANE WATER, DIS- SOLVED (UG/L)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L)	URON WATER FLTRD, 0.7 U GF, REC (UG/L)	MALA- THION, DIS- SOLVED (UG/L)	OMYL, WATER, FLTRD, GF 0.7U REC (UG/L)	AZIN- PHOS WAT FLT GF, REC (UG/L)	PARA- THION WAT FLT GF, REC (UG/L)	METO- LACHLOR WATER DISSOLV (UG/L)	METRI- BUZIN WATER DISSOLV (UG/L)	INATE WATER GF, REC (UG/L)
	(04095)	(39341)	(38478)	(82666)	(39532)	(49296)	(82686)	(82667)	(39415)	(82630)	(82671)
MAR 1997											
25...	<0.003	<0.004	<0.018	<0.002	<0.005	<0.017	<0.001	<0.006	0.012	<0.004	<0.004
APR				--	<0.002	<0.005	--	<0.001	<0.006	0.025	<0.004
29...	<0.003	<0.004	--	<0.002	<0.005	--	<0.001	<0.006	0.052	<0.004	<0.004
MAY											
29...	<0.003	<0.004	--	<0.002	<0.005	--	<0.001	<0.006	0.083	<0.004	<0.004
JUN											
25...	<0.003	<0.004	--	<0.002	<0.005	--	--	<0.006	0.037	<0.004	<0.004
JUL											
21...	<0.003	<0.004	--	<0.002	<0.005	--	<0.001	<0.006	0.015	<0.004	<0.004
AUG											
28...	<0.003	<0.004	--	<0.002	<0.005	--	<0.001	<0.006	0.013	<0.004	<0.004
SEP											
30...	<0.003	<0.004	--	<0.002	<0.005	--	<0.001	<0.006			

E Estimated value

POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	NAPROP-	PEB-	PENDI-	PER-	PIC-		PRON-	PRO-	PRO-	
DATE	AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	METH- PARA- THION, DIS- GF, REC (UG/L) (39542)	METHRIN ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	LORAM, CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PRO- METON, WATER FLTRD, DISS, REC (UG/L) (49291)	AMIDE WATER FLTRD 0.7 U DISS, REC (UG/L) (04037)	PROP- CHLOR, WATER FLTRD 0.7 U REC (UG/L) (82676)	PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
MAR 1997										
25...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.050	E0.005	<0.003	<0.007	<0.013
APR										
29...	<0.003	<0.004	<0.004	<0.004	<0.005	--	E0.009	<0.003	<0.007	<0.013
MAY										
29...	<0.003	<0.004	<0.004	0.004	<0.005	--	E0.013	<0.003	<0.007	<0.013
JUN										
25...	<0.003	<0.004	<0.004	<0.004	<0.005	--	E0.017	<0.003	<0.007	<0.013
JUL										
21...	<0.003	<0.004	<0.004	<0.004	<0.005	--	0.020	<0.003	<0.007	<0.013
AUG										
28...	<0.003	<0.004	<0.004	<0.004	<0.005	--	E0.017	<0.003	<0.007	<0.013
SEP										
30...	<0.003	<0.004	<0.004	<0.004	<0.005	--	0.020	<0.003	<0.007	<0.013
	PRO- PHAM, WATER, FLTRD, 0.7 U REC (49236)	SI- MAZINE, SILVEX, DIS- SOLVED (UG/L) (39762)	TEBU- WATER, WATER, DISS, REC (UG/L) (04035)	TER- BUFOS FLTRD 0.7 U GF, REC (UG/L) (82670)	THIO- BENCARB FLTRD 0.7 U GF, REC (UG/L) (82675)	TRIAL- LATE FLTRD 0.7 U GF, REC (UG/L) (82681)	ALPHA BHC DIS- REC (UG/L) (82678)	SEDI- MENT, MENT, DIS- SOLVED PENDED (UG/L) (34253)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)
MAR 1997										
25...	<0.035	<0.021	0.015	<0.010	<0.013	<0.002	<0.001	<0.002	30	1990
APR										
29...	--	--	0.040	<0.010	<0.013	<0.002	<0.001	<0.002	4	96
MAY										
29...	--	--	0.045	E0.003	<0.013	<0.002	<0.001	<0.002	16	316
JUN										
25...	--	--	0.201	E0.007	<0.013	<0.002	<0.001	<0.002	7	63
JUL										
21...	--	--	0.037	E0.015	<0.013	<0.002	<0.001	<0.002	6	22
AUG										
28...	--	--	0.020	E0.008	<0.013	<0.002	<0.001	<0.002	2	11
SEP									--	--
30...	--	--	0.019	<0.010	<0.013	<0.002	<0.001	<0.002		

E Estimated value

POTOMAC RIVER BASIN

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC

LOCATION.--Lat 38°58'21", long 77°02'25", District of Columbia, Hydrologic Unit 02070010, on left bank 125 ft downstream from Sherrill Drive Bridge in Rock Creek Park in Washington, and 7.5 mi upstream from mouth.
DRAINAGE AREA.--62.2 mi².

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 mi², 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0645	1,670	7.08	Mar. 3	1945	1,530	6.73
Nov. 9	0045	*2,130	*8.13	May 25	2045	1,400	6.32
Dec. 6	0400	1,440	6.44	May 26	0530	1,470	6.55
Dec. 13	1415	1,620	6.95	June 18	2200	1,220	5.75
Jan. 25	0145	1,430	6.41				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	e49	404	62	77	357	98	57	43	31	13	10
2	146	e49	494	60	69	138	77	63	178	76	11	43
3	64	e46	e80	60	65	698	70	54	143	32	11	28
4	48	e44	e70	59	91	317	66	74	65	25	15	11
5	42	e42	e63	59	171	203	61	53	50	23	20	9.3
6	38	40	625	58	97	e95	69	48	42	22	13	8.6
7	38	47	326	56	80	e90	66	46	37	22	11	8.6
8	289	659	e170	54	106	e80	59	43	35	22	9.9	15
9	166	691	e100	66	106	e75	55	74	34	21	9.5	10
10	119	254	e72	89	80	97	53	58	33	22	9.1	52
11	e50	e100	e82	74	70	82	53	46	32	21	8.9	94
12	e46	e70	e73	61	66	74	98	42	31	19	9.2	26
13	e43	e62	787	57	63	67	85	40	35	17	13	18
14	e41	e58	298	53	157	152	62	40	88	17	9.4	14
15	40	e56	e150	53	303	104	56	40	75	17	8.9	13
16	39	e55	e80	177	138	81	53	38	37	17	8.6	11
17	38	e54	e78	93	110	72	59	36	33	16	43	11
18	168	e53	e76	66	92	94	57	35	237	35	18	27
19	885	e53	e93	57	81	232	51	37	167	21	9.7	14
20	263	e54	e80	55	73	126	49	35	40	14	357	11
21	e80	53	e75	54	68	100	65	33	34	14	71	10
22	e65	49	e70	59	65	85	70	31	30	15	32	9.4
23	e58	47	e68	73	60	73	63	33	36	17	22	9.0
24	e55	46	e75	152	59	67	71	32	28	35	18	8.6
25	e53	46	90	529	57	63	60	207	27	18	15	8.6
26	e52	280	74	e85	64	159	52	554	38	15	14	8.5
27	e50	108	75	e75	79	83	88	85	74	14	13	8.4
28	e49	80	69	223	63	72	254	56	41	27	13	26
29	e48	64	73	128	---	75	86	44	32	24	15	64
30	e47	60	69	102	---	69	67	48	28	13	11	16
31	e48	---	66	85	---	204	---	38	---	13	10	---
TOTAL	3214	3369	5005	2934	2610	4284	2173	2120	1803	695	842.2	603.0
MEAN	104	112	161	94.6	93.2	138	72.4	68.4	60.1	22.4	27.2	20.1
MAX	885	691	787	529	303	698	254	554	237	76	357	94
MIN	38	40	63	53	57	63	49	31	27	13	8.6	8.4
CFSM	1.67	1.81	2.60	1.52	1.50	2.22	1.16	1.10	.97	.36	.44	.32
IN.	1.92	2.01	2.99	1.75	1.56	2.56	1.30	1.27	1.08	.42	.50	.36

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	52.8	62.7	73.1	82.6	91.1	84.9	74.3	59.9	49.3	47.9	45.7
MAX	196	165	184	201	210	221	215	232	456	192	174
(WY)	1980	1953	1973	1978	1979	1993	1973	1989	1972	1945	1955
MIN	2.63	4.57	8.75	11.8	11.9	23.4	29.2	24.3	18.3	7.09	1.72
(WY)	1931	1932	1931	1931	1931	1969	1955	1986	1930	1930	1930

POTOMAC RIVER BASIN

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1930 - 1997
ANNUAL TOTAL	42591	29652.2	
ANNUAL MEAN	116	81.2	63.7
HIGHEST ANNUAL MEAN			142
LOWEST ANNUAL MEAN			16.1
HIGHEST DAILY MEAN	1600	Jan 19	1972
LOWEST DAILY MEAN	22	(a)	1931
ANNUAL SEVEN-DAY MINIMUM	30	Aug 20	.50
INSTANTANEOUS PEAK FLOW		885 Oct 19	5000 Jun 22
INSTANTANEOUS PEAK STAGE		8.4 Sep 27	(b)
INSTANTANEOUS LOW FLOW		8.9 Sep 21	.50
ANNUAL RUNOFF (CFSM)	1.87	2130 Nov 9	(c) 12500 Jun 22
ANNUAL RUNOFF (INCHES)	25.47	8.13 Nov 9	1972 (d) 16.20 Jun 22
10 PERCENT EXCEEDS	241	8.0 (f)	1972 .50
50 PERCENT EXCEEDS	68	1.31	(b) 1.02
90 PERCENT EXCEEDS	40	17.73	13.92
		154	122
		56	38
		13	13

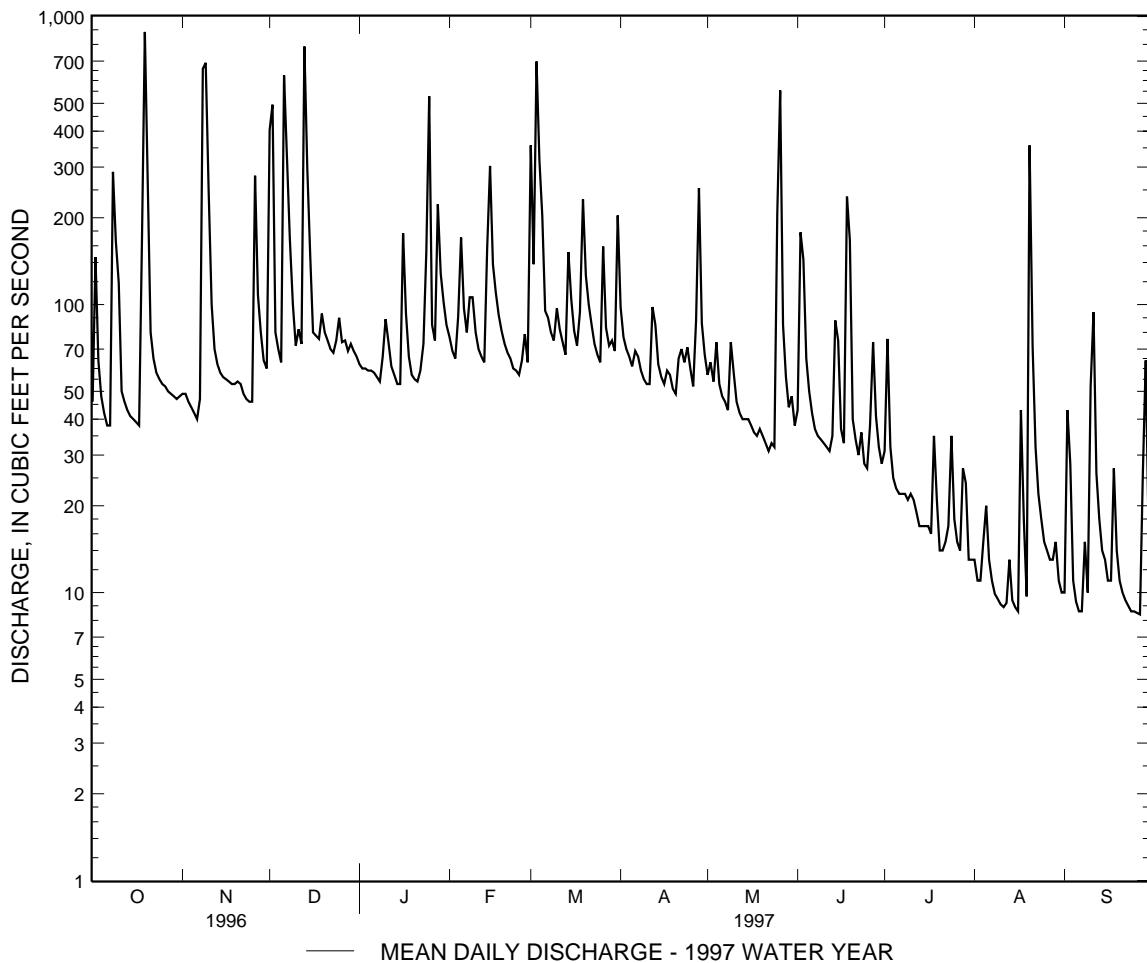
a Sept. 2, 3.

b Oct. 1-7, 1930.

c From rating curve extended above 5,640 ft³/s on basis of contracted-opening measurements at gage heights of 13.19 ft and 16.2 ft.

d From floodmark.

f Aug. 17, Sept. 7, 26-28.



POTOMAC RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharge (ice effect), which are fair. 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 mean sea level, from floodmarks, discharge, 10,500 ft³/s, from rating curve extended above 3,000 ft³/s on basis of velocity-area study.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0200	3,110	6.15	Jan. 25	0030	2,670	5.73
Nov. 8	1800	*7,090	*9.05	Mar. 1	1215	2,200	5.26
Dec. 2	0245	2,000	5.04	Mar. 3	1645	2,990	6.04
Dec. 13	1330	4,180	7.10	May 25	2045	6,570	8.77

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	32	615	64	83	583	104	72	66	33	13	19
2	92	32	933	63	70	233	77	67	340	63	13	53
3	54	29	177	63	66	1210	73	75	522	45	14	26
4	36	28	112	60	133	557	70	76	140	28	14	15
5	34	28	106	59	354	178	66	57	81	23	48	13
6	33	30	844	56	138	154	79	55	63	21	43	13
7	32	29	382	52	91	107	77	49	55	21	21	13
8	486	2130	280	50	134	96	64	46	51	20	15	15
9	224	1230	138	81	136	85	59	76	47	19	13	15
10	116	177	100	109	106	122	58	60	44	29	12	53
11	60	106	98	95	88	91	57	47	41	30	11	90
12	47	79	95	63	82	79	122	45	40	18	33	25
13	42	67	2140	59	79	73	112	43	45	17	16	18
14	38	62	800	62	255	215	71	42	103	17	13	16
15	34	59	179	61	680	154	63	40	68	17	13	15
16	33	54	129	278	192	93	59	38	38	17	13	14
17	32	53	115	e65	116	81	83	37	32	14	97	13
18	285	52	99	e50	93	108	70	36	172	18	33	28
19	1290	52	166	e60	84	360	59	37	139	13	17	16
20	191	49	108	71	75	177	54	36	55	9.9	656	14
21	92	46	80	57	72	114	68	32	39	11	119	12
22	74	45	75	78	71	91	68	31	33	13	42	12
23	54	42	74	110	63	77	59	31	31	61	27	12
24	47	42	102	246	59	73	68	30	26	87	23	12
25	41	41	111	901	57	68	60	1020	26	30	20	12
26	37	324	76	150	66	225	56	1310	59	21	20	11
27	35	102	82	97	78	108	127	130	48	19	19	11
28	35	65	71	295	61	85	514	74	26	40	24	35
29	34	57	96	141	---	85	126	56	23	30	19	71
30	32	55	81	92	---	77	81	56	22	15	16	17
31	32	---	70	85	---	225	47	---	14	15	---	
TOTAL	3710	5197	8534	3773	3582	5984	2704	3851	2475	813.9	1452	689
MEAN	120	173	275	122	128	193	90.1	124	82.5	26.3	46.8	23.0
MAX	1290	2130	2140	901	680	1210	514	1310	522	87	656	90
MIN	32	28	70	50	57	68	54	30	22	9.9	11	11
CFSM	1.64	2.38	3.78	1.67	1.76	2.65	1.24	1.71	1.13	.36	.64	.32
IN.	1.90	2.66	4.36	1.93	1.83	3.06	1.38	1.97	1.26	.42	.74	.35

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

MEAN	75.2	95.3	104	113	132	111	95.2	69.3	61.2	64.8	58.8
MAX	234	205	275	325	265	339	322	329	353	335	243
(WY)	1943	1973	1997	1979	1972	1994	1983	1989	1972	1945	1975
MIN	9.37	15.9	19.8	25.6	39.3	37.0	32.4	23.9	20.3	9.14	7.94
(WY)	1942	1942	1966	1955	1947	1981	1985	1941	1965	1966	1941

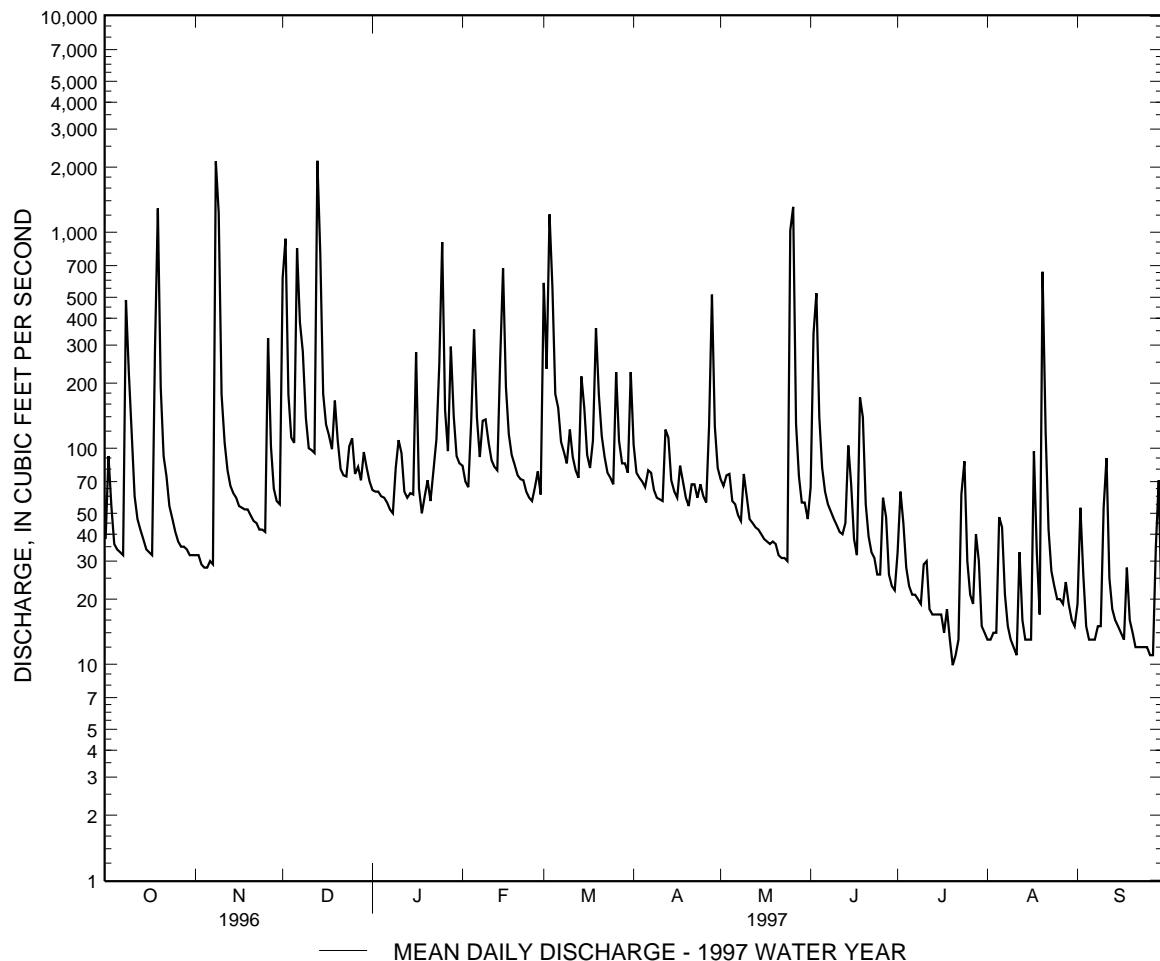
POTOMAC RIVER BASIN

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1938 - 1997
ANNUAL TOTAL	55303	42764.9	
ANNUAL MEAN	151	117	86.2
HIGHEST ANNUAL MEAN			150 1972
LOWEST ANNUAL MEAN			49.3 1981
HIGHEST DAILY MEAN	3670	Jan 19	2140 Dec 13
LOWEST DAILY MEAN	16	Sep 2	9.9 Jul 20
ANNUAL SEVEN-DAY MINIMUM	21	Aug 20	12 Sep 21
INSTANTANEOUS PEAK FLOW			7090 Nov 8
INSTANTANEOUS PEAK STAGE			9.05 Nov 8
INSTANTANEOUS LOW FLOW			9.0 (b)
ANNUAL RUNOFF (CFSM)	2.08		1.61 1.18
ANNUAL RUNOFF (INCHES)	28.26		21.85 16.09
10 PERCENT EXCEEDS	286		1.91 166
50 PERCENT EXCEEDS	71		59 44
90 PERCENT EXCEEDS	32		16 16

a From rating curve extended above 3,800 ft³/s on basis of the average of contracted-opening and slope-area measurements at gage height 9.52 ft.

b July 20, 21.



POTOMAC RIVER BASIN

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 mi².

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.--Records good except those for estimated daily discharges (ice effect, orifice line leak, equipment failure), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0015	1,720	3.74	Dec. 13	1330	1,920	3.92
Nov. 8	1800	3,710	5.24	May 25	2045	*5,500	*6.31

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e26	32	408	48	53	315	68	44	50	24	8.1	8.2
2	e65	32	465	48	48	100	58	47	194	38	7.5	45
3	e42	29	89	48	46	658	54	49	206	26	7.3	20
4	e26	28	61	48	82	241	53	53	52	16	12	7.9
5	e24	31	69	48	154	90	51	35	36	14	13	6.4
6	e22	31	547	47	63	84	60	35	31	13	18	6.1
7	62	31	215	43	49	59	58	31	29	13	11	7.0
8	276	961	142	38	80	55	48	30	29	15	11	9.8
9	116	407	74	58	75	53	43	55	27	14	13	9.3
10	59	73	59	67	55	67	39	40	26	13	13	29
11	35	51	67	54	48	52	40	31	24	13	14	75
12	29	43	73	39	46	47	84	29	24	12	22	17
13	29	38	913	33	47	53	67	29	27	11	9.6	17
14	29	39	236	38	140	151	45	29	32	11	8.4	10
15	27	38	91	37	319	96	43	29	30	10	7.2	8.9
16	27	34	74	e100	99	60	43	26	22	13	5.8	9.9
17	27	34	71	e40	64	55	52	25	21	11	95	8.0
18	243	34	65	29	56	82	43	25	168	27	17	19
19	691	36	102	e35	54	213	38	27	101	11	9.4	12
20	101	34	61	43	50	103	38	26	32	7.9	358	7.4
21	57	32	49	35	48	71	49	24	23	7.9	62	5.7
22	45	32	48	52	47	67	47	23	20	8.8	20	5.1
23	40	31	51	61	45	56	39	22	22	23	14	5.0
24	38	32	67	178	44	54	43	22	19	46	11	5.0
25	34	33	61	491	42	53	39	506	20	13	12	5.2
26	33	246	48	75	49	150	38	507	38	11	12	5.3
27	32	56	56	51	56	67	87	55	41	10	11	8.3
28	33	38	51	175	45	58	219	35	20	27	11	21
29	33	35	59	71	---	65	57	30	17	22	8.9	46
30	32	36	53	51	---	57	46	35	15	12	8.4	13
31	32	---	50	49	---	175	---	29	---	9.4	8.4	---
TOTAL	2365	2607	4475	2230	2004	3507	1689	1983	1396	503.0	839.0	452.5
MEAN	76.3	86.9	144	71.9	71.6	113	56.3	64.0	46.5	16.2	27.1	15.1
MAX	691	961	913	491	319	658	219	507	206	46	358	75
MIN	22	28	48	29	42	47	38	22	15	7.9	5.8	5.0
CFSM	1.54	1.76	2.92	1.46	1.45	2.29	1.14	1.29	.94	.33	.55	.31
IN.	1.78	1.96	3.37	1.68	1.51	2.64	1.27	1.49	1.05	.38	.63	.34

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

MEAN	41.8	50.5	55.3	63.2	71.3	61.8	55.5	42.5	34.8	37.7	37.9	
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

POTOMAC RIVER BASIN

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1938 - 1997
ANNUAL TOTAL	32796	24050.5	
ANNUAL MEAN	(a) 89.6	(a) 65.9	(a) 48.5
HIGHEST ANNUAL MEAN			96.9
LOWEST ANNUAL MEAN			20.8
HIGHEST DAILY MEAN	1860	Jan 19	5050
LOWEST DAILY MEAN	12	Aug 26	Sep 26 1975
ANNUAL SEVEN-DAY MINIMUM	14	Aug 20	.40
INSTANTANEOUS PEAK FLOW		5500	(c)
INSTANTANEOUS PEAK STAGE		May 25	Jun 22 1972
INSTANTANEOUS LOW FLOW		6.31 May 25	14.47 Jun 22 1972
ANNUAL RUNOFF (CFSM)	1.81	5.0 (f)	.20 Sep 11 1966
ANNUAL RUNOFF (INCHES)	24.70	1.33	.98
10 PERCENT EXCEEDS	189	18.11	13.34
50 PERCENT EXCEEDS	46	101	92
90 PERCENT EXCEEDS	25	39	24
		11	6.6

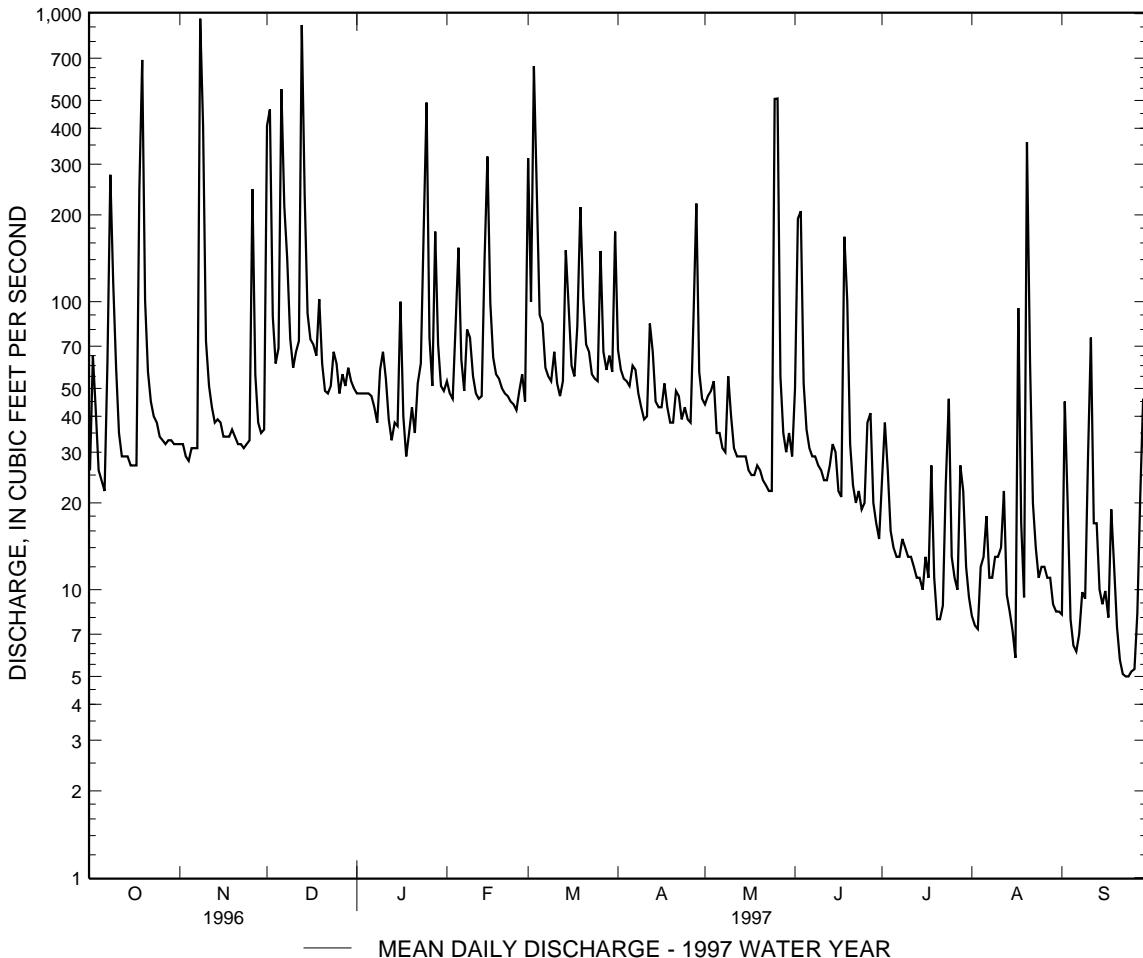
a Unadjusted.

b Sept. 23, 24.

c Sept. 8, 11, 1966.

d From rating curve extended above 4,000 ft³/s on the basis of the average of slope-area and step-backwater measurements of peak flow.

f Sept. 21-28.



POTOMAC RIVER BASIN

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 mi².

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 (ice effect), which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1645	*944	*6.07	May 25	2300	923	6.01

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.1	28	2.7	2.7	17	2.5	2.0	5.7	1.1	1.0	.98
2	6.0	1.9	23	2.8	1.7	3.6	2.2	1.9	7.3	7.1	.96	3.1
3	1.8	e1.7	4.6	2.7	1.7	33	2.0	2.4	9.8	1.4	.90	1.2
4	1.5	e1.7	3.6	2.7	12	6.8	1.9	2.0	2.2	.81	.94	.99
5	1.5	e1.7	9.5	2.7	16	4.7	1.8	2.0	1.8	.53	1.0	.93
6	1.6	e1.7	23	2.4	3.4	4.6	2.8	4.8	1.6	.58	.91	.89
7	1.6	e1.7	17	2.2	2.5	3.0	1.9	1.7	1.6	.55	.83	1.1
8	38	92	6.5	2.5	7.6	2.8	1.8	1.6	1.5	.65	.84	.97
9	6.6	9.9	4.2	6.3	4.9	2.2	1.8	4.5	1.4	1.0	.68	1.0
10	3.2	4.3	3.7	5.0	2.9	4.4	1.8	1.9	1.4	.77	.57	2.5
11	2.1	3.4	3.5	4.2	2.3	2.1	1.8	1.7	1.4	.86	.75	3.5
12	1.8	2.9	2.7	2.6	2.1	1.8	7.0	1.7	1.4	.66	.97	.89
13	1.7	2.7	86	2.5	1.8	1.7	2.6	1.7	9.2	.67	.86	.98
14	1.7	2.7	9.8	2.6	15	8.1	2.0	1.7	17	1.3	1.0	.94
15	1.6	2.7	5.5	2.6	22	2.8	1.9	1.6	2.8	1.8	.81	e.90
16	1.6	2.7	4.6	14	4.8	2.0	1.9	1.6	1.8	1.8	1.1	e1.0
17	1.6	2.5	4.4	e2.1	3.5	1.9	7.5	1.5	1.6	2.6	13	e.90
18	26	2.8	3.9	e3.0	3.0	5.0	2.4	1.4	6.2	5.8	1.7	2.6
19	28	2.9	8.9	e3.6	2.9	15	1.9	1.5	2.7	2.3	.74	1.1
20	6.8	2.6	3.9	e2.5	2.5	4.1	1.9	1.3	2.3	.75	41	e.65
21	2.8	2.4	3.4	e3.4	2.2	2.9	3.5	1.1	2.6	.67	2.5	e.62
22	2.4	2.3	3.3	6.9	2.1	2.5	2.0	1.1	2.1	.67	1.2	e.59
23	2.1	2.2	3.3	4.6	1.9	2.1	2.0	1.1	2.2	2.0	1.1	e.57
24	2.0	2.2	6.8	21	1.7	2.0	3.9	1.3	1.7	4.5	1.1	e.56
25	1.9	2.5	3.7	12	1.8	2.0	2.2	66	2.7	1.2	.96	e.56
26	1.9	19	2.9	3.5	3.0	9.8	2.1	35	2.8	.92	.98	e.55
27	1.6	3.1	4.2	2.9	1.9	2.4	13	3.0	1.6	1.6	1.0	1.4
28	1.9	2.7	2.9	11	1.6	1.9	21	2.2	1.2	5.4	1.0	7.4
29	1.9	2.7	3.8	3.4	--	6.4	3.0	1.8	1.3	1.4	.89	2.7
30	2.1	3.6	2.9	2.9	--	2.2	2.2	1.8	.80	.99	.94	.97
31	2.1	--	3.1	2.9	--	11	--	1.6	--	1.1	.82	--
TOTAL	159.5	189.3	296.6	146.2	131.5	171.8	106.3	156.5	99.70	53.48	83.05	43.04
MEAN	5.15	6.31	9.57	4.72	4.70	5.54	3.54	5.05	3.32	1.73	2.68	1.43
MAX	38	92	86	21	22	33	21	66	17	7.1	41	7.4
MIN	1.5	1.7	2.7	2.1	1.6	1.7	1.8	1.1	.80	.53	.57	.55
CFSM	1.57	1.92	2.92	1.44	1.43	1.69	1.08	1.54	1.01	.53	.82	.44
IN.	1.81	2.15	3.36	1.66	1.49	1.95	1.21	1.77	1.13	.61	.94	.49

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

MEAN	3.89	4.55	4.92	6.69	5.07	9.48	4.75	4.63	2.88	3.18	2.72	3.03
MAX	9.08	6.31	9.57	9.71	8.48	15.7	6.55	6.53	4.64	4.54	4.32	5.39
(WY)	1996	1997	1997	1996	1994	1994	1996	1996	1996	1996	1994	1996
MIN	1.43	1.73	2.44	4.72	2.80	5.25	2.36	3.55	1.83	1.73	1.67	1.43
(WY)	1993	1995	1995	1997	1995	1995	1995	1994	1994	1997	1995	1997

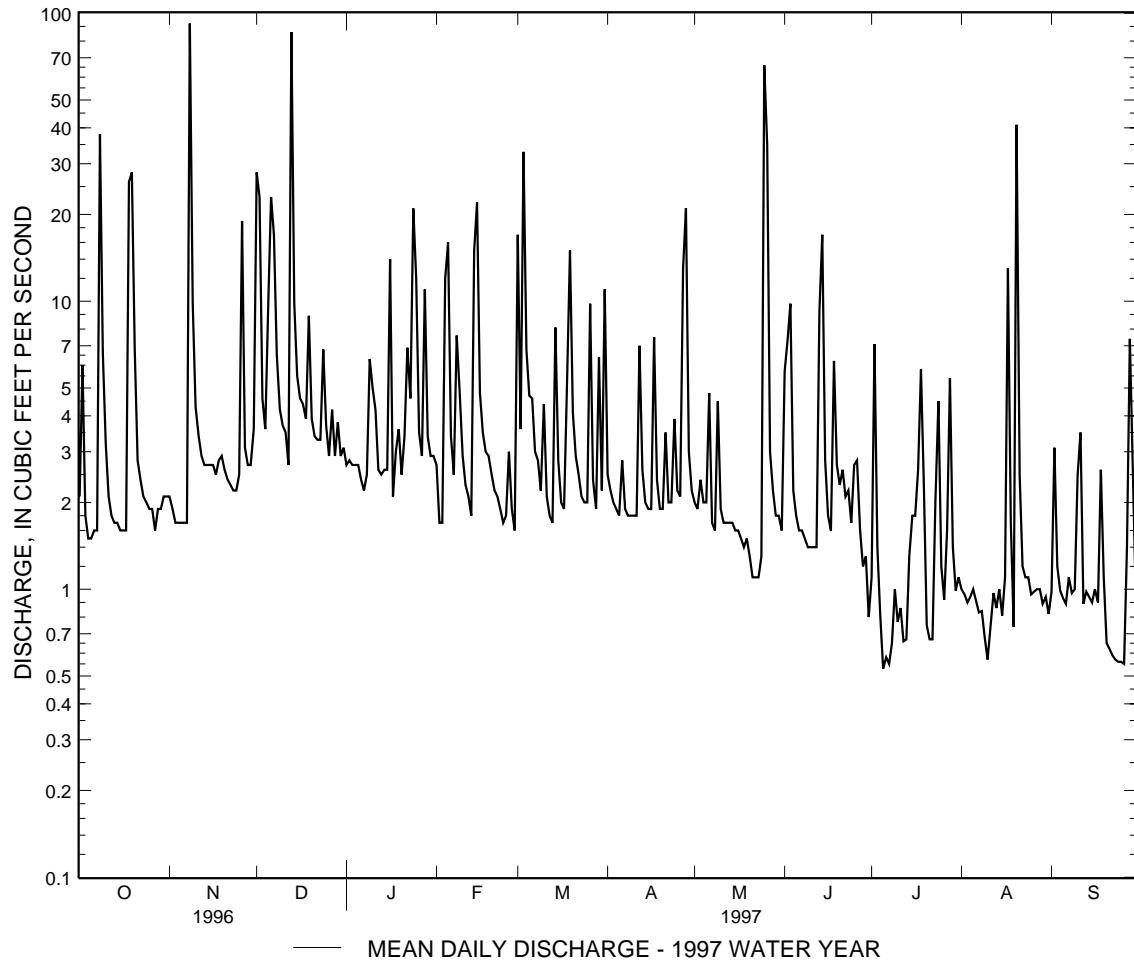
POTOMAC RIVER BASIN

01651800 WATTS BRANCH AT WASHINGTON, D.C.--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1992 - 1997
ANNUAL TOTAL	2214.18	1636.97	
ANNUAL MEAN	6.05	4.48	4.66
HIGHEST ANNUAL MEAN			5.87
LOWEST ANNUAL MEAN			2.84
HIGHEST DAILY MEAN	107	Jan 19	109
LOWEST DAILY MEAN	.81	Sep 2	.37
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 20	.45
INSTANTANEOUS PEAK FLOW		944 Nov 8	1510 Sep 26 1994
INSTANTANEOUS PEAK STAGE		6.07 Nov 8	7.36 Sep 26 1994
INSTANTANEOUS LOW FLOW		.53 (a)	.36 (b)
ANNUAL RUNOFF (CFSM)	1.84	1.37	1.42
ANNUAL RUNOFF (INCHES)	25.11	18.57	19.30
10 PERCENT EXCEEDS	14	8.4	10
50 PERCENT EXCEEDS	2.9	2.2	2.0
90 PERCENT EXCEEDS	1.4	.92	.82

a July 5-8, 13, 14, Aug. 9, 10, 15-17.

b July 22-26, 28-31, Aug. 1, 2, 1993.



POTOMAC RIVER BASIN

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 mi².

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 (backwater from beaver activity), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8	2130	502	6.00	Dec. 2	0830	559	6.25
Oct. 19	1930	590	6.38	Dec. 14	0530	*1,080	*7.44
Nov. 9	0830	742	6.79	June 27	1230	660	6.60

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	23	122	51	56	114	72	40	11	9.3	.17	1.2
2	22	22	428	50	47	101	55	34	18	29	.21	1.1
3	26	21	119	49	47	187	52	33	58	36	.12	.80
4	13	20	75	47	49	241	50	31	32	14	.10	.69
5	12	20	63	47	297	102	47	28	17	8.3	.08	.41
6	11	20	310	45	126	98	50	27	13	6.5	.07	.22
7	11	21	180	41	80	74	54	25	12	5.4	1.1	.15
8	176	168	214	39	88	69	43	23	11	4.8	.86	.09
9	247	600	100	50	90	60	40	28	10	4.0	1.1	.15
10	71	96	78	78	80	71	38	35	8.3	3.6	.24	.15
11	37	60	69	70	68	61	38	25	7.4	3.3	.10	.91
12	28	50	63	48	64	54	48	22	7.1	e3.0	.07	e.40
13	24	43	477	41	60	51	66	21	17	e2.7	.04	e.14
14	22	41	691	39	116	73	41	20	26	e2.4	.02	e.05
15	19	39	160	39	341	73	38	19	17	e2.2	.00	e.04
16	17	36	121	94	142	53	37	16	10	e2.0	.00	e.03
17	16	35	105	57	97	49	41	15	8.0	e1.8	.01	e.02
18	23	35	92	39	81	52	53	15	10	e1.5	17	e.30
19	537	40	139	37	75	172	38	14	32	13	6.1	8.0
20	161	33	95	42	67	109	34	12	11	3.4	182	4.0
21	73	30	74	45	65	74	34	12	8.4	1.2	126	8.9
22	51	29	70	47	63	65	37	9.6	9.2	.98	19	e4.0
23	43	29	72	62	55	55	35	8.6	14	2.4	8.6	e2.0
24	38	27	75	48	53	52	46	8.3	8.2	17	5.7	e1.2
25	33	26	105	143	52	51	36	9.4	5.4	11	4.4	e.65
26	31	144	68	62	51	107	32	81	76	4.6	4.0	.41
27	29	63	83	49	62	70	34	32	319	3.1	3.5	.22
28	30	40	67	126	51	57	180	17	32	2.5	3.1	.30
29	27	35	63	86	---	56	67	12	15	3.0	2.6	2.2
30	26	33	58	58	---	55	46	12	9.7	2.1	2.0	13
31	25	---	55	55	---	129	---	11	---	.65	1.3	---
TOTAL	1894	1879	4491	1784	2523	2635	1482	695.9	832.7	204.73	389.59	51.73
MEAN	61.1	62.6	145	57.5	90.1	85.0	49.4	22.4	27.8	6.60	12.6	1.72
MAX	537	600	691	143	341	241	180	81	319	36	182	13
MIN	11	20	55	37	47	49	32	8.3	5.4	.65	.00	.02
CFSM	1.55	1.59	3.67	1.46	2.28	2.15	1.25	.57	.70	.17	.32	.04
IN.	1.78	1.77	4.23	1.68	2.38	2.48	1.40	.66	.78	.19	.37	.05

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

MEAN	33.7	53.6	63.8	69.3	81.8	66.6	48.8	31.4	19.0	19.9	27.5
MAX	177	95.8	153	217	188	268	218	189	173	92.7	88.8
(WY)	1980	1973	1973	1978	1972	1994	1983	1989	1972	1975	1971
MIN	1.31	1.27	5.26	5.96	23.6	17.5	18.1	11.1	1.42	.14	.006
(WY)	1987	1992	1966	1981	1977	1981	1985	1986	1986	1966	1977

POTOMAC RIVER BASIN

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1966 - 1997
ANNUAL TOTAL	26549.6	18862.65	
ANNUAL MEAN	72.5	51.7	45.3
HIGHEST ANNUAL MEAN			85.9
LOWEST ANNUAL MEAN			13.4
HIGHEST DAILY MEAN	918	Jan 19	4500
LOWEST DAILY MEAN	4.0	Sep 3	.00
ANNUAL SEVEN-DAY MINIMUM	6.3	Aug 20	(a)
INSTANTANEOUS PEAK FLOW			.03
INSTANTANEOUS PEAK STAGE			Aug 11
INSTANTANEOUS LOW FLOW			Dec 14
ANNUAL RUNOFF (CFSM)	1.84		1080
ANNUAL RUNOFF (INCHES)	25.00		7.44
10 PERCENT EXCEEDS	155		Dec 14
50 PERCENT EXCEEDS	48		(c) 8540
90 PERCENT EXCEEDS	11		11.21
			.00
			.00
			(f)
			1.15
			15.57
			90
			24
			1.6

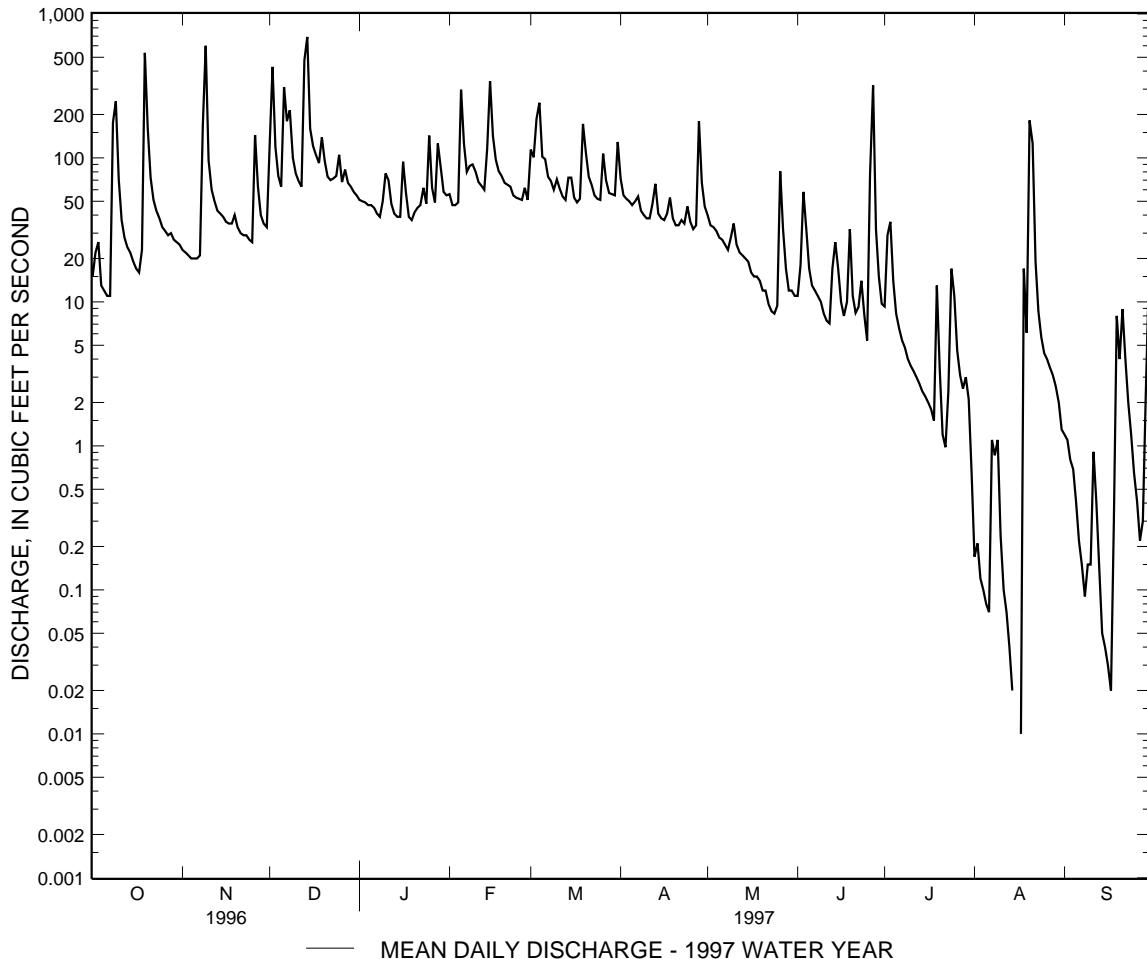
a Aug. 15, 16.

b Many days.

c From rating curve extended above 1,700 ft³/s on basis of contracted-opening measurement of peak flow at bridge 100 ft upstream.

d Aug. 15-17.

f No flow at times in 1966, 1970, 1977, 1980-83, 1985-89, 1991-1995, 1997.



POTOMAC RIVER BASIN

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD

LOCATION.--Lat 38°29'26", long 76°55'37", Charles County, Hydrologic Unit 02070011, on left-center downstream side of bridge on Maryland Route 6, 1.0 mi southeast of Newtown, and 1.7 mi downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi².

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 (ice effect), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 14	1800	*863	*3.90			No other peak greater than base discharge	

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	54	93	114	102	124	186	101	24	7.1	2.6	5.3
2	36	52	320	103	93	198	127	82	27	41	2.0	4.4
3	46	52	378	99	86	228	104	74	62	133	1.8	4.7
4	42	50	217	95	84	422	96	70	75	60	4.4	4.9
5	30	47	126	92	238	355	90	61	49	22	4.3	4.5
6	23	48	262	89	348	228	89	55	33	12	4.8	4.3
7	19	48	364	81	218	177	111	50	28	7.3	4.2	3.7
8	114	66	439	75	161	138	97	47	25	5.0	3.7	2.8
9	439	285	371	82	175	122	81	50	21	3.8	3.6	2.3
10	411	314	206	137	166	119	72	78	16	15	3.4	1.9
11	167	156	144	169	143	118	69	75	13	16	2.7	1.6
12	90	91	123	136	125	108	79	56	11	7.2	2.1	1.4
13	65	72	256	111	116	101	144	48	21	4.1	1.7	1.2
14	54	64	791	89	165	109	117	45	62	2.6	1.3	e.60
15	46	61	583	83	404	156	85	45	45	1.7	.94	1.8
16	41	59	292	126	464	130	75	41	27	1.3	e.50	2.6
17	39	57	208	204	278	107	75	37	17	1.1	e.10	2.5
18	41	56	176	127	176	102	102	36	18	.94	e.00	2.0
19	340	59	205	79	154	236	91	33	103	1.1	e.00	1.5
20	550	60	234	71	138	351	74	29	57	1.1	27	e.90
21	342	56	192	e72	124	231	67	25	26	1.2	153	5.3
22	173	54	152	e77	125	151	73	21	15	1.1	102	8.1
23	109	52	131	e85	116	120	76	19	9.9	1.2	23	7.8
24	87	50	131	e100	104	104	111	18	6.4	11	9.4	6.4
25	77	49	160	e85	98	97	118	18	4.9	22	6.3	4.3
26	67	72	155	119	94	165	86	43	4.4	9.1	5.0	4.6
27	60	116	134	92	112	225	76	70	99	4.0	4.6	4.0
28	59	94	132	123	110	145	233	44	54	4.4	4.2	3.8
29	57	67	122	194	---	120	272	30	21	16	5.1	4.3
30	55	58	113	138	---	120	143	26	9.9	7.2	8.5	4.1
31	55	---	116	108	---	164	---	26	---	3.5	6.2	---
TOTAL	3777	2419	7326	3355	4717	5271	3219	1453	984.5	424.04	398.44	107.60
MEAN	122	80.6	236	108	168	170	107	46.9	32.8	13.7	12.9	3.59
MAX	550	314	791	204	464	422	272	101	103	133	153	8.1
MIN	19	47	93	71	84	97	67	18	4.4	.94	.00	.60
CFSM	1.52	1.01	2.96	1.35	2.11	2.13	1.34	.59	.41	.17	.16	.04
IN.	1.76	1.13	3.41	1.56	2.20	2.45	1.50	.68	.46	.20	.19	.05

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

	48.7	75.7	110	133	139	183	133	107	61.5	32.2	30.9	30.6
MEAN	163	139	236	268	261	491	277	334	311	93.5	113	127
(WY)	1990	1986	1997	1996	1994	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

POTOMAC RIVER BASIN

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1983 - 1997
ANNUAL TOTAL	48532.6	33451.58	
ANNUAL MEAN	133	91.6	90.5
HIGHEST ANNUAL MEAN			137
LOWEST ANNUAL MEAN			43.5
HIGHEST DAILY MEAN	1500	Jan 20	2570
LOWEST DAILY MEAN	5.6	Jul 7	.00
ANNUAL SEVEN-DAY MINIMUM	9.5	Jul 6	.00
INSTANTANEOUS PEAK FLOW			Jul 20 1987
INSTANTANEOUS PEAK STAGE			Mar 29 1994
INSTANTANEOUS LOW FLOW			Mar 29 1994
ANNUAL RUNOFF (CFSM)	1.66	1.15	5.26
ANNUAL RUNOFF (INCHES)	22.60	15.57	1.13
10 PERCENT EXCEEDS	294	207	15.40
50 PERCENT EXCEEDS	97	69	200
90 PERCENT EXCEEDS	23	3.5	52
			2.1

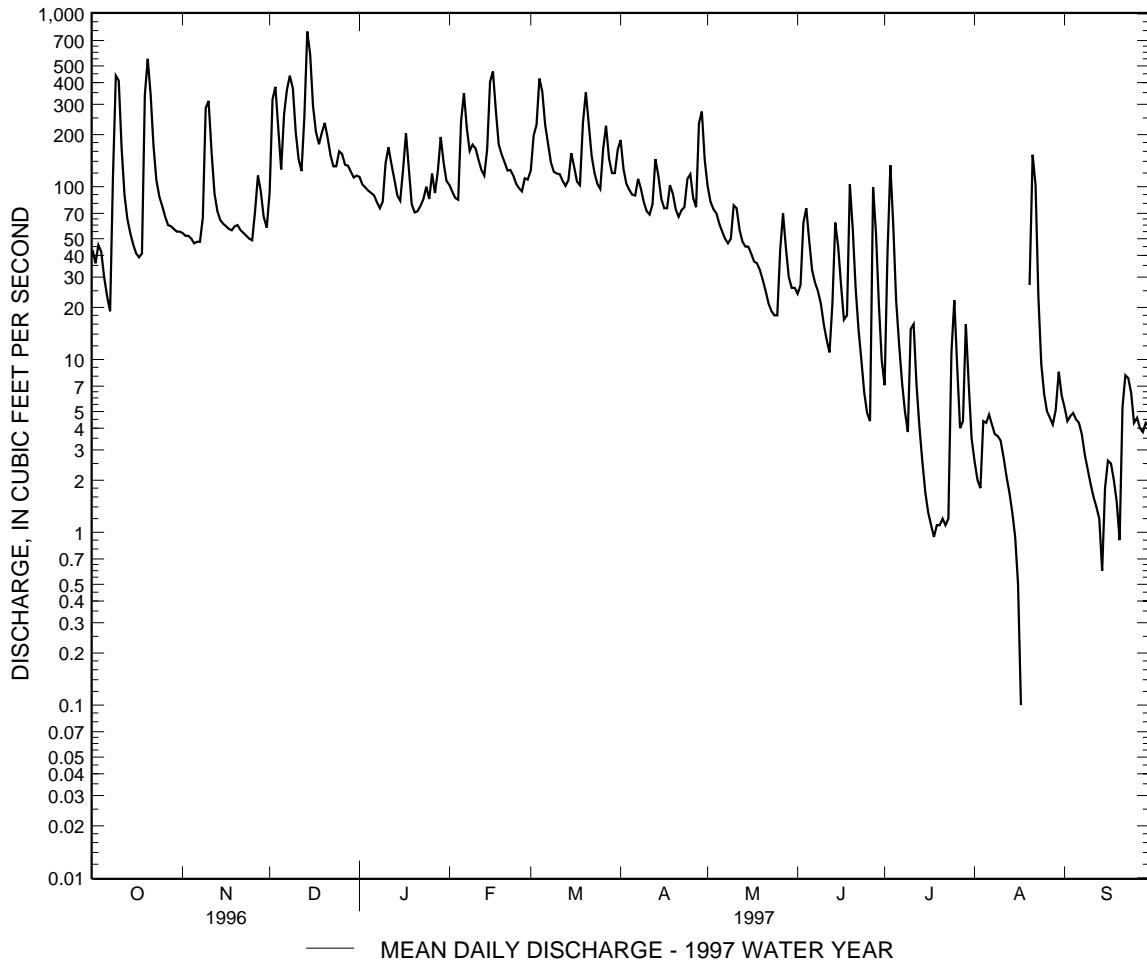
e Estimated.

a Aug. 18, 19.

b Many days.

c Aug. 17-19.

d No flow at times in 1983, 1985-89, 1991, 1993, 1995-97.



POTOMAC RIVER BASIN

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD

LOCATION.--Lat 38°20'00", long 76°43'31", St. Marys County, Hydrologic Unit 02070011, on left bank 60 ft downstream from bridge on State Highway 242, 0.5 mi north of Clements, 2.3 mi upstream from mouth, and 5.7 mi northwest of Leonardtown.

DRAINAGE AREA.--18.5 mi².

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 and backwater from beaverdam), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0800	*305	*4.09	Dec. 2	1000	228	3.52

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e19	e12	50	26	23	34	35	28	15	2.4	1.4	2.4
2	e15	e12	168	23	21	36	28	24	20	70	1.1	2.4
3	e13	e12	53	23	21	68	27	23	32	28	1.1	9.3
4	e12	e12	33	22	21	73	27	21	27	8.6	2.7	3.0
5	e11	e12	28	23	60	45	26	18	14	6.6	2.9	2.0
6	e11	e12	90	21	39	88	29	19	11	5.6	2.5	1.6
7	e25	e12	83	20	28	39	33	17	10	4.5	2.1	1.7
8	e90	e24	102	19	38	33	25	16	9.4	4.0	1.2	1.6
9	84	64	43	28	45	29	22	20	8.5	3.5	.97	1.8
10	63	29	32	45	37	33	21	25	7.5	11	.67	2.2
11	26	20	30	35	31	30	22	17	7.1	6.0	.51	2.7
12	16	17	28	23	28	26	32	15	7.2	3.6	.44	6.5
13	14	15	99	20	27	24	43	13	13	2.8	.50	3.9
14	12	15	107	19	52	31	26	13	30	2.2	3.7	2.5
15	11	14	43	19	98	33	23	16	15	1.8	2.9	1.9
16	11	14	35	51	51	25	22	12	9.2	1.6	1.2	1.8
17	12	14	34	32	35	24	26	11	7.5	2.0	.68	1.6
18	18	14	31	19	30	27	31	11	7.5	1.9	.50	1.9
19	206	17	62	17	29	85	22	11	26	1.3	.64	3.3
20	55	16	41	19	28	58	20	9.5	10	1.2	59	2.4
21	30	14	28	22	27	37	21	8.7	6.9	1.1	e83	6.2
22	23	14	28	25	30	32	26	8.1	5.2	1.4	e17	3.8
23	19	13	29	36	26	28	30	8.1	4.3	e6.4	e4.8	2.3
24	17	15	31	27	23	26	50	8.3	3.4	e50	e3.4	1.9
25	15	15	39	27	22	25	32	8.9	2.9	e36	e3.0	2.0
26	14	36	28	22	24	87	23	35	2.7	e7.7	2.6	2.3
27	e14	29	32	19	33	54	26	22	4.4	e5.1	2.3	1.9
28	e13	17	29	44	26	35	124	12	3.4	e3.2	2.2	1.9
29	e13	14	27	38	---	34	49	10	2.4	4.0	7.9	3.8
30	e13	14	25	25	---	35	32	11	2.1	2.8	4.5	2.5
31	e12	---	29	25	---	46	---	11	---	1.7	2.8	---
TOTAL	907	538	1517	814	953	1280	953	482.6	324.6	288.0	220.21	85.1
MEAN	29.3	17.9	48.9	26.3	34.0	41.3	31.8	15.6	10.8	9.29	7.10	2.84
MAX	206	64	168	51	98	88	124	35	32	70	83	9.3
MIN	11	12	25	17	21	24	20	8.1	2.1	1.1	.44	1.6
CFSM	1.58	.97	2.65	1.42	1.84	2.23	1.72	.84	.58	.50	.38	.15
IN.	1.82	1.08	3.05	1.64	1.92	2.57	1.92	.97	.65	.58	.44	.17

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

MEAN	10.7	14.9	21.3	26.6	29.1	34.1	26.7	22.0	16.0	11.8	11.0	11.8
MAX	46.8	45.3	48.9	77.4	85.8	115	54.7	57.9	116	56.4	45.0	75.2
(WY)	1980	1980	1997	1978	1979	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

POTOMAC RIVER BASIN

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD--Continued

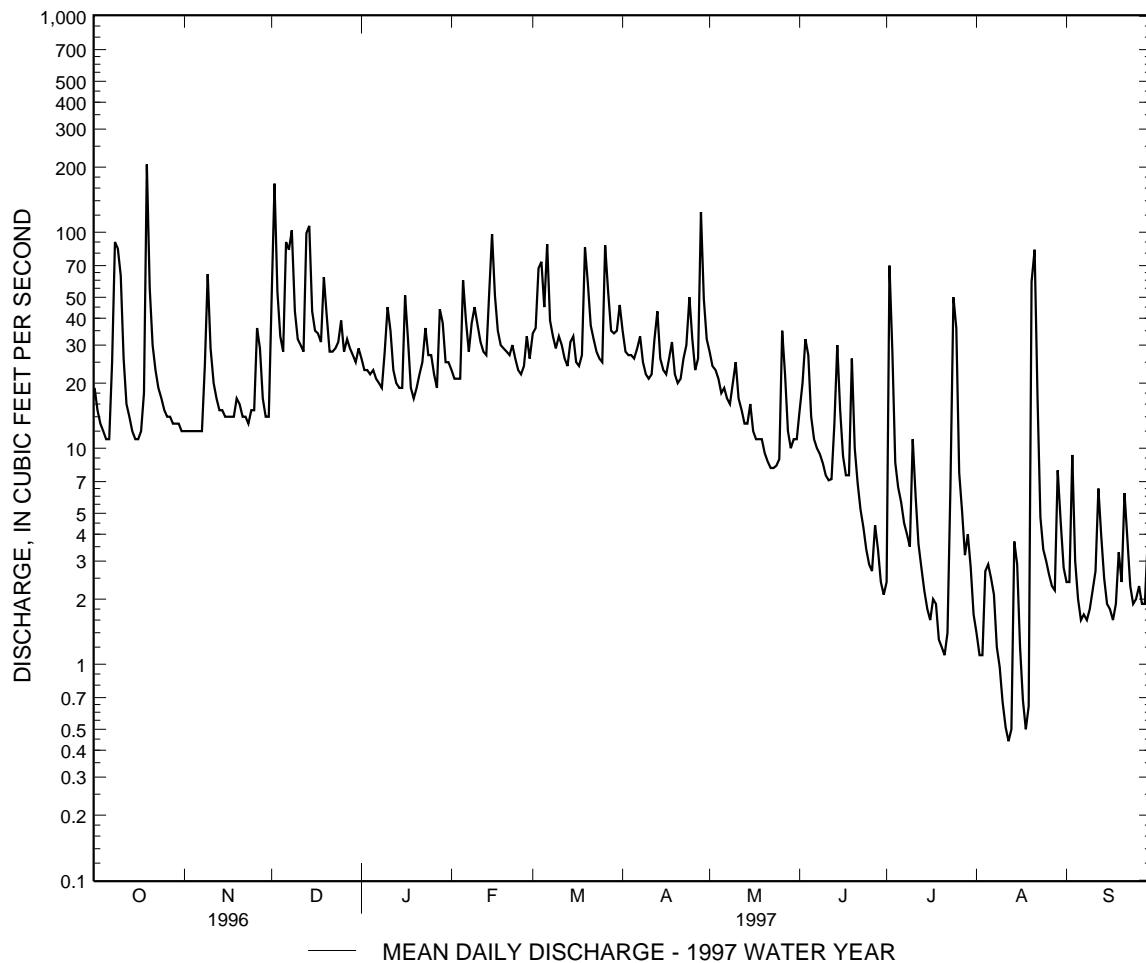
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1969 - 1997
ANNUAL TOTAL	10217.9	8362.51	
ANNUAL MEAN	27.9	22.9	19.6
HIGHEST ANNUAL MEAN			34.5
LOWEST ANNUAL MEAN			9.19
HIGHEST DAILY MEAN	347	Jan 19	1580
LOWEST DAILY MEAN	5.0	Jul 7	Jun 22 1972
ANNUAL SEVEN-DAY MINIMUM	7.1	Aug 30	.44 Aug 12 .91 Aug 7 .37 Aug 12
INSTANTANEOUS PEAK FLOW			Oct 19 Oct 19
INSTANTANEOUS PEAK STAGE			4.09 Oct 19
INSTANTANEOUS LOW FLOW			(b) 4500 Sep 6 1979
ANNUAL RUNOFF (CFSM)	1.51	1.24	(c) 6.96 Sep 6 1979
ANNUAL RUNOFF (INCHES)	20.55	16.82	.00 (d)
10 PERCENT EXCEEDS	50	45	1.06
50 PERCENT EXCEEDS	20	19	14.41
90 PERCENT EXCEEDS	9.6	2.1	38
			12
			1.3

a Many days

b From rating curve extended above 480 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

c Backwater from tide; maximum gage height unaffected by backwater, 6.55 ft, June 22, 1972.

d No flow at times in 1977, 1980, 1981, 1983, 1985-89, 1991, 1993, 1995.



POTOMAC RIVER BASIN

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 mi².

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.--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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8	2030	635	5.97				
Oct. 19	0730	*803	*6.96				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	52	27	19	30	34	45	11	5.7	5.0	4.7
2	12	15	143	21	18	27	28	33	12	197	4.3	4.8
3	11	14	79	19	31	47	26	29	16	44	4.0	17
4	8.5	13	52	17	80	49	25	27	23	16	5.9	12
5	7.3	13	39	17	94	33	25	20	15	11	6.1	7.2
6	6.9	13	131	16	65	68	24	17	12	9.3	5.2	5.2
7	6.9	14	112	14	35	36	31	16	11	8.0	4.9	4.4
8	271	24	147	14	35	24	24	17	11	7.1	4.8	4.0
9	253	71	80	23	43	19	21	17	9.9	6.4	3.9	4.1
10	238	35	53	41	33	22	19	20	8.9	23	3.4	4.2
11	95	25	47	30	26	19	18	17	8.1	13	3.0	5.0
12	53	20	35	21	22	17	26	15	7.8	9.3	3.1	5.2
13	36	17	126	18	20	16	36	13	50	7.6	3.4	4.6
14	28	16	175	16	60	22	25	13	66	6.4	6.1	4.1
15	26	15	89	16	120	24	21	13	33	5.5	4.2	3.9
16	18	14	125	48	57	18	23	12	20	4.8	3.6	3.6
17	17	14	188	33	33	16	23	11	14	4.5	3.2	3.4
18	36	14	180	e20	25	19	26	11	12	3.9	7.2	3.3
19	518	16	212	17	22	125	20	11	16	3.5	4.6	3.3
20	184	15	187	16	19	89	18	10	12	3.0	122	3.6
21	85	14	164	17	18	59	18	9.6	9.6	3.1	64	9.2
22	53	15	132	19	18	47	22	8.9	9.2	3.7	24	5.3
23	40	14	105	25	16	36	27	8.3	7.1	9.5	14	4.4
24	31	13	98	20	15	32	67	8.2	5.9	67	10	3.9
25	25	13	103	20	15	28	41	8.7	5.1	30	8.3	3.7
26	21	45	61	17	15	73	34	29	7.7	16	7.0	3.8
27	19	32	34	16	20	62	29	20	15	12	6.2	3.6
28	18	22	26	36	19	45	185	15	10	9.7	5.5	4.2
29	16	19	21	32	---	38	112	12	6.9	8.7	5.6	6.8
30	17	18	18	24	---	33	63	11	5.8	6.8	5.2	4.7
31	15	---	43	21	---	40	---	12	---	5.7	4.4	---
TOTAL	2179.6	597	3057	691	993	1213	1091	509.7	451.0	561.2	362.1	157.2
MEAN	70.3	19.9	98.6	22.3	35.5	39.1	36.4	16.4	15.0	18.1	11.7	5.24
MAX	518	71	212	48	120	125	185	45	66	197	122	17
MIN	6.9	13	18	14	15	16	18	8.2	5.1	3.0	3.0	3.3
CFSM	2.93	.83	4.11	.93	1.48	1.63	1.52	.69	.63	.75	.49	.22
IN.	3.38	.93	4.74	1.07	1.54	1.88	1.69	.79	.70	.87	.56	.24

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1997, BY WATER YEAR (WY)

MEAN	12.9	18.3	29.1	34.0	34.9	44.6	32.5	25.5	15.1	14.7	17.4	13.2
MAX	70.3	84.4	98.6	125	114	166	95.9	97.4	68.4	68.7	118	112
(WY)	1997	1957	1997	1978	1979	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

POTOMAC RIVER BASIN

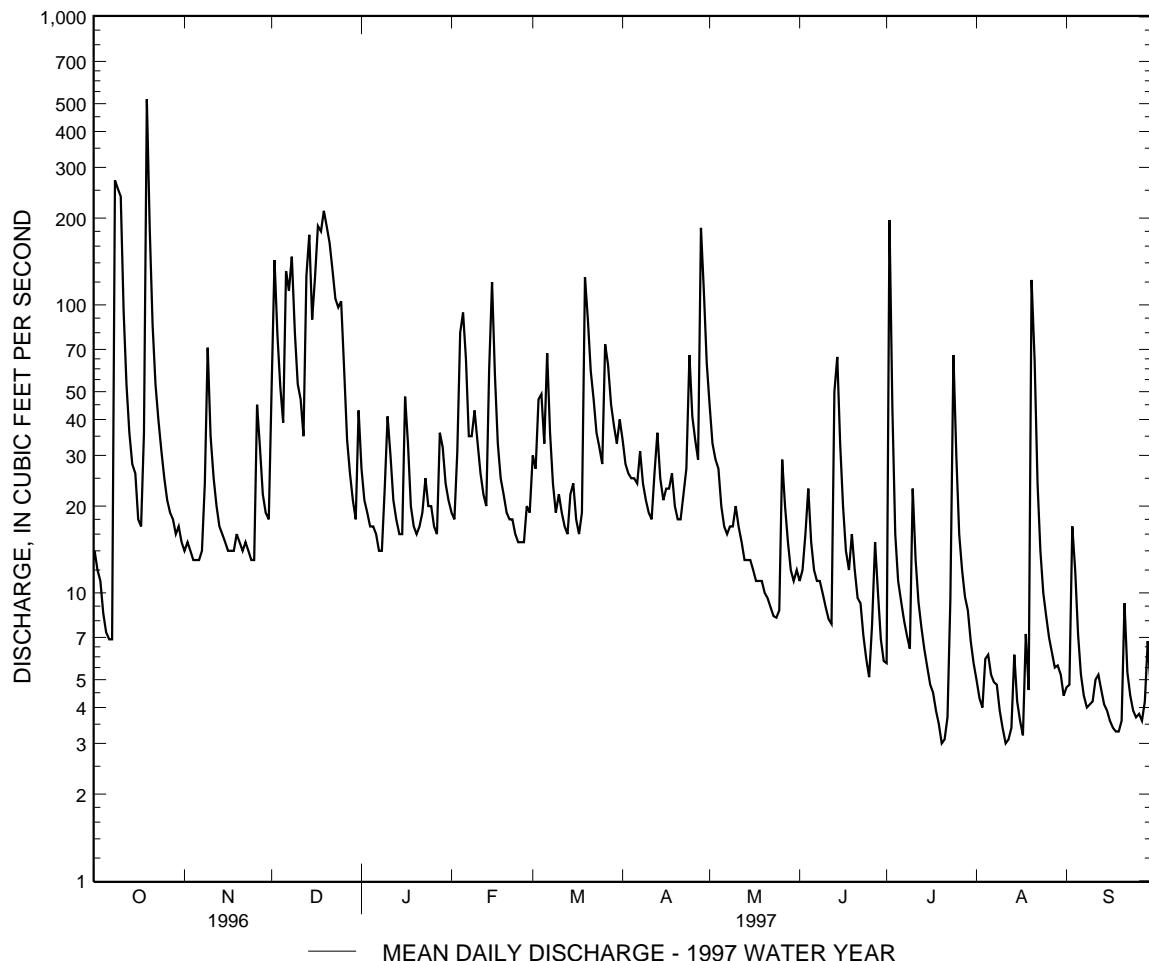
01661500 ST. MARYS RIVER AT GREAT MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1946 - 1997
ANNUAL TOTAL	15813.2	11862.8	
ANNUAL MEAN	43.2	32.5	24.3
HIGHEST ANNUAL MEAN			49.1
LOWEST ANNUAL MEAN			11.1
HIGHEST DAILY MEAN	709	Jul 13	2260
LOWEST DAILY MEAN	4.6	Sep 3	Aug 13 1955
ANNUAL SEVEN-DAY MINIMUM	5.3	Aug 30	.30 Sep 7 1966
INSTANTANEOUS PEAK FLOW			.39 Sep 3 1966
INSTANTANEOUS PEAK STAGE		518 Oct 19	(b) 7950 Aug 20 1969
INSTANTANEOUS LOW FLOW		803 Oct 19	13.34 Aug 20 1969
ANNUAL RUNOFF (CFSM)	1.80	6.96 Oct 19	.20 Sep 7 1966
ANNUAL RUNOFF (INCHES)	24.51	2.7 (c)	1.01
10 PERCENT EXCEEDS	106	72	13.74
50 PERCENT EXCEEDS	18	18	48
90 PERCENT EXCEEDS	8.7	4.7	12
			3.3

a July 20, Aug. 11.

b From rating curve extended above 1,500 ft³/s on basis of contracted-opening measurement at gage height 12.08 ft.

c July 20, 21.



MONONGAHELA RIVER BASIN

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, Hydrologic Unit 05020006, on left bank 200 ft downstream from Baltimore and Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1.2 mi northwest of Oakland, and 1.5 mi upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 mi².

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 (ice effect), which are fair. Town of Oakland diverted an average of 0.4 ft³/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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	0700	*2,740	*6.02	Mar. 4	1900	2,330	5.61
Mar. 2	1900	2,440	5.72	Mar. 6	0430	2,380	5.66

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	401	213	1430	e255	333	660	392	241	188	122	30	67
2	380	190	2350	e240	267	1760	375	202	242	108	26	66
3	257	166	1210	e230	253	1790	312	179	250	91	26	55
4	221	146	737	e212	319	1870	269	241	417	73	267	53
5	205	135	514	201	1230	1860	232	192	271	63	276	43
6	154	124	425	198	749	2090	204	181	219	57	117	39
7	200	120	350	168	517	1270	180	172	188	52	79	36
8	109	861	323	148	424	872	152	156	164	46	58	35
9	117	1440	277	154	343	627	145	362	141	47	47	33
10	284	867	241	158	280	617	133	575	123	110	40	62
11	194	577	518	124	239	478	124	649	109	58	35	84
12	152	423	998	130	210	383	118	474	101	42	32	56
13	133	333	1140	116	186	311	128	422	606	36	44	42
14	120	281	907	110	181	504	117	354	444	35	70	37
15	112	233	633	102	221	633	104	301	250	32	46	37
16	103	207	478	163	199	448	94	271	186	28	36	40
17	94	191	388	165	167	385	123	231	177	28	223	47
18	96	203	309	e120	201	359	160	203	259	31	513	52
19	274	243	260	e95	515	776	157	183	416	44	246	58
20	1090	212	207	e85	1080	640	134	347	203	32	246	65
21	1340	193	189	e80	684	496	133	267	159	25	424	102
22	1310	178	172	136	563	395	145	224	138	25	320	73
23	861	160	252	498	415	322	129	194	124	54	236	63
24	555	152	441	324	330	269	127	171	100	402	175	46
25	397	148	545	760	268	230	156	222	87	235	140	35
26	307	1350	e380	520	236	1100	162	1340	364	95	115	27
27	315	943	e320	366	239	775	147	685	492	67	96	24
28	346	584	e295	1230	196	528	358	432	203	56	181	40
29	358	423	e300	716	---	432	356	315	149	61	132	503
30	291	465	e310	480	---	367	278	259	124	46	98	182
31	249	---	e285	379	---	421	---	209	---	35	80	---
TOTAL	11025	11761	17184	8663	10845	23668	5644	10254	6894	2236	4454	2102
MEAN	356	392	554	279	387	763	188	331	230	72.1	144	70.1
MAX	1340	1440	2350	1230	1230	2090	392	1340	606	402	513	503
MIN	94	120	172	80	167	230	94	156	87	25	26	24
CFSM	2.65	2.93	4.14	2.09	2.89	5.70	1.40	2.47	1.71	.54	1.07	.52
IN.	3.06	3.26	4.77	2.40	3.01	6.57	1.57	2.85	1.91	.62	1.24	.58

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

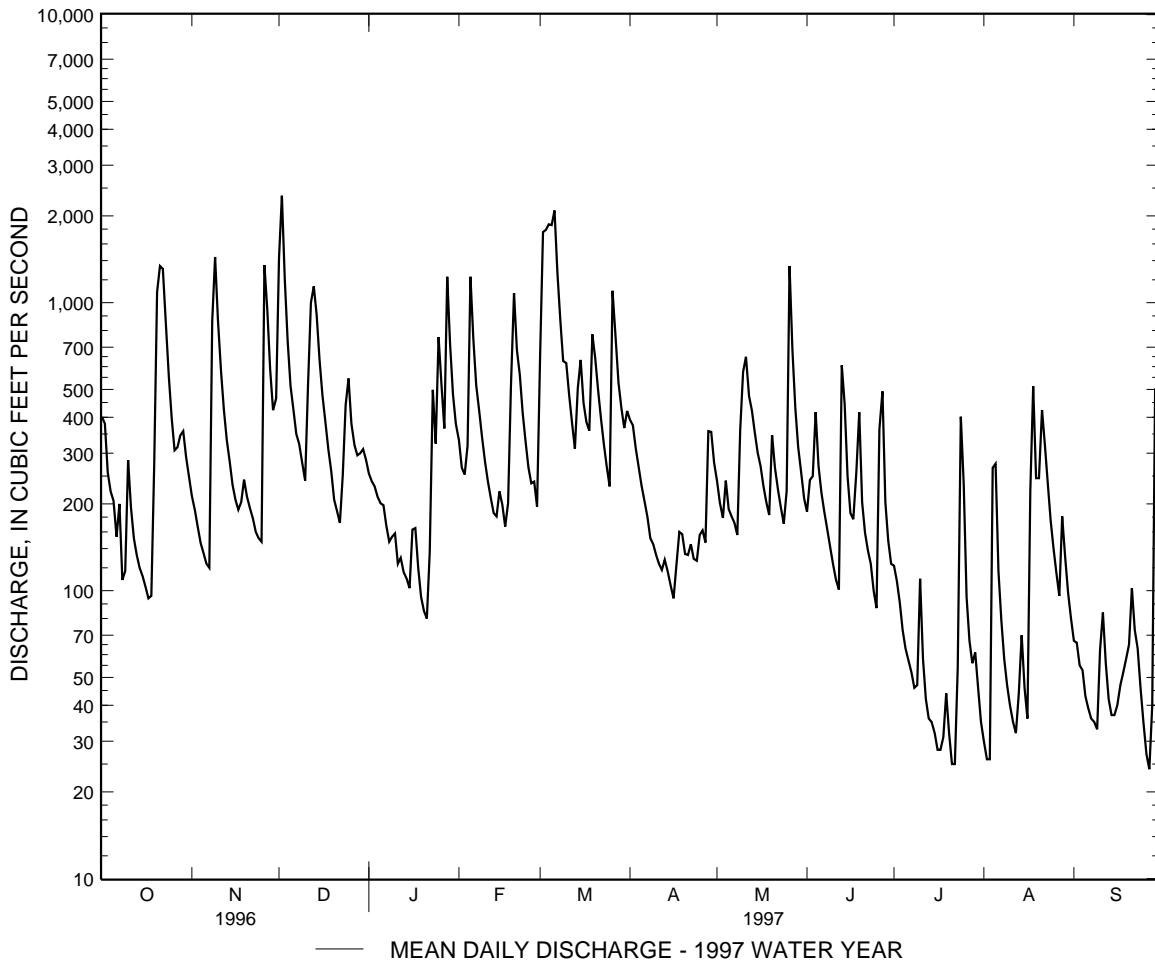
MEAN	118	242	412	431	496	610	446	337	202	162	134	88.9
MAX	608	1152	1027	973	1100	1477	879	995	730	629	586	601
(WY)	1955	1986	1973	1996	1986	1963	1973	1996	1981	1978	1956	1996
MIN	4.45	7.08	62.2	63.2	127	168	121	76.0	24.0	10.3	10.5	5.99
(WY)	1954	1954	1944	1977	1978	1990	1946	1982	1965	1953	1944	1953

MONONGAHELA RIVER BASIN

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1941 - 1997
ANNUAL TOTAL	207990	114730	
ANNUAL MEAN	568	314	306
HIGHEST ANNUAL MEAN			518 1996
LOWEST ANNUAL MEAN			193 1947
HIGHEST DAILY MEAN	8740	Jan 19	8740 Jan 19 1996
LOWEST DAILY MEAN	25	(a)	2.5 Oct 4 1953
ANNUAL SEVEN-DAY MINIMUM	33	Jul 11	30 Jul 16 2.7 Oct 2 1953
INSTANTANEOUS PEAK FLOW			2740 Dec 2 (b) 14100 Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.02 Dec 2 13.06 Jan 19 1996
INSTANTANEOUS LOW FLOW			20 Sep 28 UNKNOWN
ANNUAL RUNOFF (CFSM)	4.24		2.35 2.28
ANNUAL RUNOFF (INCHES)	57.74		31.85 31.02
10 PERCENT EXCEEDS	1330		653 722
50 PERCENT EXCEEDS	332		207 166
90 PERCENT EXCEEDS	112		46 24

a July 13, 14.

b From rating curve extended above 7,000 ft³/s.

MONONGAHELA RIVER BASIN

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 OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2458.7	80800	
Oct. 31	2457.9	77900	-2900
Nov. 30	2457.3	75700	-2200
Dec. 31	2456.3	72200	-3500
CAL YR 1996			-1400
Jan. 31	2456.8	73900	+1700
Feb. 28	2457.9	77900	+4000
Mar. 31	2459.0	81900	+4000
Apr. 30	2459.1	82200	+300
May 31	2460.8	88500	+6300
June 30	2460.6	87800	-700
July 31	2459.2	82600	-5200
Aug. 31	2458.7	80800	-1800
Sept. 30	2457.5	76400	-4400
WTR YR 1997			-4400

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MONONGAHELA RIVER BASIN

03076500 YOUGHOGENY 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 mi².

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.--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.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 4,320 ft³/s, Dec. 2, gage height, 5.39 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	615	788	2210	500	620	827	943	439	423	216	153	206
2	579	451	3750	644	516	2540	915	475	906	212	132	263
3	373	446	2750	641	483	3130	796	442	943	310	86	118
4	313	581	2010	616	519	2830	699	446	898	225	181	204
5	286	446	1660	631	2010	3330	519	422	924	221	498	231
6	205	442	1490	461	1450	3780	454	361	607	112	230	189
7	279	428	1340	415	1010	2620	409	368	706	171	145	193
8	188	1220	1300	348	840	1910	356	329	383	118	179	262
9	224	2430	1130	315	1040	1170	581	667	388	91	85	198
10	455	1460	662	338	818	1510	419	975	279	149	97	204
11	498	1120	832	305	537	1340	297	1140	251	213	138	263
12	318	996	1890	297	573	e926	282	880	313	122	87	224
13	280	814	2250	379	511	729	329	741	994	209	84	112
14	330	631	2030	432	529	965	307	674	884	227	115	83
15	240	554	1580	329	405	1170	262	597	520	213	236	169
16	320	429	1360	303	379	849	238	614	419	206	250	79
17	407	410	1180	609	478	1060	263	474	317	217	333	80
18	342	493	1050	280	480	994	419	441	376	217	937	83
19	492	598	961	201	841	1500	330	601	611	194	503	156
20	1590	559	912	139	2160	1470	301	1090	497	105	373	106
21	2310	527	459	137	1660	1250	411	792	420	210	720	146
22	2360	537	403	200	1070	739	303	590	263	79	616	201
23	1660	377	393	654	816	618	284	586	292	79	429	159
24	1260	303	605	676	984	698	276	517	326	190	324	146
25	1120	454	908	1080	698	634	369	627	311	622	333	130
26	876	2020	623	1280	868	1910	400	2170	320	204	220	141
27	742	1980	540	758	633	1660	297	1320	827	181	203	61
28	972	1370	517	1700	564	1250	544	878	341	261	244	61
29	1080	1160	529	1430	---	1020	596	659	246	152	351	638
30	936	768	766	887	---	748	486	636	273	123	283	407
31	843	---	725	699	---	1010	---	475	---	101	160	---
TOTAL	22493	24792	38815	17684	23492	46187	13085	21426	15258	5950	8725	5513
MEAN	726	826	1252	570	839	1490	436	691	509	192	281	184
MAX	2360	2430	3750	1700	2160	3780	943	2170	994	622	937	638
MIN	188	303	393	137	379	618	238	329	246	79	84	61
(†)	-47.1	-37.0	-57.0	+27.6	+72.1	+65.0	+5.0	+102	-11.7	-84.7	-29.3	-74.1
MEAN#	679	789	1195	598	911	1555	441	793	497	107	252	110
CFSM#	2.30	2.67	4.05	2.03	3.09	5.27	1.49	2.69	1.68	0.36	0.85	0.37
IN#	2.65	2.98	4.67	2.34	3.22	6.08	1.66	3.10	1.87	0.42	0.98	0.41

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1905, 1941 - 1997, BY WATER YEAR (WY)

MEAN	286	502	860	883	991	1228	938	700	479	370	303	244
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 Co.

Adjusted for change in reservoir contents.

MONONGAHELA RIVER BASIN

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS	1898 - 1905
			1941 - 1997	
ANNUAL TOTAL	413669	243420		
ANNUAL MEAN	1130	667	645	
ANNUAL MEAN#	1128	661	649	
HIGHEST ANNUAL MEAN			1052	1903
LOWEST ANNUAL MEAN			375	1954
HIGHEST DAILY MEAN	11200	Jan 19	11200	Jan 19 1996
LOWEST DAILY MEAN	90	Jul 11	61 (a)	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	152	Jul 7	108 Sep 14	29 Sep 21 1972
INSTANTANEOUS PEAK FLOW			4320 Dec 2	(b) 16100 Jan 19 1996
INSTANTANEOUS PEAK STAGE			5.39 Dec 2	(c) 14.20 Mar 29 1924
INSTANTANEOUS LOW FLOW			55 (d)	UNKNOWN
ANNUAL RUNOFF (CFSM)	3.83	2.26		2.19
ANNUAL RUNOFF (CFSM)#	3.82	2.24		2.20
ANNUAL RUNOFF (INCHES)	52.16	30.70		29.73
ANNUAL RUNOFF (INCHES)#	51.94	30.42		29.88
10 PERCENT EXCEEDS	2390	1440		1430
50 PERCENT EXCEEDS	818	480		410
90 PERCENT EXCEEDS	256	155		107

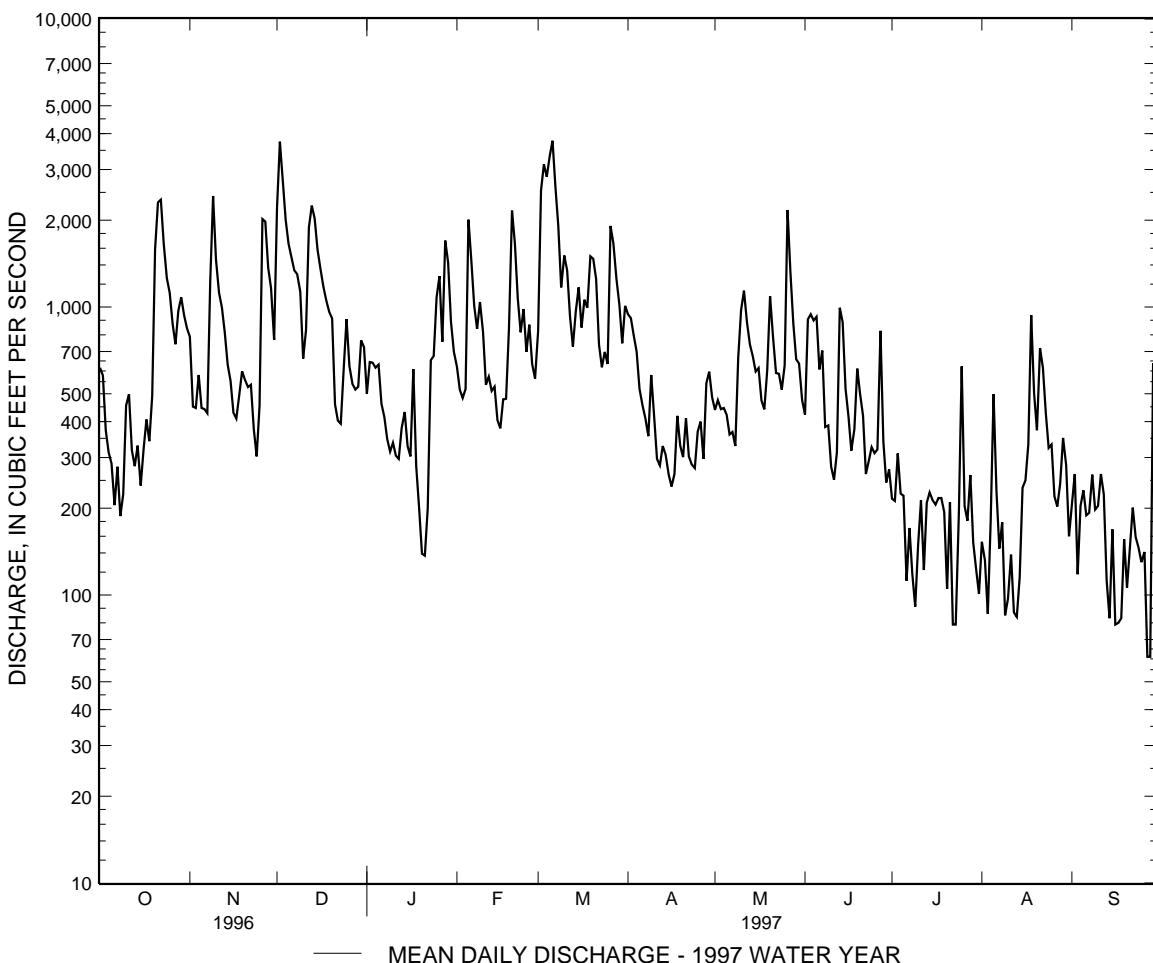
Adjusted for change in reservoir contents since October 1940.

a Sept. 27, 28.

b From rating curve extended above 5,800 ft³/s on basis of slope-area measurement of peak flow.

c From floodmarks, site and datum then in use.

d Aug. 3, Sept. 27, 28.



— MEAN DAILY DISCHARGE - 1997 WATER YEAR

MONONGAHELA RIVER BASIN

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 mi².

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 except those for estimated daily discharges (ice effect), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 660 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	0145	*774	*3.94		May 25	2230	674

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	65	381	84	119	132	140	44	88	27	8.0	13
2	53	64	601	84	97	371	145	42	269	31	7.9	12
3	50	64	373	81	97	381	140	43	226	21	8.8	12
4	46	59	264	79	109	390	127	47	249	18	12	11
5	43	52	188	78	390	479	111	41	206	16	16	9.9
6	40	50	151	74	298	523	98	42	152	15	9.9	9.4
7	39	48	126	68	219	382	84	41	122	14	8.2	9.3
8	39	262	112	63	164	287	72	40	99	14	7.3	11
9	42	353	103	63	129	221	66	67	81	14	6.8	9.6
10	47	246	92	66	107	184	59	88	67	17	6.7	14
11	40	174	189	58	92	146	56	111	59	13	7.9	16
12	34	118	356	e50	82	122	54	108	55	12	7.9	12
13	32	94	376	e45	71	105	58	99	106	11	22	9.8
14	31	80	325	e42	68	152	50	87	81	11	16	11
15	29	70	256	e50	68	186	45	77	60	10	10	8.5
16	27	66	190	e58	60	157	43	67	52	9.8	9.0	7.9
17	27	63	149	e45	56	139	47	60	51	9.3	66	7.7
18	34	64	122	e38	67	133	47	59	48	11	134	8.2
19	73	63	105	e35	180	194	44	109	46	31	55	7.5
20	361	60	89	e42	327	189	42	410	39	13	46	9.2
21	325	58	102	e39	295	174	42	279	35	9.8	55	12
22	278	56	87	e38	274	151	43	189	33	12	51	8.7
23	207	54	75	e150	196	128	41	136	31	29	41	8.0
24	147	53	84	104	145	108	42	110	26	27	33	7.8
25	109	52	87	136	121	96	43	229	24	21	28	7.4
26	91	186	82	125	106	288	39	474	42	14	24	7.2
27	80	171	80	108	97	262	38	307	40	13	20	7.1
28	83	133	82	297	81	204	47	214	27	13	28	9.1
29	79	107	89	216	--	167	45	151	22	13	20	42
30	73	113	89	155	--	137	43	123	20	10	17	25
31	68	--	86	129	--	147	--	103	--	8.8	15	--
TOTAL	2682	3098	5491	2700	4115	6735	1951	3997	2456	488.7	797.4	343.3
MEAN	86.5	103	177	87.1	147	217	65.0	129	81.9	15.8	25.7	11.4
MAX	361	353	601	297	390	523	145	474	269	31	134	42
MIN	27	48	75	35	56	96	38	40	20	8.8	6.7	7.1
CFSM	1.77	2.11	3.62	1.78	3.01	4.44	1.33	2.64	1.67	.32	.53	.23
IN.	2.04	2.36	4.18	2.05	3.13	5.12	1.48	3.04	1.87	.37	.61	.26

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

MEAN	36.3	71.1	123	116	152	193	151	105	51.8	51.0	32.5	33.3
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

MONONGAHELA RIVER BASIN

03076600 BEAR CREEK AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1965 - 1997
ANNUAL TOTAL	55511	34854.4	
ANNUAL MEAN	152	95.5	92.9
HIGHEST ANNUAL MEAN			133
LOWEST ANNUAL MEAN			53.4
HIGHEST DAILY MEAN	2400	Jan 19	1996
LOWEST DAILY MEAN	14	(a)	1966
ANNUAL SEVEN-DAY MINIMUM	16	Aug 30	3100
INSTANTANEOUS PEAK FLOW		601 Dec 2	Sep 14 1971
INSTANTANEOUS PEAK STAGE		6.7 Aug 10	(b)
INSTANTANEOUS LOW FLOW		7.8 Aug 6	2.0 Sep 7 1966
ANNUAL RUNOFF (CFSM)	3.10	7.74 Dec 2	(c) 4650 Sep 14 1971
ANNUAL RUNOFF (INCHES)	42.23	3.94 Dec 2	(d) 9.60 Sep 14 1971
10 PERCENT EXCEEDS	354	6.7 (f)	1.5 Sep 12 1966
50 PERCENT EXCEEDS	92	1.95	1.90
90 PERCENT EXCEEDS	34	26.52	25.80
		227	229
		63	50
		11	8.7

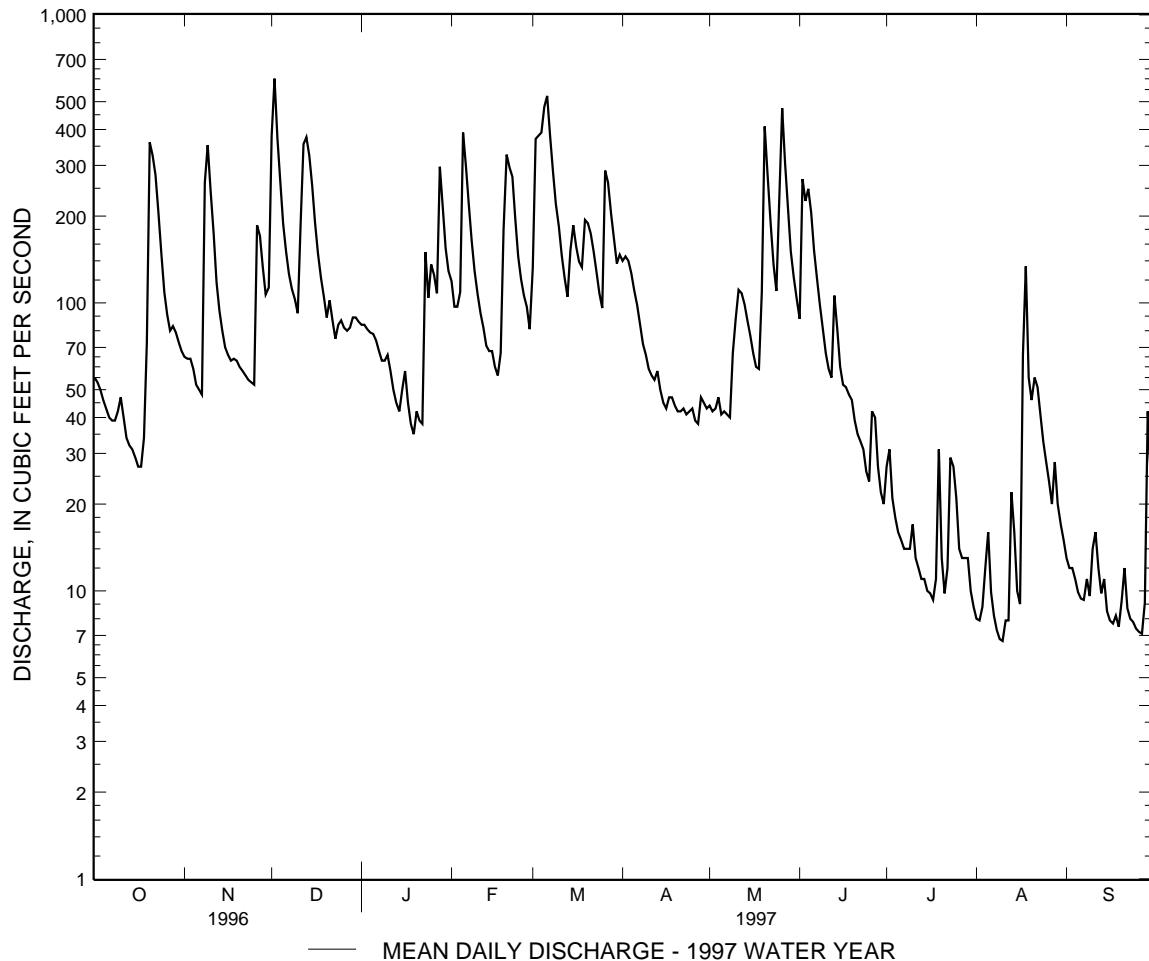
a Sept. 2, 3.

b Sept. 12, 13, 1966.

c From rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow.

d From floodmarks.

f Aug. 9-11.



MONONGAHELA RIVER BASIN

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi upstream from Slaubaugh Run, 0.7 mi downstream from U.S. Highway 40, and 1.0 mi north-east of Grantsville.

DRAINAGE AREA.--62.5 mi².

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 (ice effect), which are fair. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	0400	*1,490	4.22				
Dec. 5	0445	ice jam	(a)*4.72				

a Backwater from ice.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	89	667	103	e155	276	199	65	106	27	6.3	9.8
2	67	83	954	103	e145	519	189	59	516	38	5.9	8.2
3	64	76	384	104	e140	377	159	58	352	28	5.5	7.8
4	56	69	279	107	e155	439	139	73	377	21	7.1	7.2
5	52	66	222	104	e380	559	124	64	232	17	17	6.2
6	49	62	203	97	e250	724	114	61	176	16	11	5.6
7	47	61	180	89	e180	400	103	69	147	14	7.8	5.6
8	53	502	169	91	e160	322	92	61	124	12	5.6	e5.5
9	74	488	154	104	e135	281	91	127	105	12	4.9	e5.5
10	127	261	139	110	e120	265	86	154	90	19	4.3	37
11	86	194	303	102	e105	219	83	160	79	14	4.3	46
12	64	159	565	e85	e95	181	82	117	74	9.9	5.1	31
13	57	138	475	e80	e90	156	100	110	180	8.8	17	20
14	52	126	329	e76	e97	334	86	107	149	7.9	21	14
15	49	112	244	e75	110	368	75	98	94	7.0	9.8	12
16	46	114	208	e100	105	223	68	90	76	6.5	7.7	9.5
17	44	96	187	e90	102	186	74	82	78	6.0	43	8.3
18	62	108	163	e80	107	190	84	80	69	9.2	138	7.9
19	270	111	145	e75	418	290	78	149	62	37	46	7.7
20	586	94	125	e70	650	241	67	405	52	14	83	8.0
21	350	84	130	e68	454	243	65	201	46	8.9	142	13
22	363	78	128	e110	455	198	67	149	41	8.1	65	13
23	246	72	131	281	283	167	62	124	41	23	43	9.8
24	189	70	162	e210	214	148	62	109	33	51	32	7.9
25	153	70	174	e240	176	135	64	292	29	41	25	6.8
26	132	473	154	e190	156	494	58	583	60	21	e22	6.3
27	126	240	109	e150	157	275	56	247	66	14	e19	5.7
28	143	163	119	e460	137	205	98	178	37	12	e17	14
29	142	138	128	e250	---	196	88	145	28	12	e15	146
30	114	174	129	e200	---	183	70	131	24	9.4	e13	54
31	98	---	110	e175	---	225	---	112	---	7.2	e11	---
TOTAL	4035	4571	7569	4179	5731	9019	2783	4460	3543	531.9	854.3	539.3
MEAN	130	152	244	135	205	291	92.8	144	118	17.2	27.6	18.0
MAX	586	502	954	460	650	724	199	583	516	51	142	146
MIN	44	61	109	68	90	135	56	58	24	6.0	4.3	5.5
CFSM	2.08	2.44	3.91	2.16	3.27	4.65	1.48	2.30	1.89	.27	.44	.29
IN.	2.40	2.72	4.51	2.49	3.41	5.37	1.66	2.65	2.11	.32	.51	.32

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1997, BY WATER YEAR (WY)

WY	MEAN	88.1	151	163	196	264	209	137	73.0	49.8	38.1	35.3
1955	288	449	341	376	414	582	468	312	200	175	202	290
1956	586	502	954	460	650	724	199	583	516	51	142	146
1957	44	61	109	68	90	135	56	58	24	6.0	4.3	5.5
1958	1.65	3.38	14.5	26.4	60.3	57.0	77.1	40.1	10.0	4.30	2.87	1.58
1959	1954	1954	1954	1977	1964	1990	1968	1976	1965	1965	1991	1991

MONONGAHELA RIVER BASIN

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1947 - 1997
ANNUAL TOTAL	82745	47815.5	
ANNUAL MEAN	226	131	
HIGHEST ANNUAL MEAN			121
LOWEST ANNUAL MEAN			203
HIGHEST DAILY MEAN	(e) 3600	Jan 19	64.2
LOWEST DAILY MEAN	19	Sep 3	(b).00
ANNUAL SEVEN-DAY MINIMUM	25	Jul 11	.89
INSTANTANEOUS PEAK FLOW		954	(c) 8400
INSTANTANEOUS PEAK STAGE		Dec 2	Oct 15 1954
INSTANTANEOUS LOW FLOW		4.3	Oct 15 1954
ANNUAL RUNOFF (CFSM)	3.62	6.1	(f)
ANNUAL RUNOFF (INCHES)	49.25	Aug 6	1.93
10 PERCENT EXCEEDS	476	1490	26.24
50 PERCENT EXCEEDS	151	Feb 5	281
90 PERCENT EXCEEDS	54	3.8	68
		(a)	8.4
		2.10	
		28.46	
		286	
		95	
		9.3	

e Estimated

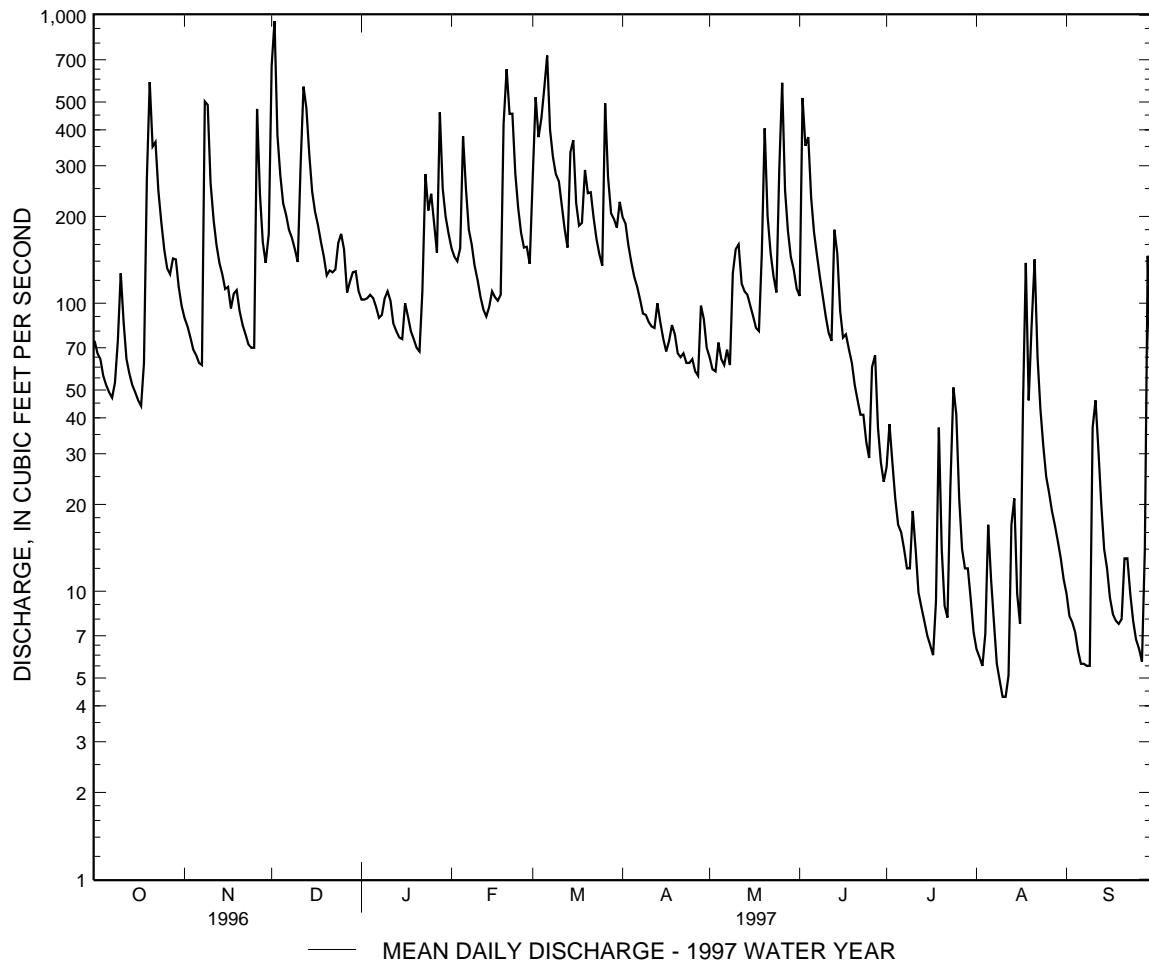
a Aug. 10, 11.

b Result of regulation from unknown source.

c From rating curve extended above 1,600 ft³/s on basis of contracted-opening measurement at gage height 8.13 ft.

d Ice jam.

f Aug. 31, Sept. 1, 1962.



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 1997

Station No.	Station Name	Location	Drainage area (mi ²)	Measurements		
				Period of record	Date	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 Millboro Pond.	5.4	1986-88, 1997	2-20-97 5-22-97 8-12-97	15.2 7.04 1.71
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	2-20-97 5-22-97 8-12-97	15.5 4.68 1.32
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.	7.2	1985-88, 1997	2-20-97 5-22-97 8-12-97	10.0 5.85 2.79
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	2-20-97 5-22-97 8-12-97	17.0 4.24 1.86
01484600	Blackwater Creek near Clarks-ville, 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	2-20-97 5-22-97 8-12-97	6.10 1.03 0.10
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 north-east of Robinsonville, and about 2.8 mi upstream from mouth.	12	1985-88, 1997	2-20-97 5-22-97 8-12-97	12.0 11.2 6.49

* Drainage area was published as 4.5 sq mi.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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	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	2-20-97 5-22-97 8-12-97	7.13 7.17 2.00
MILLER CREEK BASIN						
01484695	Beaverdam Ditch near Millville, 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	2-20-97 5-22-97 8-12-97	5.78 1.00 0.09
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	2-20-97 5-22-97 8-12-97	15.5 3.65 0.75

* Drainage area was published as 6.2 sq mi.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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 1997 maximum Date	Gage height (ft)	Dis- charge (ft ³ /s)	Period of record maximum Date	Gage height (ft)	Dis- charge (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 Kitz- miller. Drainage area is 225 mi ² .	1950-85#, 12-02-96 1986-97	8.26	8,000	10-15-54	a13.73	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#, 12-18-96 1986-97	8.27	7,100	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 down- stream from Mill Run. Drain- age area is 596 mi ² .	1939-85#, 12-02-96 1986-97	8.98	7,440	10-16-54	23.23	37,000		

* Operated as a continuous-record station.

a From floodmark

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Tidal crest-stage partial-record stations

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

Annual maximum stage at tidal crest-stage partial-record stations during water year 1997

Station No.	Station Name	Location	Period of Record	Annual Maximum	
				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.	1995-97	12-13-96	6.26
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, 1995-97	12-13-96	5.96
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 southwest corner of Faulkner's Pier nr near public boat ramp.	1966-86, 1997	12-13-96	6.63
INDIAN RIVER BASIN					
01484549	Vines Creek near Dagsboro, De.	Lat 38°33'23", long 75°12'13", Sussex County, Hydrologic Unit 02060010, on right bank at upstream side of bridge on State Highway 26, 2.4 mi east of Dagsboro and 3.8 mi upstream from the confluence with Indian River at Indian River Bay.	1985-97 (Discontinued)	10- 8-96	4.42
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.	1992-97	10- 8-96	4.46
01484670	Rehoboth Bay at Dewey Beach, De.	Lat 38°41'40", long 75°05'05", Sussex County, Hydrologic Unit 02060010, on north shore of Rehoboth Bay at Head of Bay Cove, at Dewey Beach and at south end of Ventian Drive on bulkhead of a boat slip.	1985-97 (Discontinued)	4-24-97	2.96
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.	1992-97	10- 8-96	4.63

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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 1996 TO SEPTEMBER 1997

CHESTER RIVER BASIN

01493112 CHESTER RIVER TRIBUTARY NEAR CRUMPTON, MARYLAND

DATE	TIME	PH		BARO-		OXYGEN,		CALCIUM	(MG/L)	MAGNE-	SIUM,	SODIUM,			
		SPE-	WATER	METRIC	PRES-	OXYGEN,	(PER-								
		FIELD ANCE (US/CM)	WHOLE ARD (00040)	TEMPER- ATURE (DEG C)	TEMPER- ATURE (DEG C)	SURE OF (00020)	(MM HG)	DIS- SOLVED (00025)	OXYGEN, (MG/L) (00300)	TOTAL CENT (MG/L) (00301)	NESS SATUR- ATION (00301)	CACO3 (00900)	DIS- AS (00915)	DIS- AS CA (00925)	DIS- AS MG (00930)
OCT 1996															
09...	1330	139	6.9	14.5	21.0	755	--	--	44	11	4.0	3.8			
28...	1515	165	6.9	15.5	19.5	758	7.9	80	--	--	--	--			
NOV															
19...	1200	167	6.9	9.5	15.0	758	10.1	89	--	--	--	--			
26...	1400	163	6.7	11.0	12.5	753	9.6	88	--	--	--	--			
DEC															
02...	1630	92	6.7	10.0	6.0	764	6.8	60	--	--	--	--			
09...	1515	123	6.6	6.0	--	758	10.1	82	--	--	--	--			
14...	1230	37	6.3	5.0	5.0	767	11.3	88	10	2.3	0.98	0.60			
JAN 1997															
23...	1230	161	--	6.5	13.5	762	--	--	--	--	--	--			
FEB															
27...	1115	165	7.0	20.0	12.0	755	10.7	119	--	--	--	--			
MAR															
15...	1300	157	6.9	10.0	9.0	764	--	--	53	13	5.0	5.3			
APR															
16...	1115	164	6.8	13.5	18.0	765	12.2	117	--	--	--	--			
MAY															
14...	1200	169	7.0	15.5	21.5	758	9.5	96	--	--	--	--			
JUN															
26...	0930	169	6.9	23.0	34.5	760	6.0	70	56	15	4.6	5.2			
JUL															
22...	1000	167	6.5	20.5	24.5	764	6.4	71	--	--	--	--			
AUG															
15...	1000	172	6.6	20.0	32.0	760	7.1	78	--	--	--	--			
21...	1000	100	6.7	20.5	25.0	756	5.5	61	29	7.3	2.6	2.5			
SEP															
12...	1000	158	6.8	24.5	30.0	764	6.0	72	--	--	--	--			

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

CHESTER RIVER BASIN--Continued

01493112 - CHESTER RIVER TRIBUTARY NEAR CRUMPTON, MARYLAND -- Continued

DATE	POTAS-	ALKA-	LINITY	CHLO-	FLUO-	SILICA,	SOLIDS,	NITRO-	NITRO-	NITRO-
	SIUM,	WAT DIS	SULFATE	RIDE,	RIDE,	DIS-	AT 180	GEN,	GEN,	GEN,
	DIS-	TOT IT	DIS-	DIS-	DIS-	SOLVED	DEG. C	NITRO-	NITRATE	NITRITE
	SOLVED	FIELD	SOLVED	SOLVED	SOLVED	(MG/L AS	(MG/L AS	DIS-	TOTAL	DIS-
	(MG/L AS K)	(MG/L AS CACO ₃)	(MG/L AS SO ₄)	(MG/L AS CL)	(MG/L AS F)	SIO ₂)	(00955)	(MG/L AS N)	SOLVED	SOLVED
	(00935)	(39086)	(00945)	(00940)	(00950)	(70300)	(00600)	(71851)	(MG/L AS NO ₃)	(MG/L AS N)
								(00613)		(00631)
OCT 1996										
09...	5.2	19	6.6	10	<0.10	6.7	84	5.0	20	0.030
28...	--	27	--	--	--	--	--	7.1	30	0.040
NOV										
19...	--	22	--	--	--	--	--	7.1	30	0.020
26...	--	23	--	--	--	--	--	7.1	30	0.050
DEC										
02...	--	15	--	--	--	--	--	3.2	6.9	0.030
09...	--	--	--	--	--	--	--	5.4	21	0.020
14...	3.1	--	2.0	1.4	<0.10	1.1	25	1.3	1.7	0.010
JAN 1997										
23...	--	--	--	--	--	--	--	7.5	32	0.040
FEB										
27...	--	19	--	--	--	--	--	8.6	36	0.030
MAR										
15...	4.3	20	10	13	<0.10	6.4	111	7.1	27	0.060
APR										
16...	--	21	--	--	--	--	--	7.7	33	0.021
MAY										
14...	--	20	--	--	--	--	--	7.7	32	0.050
JUN										
26...	3.4	30	3.5	12	<0.10	10	113	6.1	25	0.031
JUL										
22...	--	30	--	--	--	--	--	6.4	27	0.022
AUG										
15...	--	32	--	--	--	--	--	6.3	27	0.024
21...	5.9	14	6.6	6.8	0.36	4.6	81	3.0	8.4	0.038
SEP										
12...	--	29	--	--	--	--	--	4.9	19	0.033
	NITRO-	NITRO-	NITRO-		PHOS-	PHORUS	ALUM-	MANGA-		SED.
	GEN,	GEN,	GEN,		PHOS-	PHORUS	INUM,	NESE,	CARBON,	SUSP.
	AMMONIA	AMMONIA +	AMMONIA +		PHORUS	DIS-	ORTHO,	IRON,	ORGANIC	MENT,
	DIS-	ORGANIC	ORGANIC		TOTAL	TOTAL	DIS-	DIS-	TOTAL	DIAM.
	SOLVED	TOTAL	TOTAL		(MG/L AS N)	(MG/L AS N)	SOLVED	SOLVED	(UG/L AS MN)	SUS-
DATE	(MG/L AS N)	(MG/L AS N)	(MG/L AS N)		(00608)	(00625)	(00623)	(00665)	(00671)	% FINER
	(00608)	(00625)	(00623)		(00665)	(00666)	(00671)	(01106)	(01046)	(80154)
								(01046)	(01056)	(70331)
OCT 1996										
09...	0.050	0.50	0.40	0.100	0.020	0.010	20	67	74	4.7
28...	0.050	0.30	0.30	0.030	<0.010	<0.010	--	--	--	27
NOV										8
19...	0.030	0.30	<0.20	0.040	<0.010	0.010	--	--	--	5
26...	0.040	0.22	0.25	0.040	<0.010	0.020	--	--	--	10
DEC										
02...	0.110	1.6	0.60	0.870	0.120	0.130	--	--	--	167
09...	0.120	0.60	0.40	0.190	0.020	0.030	--	--	--	23
14...	0.050	0.90	0.30	0.640	0.190	0.160	--	86	48	161
JAN 1997								11		99
23...	0.081	0.18	0.22	<0.001	0.004	<0.002	--	--	--	8
FEB										
27...	0.020	0.40	<0.20	0.080	0.005	0.010	--	--	--	6
MAR										
15...	0.220	1.0	0.60	0.090	0.015	<0.010	--	100	140	4.7
APR										
16...	<0.015	0.28	<0.20	0.051	0.008	<0.010	--	--	--	11
MAY										
14...	0.071	0.38	0.23	0.021	0.008	<0.010	--	--	--	100
JUN										
26...	0.032	0.39	0.22	0.018	0.013	<0.010	--	27	99	2.7
JUL										
22...	0.061	0.35	0.26	0.055	0.009	0.080	--	--	--	4
AUG										
15...	0.034	0.30	0.23	0.010	0.008	<0.010	--	--	--	4
21...	0.111	1.1	0.57	0.562	0.181	0.159	--	100	148	38
SEP										
12...	0.065	0.55	0.40	0.112	0.019	<0.010	--	--	--	28

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
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
<i>Area</i>		
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
<i>Volume</i>		
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 [$(\text{ft}^3/\text{s}) \text{ d}$]	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
<i>Flow</i>		
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
<i>Mass</i>		
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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