CARTER

Water Resources Data Maryland and Delaware Water Year 1992

Volume 1. Surface-Water Data

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-92-1

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

CALENDAR FOR WATER YEAR 1992

1991

OCTOBER

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1992

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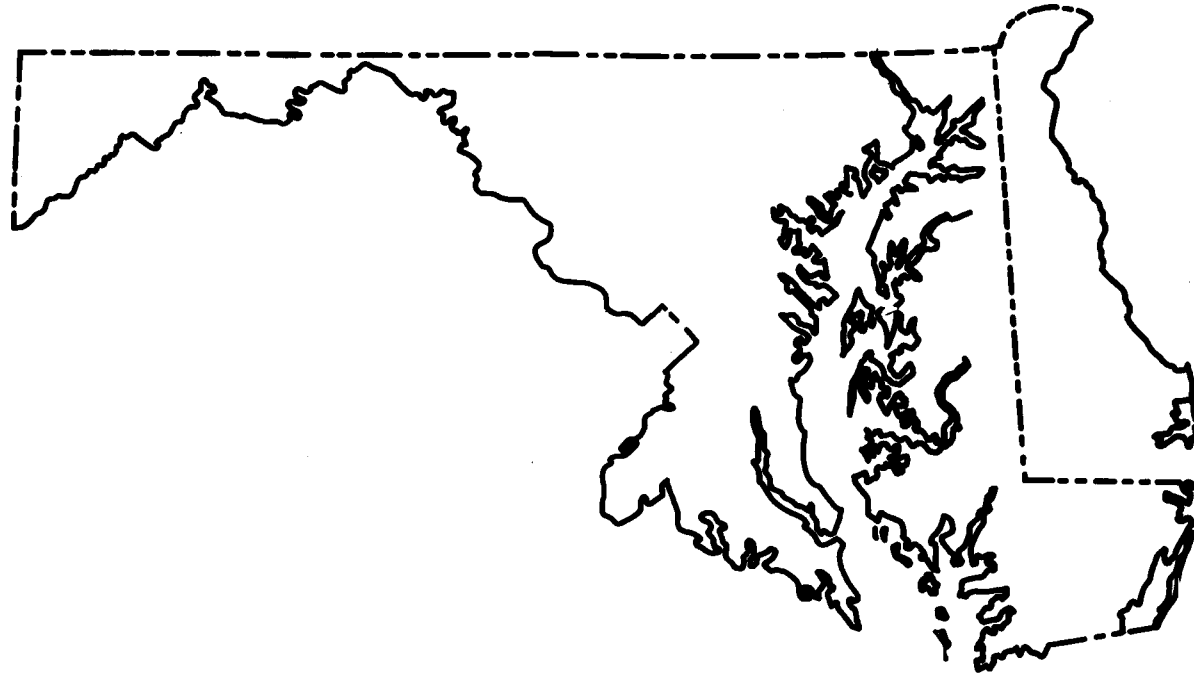
Water Resources Data Maryland and Delaware Water Year 1992

Volume 1. Surface-Water Data

by R.W. James, R.H. Simmons, and B.F. Strain



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-92-1
Prepared in cooperation with the States of Maryland and Delaware
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

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Towson, Maryland 21286

1992

PREFACE

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

J. E. Auvil	P. Gernhart	R. H. Pentz
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D. P. Brower	L. B. Maclin	J. L. Tegeler
F. A. Danner	J. J. Manning	S. M. Wicklein

This report was prepared under the general supervision of J. G. Grason, District Chief, MD-DE-DC District, H. J. Freiberger, Area Hydrologist, Mid-Atlantic Programs, and S. P. Sauer, Regional Hydrologist, Northeastern Region, and in cooperation with the States of Maryland and Delaware and with other agencies.

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15. Supplementary Notes

Prepared in cooperation with the states of Maryland and Delaware and with other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1992 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 1 reservoir; and water quality at 33 gaging stations. Also included are data for 3 crest-stages and 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.

17. Document Analysis a. Descriptors
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ILLUSTRATIONS

[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]

[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]

The following continuous-record surface-water discharge (gaging stations) in Maryland, Delaware, and the District of Columbia have been discontinued. Daily streamflow records (discharge) were collected and published for the period of record, expressed in water years, shown for each station.

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Period of record
DELAWARE RIVER BASIN			
Delaware River:			
Christina River:			
White Clay Creek above Newark, DE	01478500	66.7	1952-59, 1962-80
Mill Creek at Stanton, DE	01479500	12.4	1931-33
Little Mill Creek at Elsmere, DE	01480100	6.70	1963-80
Army Creek at State Road, DE	01482200	2.42	1978-81
Red Lion Creek near Red Lion, DE	01482298	3.08	1978-81
Drawyer Creek tributary near Odessa, MD	01483170	4.68	1978-80
LEIPSIC RIVER BASIN			
Leipsic River near Cheswold, DE	01483500	9.35	1931-33, 1943-57
MURDERKILL RIVER BASIN			
Murderkill River near Felton, DE	01484000	13.6	1931-33, 1960-85
BROADKILL RIVER BASIN			
Broadkill River:			
Sowbridge Branch (head of Primehook Creek) near Milton, DE	01484300	7.08	1956-78
INDIAN RIVER BASIN			
Cow Bridge Branch (head of Indian River):			
Millsboro Pond Outlet at Millsboro, DE	01484525	66.0	1986-88
Vines Creek at Omar, DE	01484548	13.6	1985-88
WICOMICO RIVER BASIN			
Andrews Branch (head of Wicomico River):			
Beaverdam Creek near Salisbury, MD	01486500	19.5	1930-33, 1934-75
NANTICOKE RIVER BASIN			
Nanticoke River:			
James Branch (head of Broad Creek):			
Trap Pond Outlet (head of Hitch Pond Branch) near Laurel, DE	01487500	16.7	1951-75
Broad Creek:			
Holly Ditch near Laurel, DE	01488000	2.19	1951-56
Rewastico Creek near Hebron, MD	01489500	12.2	1950-56
TRANSQUAKING RIVER BASIN			
Transquaking River:			
Chicamacomico River near Salem, MD	01490000	15.0	1951-80
CHOPTANK RIVER BASIN			
Tappahanna Ditch (head of Choptank River):			
Tidy Island Creek (continuation of Tappahanna Ditch):			
Culbreth Marsh Ditch near Chapeltown, DE	01490500	11.6	1951-56
Choptank River:			
Tuckahoe Creek near Ruthsburg, MD	01491500	85.2	1951-56
Kings Creek:			
Beaverdam Branch at Matthews, MD	01492000	5.85	1950-81
WYE RIVER BASIN			
Wye River:			
Wye East River:			
Sallie Harris Creek near Carmichael, MD	01492500	4.60	1951-56
CHESTER RIVER BASIN			
Chester River:			
Southeast Creek at Church Hill, MD	01494000	12.5	1951-56
SASSAFRAS RIVER BASIN			
Sassafras River:			
Jacobs Creek near Sassafras, MD	01494500	5.39	1951-56
ELK RIVER BASIN			
Big Elk Creek (head of Elk River):			
Little Elk Creek at Childs, MD	01495500	26.8	1949-58
Long Creek near Chesapeake City, MD	01495800	4.36	1978-81
NORTHEAST RIVER BASIN			
Northeast Creek (head of Northeast River) at Leslie, MD	01496000	24.3	1949-84

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
SUSQUEHANNA RIVER BASIN			
Susquehanna River:			
Broad Creek at Mill Creek, MD	01578000	16.4	1905-09
Octoraro Creek near Rising Sun, MD	01578500	193	1932-58, 1969-77
Basin Run at Liberty Grove, MD	01579000	5.31	1949-58
Octoraro Creek at Rowlandsville, MD	01579500	210	1896-99
Deer Creek near Kalmia, MD	01580200	125	1967-77
Deer Creek near Churchville, MD	01580500	141	1905-09
BUSH RIVER BASIN			
Bynum Run (head of Bush River) near Bel Air, MD	01581000	7.50	1950-55
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	1988-89
GUNPOWDER RIVER BASIN			
Gunpowder Falls (head of Gunpowder River):			
Western Run:			
Delaware Run:			
Slade Run near Glyndon, MD	01583000	2.09	1947-81
Piney Run at Dover, MD	01583100	12.3	1982-88
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
Whitemarsh Run (head of Bird River) at White Marsh, MD	01585100	7.61	1959-89
BACK RIVER BASIN			
Herring Run (head of Back River):			
West Branch Herring Run at Idlewylde, MD	01585200	2.13	1957-65, 1966-87
Stemmers Run (head of Northeast Creek) at Rossville, MD	01585300	4.46	1959-72, 1974-89
Brien Run at Stemmers Run, MD	01585400	1.97	1958-87
PATAPSCO RIVER BASIN			
North Branch Patapsco River near Reistertown, MD	01586500	91.0	1927-54
North Branch Patapsco River near Marriottsville, MD	01587000	165	1930-60
South Branch Patapsco River at Henryton, MD	01587500	64.4	1948-80
Piney Run near Sykesville, MD	01588000	11.4	1931-58
Patapsco River at Woodstock, MD	01588500	251	1896-1909
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
Gwynns Falls at Villa Nova, MD	01589300	32.5	1957-88
Dead Run at Franklintown, MD	01589330	5.52	1960-87
Jones Falls at Sorrento, MD	01589440	25.2	1966-88
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:			
Marley Creek at Harundale, MD	01589522	4.79	1984-85
SOUTH RIVER BASIN			
North River (head of South River) near Annapolis, MD	01590000	8.50	1932-74
Bacon Ridge Branch at Chesterfield, MD	01590500	6.92	1943-52, 1975-90
RHODE RIVER BASIN			
Rhode River:			
Muddy Creek:			
North Fork Muddy Creek at South River, MD	01590700	0.88	1972-76
PATUXENT RIVER BASIN			
Patuxent River:			
Cattail Creek near Cookesville, MD	01591350	8.37	1977-81
Cattail Creek at Roxbury Mills, MD	01591500	27.7	1944-56
Patuxent River near Burtonsville, MD	01592000	127	1911-45
Little Patuxent River:			
Dorsey Run near Jessup, MD	01594400	11.6	1948-58
Western Branch near Largo, MD	01594500	30.2	1950-75
Western Branch at Upper Marlboro, MD	01594526	89.7	1986-89
Cocktown Creek near Huntingtown, MD	01594600	3.85	1957-76
St. Leonard Creek near St. Leonard, MD	01594800	6.73	1957-68

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
POTOMAC RIVER BASIN			
North Branch Potomac River:			
South Fork Sand Run near Wilson, MD	01594934	1.55	1981-86
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, 1967-80
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
Antietam Creek near Waynesboro, MD	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 Thurmont, MD	01640975	7.08	1982-86
Fishing Creek near Lewistown, MD	01641500	7.29	1948-84
Monocacy River near Frederick, MD	01642000	665	1896-1930
Linganore Creek near Frederick, MD	01642500	82.3	1932, 1934-82
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, 1962-78
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
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 BASIN			
MONONGAHELA RIVER BASIN			
Monongahela River:			
Youghiogheny River:			
South Branch Casselman River near Bittenger, MD	03077940	3.22	1975-81
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.

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

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Type of record	Period of record
DELAWARE RIVER BASIN				
Delaware River:				
Christina River:				
White Clay Creek:				
Red Clay Creek at Wooddale, DE	01480000	47.0	T	1953-81
Brandywine Creek at Wilmington, DE	01481500	314	T	1957-61
				1971-73
				1975-80
			SED	1947-80
CHOPTANK RIVER BASIN				
Choptank River near Greensboro, MD	01491000	113	SC, T	1975-91
			SED	1981-91
RHODE RIVER BASIN				
Rhode River:				
Muddy Creek:				
North Fork Muddy Creek at South River, MD	01590710	0.89	T	1971-78
Rhode River near South River, MD	01590720	18.0	SC, pH, T, DO	1971-83
PATUXENT RIVER BASIN				
Patuxent River near Bowie, MD	01594440	348	SC, T	1978-80
				1986-91
			SED	1986-91
Patuxent River at Benedict, MD	01594700	742	T	1964-69
POTOMAC RIVER BASIN				
North Branch Potomac River:				
Laurel Run at Dobbin Road near Wilson, MD	01594930	8.23	SC, T	1981-88
			pH	1984-88
South Fork Sand Run near Wilson, MD	01594934	1.55	SC, pH, T	1981-86
Nouth Fork Sand Run near Wilson, MD	01594936	1.91	SC, T	1981-88
			pH	1985-88
North Branch Potomac River at Kitzmiller, MD	01595500	225	SC, pH, DO	1981-85
			T	1961-85
North Branch Potomac River at Barnum, WV	01595800	266	SC, pH, T, DO	1981-85
North Branch Potomac River at Luke, MD	01603000	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 Rairview, 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
Monocacy River:				
Hunting Creek:				
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
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
OHIO RIVER BASIN				
MONONGAHELA RIVER BASIN				
Monongahela River:				
Youghiogheny River at Friendsville, MD	03076500	295	T	1963-75

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

NORTH ATLANTIC SLOPE BASINS	Station number	Drainage area (mi^2)	Period of record
DELAWARE RIVER BASIN			
Delaware River:			
Naaman Creek:			
South Branch Naaman Creek near Claymont, DE	01477400	3.83	1955-66, 1968-71
Christina River near Newark, DE	01477850	3.76	1981-83
West Branch Christina River near Newark, DE	01477860	4.20	1981-83
Belltown Run near Glascow, DE	01478009	3.35	1978-81
Muddy Run at Glascow, DE	01478024	5.43	1978-81
Muddy Run near Cooches Bridge, DE	01478028	8.21	1978-80
White Clay Creek:			
White Clay Creek tributary near Ogletown, DE	01478878	3.68	1978-80
Brandywine Creek:			
Rocky Run at Talleyville, DE	01481350	1.76	1957-59, 1966
Wilson Run at Guyencort, DE	01481400	1.62	1957-59
North Fork Wilson Run at Guyencort, DE	01481430	1.12	1957-59
Wilson Run at Rockland, DE	01481440	3.05	1957-63
Husbands Run at Rockland, DE	01481460	1.28	1957-59
Squirrel Run at Montchanin, DE	01481480	1.67	1957-59
Alapocas Run at Concord, DE	01481530	0.81	1957-59
Red Lion Creek at Red Lion, DE	01482300	3.20	1955-60, 1962-71
Dragon Creek at Kirkwood, DE	01482400	1.93	1978-81
Dragon Creek tributary at Kirkwood, DE	01482405	0.16	1978-81
Joy Run near Summit Bridge, DE	01482670	1.26	1978-80
Scott Run near Boyds Corner, DE	01482690	2.18	1978-81
Appoquinimink River:			
Wiggins Millpond Outlet (head of Appoquinimink River) at Townsend, DE	01483150	3.82	1957-60, 1962-66, 1968-71, 1978-80
Drawyer Creek near Mt. Pleasant, DE	01483160	1.54	1978-80
Drawyer Creek tributary near Odessa, DE	01483165	1.79	1978-80
SMYRNA RIVER BASIN			
Providence Creek (head of Smyrna River) at Clayton, DE	01483300	11.8	1955-60, 1962-63, 1966, 1968-69
Smyrna River:			
Mill Creek at Smyrna, DE	01483350	4.77	1955-57, 1959-60, 1962-63, 1966, 1968-69
ST. JONES RIVER BASIN			
Fork Branch (head of St. Jones River) at Dupont, DE	01483650	7.50	1955-57, 1959-60, 1962-66, 1968-71
Maidstone Branch at Dupont, DE	01483680	17.3	1955-57, 1959-60, 1962-66, 1968-71
MURDERKILL RIVER BASIN			
Murderkill River:			
Browns Branch near Houston, DE	01484020	12.4	1955-71
Spring Creek:			
Hudson Branch (head of Spring Creek) near Canterbury, DE	01484040	8.40	1955-60
Pratt Branch near Felton, DE	01484050*	3.29	1955-57, 1959-60, 1962-71
Double Run near Magnolia, DE	01484060	5.68	1955-57, 1959-60, 1962-64, 1966-71
MISSPILLION RIVER BASIN			
Beaverdam Branch (head of Misspillion River):			
Cedar Creek near Lincoln, DE	01484200	7.21	1955-60, 1962-63, 1966, 1968-69

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
BROADKILL RIVER BASIN			
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
INDIAN RIVER BASIN			
Indian River:			
Sheep Pen Ditch near Shortly, DE	01484510	a5.4	1986-88
Iron Branch at Millsboro, DE	01484530	a8.0	1985-88
Whartons Branch near Millsboro, DE	01484531*	a5.8	1968-69, 1971, 1985-88
Swan Creek near Warwick, DE	01484535	a7.2	1985-88
Pepper Creek at Dagsboro, DE	01484550*	8.78	1955-71, 1985-88
Blackwater Creek near Clarkesville, DE	01484600*	a3.5	1968-69, 1971, 1985-88
Love Creek at Robinsonville, DE	01484655	a12	1985-88
Chapel Branch at Angola, DE	01484677	a8.0	1985-88
DIRICKSON CREEK BASIN			
Bearhole Ditch (head of Dirickson Creek) at Bunting, DE	01484700	a6.4	1968-71, 1985-88
WICOMICO RIVER BASIN			
Andrews Branch (head of Wicomico River):			
Leonard Pond Run near Delmar, MD	01486200	13.4	1950-51, 1964, 1969-71
NANTICOKE RIVER BASIN			
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
CHOPTANK RIVER BASIN			
Choptank River near Choptank, MD	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
WYE RIVER BASIN			
Wye River:			
Wye East River:			
Skipton Creek:			
Mill Creek near Wye Mills, MD	01492560	5.72	1952-53
CHESTER RIVER BASIN			
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

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
SASSAFRAS RIVER BASIN			
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
WORTON CREEK BASIN			
Mill Creek (head of Worton Creek) at Hanesville, MD	01494600	4.63	1953-54, 1968-71
ELK RIVER BASIN			
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
NORTHEAST RIVER BASIN			
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
PRINCIPIO CREEK BASIN			
Principio Creek:			
Principio Creek tributary at Belvedere, MD	01496225	2.08	1982-83
MILL CREEK BASIN			
Mill Creek at Jackson, MD	01496250	3.73	1982-83
SUSQUEHANNA RIVER BASIN			
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
SWAN CREEK BASIN			
Swan Creek at Swan Creek, MD	01580700	13.2	1956-59, 1962-63, 1966
BUSH RIVER BASIN			
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

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
GUNPOWDER RIVER BASIN			
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:			
Blackrock Run at Coopersville, MD	01583200	9.38	1956-59, 1962-63, 1966
Little Gunpowder Falls at Hess, MD	01584200	16.5	1956-59, 1962-63, 1966
PATAPSCO RIVER BASIN			
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
SEVERN RIVER BASIN			
Severn Run (head of Severn River) at Benfield, MD	01589800	a24	1964-67
PATUXENT RIVER BASIN			
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

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
PATUXENT RIVER BASIN--Continued			
Patuxent River--Continued			
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
POTOMAC RIVER BASIN			
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
POTOMAC RIVER BASIN--Continued			
Potomac River:			
Wills Creek at Ellerslie, MD	01601100	185	1979-82
Jennings Run:			
North Branch Jennings Run at Barrelsville, 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
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

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
POTOMAC RIVER BASIN--Continued			
Potomac River--Continued			
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	1977-82
Middle Creek at Ellerton, MD	01636975	22.7	1977-82
Tuscarora Creek at Tuscarora, MD	01638600	20.3	1975-79
Monocacy River:			
Piney Creek at Taneytown, MD	01639100	22.9	1956-59, 1961-63, 1966
Toms Creek:			
Friends Creek near Emmitsburg, MD	01639325	12.2	1977-82
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
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
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
Tuscarora Creek near Frederick, MD	01641900	16.5	1975-79
Israel Creek near Walkersville, MD	01642050	a29	1964-66, 1975-79
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
Ballenger Creek near Lime Kiln, MD	01643125	20.2	1975-82
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

NORTH ATLANTIC SLOPE BASINS--Continued	Station number	Drainage area (mi^2)	Period of record
POTOMAC RIVER BASIN--Continued			
Potomac River--Continued			
* 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
OHIO RIVER BASIN			
MONONGAHELA RIVER BASIN			
Monongahela River:			
Youghiogheny River:			
Cherry Creek near Crellin, MD	03075350	16.7	1977-82
Snowy Creek:			
Laurel Run at Crellin, MD	03075400	10.9	1964-74
Little Youghiogheny River at Loch Lynn Heights, MD	03075475	13.2	1975-79
Muddy Creek at Swallow Falls State Park, MD	03075700	17.8	1977-82
Cherry Creek near McHenry, MD	03075900	12.3	1973, 1975-79
Bear Creek:			
South Branch Bear Creek near Accident, MD	03076580	6.01	1964-74
South Branch Bear Creek near Friendsville, MD	03076590	16.8	1975-79
Casselman River:			
North Branch Casselman River near Grantsville, MD	03077925	24.4	1975-80
South Branch Casselman River near Grantsville, MD	03077950	20.8	1975-79

a Approximately.
* Also a crest-stage partial-record station.

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WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1992

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 33 gaging stations. Also included are data for 3 crest-stages and 7 tidal crest-gage partial-record stations. Locations of these sites are shown on figure 3. 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 Books and Open-File Reports Section, Federal Center, Bldg. 41, Box 25425, 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-92-1."** 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. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory **(CD-ROM)**. All data reports published for the current water year for the entire Nation, including Puerto Rico and the TRust Territories, will be reproduced on a single **CD-ROM** disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (301) 828-1535. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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 been had 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, E. T. Cleaves, director.

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

Maryland Department of Environment; Chesapeake Bay and Special Projects Program, R. M. Summers, division chief.

District of Columbia Department of Public Works, William B. Johnson, director.

Assistance with funds or services was given by the U.S. Army Corps of Engineers for collecting records at 17 gaging stations and 4 water-quality stations throughout Maryland and Delaware.

The following organizations aided in collecting records:

Delaware: State 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 City.

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

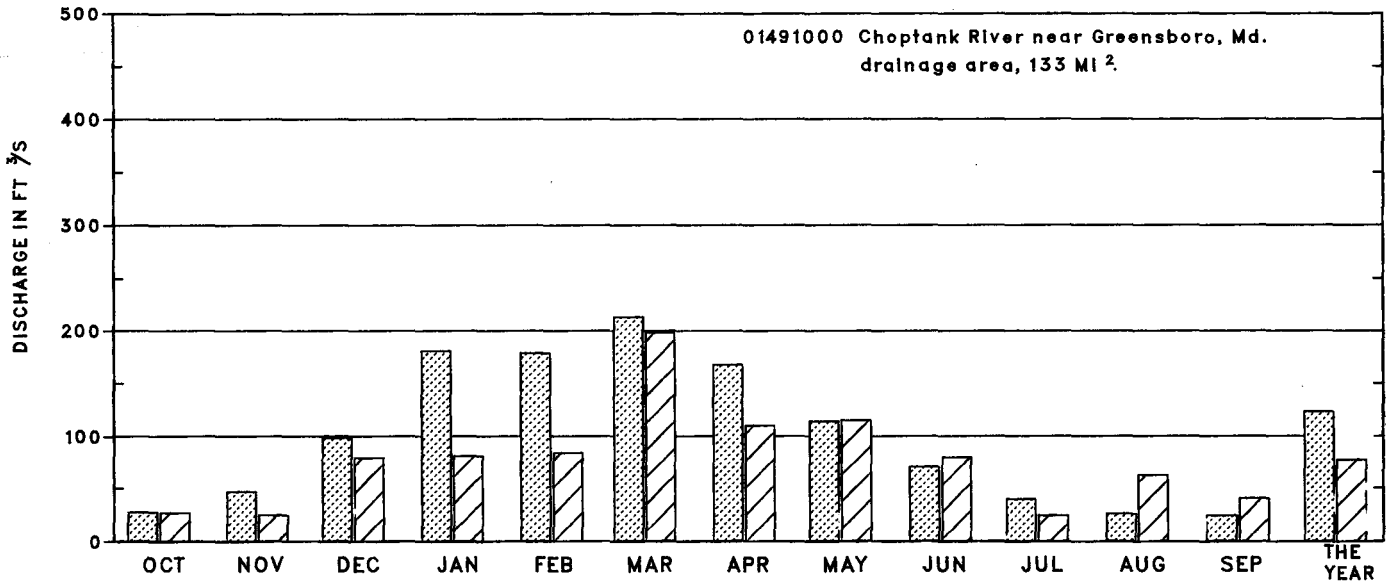
Streamflow at the start of the 1992 water year was in the normal range except for western Marylander where flows were in the deficient (lower 25 percent of the record) range following below-normal rainfall (1.8 inches) during September 1991. During October 1991, flows remained in the normal range on the Eastern Shore of Maryland and central Maryland. Flows in western Maryland remained in the deficient range. During November 1991, flows in western Maryland remained in the deficient range. Flows in central Maryland remined in the normal range. Flows on the Eastern Shore moved into the deficient range following below-normal rainfall (2.6 inches). Flows remained in the deficient range in western Maryland and in the normal range in central Maryland during December 1991. Flows in southern Maryland and on the Eastern Shore moved from the deficient range into the normal range following above-normal rainfall (1 to 2 inches). During January 1992, flows in central and southern Maryland remained in the normal range. Flows in western Maryland remained in the deficient range. Flows on the Eastern Shore of Maryland dropped back into the deficient range following below-normal rainfall (1.7 inches) during January 1992. During February 1992, flows on the Eastern Shore of Maryland remained in the deficient range. Flows in western Maryland rose into the normal range. Flows in central and southern Maryland dropped into the deficient range following below-normal rainfall (0.5 inches) during February 1992. During March 1992, flows in western Maryland remained in the normal range. Flows in the remainder of the bi-state area rose from the deficient range into the normal range following above-normal rainfall (0.5 to 2 inches). During April and May 1992 flows throughout the bi-state area remained in the normal range. During June 1992, flows throughout the bi-state area remained in the normal range except in central Maryland which dropped into the deficient range following below-normal rainfall (2 inches). Flows on the Eastern Shore of Maryland and southern Maryland remained in the normal range during July 1992. Flows in central Maryland rose into the normal range following above-normal rainfall (2 inches) while flows in western Maryland rose into the excessive (upper 25 percent of the record) range following above-normal rainfall (2 to 4 inches). During August 1992, flows throughout the bi-state area remained in the normal range except for western Maryland. Flows in western Maryland dropped from the excessive to the normal range following below-normal rainfall (1.5 inches). Flows during September 1992 remained in the normal range throughout most bi-state area except for southern Maryland and in the Washington, D.C. area where flows rose into the excessive range following above-normal rainfall (2 to 4 inches).

During the 1992 water year, flows at three of the four index stations used (Potomac River near Washington, D.C. in central Maryland, North Branch Potomac River at Paw Paw, W. Va., in western Maryland, and Choptank River at Greensboro on the Eastern Shore of Maryland) were in the deficient range. Flows at the fourth index station, Seneca Creek at Dawsonville in central Maryland, were in the normal range. No record minimum or maximum daily means were set during the 1992 water year. No record minimum or maximum monthly means were set.

Monthly and annual mean discharges in water year 1992 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 at Greensboro on the Eastern Shore of Maryland, reflect runoff from a 113 mi^2 (square mile) area, of which 21.6 mi^2 is in Delaware in the central part of the Delmarva peninsula.

Average freshwater inflow to the Chesapeake Bay was estimated to be 60,500 ft^3/s (cubic feet per second), on the basis of flows of the James, Potomac, and Susquehanna Rivers. This is 80 percent of the long-term average during the reference period 1951-92. Flows for October and November averaged 63 percent below normal. For the next six months flows averaged 25 percent below normal. Flows for June thru September averaged 20 percent above normal. No new record monthly means were set during the water year.

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 77 percent of capacity in September 1991, to 68 percent of capacity at the end of September 1992.



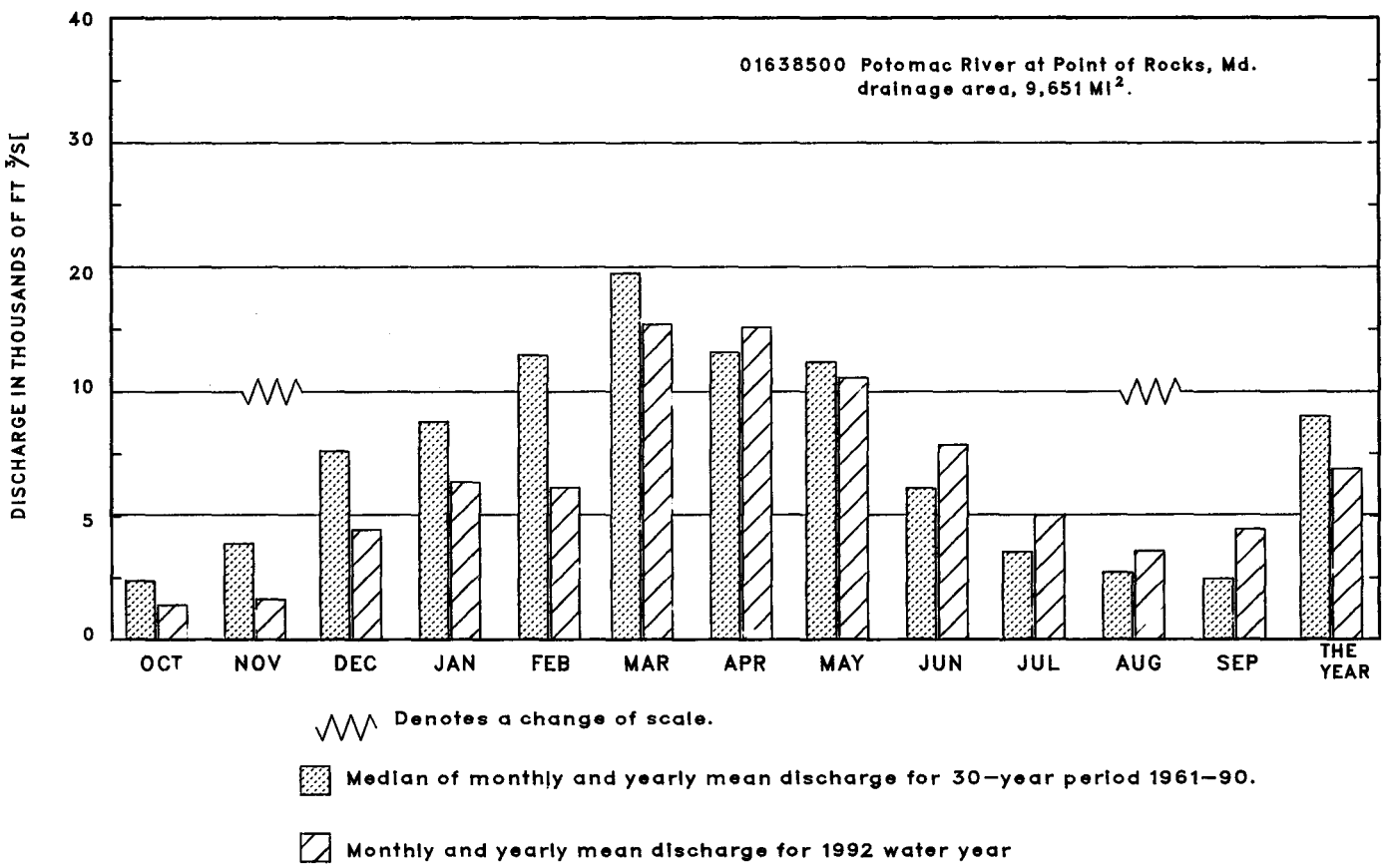


FIGURE 1. COMPARISON OF DISCHARGE AT TWO LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1992 WATER YEAR WITH MEDIAN DISCHARGE FOR INDICATED PERIOD.

SPECIAL NETWORKS AND PROGRAMS

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 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.

Assessement 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 to address water-quality issues of regional and national interest.

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

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

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1991 water year that began October 1, 1990, and ended September 30, 1991. 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 indention in the **"List of Stations"** in the front of this report. Each indention represents one rank. This downstream order and system of indention 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.)

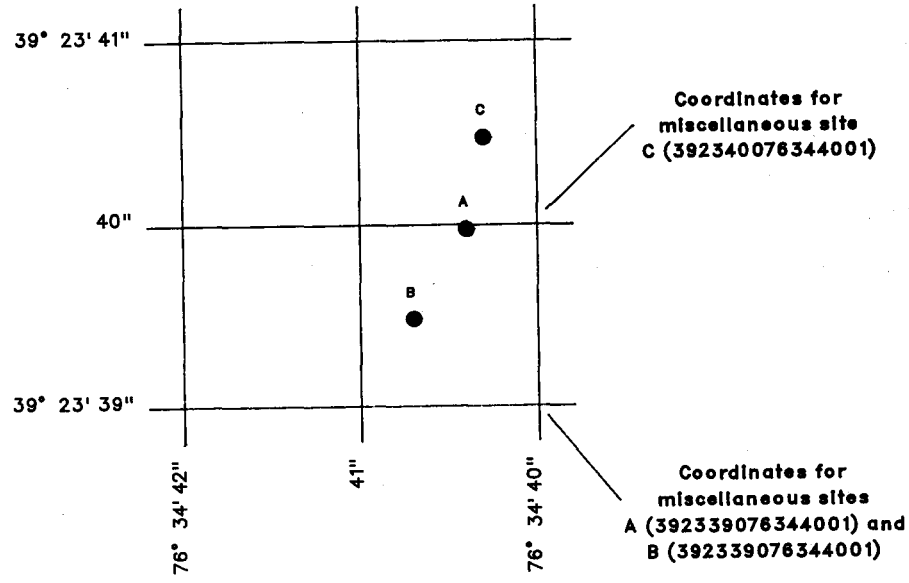


Figure 2.--System for numbering miscellaneous sites (latitude and longitude)

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 figures 3 and 4.

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, Book 3, Chapter A6.

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 foreach 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 manthly 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 complete months of record fpr 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 fpr 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 occurrs, it will be noted in the **REMARKS** paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage area.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments 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-March 31). The date shown in the summary statistics tabe 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 quanity 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 quanity 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 is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow 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 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large 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 Mid-Atlantic Programs. 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. All of these references are listed under **"PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS"** which appears at the end of the introductory text. 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.

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 in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

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:

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

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National WATer Data STORage and RETrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

* **Station Header File** - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.

* **Daily Values File** - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperature, specific conductance, sediment concentrations, sediment discharges, and ground-water levels.

* **Peak Flow File** - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

* **Water Quality File** - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, radio-chemical characteristics of both surface and ground water.

* **Ground-Water Site Inventory Data Base** - Contains inventory data for more than 900,000 well, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. THe system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct accesss to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. 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's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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

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

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

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

Bottom material: See Bed material.

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

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 [$(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

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 ($CaCO_3$).

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

Micrograms per liter (UG/L, ug/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.

Assessement 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 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 sedimentaiton 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:

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

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

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

Periphyton is the assemblage of 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 x 10) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 10 radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time [mg O_2/(m^2.time)] for periphyton and macrophytes and [mg O_2/(m^3.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

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

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 ($7 Q_{10}$) 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 hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, **Hexagenia limbata**, is the following:

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

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

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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, Books and Open-File Reports Section, Federal Center, Box 25425, 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.

1-D2. **Guidelines for collection and field analysis of ground-water samples for selected unstable constituents**, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. **Application of surface geophysics to ground-water investigations**, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

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

2-E1. **Application of borehole geophysics to water-resources investigations**, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

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

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

3-A1. **General field and office procedures for indirect discharge measurements**, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. **Measurement of peak discharge by the slope-area method**, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. **Measurement of peak discharge at culverts by indirect methods**, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. **Measurement of peak discharge at width contractions by indirect methods**, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. **Measurement of peak discharge at dams by indirect methods**, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. **General procedure for gaging streams**, by R. W. Carter and Jacob Dividian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. **Stage measurements at gaging stations**, T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. **Discharge measurements at gaging stations**, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. **Measurement of time of travel and dispersion in streams by dye tracing**, by F. A. Kilpatrick, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

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

3-A11. **Measurement of discharge by moving-boat method**, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. **Flurometric procedures for dye tracing**, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

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

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

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

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

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

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

3-A19. **Levels of streamflow gaging stations**, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

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

3-B2. **Introduction to ground-water hydraulics, a programmed text for self-instruction**, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. **Type curves for selected problems of flow to wells in confined aquifers**, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B4. **Regression modeling of ground-water flow**, by Richard L. Cooley and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.

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

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

3-B7. **Analytical solutions for one-, two-, and three dimensional solute transport in ground-water systems with uniform flow**, by Eliezer J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 90 pages.

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

3-C2. **Field methods of measurement of fluvial sediment**, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. **Computation of fluvial-sediment discharge**, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. **Some statistical tools in hydrology**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. **Frequency curves**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

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4-B3. **Regional analyses of streamflow characteristics**, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. **Computation of rate and volume of stream depletion by wells**, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. **Methods for determination of inorganic substances in water and fluvial sediments**, by M. J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

5-A2. **Determination of minor elements in water by emission spectroscopy**, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

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

5-A4. **Methods for collection and analysis of aquatic biological and microbiological samples**, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.

5-A5. **Methods for determination of radioactive substances in water and fluvial sediments**, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. **Quality assurance practices for the chemical and biological analyses of water and fluvial sediments**, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

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

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

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

7-C1 **Finite difference model for aquifer simulation in two dimensions with results of numerical experiments**, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. **Computer model of two-dimensional solute transport and dispersion in ground water**, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. **A model for simulation of flow in singular and interconnected channels**, by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. **Methods of measuring water levels in deep wells**, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

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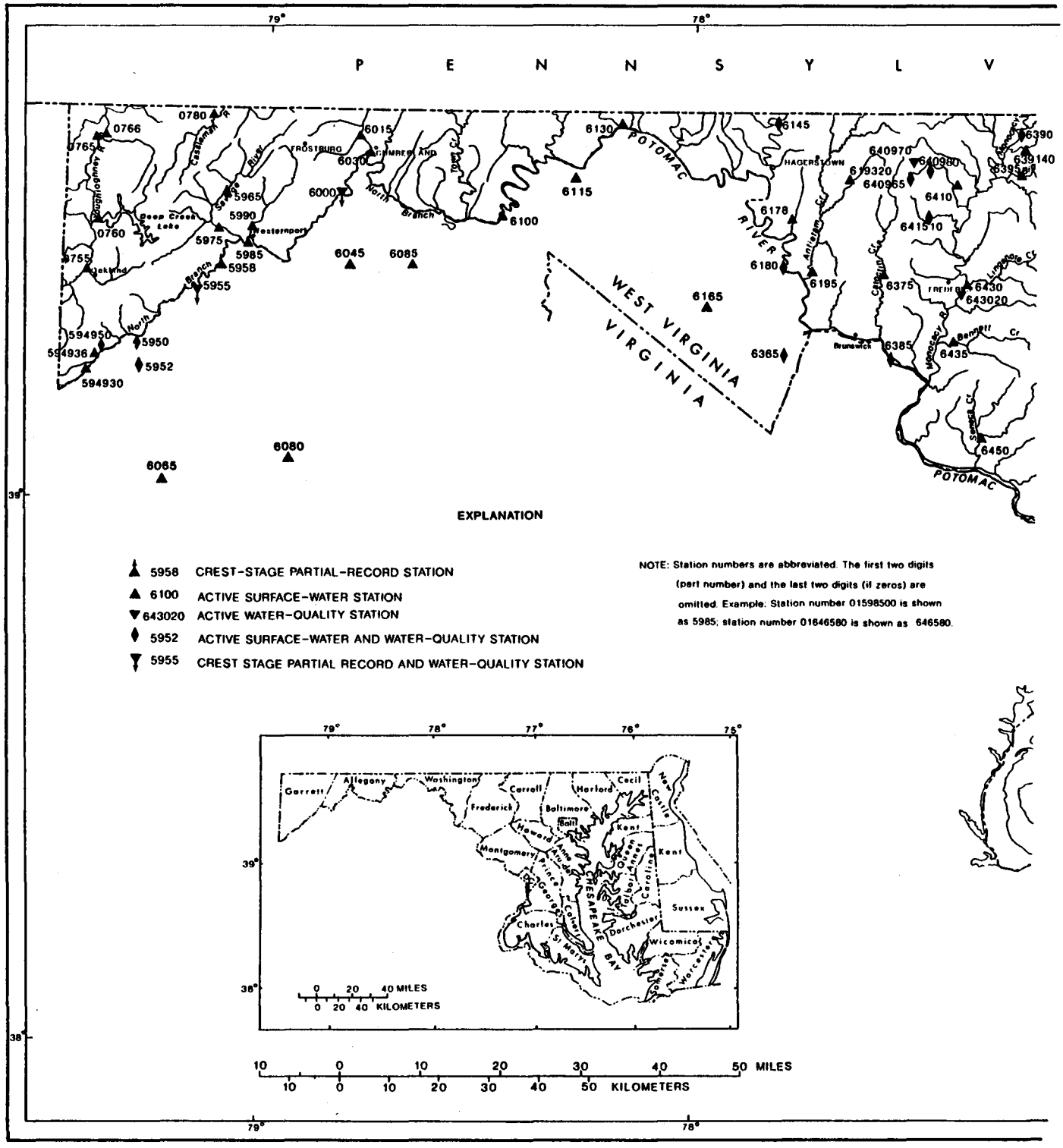
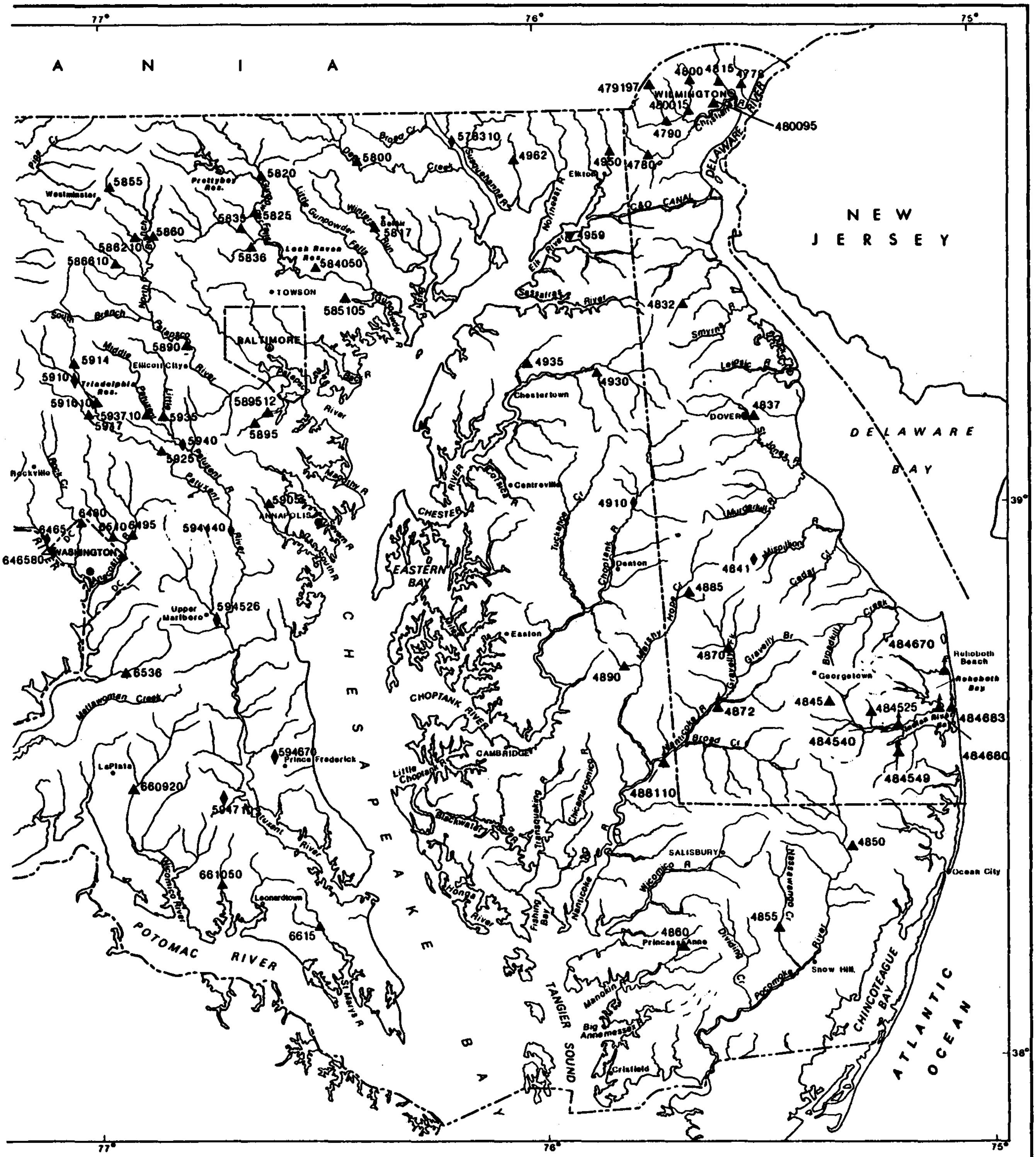
8-B2. **Calibration and maintenance of vertical-axis type current meters**, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.



Base map modified from U.S. Geological Survey 1:500,000

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


NEW JERSEY
DELAWARE BAY
ATLANTIC OCEAN
CHESAPEAKE BAY
POTOMAC RIVER
TANGIER SOUND
CHINCOTEAGUE BAY
EASTERN BAY
BALTIMORE
WASHINGTON
ANNAPOLIS
WILMINGTON
DOVER
SALISBURY
CAMBRIDGE
Towson
Chestertown
Centreville
Easton
Denton
Georgetown
Ocean City
Snow Hill
Princess Anne
Crisfield
Leonardtown
LaPlata
Upper Marlboro
Prince Frederick
Rockville
Elkton
Westminster
Rehoboth Beach
C&D CANAL
CHOPTANK RIVER
CHESTER RIVER
77°
76°
75°
39°
38°

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SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

REMARK CODES

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

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

Dissolved Trace-Element Concentrations

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

NORTH ATLANTIC SLOPE BASINS

DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE

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

DRAINAGE AREA.--7.46 mi^2.

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

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

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

REMARKS.--Records good below 100 ft^3/s and above 4,000 ft^3/s, except those for estimated daily discharges (backwater from ice) and those between 100 and 4,000 ft^3/s, which are fair. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1135	1,030	4.39	July 31	0800	*1,230	*4.75

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.3	7.8	2.2	1.9	2.8	4.3	3.3	4.9	6.2	5.1	.68
2	1.1	1.2	82	2.1	1.7	2.7	3.8	3.1	2.8	2.9	1.5	.69
3	1.1	1.1	89	2.0	1.7	2.6	3.5	2.8	2.2	9.5	1.2	7.4
4	1.1	1.1	14	4.6	1.7	2.5	3.3	2.3	1.7	6.8	1.1	2.4
5	1.0	1.1	3.9	3.8	1.9	2.5	3.1	2.3	80	2.0	1.2	.89
6	1.0	1.3	3.0	2.4	1.6	2.7	3.0	1.9	9.5	1.7	.88	5.1
7	.92	1.3	2.6	2.1	1.4	37	3.0	1.9	3.5	1.5	.80	8.2
8	.98	1.4	2.4	1.9	1.8	9.3	2.9	147	2.6	1.5	.80	1.4
9	.99	1.3	15	3.1	1.6	4.9	2.8	15	2.1	1.6	.89	.96
10	.97	1.5	37	2.9	1.4	42	2.8	5.4	1.6	1.5	.80	6.8
11	2.1	3.3	4.4	2.0	1.5	60	2.9	3.8	1.4	1.6	24	12
12	2.6	1.9	3.3	1.9	1.3	7.0	3.7	3.2	1.2	1.5	3.2	1.1
13	.94	2.5	4.6	1.9	1.5	4.8	3.1	2.9	1.2	1.6	2.6	.86
14	.80	1.4	4.9	14	2.6	4.0	3.2	2.8	1.2	1.5	10	.79
15	12	.86	3.2	4.0	64	3.6	3.1	3.3	1.2	4.1	8.3	.73
16	2.0	.87	2.8	2.4	28	3.3	3.6	8.4	1.1	3.1	3.6	.72
17	31	.83	2.5	2.1	4.7	3.2	3.7	4.6	1.1	8.8	11	.68
18	2.7	.79	2.5	2.1	6.6	4.1	3.3	4.1	1.1	1.3	8.9	.67
19	1.4	.86	2.2	1.8	5.1	37	6.6	4.0	19	1.0	2.0	.68
20	1.1	.90	2.0	1.9	3.6	8.1	3.3	3.5	3.0	.88	1.4	.61
21	1.1	1.1	2.2	1.9	3.1	4.8	3.3	3.5	1.7	.80	1.2	.63
22	1.1	48	1.9	1.8	2.8	5.1	26	3.3	1.4	.76	1.1	5.1
23	1.1	6.9	1.8	20	2.7	10	7.4	3.2	1.2	17	1.0	5.3
24	1.1	2.2	1.7	21	2.6	5.4	4.5	3.0	11	2.2	.95	.76
25	1.1	1.7	1.5	3.8	3.2	4.1	21	4.9	8.3	5.1	.90	55
26	1.2	1.5	1.4	e3.0	28	74	14	6.8	3.1	1.6	.90	41
27	1.2	1.4	1.4	e2.5	5.0	34	4.6	4.8	1.5	2.2	1.2	17
28	1.2	1.4	1.4	2.4	3.6	7.4	6.6	3.1	1.4	1.1	1.0	3.6
29	1.2	1.5	28	2.4	3.1	5.1	5.8	2.9	1.3	.86	.88	1.7
30	1.4	1.4	4.6	2.0	---	4.7	3.6	8.0	1.3	.79	.75	1.2
31	1.7	---	2.6	2.1	---	8.8	---	114	---	113	.73	---
TOTAL	80.30	93.91	337.6	124.1	189.7	407.5	165.8	383.1	174.6	205.99	99.88	184.65
MEAN	2.59	3.13	10.9	4.00	6.54	13.1	5.53	12.4	5.82	6.64	3.22	6.15
MAX	31	48	89	21	64	74	26	147	80	113	24	55
MIN	.80	.79	1.4	1.8	1.3	2.5	2.8	1.9	1.1	.76	.73	.61
CFSM	.35	.42	1.46	.54	.88	1.76	.74	1.66	.78	.89	.43	.83
IN.	.40	.47	1.68	.62	.95	2.03	.83	1.91	.87	1.03	.50	.92

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

MEAN	4.66	8.60	11.4	12.1	13.1	14.7	12.8	11.0	7.25	8.25	7.08	6.50
MAX	20.2	27.7	30.5	37.9	34.1	30.3	32.7	31.5	34.8	69.5	62.8	58.3
(WY)	1972	1973	1968	1979	1979	1978	1983	1947	1975	1989	1967	1971
MIN	.62	1.35	1.03	1.18	2.95	2.93	2.55	1.76	1.09	.65	.32	.90
(WY)	1964	1966	1956	1981	1980	1985	1985	1955	1966	1957	1966	1951

01477800 SHELLPOT CREEK AT WILMINGTON, DE--Continued

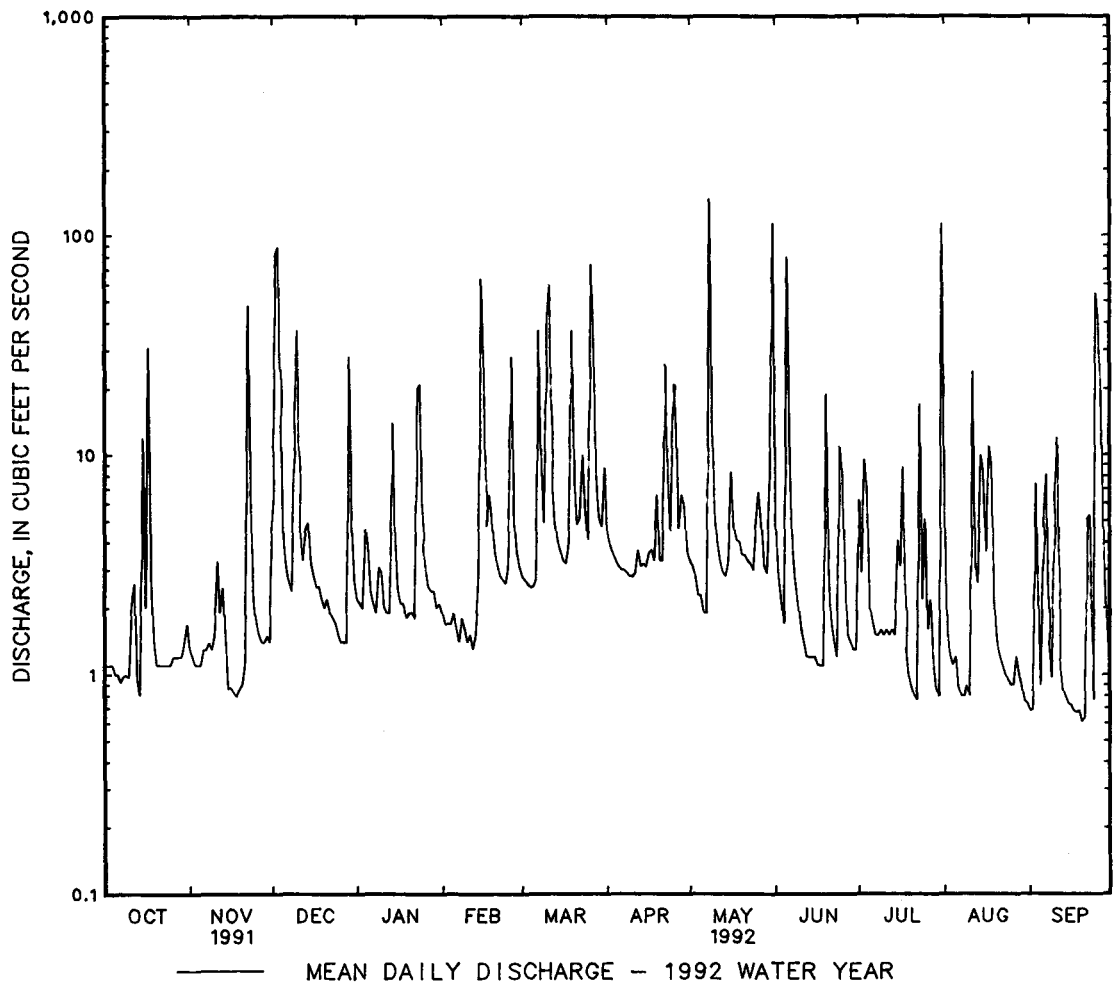
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1946 - 1992	
ANNUAL TOTAL	3824.95		2447.13			
ANNUAL MEAN	10.5		6.69		9.59	
HIGHEST ANNUAL MEAN					16.1	1973
LOWEST ANNUAL MEAN					5.52	1963
HIGHEST DAILY MEAN	338	Aug 9	147	May 8	1310	Jul 5 1989
LOWEST DAILY MEAN	.56	Sep 13	.61	Sep 20	.09	(a)
ANNUAL SEVEN-DAY MINIMUM	.70	Sep 7	.67	Sep 15	.10	Aug 27 1966
INSTANTANEOUS PEAK FLOW	2490	Aug 9	1230	Jul 31	b8040	Jul 5 1989
INSTANTANEOUS PEAK STAGE	6.67	Aug 9	4.75	Jul 31	13.76	Jul 5 1989
INSTANTANEOUS LOW FLOW	.50	(c)	.61	(d)	.09	Oct 2 1968
ANNUAL RUNOFF (CFSM)	1.40		.90		1.29	
ANNUAL RUNOFF (INCHES)	19.07		12.20		17.47	
10 PERCENT EXCEEDS	15		11		18	
50 PERCENT EXCEEDS	2.6		2.5		2.8	
90 PERCENT EXCEEDS	1.0		.93		.76	

a Oct. 2, 4, 1968.

b From rating curve extended above 200 ft^3/s on basis of culvert and flow-over-road measurements at gage heights 9.10 and 11.91 ft.

c Sept. 13, 14.

d Sept. 1, 20, 21.



01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

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

DRAINAGE AREA.--20.5 mi^2.

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

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

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

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Low and medium flow regulated by mill upstream from station. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0045	1,210	10.67	May 8	1730	*1,250	*10.76

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	3.9	18	9.7	9.6	8.2	19	7.0	26	25	47	5.8
2	5.0	3.9	92	9.7	8.3	8.0	17	6.5	12	11	11	5.5
3	4.7	4.0	294	9.5	8.5	7.5	15	6.1	9.1	13	8.5	25
4	4.6	3.7	89	11	8.3	7.1	14	5.5	7.5	13	7.8	13
5	4.5	3.7	19	12	8.3	7.0	12	6.6	262	7.7	7.3	7.0
6	7.2	3.8	12	9.3	7.7	6.9	11	6.6	55	7.1	6.4	26
7	4.8	3.9	9.6	8.7	e7.5	124	10	5.8	27	6.8	5.9	20
8	4.8	4.1	8.5	8.1	e7.4	42	9.8	441	23	6.3	5.7	9.1
9	5.4	4.0	24	9.6	e7.2	17	9.4	125	18	6.2	6.0	7.6
10	5.6	4.5	150	10	6.8	48	9.3	57	14	5.9	6.2	12
11	7.3	13	22	8.4	e6.7	200	9.3	28	12	5.7	75	27
12	12	7.7	14	8.4	e6.6	29	9.3	21	11	5.4	26	8.1
13	8.3	7.8	16	8.6	e6.5	17	9.0	18	9.8	5.5	11	6.7
14	7.3	5.5	18	27	11	13	8.6	16	9.4	5.5	19	6.2
15	7.7	4.8	12	16	53	11	8.4	14	9.2	7.6	26	6.0
16	14	4.7	9.6	9.9	101	9.5	10	19	8.6	8.7	20	5.8
17	67	4.6	8.4	8.3	19	9.0	11	12	8.1	13	80	5.8
18	13	4.4	8.1	e8.0	28	9.6	9.6	12	7.8	6.7	48	5.9
19	4.9	4.6	7.3	e7.7	26	113	19	13	37	5.9	16	5.5
20	3.9	4.7	6.9	7.4	15	35	9.7	8.6	13	5.4	12	5.4
21	3.9	4.8	7.6	e7.3	10	17	8.7	7.3	8.9	5.1	9.7	5.2
22	3.7	151	7.6	e7.1	8.8	17	39	6.7	7.8	4.8	8.9	12
23	3.8	88	7.6	25	8.4	28	29	6.1	7.6	84	8.3	23
24	3.8	17	7.9	55	7.7	18	11	5.6	38	36	7.9	6.5
25	3.9	11	7.0	15	7.7	12	15	6.7	43	44	7.9	77
26	3.9	7.8	6.7	12	96	150	32	13	16	12	7.5	228
27	3.9	6.7	6.6	10	22	394	12	9.9	9.6	11	7.0	41
28	3.4	6.2	6.6	10	14	46	12	6.5	8.1	8.2	7.3	24
29	3.2	6.1	61	10	10	26	11	5.4	7.6	7.0	9.8	13
30	3.5	5.9	23	9.8	---	20	7.8	17	7.4	6.5	6.5	10
31	3.7	---	12	10	---	26	---	150	---	170	6.1	---
TOTAL	237.8	405.8	992.0	378.5	537.0	1475.8	407.9	1062.9	733.5	560.0	531.7	653.1
MEAN	7.67	13.5	32.0	12.2	18.5	47.6	13.6	34.3	24.4	18.1	17.2	21.8
MAX	67	151	294	55	101	394	39	441	262	170	80	228
MIN	3.2	3.7	6.6	7.1	6.5	6.9	7.8	5.4	7.4	4.8	5.7	5.2
CFSM	.37	.66	1.56	.60	.90	2.32	.66	1.67	1.19	.88	.84	1.06
IN.	.43	.74	1.80	.69	.97	2.68	.74	1.93	1.33	1.02	.96	1.19

e Estimated

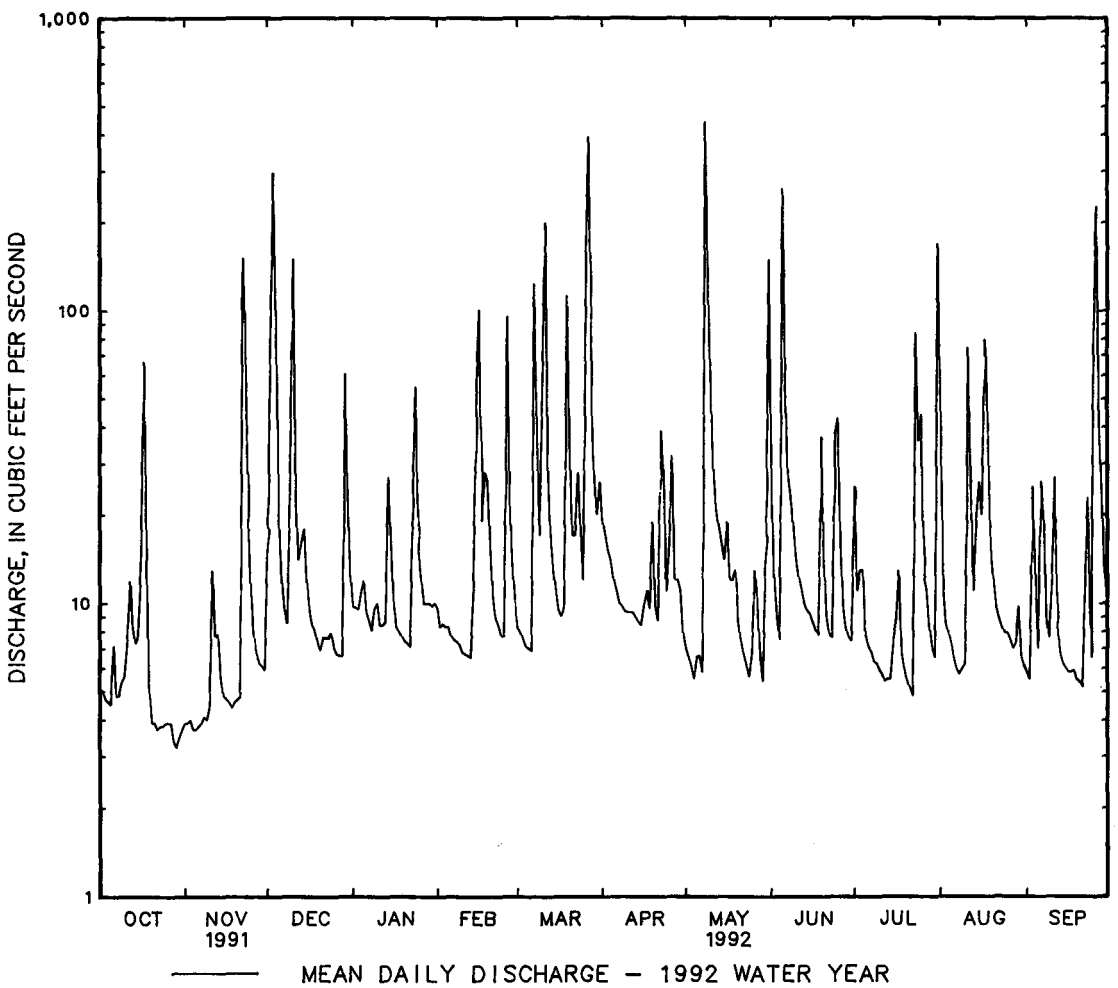
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

MEAN	14.0	24.1	33.6	38.9	42.9	44.9	36.5	32.1	21.4	22.5	17.9	15.0
MAX	62.9	82.8	97.9	165	154	121	107	77.6	76.5	165	117	53.6
(WY)	1972	1973	1984	1979	1979	1978	1983	1990	1972	1989	1967	1960
MIN	2.25	2.76	3.98	5.35	10.1	8.35	10.5	8.10	4.57	2.48	1.29	2.85
(WY)	1964	1966	1966	1981	1947	1981	1963	1965	1966	1963	1966	1965

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	9185.7		7976.0			
ANNUAL MEAN	25.2		21.8		28.6	
HIGHEST ANNUAL MEAN					53.4	1978
LOWEST ANNUAL MEAN					14.2	1981
HIGHEST DAILY MEAN	563	Jan 12	441	May 8	2000	Jul 5 1989
LOWEST DAILY MEAN	2.8	Sep 13	3.2	Oct 29	.20	(a)
ANNUAL SEVEN-DAY MINIMUM	3.2	Sep 7	3.6	Oct 25	.50	Aug 25 1966
INSTANTANEOUS PEAK FLOW	1400	Jan 12	1250	May 8	5530	Jul 5 1989
INSTANTANEOUS PEAK STAGE	11.04	Jan 12	10.76	May 8	13.12	Jul 5 1989
INSTANTANEOUS LOW FLOW	2.8	(b)	3.0	Oct 28	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.23		1.06		1.39	
ANNUAL RUNOFF (INCHES)	16.67		14.49		18.93	
10 PERCENT EXCEEDS	60		41		48	
50 PERCENT EXCEEDS	12		9.1		13	
90 PERCENT EXCEEDS	4.1		5.0		4.3	

a Aug. 7, 14, 18, 21, 27, 28, 1966.
b Sept. 12-14.



01479000 WHITE CLAY CREEK NEAR NEWARK, DE

LOCATION.--Lat 39°41'47", long 75°40'33", New Castle County, Hydrologic Unit 02040205, on left bank 35 ft downstream from bridge on private road at Delaware Park Race Track, 0.4 mi downstream from the Baltimore and Ohio Railroad bridge, 1.1 mi downstream from Pike Creek, 3.8 mi east of Newark, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--89.1 mi^2.

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

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

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

REMARKS.--Records good except those for estimated daily discharges (Oct. 27-Nov. 9, backwater from leaves; ice effect), which are fair. Slight diurnal fluctuation at low flow caused by mills upstream from station. Records do not include a negligible diversion upstream from station by E. I. du Pont de Nemours & Co. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1945	*1,330	*10.16	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	e31	59	52	48	57	99	63	110	62	107	28
2	28	e31	166	52	47	56	90	61	70	56	45	26
3	27	e30	582	52	46	54	82	58	61	59	40	56
4	26	e30	268	53	43	52	79	56	57	69	38	41
5	25	e30	99	58	43	51	75	57	424	50	38	32
6	33	e30	77	52	42	51	71	56	194	45	35	82
7	29	e30	66	48	42	224	69	54	103	44	32	83
8	26	e31	59	47	e41	150	68	590	149	40	32	45
9	26	e31	95	49	e40	84	66	413	88	40	33	37
10	26	38	317	55	e38	120	67	155	74	39	32	51
11	30	52	103	49	e38	353	66	102	68	36	170	89
12	40	45	77	47	e38	129	67	85	64	35	72	40
13	33	44	75	47	e39	93	63	78	62	37	42	34
14	29	38	76	88	e43	82	61	72	59	33	56	32
15	30	36	66	103	106	77	61	72	56	39	66	31
16	34	35	58	56	231	71	65	91	53	43	57	30
17	129	34	55	e46	89	69	65	75	52	52	218	30
18	77	33	54	e44	88	71	64	79	51	43	142	29
19	39	33	e53	e43	86	198	87	75	137	38	56	29
20	33	33	e52	e43	73	137	66	61	108	35	46	28
21	32	33	e52	e45	62	96	64	58	62	31	41	27
22	32	242	49	e52	57	93	145	56	55	29	38	47
23	33	257	48	88	56	103	127	54	52	142	36	57
24	33	70	48	167	54	92	76	53	99	98	34	31
25	33	50	45	74	54	80	123	56	120	174	34	193
26	32	44	43	e58	179	215	185	67	69	59	33	504
27	e32	42	43	e56	95	732	92	62	57	52	37	124
28	e32	41	42	e54	71	194	78	55	52	44	33	81
29	e31	41	136	52	63	124	70	51	48	38	42	53
30	e31	39	104	51	---	104	65	70	46	36	34	46
31	e31	---	60	50	---	122	---	364	---	383	31	---
TOTAL	1100	1554	3127	1831	1952	4134	2456	3299	2700	1981	1750	2016
MEAN	35.5	51.8	101	59.1	67.3	133	81.9	106	90.0	63.9	56.5	67.2
MAX	129	257	582	167	231	732	185	590	424	383	218	504
MIN	25	30	42	43	38	51	61	51	46	29	31	26
CFSM	.40	.58	1.13	.66	.76	1.50	.92	1.19	1.01	.72	.63	.75
IN.	.46	.65	1.31	.76	.81	1.73	1.03	1.38	1.13	.83	.73	.84

e Estimated

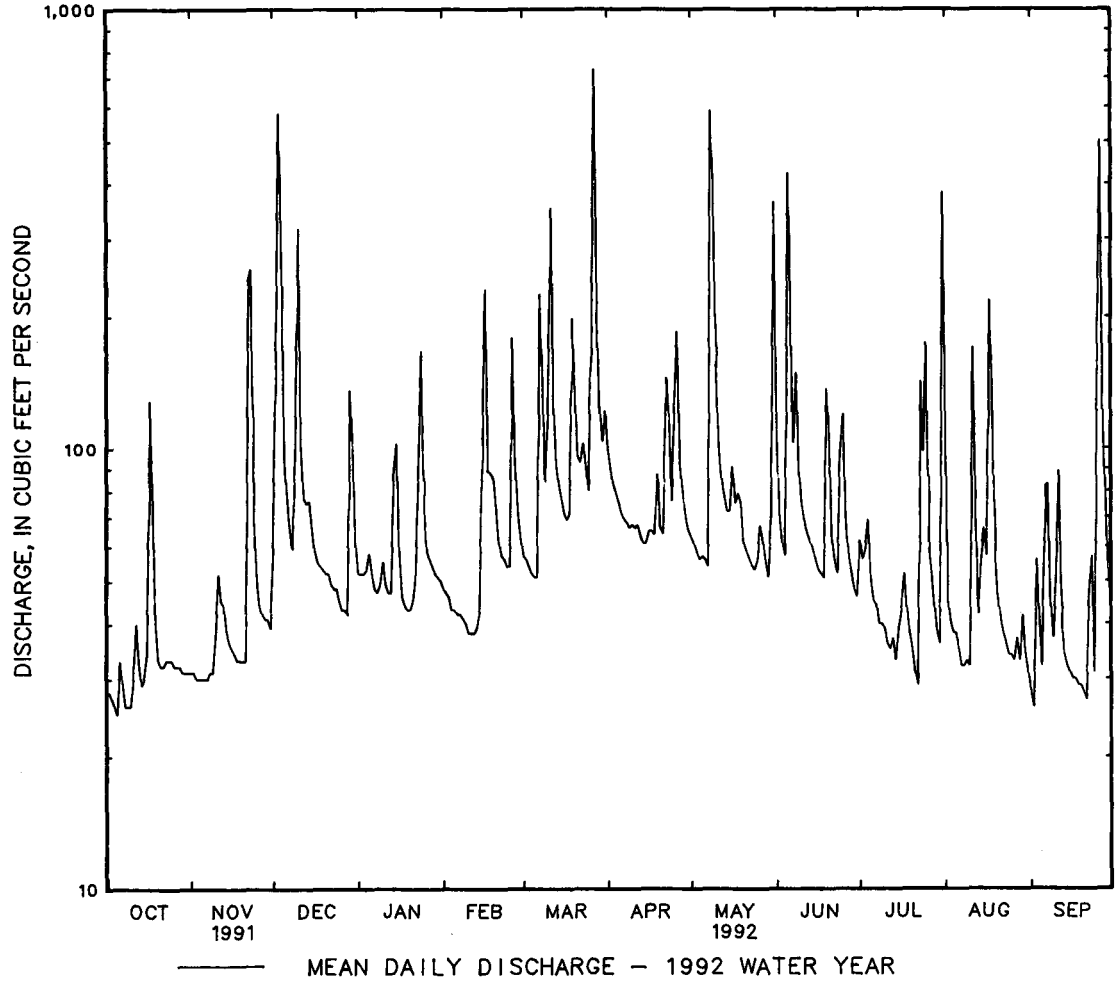
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

MEAN	63.6	91.7	112	142	162	166	148	130	99.1	99.1	81.4	73.0
MAX	230	221	304	493	542	398	342	265	311	540	301	231
(WY)	1972	1973	1984	1979	1979	1978	1983	1989	1972	1975	1967	1979
MIN	17.6	28.4	28.1	32.8	52.4	57.5	59.7	42.3	37.9	16.6	13.6	15.0
(WY)	1964	1966	1966	1966	1934	1981	1963	1955	1963	1963	1966	1932

01479000 WHITE CLAY CREEK NEAR NEWARK, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1932 - 1992	
ANNUAL TOTAL	33462		27900			
ANNUAL MEAN	91.7		76.2		114	
HIGHEST ANNUAL MEAN					193	1975
LOWEST ANNUAL MEAN					55.9	1966
HIGHEST DAILY MEAN	981	Jan 12	732	Mar 27	5220	Jan 26 1978
LOWEST DAILY MEAN	22	Sep 13	25	Oct 5	5.0	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7	27	Oct 4	5.7	Sep 7 1966
INSTANTANEOUS PEAK FLOW	1650	Jan 12	1330	May 8	a11600	Jul 5 1989
INSTANTANEOUS PEAK STAGE	11.06	Jan 12	10.16	May 8	b17.74	Jun 22 1972
INSTANTANEOUS LOW FLOW	20	(c)	20	Sep 2	4.7	Sep 11 1966
ANNUAL RUNOFF (CFSM)	1.03		.86		1.28	
ANNUAL RUNOFF (INCHES)	13.97		11.65		17.36	
10 PERCENT EXCEEDS	170		131		187	
50 PERCENT EXCEEDS	70		54		76	
90 PERCENT EXCEEDS	31		31		33	

a From rating curve extended above 6,700 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
b At previous site and datum.
c Sept. 13, 14.



01479197 MILL CREEK AT MILL CREEK ROAD AT HOCKESSIN, DE

LOCATION.--Lat 39°46'48", long 75°41'49", New Castle County, Hydrologic Unit 02040205, on right bank at downstream side of highway bridge on Mill Creek Road, at Hockessin, and 6.8 mi upstream from mouth.

DRAINAGE AREA.--3.66 mi^2.

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Concrete control since February 12, 1990. Datum of gage is 224.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Jan. 21, 22 and Feb. 11, 12 (ice effect), which are fair, and those for Feb. 29 to Apr. 8 and May 27 to June 5 (no gage-height record), which are poor. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 5, 1989 reached a stage of about 8 ft, from floodmarks; discharge, about 1,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1130	151	4.49	Aug. 11	1545	*199	*4.80

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	.65	2.3	.65	.67	e1.0	e1.5	.86	e1.1	2.6	1.2	.15
2	.76	.64	24	.72	.58	e.86	e1.3	.79	e.80	.53	.31	.15
3	.76	.58	28	.67	.54	e.75	e1.2	.71	e.54	2.5	.24	1.7
4	.63	.53	5.2	1.2	.54	e.72	e1.1	.69	e.50	.89	1.1	.36
5	.54	.53	1.4	.87	.52	e.71	e1.1	.69	e24	.46	.28	.22
6	.98	.53	1.0	.64	.51	e.80	e1.0	.66	2.7	.46	.19	7.1
7	.56	.57	.88	.58	.55	e11	e1.0	.61	1.2	.40	.17	2.3
8	.53	.58	.83	.56	.64	e3.8	e1.0	43	.82	.34	.17	.45
9	.53	.57	7.9	1.1	.48	e1.2	.92	5.1	.72	.34	.18	.30
10	.54	1.3	14	.75	.44	e16	.93	2.8	.61	.23	.15	2.7
11	1.9	1.6	1.8	.62	e.44	e22	.95	1.4	.54	.20	18	2.0
12	.86	.72	1.2	.56	e.44	e2.0	1.0	1.1	.55	.21	.88	.28
13	.60	1.1	1.7	.57	.51	e1.2	.84	.95	.51	.23	.51	.23
14	.55	.67	1.6	6.2	.88	e1.0	.83	.86	.50	.17	1.9	.22
15	.57	.63	.93	.94	12	e.96	.81	1.7	.45	.77	2.6	.21
16	.61	.63	.80	.64	8.2	e.92	.90	1.4	.42	.32	1.2	.21
17	9.6	.59	.77	.55	1.4	e.91	.96	.92	.42	.83	15	.20
18	1.3	.58	.77	.56	2.9	e1.1	.89	1.0	.43	.26	3.8	.25
19	.84	.58	.56	.48	2.1	e11	1.4	.79	4.4	.20	.77	.18
20	.73	.58	.64	.56	1.2	e3.5	.92	.66	.78	.16	.48	.17
21	.69	.58	.81	e.50	.91	e1.2	.91	.65	.49	.13	.39	.18
22	.69	22	.67	e.48	.79	e1.3	6.1	.59	.48	.11	.32	3.2
23	.69	3.8	.68	5.2	.75	e4.5	1.5	.56	.44	3.8	.31	.96
24	.69	.95	.62	5.6	.73	e2.6	1.2	.54	4.7	.85	.29	.19
25	.69	.65	.56	.93	1.1	e1.0	16	.93	1.8	9.7	.28	18
26	.69	.56	.52	.85	11	e25	5.6	1.9	.67	.50	.24	17
27	.69	.54	.54	.74	1.9	e15	2.0	e.78	.51	.44	.26	4.3
28	.63	.53	.53	.80	1.4	e5.0	1.3	e.56	.46	.30	.52	1.0
29	.62	.52	7.4	.75	e1.1	e2.0	1.0	e.54	.43	.22	.33	.51
30	.67	.50	1.3	.73	---	e1.4	.91	e3.7	.41	.19	.20	.43
31	.69	---	.76	.80	---	e3.0	---	e35	---	23	.18	---
TOTAL	31.47	44.79	110.67	36.80	55.22	143.43	57.07	112.44	52.38	51.34	52.45	65.15
MEAN	1.02	1.49	3.57	1.19	1.90	4.63	1.90	3.63	1.75	1.66	1.69	2.17
MAX	9.6	22	28	6.2	12	25	16	43	24	23	18	18
MIN	.53	.50	.52	.48	.44	.71	.81	.54	.41	.11	.15	.15
CFSM	.29	.42	1.01	.34	.54	1.31	.54	1.02	.49	.47	.48	.61
IN.	.33	.47	1.16	.39	.58	1.51	.60	1.18	.55	.54	.55	.68

e Estimated

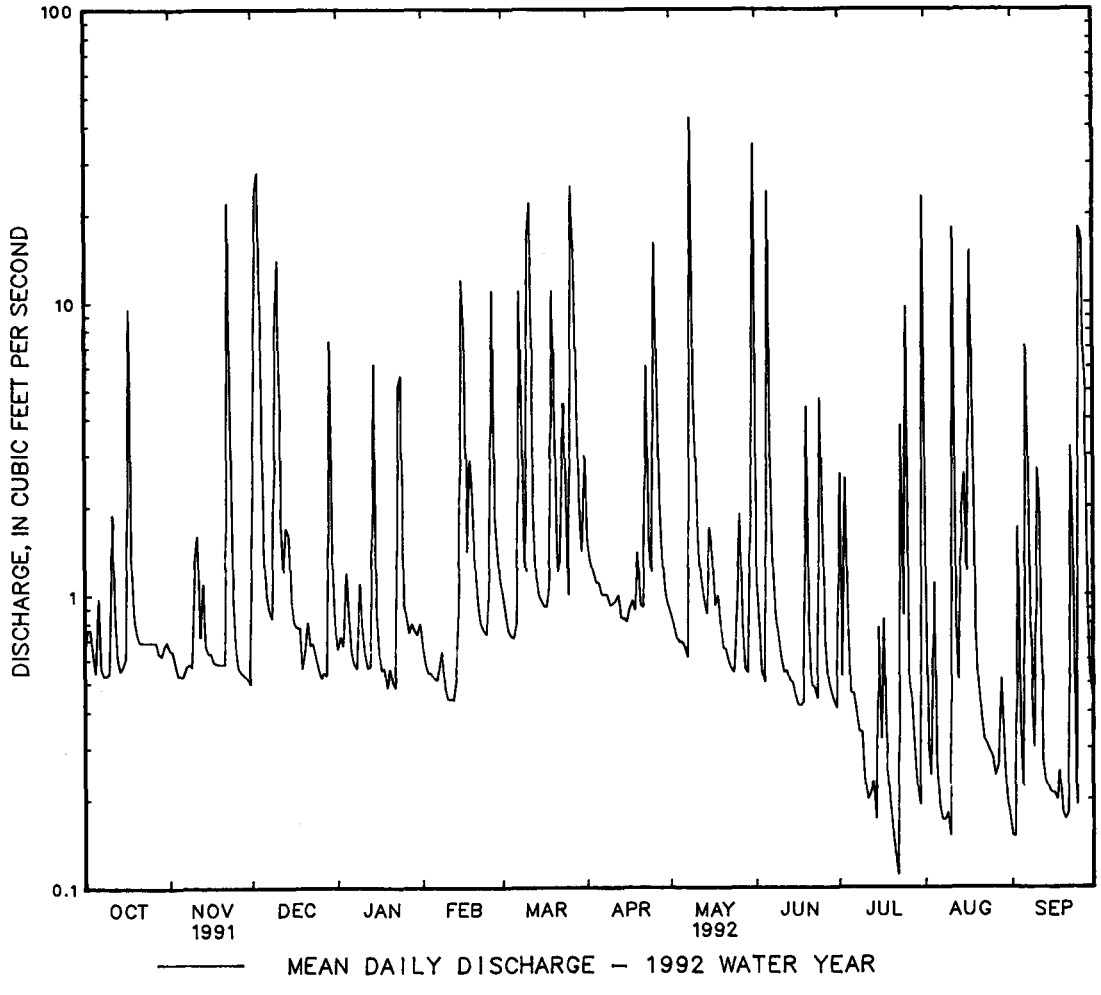
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

MEAN	2.94	2.15	3.94	4.36	2.47	3.87	3.27	5.27	3.31	1.83	2.24	2.08
MAX	5.95	2.83	6.48	6.84	3.17	4.64	4.19	9.09	4.76	2.03	3.26	2.57
(WY)	1990	1990	1991	1991	1990	1991	1990	1990	1990	1990	1990	1991
MIN	1.02	1.49	1.77	1.19	1.90	2.35	1.90	3.08	1.75	1.66	1.69	1.51
(WY)	1992	1992	1990	1992	1992	1990	1992	1991	1992	1992	1992	1990

01479197 MILL CREEK AT MILL CREEK ROAD AT HOCKESSIN, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1990 - 1992	
ANNUAL TOTAL	1105.59		813.21			
ANNUAL MEAN	3.03		2.22		3.15	
HIGHEST ANNUAL MEAN					3.84	1990
LOWEST ANNUAL MEAN					2.22	1992
HIGHEST DAILY MEAN	56	Jan 12	43	May 8	90	May 29 1990
LOWEST DAILY MEAN	.24	(a)	.11	Jul 22	.11	Jul 22 1992
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 7	.20	Sep 15	.20	Sep 15 1992
INSTANTANEOUS PEAK FLOW	367	May 25	199	Aug 11	413	Sep 11 1990
INSTANTANEOUS PEAK STAGE	5.61	May 25	4.80	Aug 11	5.80	Sep 11 1990
INSTANTANEOUS LOW FLOW	.20	(b)	.07	(c)	.07	(c)
ANNUAL RUNOFF (CFSM)	.86		.63		.89	
ANNUAL RUNOFF (INCHES)	11.62		8.55		12.11	
10 PERCENT EXCEEDS	5.9		4.6		5.8	
50 PERCENT EXCEEDS	1.4		.74		1.5	
90 PERCENT EXCEEDS	.53		.28		.51	

a Sept. 12, 13.
b Sept. 12-14.
c July 21, 22, 1992.



01480000 RED CLAY CREEK AT WOODDALE, DE

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

DRAINAGE AREA.--47.0 mi^2.

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

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

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

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Some diurnal fluctuation at low flow caused by mills 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 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1845	*638	*3.88	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	19	26	30	28	32	48	38	53	30	41	15
2	20	20	44	30	26	31	46	37	41	27	23	15
3	20	19	232	30	26	30	44	36	37	28	20	18
4	19	18	104	32	26	30	42	34	34	40	22	26
5	19	18	44	35	25	30	42	35	132	27	20	19
6	20	18	38	30	24	31	40	34	78	25	18	33
7	19	19	35	28	25	91	40	33	63	23	17	52
8	18	19	33	27	26	63	40	239	44	23	17	27
9	18	19	35	29	26	43	38	121	39	22	18	22
10	18	20	121	33	22	43	39	76	35	21	17	23
11	20	25	47	29	e22	159	40	54	33	20	30	49
12	27	22	39	27	e21	57	40	46	32	20	26	22
13	20	22	38	27	23	46	37	43	31	21	19	20
14	19	20	39	46	26	42	36	41	30	19	26	19
15	19	19	35	41	48	39	36	39	28	20	26	18
16	21	20	32	30	105	37	36	48	26	26	28	17
17	56	19	31	27	43	36	40	43	25	23	107	16
18	34	18	30	e25	43	37	39	43	25	25	70	16
19	24	18	27	24	44	84	42	42	102	22	33	16
20	21	19	26	e24	39	62	39	36	57	20	26	16
21	20	19	28	e24	35	47	38	34	34	18	23	15
22	20	80	28	25	33	44	55	34	31	17	22	18
23	20	104	28	36	33	48	49	33	29	36	21	27
24	19	33	29	82	31	47	40	32	32	28	20	16
25	19	26	27	38	32	43	52	34	43	51	19	23
26	20	24	26	35	69	74	96	36	31	27	19	154
27	20	23	26	30	44	251	51	38	28	24	27	43
28	19	23	25	30	37	67	44	33	26	22	25	39
29	18	22	55	30	35	53	41	31	24	20	23	26
30	18	22	44	29	---	48	40	31	24	19	18	22
31	18	---	33	29	---	56	---	150	---	60	17	---
TOTAL	663	767	1405	992	1017	1801	1310	1604	1247	804	838	842
MEAN	21.4	25.6	45.3	32.0	35.1	58.1	43.7	51.7	41.6	25.9	27.0	28.1
MAX	56	104	232	82	105	251	96	239	132	60	107	154
MIN	18	18	25	24	21	30	36	31	24	17	17	15
CFSM	.46	.54	.96	.68	.75	1.24	.93	1.10	.88	.55	.58	.60
IN.	.52	.61	1.11	.79	.80	1.43	1.04	1.27	.99	.64	.66	.67

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

MEAN	36.2	50.0	62.8	76.3	88.8	89.8	84.4	74.9	57.7	52.9	44.4	40.5
MAX	129	115	147	232	237	182	167	156	147	279	180	180
(WY)	1972	1973	1984	1979	1979	1978	1958	1958	1972	1975	1955	1971
MIN	11.1	18.8	18.9	16.8	33.3	27.3	35.1	24.2	21.7	12.7	9.79	13.7
(WY)	1964	1966	1966	1981	1969	1981	1985	1955	1966	1963	1966	1964

01480000 RED CLAY CREEK AT WOODDALE, DE--Continued

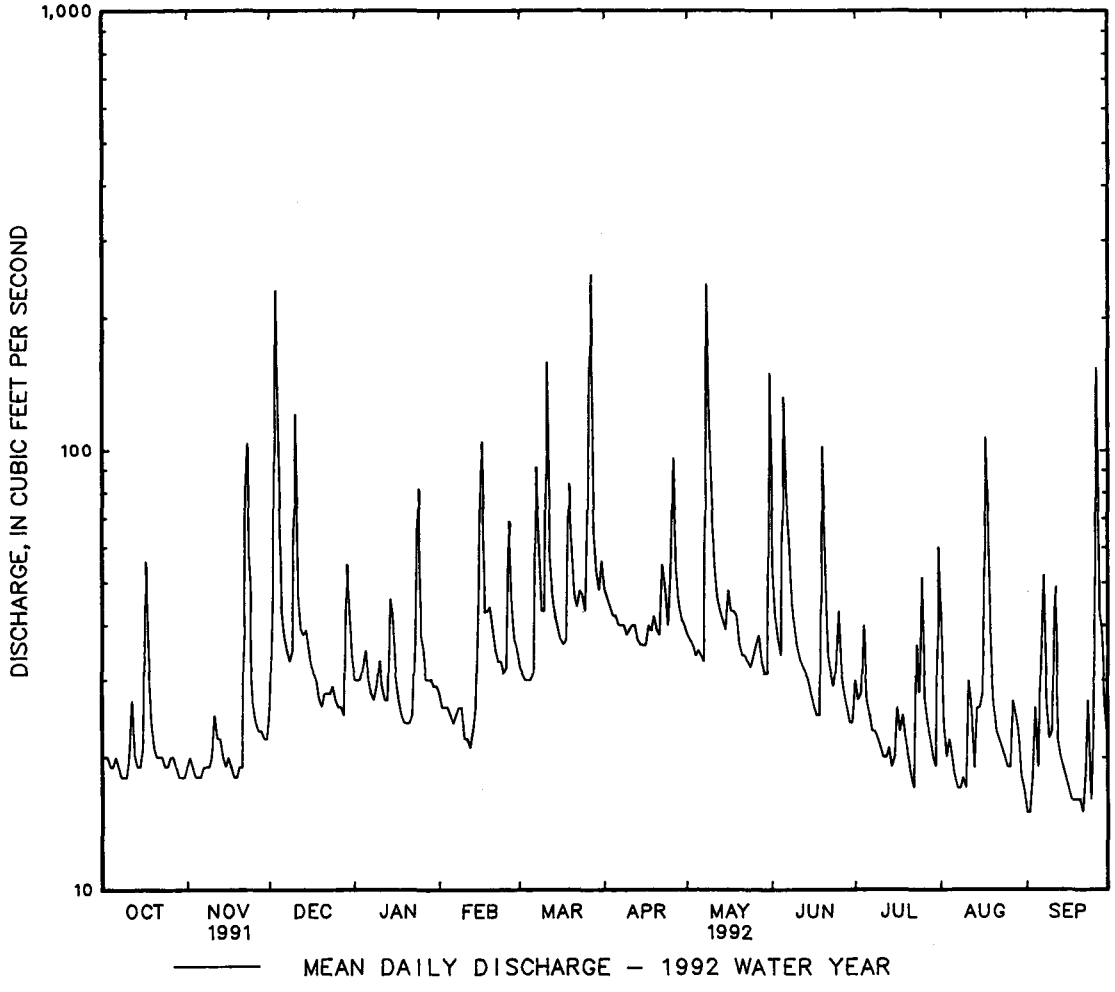
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	17301		13290			
ANNUAL MEAN	47.4		36.3		63.1	
HIGHEST ANNUAL MEAN					104	1975
LOWEST ANNUAL MEAN					32.3	1981
HIGHEST DAILY MEAN	479	Jan 12	251	Mar 27	2430	Sep 12 1960
LOWEST DAILY MEAN	13	Sep 13	15	(a)	4.5	Sep 4 1966
ANNUAL SEVEN-DAY MINIMUM	15	Sep 7	16	Sep 15	4.9	Sep 7 1966
INSTANTANEOUS PEAK FLOW	1040	Jan 12	638	May 8	b5010	Jul 21 1975
INSTANTANEOUS PEAK STAGE	4.45	Jan 12	3.88	May 8	10.32	Jul 21 1975
INSTANTANEOUS LOW FLOW	13	(c)	15	(d)	2.9	Sep 4 1966
ANNUAL RUNOFF (CFSM)	1.01		.77		1.34	
ANNUAL RUNOFF (INCHES)	13.69		10.52		18.25	
10 PERCENT EXCEEDS	81		53		107	
50 PERCENT EXCEEDS	35		30		44	
90 PERCENT EXCEEDS	19		19		19	

a Sept. 1, 2, 21.

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

c Sept. 12, 13.

d Feb. 10, Aug. 6, 7, Sept. 1, 2, 19-22, 24, 25.



01480015 RED CLAY CREEK NEAR STANTON, DE

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

DRAINAGE AREA.--52.4 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 0.00 ft above National Geodetic Vertical Datum of 1929.

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1630	*770	*11.77	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	25	34	35	33	36	54	41	62	36	49	18
2	24	27	66	35	31	35	50	40	47	33	26	17
3	23	26	274	34	30	34	47	38	42	31	23	24
4	22	25	127	36	30	34	46	36	39	45	23	30
5	22	24	52	40	30	34	45	37	155	31	23	21
6	23	24	43	35	29	34	43	36	91	28	20	39
7	23	26	40	33	29	102	42	34	68	26	18	63
8	21	25	37	32	30	75	42	287	49	25	18	32
9	21	26	44	33	31	48	41	149	44	24	19	25
10	22	28	143	38	27	54	41	83	40	23	18	27
11	23	35	54	34	30	178	42	61	37	22	41	57
12	33	32	44	32	28	65	43	53	35	21	33	26
13	25	30	43	31	28	51	40	49	34	22	23	22
14	23	27	45	51	30	46	39	46	33	21	32	21
15	24	25	42	49	54	44	39	44	32	23	32	20
16	26	24	37	36	128	41	39	54	30	29	34	20
17	68	24	36	34	50	40	42	48	28	30	111	19
18	46	22	36	33	48	41	41	50	28	29	88	19
19	30	21	33	32	49	91	46	48	99	24	38	19
20	26	21	33	32	44	70	42	41	69	21	30	18
21	24	22	34	32	39	51	40	39	39	20	26	18
22	24	98	34	32	37	48	67	38	34	19	24	23
23	24	134	34	40	36	53	56	37	32	44	23	33
24	24	43	34	97	35	52	43	37	47	38	22	20
25	25	34	32	45	35	46	69	38	52	61	21	39
26	25	30	31	40	79	81	110	42	36	33	20	167
27	26	28	30	36	51	290	56	43	32	29	28	53
28	25	28	30	36	42	77	48	37	30	26	32	49
29	24	28	67	34	39	60	44	35	27	23	27	32
30	24	28	52	33	---	54	42	38	27	21	22	27
31	24	---	38	34	---	63	---	177	---	111	19	---
TOTAL	818	990	1679	1174	1182	2028	1439	1836	1418	969	963	998
MEAN	26.4	33.0	54.2	37.9	40.8	65.4	48.0	59.2	47.3	31.3	31.1	33.3
MAX	68	134	274	97	128	290	110	287	155	111	111	167
MIN	21	21	30	31	27	34	39	34	27	19	18	17
CFSM	.50	.63	1.03	.72	.78	1.25	.92	1.13	.90	.60	.59	.63
IN.	.58	.70	1.19	.83	.84	1.44	1.02	1.30	1.01	.69	.68	.71

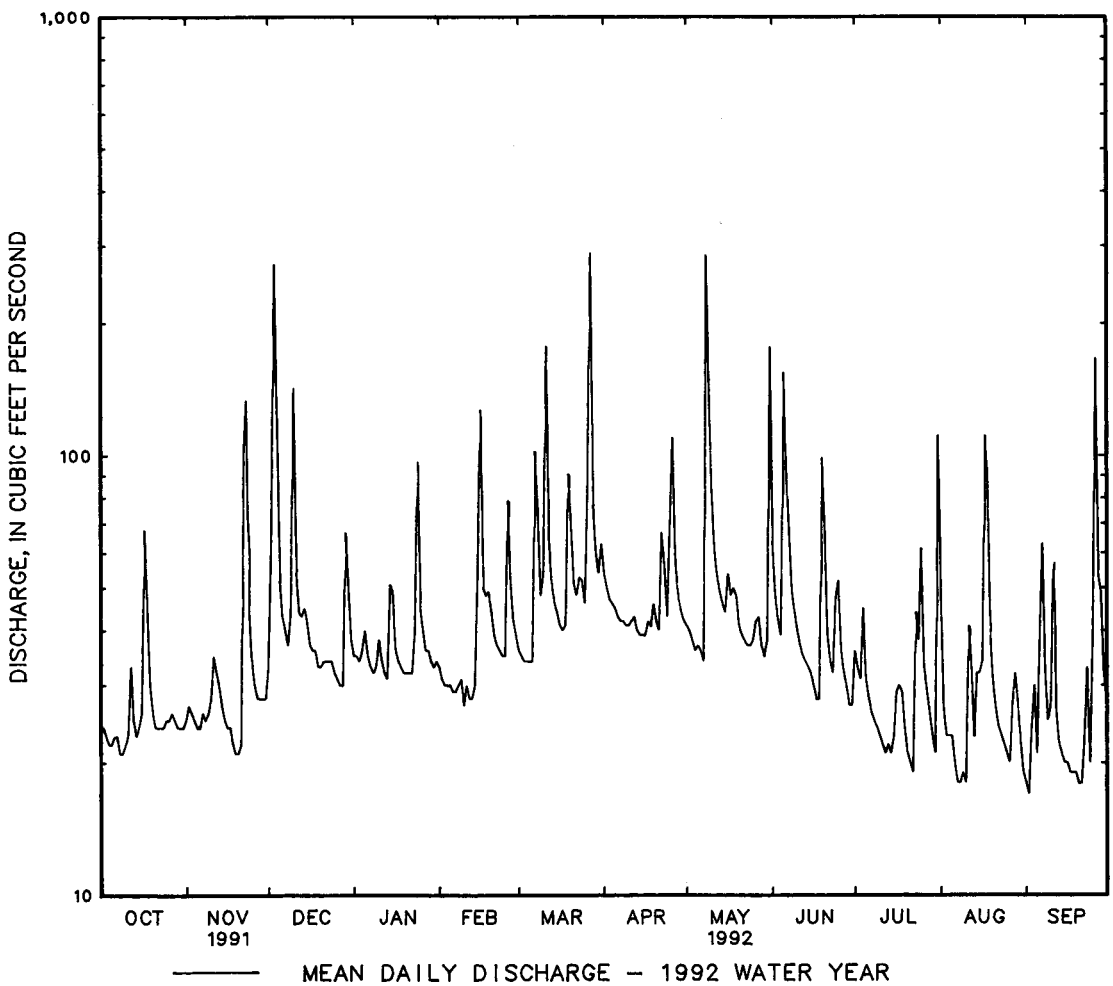
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

MEAN	49.2	56.6	58.0	78.8	62.3	76.2	74.6	94.2	72.4	92.2	53.7	54.1
MAX	103	75.9	81.2	112	81.7	88.3	85.7	138	101	246	90.0	115
(WY)	1990	1990	1991	1990	1990	1989	1989	1989	1989	1989	1989	1989
MIN	26.4	33.0	42.1	37.9	40.8	65.0	48.0	56.2	46.6	31.3	31.1	32.6
(WY)	1992	1992	1989	1992	1992	1990	1992	1991	1991	1992	1992	1991

01480015 RED CLAY CREEK NEAR STANTON, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1989 - 1992	
ANNUAL TOTAL	20000		15494			
ANNUAL MEAN	54.8		42.3		68.6	
HIGHEST ANNUAL MEAN					94.7	1989
LOWEST ANNUAL MEAN					42.3	1992
HIGHEST DAILY MEAN	599	Jan 12	290	Mar 27	2480	Jul 5 1989
LOWEST DAILY MEAN	15	Sep 12	17	Sep 2	15	(a)
ANNUAL SEVEN-DAY MINIMUM	17	Sep 7	19	Sep 15	17	Sep 7 1991
INSTANTANEOUS PEAK FLOW	1390	Jan 12	770	May 8	5320	Jul 5 1989
INSTANTANEOUS PEAK STAGE	13.56	Jan 12	11.77	May 8	19.35	Jul 5 1989
INSTANTANEOUS LOW FLOW	14	(b)	16	(c)	14	(d)
ANNUAL RUNOFF (CFSM)	1.05		.81		1.31	
ANNUAL RUNOFF (INCHES)	14.20		11.00		17.79	
10 PERCENT EXCEEDS	95		64		110	
50 PERCENT EXCEEDS	43		34		53	
90 PERCENT EXCEEDS	22		22		25	

a Sept. 12, 13, 1991.
b Sept. 3, 4.
c Aug. 7, Sept. 1, 2.
d Oct. 14, 1988, Sept. 3, 4, 1991.



01480095 LITTLE MILL CREEK NEAR NEWPORT, DE

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

DRAINAGE AREA.--5.24 mi^2.

PERIOD OF RECORD.--October 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 58.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Oct. 11 to Dec. 7 (periods of unstable control conditions and backwater from leaves), which are fair, Oct. 1-10 and Jan. 12-23 (no gage-height record), which are poor. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 24	2025	*428	*4.15	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.8	e1.4	6.7	2.9	2.4	2.4	4.8	3.2	6.1	7.8	6.1	1.5
2	e1.4	e1.2	25	2.9	2.3	2.4	4.3	3.0	4.1	3.5	2.8	1.5
3	e1.3	e1.1	32	2.8	2.2	3.5	4.0	2.9	3.3	4.6	2.0	6.8
4	e1.3	e1.1	e9.8	4.6	2.2	4.4	3.9	2.6	2.7	3.7	1.9	2.4
5	e1.3	e1.1	e5.8	3.8	2.2	4.6	3.9	2.6	46	2.2	1.7	1.6
6	e1.2	e1.1	e3.6	2.9	2.1	5.0	3.4	2.5	7.5	1.9	1.7	7.7
7	e1.1	e1.9	e3.4	2.7	2.1	33	3.2	2.4	4.6	1.8	1.6	5.0
8	e1.3	2.1	e3.0	2.6	2.3	9.2	3.3	66	3.8	1.7	1.5	2.1
9	e1.4	1.4	e15	3.5	2.2	5.1	3.3	12	3.4	1.7	1.6	1.9
10	e1.4	2.5	24	3.1	2.0	20	3.2	8.7	2.7	1.7	1.6	7.7
11	3.0	3.0	5.1	2.7	2.0	35	3.2	6.6	2.4	1.7	14	8.0
12	2.6	1.8	3.7	e2.4	2.0	8.6	4.0	4.3	2.4	1.6	3.9	1.8
13	1.3	2.9	5.2	e2.3	2.1	6.9	3.1	3.5	2.3	1.6	3.0	1.6
14	1.3	1.8	4.8	e8.2	3.7	6.1	3.1	3.2	2.2	1.5	6.8	1.5
15	6.7	1.6	3.3	e3.6	28	5.6	3.0	3.9	2.2	4.3	6.6	1.6
16	3.5	1.5	2.8	e2.4	19	5.2	3.6	7.5	2.0	2.4	3.5	1.5
17	19	1.6	2.7	e2.3	4.9	5.2	3.6	3.7	1.9	9.9	12	1.4
18	2.4	1.5	2.6	e2.3	6.9	6.3	3.3	7.5	1.9	2.0	7.4	1.4
19	1.4	2.0	2.4	e2.2	5.2	22	6.1	4.3	17	1.7	2.7	1.4
20	1.2	2.1	2.3	e2.2	3.6	9.2	4.2	2.8	3.6	1.6	2.1	1.5
21	1.1	1.7	2.4	e2.1	2.7	7.1	3.6	2.4	2.3	1.5	1.9	1.3
22	1.1	31	2.4	e2.1	2.6	6.5	22	2.4	2.1	1.4	1.8	3.6
23	1.2	9.6	2.5	e11	2.5	10	7.5	2.3	2.0	14	1.7	5.0
24	1.3	4.0	2.5	15	2.4	7.9	4.7	2.4	24	3.8	1.7	1.5
25	1.3	2.5	2.3	3.9	2.6	6.6	21	2.9	8.2	9.8	1.7	20
26	1.3	2.1	2.3	3.5	20	10	9.8	5.5	3.8	2.4	1.7	34
27	1.4	1.8	2.2	3.0	4.8	54	5.2	3.6	2.3	2.9	3.4	11
28	1.4	1.6	2.2	2.7	3.6	8.4	4.2	2.6	2.0	1.8	1.9	4.1
29	1.3	1.5	21	2.6	2.9	6.1	3.8	2.3	1.9	1.7	1.8	2.3
30	1.4	1.3	5.9	2.6	---	5.4	3.4	5.1	1.8	1.5	1.5	1.8
31	1.6	---	3.4	2.6	---	7.5	---	43	---	63	1.5	---
TOTAL	70.3	91.8	212.3	113.5	143.5	329.2	159.7	227.7	172.5	162.7	105.1	144.5
MEAN	2.27	3.06	6.85	3.66	4.95	10.6	5.32	7.35	5.75	5.25	3.39	4.82
MAX	19	31	32	15	28	54	22	66	46	63	14	34
MIN	1.1	1.1	2.2	2.1	2.0	2.4	3.0	2.3	1.8	1.4	1.5	1.3
CFSM	.43	.58	1.31	.70	.94	2.03	1.02	1.40	1.10	1.00	.65	.92
IN.	.50	.65	1.51	.81	1.02	2.34	1.13	1.62	1.22	1.16	.75	1.03

e Estimated

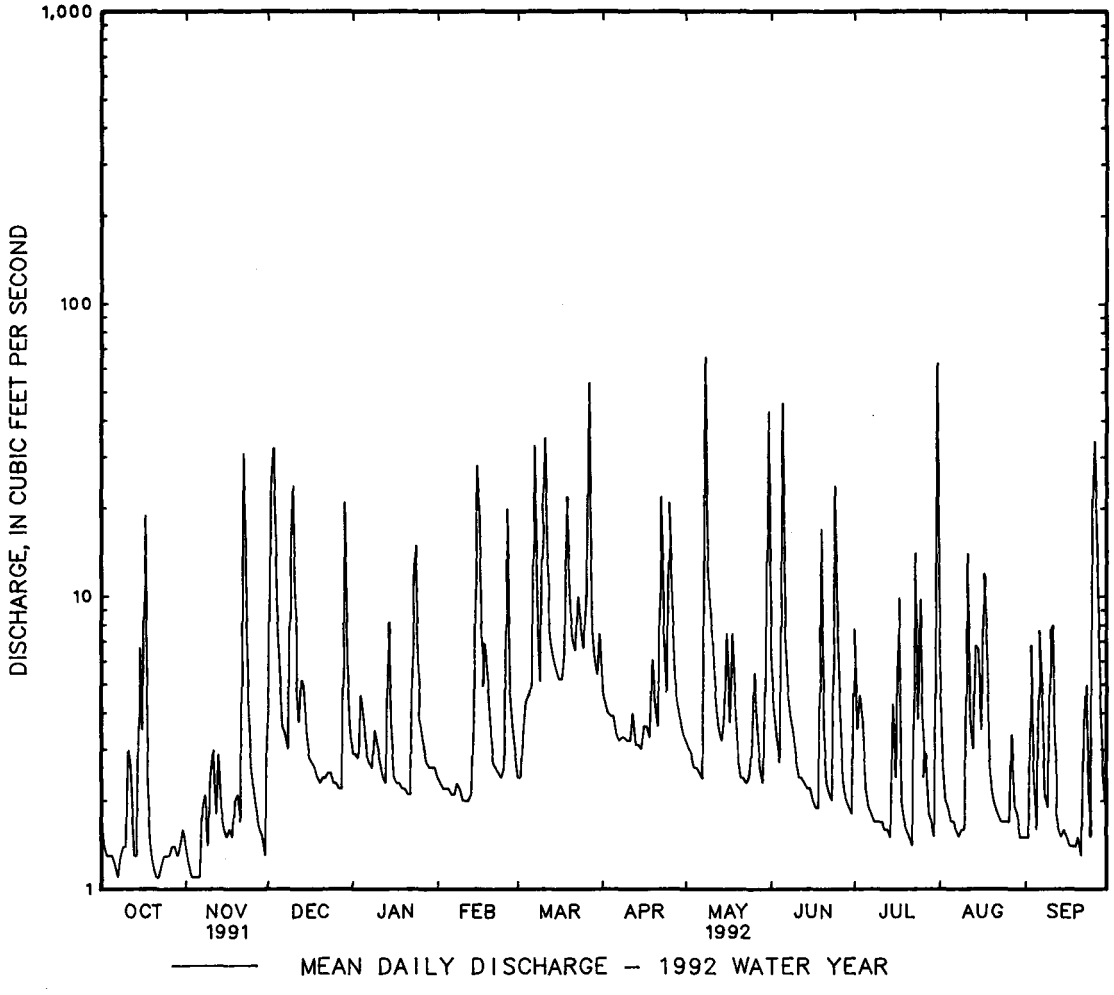
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1992, BY WATER YEAR (WY)

MEAN	3.09	3.52	8.97	8.79	4.77	10.5	7.32	6.04	6.07	5.68	5.10	5.24
MAX	3.92	3.99	11.1	13.9	4.95	10.6	9.31	7.35	6.38	6.12	6.81	5.66
(WY)	1991	1991	1991	1991	1992	1992	1991	1992	1991	1991	1991	1991
MIN	2.27	3.06	6.85	3.66	4.59	10.5	5.32	4.74	5.75	5.25	3.39	4.82
(WY)	1992	1992	1992	1992	1991	1991	1992	1991	1992	1992	1992	1992

01480095 LITTLE MILL CREEK NEAR NEWPORT, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1991 - 1992	
ANNUAL TOTAL	2447.2		1932.8			
ANNUAL MEAN	6.70		5.28		6.28	
HIGHEST ANNUAL MEAN					7.28	1991
LOWEST ANNUAL MEAN					5.28	1992
HIGHEST DAILY MEAN	102	Jun 18	66	May 8	102	Jun 18 1991
LOWEST DAILY MEAN	1.1	(a)	1.1	(a)	1.1	(a)
ANNUAL SEVEN-DAY MINIMUM	1.2	Oct 20	1.2	Oct 20	1.2	Oct 20 1991
INSTANTANEOUS PEAK FLOW	487	Jan 11	428	Jun 24	487	Jan 11 1991
INSTANTANEOUS PEAK STAGE	6.51	Jan 11	4.15	Jun 24	6.51	Jan 11 1991
INSTANTANEOUS LOW FLOW	UNKNOWN		UNKNOWN		UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.28		1.01		1.20	
ANNUAL RUNOFF (INCHES)	17.37		13.72		16.28	
10 PERCENT EXCEEDS	11		9.8		11	
50 PERCENT EXCEEDS	3.4		2.7		3.0	
90 PERCENT EXCEEDS	1.4		1.5		1.6	

a Oct. 7, 21, 22, Nov. 3-6, 1991.



01481500 BRANDYWINE CREEK AT WILMINGTON, DE

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

DRAINAGE AREA.--314 mi^2.

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

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

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

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. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	1215	*3,260	*6.24	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	119	153	256	208	248	455	328	673	254	559	107
2	120	118	276	224	174	242	409	328	397	264	217	105
3	119	119	1270	197	183	233	379	309	348	252	161	111
4	116	117	1030	218	180	231	367	296	319	409	147	140
5	114	116	422	278	169	227	357	284	827	293	146	116
6	117	114	310	248	158	219	344	281	1000	255	133	127
7	118	118	276	198	158	374	339	276	639	236	126	312
8	112	118	254	187	163	559	333	897	487	217	118	214
9	109	116	263	193	152	333	328	1830	431	227	122	150
10	111	120	699	246	122	310	327	647	394	213	120	141
11	115	144	461	219	147	683	336	547	327	233	185	250
12	134	160	310	193	152	469	333	473	296	195	383	158
13	128	151	282	183	132	333	315	434	278	191	214	120
14	123	130	310	280	157	299	304	364	271	199	222	115
15	121	123	300	469	251	289	301	339	265	213	193	107
16	120	122	259	273	633	273	306	452	258	199	215	102
17	213	121	237	167	369	264	324	479	251	196	417	102
18	454	118	224	222	298	270	364	380	243	325	346	98
19	200	119	189	154	301	443	362	387	491	243	246	99
20	139	120	170	177	303	458	339	346	661	430	188	100
21	125	120	247	190	275	393	327	325	459	197	154	94
22	120	374	258	172	256	349	423	311	331	158	137	98
23	120	988	251	232	282	361	419	298	302	241	132	182
24	123	338	259	561	287	352	341	294	312	246	125	121
25	121	226	249	327	294	327	367	301	450	224	118	143
26	125	171	236	269	405	397	633	315	356	198	118	970
27	125	150	241	202	374	2120	453	333	299	191	115	459
28	120	134	243	236	290	852	384	306	282	180	127	407
29	114	134	332	219	268	592	355	284	258	154	166	245
30	114	134	412	205	---	517	335	281	246	141	150	166
31	118	---	296	212	---	504	---	1000	---	341	116	---
TOTAL	4226	5252	10719	7407	7141	13521	10959	13725	12151	7315	5916	5659
MEAN	136	175	346	239	246	436	365	443	405	236	191	189
MAX	454	988	1270	561	633	2120	633	1830	1000	430	559	970
MIN	109	114	153	154	122	219	301	276	243	141	115	94
(†)	-3.1	+1.8	-13.8	-1.1	+0.7	+19.6	+0.7	+1.5	-3.7	-0.3	-1.9	+2.0
MEAN≠	133	177	332	238	247	456	366	444	401	236	189	191
CFSM≠	0.42	0.56	1.06	0.76	0.79	1.45	1.16	1.42	1.28	0.75	0.60	0.61
IN≠	0.48	0.63	1.22	0.88	0.85	1.67	1.29	1.64	1.43	0.87	0.69	0.68

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

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued

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

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

SUMMARY STATISTICS	WATER YEARS 1947 - 1973	
ANNUAL MEAN	461	
HIGHEST ANNUAL MEAN	732	1972
LOWEST ANNUAL MEAN	252	1954
HIGHEST DAILY MEAN	14300	Jun 23 1972
LOWEST DAILY MEAN	56	Aug 23 1957
ANNUAL SEVEN-DAY MINIMUM	59	Aug 18 1957
INSTANTANEOUS PEAK FLOW	a29000	Jun 23 1972
INSTANTANEOUS PEAK STAGE	15.49	Jun 23 1972
INSTANTANEOUS LOW FLOW	b30	Dec 26 1948
ANNUAL RUNOFF (CFSM)	1.47	
ANNUAL RUNOFF (INCHES)	19.93	
10 PERCENT EXCEEDS	864	
50 PERCENT EXCEEDS	316	
90 PERCENT EXCEEDS	125	

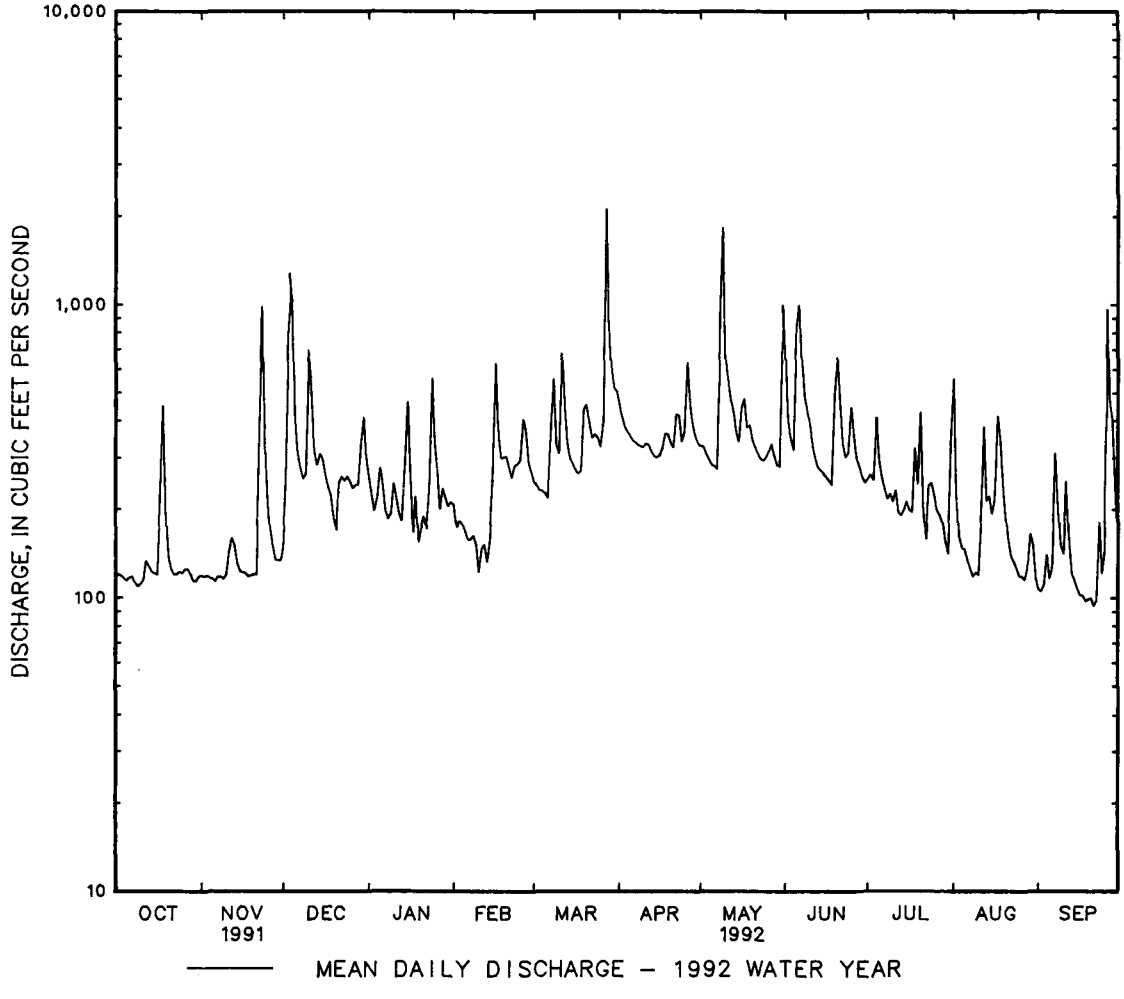
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	294	358	505	618	647	655	683	631	474	434	274	305
MAX	918	793	1306	1868	1610	1309	1773	1168	1079	1243	502	1095
(WY)	1980	1980	1984	1979	1979	1978	1983	1989	1975	1975	1989	1979
MIN	125	157	145	119	246	230	223	304	172	161	137	108
(WY)	1987	1982	1981	1981	1992	1981	1985	1977	1985	1986	1987	1980

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1974 - 1992	
ANNUAL TOTAL	132795		103991			
ANNUAL MEAN	364		284		489	
ANNUAL MEAN≠	362		284		490	
HIGHEST ANNUAL MEAN					835	1984
HIGHEST ANNUAL MEAN≠					839	1984
LOWEST ANNUAL MEAN					228	1981
LOWEST ANNUAL MEAN≠					229	1981
HIGHEST DAILY MEAN	2410	Jan 12	2120	Mar 27	12100	Jan 25 1979
LOWEST DAILY MEAN	96	Sep 13	94	Sep 21	81	Sep 18 1986
ANNUAL SEVEN-DAY MINIMUM	105	Sep 7	99	Sep 16	87	Sep 13 1986
INSTANTANEOUS PEAK FLOW	3470	Jan 12	3260	Mar 27	22400	Jan 25 1979
INSTANTANEOUS PEAK STAGE	6.43	Jan 12	6.24	Mar 27	13.22	Jan 25 1979
INSTANTANEOUS LOW FLOW	61	Nov 13	61	Nov 13	45	Sep 26 1986
ANNUAL RUNOFF (CFSM)	1.16		.90		1.56	
ANNUAL RUNOFF (CFSM)≠	1.15		.91		1.56	
ANNUAL RUNOFF (INCHES)	15.73		12.32		21.16	
ANNUAL RUNOFF (INCHES)≠	15.61		12.39		20.83	
10 PERCENT EXCEEDS	701		456		893	
50 PERCENT EXCEEDS	286		247		353	
90 PERCENT EXCEEDS	118		118		144	

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

01481500 BRANDYWINE CREEK AT WILMINGTON, DE--Continued



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 mi^2.

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

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

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 17.89 ft above National Geodetic Vertical Datum of 1929. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft upstream at 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	1345	*92	*2.89	Sept. 26	0545	66	2.46

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	.61	1.5	1.5	1.5	2.0	3.7	2.3	5.4	1.3	1.6	.43
2	.60	.64	2.8	1.6	1.3	2.0	3.7	2.3	2.7	1.3	1.6	.41
3	.60	.61	8.7	1.6	1.3	2.0	3.5	2.1	2.1	1.2	1.5	.32
4	.62	.60	8.9	2.3	1.3	1.9	3.4	1.8	1.9	1.3	1.2	.33
5	.64	.82	3.5	3.4	1.4	1.9	3.3	1.8	29	1.4	.96	.40
6	.61	1.8	1.9	2.2	1.3	2.0	3.1	1.9	12	1.4	.89	.43
7	.60	.73	1.6	1.8	1.4	4.1	3.0	1.9	4.9	1.4	.82	.52
8	.61	.56	1.4	1.6	1.5	4.8	3.0	41	3.7	1.3	.75	.66
9	.55	.59	1.9	1.5	1.5	2.9	2.8	22	3.6	1.2	.68	.84
10	.50	.54	9.1	1.6	1.2	3.1	3.5	8.3	2.7	1.2	.65	2.5
11	.50	.78	4.6	1.5	1.3	10	3.5	4.9	2.2	1.2	.65	4.1
12	.52	.80	2.2	1.4	1.4	5.3	3.2	3.7	1.9	1.2	.71	1.5
13	.53	.81	1.8	1.5	1.4	3.4	2.7	3.5	1.8	1.2	.77	.87
14	.53	.78	2.1	2.0	1.6	2.8	2.5	3.1	1.5	1.0	.81	.68
15	.43	.73	2.1	1.5	3.0	2.4	2.5	2.8	1.6	.95	.92	.61
16	.45	.75	1.7	1.4	5.8	2.3	2.5	3.1	1.5	.90	2.6	.60
17	2.9	.73	1.6	1.2	2.9	2.4	3.0	3.1	1.4	1.1	5.0	1.0
18	4.0	.69	1.6	1.5	3.2	2.6	3.1	2.6	1.3	1.3	7.3	.95
19	1.2	.74	1.6	1.2	3.7	8.4	3.1	2.3	2.4	1.3	2.3	.60
20	.78	.92	1.3	1.1	4.0	6.0	3.0	2.0	2.4	1.2	1.4	.50
21	.72	.97	1.5	1.3	2.6	3.9	3.0	1.8	1.6	1.1	1.2	.48
22	.69	1.3	1.6	1.4	2.1	3.6	4.0	1.7	1.3	1.0	1.2	.49
23	.73	3.0	1.5	2.7	1.9	4.8	3.9	1.7	1.2	.91	1.2	.51
24	.68	1.5	1.5	5.2	1.9	3.6	2.9	1.7	1.3	.76	1.2	.63
25	.67	1.0	1.5	2.3	2.1	3.0	2.9	1.8	1.5	.62	1.1	7.1
26	.68	.85	1.5	1.8	8.0	10	3.4	2.5	1.5	.67	1.1	39
27	.66	.84	1.2	1.6	4.9	29	2.9	2.9	1.5	2.4	1.0	5.1
28	.70	.87	1.3	1.6	2.9	7.6	2.6	2.0	1.5	1.6	.89	2.5
29	.64	.86	4.0	1.6	2.3	4.2	2.4	1.7	1.4	1.3	.82	4.0
30	.60	.95	4.5	1.6	---	3.7	2.3	2.4	1.3	1.4	.73	2.3
31	.55	---	1.8	1.6	---	4.0	---	12	---	1.4	.55	---
TOTAL	25.15	27.37	83.8	56.1	70.7	149.7	92.4	148.7	100.1	37.51	44.10	80.36
MEAN	.81	.91	2.70	1.81	2.44	4.83	3.08	4.80	3.34	1.21	1.42	2.68
MAX	4.0	3.0	9.1	5.2	8.0	29	4.0	41	29	2.4	7.3	39
MIN	.43	.54	1.2	1.1	1.2	1.9	2.3	1.7	1.2	.62	.55	.32
CFSM	.21	.24	.70	.47	.63	1.25	.80	1.25	.87	.31	.37	.70
IN.	.24	.26	.81	.54	.68	1.45	.89	1.44	.97	.36	.43	.78

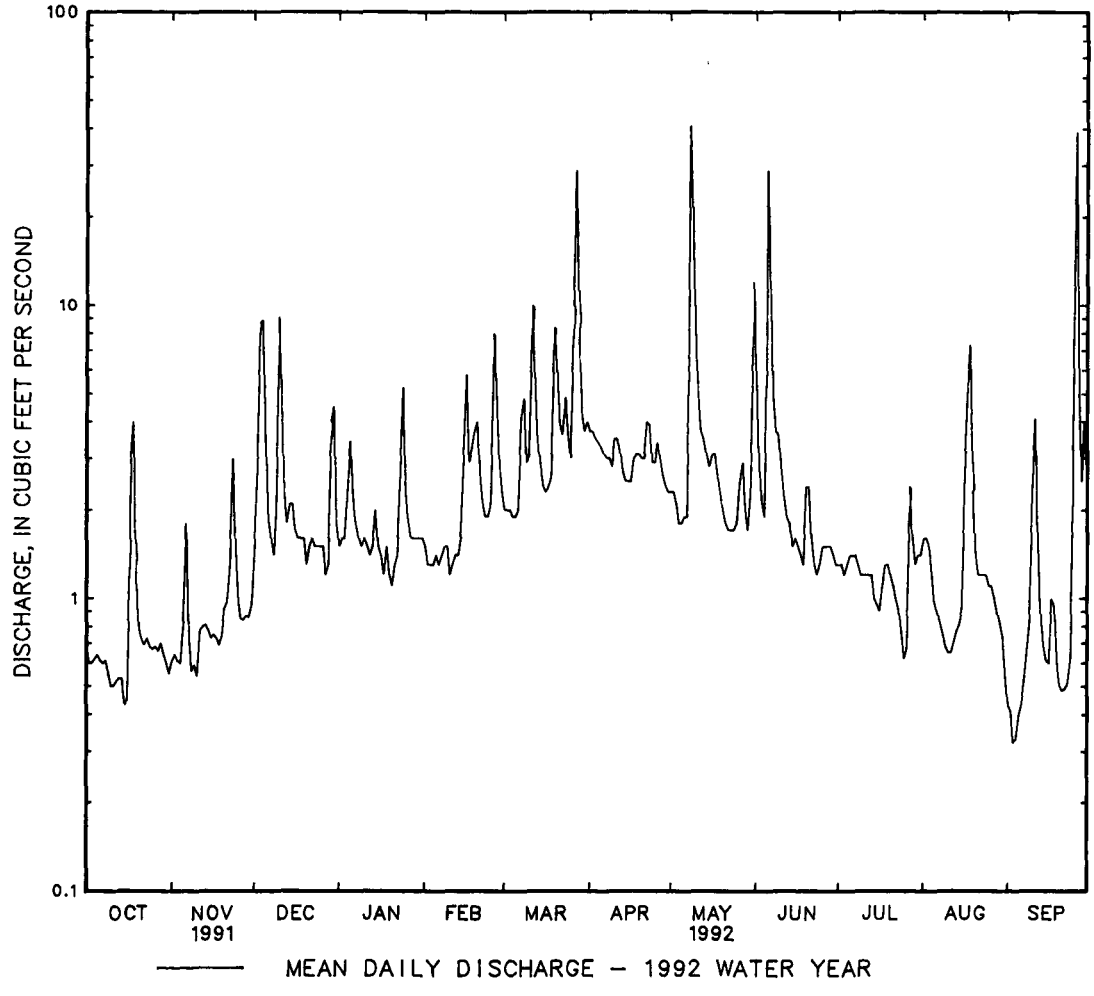
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1992, BY WATER YEAR (WY)

MEAN	2.45	3.53	4.86	6.21	7.13	8.10	7.37	5.51	3.67	2.95	1.92	2.20
MAX	8.83	10.4	14.8	18.1	19.2	20.3	21.0	13.9	24.4	17.0	6.80	12.2
(WY)	1972	1957	1973	1978	1979	1958	1983	1989	1972	1989	1971	1960
MIN	.30	.73	.71	1.51	2.44	1.98	2.16	1.26	.54	.077	.013	.21
(WY)	1969	1966	1966	1981	1992	1966	1966	1977	1966	1966	1966	1968

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1957 - 1992	
ANNUAL TOTAL	1265.24		915.99			
ANNUAL MEAN	3.47		2.50		4.64	
HIGHEST ANNUAL MEAN					9.05	1972
LOWEST ANNUAL MEAN					1.40	1966
HIGHEST DAILY MEAN	63	Jan 12	41	May 8	338	Jun 22 1972
LOWEST DAILY MEAN	.12	(a)	.32	Sep 3	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.15	Sep 8	.41	Sep 1	.00	Jul 17 1966
INSTANTANEOUS PEAK FLOW	116	Jan 12	92	May 8	c712	Jun 22 1972
INSTANTANEOUS PEAK STAGE	3.20	Jan 12	2.89	May 8	5.04	Jun 22 1972
INSTANTANEOUS LOW FLOW	.10	Jul 25	.26	Sep 3	.00	(d)
ANNUAL RUNOFF (CFSM)	.90		.65		1.21	
ANNUAL RUNOFF (INCHES)	12.23		8.85		16.39	
10 PERCENT EXCEEDS	7.4		4.0		9.4	
50 PERCENT EXCEEDS	1.6		1.6		2.7	
90 PERCENT EXCEEDS	.49		.62		.54	

a Sept. 4, 5.
b Sept. 11, 1965; July 12-15, 17-31, Aug. 1-12, 14, 15, 18-31, Sept. 1-20, 1966.
c From rating curve extended above 200 ft^3/s on basis of Type III culvert measurement of peak flow.
d No flow at times during 1964-66, 1969.



01483700 ST. JONES RIVER AT DOVER, DE

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

DRAINAGE AREA.--31.9 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.00 ft above National Geodetic Vertical Datum of 1929. 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, 282 ft^3/s, May 9, gage height, 4.24 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	e5.1	16	15	12	42	39	13	47	5.7	35	3.0
2	3.2	e4.8	33	12	8.3	41	38	12	27	e4.6	15	2.7
3	3.9	3.9	61	11	7.9	40	38	12	16	e5.3	7.0	8.6
4	3.6	4.0	69	e21	8.5	26	37	10	13	13	5.4	9.3
5	3.2	2.2	44	e22	8.8	5.0	37	8.9	131	8.5	4.4	6.9
6	4.0	2.7	23	18	7.5	4.9	37	e9.2	220	6.8	3.0	7.2
7	2.7	4.7	13	14	e8.5	5.8	12	e9.7	143	6.2	2.6	22
8	1.7	5.9	10	11	e8.8	5.1	1.6	e118	62	4.8	2.4	15
9	1.8	e4.6	13	11	9.9	16	1.3	247	30	4.6	2.9	9.1
10	2.1	e5.6	50	11	7.9	34	4.8	205	21	13	2.6	7.6
11	2.6	e8.1	45	10	8.2	34	20	109	16	36	4.6	15
12	2.8	6.1	26	9.2	8.5	34	23	59	13	17	7.7	11
13	2.8	6.1	16	9.3	8.7	35	18	37	11	7.7	5.6	6.9
14	2.2	5.4	16	11	9.6	34	16	29	9.7	5.3	12	5.2
15	9.0	5.4	10	8.2	18	34	15	23	9.2	4.5	41	4.8
16	9.9	5.6	9.9	10	38	33	16	24	8.0	4.6	47	4.9
17	48	3.5	8.1	6.0	29	33	19	23	7.4	e3.7	94	4.7
18	42	3.6	9.4	8.3	27	33	20	22	6.9	3.8	146	4.4
19	22	6.0	8.2	7.1	25	33	22	17	7.7	3.4	90	4.3
20	8.8	5.3	6.8	7.0	22	34	21	15	9.0	3.1	31	3.5
21	6.1	5.3	8.1	7.4	37	34	20	13	7.7	3.1	12	3.1
22	5.1	8.5	8.4	8.0	48	34	27	12	6.5	2.7	8.5	e3.7
23	4.7	12	9.1	13	47	34	31	11	5.7	4.1	7.2	e5.6
24	4.6	11	10	25	46	34	28	10	7.1	4.9	6.2	e3.0
25	4.4	7.6	8.3	17	45	33	24	10	9.2	8.0	6.0	e23
26	4.7	5.8	8.1	14	46	36	23	14	7.7	7.4	5.8	e143
27	4.7	4.7	8.2	11	45	36	21	16	7.1	6.6	5.2	e100
28	e5.1	4.8	7.9	11	45	87	17	13	6.0	5.9	e5.1	41
29	e4.6	4.9	25	10	44	90	15	10	4.5	4.1	e5.1	23
30	e5.4	5.2	31	10	---	54	14	13	4.9	3.3	3.2	17
31	e5.4	---	21	11	---	44	---	47	---	e17	3.2	---
TOTAL	234.4	168.4	632.5	369.5	685.1	1072.8	655.7	1171.8	874.3	228.7	626.7	518.5
MEAN	7.56	5.61	20.4	11.9	23.6	34.6	21.9	37.8	29.1	7.38	20.2	17.3
MAX	48	12	69	25	48	90	39	247	220	36	146	143
MIN	1.7	2.2	6.8	6.0	7.5	4.9	1.3	8.9	4.5	2.7	2.4	2.7
CFSM	.24	.18	.64	.37	.74	1.08	.69	1.18	.91	.23	.63	.54
IN.	.27	.20	.74	.43	.80	1.25	.76	1.37	1.02	.27	.73	.60

e Estimated

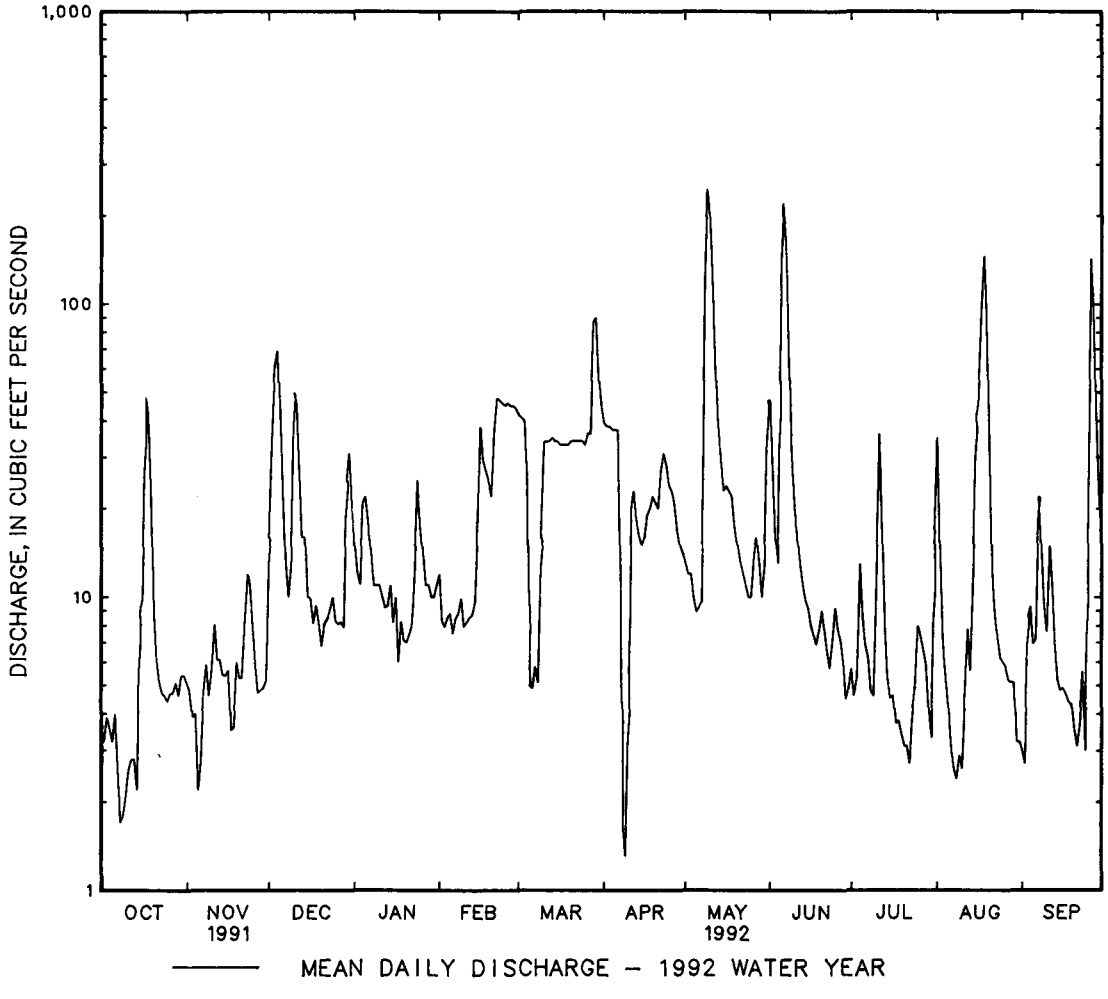
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1992, BY WATER YEAR (WY)

MEAN	19.7	25.1	36.1	50.3	58.0	69.0	56.7	37.5	28.6	19.1	23.4	20.5
MAX	93.5	103	131	156	141	171	180	117	122	88.6	144	128
(WY)	1972	1973	1973	1978	1961	1958	1983	1989	1989	1975	1958	1960
MIN	.40	1.91	1.35	1.64	11.0	10.7	13.5	9.86	4.36	2.10	.69	1.92
(WY)	1964	1962	1966	1966	1966	1966	1966	1963	1986	1966	1966	1970

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

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1958 - 1992	
ANNUAL TOTAL	8249.2		7238.4			
ANNUAL MEAN	22.6		19.8		36.0	
HIGHEST ANNUAL MEAN					69.3	1972
LOWEST ANNUAL MEAN					6.14	1966
HIGHEST DAILY MEAN	246	Jan 12	247	May 9	1460	Sep 13 1960
LOWEST DAILY MEAN	1.0	Sep 3	1.3	Apr 9	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 1	2.3	Oct 8	.40	Sep 30 1963
INSTANTANEOUS PEAK FLOW	276	Jan 12	282	May 9	1900	Sep 13 1960
INSTANTANEOUS PEAK STAGE	b4.41	Oct 31	b4.79	Sep 26	c9.45	Sep 13 1960
INSTANTANEOUS LOW FLOW	.89	Sep 3	1.0	(d)	.00	(f)
ANNUAL RUNOFF (CFSM)	.71		.62		1.13	
ANNUAL RUNOFF (INCHES)	9.62		8.44		15.33	
10 PERCENT EXCEEDS	54		42		84	
50 PERCENT EXCEEDS	11		9.9		20	
90 PERCENT EXCEEDS	2.8		3.7		3.7	

a Sept. 13, 1960, May 9, 10, 1961.
b Backwater from storm tide.
c From floodmarks.
d Apr. 9, 10
f No flow at times in 1959, 1961, 1962.



01484100 BEAVERDAM BRANCH AT HOUSTON, DE

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

DRAINAGE AREA.--2.83 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 17	1945	*39	*3.47	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.3	1.1	2.1	1.9	2.9	3.6	2.4	2.7	1.8	1.4	2.1
2	1.1	1.2	1.4	2.1	1.9	2.8	3.6	2.4	2.4	1.8	1.3	2.0
3	1.2	1.2	3.1	2.1	1.9	2.8	3.5	2.3	2.2	1.7	1.2	2.3
4	1.1	1.2	3.4	3.2	1.9	2.8	3.4	2.3	2.1	1.8	1.2	2.1
5	1.1	1.2	1.8	2.7	1.9	2.8	3.3	2.3	9.7	1.7	1.2	2.0
6	1.2	1.2	1.6	2.4	1.8	2.8	3.2	2.2	4.8	1.7	1.1	2.2
7	1.1	1.2	1.6	2.3	1.9	3.4	3.2	2.2	3.5	1.7	1.1	2.2
8	1.1	1.2	1.6	2.3	1.9	3.3	3.1	7.8	3.2	1.6	1.1	2.0
9	1.1	1.2	1.8	2.4	1.8	3.1	3.0	4.7	3.2	1.6	1.1	1.9
10	1.1	1.3	3.4	2.4	1.8	3.5	3.0	3.6	3.0	1.5	1.1	2.0
11	1.1	1.4	2.1	2.3	1.8	5.7	3.0	3.2	2.8	1.5	1.1	2.2
12	1.1	1.2	1.9	2.2	1.7	3.6	2.8	3.0	2.7	1.4	1.1	1.9
13	1.1	1.2	1.9	2.2	1.8	3.4	2.7	3.0	2.6	1.4	1.2	1.8
14	1.1	1.2	2.0	2.3	1.8	3.2	2.7	2.9	2.6	1.2	1.4	1.8
15	1.5	1.2	1.9	2.1	2.3	3.2	2.7	2.9	2.5	1.0	4.6	1.7
16	1.3	1.2	1.8	2.1	4.0	3.0	2.8	2.9	2.4	.98	2.5	1.6
17	3.3	1.1	1.9	2.1	2.3	3.1	2.8	2.8	2.3	.96	16	1.6
18	1.8	1.1	1.8	2.1	2.5	3.2	2.8	2.6	2.2	.96	10	1.6
19	1.4	1.1	1.7	2.0	2.5	4.6	3.6	2.5	2.3	1.1	3.8	1.6
20	1.3	1.1	1.8	2.1	2.3	3.7	2.9	2.4	2.3	1.2	3.1	1.6
21	1.3	1.1	1.9	2.1	2.2	3.3	2.8	2.4	2.2	1.7	2.8	1.5
22	1.3	1.1	1.9	2.0	2.1	3.3	3.0	2.4	2.1	1.7	2.7	1.6
23	1.3	1.0	1.9	2.3	2.2	3.3	2.8	2.3	2.0	1.6	2.6	1.6
24	1.3	.93	1.9	2.2	2.5	3.1	2.7	2.3	2.0	1.5	2.5	1.4
25	1.3	.90	1.8	2.0	2.6	3.0	2.8	2.4	2.0	1.5	2.5	4.4
26	1.3	.88	1.8	2.0	5.7	5.1	2.7	2.5	2.0	1.4	2.5	7.0
27	1.3	.86	1.8	1.9	3.8	7.4	2.5	2.4	1.9	1.4	2.4	2.8
28	1.2	.86	1.8	2.0	3.2	4.5	2.5	2.2	1.8	1.4	2.5	2.6
29	1.2	.86	2.7	2.0	3.0	4.0	2.5	2.2	1.8	1.3	2.4	2.5
30	1.2	.86	2.5	2.0	---	3.9	2.4	2.3	1.8	1.3	2.2	2.2
31	1.2	---	2.1	2.0	---	3.8	---	3.7	---	1.3	2.1	---
TOTAL	40.1	33.35	61.7	68.0	69.0	111.6	88.4	87.5	81.1	44.70	83.8	65.8
MEAN	1.29	1.11	1.99	2.19	2.38	3.60	2.95	2.82	2.70	1.44	2.70	2.19
MAX	3.3	1.4	3.4	3.2	5.7	7.4	3.6	7.8	9.7	1.8	16	7.0
MIN	1.1	.86	1.1	1.9	1.7	2.8	2.4	2.2	1.8	.96	1.1	1.4
CFSM	.46	.39	.70	.78	.84	1.27	1.04	1.00	.96	.51	.96	.78
IN.	.53	.44	.81	.89	.91	1.47	1.16	1.15	1.07	.59	1.10	.86

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1992, BY WATER YEAR (WY)

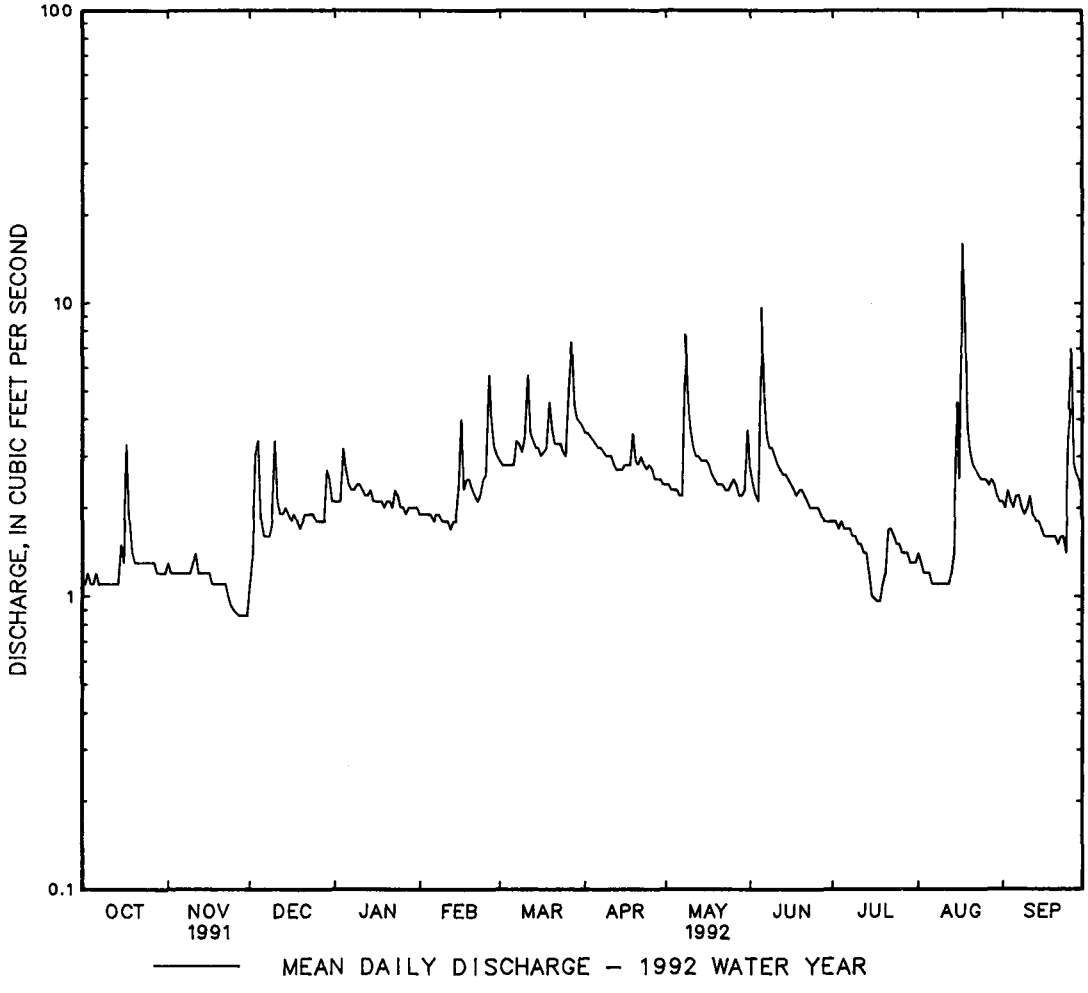
MEAN	1.82	2.06	3.12	4.39	5.21	5.99	5.49	4.44	3.11	2.74	2.40	2.05
MAX	4.69	6.55	11.5	10.7	14.6	11.9	11.0	10.5	6.17	16.8	9.38	10.1
(WY)	1959	1973	1973	1978	1961	1979	1983	1984	1979	1975	1967	1960
MIN	.37	.44	.48	.57	1.06	1.70	1.90	1.88	1.22	.42	.51	.44
(WY)	1987	1988	1966	1966	1966	1966	1985	1977	1986	1977	1987	1986

01484100 BEAVERDAM BRANCH AT HOUSTON, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1958 - 1992	
ANNUAL TOTAL	853.36		835.05			
ANNUAL MEAN	2.34		2.28		3.52	
HIGHEST ANNUAL MEAN					5.86	1961
LOWEST ANNUAL MEAN					1.20	1966
HIGHEST DAILY MEAN	20	Jan 12	16	Aug 17	98	May 30 1984
LOWEST DAILY MEAN	.80	Aug 7	.86	Nov 27	a.00	Jul 28 1977
ANNUAL SEVEN-DAY MINIMUM	.88	Nov 24	.88	Nov 24	.06	Jul 19 1977
INSTANTANEOUS PEAK FLOW	32	Jan 12	39	Aug 17	b176	Sep 12 1960
INSTANTANEOUS PEAK STAGE	3.31	Jan 12	3.47	Aug 17	5.55	Sep 12 1960
INSTANTANEOUS LOW FLOW	.72	(c)	.86	(d)	.00	(f)
ANNUAL RUNOFF (CFSM)	.83		.81		1.24	
ANNUAL RUNOFF (INCHES)	11.22		10.98		16.90	
10 PERCENT EXCEEDS	4.0		3.3		6.5	
50 PERCENT EXCEEDS	1.7		2.1		2.7	
90 PERCENT EXCEEDS	1.1		1.1		.80	

a Result of pumpage for irrigation.

b From rating curve extended above 75 ft^3/s.
c July 24, Aug. 7, 8.
d Nov. 25-30, Dec. 1, July 17, Aug 11.
f July 18-30, 1977.



01484100 BEAVERDAM BRANCH AT HOUSTON, DE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, 1991-92.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991 23...	1230	1.3	83	6.0	14.5	22.0	770	9.0	87	4.8	1.3	8.4

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991 23...	1.5	13	16	3.7	8.3	<0.10	0.020	26	73	0.010	<0.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 23...	2.50	2.50	0.030	0.030	<0.20	0.010	<0.010	<0.010	10	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 23...	68	<0.5	<10	<1.0	<5	<3	<10	40	<10	<4	6

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	93	<6	11	17	1.7	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

01484500 STOCKLEY BRANCH AT STOCKLEY, DE

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

DRAINAGE AREA.--5.24 mi^2.

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

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

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 45 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 17	2230	73	3.45	Sept. 26	0130	58	3.23
Sept. 5	2000	*110	*3.89				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.7	3.1	5.9	4.3	10	11	4.2	4.2	3.2	2.2	3.6
2	2.6	3.3	4.9	5.7	4.1	9.9	10	4.0	3.8	3.0	1.9	3.7
3	2.8	3.2	11	5.7	3.9	9.4	9.9	3.7	3.4	2.9	1.9	3.7
4	2.5	2.8	16	9.1	4.4	9.0	9.0	3.6	4.0	3.5	2.2	4.2
5	2.4	2.8	6.9	9.3	4.0	8.6	8.3	3.5	23	3.0	2.1	43
6	2.4	2.8	5.8	7.9	3.9	8.9	7.9	3.4	15	3.6	1.9	39
7	2.2	3.9	5.5	7.3	3.9	9.6	6.9	4.0	9.3	3.3	1.8	19
8	2.0	3.0	5.3	6.8	3.9	9.4	6.6	15	7.6	3.1	1.8	13
9	2.0	2.8	5.4	6.8	3.7	8.2	6.4	11	7.9	2.9	1.8	13
10	2.0	4.3	10	7.3	3.5	8.3	6.5	7.4	8.3	3.0	1.8	13
11	2.1	4.2	9.1	6.6	3.7	15	6.1	6.0	6.1	2.4	2.1	12
12	2.2	3.3	11	6.0	3.6	11	6.0	6.6	6.0	2.0	2.3	10
13	2.1	3.0	8.1	6.0	3.5	9.6	5.8	6.3	5.6	1.9	2.4	9.3
14	2.1	2.7	7.9	5.9	3.6	9.3	6.0	5.6	5.0	2.0	3.4	8.3
15	2.7	2.8	6.9	5.1	5.0	8.9	5.8	5.3	5.4	2.0	11	7.9
16	2.4	2.9	6.2	5.0	8.5	8.2	5.4	4.7	4.2	2.0	6.4	7.8
17	14	2.8	6.0	4.9	4.7	7.7	5.7	4.7	4.0	1.9	27	7.6
18	6.7	2.9	5.9	5.0	11	7.8	5.4	5.0	4.2	1.9	36	6.7
19	3.9	2.9	5.4	4.9	9.7	12	5.8	4.9	4.7	2.1	14	7.1
20	3.3	3.1	5.7	5.0	6.2	10	5.3	4.1	4.2	2.1	10	6.3
21	3.3	3.1	5.6	5.1	5.5	8.8	5.3	3.7	3.9	4.5	8.8	5.9
22	3.2	3.3	5.5	5.0	5.0	8.6	6.2	3.5	4.7	4.3	8.2	6.7
23	3.2	3.1	5.4	6.2	5.1	8.6	5.6	3.2	4.2	2.7	7.2	6.7
24	3.4	2.9	6.1	6.2	7.7	7.2	5.4	3.2	3.9	3.0	6.6	5.9
25	3.7	2.8	5.1	4.7	7.0	6.6	5.0	3.4	3.8	3.2	5.9	16
26	3.2	2.7	4.7	5.0	21	12	4.7	4.1	4.5	2.6	5.8	34
27	3.2	2.7	4.5	4.7	17	22	4.7	4.7	4.0	2.5	5.4	17
28	3.5	2.7	4.4	4.7	13	14	4.5	3.5	3.5	2.6	5.2	14
29	4.9	2.7	8.1	4.7	12	11	4.9	3.1	3.3	2.4	4.9	11
30	4.8	2.6	8.8	4.7	---	12	4.6	3.2	3.3	2.0	4.6	10
31	3.5	---	6.3	4.7	---	11	---	4.7	---	2.2	4.2	---
TOTAL	105.0	91.8	210.6	181.9	192.4	312.6	190.7	153.3	175.0	83.8	200.8	365.4
MEAN	3.39	3.06	6.79	5.87	6.63	10.1	6.36	4.95	5.83	2.70	6.48	12.2
MAX	14	4.3	16	9.3	21	22	11	15	23	4.5	36	43
MIN	2.0	2.6	3.1	4.7	3.5	6.6	4.5	3.1	3.3	1.9	1.8	3.6
CFSM	.65	.58	1.30	1.12	1.27	1.92	1.21	.94	1.11	.52	1.24	2.32
IN.	.75	.65	1.50	1.29	1.37	2.22	1.35	1.09	1.24	.59	1.43	2.59

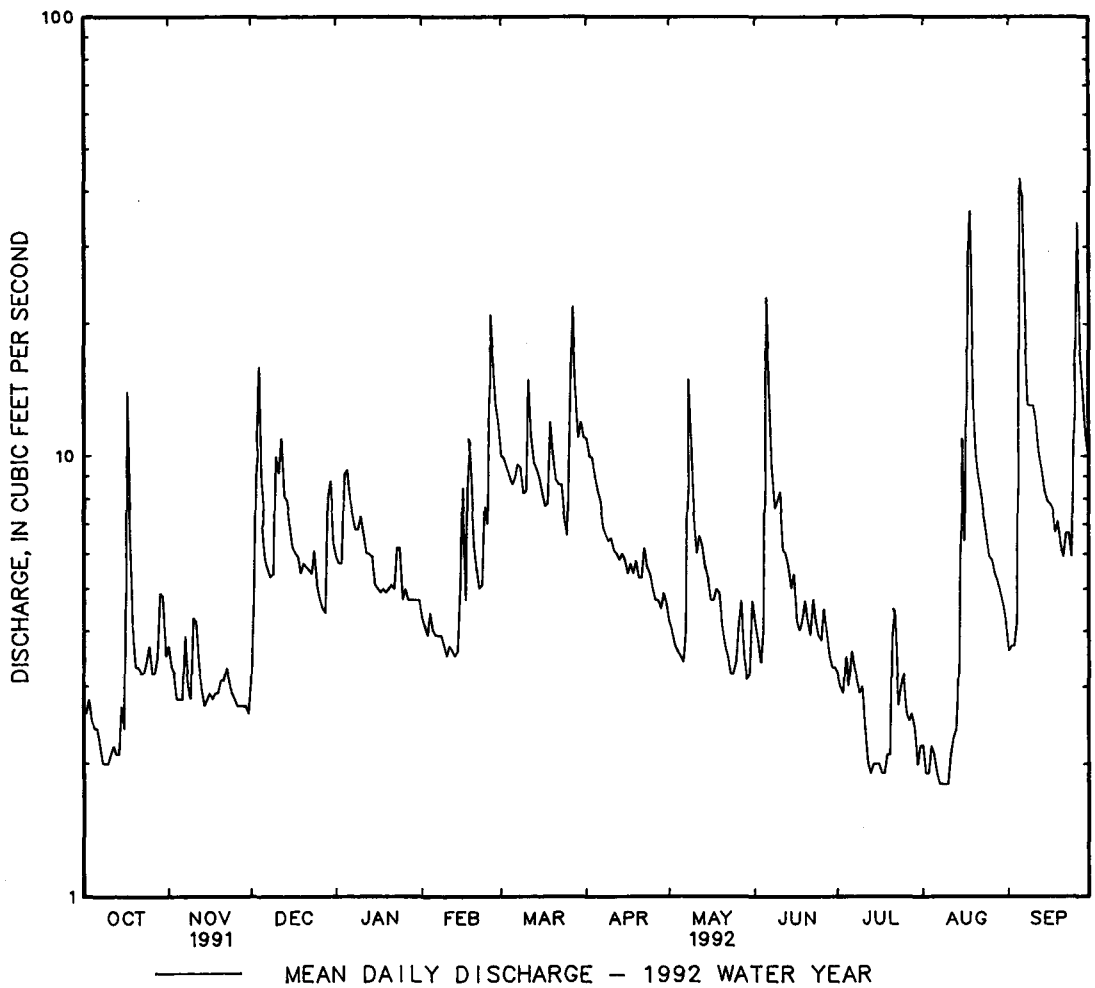
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

MEAN	3.25	4.58	6.64	9.37	10.1	12.2	10.2	7.48	5.56	4.16	4.96	3.29
MAX	10.5	14.3	22.8	24.8	25.8	28.0	24.4	19.7	25.3	17.4	24.8	12.2
(WY)	1972	1957	1946	1978	1979	1958	1983	1948	1948	1945	1989	1992
MIN	.67	.77	.76	.92	1.19	4.05	3.78	2.36	1.80	1.21	.65	.67
(WY)	1989	1989	1989	1989	1989	1966	1985	1985	1977	1977	1944	1988

01484500 STOCKLEY BRANCH AT STOCKLEY, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	2311.3		2263.3			
ANNUAL MEAN	6.33		6.18		6.82	
HIGHEST ANNUAL MEAN					12.0	1958
LOWEST ANNUAL MEAN					3.24	1966
HIGHEST DAILY MEAN	52	Jan 12	43	Sep 5	174	(c)
LOWEST DAILY MEAN	1.8	(a)	1.8	(b)	.13	Sep 2 1944
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 7	1.9	Aug 5	.13	Sep 2 1944
INSTANTANEOUS PEAK FLOW	73	Jan 12	110	Sep 5	d217	Feb 26 1979
INSTANTANEOUS PEAK STAGE	3.45	Jan 12	3.89	Sep 5	5.01	Feb 26 1979
INSTANTANEOUS LOW FLOW	1.7	(a)	1.6	(f)	.13	(g)
ANNUAL RUNOFF (CFSM)	1.21		1.18		1.30	
ANNUAL RUNOFF (INCHES)	16.41		16.07		17.68	
10 PERCENT EXCEEDS	11		11		14	
50 PERCENT EXCEEDS	4.7		4.9		4.9	
90 PERCENT EXCEEDS	2.4		2.4		1.5	

a Sept. 12, 13.
b Aug. 7-10.
c Sept. 2-11, 1944.
d From rating curve extended above 130 ft^3/s.
f Aug. 7, 11.
g Sept. 1-11, 1944.



01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE

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

DRAINAGE AREA.--66.0 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.98 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow affected by Millsboro Pond and mill ponds on tributaries upstream. Several measurements of water temperature were made during the period.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 401 ft^3/s, Aug. 18, gage height, 3.66.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	54	52	78	64	94	100	66	72	51	50	69
2	41	55	77	75	60	89	98	63	65	62	40	67
3	54	53	92	78	59	88	92	58	57	54	37	67
4	49	52	130	110	61	86	87	59	53	63	39	67
5	45	51	102	88	60	84	85	60	144	57	41	80
6	44	51	78	87	57	84	81	60	189	55	36	234
7	42	51	74	82	57	87	80	61	127	56	34	193
8	40	52	72	79	58	89	80	123	85	50	34	142
9	46	53	72	77	59	85	77	176	89	46	34	122
10	42	65	100	80	57	83	77	129	87	44	34	105
11	40	88	104	76	57	111	77	94	76	42	36	107
12	40	70	90	74	56	105	76	82	71	40	47	98
13	39	61	82	74	54	91	72	80	68	39	43	90
14	37	56	83	75	57	84	70	79	65	37	65	84
15	48	51	79	69	67	83	70	77	63	33	90	79
16	54	51	74	68	129	79	70	75	62	34	95	74
17	114	51	71	65	93	77	72	72	58	33	140	74
18	160	51	73	67	83	79	74	71	56	31	358	73
19	101	51	69	65	84	103	76	70	60	31	288	74
20	70	51	67	63	77	102	74	65	64	34	160	73
21	65	51	71	65	72	89	73	64	63	34	117	69
22	64	53	72	67	70	83	84	63	60	48	98	68
23	62	61	71	71	70	83	83	57	56	52	90	76
24	60	55	78	81	77	79	75	58	59	51	88	71
25	60	47	73	69	82	75	75	61	60	54	86	115
26	60	45	68	66	132	89	72	62	68	50	91	212
27	60	44	67	64	156	158	70	65	61	46	85	211
28	59	45	67	65	130	154	68	62	55	46	82	159
29	55	47	87	67	108	116	66	60	52	39	75	130
30	52	47	105	65	---	104	66	58	50	37	70	107
31	54	---	87	64	---	105	---	68	---	40	70	---
TOTAL	1799	1613	2487	2274	2246	2918	2320	2298	2195	1389	2653	3190
MEAN	58.0	53.8	80.2	73.4	77.4	94.1	77.3	74.1	73.2	44.8	85.6	106
MAX	160	88	130	110	156	158	100	176	189	63	358	234
MIN	37	44	52	63	54	75	66	57	50	31	34	67
CFSM	.88	.81	1.22	1.11	1.17	1.43	1.17	1.12	1.11	.68	1.30	1.61
IN.	1.01	.91	1.40	1.28	1.27	1.64	1.31	1.30	1.24	.78	1.50	1.80

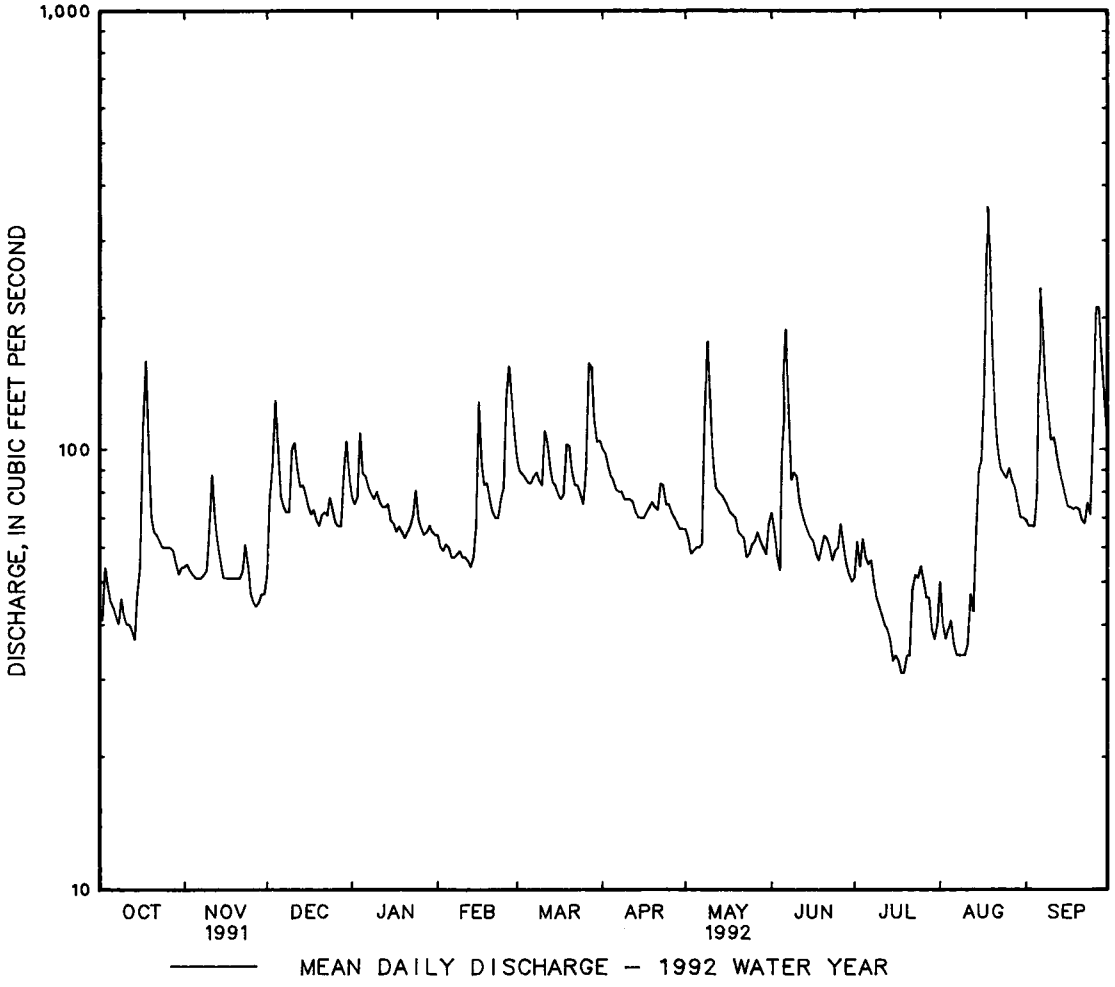
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

MEAN	34.0	34.2	55.1	77.0	105	111	115	79.7	54.8	40.7	46.4	43.3
MAX	58.0	53.8	80.2	104	139	144	143	111	73.2	57.8	85.6	106
(WY)	1992	1992	1992	1987	1987	1987	1987	1987	1992	1991	1992	1992
MIN	20.8	24.3	33.2	53.7	77.4	94.1	77.3	47.3	34.0	23.2	25.5	20.1
(WY)	1987	1988	1988	1988	1992	1992	1992	1986	1986	1986	1988	1986

01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE--Continued

SUMMARY STATISTICS	FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	27382			
ANNUAL MEAN	74.8		67.9	
HIGHEST ANNUAL MEAN			74.8	1992
LOWEST ANNUAL MEAN			55.0	1988
HIGHEST DAILY MEAN	358	Aug 18	358	Aug 18 1992
LOWEST DAILY MEAN	31	(a)	13	Oct 7 1986
ANNUAL SEVEN-DAY MINIMUM	33	Jul 15	15	Oct 5 1986
INSTANTANEOUS PEAK FLOW	401	Aug 18	401	Aug 18 1992
INSTANTANEOUS PEAK STAGE	3.66	Aug 18	3.66	Aug 18 1992
INSTANTANEOUS LOW FLOW	25	Jul 15	11	(b)
ANNUAL RUNOFF (CFSM)	1.13		1.03	
ANNUAL RUNOFF (INCHES)	15.43		13.98	
10 PERCENT EXCEEDS	105		127	
50 PERCENT EXCEEDS	69		56	
90 PERCENT EXCEEDS	44		21	

a July 18, 19.
b Sep 12, Oct 6, 1986, Nov 6, 1987.



01485000 POCOMOKE RIVER NEAR WILLARDS, MD

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

DRAINAGE AREA.--60.5 mi^2.

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

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

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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 18	1600	*672	*10.30	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	41	23	78	40	126	88	29	49	19	14	34
2	17	37	60	72	36	107	84	27	42	25	14	31
3	19	33	91	68	35	94	78	26	40	21	13	29
4	21	30	184	181	34	85	72	25	35	30	13	30
5	20	29	130	222	34	78	66	24	100	35	13	42
6	20	28	103	155	32	74	61	24	183	30	13	73
7	19	27	89	119	32	78	58	23	122	51	12	88
8	18	27	79	98	32	96	56	84	89	44	12	84
9	17	26	73	88	30	87	53	149	108	35	11	71
10	16	30	118	84	27	79	52	107	112	30	11	62
11	16	55	123	77	27	117	50	85	85	26	11	59
12	16	58	101	70	27	110	47	72	69	24	11	56
13	15	55	89	66	27	91	44	65	60	22	12	50
14	14	50	83	65	28	80	41	60	54	21	14	44
15	17	43	77	61	28	73	40	54	49	20	41	40
16	21	40	68	56	77	67	39	50	43	18	61	38
17	142	37	63	53	73	63	39	45	39	17	120	35
18	232	34	60	51	79	61	39	41	36	16	629	33
19	134	31	54	46	98	80	37	39	34	15	542	31
20	92	28	49	44	88	96	36	36	33	14	308	29
21	73	27	49	44	76	87	35	35	32	14	180	28
22	63	27	50	42	68	78	38	33	31	14	126	27
23	56	26	46	43	64	74	39	32	29	15	97	26
24	53	26	48	56	77	66	36	32	27	14	80	25
25	50	25	45	50	95	61	39	35	27	16	69	57
26	49	23	41	47	256	77	37	38	26	16	61	355
27	49	22	38	44	333	256	35	39	25	15	55	235
28	47	21	37	44	213	171	33	37	23	15	51	393
29	44	21	61	43	163	128	31	35	21	13	46	365
30	41	21	106	42	---	106	30	32	20	14	40	222
31	42	---	89	41	---	97	---	39	---	14	37	---
TOTAL	1451	978	2327	2250	2229	2943	1433	1452	1643	673	2717	2692
MEAN	46.8	32.6	75.1	72.6	76.9	94.9	47.8	46.8	54.8	21.7	87.6	89.7
MAX	232	58	184	222	333	256	88	149	183	51	629	393
MIN	14	21	23	41	27	61	30	23	20	13	11	25
CFSM	.77	.54	1.24	1.20	1.27	1.57	.79	.77	.91	.36	1.45	1.48
IN.	.89	.60	1.43	1.38	1.37	1.81	.88	.89	1.01	.41	1.67	1.66

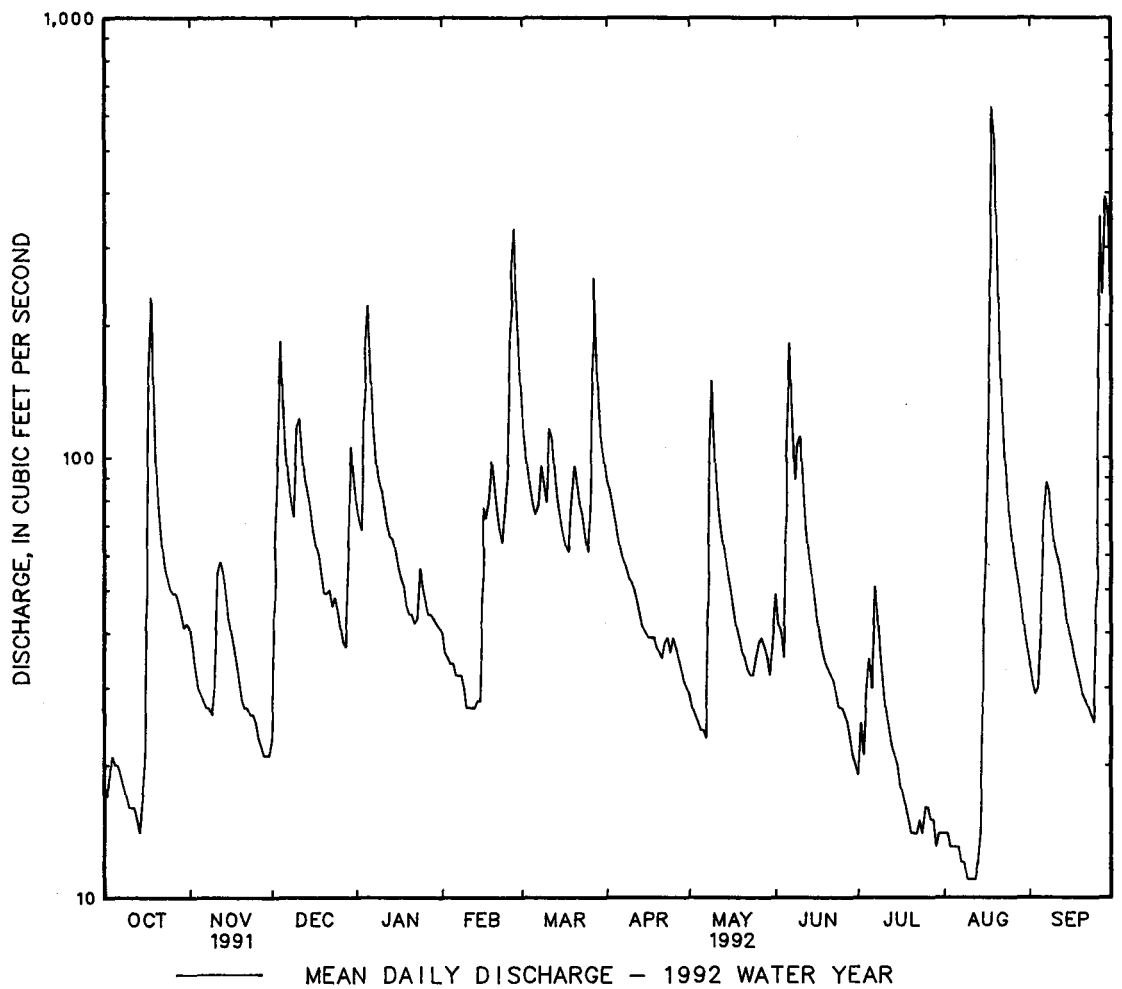
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

MEAN	35.1	47.6	77.4	110	121	137	101	59.2	45.1	34.9	53.7	25.5
MAX	164	221	231	322	339	295	277	236	216	217	507	128
(WY)	1977	1980	1978	1978	1979	1984	1983	1978	1972	1975	1989	1979
MIN	4.18	7.27	9.41	15.5	50.0	49.7	33.0	16.1	9.31	6.29	3.51	4.34
(WY)	1969	1969	1966	1981	1981	1981	1985	1985	1986	1986	1957	1957

01485000 POCOMOKE RIVER NEAR WILLARDS, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	23256.4		22788			
ANNUAL MEAN	63.7		62.3		71.1	
HIGHEST ANNUAL MEAN					130	1979
LOWEST ANNUAL MEAN					24.8	1981
HIGHEST DAILY MEAN	716	Jan 12	629	Aug 18	2580	Aug 20 1989
LOWEST DAILY MEAN	9.3	Sep 19	11	(a)	2.4	(b)
ANNUAL SEVEN-DAY MINIMUM	10	Sep 17	11	Aug 7	2.6	Aug 12 1957
INSTANTANEOUS PEAK FLOW	767	Jan 12	672	Aug 18	c2820	Aug 20 1989
INSTANTANEOUS PEAK STAGE	10.67	Jan 12	10.30	Aug 18	15.41	Aug 20 1989
INSTANTANEOUS LOW FLOW	7.1	(d)	10	(f)	2.2	(g)
ANNUAL RUNOFF (CFSM)	1.05		1.03		1.17	
ANNUAL RUNOFF (INCHES)	14.30		14.01		15.96	
10 PERCENT EXCEEDS	132		109		156	
50 PERCENT EXCEEDS	42		43		39	
90 PERCENT EXCEEDS	14		17		9.0	

a Aug. 9-12.
b Aug. 14, 18, 1957.
c From rating curve extended above 1,600 ft^3/s.
d Oct. 15-17.
f Aug. 10, 11.
g Aug. 18, 19, 1957.



01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD

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

DRAINAGE AREA.--44.9 mi^2.

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

REVISED RECORDS.--WSP 1332: 1953.

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

REMARKS.--Records good except those for estimated daily discharges (poor stage/discharge relationship), which are poor. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 19	0400	*695	*6.51	Sept. 29	0400	394	5.79

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	16	50	23	115	76	20	32	5.6	e6.8	9.5
2	9.8	12	53	41	22	84	64	19	26	7.8	e5.6	8.3
3	12	12	60	34	21	62	55	17	22	12	e4.9	7.3
4	14	12	68	74	20	52	50	16	19	17	e4.6	10
5	13	12	65	114	20	47	45	15	66	18	e4.3	17
6	13	11	59	148	19	44	41	15	122	16	e3.9	24
7	11	11	46	125	18	58	36	15	128	15	e3.8	40
8	9.2	11	34	91	18	101	32	67	96	e11	e3.7	38
9	8.1	11	29	68	18	113	30	136	68	e10	e3.7	33
10	7.3	12	51	55	17	103	28	190	50	e9.4	e3.8	28
11	6.7	14	56	49	17	109	27	150	38	e8.5	e3.9	33
12	6.5	13	58	45	17	118	26	98	29	e7.6	7.7	23
13	6.8	12	50	41	16	116	26	63	23	e6.9	7.8	18
14	6.4	12	42	38	18	91	24	48	19	e6.4	26	15
15	15	12	35	34	21	66	23	42	16	e6.1	73	13
16	20	12	29	30	41	52	22	39	14	e5.7	95	12
17	58	12	26	26	44	46	22	33	12	e5.3	132	11
18	64	11	24	25	57	42	22	28	9.8	e5.0	478	9.5
19	79	11	22	23	61	51	22	25	8.9	e5.0	646	9.0
20	69	11	20	20	61	59	22	22	8.6	e4.8	394	9.3
21	44	11	19	21	56	67	21	19	10	e4.9	201	8.5
22	29	10	20	21	47	63	27	17	12	e5.0	108	8.3
23	23	11	20	25	40	54	28	15	9.4	e5.1	60	7.8
24	20	11	21	36	41	47	26	13	9.3	e5.3	41	6.8
25	17	11	20	35	47	42	32	12	19	e5.3	29	51
26	16	11	19	33	96	54	32	14	17	e5.1	23	140
27	15	10	18	29	178	130	30	18	13	e4.8	20	195
28	14	10	18	27	240	208	27	16	10	e5.1	17	314
29	13	9.8	35	26	173	179	24	13	7.9	e5.2	15	358
30	13	9.6	51	24	---	121	22	12	6.4	e5.3	13	247
31	13	---	54	23	---	95	---	32	---	e5.9	11	---
TOTAL	657.8	341.4	1138	1431	1467	2589	962	1239	921.3	240.1	2446.5	1704.3
MEAN	21.2	11.4	36.7	46.2	50.6	83.5	32.1	40.0	30.7	7.75	78.9	56.8
MAX	79	14	68	148	240	208	76	190	128	18	646	358
MIN	6.4	9.6	16	20	16	42	21	12	6.4	4.8	3.7	6.8
CFSM	.47	.25	.82	1.03	1.13	1.86	.71	.89	.68	.17	1.76	1.27
IN.	.54	.28	.94	1.19	1.22	2.15	.80	1.03	.76	.20	2.03	1.41

e Estimated

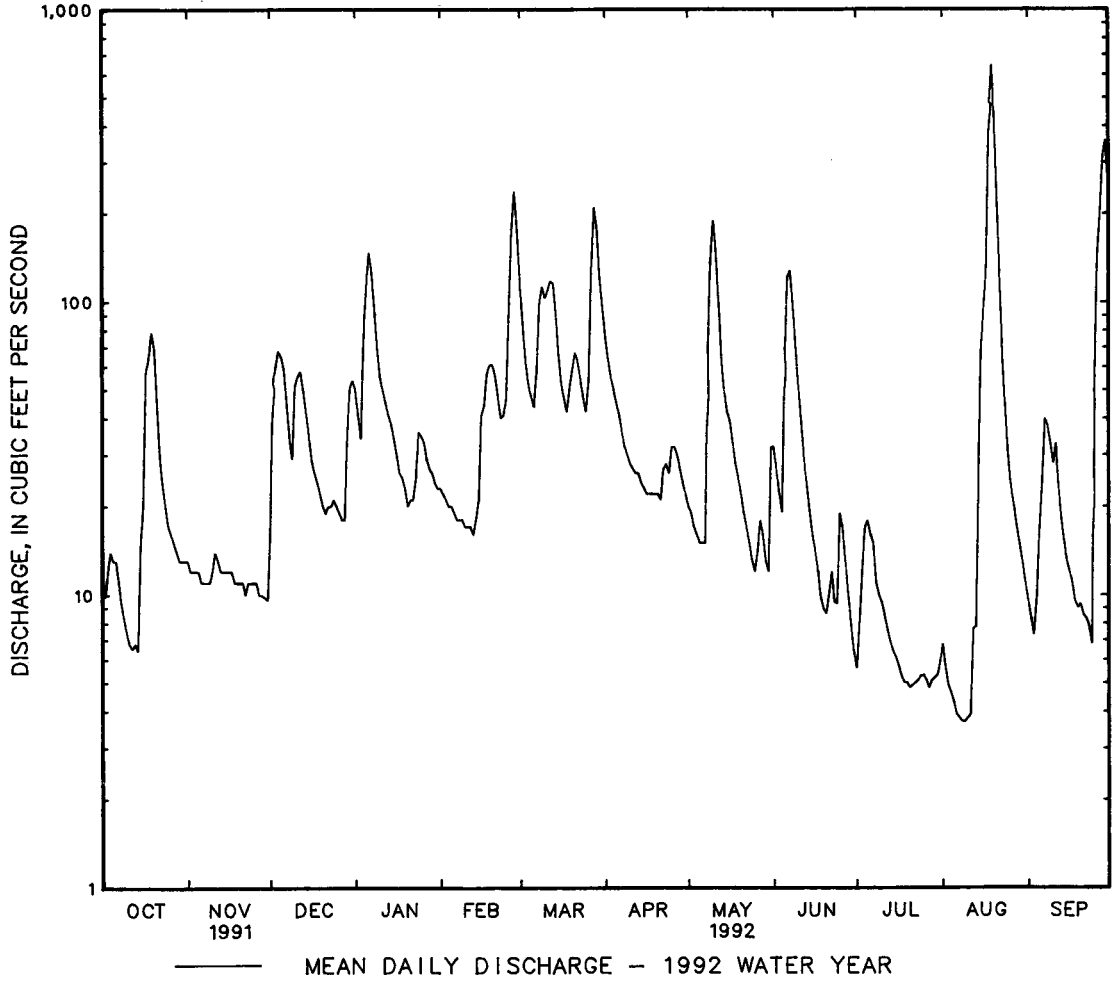
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

MEAN	25.4	35.4	54.8	83.5	93.8	111	77.6	43.5	29.4	21.4	41.8	19.0
MAX	150	175	155	261	269	230	202	183	160	120	346	177
(WY)	1977	1980	1978	1978	1979	1963	1983	1978	1972	1975	1989	1979
MIN	2.81	3.80	6.33	10.8	32.1	29.5	17.6	7.10	2.52	2.02	1.59	1.64
(WY)	1991	1967	1966	1966	1991	1986	1985	1986	1986	1986	1966	1980

01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	14419.9		15137.4			
ANNUAL MEAN	39.5		41.4		53.5	
HIGHEST ANNUAL MEAN					116	1979
LOWEST ANNUAL MEAN					20.8	1981
HIGHEST DAILY MEAN	512	Jan 13	646	Aug 19	2590	Aug 19 1989
LOWEST DAILY MEAN	1.4	(a)	3.7	(b)	.80	(c)
ANNUAL SEVEN-DAY MINIMUM	1.6	Jun 11	3.9	Aug 5	.86	Sep 7 1966
INSTANTANEOUS PEAK FLOW	546	Jan 13	695	Aug 19	d3930	Aug 19 1989
INSTANTANEOUS PEAK STAGE	6.19	Jan 13	6.51	Aug 19	9.07	Aug 19 1989
INSTANTANEOUS LOW FLOW	1.3	(f)	UNKNOWN		.80	(c)
ANNUAL RUNOFF (CFSM)	.88		.92		1.19	
ANNUAL RUNOFF (INCHES)	11.95		12.54		16.18	
10 PERCENT EXCEEDS	93		95		125	
50 PERCENT EXCEEDS	20		22		26	
90 PERCENT EXCEEDS	4.0		6.9		3.5	

a June 16, 17.
b Aug. 8, 9.
c Sept. 8-10, 1966.
d From rating curve extended above 1,300 ft^3/s on basis of contracted-opening measurement at gage height 9.07 ft.
f June 17, 18.



01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD

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

DRAINAGE AREA.--4.80 mi^2.

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

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

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

REMARKS.--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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 17	2345	*105	*3.81	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.1	1.8	5.7	3.3	8.2	6.5	2.3	6.8	1.8	1.0	2.2
2	2.2	2.0	6.4	5.2	3.1	6.9	6.1	2.2	4.7	1.8	.87	2.0
3	2.3	1.9	6.2	5.1	3.0	6.2	5.4	2.1	3.8	1.7	.84	2.0
4	2.8	1.8	9.6	24	3.0	5.6	4.9	1.9	3.3	2.5	.82	1.9
5	2.5	1.7	5.7	17	2.9	5.3	4.4	1.9	23	2.0	.79	1.9
6	2.5	1.6	4.8	11	2.7	5.1	4.0	1.8	16	1.9	.76	2.2
7	2.3	1.6	4.3	8.9	2.9	6.4	3.8	1.9	8.8	1.8	.74	2.3
8	2.0	1.6	3.9	7.5	2.8	8.8	3.7	19	6.2	1.6	.73	2.1
9	1.9	1.5	3.8	7.2	2.5	7.0	3.6	14	6.1	1.6	.73	2.2
10	1.9	1.7	8.8	7.6	2.3	6.6	3.6	9.0	5.7	1.5	.73	2.5
11	1.9	1.8	7.0	6.5	2.6	17	3.5	6.6	4.4	1.4	.73	2.2
12	1.8	1.6	5.8	5.8	2.5	11	3.4	5.3	3.8	1.4	.84	1.8
13	1.7	1.5	5.3	5.4	2.6	8.2	3.2	4.6	3.4	1.4	.77	1.7
14	1.6	1.4	4.9	5.6	2.7	6.7	3.1	4.1	3.1	1.3	1.3	1.6
15	1.8	1.4	4.3	4.7	3.8	6.0	3.1	4.5	2.9	1.2	4.9	1.5
16	1.9	1.4	3.9	4.3	9.2	5.3	3.1	5.0	2.7	1.1	6.6	1.4
17	6.3	1.4	3.6	4.0	6.3	5.0	3.1	4.1	2.4	1.1	21	1.4
18	6.7	1.4	3.5	3.9	7.9	4.8	2.9	3.7	2.3	1.1	66	1.4
19	4.8	1.4	3.1	3.6	8.1	6.5	2.8	3.2	2.2	1.1	29	1.4
20	3.9	1.3	3.0	3.5	6.8	6.7	2.8	2.9	2.1	1.0	16	1.4
21	3.2	1.3	3.2	3.4	5.7	5.8	2.7	2.7	2.2	.98	9.6	1.3
22	2.9	1.4	3.1	3.3	5.1	5.4	3.8	2.5	2.1	1.0	7.0	1.3
23	2.8	1.3	3.2	4.0	4.9	5.0	3.5	2.4	1.9	.99	5.4	1.3
24	2.6	1.3	3.4	5.4	6.0	4.4	3.3	2.3	3.2	1.1	4.5	1.2
25	2.6	1.2	3.1	4.4	6.5	4.1	4.0	2.7	6.0	1.4	3.9	6.3
26	2.5	1.2	2.8	4.1	29	12	3.6	2.8	3.5	1.2	3.5	19
27	2.6	1.2	2.8	3.8	22	20	3.3	3.2	2.9	1.1	3.2	8.1
28	2.5	1.3	2.8	3.8	14	11	3.1	2.8	2.4	1.0	3.0	13
29	2.2	1.2	7.1	3.6	11	8.1	2.6	2.4	2.1	.92	2.9	10
30	2.2	1.2	9.2	3.6	---	6.8	2.5	2.3	1.9	.88	2.5	6.4
31	2.2	---	6.6	3.6	---	7.4	---	7.1	---	.91	2.4	---
TOTAL	83.5	44.7	147.0	189.5	185.2	233.3	109.4	133.3	141.9	41.78	203.05	105.0
MEAN	2.69	1.49	4.74	6.11	6.39	7.53	3.65	4.30	4.73	1.35	6.55	3.50
MAX	6.7	2.1	9.6	24	29	20	6.5	19	23	2.5	66	19
MIN	1.6	1.2	1.8	3.3	2.3	4.1	2.5	1.8	1.9	.88	.73	1.2
CFSM	.56	.31	.99	1.27	1.33	1.57	.76	.90	.99	.28	1.36	.73
IN.	.65	.35	1.14	1.47	1.44	1.81	.85	1.03	1.10	.32	1.57	.81

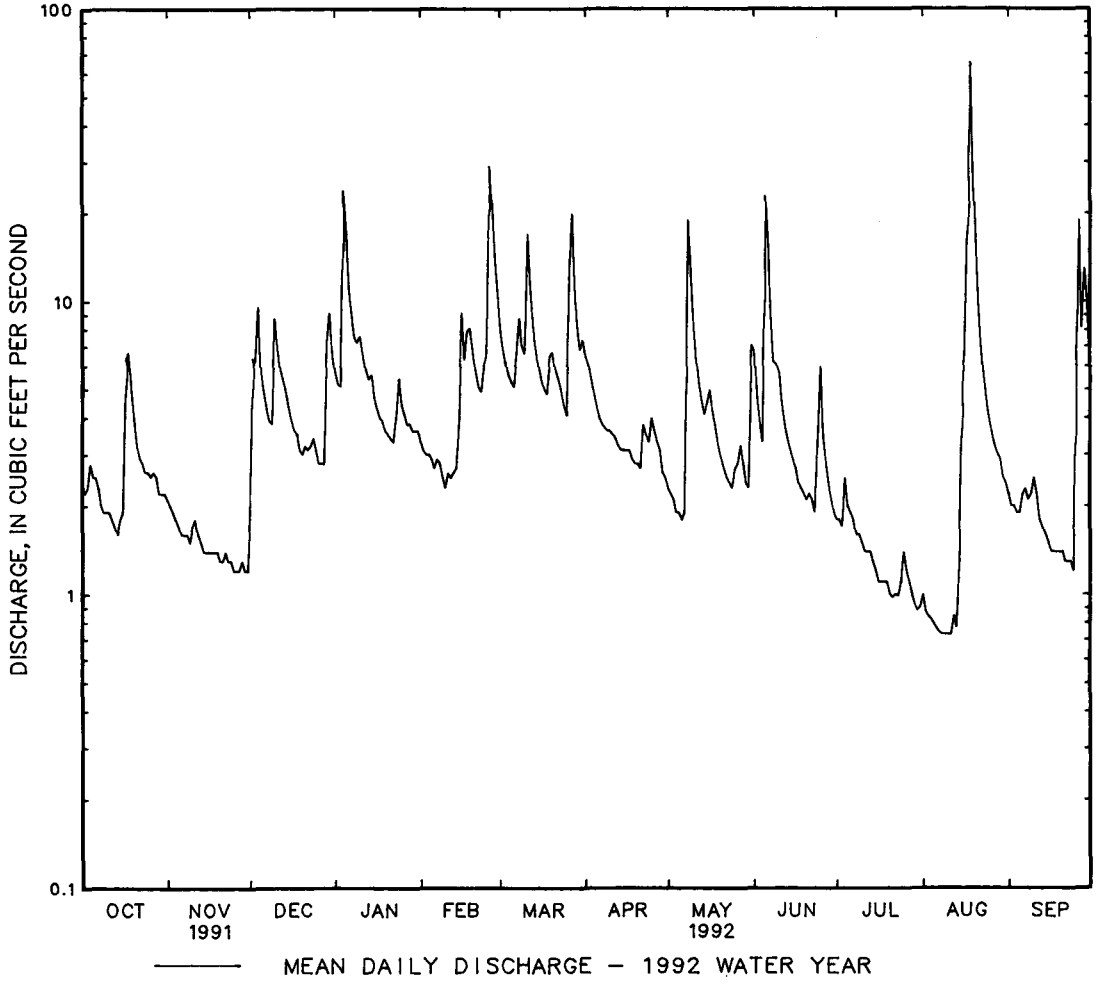
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

MEAN	1.75	2.46	4.70	7.99	8.67	10.3	7.10	3.75	2.43	1.63	4.00	1.88
MAX	10.5	17.5	13.5	23.8	22.8	22.0	17.3	12.2	12.7	9.20	27.8	18.7
(WY)	1980	1980	1978	1978	1979	1963	1983	1978	1979	1975	1969	1979
MIN	.030	.050	.13	.51	2.40	2.64	1.64	.62	.39	.16	.003	.017
(WY)	1967	1967	1967	1966	1981	1981	1967	1957	1964	1953	1966	1966

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD----Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL TOTAL	1765.89		1617.63			
ANNUAL MEAN	4.84		4.42		4.71	
HIGHEST ANNUAL MEAN					10.3	1979
LOWEST ANNUAL MEAN					1.41	1981
HIGHEST DAILY MEAN	75	Jan 12	66	Aug 18	251	Aug 20 1969
LOWEST DAILY MEAN	.78	Jun 17	.73	(a)	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	.84	Jun 11	.74	Aug 5	.00	Aug 23 1963
INSTANTANEOUS PEAK FLOW	129	Jan 12	105	Aug 17	c547	Aug 20 1969
INSTANTANEOUS PEAK STAGE	4.12	Jan 12	3.81	Aug 17	d7.08	Aug 19 1985
INSTANTANEOUS LOW FLOW	.35	Oct 10	.62	(f)	.00	(g)
ANNUAL RUNOFF (CFSM)	1.01		.92		.98	
ANNUAL RUNOFF (INCHES)	13.69		12.54		13.33	
10 PERCENT EXCEEDS	9.0		8.1		11	
50 PERCENT EXCEEDS	3.1		3.1		2.0	
90 PERCENT EXCEEDS	1.2		1.3		.30	

a Aug. 8-11.
b No flow during 1954, 1963, 1964, 1966.
c From rating curve extended above 27 ft^3/s on basis of channel-conveyance study.
d Gage height of 5.44 ft occurred on Aug. 20, 1969 following ditching of stream channel.
f Aug. 11, 13.
g No flow at times during 1954, 1963, 1964, 1966.



01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

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

DRAINAGE AREA.--75.4 mi^2.

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

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

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 8	2400	*310	*6.07	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	43	38	59	57	105	108	86	76	35	41	41
2	36	43	46	59	54	104	107	83	65	36	32	36
3	37	41	64	59	54	101	103	83	59	35	32	36
4	36	41	115	85	54	98	101	85	56	38	34	38
5	35	40	65	94	54	96	98	83	83	39	33	39
6	37	40	53	82	53	95	94	82	120	39	30	42
7	35	40	50	77	53	104	93	78	101	35	28	43
8	34	40	48	74	53	109	93	149	92	34	27	40
9	34	39	47	75	51	102	91	244	89	32	27	38
10	34	41	78	77	49	103	90	153	86	29	26	41
11	34	44	68	73	50	177	90	126	81	28	25	49
12	34	41	60	69	50	153	90	113	74	29	30	40
13	33	40	57	70	50	132	87	108	69	25	30	37
14	32	39	60	72	52	124	85	104	66	25	37	36
15	43	38	57	69	57	119	85	98	63	25	66	36
16	40	38	55	66	106	118	86	95	58	24	78	35
17	67	37	54	65	85	116	87	91	53	26	98	34
18	65	37	54	65	83	115	88	87	51	25	194	32
19	48	37	51	61	85	135	107	82	54	27	99	34
20	42	37	50	61	81	139	103	75	55	25	75	34
21	40	37	52	62	76	129	97	71	53	26	65	32
22	40	37	52	61	74	124	98	68	53	33	59	33
23	40	37	52	65	73	127	96	63	47	33	56	34
24	40	36	55	68	83	118	94	59	48	34	53	32
25	41	35	50	60	82	112	98	59	52	36	50	47
26	41	34	48	59	137	124	96	63	50	33	48	103
27	41	34	47	56	155	231	93	63	47	32	44	74
28	42	34	47	57	123	147	91	58	43	31	46	60
29	42	34	66	57	114	122	88	55	40	29	50	54
30	42	34	74	57	---	114	109	54	34	28	45	50
31	42	---	62	58	---	112	---	75	---	35	43	---
TOTAL	1244	1148	1775	2072	2148	3805	2846	2793	1918	961	1601	1280
MEAN	40.1	38.3	57.3	66.8	74.1	123	94.9	90.1	63.9	31.0	51.6	42.7
MAX	67	44	115	94	155	231	109	244	120	39	194	103
MIN	32	34	38	56	49	95	85	54	34	24	25	32
CFSM	.53	.51	.76	.89	.98	1.63	1.26	1.19	.85	.41	.68	.57
IN.	.61	.57	.88	1.02	1.06	1.88	1.40	1.38	.95	.47	.79	.63

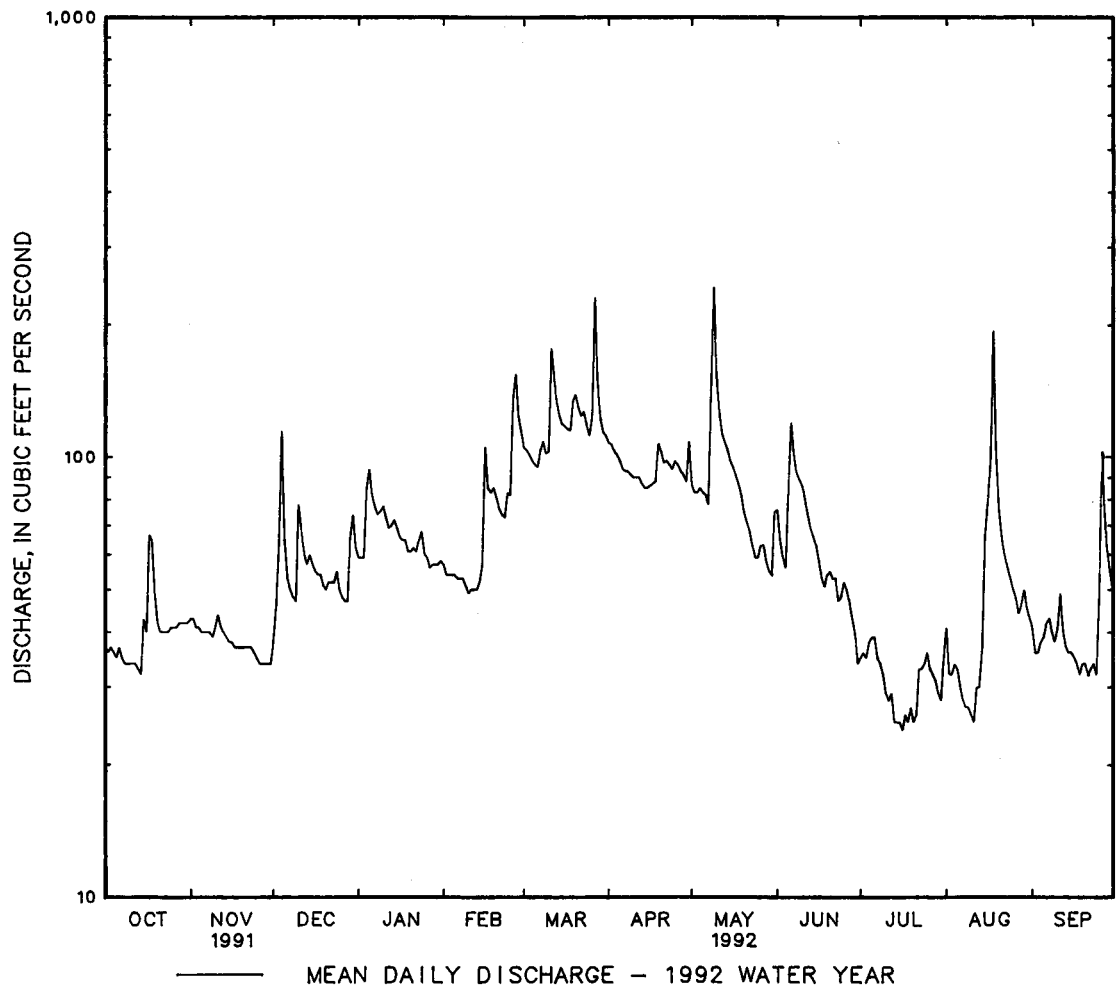
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

MEAN	45.6	59.7	88.0	118	131	154	134	100	74.8	58.9	64.4	46.9
MAX	137	192	294	311	376	373	300	219	298	210	412	234
(WY)	1980	1957	1949	1978	1961	1958	1958	1990	1948	1959	1967	1960
MIN	17.9	21.2	23.9	23.8	50.9	61.5	47.8	45.8	29.3	17.5	13.6	10.1
(WY)	1944	1988	1944	1966	1950	1977	1985	1951	1986	1944	1943	1943

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	24791		23591			
ANNUAL MEAN	67.9		64.5		89.7	
HIGHEST ANNUAL MEAN					170	1958
LOWEST ANNUAL MEAN					43.8	1985
HIGHEST DAILY MEAN	415	Jan 12	244	May 9	2880	Feb 26 1979
LOWEST DAILY MEAN	28	(a)	24	Jul 16	6.6	Sep 29 1943
ANNUAL SEVEN-DAY MINIMUM	30	Jul 18	25	Jul 13	7.8	Sep 23 1943
INSTANTANEOUS PEAK FLOW	549	Jan 12	310	May 8	3020	Feb 26 1979
INSTANTANEOUS PEAK STAGE	6.74	Jan 12	6.07	May 8	10.31	Feb 26 1979
INSTANTANEOUS LOW FLOW	26	(b)	22	Aug 11	c6.3	Sep 29 1943
ANNUAL RUNOFF (CFSM)	.90		.85		1.19	
ANNUAL RUNOFF (INCHES)	12.23		11.64		16.17	
10 PERCENT EXCEEDS	115		108		170	
50 PERCENT EXCEEDS	52		54		65	
90 PERCENT EXCEEDS	34		33		26	

a July 20, Sept. 13.
b July 19, 24, 25, Sept. 12.
c Minimum discharge observed.



01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE

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

DRAINAGE AREA.--43.9 mi^2.

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

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

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

REMARKS.--Records good except those for estimated daily discharges (backwater from debris), 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.

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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0200	486	5.01	May 8	0230	*520	*5.15

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	16	40	29	62	74	33	46	19	14	15
2	e15	16	18	39	28	58	70	32	36	19	13	15
3	e15	15	29	39	27	55	64	31	32	19	13	29
4	e14	15	114	70	27	52	60	30	30	19	13	34
5	e14	15	43	76	27	50	57	29	81	18	13	22
6	e14	15	33	59	26	49	52	28	169	18	13	18
7	e13	16	31	52	27	58	50	27	73	17	12	18
8	e13	16	29	48	27	73	49	163	51	17	12	17
9	e13	16	28	47	26	62	47	201	44	17	12	17
10	e12	15	69	47	24	60	45	88	40	17	11	22
11	e12	15	53	45	25	191	46	64	36	16	9.9	23
12	e12	14	42	42	25	107	45	55	33	15	11	22
13	e12	14	39	42	25	85	42	50	30	16	12	20
14	e12	14	39	43	26	74	40	46	29	15	13	19
15	e14	14	38	40	27	68	40	42	27	14	21	18
16	e13	14	35	37	57	62	41	42	26	14	42	18
17	e20	13	34	36	44	58	40	41	24	13	36	17
18	37	13	34	35	44	57	41	39	23	14	111	17
19	24	13	31	33	54	98	47	37	24	13	53	16
20	19	13	30	33	50	104	43	34	25	13	34	16
21	17	13	31	33	45	82	42	33	24	12	26	16
22	17	13	31	31	42	74	44	32	22	13	22	16
23	16	14	31	33	42	76	44	31	21	14	20	16
24	17	13	32	36	45	66	42	30	21	15	19	16
25	16	13	29	32	50	60	42	30	21	14	19	18
26	16	14	27	31	134	84	40	30	21	14	18	93
27	17	14	27	30	113	271	37	30	21	14	18	60
28	16	14	26	30	81	128	36	28	19	14	18	40
29	15	14	38	30	72	100	34	26	18	13	17	35
30	15	14	56	30	---	88	34	26	18	13	16	33
31	16	---	44	31	---	82	---	36	---	13	16	---
TOTAL	491	428	1157	1250	1269	2594	1388	1444	1085	472	677.9	736
MEAN	15.8	14.3	37.3	40.3	43.8	83.7	46.3	46.6	36.2	15.2	21.9	24.5
MAX	37	16	114	76	134	271	74	201	169	19	111	93
MIN	12	13	16	30	24	49	34	26	18	12	9.9	15
CFSM	.36	.32	.85	.92	1.00	1.91	1.05	1.06	.82	.35	.50	.56
IN.	.42	.36	.98	1.06	1.08	2.20	1.18	1.22	.92	.40	.57	.62

e Estimated

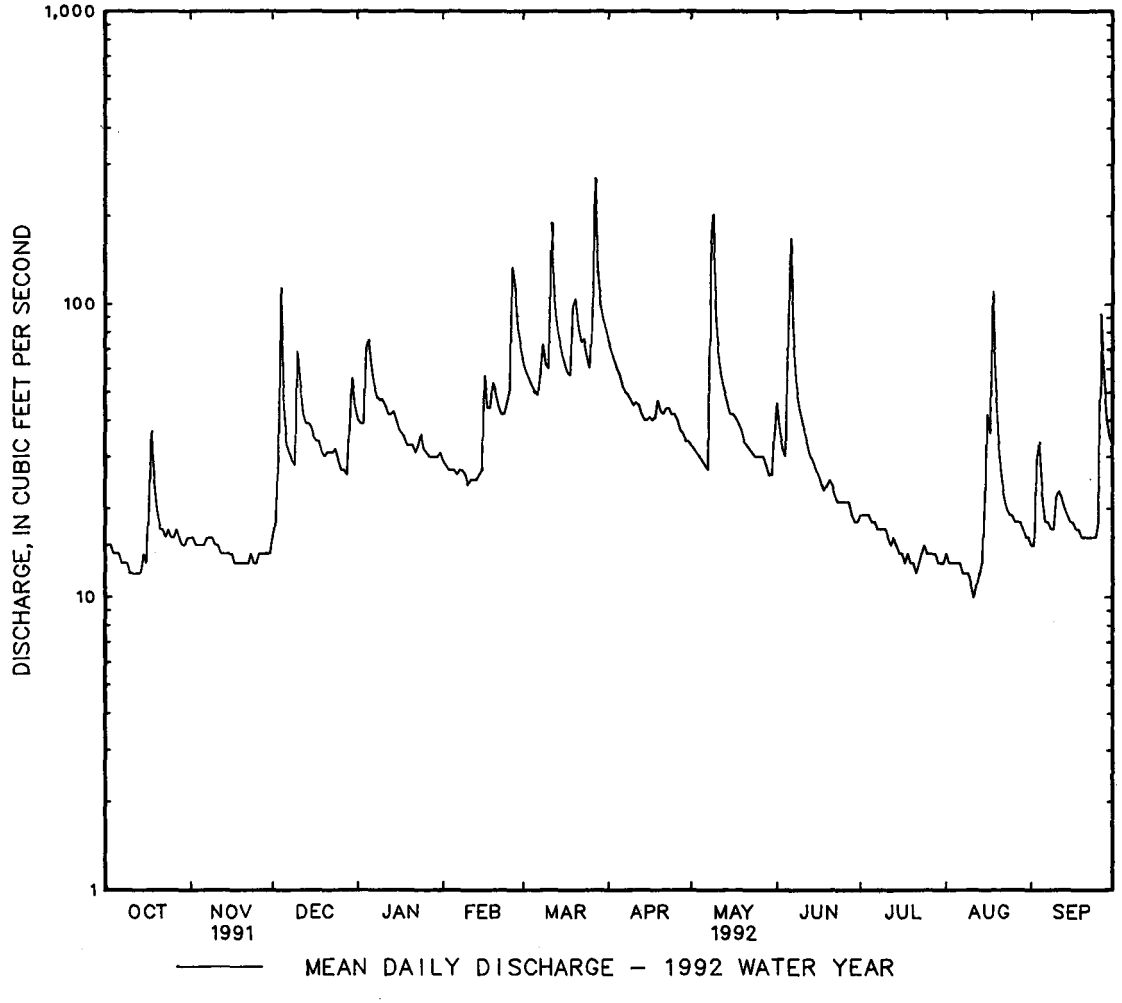
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

MEAN	19.1	34.6	59.2	82.2	85.5	104	75.1	52.2	35.8	35.8	36.5	19.2
MAX	101	190	196	258	267	266	226	178	156	297	340	126
(WY)	1972	1957	1949	1978	1979	1958	1983	1989	1948	1975	1967	1960
MIN	3.46	4.95	3.22	4.30	27.8	27.8	21.7	15.5	7.32	4.58	2.83	2.78
(WY)	1966	1966	1966	1966	1966	1966	1985	1957	1965	1944	1964	1964

01488500 MARSHYHOPE CREEK NEAR ADAMSVILLE, DE--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1943 - 1992	
ANNUAL TOTAL	15344		12991.9			
ANNUAL MEAN	42.0		35.5		53.8	
HIGHEST ANNUAL MEAN					111	1958
LOWEST ANNUAL MEAN					16.2	1966
HIGHEST DAILY MEAN	624	Jan 12	271	Mar 27	2710	Aug 5 1967
LOWEST DAILY MEAN	12	(a)	9.9	Aug 11	1.2	(b)
ANNUAL SEVEN-DAY MINIMUM	12	Oct 8	11	Aug 7	1.3	Sep 5 1964
INSTANTANEOUS PEAK FLOW	1090	Jan 12	520	May 8	c3700	Jul 13 1975
INSTANTANEOUS PEAK STAGE	7.12	Jan 12	5.15	May 8	13.98	Aug 5 1967
INSTANTANEOUS LOW FLOW	11	Jul 20	9.1	Aug 11	1.0	(d)
ANNUAL RUNOFF (CFSM)	.96		.81		1.23	
ANNUAL RUNOFF (INCHES)	13.00		11.01		16.66	
10 PERCENT EXCEEDS	80		65		113	
50 PERCENT EXCEEDS	28		29		27	
90 PERCENT EXCEEDS	14		13		7.0	

a July 20, Oct. 10-14.
b Sept. 9, 10, 1964.
c From rating curve extended above 3,300 ft^3/s.
d Sept. 9, 10, 1964, Aug. 20, 1965.



01489000 FAULKNER BRANCH AT FEDERALSBURG, MD

LOCATION.--Lat 38°42'44", long 75°47'34", Caroline County, Hydrologic Unit 02060008, on right bank 25 ft downstream from bridge on Laurel Grove Road, 0.9 mi upstream from mouth, and 1.0 mi northwest of Federalsburg.

DRAINAGE AREA.--7.10 mi^2.

PERIOD OF RECORD.--July 1950 to February 1992 (Discontinued).

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

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

REMARKS.--No estimated daily discharges. Records good. Diversion for irrigation of about 500 acres upstream from station during some years. 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 1935 is believed to have been higher than that of July 13, 1975, from information by local resident.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 140 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	1930	*56	*2.25	No peak above base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1991 TO FEBRUARY 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.6	3.9	11	7.2	---	---	---	---	---	---	---
2	3.4	4.6	4.8	11	6.9	---	---	---	---	---	---	---
3	3.7	4.4	19	10	6.6	---	---	---	---	---	---	---
4	3.6	4.2	21	18	6.5	---	---	---	---	---	---	---
5	3.6	4.1	12	16	6.5	---	---	---	---	---	---	---
6	3.8	4.1	11	14	6.7	---	---	---	---	---	---	---
7	3.5	4.0	9.9	13	6.3	---	---	---	---	---	---	---
8	3.4	4.0	9.4	13	6.3	---	---	---	---	---	---	---
9	3.3	4.0	9.4	13	5.9	---	---	---	---	---	---	---
10	3.3	4.0	17	13	5.6	---	---	---	---	---	---	---
11	3.4	4.2	13	11	5.9	---	---	---	---	---	---	---
12	3.5	3.9	12	10	5.8	---	---	---	---	---	---	---
13	3.4	3.8	12	10	5.8	---	---	---	---	---	---	---
14	3.2	3.8	12	11	6.1	---	---	---	---	---	---	---
15	4.8	3.6	11	9.3	8.1	---	---	---	---	---	---	---
16	4.5	3.6	10	9.1	17	---	---	---	---	---	---	---
17	8.5	3.5	10	9.0	11	---	---	---	---	---	---	---
18	6.9	3.5	9.9	8.8	11	---	---	---	---	---	---	---
19	6.0	3.4	8.9	8.1	12	---	---	---	---	---	---	---
20	5.4	3.4	8.6	8.3	---	---	---	---	---	---	---	---
21	5.3	3.4	9.0	8.4	---	---	---	---	---	---	---	---
22	5.3	3.6	8.8	7.8	---	---	---	---	---	---	---	---
23	5.0	3.7	8.9	9.3	---	---	---	---	---	---	---	---
24	4.8	3.6	9.1	9.0	---	---	---	---	---	---	---	---
25	4.8	3.5	7.8	7.9	---	---	---	---	---	---	---	---
26	4.8	3.4	7.5	7.6	---	---	---	---	---	---	---	---
27	4.8	3.3	7.5	7.2	---	---	---	---	---	---	---	---
28	4.8	3.4	7.3	7.3	---	---	---	---	---	---	---	---
29	4.6	3.4	13	7.2	---	---	---	---	---	---	---	---
30	4.6	3.3	13	7.3	---	---	---	---	---	---	---	---
31	4.7	---	11	7.5	---	---	---	---	---	---	---	---
TOTAL	138.1	113.3	327.7	313.1	---	---	---	---	---	---	---	---
MEAN	4.45	3.78	10.6	10.1	---	---	---	---	---	---	---	---
MAX	8.5	4.6	21	18	---	---	---	---	---	---	---	---
MIN	3.2	3.3	3.9	7.2	---	---	---	---	---	---	---	---
CFSM	.63	.53	1.49	1.42	---	---	---	---	---	---	---	---
IN.	.72	.59	1.72	1.64	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1991, BY WATER YEAR (WY)

MEAN	3.93	5.61	9.24	13.4	15.4	16.2	13.2	8.70	6.20	5.80	6.75	4.25
MAX	20.4	20.1	26.6	43.6	53.9	34.5	37.7	32.1	20.0	57.1	51.5	22.9
(WY)	1980	1960	1973	1978	1979	1978	1983	1984	1989	1975	1967	1960
MIN	1.02	1.21	1.57	1.28	5.42	6.62	4.84	2.83	1.17	.78	.71	.89
(WY)	1971	1965	1966	1966	1969	1966	1985	1976	1986	1987	1964	1987

01489000 FAULKNER BRANCH AT FEDERALSBURG, MD--Continued

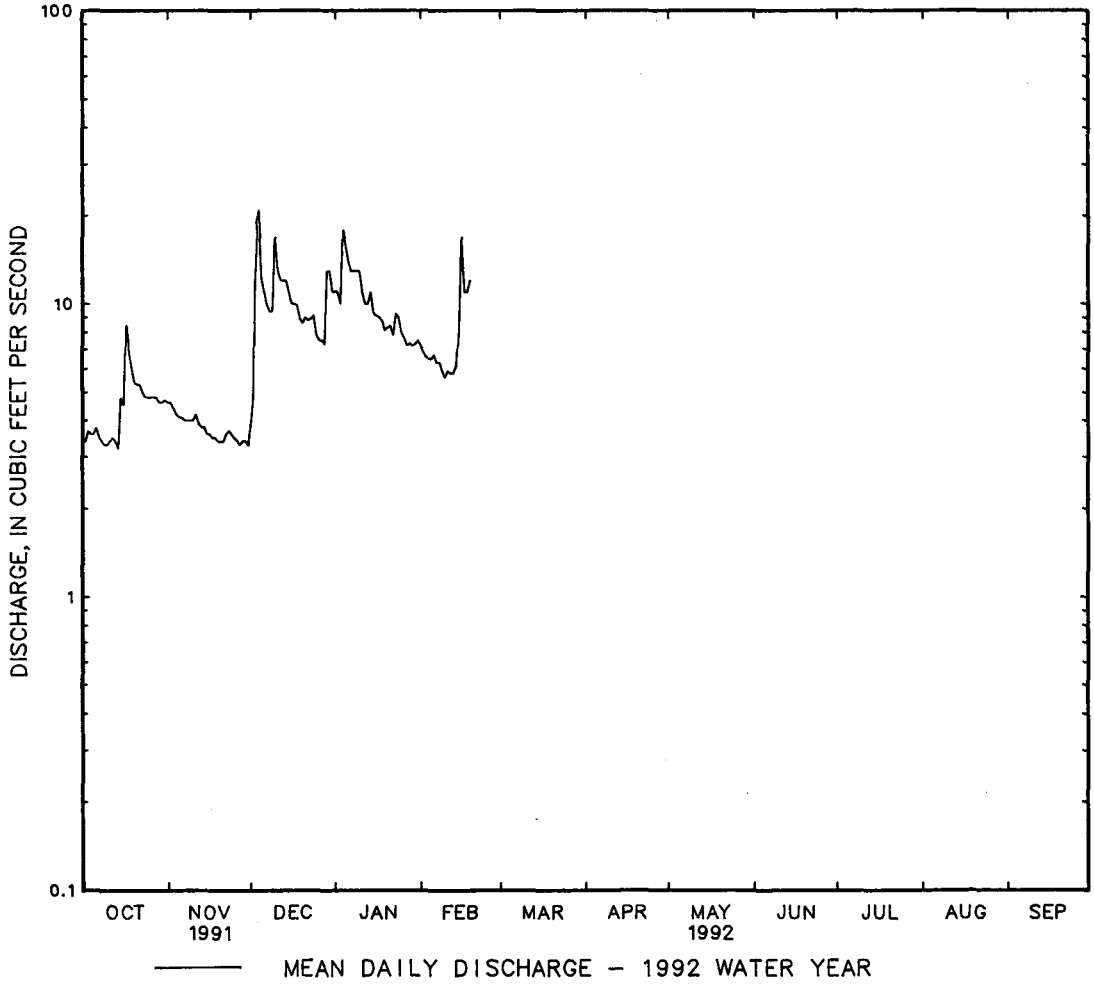
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		WATER YEARS 1950 - 1991	
ANNUAL TOTAL	2778.36			
ANNUAL MEAN	7.61		9.10	
HIGHEST ANNUAL MEAN			16.1	1984
LOWEST ANNUAL MEAN			3.63	1966
HIGHEST DAILY MEAN	94	Jan 12	699	Jul 13 1975
LOWEST DAILY MEAN	.56	Jul 24	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	.67	Jul 18	.04	Sep 6 1964
INSTANTANEOUS PEAK FLOW	262	Jan 12	b1680	Jul 13 1975
INSTANTANEOUS PEAK STAGE	3.79	Jan 12	5.98	Jul 13 1975
INSTANTANEOUS LOW FLOW	.54	(c)	.00	(d)
ANNUAL RUNOFF (CFSM)	1.07		1.28	
ANNUAL RUNOFF (INCHES)	14.56		17.41	
10 PERCENT EXCEEDS	14		18	
50 PERCENT EXCEEDS	5.7		5.7	
90 PERCENT EXCEEDS	2.6		1.4	

a No flow during 1957, 1959, 1964-66 (result of pumpage for irrigation).

b From rating curve extended above 400 ft^3/s on basis of contracted-opening measurement of peak flow.

c July 23-25.

d No flow at times during many years (result of pumpage for irrigation).



01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

LOCATION.--Lat 38°59'50", long 75°47'10", Caroline County, Hydrologic Unit 02060005, on left bank at highway bridge, 0.1 mi upstream from Gravelly Branch, 2.0 mi northeast of Greensboro, and 60 mi upstream from mouth.
DRAINAGE AREA.--113 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

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

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 28	0245	*744	*5.74	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	25	29	87	66	131	198	76	89	29	41	28
2	24	24	45	83	63	120	182	74	90	30	35	26
3	24	25	70	82	54	111	167	71	80	27	29	29
4	24	24	114	91	53	101	155	69	73	33	24	31
5	23	24	121	116	53	95	145	67	91	35	21	32
6	22	24	93	121	53	93	134	65	204	33	18	33
7	23	24	72	112	52	110	127	63	280	31	17	41
8	20	24	65	95	56	160	122	85	180	28	15	36
9	19	24	62	87	57	172	119	273	135	24	14	35
10	19	24	111	87	52	153	114	453	112	22	12	33
11	20	25	140	86	51	207	112	323	93	22	13	38
12	22	24	128	82	52	297	109	210	82	22	20	34
13	22	24	99	85	52	231	102	162	75	21	20	29
14	20	24	89	94	53	175	91	141	74	18	25	28
15	24	24	86	78	59	154	89	127	63	21	45	27
16	32	24	81	75	83	140	87	120	55	36	57	26
17	41	23	75	71	91	129	87	115	53	16	131	25
18	56	23	74	68	93	123	87	106	51	14	354	24
19	45	23	71	65	107	155	89	96	49	14	314	24
20	36	23	64	65	119	230	87	87	53	14	176	23
21	30	24	63	63	111	239	85	81	52	18	104	23
22	29	25	63	64	96	192	93	76	47	25	71	23
23	27	36	63	66	89	181	99	72	45	22	59	25
24	26	31	68	83	87	178	97	66	42	22	52	22
25	27	28	66	82	87	159	94	69	43	29	47	34
26	25	24	60	76	125	154	91	72	43	31	45	95
27	25	23	56	72	184	e425	87	72	40	28	43	124
28	24	22	55	70	188	644	84	67	35	24	40	119
29	23	23	71	70	153	387	82	62	33	22	38	81
30	24	24	98	67	---	264	78	65	32	19	35	63
31	23	---	102	66	---	222	---	80	---	20	33	---
TOTAL	824	739	2454	2509	2439	6132	3293	3565	2394	750	1948	1211
MEAN	26.6	24.6	79.2	80.9	84.1	198	110	115	79.8	24.2	62.8	40.4
MAX	56	36	140	121	188	644	198	453	280	36	354	124
MIN	19	22	29	63	51	93	78	62	32	14	12	22
CFSM	.24	.22	.70	.72	.74	1.75	.97	1.02	.71	.21	.56	.36
IN.	.27	.24	.81	.83	.80	2.02	1.08	1.17	.79	.25	.64	.40

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

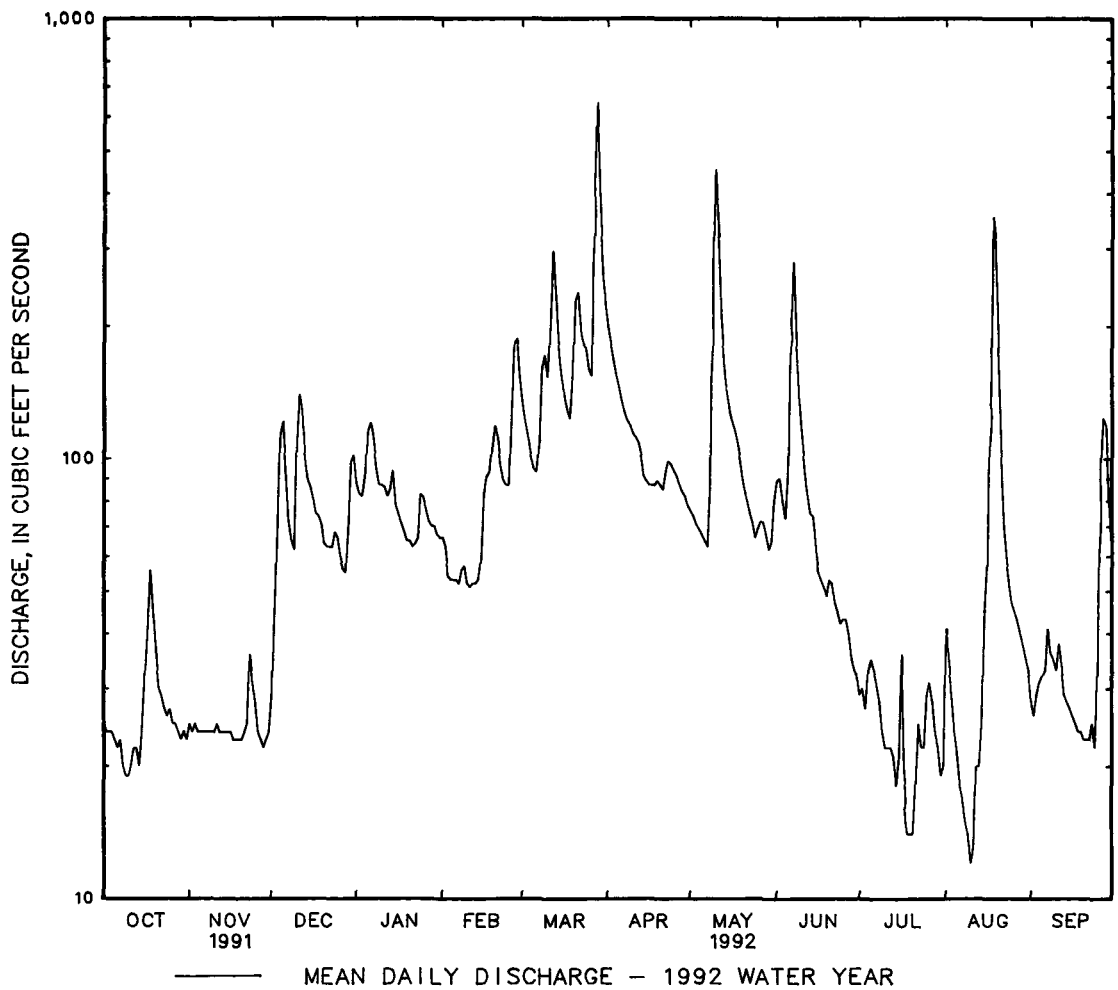
MEAN	53.0	90.1	147	197	216	247	194	132	92.7	59.2	84.2	46.5
MAX	402	476	475	559	646	557	649	457	329	421	829	323
(WY)	1972	1957	1973	1978	1979	1978	1983	1989	1972	1975	1967	1960
MIN	9.85	10.9	13.3	17.9	42.7	43.7	47.2	30.3	19.5	9.49	5.31	9.00
(WY)	1966	1966	1966	1966	1966	1966	1966	1977	1986	1977	1966	1987

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1948 - 1992	
ANNUAL TOTAL	36334		28258			
ANNUAL MEAN	99.5		77.2		129	
HIGHEST ANNUAL MEAN					237	1972
LOWEST ANNUAL MEAN					26.6	1966
HIGHEST DAILY MEAN	920	Jan 13	644	Mar 28	6160	Aug 4 1967
LOWEST DAILY MEAN	16	(a)	12	Aug 10	1.5	Aug 29 1966
ANNUAL SEVEN-DAY MINIMUM	19	Sep 8	16	Aug 6	2.2	Aug 26 1966
INSTANTANEOUS PEAK FLOW	1260	Jan 12	744	Mar 28	b6970	Aug 4 1967
INSTANTANEOUS PEAK STAGE	7.17	Jan 12	5.74	Mar 28	14.47	Aug 4 1967
INSTANTANEOUS LOW FLOW	11	(c)	9.8	Aug 10	1.2	(d)
ANNUAL RUNOFF (CFSM)	.88		.68		1.14	
ANNUAL RUNOFF (INCHES)	11.96		9.30		15.46	
10 PERCENT EXCEEDS	208		154		280	
50 PERCENT EXCEEDS	64		63		70	
90 PERCENT EXCEEDS	23		23		16	

a July 19, 20.

b From rating curve extended above 3,600 ft^3/s.
c July 24, 25.
d Aug. 29, 1966, Sept. 3, 1987.



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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
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.--Water temperatures were measured daily in field by local observer at time of sampling.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 1991												
09...	1300	19	166	6.5	12.5	22.5	770	--	7.6	71	--	--
22...	1630	28	121	6.0	12.5	21.5	760	--	10.2	96	--	--
NOV												
12...	1115	25	174	7.0	6.0	9.5	766	1.7	5.8	46	230	72
DEC												
04...	1015	127	160	5.8	9.0	7.0	756	--	8.0	70	--	--
JAN 1992												
22...	1330	354	151	5.3	2.0	7.5	770	--	6.5	47	--	--
FEB												
19...	1015	118	143	6.2	7.0	9.5	760	4.3	8.5	70	240	1200
MAR												
27...	0915	422	115	5.1	9.0	8.5	754	--	10.7	94	--	--
27...	1515	507	110	6.4	9.5	16.0	754	--	10.6	94	--	--
28...	0945	685	87	5.3	9.0	11.0	760	--	9.1	79	--	--
APR												
29...	1115	92	130	5.6	13.5	21.0	--	--	9.6	--	--	--
MAY												
19...	1100	110	125	6.7	18.0	23.0	772	4.6	7.9	82	21	21
JUN												
25...	1000	42	135	5.6	19.0	23.0	756	--	7.1	77	--	--
JUL												
22...	0945	24	147	5.6	25.0	23.0	766	--	5.9	70	--	--
AUG												
18...	1015	330	116	5.3	21.0	22.0	764	--	6.3	70	--	--
19...	1030	330	93	5.8	21.0	25.0	762	7.5	6.5	73	K410	<1
SEP												
24...	1130	22	157	5.4	17.0	17.0	772	--	9.5	97	--	--

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

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1991												
09...	--	--	--	--	32	--	--	--	--	--	--	--
22...	12	3.8	8.8	4.1	--	--	33	--	40	17	18	<0.10
NOV												
12...	15	4.2	9.6	3.2	29	27	--	--	--	19	18	<0.10
DEC												
04...	--	--	--	--	27	--	--	--	--	--	--	--
JAN 1992												
22...	--	--	--	--	31	--	--	--	--	--	--	--
FEB												
19...	11	3.2	9.2	2.6	16	17	--	20	--	20	16	<0.10
MAR												
27...	--	--	--	--	19	--	--	--	--	--	--	--
27...	--	--	--	--	18	--	--	--	--	--	--	--
28...	--	--	--	--	18	--	--	--	--	--	--	--
APR												
29...	--	--	--	--	20	--	--	--	--	--	--	--
MAY												
19...	9.5	3.0	7.7	2.1	19	22	--	--	--	16	13	<0.10
JUN												
25...	--	--	--	--	24	--	--	--	--	--	--	--
JUL												
22...	--	--	--	--	28	--	--	--	--	--	--	--
AUG												
18...	--	--	--	--	13	--	--	--	--	--	--	--
19...	7.5	2.1	4.0	4.1	13	--	--	--	--	15	7.9	<0.10
SEP												
24...	--	--	--	--	30	--	--	--	--	--	--	--

DATE	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT 1991											
09...	--	13	--	--	1.60	--	0.004	--	1.60	--	<0.010
22...	<0.010	13	--	103	--	0.010	<0.010	1.30	1.30	0.020	0.030
NOV											
12...	--	16	115	109	1.39	<0.010	0.006	1.40	1.40	<0.010	0.010
DEC											
04...	--	13	--	--	1.29	--	0.013	--	1.30	--	0.030
JAN 1992											
22...	--	20	--	--	1.58	--	0.016	--	1.60	--	0.040
FEB											
19...	--	15	98	93	1.18	0.010	0.022	1.20	1.20	0.080	0.080
MAR											
27...	--	10	--	--	1.39	--	0.011	--	1.40	--	0.280
27...	--	11	--	--	1.09	--	0.011	--	1.10	--	0.160
28...	--	8.7	--	--	0.867	--	0.013	--	0.880	--	0.190
APR											
29...	--	13	--	--	0.946	--	0.014	--	0.960	--	0.070
MAY											
19...	--	17	86	87	0.920	0.030	0.030	0.960	0.950	0.090	0.090
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
25...	--	18	--	--	1.09	--	0.011	--	1.10	--	0.040
JUL											
22...	--	13	--	--	0.991	--	0.009	--	1.00	--	0.050
AUG											
18...	--	8.6	--	--	0.757	--	0.013	--	0.770	--	0.120
19...	--	9.2	76	61	0.612	0.020	0.008	0.630	0.620	0.070	0.060
SEP											
24...	--	13	--	--	1.20	--	0.002	--	1.20	--	0.030

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ANTIMONY, DISSOLVED (UG/L AS SB)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 1991											
09...	0.20	0.30	--	0.030	0.017	--	0.013	<10	--	--	--
22...	<0.20	--	--	0.020	--	<0.010	<0.010	<10	<1	<1	69
NOV											
12...	<0.20	<0.20	--	0.020	0.010	0.020	0.011	20	--	--	71
DEC											
04...	0.50	0.30	--	0.080	0.042	--	0.054	30	--	--	--
JAN 1992											
22...	0.20	0.20	--	0.040	0.012	--	0.006	20	--	--	--
FEB											
19...	0.50	0.30	1.7	0.060	0.010	0.060	0.008	30	--	--	55
MAR											
27...	0.90	0.90	--	0.100	0.037	--	0.016	160	--	--	--
27...	1.0	0.70	--	0.130	0.032	--	0.015	170	--	--	--
28...	0.90	0.80	--	0.140	0.029	--	0.017	150	--	--	--
APR											
29...	0.30	0.40	--	0.040	0.042	--	0.033	30	--	--	--
MAY											
19...	0.30	0.50	1.3	0.070	0.030	0.050	0.010	20	--	--	60
JUN											
25...	0.20	0.30	--	0.050	0.040	--	0.031	10	--	--	--
JUL											
22...	0.30	0.30	--	0.040	0.031	--	0.023	10	--	--	--
AUG											
18...	0.80	0.50	--	0.130	0.067	--	0.049	50	--	--	--
19...	0.60	0.40	1.2	0.130	0.050	0.070	0.045	40	--	--	53
SEP											
24...	0.30	0.20	--	0.050	0.031	--	0.025	<10	--	--	--

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 1991											
09...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.5	20	<1.0	<5	<3	<10	160	<10	<4	10	<0.1
NOV											
12...	--	--	--	--	<3	--	230	--	<4	8	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
JAN 1992											
22...	--	--	--	--	--	--	--	--	--	--	--
FEB											
19...	--	--	--	--	<3	--	180	--	<4	24	--
MAR											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
APR											
29...	--	--	--	--	--	--	--	--	--	--	--
MAY											
19...	--	--	--	--	<3	--	1100	--	5	61	--
JUN											
11...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUL											
22...	--	--	--	--	--	--	--	--	--	--	--
AUG											
18...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	<3	--	280	--	<4	46	--
SEP											
24...	--	--	--	--	--	--	--	--	--	--	--

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARDNESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	ALACHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
09...	--	--	--	--	--	--	--	3.1	--	--	--
22...	<10	<10	<1	<1.0	110	<6	11	--	46	4.0	<0.05
NOV											
12...	<10	1	<1	<1.0	130	<6	--	3.8	55	--	--
DEC											
04...	--	--	--	--	--	--	--	8.7	--	--	--
JAN 1992											
22...	--	--	--	--	--	--	--	2.5	--	--	--
FEB											
19...	<10	1	<1	<1.0	97	<6	--	4.4	41	--	--
MAR											
27...	--	--	--	--	--	--	--	8.4	--	--	--
27...	--	--	--	--	--	--	--	11	--	--	--
28...	--	--	--	--	--	--	--	12	--	--	--
APR											
29...	--	--	--	--	--	--	--	4.2	--	--	--
MAY											
19...	<10	31	<1	<1.0	94	<6	--	6.0	36	--	--
JUN											
25...	--	--	--	--	--	--	--	4.1	--	--	--
JUL											
22...	--	--	--	--	--	--	--	5.2	--	--	--
AUG											
18...	--	--	--	--	--	--	--	11	--	--	--
19...	<10	4	<1	<1.0	62	<6	--	9.5	27	--	--
SEP											
24...	--	--	--	--	--	--	--	3.6	--	--	--

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRAZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L)	CYANAZINE, WATER, DISS, REC (UG/L)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L)	METOLACHLOR WATER DISSOLV (UG/L)	METRIBUZIN SENCOR WATER DISSOLV (UG/L)	PROMETRYN, WATER, DISS, REC (UG/L)	PROMETON, WATER, DISS, REC (UG/L)	SIMAZINE, WATER, DISS, REC (UG/L)	PROPAZINE WATER DISS REC (UG/L)
OCT 1991											
22...	<0.05	<0.05	0.06	<0.20	<0.10	<0.05	<0.05	<0.05	<0.05	0.07	<0.05

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
09...	1300	19	3	0.15	--
NOV					
12...	1115	25	3	0.20	67
DEC					
04...	1015	127	9	3.1	--
JAN 1992					
22...	1330	354	3	2.9	--
FEB					
19...	1015	118	7	2.2	83
MAR					
27...	0915	422	33	38	--
27...	1515	507	35	48	--
28...	0945	685	52	96	--
APR					
29...	1115	92	4	0.99	--
MAY					
19...	1100	110	4	1.2	95
JUN					
25...	1000	42	3	0.34	--
JUL					
22...	0945	24	2	0.13	--
AUG					
18...	1015	330	16	14	--
19...	1030	330	11	9.8	--
SEP					
24...	1130	22	3	0.18	--

01493000 UNICORN BRANCH NEAR MILLINGTON, MD

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

DRAINAGE AREA.--22.3 mi^2.

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

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

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

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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	1330	*175	*3.29	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	6.4	9.7	12	11	16	28	16	29	8.5	12	6.2
2	8.0	7.3	13	12	11	15	26	15	19	8.8	8.7	6.1
3	8.2	7.3	22	12	11	14	24	13	16	9.4	7.1	12
4	8.0	7.5	30	14	11	14	23	13	14	11	7.2	9.9
5	7.8	9.8	16	17	11	14	21	13	32	8.9	6.4	8.0
6	8.0	8.3	12	33	11	14	20	13	51	9.3	6.3	8.6
7	7.6	8.0	11	33	10	20	19	13	29	8.8	6.3	8.6
8	7.5	8.0	11	24	9.7	32	18	32	19	7.1	6.4	7.4
9	7.3	8.1	13	17	9.6	24	18	90	16	5.5	7.8	6.8
10	7.5	8.5	35	12	9.6	23	18	58	14	8.8	6.1	11
11	7.9	8.8	21	12	9.6	46	22	36	12	15	6.3	13
12	8.1	7.7	15	9.8	9.6	41	21	26	12	9.5	7.2	8.7
13	7.8	8.0	14	9.6	9.6	28	19	22	11	8.2	7.1	7.5
14	7.3	7.5	14	7.6	9.6	23	17	19	11	8.2	9.8	7.1
15	6.8	7.2	13	7.5	10	20	17	17	11	7.7	13	7.1
16	7.4	6.9	12	9.6	10	18	16	17	11	7.4	14	7.2
17	13	6.1	12	13	13	17	18	17	9.9	7.2	16	7.3
18	12	7.0	11	13	16	17	18	16	9.7	7.1	22	6.7
19	9.3	6.9	11	13	16	32	19	15	10	5.8	13	6.5
20	8.2	7.0	11	14	18	39	18	13	9.9	6.1	10	6.5
21	7.9	7.1	11	14	18	30	18	12	9.4	5.8	8.9	6.5
22	7.8	8.8	11	14	18	26	24	12	8.5	7.2	8.3	6.9
23	7.7	10	11	14	17	27	33	11	8.8	11	8.1	6.6
24	7.5	8.2	11	13	17	25	30	11	9.4	11	7.5	6.0
25	7.5	7.5	10	14	7.1	22	26	13	10	11	7.5	11
26	7.2	7.3	10	14	6.7	29	24	13	9.8	10	7.3	30
27	7.1	7.4	10	13	30	126	21	13	9.4	9.1	7.5	14
28	7.3	7.4	10	13	22	84	19	12	8.8	8.6	7.5	12
29	6.5	7.3	16	12	18	46	18	11	7.2	7.9	6.6	13
30	6.8	7.2	17	10	---	35	17	13	6.1	7.6	5.2	11
31	6.8	---	14	10	---	31	---	29	---	9.4	6.1	---
TOTAL	246.3	230.5	437.7	436.1	380.1	948	630	624	433.9	266.9	273.2	279.2
MEAN	7.95	7.68	14.1	14.1	13.1	30.6	21.0	20.1	14.5	8.61	8.81	9.31
MAX	13	10	35	33	30	126	33	90	51	15	22	30
MIN	6.5	6.1	9.7	7.5	6.7	14	16	11	6.1	5.5	5.2	6.0
CFSM	.36	.34	.63	.63	.59	1.37	.94	.90	.65	.39	.40	.42
IN.	.41	.38	.73	.73	.63	1.58	1.05	1.04	.72	.45	.46	.47

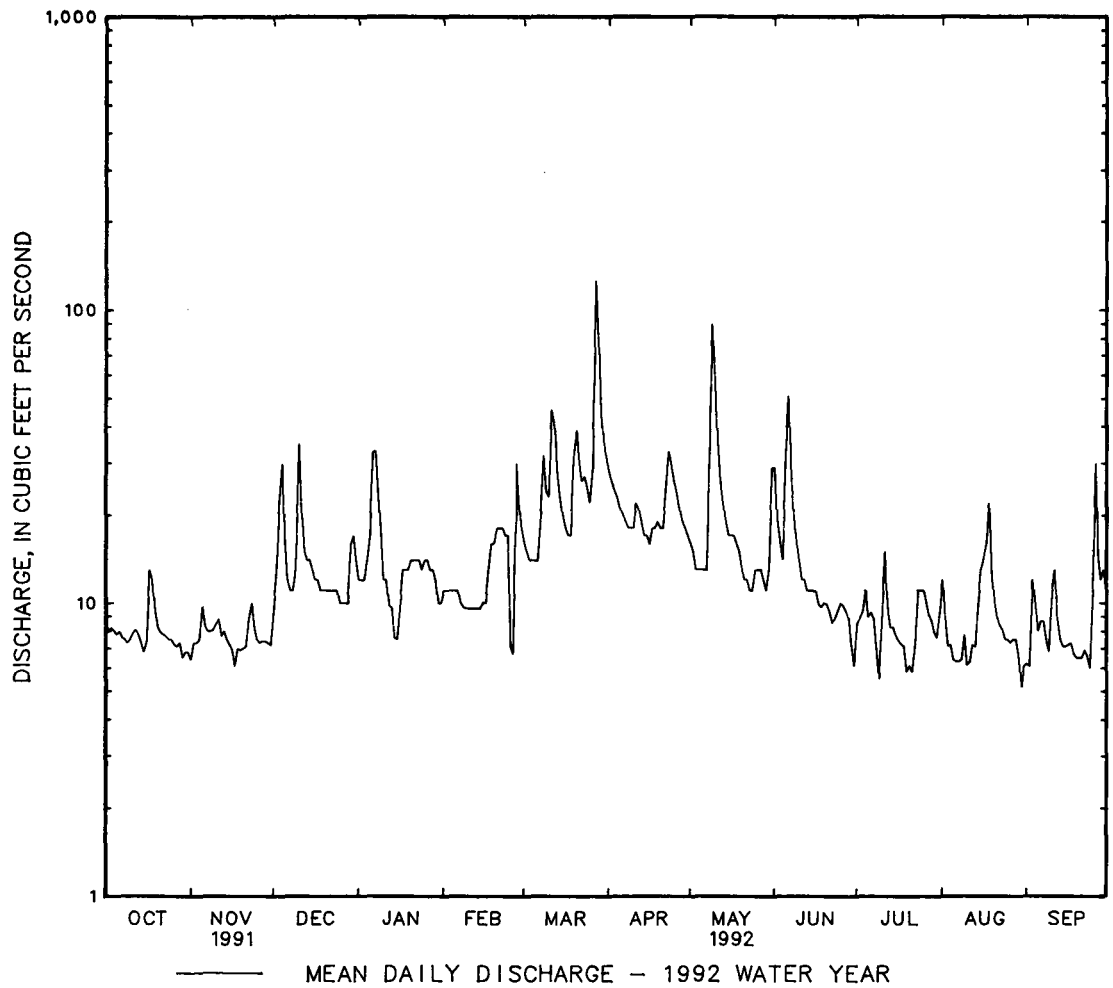
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

MEAN	14.5	17.2	24.3	32.0	36.2	40.7	35.4	26.4	20.4	16.5	16.8	14.5
MAX	91.5	65.4	67.2	83.7	83.7	97.1	109	66.8	80.7	52.5	62.5	92.1
(WY)	1972	1972	1973	1978	1961	1958	1983	1989	1972	1972	1967	1960
MIN	5.27	4.99	5.32	5.80	12.1	9.29	10.7	8.64	4.51	5.22	3.15	4.79
(WY)	1966	1966	1966	1966	1966	1966	1966	1977	1966	1977	1966	1977

01493000 UNICORN BRANCH NEAR MILLINGTON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1948 - 1992	
ANNUAL TOTAL	6814.5		5185.9			
ANNUAL MEAN	18.7		14.2		24.4	
HIGHEST ANNUAL MEAN					51.8	1972
LOWEST ANNUAL MEAN					7.08	1966
HIGHEST DAILY MEAN	165	Jan 12	126	Mar 27	685	Sep 13 1960
LOWEST DAILY MEAN	4.6	Sep 13	5.2	Aug 30	.10	Jun 9 1965
ANNUAL SEVEN-DAY MINIMUM	5.4	Aug 29	6.5	Aug 27	.14	Jun 8 1965
INSTANTANEOUS PEAK FLOW	224	Jan 12	175	Mar 27	a1060	Sep 12 1960
INSTANTANEOUS PEAK STAGE	3.66	Jan 12	3.29	Mar 27	7.17	Sep 12 1960
INSTANTANEOUS LOW FLOW	.15	Feb 20	.48	Feb 25	.00	(b)
ANNUAL RUNOFF (CFSM)	.84		.64		1.09	
ANNUAL RUNOFF (INCHES)	11.37		8.65		14.87	
10 PERCENT EXCEEDS	37		25		46	
50 PERCENT EXCEEDS	12		11		16	
90 PERCENT EXCEEDS	7.0		7.1		7.2	

a From rating curve extended above 600 ft^3/s.
b No flow for part of each day June 13, 14, 1965, caused by regulation at Unicorn Lake Dam.



01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

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

DRAINAGE AREA.--12.7 mi^2.

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

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

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

REMARKS.--Records good except those for estimated daily discharges (backwater from beaver dams), which are poor. Several measurements of water temperature were made during the year. Water-quality data for some prior years have been collected at this location.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0330	*174	*3.70	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	6.3	8.6	7.1	5.9	6.1	7.8	e6.7	e13	4.6	8.4	3.5
2	5.2	6.3	13	6.8	5.7	6.1	7.6	e6.3	e12	4.4	4.8	3.4
3	5.1	6.3	30	6.8	5.7	6.4	6.8	e6.0	e10	e4.1	3.5	11
4	5.2	6.4	28	7.4	5.8	6.3	7.0	5.7	e8.5	e4.9	3.3	29
5	5.3	6.5	11	8.2	5.7	6.3	6.9	e5.7	e40	4.8	3.5	11
6	5.5	5.9	7.7	7.4	5.7	5.8	6.9	e5.4	e25	e4.7	3.4	4.3
7	5.3	6.2	7.1	6.8	5.9	12	6.8	e5.4	e7.8	e4.3	3.0	4.3
8	5.0	6.5	6.8	6.6	6.2	14	6.2	13	e6.0	e3.9	2.7	4.2
9	5.1	6.6	9.3	6.8	5.9	8.3	6.2	13	e5.4	e3.7	3.0	4.3
10	5.4	7.4	40	7.0	5.4	8.2	6.7	19	5.2	3.4	2.9	4.5
11	5.7	7.4	18	6.7	5.5	27	7.3	7.5	4.9	3.4	8.0	7.6
12	6.3	7.1	10	6.4	5.9	13	6.7	6.3	5.0	3.0	11	5.2
13	5.9	7.5	8.5	6.3	5.8	7.7	6.3	6.1	5.3	3.0	6.4	4.4
14	5.8	7.0	8.4	6.3	6.4	6.7	6.2	6.0	e5.2	2.9	5.9	6.1
15	5.7	6.6	8.0	5.9	9.6	6.4	7.8	6.3	e4.7	3.5	7.1	7.0
16	6.0	6.2	7.4	5.7	15	5.9	7.8	e6.6	e4.3	8.8	7.6	5.5
17	15	6.2	7.0	5.5	8.7	5.7	6.4	e6.0	e3.9	6.1	11	4.1
18	14	6.0	7.0	6.0	8.2	6.4	6.7	e5.6	4.2	4.3	11	3.5
19	6.8	6.1	6.4	5.6	8.8	18	7.2	e5.5	4.8	3.9	7.6	3.4
20	5.5	6.6	6.1	5.5	11	13	7.3	e5.4	5.1	3.6	5.1	3.3
21	5.5	6.7	6.6	6.0	8.6	7.9	7.3	e5.4	4.5	3.0	3.7	3.4
22	5.5	8.7	6.8	6.6	7.2	7.1	10	e5.3	4.5	3.1	3.0	3.6
23	5.6	12	7.1	7.1	6.5	8.5	9.2	e5.1	4.0	3.7	3.2	4.4
24	5.8	8.1	7.1	9.5	6.4	7.1	7.5	e5.0	4.1	5.3	3.0	3.6
25	5.9	6.8	6.7	7.3	6.4	7.0	7.5	e5.4	4.9	7.3	3.1	4.7
26	5.7	6.6	6.5	7.0	19	20	7.6	e5.6	4.5	6.2	3.3	18
27	5.7	6.5	6.5	6.6	12	129	e7.4	e5.6	4.5	5.0	3.4	10
28	6.0	6.5	6.4	6.9	8.3	24	e7.0	e5.3	4.3	4.7	3.9	8.0
29	6.2	6.4	12	6.7	7.4	9.0	6.6	e5.0	4.2	3.7	4.7	7.2
30	6.4	6.4	11	6.4	---	7.8	e6.7	e5.2	3.7	3.4	4.3	5.6
31	6.5	---	7.8	6.1	---	8.0	---	e29	---	5.9	4.0	---
TOTAL	193.7	205.8	332.8	207.0	224.6	424.7	215.4	229.4	223.5	136.6	158.8	198.1
MEAN	6.25	6.86	10.7	6.68	7.74	13.7	7.18	7.40	7.45	4.41	5.12	6.60
MAX	15	12	40	9.5	19	129	10	29	40	8.8	11	29
MIN	5.0	5.9	6.1	5.5	5.4	5.7	6.2	5.0	3.7	2.9	2.7	3.3
CFSM	.49	.54	.85	.53	.61	1.08	.57	.58	.59	.35	.40	.52
IN.	.57	.60	.97	.61	.66	1.24	.63	.67	.65	.40	.47	.58

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

MEAN	7.28	8.96	11.7	13.2	13.7	13.2	10.7	9.42	13.3	8.77	8.66	7.89
MAX	32.3	30.7	37.8	45.6	47.1	26.8	29.5	20.6	113	26.9	27.8	32.4
(WY)	1972	1973	1984	1978	1979	1978	1983	1990	1972	1989	1971	1960
MIN	2.98	3.14	3.21	3.74	5.09	4.47	4.49	3.77	1.96	1.11	1.41	2.07
(WY)	1964	1966	1966	1966	1968	1966	1966	1955	1966	1966	1966	1967

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD--Continued

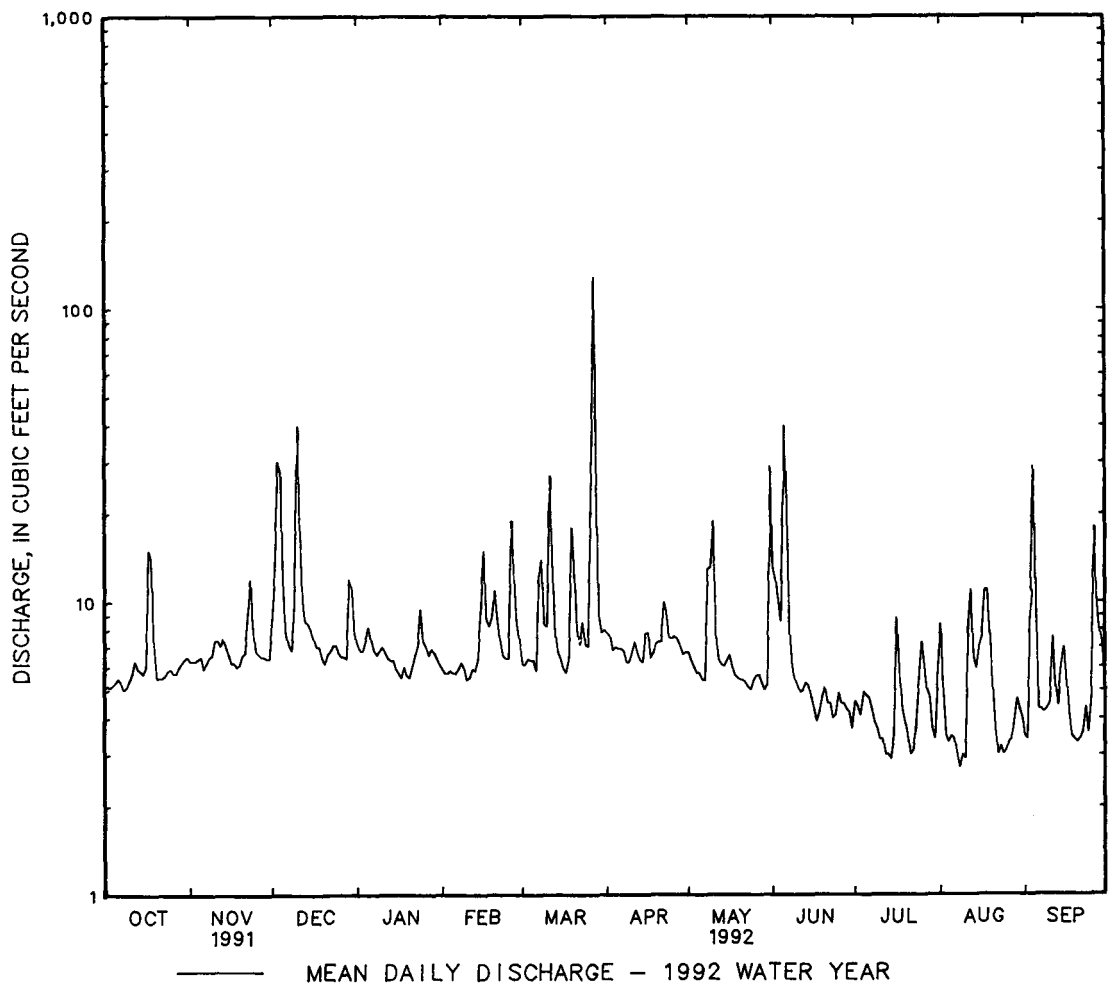
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL TOTAL	4317.6		2750.4			
ANNUAL MEAN	11.8		7.51		10.6	
HIGHEST ANNUAL MEAN					24.2	1972
LOWEST ANNUAL MEAN					3.67	1966
HIGHEST DAILY MEAN	224	Jun 18	129	Mar 27	2810	Jun 22 1972
LOWEST DAILY MEAN	4.5	Sep 13	2.7	Aug 8	.70	(a)
ANNUAL SEVEN-DAY MINIMUM	4.8	Sep 7	3.1	Aug 4	.71	Sep 7 1966
INSTANTANEOUS PEAK FLOW	571	Jun 18	174	Mar 27	b7500	Jun 22 1972
INSTANTANEOUS PEAK STAGE	6.41	Jun 18	3.70	Mar 27	13.07	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.1	(c)	2.4	Jul 29	.60	(d)
ANNUAL RUNOFF (CFSM)	.93		.59		.83	
ANNUAL RUNOFF (INCHES)	12.65		8.06		11.31	
10 PERCENT EXCEEDS	18		11		16	
50 PERCENT EXCEEDS	7.8		6.3		6.2	
90 PERCENT EXCEEDS	5.4		3.7		3.2	

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

b From rating curve extended above 640 ft^3/s on basis of culvert and flow-over-road measurement of peak flow.

c Sept. 2, 13.

d Aug. 28, 29, 1966.



01495000 BIG ELK CREEK AT ELK MILLS, MD

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

DRAINAGE AREA.--52.6 mi^2.

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

REVISED RECORDS.--WSP 1432: 1932-33, 1934(M), 1935, 1936(M), 1938, 1919-40(M), 1942(M), 1943-51, 1952-53(P).

GAGE.--Water-stage recorder. Datum of gage is 68.69 ft above National Geodetic Vertical Datum of 1929. Prior to May 17, 1946, nonrecording gage at bridge 100 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges (Oct. 27 to Nov. 10, backwater from leaves; 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 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0345	*1,350	*5.36	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	e21	31	36	35	37	57	41	65	31	57	21
2	20	e22	40	35	36	37	52	39	47	45	30	21
3	20	e21	290	36	36	36	48	38	42	33	26	24
4	20	e21	159	37	34	36	46	36	38	43	27	27
5	19	e21	58	40	34	35	44	37	235	33	27	23
6	21	e21	44	37	33	35	43	37	114	31	24	32
7	21	e21	40	35	e33	141	42	35	62	30	23	42
8	19	e21	37	34	33	80	42	301	52	28	22	29
9	19	e21	37	35	e32	50	41	200	54	28	23	26
10	20	e21	137	38	e31	54	41	81	44	27	22	26
11	21	35	65	36	e31	124	41	62	39	26	80	48
12	25	32	46	34	e31	62	41	54	37	25	30	28
13	22	28	42	33	32	48	39	51	36	26	24	23
14	21	27	45	66	36	44	38	48	34	25	29	22
15	21	25	47	63	48	41	38	46	34	26	33	22
16	22	25	42	37	118	39	38	57	33	29	34	21
17	53	24	40	32	51	39	40	51	32	28	89	20
18	45	22	39	e32	48	40	40	48	31	30	66	20
19	25	22	37	e31	53	81	43	53	51	28	37	19
20	23	22	e38	e30	46	70	41	42	56	25	31	18
21	22	23	38	34	40	53	41	39	36	24	27	18
22	22	83	37	32	38	47	75	38	33	23	25	21
23	23	158	37	39	37	52	71	37	33	49	24	30
24	22	44	37	92	37	50	47	35	40	64	23	21
25	22	35	35	48	37	45	50	37	67	56	23	50
26	22	32	34	38	88	123	78	41	45	38	23	219
27	e22	30	35	41	55	493	55	43	35	34	23	58
28	e22	29	35	39	43	94	48	37	32	30	26	45
29	e22	29	75	38	40	67	45	35	30	27	37	34
30	e22	28	59	38	---	59	42	38	30	26	26	28
31	e21	---	39	35	---	65	---	155	---	78	23	---
TOTAL	719	964	1775	1231	1246	2277	1407	1892	1517	1046	1014	1036
MEAN	23.2	32.1	57.3	39.7	43.0	73.5	46.9	61.0	50.6	33.7	32.7	34.5
MAX	53	158	290	92	118	493	78	301	235	78	89	219
MIN	19	21	31	30	31	35	38	35	30	23	22	18
CFSM	.44	.61	1.09	.75	.82	1.40	.89	1.16	.96	.64	.62	.66
IN.	.51	.68	1.26	.87	.88	1.61	1.00	1.34	1.07	.74	.72	.73

e Estimated

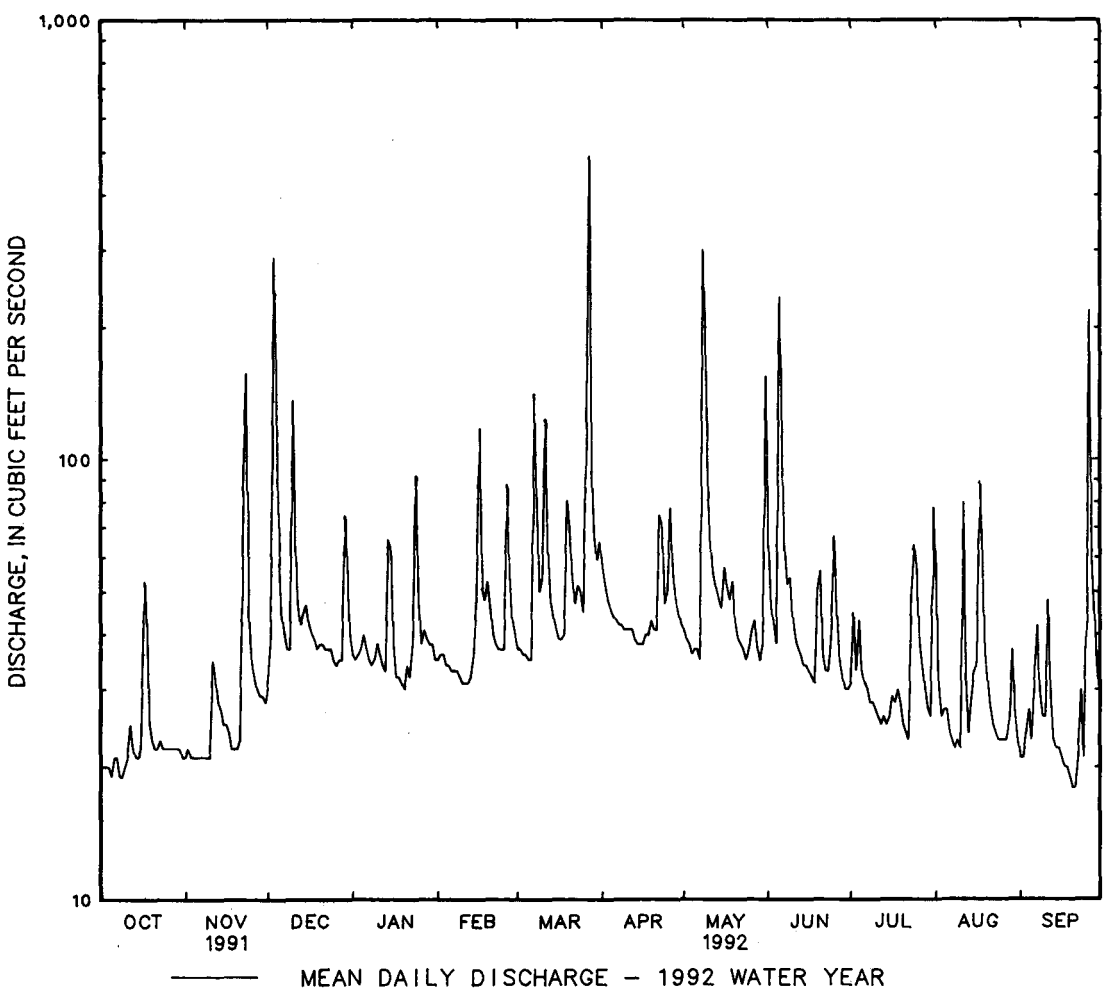
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

MEAN	41.0	54.3	66.4	83.8	98.7	96.6	88.9	77.4	60.1	58.6	53.4	44.0
MAX	133	115	152	283	236	225	189	160	216	248	241	134
(WY)	1972	1973	1984	1979	1936	1936	1983	1958	1972	1975	1933	1960
MIN	11.1	17.1	18.7	19.2	41.4	35.6	34.5	26.8	21.4	10.5	8.32	9.95
(WY)	1964	1966	1966	1966	1947	1981	1963	1955	1963	1963	1966	1932

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

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1932 - 1992	
ANNUAL TOTAL	19251		16124			
ANNUAL MEAN	52.7		44.1		68.7	
HIGHEST ANNUAL MEAN					109	1972
LOWEST ANNUAL MEAN					35.4	1966
HIGHEST DAILY MEAN	651	Jan 12	493	Mar 27	3070	Jun 22 1972
LOWEST DAILY MEAN	16	(a)	18	(b)	4.8	(c)
ANNUAL SEVEN-DAY MINIMUM	17	Aug 29	20	Sep 16	4.9	Sep 7 1966
INSTANTANEOUS PEAK FLOW	1360	Jan 12	1350	Mar 27	d10600	Jul 5 1937
INSTANTANEOUS PEAK STAGE	5.37	Jan 12	5.36	Mar 27	f14.50	Jul 5 1937
INSTANTANEOUS LOW FLOW	14	(g)	h11	Feb 10	h4.5	Jan 21 1955
ANNUAL RUNOFF (CFSM)	1.00		.84		1.31	
ANNUAL RUNOFF (INCHES)	13.61		11.40		17.74	
10 PERCENT EXCEEDS	94		65		113	
50 PERCENT EXCEEDS	39		36		46	
90 PERCENT EXCEEDS	20		22		20	

a Sept. 2-4, 13.
b Sept. 20, 21.
c Sept. 8-10, 1966.
d From rating curve extended above 1,700 ft^3/s on basis of velocity-area and conveyance studies.
f From floodmarks.
g Aug. 8, 18, Sept. 12.
h Result of freezeup.



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 which were partly estimated (probes out of water for short periods during extreme low tides) and those below 500 microsiemens, which are fair. Interruption of the daily specific conductance and temperature record was caused by equipment malfunction. 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, 1991-92): Maximum, 19,900 microsiemens, Oct. 26, 1982; minimum, 117 microsiemens, July 21-23, 28, 1984.
WATER TEMPERATURE (water years 1982-85, 1987-92): Maximum, 33.0°C, Aug. 6, 1988; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 18,300 microsiemens, Nov. 12; minimum, 420 microsiemens, Aug. 12.
WATER TEMPERATURE: Maximum, 30.6°C, July 21; minimum, 0.1°C, Feb. 9, 10.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6430	6210	6340	17700	12900	15500	7010	5980	6210	6810	5780	6220
2	6310	6190	6260	14400	12500	13200	e6090	e5710	e5970	6640	2590	6030
3	6310	6150	6210	12700	12200	12500	12000	6030	8210	8120	e6290	6960
4	6310	6150	6210	12800	12300	12500	9090	5470	7780	10300	7320	e9300
5	6230	6070	6140	12500	11800	12200	e5470	e3070	e3930	10900	10200	10500
6	6150	5870	6020	12900	11600	12000	3540	2190	2950	10900	10300	10600
7	5970	5610	5790	12600	11400	11800	2600	e2310	2510	10600	8760	9830
8	5990	5360	5650	13000	11400	e11900	3090	2600	2800	8980	7140	8060
9	5420	5050	5260	15800	12700	e13900	2840	2400	2720	7670	7020	7190
10	5090	4870	5010	17600	15300	16200	4670	2650	3100	7290	7010	7100
11	4920	4820	4860	18300	16800	17500	3680	2970	3390	7050	5870	6400
12	4860	4780	4810	18300	14800	16400	2970	2630	2850	5890	4630	5140
13	4930	4850	4890	16000	14600	15100	2860	2760	2820	4660	4280	4400
14	5020	4890	4970	15300	13000	13700	3010	2660	2760	4900	4370	4610
15	5270	5020	5170	13700	13500	13600	2810	e1230	e2300	4980	e4750	e4860
16	e5460	e5260	e5370	13700	13600	13700	e1840	e1230	e1570	4880	e2280	e2910
17	e9640	e5320	e6720	13700	13500	13600	e1780	e1470	e1630	2620	e1840	2240
18	10100	7690	9100	13900	13700	13800	e1680	e1450	e1590	1950	1500	1760
19	8880	7060	7860	13900	13600	13700	e1680	e1480	e1570	1590	1020	1250
20	8260	e6910	e7610	13600	10500	13300	e1820	e1530	e1630	1210	1120	1190
21	9150	7920	8380	13400	13100	13300	1610	1290	1510	1210	1020	1080
22	8320	7540	7860	13300	12900	13100	e1650	e1280	e1430	1360	1060	1190
23	7770	7320	7540	13100	13000	13000	1420	1300	1340	3720	1250	1930
24	7860	7150	7510	13100	13100	13100	1380	1320	1340	2530	1320	2040
25	8440	4970	7490	13100	12100	12800	1470	1380	1410	1320	682	946
26	7970	4900	7310	12100	e8550	e9740	1420	1350	1380	1450	639	1090
27	8000	6500	7540	9450	e8670	e8870	1390	1320	1350	3410	1360	1740
28	9560	6430	7810	9450	7150	8210	1410	1290	1390	2110	1620	1840
29	13800	8990	10300	7960	6080	6660	1380	1160	1330	2570	1860	2160
30	14000	11100	11700	7670	6110	6640	1440	1370	1410	2910	2140	2490
31	16800	14000	15500	---	---	---	7480	1430	3440	3640	2590	3260
MONTH	16800	4780	7070	18300	6080	12700	12000	1160	2760	10900	639	4400

e Estimated

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3750	e2910	3490	4310	e2130	3100	1260	1120	1170	1680	1140	1480
2	4140	e3220	e3660	e2690	e1800	e2280	1240	929	1160	1620	1140	1380
3	4100	3730	3970	6230	e2550	3690	1500	1030	1150	1340	861	1150
4	4790	3850	4230	5940	2920	4560	1240	740	956	1120	941	e997
5	4940	3890	4320	4120	2310	3510	863	678	777	1480	961	1120
6	5030	3890	4650	3840	e3250	3550	942	678	763	3100	1320	2300
7	6850	4610	5100	e6150	2840	4170	942	736	779	3800	2360	3270
8	6190	4480	5160	5100	1530	3210	858	757	797	4820	3740	4210
9	6190	4240	5000	4700	1270	2280	877	837	864	5410	4740	5030
10	5190	4730	4980	5290	4480	4870	897	793	849	5250	4040	4440
11	4890	4670	4770	4880	3380	4400	874	832	846	4740	4480	4570
12	5010	4890	4960	4230	1020	2380	1160	873	968	4620	4060	e4510
13	e5010	3060	3790	e1560	918	1320	e2150	e1080	e1600	4460	3700	4140
14	3780	3190	3460	1450	553	993	3540	1700	2290	3960	3260	3640
15	5880	e3480	5390	1040	553	813	2020	1720	1840	3400	3200	3330
16	5990	5580	5790	e1210	e849	e955	2020	1760	1910	3480	3260	3410
17	5940	5530	5760	1060	656	845	2070	1850	1960	3580	3280	3480
18	5870	5520	5750	888	741	793	3430	1850	2550	3420	2760	3250
19	5900	5670	5750	888	781	816	4290	3250	3910	3280	2860	3060
20	5930	5530	5690	3750	781	2010	4460	3440	4040	3400	3120	3250
21	5640	3490	5170	3750	2570	3150	4260	3430	3820	3260	2640	3180
22	4420	3620	3970	4060	2650	3420	3640	2020	2990	2960	2620	2830
23	5530	3390	4570	3880	3230	3610	2480	2000	2340	2820	2560	2690
24	e5790	e3530	e5140	4820	3080	3740	2380	1720	2040	2740	2460	2590
25	7470	3770	5180	3770	2720	3130	1800	1580	1730	3880	2460	2860
26	7520	4660	5450	2720	2380	2490	2840	1740	2170	3780	3100	3340
27	7640	2940	5630	3580	2460	3030	e2160	1660	1900	3660	3220	3360
28	4960	2580	3370	3020	2200	2710	1840	1660	1740	4040	3360	3690
29	e5080	e1650	e2760	2310	1200	1800	1920	1720	1820	4520	3900	4290
30	---	---	---	1350	809	975	1960	1380	1730	4440	4200	4350
31	---	---	---	1140	953	1040	---	---	---	4940	4360	4600
MONTH	7640	1650	4720	6230	553	2570	4460	678	1780	5410	861	3220
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	4780	4160	4650	1020	921	938	---	---	---	2720	2420	2590
2	4660	4220	4550	1040	921	963	---	---	---	2560	2380	2450
3	4580	3940	4430	3260	901	1630	---	---	---	2380	1800	2100
4	4200	e3240	e3880	1500	1280	1430	---	---	---	2040	1680	1830
5	4720	3300	4090	1660	1340	1440	---	---	---	1900	1720	1810
6	5170	4100	4740	1640	1520	1560	---	---	---	2680	1720	2270
7	4920	4260	4480	1580	1460	1510	---	---	---	2360	1920	2070
8	4260	3660	3950	1640	1500	1580	---	---	---	2320	2100	2190
9	3740	3240	3480	1680	1480	1590	---	---	---	2600	2300	2460
10	3720	3320	3530	1560	1360	1420	---	---	---	2700	2520	2620
11	4220	3680	3890	1380	1280	1330	---	---	---	2620	2480	2560
12	e3800	e3300	e3490	1340	1240	1290	641	420	495	2600	2480	2540
13	3340	2740	3090	1280	1160	1230	581	460	514	2800	2500	2580
14	3040	2140	2580	1220	1140	1180	1260	480	601	2840	2500	2600
15	2540	2040	2250	1180	1120	1150	5550	681	2770	2580	2420	2530
16	2280	2100	2210	1120	1080	1110	7030	5170	6220	2460	2260	2410
17	2240	1920	2090	2000	1080	1390	6210	4820	5650	2280	2000	2200
18	2080	1420	1710	1520	1200	1320	6190	5390	5660	2000	1800	1920
19	1460	1020	1250	1300	1200	1230	5670	4900	5270	1840	1220	1440
20	1180	1000	1090	1280	1200	1250	5550	4640	4860	1320	1240	1270
21	1220	1060	1130	1240	1140	1180	5310	4620	4860	1400	1280	1330
22	1300	1060	1180	1140	1040	1090	4800	3960	4240	1400	1300	1360
23	1180	1020	1090	1060	961	1030	3980	3740	3840	1400	1260	1370
24	1140	781	914	3380	1000	1100	3800	3700	3750	8090	1380	3430
25	1120	741	911	---	---	---	3760	3500	3650	10600	8090	9110
26	1120	861	981	---	---	---	3640	3520	3560	13100	10200	12100
27	1040	801	908	---	---	---	3660	3520	3570	11800	9770	10900
28	1220	901	999	---	---	---	3680	3520	3590	9770	8810	9220
29	1100	861	951	---	---	---	3540	3300	3460	8970	7810	8270
30	961	881	903	---	---	---	3340	3040	3250	8430	7190	7850
31	---	---	---	---	---	---	3040	2620	2830	---	---	---
MONTH	5170	741	2510	---	---	---	---	---	---	13100	1220	3650

e Estimated

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.9	18.8	19.7	15.1	14.4	14.7	12.0	9.0	9.6	4.0	2.5	3.2
2	21.6	19.5	20.4	15.3	14.3	14.8	9.4	8.4	9.0	6.4	2.5	4.0
3	22.0	19.9	20.7	14.3	12.7	13.4	9.4	8.2	8.8	6.4	4.4	5.2
4	22.7	20.1	21.2	13.2	10.8	11.7	8.9	5.7	7.4	e8.1	e5.7	e6.5
5	22.0	20.6	21.3	10.8	8.7	9.8	6.0	5.1	5.4	6.4	5.7	5.9
6	21.4	16.3	19.4	11.8	9.4	10.5	5.6	4.9	5.2	5.9	4.9	5.4
7	17.7	15.2	16.4	11.4	9.5	10.7	5.6	3.9	4.8	5.3	4.4	4.8
8	17.9	16.1	17.0	10.5	9.0	9.6	7.0	5.0	5.7	5.1	4.0	4.7
9	17.8	16.1	17.1	10.2	6.5	8.3	7.1	5.8	6.4	5.1	4.3	4.8
10	18.5	16.6	17.6	10.4	7.7	8.7	7.0	5.8	6.5	5.5	4.0	5.0
11	18.0	16.5	17.2	10.1	9.2	9.8	6.6	5.8	6.2	5.0	4.3	4.6
12	17.7	15.5	16.7	9.2	7.4	8.8	6.9	4.3	6.2	5.0	3.8	4.5
13	17.3	15.0	16.4	9.1	6.9	8.5	7.3	6.7	7.0	5.3	4.4	4.9
14	16.8	15.1	16.0	9.2	7.9	8.6	9.7	6.0	7.6	6.7	4.4	5.7
15	16.8	15.9	16.4	9.8	8.5	9.1	e6.0	e4.0	e5.0	e4.4	e2.8	e3.3
16	16.7	14.4	15.9	12.2	8.9	10.0	e4.0	e1.1	e2.1	3.5	.4	1.8
17	e14.4	e13.6	e13.9	9.1	7.9	8.5	3.6	1.1	2.5	1.6	.4	.7
18	16.4	13.7	14.8	9.2	7.6	8.3	e3.6	e1.0	e2.8	1.4	.4	.5
19	16.3	13.5	15.2	10.0	8.4	9.1	e1.0	e.3	e.4	.4	.4	.4
20	e14.8	e12.4	e13.7	12.7	8.1	10.0	1.5	.3	.5	.4	.4	.4
21	15.2	13.4	14.3	12.5	10.8	11.6	3.1	.5	2.0	.4	.4	.4
22	15.3	13.6	14.5	14.8	11.6	12.2	2.8	1.1	2.0	.8	.4	.4
23	16.3	14.1	15.0	e12.6	e11.7	e12.1	2.8	1.6	2.1	1.8	.4	1.1
24	16.8	14.7	15.6	11.9	9.8	11.3	2.7	1.5	2.2	1.8	.3	1.2
25	17.0	14.9	15.9	9.8	7.4	8.6	2.7	1.5	2.0	.3	.3	.3
26	17.0	15.3	16.2	e8.2	e6.8	e7.7	2.5	1.7	2.0	.3	.3	.3
27	17.1	15.4	16.5	e7.6	e6.7	e7.2	3.1	2.1	2.5	.9	.3	.5
28	e16.7	e15.1	e16.0	7.7	6.4	7.1	3.0	1.9	2.4	1.9	.3	.9
29	15.6	13.3	14.9	8.4	7.2	7.6	4.6	2.5	3.4	2.0	.8	1.3
30	14.9	13.6	14.4	12.9	7.5	9.0	4.6	2.4	3.7	2.4	.6	1.4
31	15.5	13.8	14.7	---	---	---	4.0	1.3	2.4	2.5	1.7	2.0
MONTH	22.7	12.4	16.6	15.3	6.4	9.9	12.0	.3	4.4	8.1	.3	2.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	.4	1.3	5.8	2.7	4.3	9.8	7.9	9.0	17.5	14.6	16.1
2	1.1	.2	.4	e7.5	e4.2	e5.6	9.1	6.9	8.1	18.4	15.9	17.1
3	1.9	.2	1.0	6.6	5.4	5.9	8.3	5.0	6.9	19.7	17.0	18.2
4	1.8	.9	1.4	6.2	4.7	5.6	9.0	6.3	7.7	18.2	15.7	16.6
5	1.5	.3	1.0	6.9	5.3	5.9	9.3	6.9	7.9	15.8	14.9	15.3
6	1.9	.7	1.3	6.6	6.1	6.3	10.1	6.8	8.4	16.0	13.3	14.8
7	2.1	.6	1.3	6.8	6.2	6.4	10.4	8.5	9.6	14.6	11.5	13.0
8	1.7	1.2	1.5	8.1	6.4	7.2	12.2	9.3	10.5	13.4	11.2	12.2
9	1.2	.1	.5	9.5	7.2	8.3	11.2	9.9	10.7	14.6	13.4	13.9
10	1.1	.1	.3	8.8	7.9	8.5	12.7	10.3	11.3	16.9	13.7	15.1
11	2.7	.3	1.4	9.1	5.3	7.9	14.2	11.1	12.5	18.8	14.4	16.2
12	e2.1	e.5	e1.1	7.1	2.4	5.4	13.8	11.5	12.5	18.7	14.8	16.2
13	.8	.5	.6	e6.4	e2.4	e4.9	e12.5	e8.6	e10.8	18.6	16.2	17.2
14	3.0	.5	1.6	5.9	2.7	4.2	13.7	10.3	11.8	20.8	17.2	18.8
15	4.3	1.7	2.3	5.5	3.6	4.4	13.5	10.9	12.2	19.5	17.9	18.4
16	4.2	2.6	3.3	e4.9	e1.6	e3.2	12.5	11.3	11.6	17.9	16.8	17.2
17	4.3	2.1	3.2	5.6	3.0	4.2	13.4	10.8	12.1	18.9	16.3	17.6
18	4.8	3.2	3.6	5.3	3.1	4.5	13.1	11.1	11.7	18.7	17.6	18.1
19	5.1	3.6	4.0	4.8	3.4	4.0	11.1	10.1	10.6	20.1	16.1	18.1
20	4.5	3.6	4.1	5.5	3.1	4.4	12.7	10.3	11.2	20.0	16.2	18.2
21	5.2	3.5	4.1	5.5	3.2	4.5	13.2	11.6	12.3	20.2	17.3	18.8
22	e6.1	e3.7	e4.8	5.0	3.9	4.6	15.3	13.0	13.9	21.9	18.5	20.2
23	6.5	4.6	5.6	5.8	4.0	4.8	17.2	14.1	15.5	23.0	19.8	21.4
24	5.9	5.1	5.6	6.1	3.2	4.8	16.8	15.4	16.0	24.3	20.0	22.0
25	5.1	4.4	4.6	6.8	4.5	5.7	17.3	14.9	16.0	20.0	17.3	18.5
26	4.9	4.4	4.6	7.1	5.7	6.2	15.5	14.5	15.0	18.5	17.5	18.1
27	5.4	4.0	4.6	7.4	5.9	6.7	15.5	14.1	14.7	19.5	17.3	18.2
28	6.4	4.5	5.4	8.8	5.5	6.7	16.0	13.8	14.7	20.9	17.4	19.0
29	e5.9	e4.4	e4.8	9.5	4.7	6.8	17.0	13.8	15.0	20.9	18.1	19.5
30	---	---	---	8.8	6.1	7.6	15.7	14.5	15.1	19.4	18.3	18.6
31	---	---	---	10.1	7.5	8.7	---	---	---	20.3	18.3	19.1
MONTH	6.5	.1	2.7	10.1	1.6	5.7	17.3	5.0	11.8	24.3	11.2	17.5

e Estimated

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.9	18.3	19.1	26.3	24.7	25.4	---	---	---	25.4	22.6	24.2
2	21.3	18.3	19.7	26.3	23.2	24.8	---	---	---	24.2	22.8	23.6
3	22.1	19.4	20.7	25.0	23.7	24.2	---	---	---	24.3	23.5	23.8
4	21.6	20.0	21.0	25.7	23.4	24.5	---	---	---	25.6	23.5	24.5
5	20.8	19.9	20.2	25.8	23.8	24.9	---	---	---	24.9	23.2	24.2
6	22.2	19.9	21.0	26.2	24.4	25.1	---	---	---	23.4	22.6	22.9
7	23.7	21.1	22.2	27.3	24.1	25.6	---	---	---	23.9	22.4	23.1
8	24.9	22.4	23.6	27.5	24.5	25.7	---	---	---	25.4	23.1	23.9
9	25.6	23.5	24.4	27.1	25.0	26.0	---	---	---	26.1	23.6	24.8
10	25.7	22.3	24.0	28.6	25.6	27.0	---	---	---	25.7	24.4	25.0
11	25.3	22.1	23.8	29.2	26.1	27.6	---	---	---	25.7	23.4	24.6
12	25.7	22.7	24.3	28.2	26.7	27.5	27.9	25.3	26.6	24.4	21.3	22.9
13	25.7	23.5	24.7	28.7	26.7	27.6	26.8	24.7	25.7	24.6	21.6	23.2
14	26.0	23.7	25.0	29.1	26.8	28.1	25.0	23.5	24.5	24.4	22.2	23.3
15	27.3	24.3	25.7	29.3	27.5	28.4	24.3	22.4	23.0	24.8	22.1	23.5
16	26.6	24.1	25.3	28.9	26.9	27.9	23.0	21.3	22.4	24.7	22.9	23.8
17	26.4	24.1	25.2	28.5	26.8	27.6	23.2	22.5	22.9	25.1	22.9	24.0
18	25.4	24.0	24.7	28.3	27.0	27.6	24.9	22.6	23.5	25.5	23.7	24.6
19	24.7	23.6	24.2	28.9	26.6	27.7	25.2	23.3	24.2	24.7	22.7	23.9
20	25.3	22.6	24.2	29.4	27.3	28.4	26.1	23.0	24.5	24.7	21.3	23.0
21	24.1	21.2	22.7	30.6	27.9	29.0	25.8	23.0	24.4	23.8	22.7	23.2
22	22.5	20.3	21.4	28.6	26.1	27.2	26.1	23.6	24.8	24.7	23.1	23.7
23	23.6	20.8	22.3	27.5	26.4	26.9	26.9	23.9	25.2	23.9	17.5	21.6
24	23.1	21.8	22.3	26.8	24.1	25.3	27.4	24.3	25.4	21.2	15.5	18.1
25	24.3	21.4	22.7	---	---	---	26.9	24.6	25.7	20.4	17.7	18.6
26	25.4	22.5	23.7	---	---	---	28.3	25.3	26.7	20.4	18.1	19.6
27	26.0	23.1	24.4	---	---	---	28.3	25.9	27.1	20.4	19.8	20.0
28	26.1	22.9	24.5	---	---	---	27.7	26.0	26.8	20.0	19.6	19.8
29	26.2	23.4	24.8	---	---	---	26.0	23.8	24.7	19.6	17.5	18.6
30	26.3	23.9	25.1	---	---	---	25.0	22.9	24.1	17.9	16.3	17.2
31	---	---	---	---	---	---	25.3	23.9	24.5	---	---	---
MONTH	27.3	18.3	23.2	---	---	---	---	---	---	26.1	15.5	22.6

01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD

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

DRAINAGE AREA.--9.03 mi^2.

PERIOD OF RECORD.--June 1967 to March 1992 (Discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 215 ft above National Geodetic Vertical Datum of 1929, 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 PERIOD.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0215	*386	*4.53	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1991 TO MARCH 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.6	3.9	5.6	5.3	6.5	---	---	---	---	---	---
2	2.0	2.7	21	5.7	5.1	6.5	---	---	---	---	---	---
3	2.0	2.6	53	5.6	5.0	6.2	---	---	---	---	---	---
4	2.0	2.5	18	6.4	5.0	6.2	---	---	---	---	---	---
5	2.0	2.6	7.3	6.1	5.0	6.0	---	---	---	---	---	---
6	2.6	2.6	6.5	5.5	e4.9	6.1	---	---	---	---	---	---
7	2.4	2.6	5.7	5.2	4.9	54	---	---	---	---	---	---
8	2.2	2.7	5.4	5.0	e4.8	14	---	---	---	---	---	---
9	2.2	2.6	6.3	5.5	4.8	9.2	---	---	---	---	---	---
10	2.3	2.9	34	5.6	e4.8	9.8	---	---	---	---	---	---
11	3.0	4.1	7.9	5.2	e4.7	22	---	---	---	---	---	---
12	3.5	3.3	6.7	5.0	4.7	9.6	---	---	---	---	---	---
13	2.8	3.3	7.1	5.0	4.6	8.2	---	---	---	---	---	---
14	2.7	2.9	7.6	16	5.2	7.7	---	---	---	---	---	---
15	2.8	2.9	7.5	8.2	13	7.4	---	---	---	---	---	---
16	3.2	2.9	7.5	6.3	23	6.8	---	---	---	---	---	---
17	11	2.7	5.9	e5.9	8.5	7.0	---	---	---	---	---	---
18	5.3	2.6	5.3	5.3	11	7.2	---	---	---	---	---	---
19	2.9	2.7	5.0	e5.2	11	19	---	---	---	---	---	---
20	2.7	2.7	e5.0	e5.2	8.6	12	---	---	---	---	---	---
21	3.0	2.7	5.2	e5.1	7.2	8.8	---	---	---	---	---	---
22	3.1	24	5.1	e5.1	6.7	8.2	---	---	---	---	---	---
23	2.8	13	5.1	8.3	6.5	9.8	---	---	---	---	---	---
24	3.0	4.9	5.1	13	6.3	9.0	---	---	---	---	---	---
25	2.7	3.8	4.8	6.8	6.4	7.9	---	---	---	---	---	---
26	2.8	3.4	4.7	6.1	23	52	---	---	---	---	---	---
27	2.8	3.3	4.8	e5.8	9.5	102	---	---	---	---	---	---
28	3.0	3.2	4.7	5.6	7.8	15	---	---	---	---	---	---
29	2.4	3.2	15	5.6	7.1	11	---	---	---	---	---	---
30	2.5	3.2	8.1	5.4	---	10	---	---	---	---	---	---
31	2.6	---	6.1	5.5	---	11	---	---	---	---	---	---
TOTAL	92.4	121.2	295.3	195.8	224.4	476.1	---	---	---	---	---	---
MEAN	2.98	4.04	9.53	6.32	7.74	15.4	---	---	---	---	---	---
MAX	11	24	53	16	23	102	---	---	---	---	---	---
MIN	2.0	2.5	3.9	5.0	4.6	6.0	---	---	---	---	---	---
CFSM	.33	.45	1.05	.70	.86	1.70	---	---	---	---	---	---
IN.	.38	.50	1.22	.81	.92	1.96	---	---	---	---	---	---

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1992, BY WATER YEAR (WY)

MEAN	6.94	9.52	15.0	16.6	16.6	16.3	15.6	14.4	12.0	9.13	8.54	7.17
MAX	18.9	24.9	35.5	48.8	35.4	43.7	38.3	34.9	47.6	49.4	44.9	21.0
(WY)	1972	1973	1984	1978	1979	1978	1983	1989	1972	1975	1967	1979
MIN	2.74	3.41	5.03	4.66	7.74	5.65	5.94	5.06	2.96	2.03	2.28	1.17
(WY)	1987	1982	1981	1981	1992	1981	1985	1986	1986	1986	1986	1986

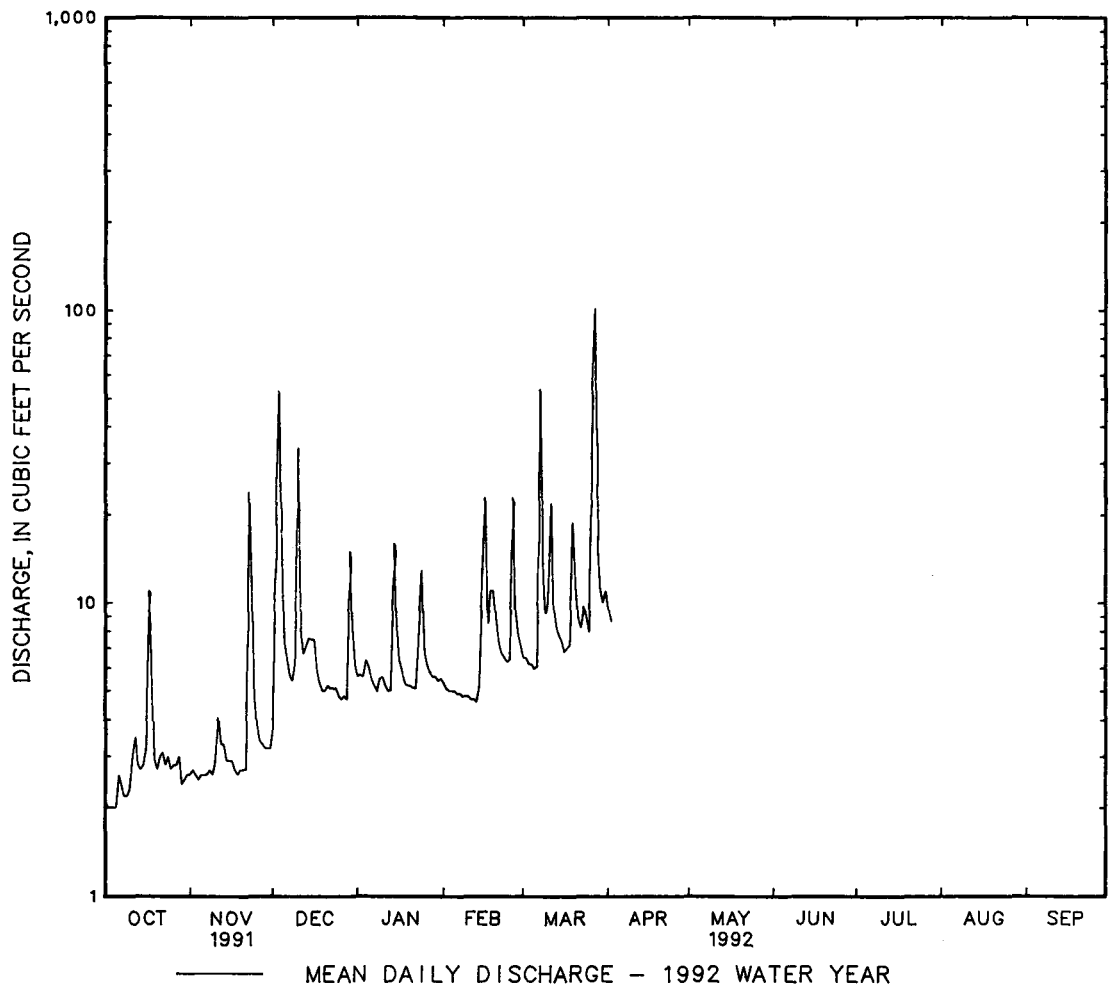
01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		WATER YEARS 1967 - 1991	
ANNUAL TOTAL	2956.6			
ANNUAL MEAN	8.10		12.3	
HIGHEST ANNUAL MEAN			20.8	1975
LOWEST ANNUAL MEAN			5.66	1981
HIGHEST DAILY MEAN	176	Jan 12	933	Jun 22 1972
LOWEST DAILY MEAN	1.4	(a)	.86	Sep 15 1986
ANNUAL SEVEN-DAY MINIMUM	1.5	Aug 29	.91	Sep 12 1986
INSTANTANEOUS PEAK FLOW	631	Jan 12	b7060	Aug 4 1969
INSTANTANEOUS PEAK STAGE	5.29	Jan 12	9.26	Aug 4 1969
INSTANTANEOUS LOW FLOW	1.4	(c)	.79	Sep 16 1986
ANNUAL RUNOFF (CFSM)	.90		1.37	
ANNUAL RUNOFF (INCHES)	12.18		18.55	
10 PERCENT EXCEEDS	15		19	
50 PERCENT EXCEEDS	5.1		7.3	
90 PERCENT EXCEEDS	2.0		3.0	

a Sept. 1-4.

b From rating curve extended above 600 ft^3/s on basis of slope-area measurements at gage heights 8.89 and 9.26 ft.

c Sept. 1-4, 13, 14.



01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD

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

DRAINAGE AREA.--27,100 mi^2.

WATER-DISCHARGE RECORDS

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

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

REMARKS.--No estimated daily discharge. 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, 197,000 ft^3/s, March 30, gage height, 21.22 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

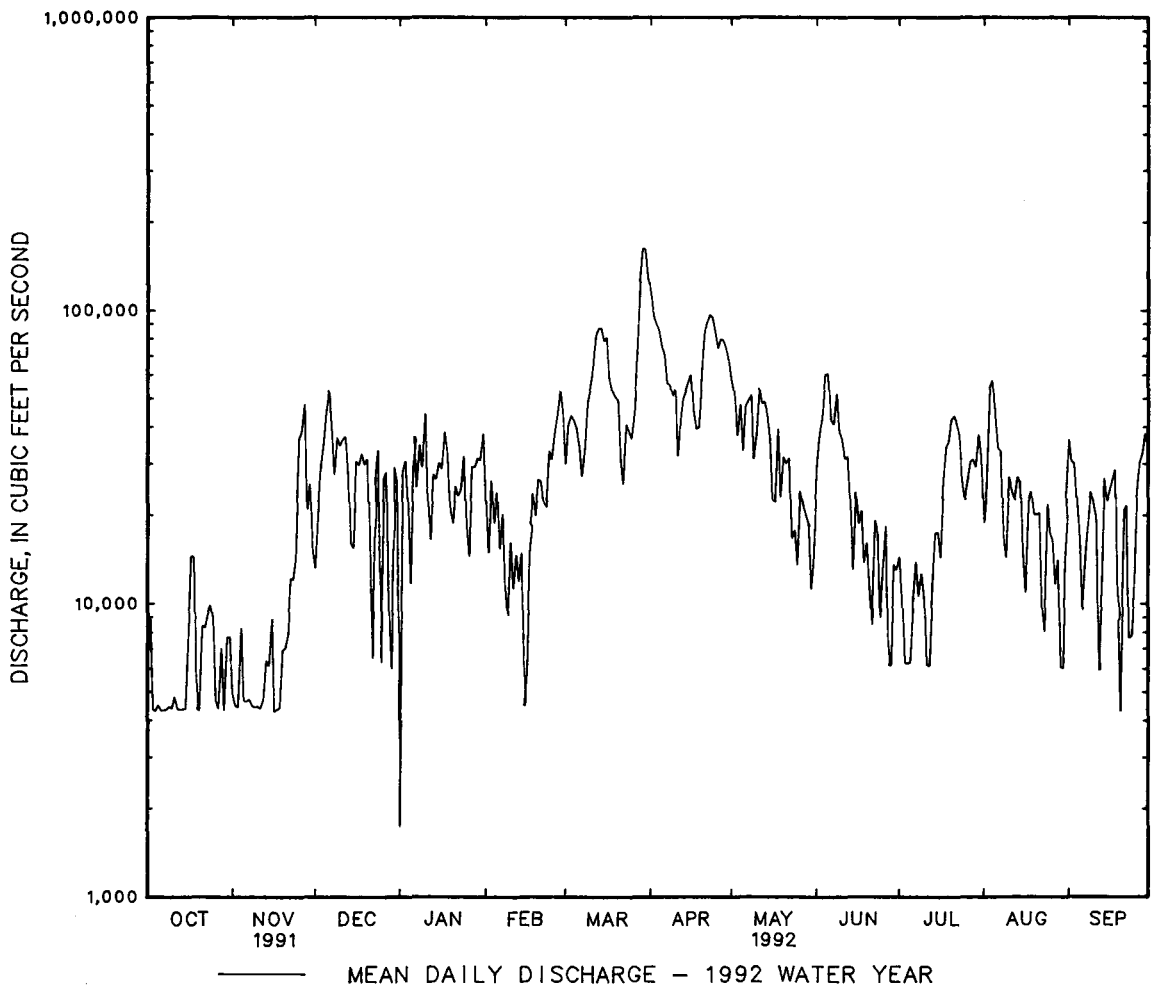
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6170	4840	13200	1730	22300	29800	113000	57500	29500	14400	18800	35900
2	8890	4480	20700	28100	14800	41200	94800	51400	38600	10400	24900	30600
3	4350	4430	29100	30700	26300	43900	88400	37400	43400	6250	54400	29900
4	4310	8300	34600	21400	18800	42000	84800	47700	60300	6230	57600	21600
5	4520	4650	45500	11700	24000	39600	75000	33100	60700	6290	43100	16800
6	4330	4620	53700	37200	15300	34100	70600	47600	42000	10400	33700	9460
7	4320	4720	39100	24800	20200	27200	56200	49100	40600	13900	32900	14300
8	4340	4480	27500	34800	11300	33100	55500	51400	52100	10600	16600	19200
9	4460	4430	36900	29100	9090	48900	51100	31400	38200	12700	14300	24200
10	4380	4450	34400	44500	16200	54000	53600	37500	36500	10500	27100	21700
11	4820	4390	36300	22100	11200	62300	31800	54200	31100	6160	24300	19300
12	4370	4680	37200	16500	14700	82100	41600	48000	31600	6110	22500	5910
13	4340	6410	28000	27700	11900	86800	50200	48600	22400	11400	26800	11200
14	4360	6120	15900	26500	14900	86700	53400	44000	13000	17500	26000	26800
15	4370	8820	15400	30300	4510	78400	56600	36700	24100	17500	14800	22300
16	7980	4270	30600	28800	5840	80500	60300	22400	18700	14300	10900	24100
17	14600	4360	29700	38600	18700	57300	44400	22200	20600	25600	22300	26500
18	14300	4400	32500	32700	23800	52900	39600	39400	13800	34100	24200	28700
19	4380	6950	29700	20800	19900	50600	39800	23000	16200	35500	20100	8740
20	4310	7020	31100	18700	26600	49200	58000	31600	11500	42600	20100	4320
21	8460	7820	16800	25200	26100	31200	83000	30000	8460	43600	20200	20800
22	8320	12200	6480	23200	22000	25500	91200	31400	19300	40900	9680	21600
23	9290	12100	27200	24400	21300	41000	96900	16700	17300	37100	8020	7580
24	9880	14800	33400	32000	33300	38700	94700	17900	8910	25700	21800	7700
25	8840	36600	6270	18000	31000	36500	84500	13500	13300	22700	17300	11500
26	4630	38500	26600	14400	38200	44500	74200	24300	18400	26300	16500	24200
27	4370	48100	28100	29200	44300	71100	79900	21700	6160	30500	11600	30700
28	7020	20900	9040	29300	53200	128000	78900	19900	6140	30900	14100	32400
29	4310	25600	5980	31300	44400	163000	74100	18600	13600	29200	6040	38200
30	7650	15000	29300	31000	---	161000	66800	11200	13000	37700	6000	34500
31	7650	---	25800	38100	---	127000	---	14700	---	31500	22700	---
TOTAL	198320	338440	836070	822830	644140	1948100	2042900	1034100	769470	668540	689340	630710
MEAN	6397	11280	26970	26540	22210	62840	68100	33360	25650	21570	22240	21020
MAX	14600	48100	53700	44500	53200	163000	113000	57500	60700	43600	57600	38200
MIN	4310	4270	5980	1730	4510	25500	31800	11200	6140	6110	6000	4320
CFSM	.24	.42	1.00	.98	.82	2.32	2.51	1.23	.95	.80	.82	.78
IN.	.27	.46	1.15	1.13	.88	2.67	2.80	1.42	1.06	.92	.95	.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

MEAN	24140	34930	48760	38270	54500	71820	74470	49500	38360	21290	13520	16620
MAX	81800	73170	104700	101200	115800	142800	138700	108200	208000	59050	28820	88450
(WY)	1977	1978	1973	1979	1984	1979	1970	1989	1972	1972	1984	1975
MIN	5557	9803	14630	7164	13050	28320	36670	23900	8656	6107	5927	4737
(WY)	1970	1981	1990	1981	1980	1969	1988	1982	1991	1991	1991	1980

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1968 - 1992	
ANNUAL TOTAL	10827810		10622960			
ANNUAL MEAN	29670		29020		40800	
HIGHEST ANNUAL MEAN					61090	1978
LOWEST ANNUAL MEAN					26570	1981
HIGHEST DAILY MEAN	199000	Jan 2	163000	Mar 29	1120000	Jun 24 1972
LOWEST DAILY MEAN	3810	Aug 7	1730	Jan 1	269	Jul 13 1969
ANNUAL SEVEN-DAY MINIMUM	4310	Sep 17	4380	Oct 3	1810	Sep 24 1980
INSTANTANEOUS PEAK FLOW	246000	Jan 2	197000	Mar 30	1130000	Jun 24 1972
INSTANTANEOUS PEAK STAGE	22.63	Jan 2	21.22	Mar 30	36.83	Jun 24 1972
INSTANTANEOUS LOW FLOW	850	Dec 15	783	Feb 8	144	Mar 2 1969
ANNUAL RUNOFF (CFSM)	1.09		1.07		1.51	
ANNUAL RUNOFF (INCHES)	14.86		14.58		20.46	
10 PERCENT EXCEEDS	70300		55700		84600	
50 PERCENT EXCEEDS	15000		24200		27700	
90 PERCENT EXCEEDS	4460		5890		5690	



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

WATER-QUALITY RECORDS

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

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

REMARKS.--Water temperatures were measured daily in field by local observer at time of sampling. Missing water temperature and conductance data during periods when observer failed to take samples.

COOPERATION.--Some chemical data were collected by the U. S. Geological Survey and analyzed by the Pennsylvania Department of Environmental Resources Laboratory **(PADER)**.

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

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 461 microsiemens, Oct. 1; minimum daily, 140 microsiemens, Mar. 16.
WATER TEMPERATURE: Maximum daily, 29.0°C, July 17-22; minimum daily, 3.0°C, Dec. 25.
SEDIMENT CONCENTRATION: Maximum daily mean, 88 mg/L, Mar. 29; minimum daily mean, 1 mg/L, Nov. 1-3, 10, 11, Dec. 22-24, 27, 30, 31.
SEDIMENT LOAD: Maximum daily, 38,700 tons, Mar. 29; minimum daily, 12 tons, Oct. 13, Nov. 2, 3, 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 1991												
09...	1030	4300	400	7.6	20.0	15.0	774	--	6.1	66	--	--
30...	1030	10600	410	7.8	16.0	17.0	771	3.1	9.0	90	K14	K3
NOV												
13...	1035	4700	420	7.8	11.0	16.0	766	--	9.5	86	--	--
DEC												
05...	1100	77900	300	7.5	7.0	5.0	775	--	10.6	86	--	--
JAN 1992												
08...	1300	33300	263	7.8	4.0	18.0	770	--	13.5	102	--	--
15...	1115	55800	245	7.8	4.0	6.0	764	3.2	13.6	104	10	10
MAR												
04...	1330	31800	230	8.0	6.0	7.0	772	5.0	13.4	106	K18	K9
06...	1200	33100	213	--	12.0	12.0	--	--	--	--	--	--
12...	1000	77600	227	7.4	7.0	6.0	758	--	12.0	99	--	--
14...	1400	87900	188	6.9	6.0	8.0	762	--	12.8	103	--	--
15...	1315	77900	173	7.2	6.0	8.0	764	--	13.3	107	--	--
15...	1430	77900	173	7.2	6.0	8.0	764	--	13.3	107	--	--
16...	1300	80100	172	7.1	5.0	4.0	771	--	13.2	102	--	--
29...	1700	166000	223	7.2	7.0	17.0	764	--	12.5	103	--	--
30...	1330	169000	208	7.5	8.0	17.0	762	--	12.8	108	--	--
31...	1400	120000	174	7.1	7.0	16.0	759	--	12.7	105	--	--
APR												
01...	1200	111000	175	7.2	7.0	17.0	756	--	12.8	106	--	--
03...	1145	88500	176	7.5	7.0	8.0	758	--	12.3	102	--	--
22...	1230	87700	188	7.1	13.0	22.0	764	--	10.8	102	--	--
24...	1100	88700	178	7.7	13.0	21.0	759	--	10.3	98	--	--
MAY												
12...	1130	66300	218	7.5	16.0	20.0	768	4.2	10.1	102	23	K2
19...	1000	9160	208	7.8	19.5	17.0	--	--	--	--	--	--
JUN												
19...	1345	22800	205	7.4	26.0	23.0	--	--	5.9	--	--	--
JUL												
07...	1100	8700	272	7.6	26.0	25.0	765	3.4	6.9	85	K7	29
15...	1300	12300	310	7.4	28.0	33.0	758	--	5.2	67	--	--
AUG												
03...	1100	52200	215	--	26.0	27.0	764	--	7.4	91	--	--
SEP												
02...	1030	36400	272	7.8	26.0	21.0	770	3.0	6.6	81	30	100

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

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT 1991												
09...	--	--	--	--	63	--	--	--	--	--	1.9	--
30...	38	14	22	3.4	67	67	82	87	32	0.20	0.88	234
NOV												
13...	--	--	--	--	75	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	57	--	--	--	--	--	3.4	--
JAN 1992												
08...	--	--	--	--	55	--	--	--	--	--	4.2	--
15...	23	5.9	9.9	1.6	--	46	56	39	15	0.10	3.8	135
MAR												
04...	22	5.5	8.8	1.9	41	39	48	29	13	<0.10	3.8	130
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	26	--	--	--	--	--	3.8	--
14...	--	--	--	--	33	--	--	--	--	--	4.4	--
15...	--	--	--	--	32	--	--	--	--	--	4.1	--
15...	--	--	--	--	32	--	--	--	--	--	--	--
16...	--	--	--	--	28	--	--	--	--	--	4.8	--
29...	18	4.7	6.3	1.8	--	32	39	27	11	0.20	4.5	--
30...	18	4.2	7.5	1.4	--	23	28	26	14	0.20	0.31	--
31...	15	3.7	5.6	1.5	--	30	36	23	10	0.20	4.5	--
APR												
01...	--	--	--	--	--	28	34	--	--	--	4.7	--
03...	16	4.2	6.2	1.4	--	28	34	27	11	0.10	5.0	--
22...	19	5.1	6.2	1.3	--	27	33	32	12	<0.10	4.1	--
24...	16	4.2	6.0	1.5	--	34	41	26	11	<0.10	4.2	--
MAY												
12...	22	5.2	7.6	1.4	--	46	56	30	13	0.20	3.4	110
19...	21	5.3	7.8	1.5	--	--	--	31	12	<0.10	--	--
JUN												
19...	20	5.8	7.7	1.2	41	--	--	31	12	<0.10	--	--
JUL												
07...	26	7.6	12	1.8	--	53	65	43	18	0.10	1.3	136
15...	28	9.3	13	1.7	--	59	72	49	21	0.10	1.2	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	4.7	--
SEP												
02...	26	7.3	11	1.9	--	53	65	43	16	0.12	0.95	141

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
OCT 1991												
09...	--	0.857	--	0.143	--	1.00	--	0.060	0.40	0.30	--	0.050
30...	243	1.08	0.030	0.023	1.10	1.10	0.140	0.140	0.60	0.50	1.7	0.050
NOV												
13...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	--	1.48	--	0.017	--	1.50	--	0.150	0.50	0.50	--	0.050
JAN 1992												
08...	--	1.58	--	0.023	--	1.60	--	0.110	0.40	0.20	--	0.030
15...	133	1.49	0.020	0.013	1.40	1.50	0.100	0.090	0.30	0.20	1.7	0.040
MAR												
04...	120	2.65	0.060	0.050	2.80	2.70	0.230	0.250	0.60	0.20	3.4	0.100
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	1.48	--	0.017	--	1.50	--	0.070	0.30	0.20	--	0.020
14...	--	1.48	--	0.016	--	1.50	--	0.100	0.30	0.20	--	0.040
15...	--	1.49	--	0.013	--	1.50	--	0.110	0.40	<0.20	--	0.050
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	1.40	--	0.005	--	1.40	--	0.080	0.30	<0.20	--	<0.010
29...	104	2.28	--	0.016	--	2.30	--	0.090	0.40	0.30	--	0.070
30...	86	--	--	0.016	--	--	--	0.090	0.60	0.30	--	0.090
31...	89	1.58	--	0.015	--	1.60	--	0.060	0.50	<0.20	--	0.110
APR												
01...	--	1.78	--	0.015	--	1.80	--	0.070	0.40	<0.20	--	0.080
03...	95	1.47	--	0.026	--	1.50	--	0.040	0.20	<0.20	--	0.010
22...	101	1.08	--	0.015	--	1.10	--	0.080	<0.20	0.30	--	0.030
24...	94	0.986	--	0.014	--	1.00	--	0.100	0.40	0.40	--	0.080
MAY												
12...	115	0.985	0.020	0.015	1.00	1.00	0.030	0.050	<0.20	--	--	0.010
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	102	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	146	0.742	0.060	0.058	0.800	0.800	0.140	0.150	0.40	--	1.2	0.030
15...	163	0.748	--	0.132	--	0.880	--	0.050	0.20	<0.20	--	0.020
AUG												
03...	--	1.08	--	0.018	--	1.10	--	0.040	0.30	<0.20	--	0.020
SEP												
02...	--	0.601	0.020	0.019	0.630	0.620	0.090	0.090	0.20	<0.20	0.83	0.020

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT 1991												
09...	0.010	--	<0.001	20	<1	--	<100	<1	<1	3	--	1
30...	0.007	0.020	<0.001	10	--	38	--	--	--	--	<3	--
NOV												
13...	--	--	--	<10	1	--	<100	<1	<1	<1	--	<1
DEC												
05...	0.018	--	0.014	10	--	--	--	--	--	--	--	--
JAN 1992												
08...	0.016	--	0.011	10	--	--	--	--	--	--	--	--
15...	0.026	0.020	0.007	10	--	--	--	--	--	--	--	--
MAR												
04...	0.033	0.080	0.027	20	--	25	--	--	--	--	<3	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	0.013	--	0.007	20	--	--	--	--	--	--	--	--
14...	0.018	--	0.010	30	<1	--	<100	<1	<1	<1	--	2
15...	0.011	--	0.007	20	<1	--	<100	<1	<1	2	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	0.010	--	0.007	30	<1	--	<100	<1	<1	1	--	--
29...	0.024	--	0.013	70	<1	--	--	<1	--	1	--	--
30...	0.014	--	0.009	50	<1	--	--	<1	--	1	--	--
31...	0.015	--	0.008	30	<1	--	--	<1	--	3	--	--
APR												
01...	0.035	--	0.008	20	--	--	--	--	--	--	--	--
03...	0.012	--	0.005	20	<1	--	--	<1	--	<1	--	--
22...	0.014	--	0.009	110	<1	--	--	<1	--	3	--	--
24...	0.014	--	0.012	230	<1	--	--	<1	--	<1	--	--
MAY												
12...	0.007	0.010	0.005	20	<1	28	--	<1	--	<1	<3	--
19...	--	--	--	80	<1	--	--	<1	--	<1	--	--
JUN												
19...	--	--	--	70	<1	--	--	<1	--	<1	--	--
JUL												
07...	0.006	<0.010	<0.001	10	--	--	--	--	--	--	--	--
15...	0.005	--	0.001	20	<1	--	--	<1	--	3	--	--
AUG												
03...	0.008	--	<0.001	30	--	--	--	--	--	--	--	--
SEP												
02...	0.018	<0.010	0.007	37	<1	27	--	<1	--	2	<3	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)
OCT 1991												
09...	6	380	--	<1	3	--	<10	--	90	<0.10	--	2
30...	--	--	<3	--	--	8	--	7	--	--	<10	4
NOV												
13...	--	250	--	<1	7	--	<10	--	120	<0.10	--	3
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	44	--	--	6	--	100	--	--	<10	4
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	3	1100	--	<1	10	--	<10	--	25	<0.10	--	4
15...	<1	900	--	<1	1	--	<10	--	170	<0.10	--	4
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	<1	640	--	<1	2	--	<10	--	140	<0.10	--	4
29...	3	--	480	--	4	--	--	--	--	<0.10	--	--
30...	2	--	55	--	3	--	--	--	--	0.50	--	--
31...	2	--	810	--	3	--	--	--	--	0.20	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	1	--	410	--	1	--	--	--	--	<0.10	--	--
22...	2	--	290	--	1	--	--	--	--	<0.10	--	--
24...	2	--	430	--	2	--	--	--	--	<0.10	--	--
MAY												
12...	1	--	42	--	<1	<4	--	160	--	<0.10	<10	8
19...	2	--	300	--	<1	--	--	--	--	<0.10	--	--
JUN												
19...	1	--	120	--	<1	--	--	--	--	<0.10	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	1	--	4	--	<1	--	--	--	--	<0.10	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	1	--	6	--	1	5	--	6	--	<0.10	<10	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 1991												
09...	4	--	<1	--	<1	--	240	--	<10	<10	3.3	--
30...	--	<1	--	<1.0	--	260	--	<6	--	--	4.0	150
NOV												
13...	4	--	<1	--	<1	--	210	--	<10	40	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	3.9	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	2.6	--
15...	--	--	--	--	--	--	--	--	--	--	2.7	82
MAR												
04...	--	<1	--	<1.0	--	110	--	<6	--	--	2.8	78
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	2.9	--
14...	6	--	<1	--	<1	--	110	--	<10	30	3.3	--
15...	7	--	<1	--	<1	--	70	--	<10	10	4.0	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	7	--	<1	--	<1	--	50	--	<10	10	3.3	--
29...	--	--	--	--	--	--	--	--	--	30	6.3	64
30...	--	--	--	--	--	--	--	--	--	20	4.6	62
31...	--	--	--	--	--	--	--	--	--	30	--	53
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	10	3.0	57
22...	--	--	--	--	--	--	--	--	--	<10	2.9	68
24...	--	--	--	--	--	--	--	--	--	<10	4.5	57
MAY												
12...	--	<1	--	<1.0	--	92	--	<6	--	<10	3.2	76
19...	--	--	--	--	--	--	--	--	--	<10	2.6	74
JUN												
19...	--	--	--	--	--	--	--	--	--	<10	--	74
JUL												
07...	--	--	--	--	--	--	--	--	--	--	3.0	96
15...	--	--	--	--	--	--	--	--	--	<10	3.1	110
AUG												
03...	--	--	--	--	--	--	--	--	--	--	3.6	--
SEP												
02...	--	<1	--	<1.0	--	128	--	<6	--	30	2.7	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	3-HYDRX CARBO-FURAN WATER WHOLE TOT.REC (UG/L)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDICAR SULF-OXIDE WATER WHOLE TOT.REC (UG/L)	ALDI-CARB SULFONE WATER WHOLE TOT.REC (UG/L)	ALDRIN, TOTAL (UG/L)	ALDI-CARB WATER WHOLE TOT.REC (UG/L)	AME-TRYNE TOTAL
OCT 1991												
09...	--	--	<0.01	<0.01	<0.01	<0.5	<0.10	<0.5	<0.5	<0.010	<0.5	<0.10
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	--	--	--	--	--	--	<0.10	--	--	--	--	<0.10
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	0.1	2.2	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	<0.5	<0.20	<0.5	<0.5	<0.010	<0.5	<0.10
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	<0.5	<0.20	<0.5	<0.5	<0.010	<0.5	<0.10
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	0.7	2.6	--	--	--	--	--	--	--	--	--	--
24...	0.7	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	0.6	3.7	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ATRA-ZINE WATER UNFLTRD REC (UG/L)	BROM-ACIL WATER WHLREC (UG.L)	BUTA-CHLOR WATER WHLREC (UG.L)	BUTYL-ATE WATER WHLREC (UG/L)	CARBO-FURAN WATER WHOLE TOT.REC (UG/L)	CARBOX IN WATER WHOLE RECOV-ERABLE (UG.L)	CHLOR-DANE, TOTAL (UG/L)	CHLOR DYRIFOS TOTAL RECOVER (UG/L)	CYAN-AZINE TOTAL (UG/L)	CYCLO ATE WATER WHOLE RECOV-ERABLE (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)
OCT 1991												
09...	<0.1	<0.20	<0.10	<0.10	<0.5	<0.20	<0.1	<0.01	<0.20	<0.10	<0.010	<0.010
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	<0.1	<0.20	<0.10	<0.10	--	<0.20	--	--	<0.20	<0.10	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	<0.1	<0.20	<0.10	<0.10	<0.5	<0.20	<0.1	<0.01	<0.20	<0.10	<0.010	<0.010
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	<0.1	<0.20	<0.10	<0.10	<0.5	<0.20	<0.1	<0.01	<0.20	<0.10	<0.010	<0.010
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	DDT, TOTAL (UG/L)	DEF TOTAL (UG/L)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DIPHEN-AMID WATER WHOLE RECOV-ERABLE (UG/L)	DI-SYSTON TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)	ETHION, TOTAL (UG/L)
OCT 1991												
09...	<0.010	<0.01	<0.20	<0.20	<0.01	<0.01	<0.010	<0.10	<0.01	<0.010	<0.010	<0.01
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	--	--	<0.20	<0.20	--	--	--	<0.10	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	<0.010	<0.01	<0.20	<0.20	<0.01	--	<0.010	<0.10	<0.01	<0.010	<0.010	<0.01
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	<0.010	<0.01	<0.20	<0.20	<0.01	--	<0.010	<0.10	<0.01	<0.010	<0.010	<0.01
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	FONOFOS (DY-FONATE) WATER WHOLE TOT.REC (UG/L	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEXAZI-NONE WATER WHOLE RECOV-ERABLE (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHIO-CARB WATER WHOLE RECOV. (UG/L)	METHO-MYL TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METOLA-CHLOR WATER WHOLE TOT.REC (UG/L)	METRI-BUZIN WATER WHOLE TOT.REC (UG/L)
OCT 1991												
09...	<0.01	<0.010	<0.010	<0.20	<0.010	<0.01	<0.5	<0.5	<0.01	<0.01	<0.20	<0.10
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	--	--	--	<0.20	--	--	--	--	--	--	<0.20	<0.10
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	<0.01	<0.010	<0.010	<0.20	<0.010	<0.01	<0.5	<0.5	<0.01	<0.01	<0.20	<0.10
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	<0.01	<0.010	<0.010	<0.20	<0.010	<0.01	<0.5	<0.5	<0.01	<0.01	<0.20	<0.10
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MIREX, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	1-NAPHTHOL WATER WHOLE REC (UG/L)	OXYAMYL WATER WHOLE TOT.REC (UG/L)	PARATHION, TOTAL (UG/L)	PCB, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	PHORATE TOTAL (UG/L)	PICLORAM (TORDON) (AMDON) TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROMETONE TOTAL (UG/L)	PROPACHLOR WATER WHOLE RECOV. (UG/L)
OCT 1991												
09...	<0.01	<0.10	<0.5	<0.5	<0.01	<0.1	<0.1	<0.01	<0.01	<0.10	<0.20	<0.10
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	--	--	--	--	--	--	--	--	--	<0.10	<0.20	<0.10
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	<0.01	<0.10	<0.5	<0.5	<0.01	<0.1	<0.1	<0.01	--	<0.10	<0.20	<0.10
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	<0.01	<0.10	<0.5	<0.5	<0.01	<0.1	<0.1	<0.01	--	<0.10	<0.20	<0.10
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	PRO-PAZINE TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	PROPO-BXUR WATER WHOLE RECOV. (UG/L)	SEVIN, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TER-BACIL WATER WHOLE RECOV. (UG/L)	TOX-APHENE, TOTAL (UG/L)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)	TOTAL TRI-THION (UG/L)	VER-NOLATE WATER WHOLE RECOV. (UG/L)
OCT 1991												
09...	<0.10	<0.5	<0.5	<0.5	<0.01	<0.10	<0.10	<0.20	<1	<0.10	<0.01	<0.10
30...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
13...	<0.10	--	--	--	--	<0.10	<0.10	0.20	--	<0.10	--	<0.10
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	<0.10	<0.5	<0.5	<0.5	--	<0.10	<0.10	<0.20	<1	<0.10	<0.01	<0.10
15...	--	--	--	--	--	--	--	--	--	--	--	--
15...	<0.10	<0.5	<0.5	<0.5	--	<0.10	<0.10	<0.20	<1	<0.10	<0.01	<0.10
16...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	--

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

RADIOCHEMICAL ANALYSES

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
MAR 1992										
04...	1330	31800	<0.6	<0.6	2.1	<0.6	0.04	<0.6	1.7	0.05
SEP										
02...	1030	36400	<0.6	<0.6	1.9	1.0	0.05	0.9	1.5	0.17

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
09...	1030	4300	9	104	94
30...	1030	10600	5	143	94
NOV					
13...	1035	4700	6	76	93
DEC					
05...	1100	77900	8	1680	97
JAN 1992					
08...	1300	33300	5	450	100
15...	1115	55800	7	1050	100
MAR					
04...	1330	31800	10	859	94
12...	1000	77600	14	2930	96
14...	1400	87900	28	6650	97
15...	1315	77900	24	5050	99
16...	1300	80100	17	3680	91
29...	1700	166000	90	40200	99
30...	1330	169000	49	22400	100
31...	1400	120000	75	24300	100
APR					
01...	1200	111000	51	15300	100
03...	1145	88500	22	5260	99
22...	1230	87700	15	3550	98
24...	1100	88700	23	5510	98
MAY					
12...	1130	66300	13	2330	100
19...	1000	9160	10	247	99
JUN					
19...	1345	22800	5	308	98
JUL					
07...	1100	8700	6	141	93
15...	1300	12300	2	66	59
AUG					
03...	1100	52200	8	1130	100
SEP					
02...	1030	36400	8	786	98

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	461	410	---	223	220	245	180	190	240	250	183	241
2	455	408	---	235	227	218	190	190	240	210	191	246
3	455	376	317	231	227	220	---	180	260	230	196	267
4	447	392	283	250	227	216	190	190	260	260	212	---
5	459	402	---	249	203	250	190	190	250	240	214	265
6	456	410	265	253	223	240	200	190	240	270	216	266
7	462	410	248	249	219	185	200	200	230	230	196	255
8	455	403	255	249	232	240	200	200	210	251	187	261
9	450	405	243	245	232	240	200	210	170	260	189	254
10	408	416	214	245	229	240	200	210	200	249	183	248
11	396	398	---	205	228	240	210	220	180	269	184	245
12	400	408	---	236	---	240	210	210	220	272	179	243
13	398	391	---	239	229	230	220	200	220	276	180	241
14	400	407	233	236	232	210	230	200	220	268	180	240
15	403	399	233	227	---	190	230	170	200	279	172	238
16	407	406	223	223	---	180	240	200	200	288	186	239
17	404	397	226	219	232	180	230	160	210	300	186	242
18	410	404	227	186	234	190	160	200	210	303	193	242
19	426	394	---	---	240	140	200	210	210	307	195	253
20	420	401	---	221	255	200	220	220	220	315	184	247
21	419	---	228	224	259	200	210	220	210	300	200	231
22	417	402	234	224	258	200	180	200	210	277	207	242
23	---	395	229	221	271	200	200	230	220	241	214	248
24	383	402	229	221	283	220	170	190	230	201	215	249
25	411	397	234	211	---	220	180	230	220	198	220	251
26	414	408	235	224	274	230	180	230	200	188	224	251
27	411	413	220	224	268	230	170	220	240	191	229	248
28	422	387	217	---	268	220	180	240	200	192	234	250
29	390	377	219	228	250	230	190	240	230	192	236	255
30	412	---	232	228	---	160	150	240	240	193	238	259
31	---	---	224	212	---	180	---	240	---	193	236	---

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	17.0	---	5.0	5.0	7.0	7.0	16.0	22.0	25.0	25.0	27.0
2	23.0	17.0	---	5.0	5.0	7.0	8.0	17.0	22.0	25.0	25.0	27.0
3	22.0	17.0	11.0	5.0	5.0	7.0	---	17.0	21.0	25.0	26.0	27.0
4	22.0	16.0	11.0	5.0	5.0	8.0	7.0	17.0	21.0	25.0	27.0	---
5	22.0	16.0	---	6.0	7.0	9.0	8.0	16.0	21.0	26.0	27.0	27.0
6	22.0	15.0	11.0	6.0	9.0	9.0	8.0	16.0	22.0	26.0	27.0	25.0
7	21.0	15.0	8.0	6.0	9.0	9.0	8.0	16.0	22.0	26.0	27.0	25.0
8	20.0	15.0	8.0	6.0	8.0	9.0	9.0	16.0	22.0	26.0	27.0	25.0
9	20.0	14.0	8.0	---	8.0	9.0	9.0	16.0	23.0	26.0	26.0	25.0
10	20.0	14.0	9.0	6.0	7.0	9.0	9.0	16.0	23.0	26.0	26.0	25.0
11	20.0	14.0	---	6.0	6.0	9.0	11.0	16.0	23.0	26.0	26.0	25.0
12	19.0	14.0	---	6.0	---	9.0	11.0	16.0	23.0	26.0	27.0	26.0
13	18.0	13.0	---	6.0	4.0	9.0	13.0	16.0	23.0	26.0	27.0	25.0
14	18.0	13.0	7.0	6.0	5.0	15.0	14.0	16.0	23.0	26.0	27.0	25.0
15	19.0	13.0	8.0	6.0	---	15.0	13.0	18.0	24.0	28.0	25.0	25.0
16	18.0	12.0	8.0	5.0	---	5.0	13.0	18.0	24.0	28.5	25.0	24.0
17	18.0	12.0	7.0	5.0	6.0	6.0	14.0	18.0	25.0	29.0	27.0	24.0
18	18.0	12.0	7.0	5.0	5.0	5.0	13.0	19.0	25.0	29.0	26.0	24.0
19	18.0	12.0	---	---	6.0	4.0	13.0	20.5	27.0	29.0	25.0	24.0
20	18.0	12.0	---	5.0	6.0	15.0	13.0	20.0	27.0	29.0	25.0	24.0
21	18.0	---	7.0	5.0	5.0	15.0	13.0	19.0	27.0	29.0	25.0	24.0
22	18.0	---	6.0	5.0	5.0	15.0	14.0	20.0	26.0	29.0	25.0	24.0
23	---	13.0	6.0	5.0	6.0	18.0	13.0	19.0	25.0	28.5	25.0	24.0
24	18.0	13.0	6.0	5.0	6.0	19.0	14.0	21.0	24.0	28.0	24.0	22.0
25	18.0	13.0	3.0	5.0	---	7.0	14.0	20.0	24.0	26.0	24.0	22.0
26	17.0	11.0	5.0	5.0	6.0	7.0	16.0	21.0	24.0	26.0	25.0	23.0
27	17.0	10.0	5.0	4.0	6.0	7.0	14.0	21.0	25.0	26.0	25.0	22.0
28	17.0	10.0	5.0	---	7.0	9.0	15.0	21.0	25.0	25.0	26.0	22.0
29	17.0	10.0	5.0	4.0	7.0	9.0	16.0	21.0	25.0	25.0	26.0	21.0
30	16.0	---	5.0	4.0	---	9.0	16.0	21.0	25.0	24.0	27.0	19.0
31	---	---	5.0	4.0	---	6.0	---	21.0	---	25.0	27.0	---

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11	183	1	13	4	143	2	9.3	6	361	7	563
2	13	312	1	12	4	224	6	455	5	200	10	1110
3	11	129	1	12	5	393	10	829	5	355	10	1190
4	8	93	2	45	10	934	6	347	5	254	11	1250
5	7	85	14	176	8	983	5	158	5	324	11	1180
6	6	70	3	37	11	1590	8	804	4	165	9	829
7	7	82	7	89	11	1160	9	603	4	218	12	881
8	9	105	7	85	8	594	9	846	13	397	11	983
9	8	96	3	36	12	1200	12	943	27	663	8	1060
10	4	47	1	12	8	743	10	1200	23	1010	9	1310
11	4	52	1	12	6	588	8	477	13	393	10	1680
12	2	24	3	38	6	603	7	312	8	318	18	3990
13	1	12	6	104	6	454	7	524	5	161	36	8440
14	2	24	6	99	5	215	8	572	5	201	32	7490
15	4	47	4	95	4	166	7	573	5	61	22	4660
16	2	43	2	23	7	578	13	1010	5	79	12	2610
17	3	118	2	24	5	401	9	938	6	303	11	1700
18	3	116	6	71	2	175	17	1500	10	643	9	1290
19	5	59	4	75	2	160	15	842	7	376	9	1230
20	11	128	2	38	2	168	9	454	6	431	10	1330
21	12	274	2	42	2	91	7	476	5	352	13	1100
22	12	270	2	66	1	17	6	376	5	297	10	688
23	6	150	3	98	1	73	7	461	6	345	10	1110
24	2	53	6	240	1	90	6	518	8	719	11	1150
25	3	72	2	198	3	51	9	437	8	670	10	985
26	7	88	3	312	2	144	8	311	6	619	11	1320
27	4	47	2	260	1	76	6	473	6	718	16	3070
28	3	57	4	226	2	49	6	475	7	1010	80	27600
29	3	35	4	276	2	32	6	507	9	1080	88	38700
30	5	103	4	162	1	79	5	418	---	---	56	24300
31	3	62	---	---	1	70	4	411	---	---	68	23300
TOTAL	---	3036	---	2976	---	12244	---	18259.3	---	12723	---	168099
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	52	15900	20	3100	6	478	7	272	6	305	6	582
2	32	8190	33	4580	11	1150	6	168	10	672	8	661
3	23	5490	32	3230	13	1520	8	135	9	1320	7	565
4	19	4350	19	2450	15	2440	6	101	10	1560	7	408
5	16	3240	24	2140	15	2460	7	119	9	1050	7	318
6	15	2860	13	1670	11	1250	10	281	9	819	9	230
7	12	1820	16	2120	11	1210	7	263	9	799	7	270
8	11	1650	16	2220	10	1410	10	286	10	448	4	207
9	15	2070	19	1610	8	825	9	309	12	463	7	457
10	19	2750	13	1320	10	985	6	170	13	951	10	586
11	11	944	15	2200	12	1010	9	150	9	590	9	469
12	10	1120	16	2070	11	939	9	148	10	607	8	128
13	11	1490	13	1710	12	726	9	277	9	651	10	302
14	12	1730	13	1540	10	351	7	331	6	421	8	579
15	13	1990	12	1190	10	651	4	189	8	320	8	482
16	12	1950	10	605	9	454	8	309	6	177	8	521
17	15	1800	8	480	10	556	10	691	7	421	7	501
18	5	535	10	1060	8	298	7	644	6	392	7	542
19	12	1290	13	807	6	262	10	958	10	543	8	189
20	12	1880	8	683	9	279	8	920	12	651	6	70
21	13	2910	17	1380	8	183	9	1060	6	327	6	337
22	16	3940	13	1100	10	521	7	773	8	209	7	408
23	20	5230	10	451	14	654	9	902	9	195	8	164
24	22	5630	9	435	17	409	10	694	7	412	8	166
25	22	5020	9	328	15	539	8	490	8	374	13	404
26	17	3410	9	590	11	546	8	568	8	356	13	849
27	16	3450	9	527	11	183	8	659	10	313	11	912
28	13	2770	9	484	10	166	10	834	9	343	7	612
29	13	2600	11	552	8	294	11	867	12	196	8	825
30	17	3070	8	242	11	386	9	916	8	130	7	652
31	---	---	6	238	---	---	9	765	8	490	---	---
TOTAL	---	101079	---	43112	---	23135	---	15249	---	16505	---	13396

TOTAL LOAD FOR YEAR: 429813.3 TONS.

01580000 DEER CREEK AT ROCKS, MD

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

DRAINAGE AREA.--94.4 mi^2.

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

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

GAGE.--Water-stage recorder. Concrete control since Sept. 7, 1938. Datum of gage is 250.40 ft above National Geodetic Vertical Datum of 1929 (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 years have been collected at this station.

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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0230	*1,280	*4.96	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	42	59	66	56	68	124	81	138	76	65	34
2	44	42	93	62	e54	67	117	78	104	62	51	34
3	42	41	383	61	e52	65	108	76	90	62	47	37
4	42	40	170	70	e52	63	103	72	82	76	81	38
5	41	40	110	86	e52	63	98	74	190	62	56	36
6	53	40	93	70	e52	63	92	89	166	59	48	57
7	47	40	86	64	e52	148	90	76	115	58	45	106
8	42	40	75	62	53	112	89	86	100	54	44	56
9	39	40	78	64	e52	89	85	99	92	58	45	52
10	39	46	198	70	e51	83	88	81	84	53	43	46
11	42	63	112	64	e53	122	87	75	80	49	42	79
12	50	51	93	59	51	99	85	70	77	48	50	51
13	43	47	87	60	49	85	80	68	74	51	44	43
14	41	45	92	103	55	79	78	68	72	47	50	40
15	41	44	80	89	77	76	77	69	70	51	47	38
16	45	45	73	e76	158	71	78	84	66	53	54	38
17	150	43	69	e66	83	70	81	76	65	50	57	37
18	133	42	68	e63	81	72	79	75	64	83	58	35
19	65	41	e67	e61	89	104	95	70	86	52	53	35
20	54	41	e66	e59	81	96	83	65	119	46	49	35
21	49	42	e64	e57	72	90	82	62	75	44	44	35
22	47	168	62	e55	68	82	157	59	68	76	41	36
23	46	215	61	67	66	88	117	57	65	99	40	58
24	45	90	e59	93	67	86	96	58	80	86	39	39
25	45	68	57	e75	72	80	96	66	95	131	38	46
26	45	59	e56	e67	116	129	105	73	82	86	37	265
27	45	55	55	e60	95	673	103	81	69	72	36	99
28	44	54	e55	e62	80	209	89	66	64	65	41	85
29	42	54	90	65	75	157	83	62	60	56	72	62
30	42	52	85	62	---	137	81	76	66	53	41	53
31	42	---	66	57	---	141	---	303	---	64	36	---
TOTAL	1589	1730	2862	2095	2014	3567	2826	2495	2658	1982	1494	1705
MEAN	51.3	57.7	92.3	67.6	69.4	115	94.2	80.5	88.6	63.9	48.2	56.8
MAX	150	215	383	103	158	673	157	303	190	131	81	265
MIN	39	40	55	55	49	63	77	57	60	44	36	34
CFSM	.54	.61	.98	.72	.74	1.22	1.00	.85	.94	.68	.51	.60
IN.	.63	.68	1.13	.83	.79	1.41	1.11	.98	1.05	.78	.59	.67

e Estimated

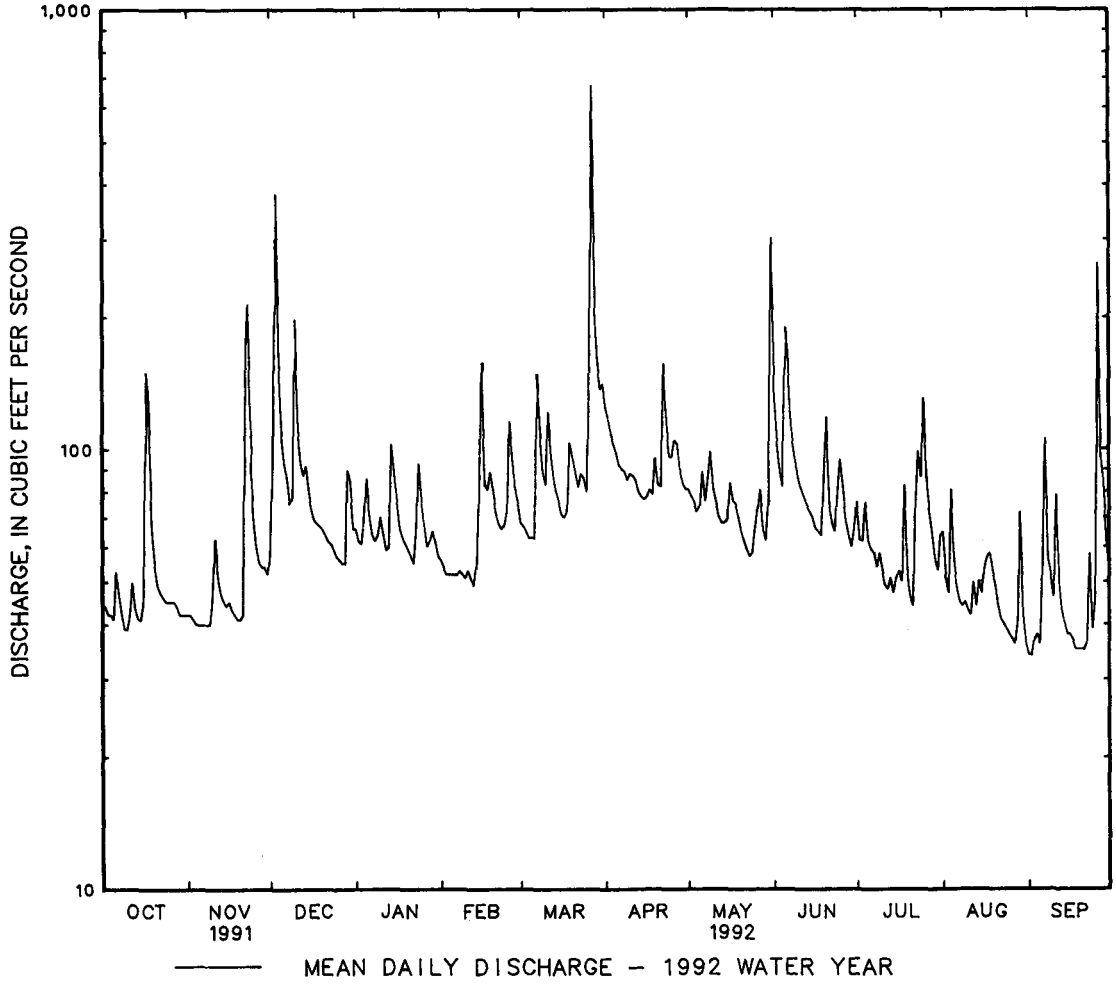
STATISTICS OFMONTHLYMEAN DATA FOR WATER YEARS 1927 - 1992, BY WATER YEAR (WY)

MEAN	82.9	100	113	137	162	161	165	149	125	105	96.0	88.0
MAX	317	266	286	398	415	395	379	421	576	279	362	345
(WY)	1980	1927	1984	1979	1979	1978	1984	1989	1972	1972	1933	1975
MIN	26.0	32.5	37.8	41.7	60.2	62.2	63.2	50.9	42.8	21.0	17.4	29.0
(WY)	1964	1932	1966	1966	1932	1981	1963	1963	1966	1966	1966	1986

01580000 DEER CREEK AT ROCKS, MD

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1927 - 1992	
ANNUAL TOTAL	36072		27017			
ANNUAL MEAN	98.8		73.8		123	
HIGHEST ANNUAL MEAN					224	1972
LOWEST ANNUAL MEAN					58.2	1966
HIGHEST DAILY MEAN	455	Jan 12	673	Mar 27	6610	Jun 22 1972
LOWEST DAILY MEAN	30	(a)	34	(b)	8.6	(c)
ANNUAL SEVEN-DAY MINIMUM	32	Aug 29	36	Sep 16	9.0	Sep 7 1966
INSTANTANEOUS PEAK FLOW	805	Sep 25	1280	Mar 27	d13600	Aug 23 1933
INSTANTANEOUS PEAK STAGE	4.14	Sep 25	4.96	Mar 27	f17.70	Aug 23 1933
INSTANTANEOUS LOW FLOW	30	(g)	33	Sep 2	8.0	(h)
ANNUAL RUNOFF (CFSM)	1.05		.78		1.31	
ANNUAL RUNOFF (INCHES)	14.21		10.65		17.76	
10 PERCENT EXCEEDS	171		104		207	
50 PERCENT EXCEEDS	77		65		92	
90 PERCENT EXCEEDS	38		41		45	

a Aug. 6, 7, Sep. 2, 3.
b Sept. 1, 2.
c Sept. 11, 12 1966.
d From rating curve extended above 3,000 ft^3/s, on basis of slope-area measurements at gage heights 13.3 ft and 17.7 ft.
f From floodmarks.
g Aug. 6, 7, Sept. 2-4.
h Dec. 16, 1930, Jan. 26, 1939, result of regulation.



01581700 WINTERS RUN NEAR BENSON, MD

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

DRAINAGE AREA.--34.8 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 195 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good below 200 ft^3/s and fair above except those for estimated daily discharges (missing record), which are also fair. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0030	*873	*4.15	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	e14	23	24	e20	26	41	31	39	e19	20	8.7
2	14	e14	67	24	e20	26	38	29	30	e20	14	8.7
3	14	e14	171	24	e19	25	36	28	27	e25	11	14
4	13	e14	70	28	e19	24	34	27	24	e23	15	12
5	13	e14	35	31	e19	23	34	28	183	e21	12	10
6	17	e14	30	26	e19	23	32	28	77	e19	11	20
7	14	e14	26	24	e19	153	31	27	42	e17	10	22
8	13	e14	25	22	e19	56	31	32	35	15	9.5	14
9	13	e15	30	25	e18	39	30	33	31	15	10	17
10	13	e17	95	24	e17	36	36	29	28	14	9.7	12
11	16	e24	44	23	e18	64	32	27	26	13	9.5	15
12	18	e21	30	21	e17	42	33	26	24	13	12	11
13	15	e19	30	21	e17	35	30	25	e23	13	10	10
14	14	e18	30	50	e20	31	29	24	e22	11	15	9.9
15	14	e17	26	38	e35	31	29	26	e22	13	14	9.5
16	16	e17	25	25	e80	28	29	33	e21	14	18	9.3
17	240	e16	24	e24	e40	28	30	28	e21	12	19	9.2
18	e70	e16	23	e23	e29	29	30	27	e20	13	20	8.8
19	e25	e15	e23	e22	e33	56	35	25	e20	10	16	8.2
20	e21	16	e22	e21	e30	41	31	23	e27	11	12	7.6
21	e19	16	22	e20	e27	35	32	22	e50	9.2	11	9.0
22	e18	105	21	e22	e25	33	90	21	e35	11	9.6	9.9
23	e17	86	22	e25	e23	38	63	21	e25	18	9.8	13
24	e16	33	22	e45	e23	35	44	20	e22	21	9.7	7.7
25	e16	24	20	e32	e26	32	41	24	e30	27	9.6	19
26	e15	19	18	e25	75	145	40	32	e40	18	9.6	108
27	e15	19	21	e22	48	273	39	28	e28	18	10	36
28	e15	18	20	e23	32	64	34	23	e22	15	11	29
29	e15	19	51	e24	29	49	32	20	e19	12	20	20
30	e15	16	33	e22	---	44	31	43	e18	12	12	16
31	e15	---	26	e21	---	46	---	124	---	23	8.5	---
TOTAL	762	678	1125	801	816	1610	1097	934	1031	495.2	388.5	504.5
MEAN	24.6	22.6	36.3	25.8	28.1	51.9	36.6	30.1	34.4	16.0	12.5	16.8
MAX	240	105	171	50	80	273	90	124	183	27	20	108
MIN	13	14	18	20	17	23	29	20	18	9.2	8.5	7.6
CFSM	.71	.65	1.04	.74	.81	1.49	1.05	.87	.99	.46	.36	.48
IN.	.81	.72	1.20	.86	.87	1.72	1.17	1.00	1.10	.53	.42	.54

e Estimated

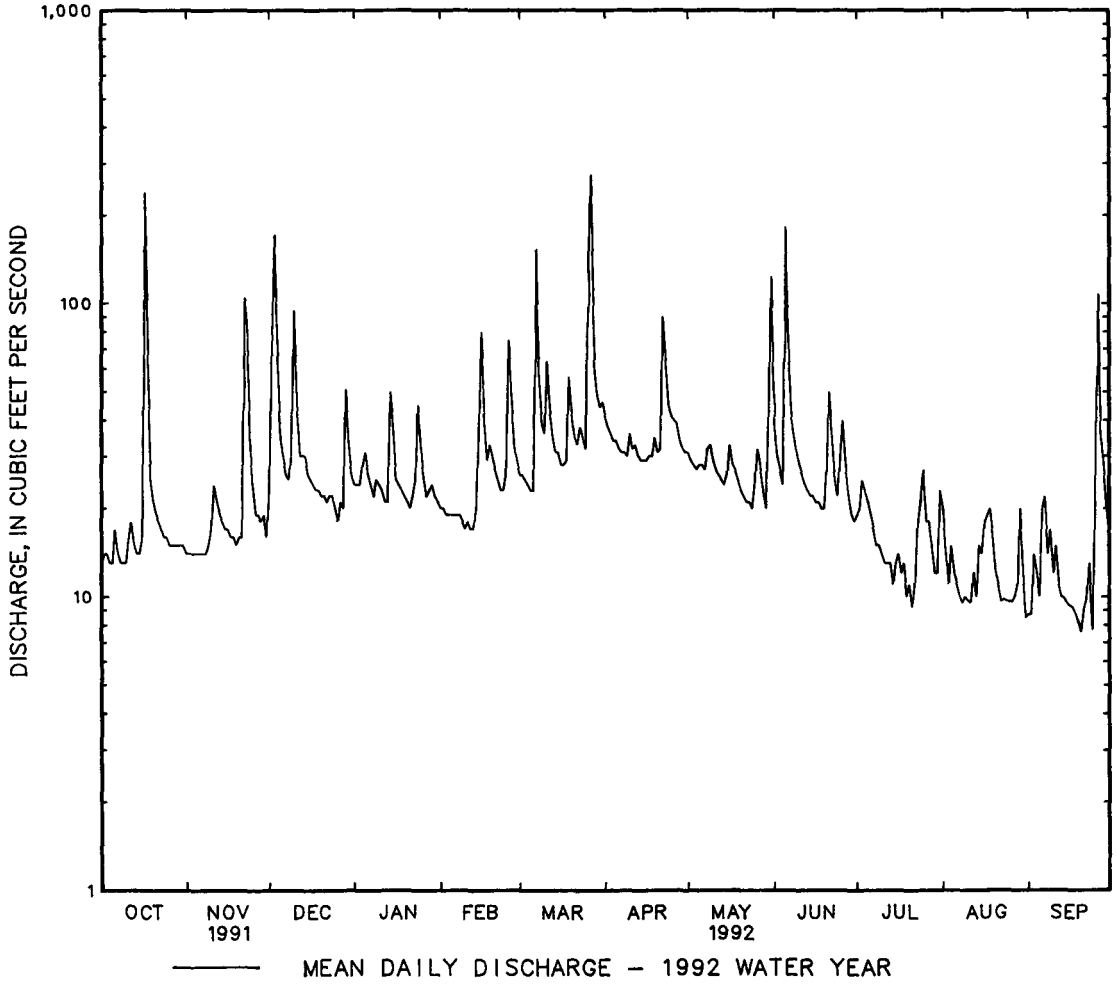
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1992, BY WATER YEAR (WY)

MEAN	35.3	43.1	52.7	59.9	67.7	61.4	61.5	60.1	53.8	46.2	39.5	41.9
MAX	94.0	86.2	118	150	151	138	134	162	204	133	137	140
(WY)	1980	1972	1984	1979	1979	1978	1983	1989	1972	1975	1971	1975
MIN	13.4	12.5	18.2	16.9	28.1	22.5	28.8	17.9	12.9	11.3	11.6	10.4
(WY)	1970	1982	1981	1981	1992	1981	1969	1969	1969	1986	1981	1986

01581700 WINTERS RUN NEAR BENSON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1967 - 1992	
ANNUAL TOTAL	14560.1		10242.2			
ANNUAL MEAN	39.9		28.0		51.6	
HIGHEST ANNUAL MEAN					86.0	1972
LOWEST ANNUAL MEAN					22.9	1981
HIGHEST DAILY MEAN	311	Jan 12	273	Mar 27	3000	Jun 22 1972
LOWEST DAILY MEAN	9.0	Sep 13	7.6	Sep 20	6.7	(a)
ANNUAL SEVEN-DAY MINIMUM	11	Sep 7	8.8	Sep 15	7.9	Jun 30 1969
INSTANTANEOUS PEAK FLOW	734	Jan 12	873	Mar 27	7600	Jun 22 1972
INSTANTANEOUS PEAK STAGE	3.88	Jan 12	4.15	Mar 27	11.60	Jun 22 1972
INSTANTANEOUS LOW FLOW	7.9	Aug 7	7.1	Sep 25	b3.0	Jan 10 1982
ANNUAL RUNOFF (CFSM)	1.15		.80		1.48	
ANNUAL RUNOFF (INCHES)	15.56		10.95		20.13	
10 PERCENT EXCEEDS	70		41		85	
50 PERCENT EXCEEDS	26		22		37	
90 PERCENT EXCEEDS	13		11		16	

a Aug. 28, 29, 1981.
b Result of freezeup.



01582000 LITTLE FALLS AT BLUE MOUNT, MD

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

DRAINAGE AREA.--52.9 mi^2.

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

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

GAGE.--Water-stage recorders. Elevation of gage is 305 ft above National Geodetic Vertical Datum of 1929, 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.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0230	*736	*3.38	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	34	e34	30	37	60	41	74	33	31	18
2	26	27	73	33	e29	36	55	39	56	31	25	18
3	26	27	212	34	e28	35	52	38	50	35	24	23
4	25	26	89	42	e28	35	50	36	45	37	54	21
5	24	26	56	44	28	34	49	42	84	31	28	20
6	37	26	49	37	e28	36	46	45	69	31	26	72
7	27	26	44	35	e29	56	45	38	54	29	24	43
8	26	26	41	34	29	45	44	44	48	27	24	30
9	25	25	47	38	e29	40	43	49	44	27	25	30
10	25	31	118	37	e29	40	45	41	41	26	23	27
11	28	37	57	35	e29	56	45	38	39	25	24	49
12	30	30	49	33	e29	44	43	37	38	25	26	28
13	27	30	48	33	e28	40	40	36	37	26	24	24
14	26	28	49	46	e28	39	39	35	36	23	25	23
15	27	27	43	39	72	37	39	36	35	25	25	22
16	29	27	39	e35	72	36	40	42	33	25	29	22
17	56	26	38	e34	42	35	40	37	33	28	29	22
18	46	26	37	e34	45	37	39	37	32	42	30	21
19	32	26	e37	e33	47	52	45	35	73	25	27	21
20	29	26	e36	e33	43	46	41	33	53	23	25	20
21	28	27	35	e33	38	45	43	32	39	23	22	20
22	29	132	33	e33	36	42	90	30	36	38	22	28
23	28	99	34	39	36	45	53	30	34	65	21	38
24	28	46	34	43	38	43	50	30	36	44	20	23
25	28	37	32	e37	40	41	49	33	47	76	20	27
26	28	33	e32	e33	68	96	54	38	39	41	20	111
27	28	31	31	e46	49	335	49	37	35	38	19	47
28	28	31	e31	e33	43	110	45	32	32	34	19	42
29	27	30	54	e32	40	81	43	30	31	30	28	33
30	27	29	42	e31	---	70	42	42	33	28	20	29
31	27	---	35	31	---	73	---	232	---	33	19	---
TOTAL	904	1045	1589	1114	1110	1797	1418	1345	1336	1024	778	952
MEAN	29.2	34.8	51.3	35.9	38.3	58.0	47.3	43.4	44.5	33.0	25.1	31.7
MAX	56	132	212	46	72	335	90	232	84	76	54	111
MIN	24	25	31	31	28	34	39	30	31	23	19	18
CFSM	.55	.66	.97	.68	.72	1.10	.89	.82	.84	.62	.47	.60
IN.	.64	.73	1.12	.78	.78	1.26	1.00	.95	.94	.72	.55	.67

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1992, BY WATER YEAR (WY)

MEAN	45.3	54.3	63.1	73.8	87.5	87.3	88.6	82.9	70.7	57.6	47.4	48.2
MAX	203	129	145	180	187	184	194	202	353	158	159	227
(WY)	1980	1972	1973	1979	1979	1978	1952	1952	1972	1972	1971	1975
MIN	16.7	22.8	20.9	22.1	37.9	40.3	38.4	29.4	24.3	12.2	9.44	17.2
(WY)	1964	1982	1966	1981	1967	1981	1963	1969	1966	1966	1966	1986

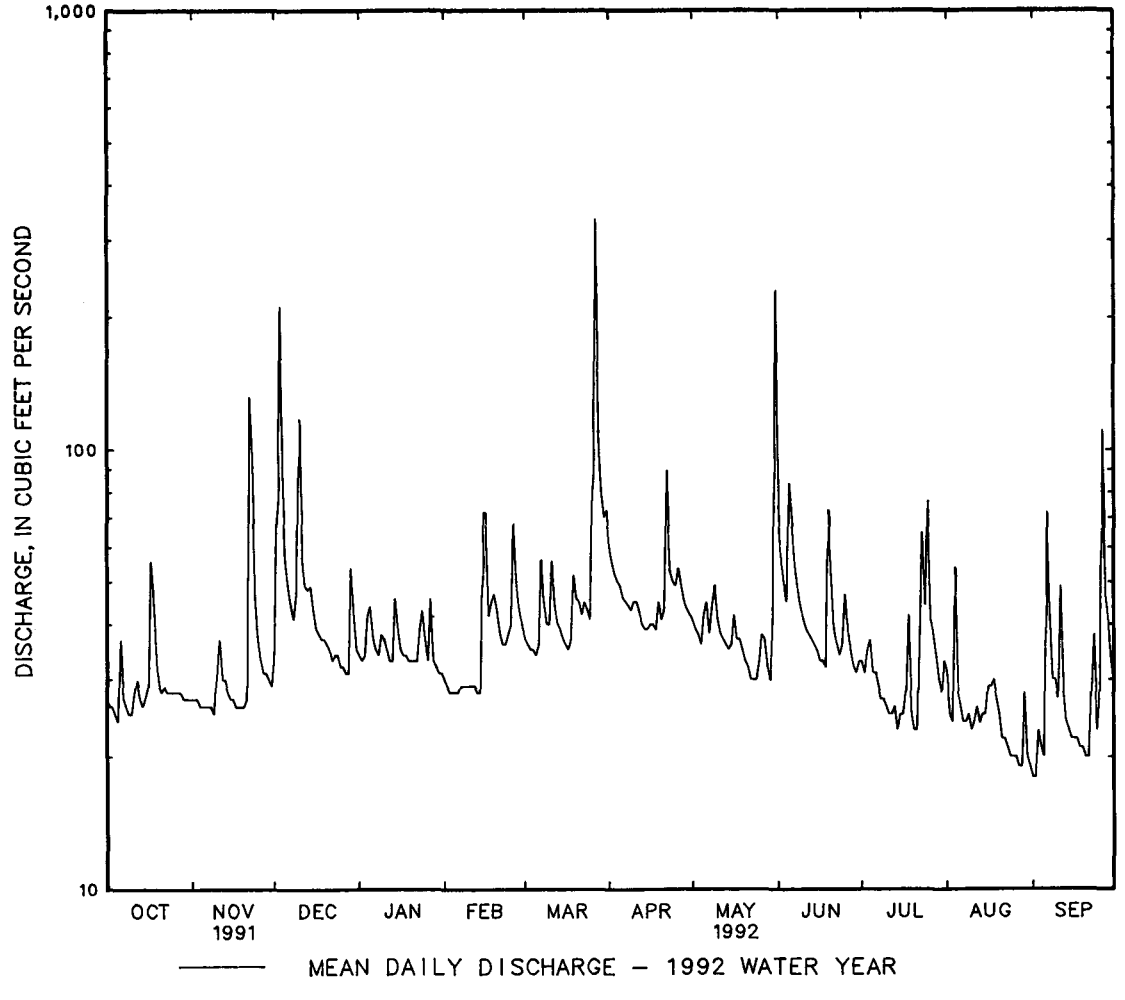
01582000 LITTLE FALLS AT BLUE MOUNT, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1944 - 1992	
ANNUAL TOTAL	19961		14412			
ANNUAL MEAN	54.7		39.4		67.2	
HIGHEST ANNUAL MEAN					132	1972
LOWEST ANNUAL MEAN					31.8	1966
HIGHEST DAILY MEAN	238	Sep 25	335	Mar 27	4730	Jun 22 1972
LOWEST DAILY MEAN	15	Aug 18	18	(a)	4.5	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	18	Aug 29	20	Aug 30	4.8	Sep 6 1966
INSTANTANEOUS PEAK FLOW	699	Sep 25	736	Mar 27	b8280	Jun 22 1972
INSTANTANEOUS PEAK STAGE	3.28	Sep 25	3.38	Mar 27	18.54	Jun 22 1972
INSTANTANEOUS LOW FLOW	14	(c)	17	(a)	1.9	Aug 26 1966
ANNUAL RUNOFF (CFSM)	1.03		.74		1.27	
ANNUAL RUNOFF (INCHES)	14.04		10.13		17.25	
10 PERCENT EXCEEDS	95		54		115	
50 PERCENT EXCEEDS	43		34		51	
90 PERCENT EXCEEDS	23		25		25	

a Sep. 1, 2.

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

c Aug. 18, 19.



01582500 GUNPOWDER FALLS AT GLENCOE, MD

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

DRAINAGE AREA.--160 mi^2.

PERIOD OF RECORD.--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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharge (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, 936 ft^3/s, Mar. 27, gage height, 4.34 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	189	102	101	90	98	133	106	121	200	78	175
2	92	194	129	102	89	98	126	104	97	198	66	172
3	92	192	339	101	88	97	121	101	88	202	64	173
4	91	139	173	108	88	97	119	95	82	209	87	159
5	89	90	131	114	88	97	116	80	120	198	68	137
6	102	89	120	105	87	97	113	92	120	197	100	196
7	93	118	115	102	87	124	112	79	95	184	189	152
8	91	180	112	100	88	114	110	85	87	126	189	69
9	90	188	114	107	85	104	107	83	82	68	191	71
10	89	199	203	173	e85	102	113	74	78	66	189	65
11	94	202	134	189	e85	125	111	68	75	65	189	88
12	95	195	123	185	85	112	110	65	72	64	194	65
13	92	193	119	184	84	105	104	64	70	66	188	60
14	90	192	122	205	91	102	101	75	69	63	192	59
15	92	190	115	197	113	100	101	75	68	76	190	57
16	94	190	112	187	164	97	102	86	66	177	195	56
17	142	189	109	166	107	97	103	78	65	189	196	56
18	114	188	108	109	107	97	103	77	64	208	197	55
19	100	188	102	104	112	120	107	76	98	189	192	55
20	97	188	110	e104	107	113	104	72	100	183	190	55
21	95	188	106	e103	101	109	105	71	74	183	184	87
22	95	306	103	103	97	105	162	69	70	213	182	184
23	95	326	102	110	97	111	125	68	69	240	182	209
24	95	222	103	139	99	108	116	68	71	162	180	225
25	95	177	100	179	103	105	117	73	85	122	180	356
26	95	105	97	180	135	141	120	79	76	86	180	294
27	95	101	97	163	117	518	118	82	71	80	178	206
28	93	100	96	93	109	199	112	72	67	76	179	174
29	92	97	123	91	105	157	109	68	66	70	190	73
30	131	97	115	90	---	142	106	77	106	67	180	66
31	172	---	105	91	---	145	---	290	---	75	178	---
TOTAL	3084	5212	3839	4085	2893	3936	3406	2652	2472	4302	5137	3849
MEAN	99.5	174	124	132	99.8	127	114	85.5	82.4	139	166	128
MAX	172	326	339	205	164	518	162	290	121	240	197	356
MIN	89	89	96	90	84	97	101	64	64	63	64	55
(†)	13623	13076	11834	15138	11404	12558	13100	14108	14794	14700	13662	11226

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

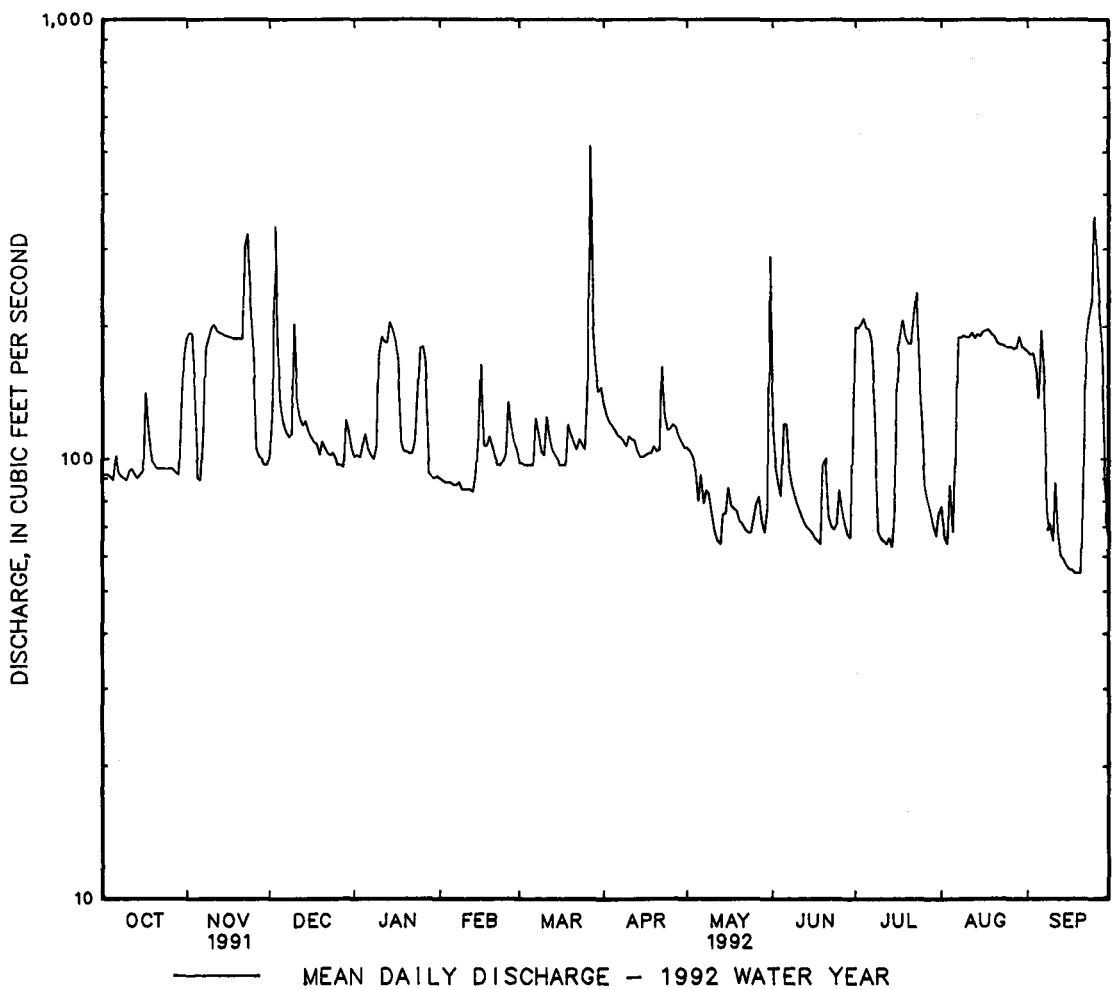
MEAN	139	162	175	184	205	187	216	250	175	172	140	138
MAX	198	211	335	339	384	338	473	476	284	280	184	227
(WY)	1990	1989	1984	1991	1984	1984	1984	1989	1989	1986	1990	1987
MIN	52.4	90.4	116	63.3	85.8	127	114	85.5	82.4	94.8	70.8	69.6
(WY)	1987	1987	1989	1983	1983	1992	1992	1992	1992	1985	1985	1983

† Month-end contents, in millions of gallons in Prettyboy Reservoir (contents on Sept. 30, 1991, 15,838,000,000 gal). Records provided by Baltimore Department of Public Works.

01582500 GUNPOWDER FALLS AT GLENCOE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1983 - 1992	
ANNUAL TOTAL	70146		44867			
ANNUAL MEAN	192		123		181	
HIGHEST ANNUAL MEAN					257	1984
LOWEST ANNUAL MEAN					118	1987
HIGHEST DAILY MEAN	575	Jan 12	518	Mar 27	2000	Feb 12 1985
LOWEST DAILY MEAN	75	Sep 1	55	(a)	42	(b)
ANNUAL SEVEN-DAY MINIMUM	77	Aug 28	56	Sep 14	43	Sep 14 1986
INSTANTANEOUS PEAK FLOW	831	Sep 25	936	Mar 27	4900	Feb 12 1985
INSTANTANEOUS PEAK STAGE	4.00	Sep 25	4.34	Mar 27	c13.20	Feb 12 1985
INSTANTANEOUS LOW FLOW	75	(d)	53	Sep 21	f35	Jan 4 1983
10 PERCENT EXCEEDS	320		192		303	
50 PERCENT EXCEEDS	188		104		144	
90 PERCENT EXCEEDS	92		69		77	

a Sept. 18-20.
b Sept. 17, 18, 1986.
c From floodmarks.
d Sept. 1-4.
f Result of freezeup.



01583500 WESTERN RUN AT WESTERN RUN, MD

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

DRAINAGE AREA.--59.8 mi^2.

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

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

GAGE.--Water-stage recorder. Datum of gage is 262.78 ft above National Geodetic Vertical Datum of 1929 (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.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0300	*890	*4.03	No peak greater than base discharge			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	31	34	30	41	64	44	78	30	42	18
2	22	25	69	34	29	40	60	42	58	29	26	19
3	22	24	205	34	29	39	56	40	50	30	25	23
4	22	24	88	39	29	37	53	39	46	36	27	21
5	21	24	56	43	29	36	50	44	99	28	24	20
6	30	24	47	37	28	37	48	57	81	28	22	51
7	23	25	42	34	28	52	47	42	59	27	22	39
8	22	24	39	33	29	45	46	47	53	26	22	27
9	22	24	43	36	27	40	44	65	49	26	23	30
10	22	27	108	39	e28	40	52	47	44	24	21	25
11	23	32	58	34	e28	59	48	43	40	24	21	50
12	26	28	49	33	27	46	48	41	38	24	23	27
13	23	27	47	33	27	42	43	39	36	24	22	24
14	23	26	49	44	30	40	42	38	35	23	25	23
15	23	25	43	41	62	39	42	37	34	24	24	22
16	25	25	40	34	93	36	42	45	32	29	27	21
17	47	25	38	e35	49	36	43	40	32	24	27	21
18	45	24	37	33	51	37	42	40	31	24	27	21
19	29	25	33	e33	53	58	46	37	51	23	24	20
20	26	25	39	e32	47	50	42	34	51	21	23	19
21	25	26	34	32	42	44	44	33	35	21	21	20
22	26	103	33	31	40	43	93	32	33	45	21	21
23	25	95	34	36	39	47	69	31	31	57	21	29
24	25	44	34	46	41	44	54	31	33	39	20	21
25	25	34	31	33	44	41	51	34	43	64	19	26
26	25	30	30	33	79	91	61	41	42	38	20	100
27	25	28	30	33	58	385	56	42	33	35	19	39
28	25	28	29	32	49	111	49	33	30	32	19	35
29	24	27	54	31	45	82	46	31	29	27	32	29
30	24	27	45	31	---	71	45	42	29	26	20	26
31	24	---	37	31	---	76	---	273	---	34	19	---
TOTAL	791	949	1552	1084	1190	1885	1526	1484	1335	942	728	867
MEAN	25.5	31.6	50.1	35.0	41.0	60.8	50.9	47.9	44.5	30.4	23.5	28.9
MAX	47	103	205	46	93	385	93	273	99	64	42	100
MIN	21	24	29	31	27	36	42	31	29	21	19	18
CFSM	.43	.53	.84	.58	.69	1.02	.85	.80	.74	.51	.39	.48
IN.	.49	.59	.97	.67	.74	1.17	.95	.92	.83	.59	.45	.54

e Estimated

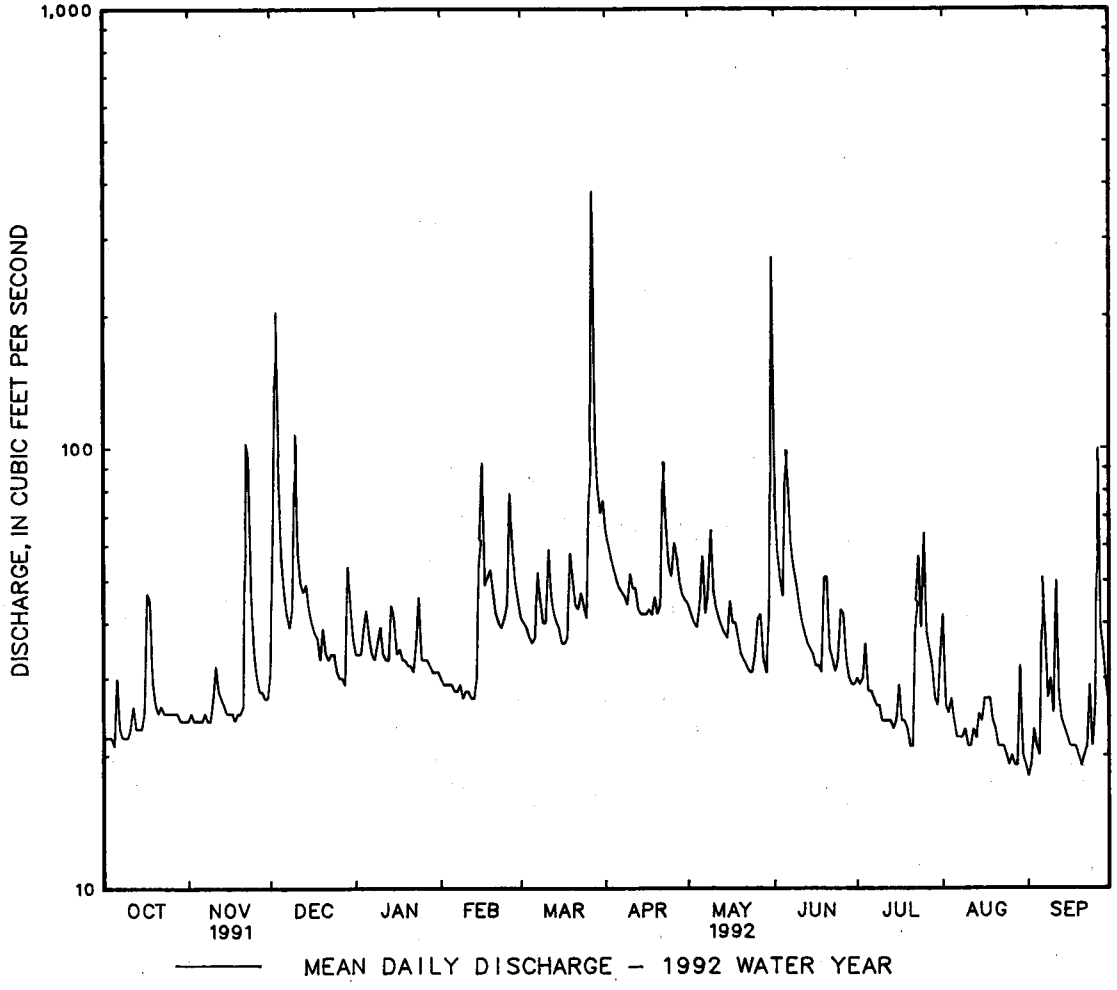
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1992, BY WATER YEAR (WY)

MEAN	45.4	54.4	65.6	78.4	91.7	90.4	86.9	81.6	71.3	55.4	48.8	47.7
MAX	209	131	185	222	240	206	209	227	395	164	183	261
(WY)	1980	1953	1973	1979	1979	1978	1952	1952	1972	1972	1971	1975
MIN	16.4	20.4	19.0	20.5	34.4	45.9	39.8	31.5	21.1	11.3	7.78	14.8
(WY)	1964	1966	1966	1966	1967	1981	1963	1963	1966	1966	1966	1963

01583500 WESTERN RUN AT WESTERN RUN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1944 - 1992	
ANNUAL TOTAL	20459		14333			
ANNUAL MEAN	56.1		39.2		68.0	
HIGHEST ANNUAL MEAN					138	1972
LOWEST ANNUAL MEAN					28.9	1966
HIGHEST DAILY MEAN	285	Jan 12	385	Mar 27	7000	Jun 22 1972
LOWEST DAILY MEAN	16	Aug 18	18	Sep 1	2.5	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	18	Aug 12	20	Aug 22	3.8	Sep 6 1966
INSTANTANEOUS PEAK FLOW	594	Mar 23	890	Mar 27	a38000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	3.28	Mar 23	4.03	Mar 27	b26.00	Jun 22 1972
INSTANTANEOUS LOW FLOW	16	(c)	17	(d)	2.4	Sep 12 1966
ANNUAL RUNOFF (CFSM)	.94		.65		1.14	
ANNUAL RUNOFF (INCHES)	12.73		8.92		15.46	
10 PERCENT EXCEEDS	98		56		114	
50 PERCENT EXCEEDS	42		33		51	
90 PERCENT EXCEEDS	21		22		23	

a From rating curve extended above 3,200 ft^3/s, on basis of slope-area measurement and contracted-opening measurement of peak flow.
b From floodmarks.
c Aug. 18, 19.
d Sept. 1, 2.



01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD

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

DRAINAGE AREA.--20.9 mi^2.

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

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

GAGE.--Water-stage recorder. Datum of gage is 239.04 ft above National Geodetic Vertical Datum of 1929. Previously operated as a low-flow site during water years 1955-59 and 1962-64 at site 600 ft upstream.

REMARKS.--Records good except those for estimated daily discharges (ice effect), 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 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 26	2000	*538	*4.87	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	9.8	21	16	14	16	26	18	27	14	18	5.5
2	10	11	90	15	13	15	25	18	22	13	11	8.2
3	12	12	71	15	13	15	24	17	18	28	9.6	12
4	13	12	28	23	13	14	22	16	20	16	19	7.3
5	13	13	21	18	13	16	21	18	76	13	9.9	7.0
6	16	11	19	14	e12	17	21	18	31	13	8.8	69
7	10	9.6	17	14	e12	42	21	16	24	13	9.0	18
8	9.5	9.8	16	13	e13	18	21	29	29	11	8.8	16
9	9.6	10	41	17	e12	16	20	22	22	12	8.7	14
10	10	24	54	15	11	20	23	18	20	12	7.9	23
11	17	16	21	14	e11	37	20	17	17	12	9.3	19
12	13	11	19	14	e11	19	19	16	17	11	8.8	13
13	11	12	20	13	13	17	18	16	16	11	13	10
14	12	11	20	46	18	16	20	16	16	9.8	12	9.2
15	15	10	16	18	48	15	18	23	15	31	13	9.1
16	17	10	e16	16	29	15	18	18	14	15	17	8.7
17	65	10	e15	15	18	16	18	16	14	12	13	8.5
18	18	10	e14	15	26	22	18	16	15	12	12	8.4
19	14	11	13	14	25	37	31	15	30	9.7	9.5	7.8
20	13	11	12	13	20	19	20	14	17	9.4	9.3	7.4
21	13	14	e11	13	17	17	35	14	14	11	8.9	7.0
22	12	105	13	13	16	23	58	14	14	13	7.7	13
23	10	28	16	32	16	19	28	14	14	24	8.0	10
24	9.6	18	15	23	20	18	28	23	18	24	7.6	6.2
25	10	16	13	16	21	17	24	20	39	36	7.8	51
26	11	13	13	16	47	202	31	32	21	18	7.4	67
27	13	12	13	14	19	90	22	18	16	16	7.0	29
28	13	13	13	15	18	38	20	15	15	14	11	16
29	12	12	42	15	18	31	19	14	13	12	8.1	14
30	11	12	17	15	---	31	19	53	14	11	6.9	11
31	10	---	15	14	---	32	---	129	---	40	6.4	---
TOTAL	432.5	477.2	725	524	537	920	708	703	638	496.9	314.4	505.3
MEAN	14.0	15.9	23.4	16.9	18.5	29.7	23.6	22.7	21.3	16.0	10.1	16.8
MAX	65	105	90	46	48	202	58	129	76	40	19	69
MIN	9.5	9.6	11	13	11	14	18	14	13	9.4	6.4	5.5
CFSM	.67	.76	1.12	.81	.89	1.42	1.13	1.09	1.02	.77	.49	.81
IN.	.77	.85	1.29	.93	.96	1.64	1.26	1.25	1.14	.88	.56	.90

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

MEAN	18.9	26.2	27.7	27.0	31.5	33.3	35.6	39.4	24.6	24.3	18.7	19.5
MAX	33.0	34.5	59.0	41.9	50.9	47.4	81.6	80.5	43.7	49.8	39.7	36.7
(WY)	1990	1988	1984	1991	1984	1983	1983	1989	1983	1984	1990	1987
MIN	10.4	14.8	15.0	16.9	18.5	21.4	18.5	14.5	9.23	8.94	10.0	7.29
(WY)	1983	1983	1983	1992	1992	1985	1985	1986	1986	1986	1985	1986

01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD--Continued

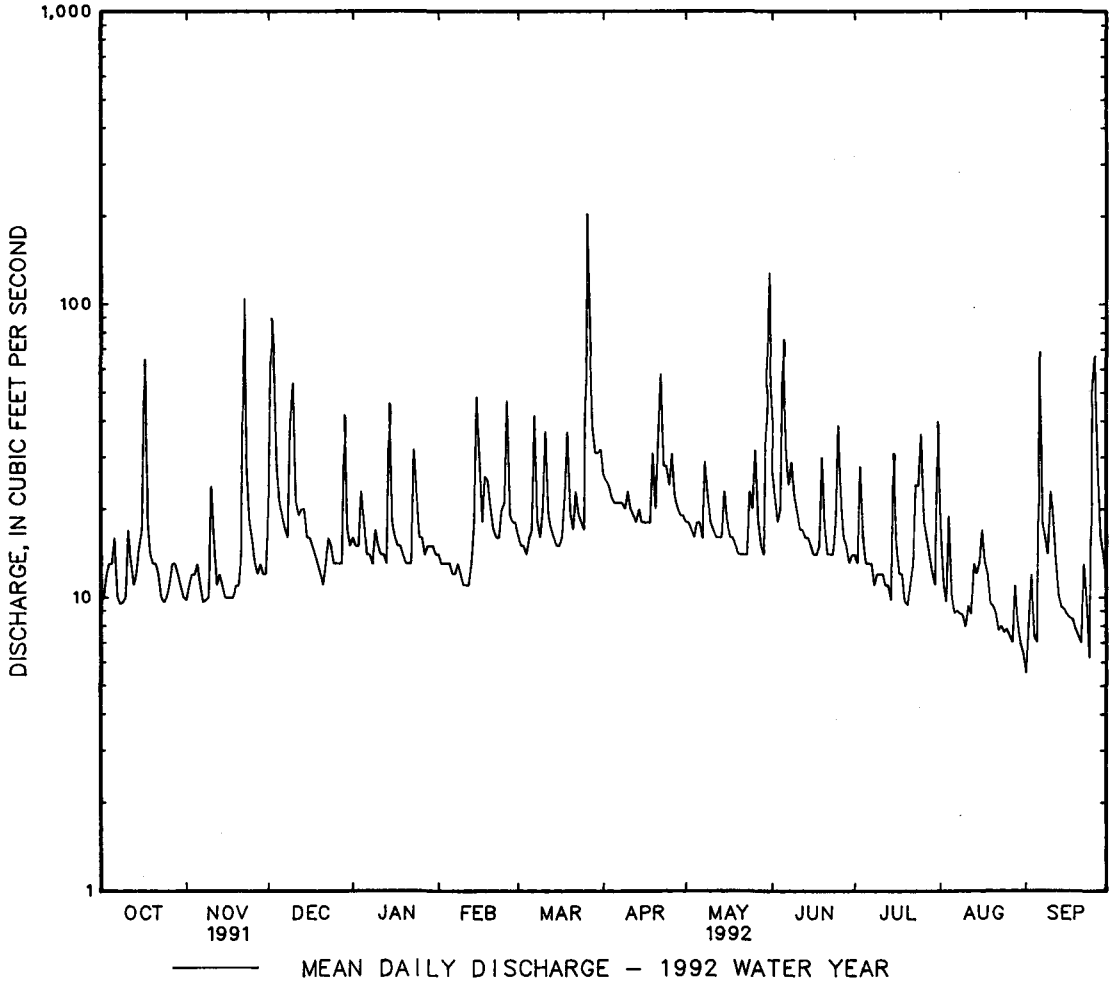
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1983 - 1992	
ANNUAL TOTAL	8566.2		6981.3			
ANNUAL MEAN	23.5		19.1		27.2	
HIGHEST ANNUAL MEAN					39.0	1984
LOWEST ANNUAL MEAN					17.2	1986
HIGHEST DAILY MEAN	164	Mar 23	202	Mar 26	600	Feb 12 1985
LOWEST DAILY MEAN	7.3	Aug 7	5.5	Sep 1	5.5	(a)
ANNUAL SEVEN-DAY MINIMUM	8.7	Aug 2	7.5	Aug 26	5.8	Aug 10 1986
INSTANTANEOUS PEAK FLOW	750	Jul 26	538	Mar 26	b3360	Jul 1 1984
INSTANTANEOUS PEAK STAGE	5.84	Jul 26	4.87	Mar 26	c12.10	Jul 1 1984
INSTANTANEOUS LOW FLOW	5.5	Aug 29	5.5	(d)	4.1	Oct 1 1986
ANNUAL RUNOFF (CFSM)	1.12		.91		1.30	
ANNUAL RUNOFF (INCHES)	15.25		12.43		17.69	
10 PERCENT EXCEEDS	39		30		46	
50 PERCENT EXCEEDS	18		15		20	
90 PERCENT EXCEEDS	9.9		9.6		10	

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

b From rating curve extended above 1,000 ft^3/s.

c From floodmarks.

d Aug. 31, Sept. 1, 2, 24, 25.



01584050 LONG GREEN CREEK AT GLEN ARM, MD

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

DRAINAGE AREA.--9.40 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (vandalism), 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	UNKNOWN	*263	*3.37	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.1	4.6	5.7	4.7	5.9	e11	6.6	8.4	4.8	4.2	2.2
2	3.8	3.1	22	5.6	4.6	5.9	e9.8	6.4	6.8	4.7	2.9	2.1
3	3.6	3.1	28	5.6	4.5	5.8	e9.4	6.0	6.3	5.9	2.7	2.5
4	3.3	3.1	13	6.3	4.5	5.6	e9.0	5.9	6.0	5.4	4.3	2.6
5	3.3	3.1	8.1	6.5	4.5	5.6	e8.6	5.9	23	4.5	3.0	2.3
6	3.7	3.1	7.1	5.9	4.5	5.6	e8.2	5.9	11	4.6	2.7	5.6
7	3.1	3.1	6.5	5.7	4.5	32	8.0	5.8	8.5	4.4	2.7	4.0
8	3.1	3.1	6.3	5.6	4.5	11	7.9	7.0	7.6	4.1	2.7	3.3
9	3.1	3.1	9.2	5.8	4.3	8.7	7.7	6.7	7.0	4.3	2.8	3.1
10	3.1	4.6	24	5.6	4.0	e8.6	8.5	6.1	6.2	3.8	2.5	2.8
11	3.4	5.2	9.3	5.3	4.2	e20	7.7	5.8	5.8	3.5	2.7	3.2
12	3.8	3.9	8.0	5.3	4.0	e10	7.3	5.7	5.5	3.7	2.9	2.5
13	3.4	3.8	7.6	5.3	3.9	e7.5	6.8	5.6	5.3	3.4	2.8	2.3
14	3.3	3.8	7.8	13	4.6	e6.5	6.7	5.3	5.4	2.9	3.6	2.3
15	3.3	3.8	6.7	7.3	11	e6.0	6.7	5.8	5.1	4.8	3.4	2.3
16	3.7	3.7	6.5	6.4	11	e5.6	6.7	6.2	5.1	4.0	4.4	2.4
17	47	3.3	6.2	5.9	6.6	e5.5	6.9	5.6	5.0	3.3	4.4	2.3
18	10	3.3	6.0	5.9	8.7	e5.4	6.9	5.6	5.0	3.3	5.1	2.3
19	5.7	3.3	5.6	5.1	8.2	e13	7.8	5.2	8.7	3.0	3.4	2.3
20	4.7	3.3	5.6	5.0	7.4	e8.0	6.7	4.9	6.2	2.8	3.0	2.1
21	4.4	3.3	5.6	5.1	6.2	e7.0	7.5	4.7	5.1	2.7	2.7	2.1
22	4.2	19	5.3	5.1	5.7	e6.4	15	4.7	4.7	3.0	2.6	2.4
23	4.0	9.5	5.3	8.5	5.6	e7.0	9.3	4.5	4.7	3.4	2.5	2.5
24	3.8	5.6	5.3	8.5	5.6	e6.6	8.7	5.0	4.7	4.4	2.5	1.9
25	3.6	4.7	5.3	5.6	5.6	e6.0	7.8	6.3	6.2	5.7	2.4	5.0
26	3.5	4.1	5.3	5.6	14	e20	8.1	6.8	5.8	3.8	2.3	14
27	3.5	4.0	5.2	5.3	8.1	e86	7.5	5.9	4.7	3.9	2.1	5.7
28	3.2	4.0	4.9	5.4	7.1	e40	7.0	5.2	4.4	3.5	4.8	4.4
29	3.1	3.6	13	5.6	6.4	e25	6.9	4.7	4.2	3.0	3.7	3.4
30	3.1	3.5	7.6	5.1	---	e17	6.9	10	4.3	2.9	2.3	3.0
31	3.1	---	6.2	4.7	---	e13	---	25	---	5.7	2.3	---
TOTAL	161.7	131.2	267.1	187.3	178.5	416.2	243.0	200.8	196.7	123.2	96.4	98.9
MEAN	5.22	4.37	8.62	6.04	6.16	13.4	8.10	6.48	6.56	3.97	3.11	3.30
MAX	47	19	28	13	14	86	15	25	23	5.9	5.1	14
MIN	3.1	3.1	4.6	4.7	3.9	5.4	6.7	4.5	4.2	2.7	2.1	1.9
CFSM	.55	.47	.92	.64	.65	1.43	.86	.69	.70	.42	.33	.35
IN.	.64	.52	1.06	.74	.71	1.65	.96	.79	.78	.49	.38	.39

e Estimated

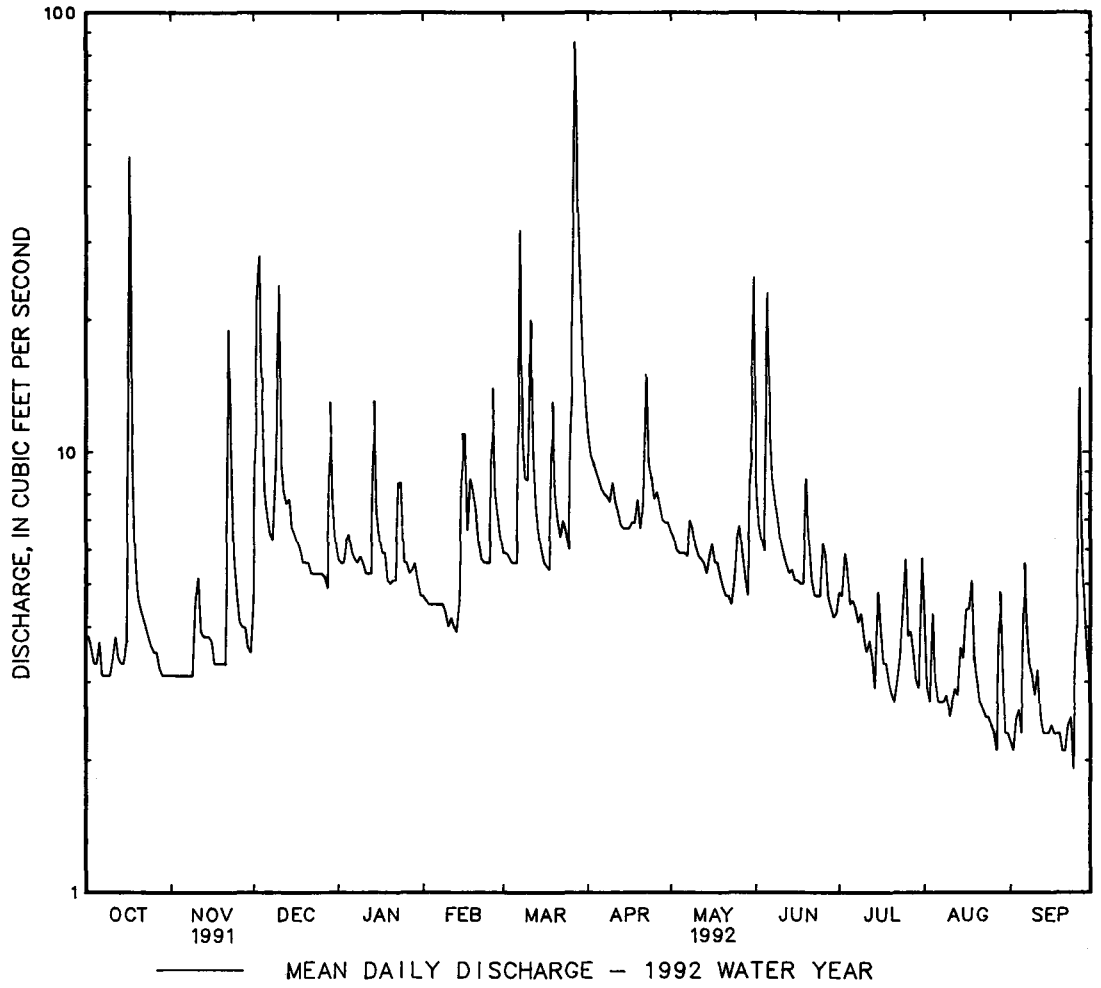
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1992, BY WATER YEAR (WY)

MEAN	7.95	8.54	11.0	13.9	14.2	14.6	13.8	13.1	10.3	9.47	8.11	8.15
MAX	25.1	18.0	26.9	38.4	39.3	28.8	35.3	28.1	17.0	28.0	26.9	32.2
(WY)	1980	1980	1984	1979	1979	1978	1983	1989	1990	1989	1978	1979
MIN	2.97	3.05	4.04	3.67	6.16	6.02	7.37	5.94	3.85	2.49	2.97	2.41
(WY)	1987	1982	1981	1981	1992	1981	1981	1986	1986	1986	1981	1986

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

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1976 - 1992	
ANNUAL TOTAL	3223.9		2301.0			
ANNUAL MEAN	8.83		6.29		11.1	
HIGHEST ANNUAL MEAN					18.1	1979
LOWEST ANNUAL MEAN					5.33	1981
HIGHEST DAILY MEAN	90	Jan 12	e86	Mar 27	408	Jan 26 1978
LOWEST DAILY MEAN	2.5	(a)	1.9	Sep 24	1.5	Aug 15 1986
ANNUAL SEVEN-DAY MINIMUM	2.8	Aug 2	2.2	Sep 18	1.6	Aug 10 1986
INSTANTANEOUS PEAK FLOW	297	Aug 20	263	Mar 27	b3250	Jul 1 1984
INSTANTANEOUS PEAK STAGE	3.49	Aug 20	3.37	Mar 27	6.70	Jul 1 1984
INSTANTANEOUS LOW FLOW	2.5	(c)	1.9	(d)	f1.0	Jan 29 1977
ANNUAL RUNOFF (CFSM)	.94		.67		1.18	
ANNUAL RUNOFF (INCHES)	12.76		9.11		16.01	
10 PERCENT EXCEEDS	15		9.1		17	
50 PERCENT EXCEEDS	6.3		5.2		8.1	
90 PERCENT EXCEEDS	3.1		2.8		3.5	

e estimated.
a Aug. 7, Sept. 2, 3.
b From rating curve extended above 1,300 ft^3/s.
c Aug. 6-8, Sept. 1-4.
d Sept. 1, 2, 23-25.
f Result of freezeup.



01585105 HONEYGO RUN AT WHITE MARSH, MD

LOCATION.--Lat 39°22'41", long 76°25'46", Baltimore County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on U. S. Highway 40, 800 ft upstream from Whitemarsh Run, 1,000 ft southwest of Ebenezer Road, and 0.3 mi northeast of Whitemarsh Blvd.

DRAINAGE AREA.--2.65 mi^2.

PERIOD OF RECORD.--August 1990 to current year.

GAGE.--Water-stage recorder and concrete block control. Datum of gage is 6.14 ft above National Geodetic Vertical Datum of 1929.

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 17	1745	257	3.62	Mar. 27	0045	*298	*3.92

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	1.2	3.2	1.7	1.2	1.1	2.9	1.8	2.3	1.0	1.9	.23
2	.87	1.2	27	1.7	1.0	1.0	2.5	1.8	1.6	.62	.67	.23
3	.73	1.2	21	1.7	.94	.92	2.3	1.6	1.4	1.9	.49	1.5
4	.70	1.2	7.0	2.5	.92	.90	2.2	1.5	1.2	1.4	.44	.79
5	.70	1.1	3.3	2.1	.92	.80	2.1	1.3	18	.58	.41	.38
6	3.0	1.0	2.8	1.6	.79	1.1	1.8	1.3	4.3	.60	.36	3.1
7	.90	1.0	2.3	1.5	.88	40	1.8	1.3	2.4	.49	.35	1.4
8	.77	1.0	2.1	1.4	.92	5.0	1.8	2.5	1.8	.44	.30	.69
9	.70	1.0	12	1.5	.81	3.7	1.7	2.0	1.5	.40	.37	.85
10	.70	3.2	21	1.6	.74	4.7	2.4	1.6	1.2	.37	.35	.74
11	.86	2.6	3.7	1.4	.92	12	2.2	1.4	1.0	.35	.43	1.4
12	1.1	1.5	2.9	1.3	.93	3.5	2.1	1.3	.92	.30	.53	.47
13	.77	1.3	2.9	1.3	.87	2.6	1.8	1.3	.88	.35	.59	.36
14	.70	1.3	3.5	4.9	1.2	2.2	1.8	1.2	.80	.34	1.3	.35
15	.71	1.2	2.5	2.1	9.2	2.0	1.8	2.8	.85	1.5	1.2	.30
16	.96	1.2	2.1	1.5	5.5	1.7	1.8	2.6	.80	.78	1.6	.30
17	53	1.1	2.0	1.1	1.8	1.7	1.8	1.6	.80	.44	1.4	.31
18	5.7	.96	1.9	1.2	5.1	2.2	1.8	1.3	.73	.42	1.6	.30
19	2.3	.92	1.4	.96	3.6	10	3.3	1.1	2.9	.36	.64	.23
20	1.7	.92	1.3	1.0	3.3	3.2	2.1	1.0	1.3	.35	.57	.23
21	1.5	.97	1.5	1.0	1.7	2.3	2.4	.92	.74	.30	.42	.27
22	1.4	22	1.5	1.0	1.3	4.0	7.7	.92	.59	.30	.36	.72
23	1.3	5.9	1.6	2.6	1.2	4.6	2.9	.86	.52	.68	.36	1.1
24	1.2	3.0	1.7	4.0	1.3	2.2	2.5	.97	.63	2.2	.32	.30
25	1.2	2.2	1.5	1.5	1.8	1.7	2.5	2.1	1.9	3.0	.30	8.8
26	1.3	1.9	1.4	1.5	16	46	4.7	2.0	1.3	.89	.30	15
27	1.3	1.7	1.3	1.2	3.2	60	2.6	1.6	.67	1.2	.30	2.3
28	1.2	1.7	1.3	1.4	2.0	6.2	2.2	1.1	.62	.68	.47	1.4
29	1.2	1.7	6.8	1.3	1.5	4.3	2.0	.92	.56	.50	.74	.89
30	1.2	1.5	2.9	1.3	---	3.6	1.8	6.2	.57	.44	.34	.73
31	1.2	---	1.9	1.3	---	3.7	---	11	---	11	.29	---
TOTAL	91.79	68.67	149.3	52.16	71.54	238.92	73.3	60.89	54.78	34.18	19.70	45.67
MEAN	2.96	2.29	4.82	1.68	2.47	7.71	2.44	1.96	1.83	1.10	.64	1.52
MAX	53	22	27	4.9	16	60	7.7	11	18	11	1.9	15
MIN	.70	.92	1.3	.96	.74	.80	1.7	.86	.52	.30	.29	.23
CFSM	1.12	.86	1.82	.63	.93	2.91	.92	.74	.69	.42	.24	.57
IN.	1.29	.96	2.10	.73	1.00	3.35	1.03	.85	.77	.48	.28	.64

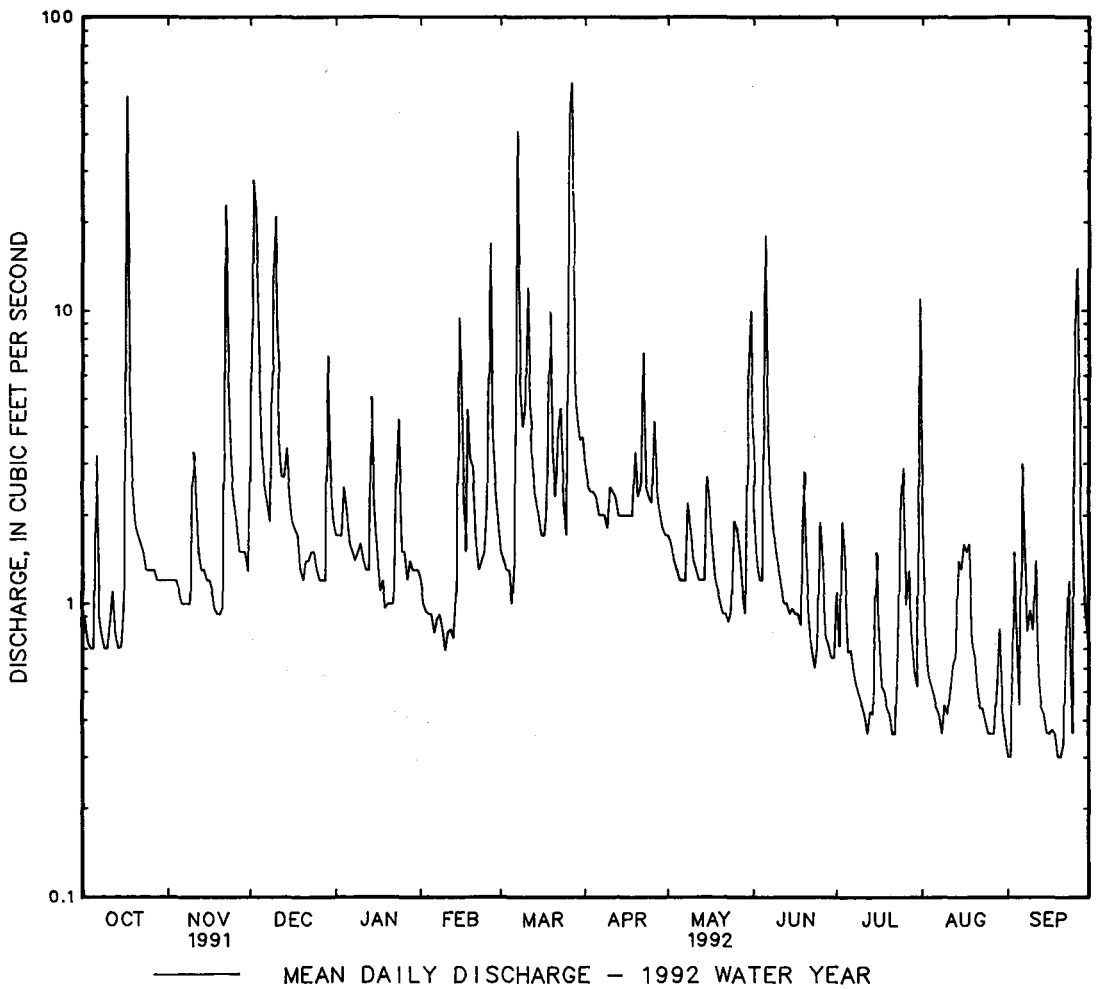
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

MEAN	3.08	2.76	5.65	4.47	2.31	6.93	2.64	1.72	1.30	.85	3.70	2.75
MAX	3.20	3.24	6.49	7.25	2.47	7.71	2.83	1.96	1.83	1.10	9.07	5.41
(WY)	1991	1991	1991	1991	1992	1992	1991	1992	1992	1992	1990	1991
MIN	2.96	2.29	4.82	1.68	2.14	6.16	2.44	1.47	.77	.59	.64	1.33
(WY)	1992	1992	1992	1992	1991	1991	1992	1991	1991	1991	1992	1990

01585105 HONEYGO RUN AT WHITE MARSH, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1990 - 1992	
ANNUAL TOTAL	1162.81		960.90			
ANNUAL MEAN	3.19		2.63		3.03	
HIGHEST ANNUAL MEAN					3.43	1991
LOWEST ANNUAL MEAN					2.63	1992
HIGHEST DAILY MEAN	78	Jan 12	60	Mar 27	120	Aug 22 1990
LOWEST DAILY MEAN	.19	(a)	.23	(b)	.19	(a)
ANNUAL SEVEN-DAY MINIMUM	.21	Jul 17	.28	Sep 15	.21	Jul 17 1991
INSTANTANEOUS PEAK FLOW	502	Sep 17	298	Mar 27	502	Sep 17 1991
INSTANTANEOUS PEAK STAGE	5.21	Sep 17	3.92	Mar 27	5.21	Sep 17 1991
INSTANTANEOUS LOW FLOW	.19	(c)	.23	(d)	.19	(c)
ANNUAL RUNOFF (CFSM)	1.20		.99		1.14	
ANNUAL RUNOFF (INCHES)	16.32		13.49		15.51	
10 PERCENT EXCEEDS	5.3		3.8		5.2	
50 PERCENT EXCEEDS	1.6		1.3		1.5	
90 PERCENT EXCEEDS	.36		.41		.40	

a July 17, 18, 23, 1991.
b Sept. 1, 2, 19, 20.
c July 11, 12, 15-19, 21, 23, 24, Aug. 6, 8, 1991.
d Aug. 31, Sept. 1-3, 18-21, 24, 25.



01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD

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

DRAINAGE AREA.--3.29 mi^2.

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

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 670 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mi upstream from station since August 1957, capacity, 113,700,000 gal. Beginning October 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 26	2300	*62	*2.60	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.54	.34	.40	.27	.35	.71	.49	2.1	.29	.41	.24
2	.24	.28	7.1	.39	.26	.34	.67	.46	.55	.30	.42	.26
3	.20	.28	9.1	.39	.27	.34	.67	1.1	.49	1.1	.44	.26
4	.25	.29	3.3	1.3	.26	1.1	.64	.46	.46	1.6	2.7	.25
5	.23	.28	1.4	1.9	.27	.94	.60	.98	4.5	.67	.39	.24
6	.41	.29	.42	.46	.51	.75	.58	1.8	3.2	.29	.38	1.2
7	.29	.29	.39	.43	.29	3.4	.57	.46	1.2	.27	.36	.69
8	.25	.29	.34	.99	.26	1.3	.59	1.8	.49	.26	.34	.42
9	.22	.25	3.1	.52	.28	.39	.61	3.2	.45	.26	.34	.38
10	.23	.28	6.5	.39	.27	.42	.75	1.2	.42	.25	.32	.45
11	.26	.37	.98	.39	.26	3.6	.84	.53	.39	.26	.38	.75
12	.30	.27	.49	.39	.27	1.6	1.1	.51	.39	.24	.53	.34
13	.56	.25	.49	.39	.29	.46	.46	.52	.38	.22	.31	.32
14	.30	.63	1.3	.78	.31	.42	.46	.49	.41	.22	.29	.32
15	.23	.28	.45	.46	2.6	.39	.46	.88	.37	.27	.29	.29
16	.23	.24	.41	.36	2.9	.39	.51	.51	.41	.23	.34	.31
17	1.7	.24	.39	.51	1.1	.39	.49	.46	.43	2.0	.34	.29
18	.60	.22	.39	.36	.45	.68	.46	.44	.45	.27	.37	.26
19	.54	.20	.35	.45	.42	2.7	1.1	.42	.51	.24	.56	.26
20	1.2	.39	.34	.45	.39	1.5	.46	.39	.45	.22	.29	.27
21	.96	.28	.35	.38	.36	.45	2.1	.39	.36	.60	.28	.29
22	.96	6.4	.39	.35	.34	.45	5.8	.39	.32	1.4	.27	1.0
23	1.1	2.4	.42	1.2	.33	.46	1.4	.35	.30	.78	.28	.90
24	1.1	1.5	.39	1.6	.38	.43	.84	.39	.57	1.4	.28	.26
25	1.0	.77	.37	.39	.38	.39	.57	.39	1.5	3.8	.27	.60
26	1.1	.30	.34	.33	4.4	10	1.2	1.0	1.2	.94	.25	2.0
27	1.1	.57	.34	.29	1.4	18	.53	1.3	.31	.60	.24	.61
28	.72	.29	.35	.29	.44	5.4	.52	.39	.57	.50	.40	.45
29	.34	.29	4.4	.28	.39	2.2	.50	.39	.28	.50	.66	.38
30	.50	.28	1.7	.28	---	.79	.52	2.3	.28	.50	.24	.37
31	.32	---	.45	.29	---	.79	---	9.4	---	.45	.23	---
TOTAL	17.72	19.24	47.08	17.39	20.35	60.82	26.71	33.79	23.74	20.93	13.20	14.66
MEAN	.57	.64	1.52	.56	.70	1.96	.89	1.09	.79	.68	.43	.49
MAX	1.7	6.4	9.1	1.9	4.4	18	5.8	9.4	4.5	3.8	2.7	2.0
MIN	.20	.20	.34	.28	.26	.34	.46	.35	.28	.22	.23	.24
CFSM	.17	.19	.46	.17	.21	.60	.27	.33	.24	.21	.13	.15
IN.	.20	.22	.53	.20	.23	.69	.30	.38	.27	.24	.15	.17

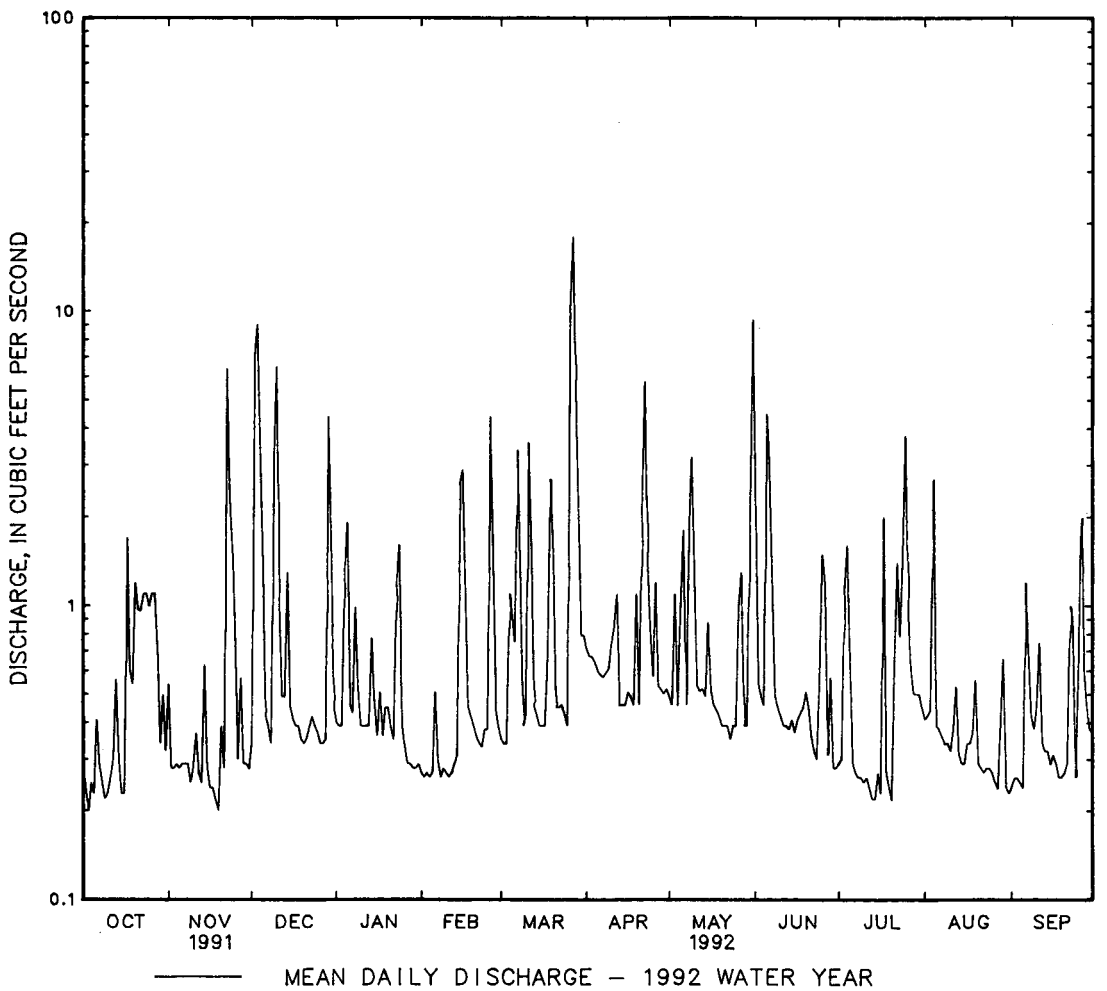
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

MEAN	2.20	2.44	3.06	3.40	4.47	4.37	4.54	4.08	3.68	2.75	2.16	2.42
MAX	9.96	6.66	7.16	10.8	10.7	8.80	11.9	11.3	29.5	11.1	6.91	21.7
(WY)	1980	1953	1973	1978	1974	1978	1952	1952	1972	1972	1955	1975
MIN	.40	.53	1.02	.56	.70	.77	.89	.88	.64	.67	.36	.30
(WY)	1987	1974	1989	1992	1992	1981	1992	1986	1986	1991	1986	1977

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	626.72		315.63			
ANNUAL MEAN	a1.72		a.86		a3.29	
HIGHEST ANNUAL MEAN					7.82	1972
LOWEST ANNUAL MEAN					.86	1992
HIGHEST DAILY MEAN	19	Aug 20	18	Mar 27	440	Jun 22 1972
LOWEST DAILY MEAN	.20	(b)	.20	(c)	.16	(d)
ANNUAL SEVEN-DAY MINIMUM	.23	Sep 12	.24	Jul 10	.22	Sep 8 1977
INSTANTANEOUS PEAK FLOW	182	Aug 20	62	Mar 26	f2220	Sep 26 1975
INSTANTANEOUS PEAK STAGE	3.82	Aug 20	2.60	Mar 26	7.47	Sep 26 1975
INSTANTANEOUS LOW FLOW	.16	(g)	.20	(h)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	.52		.26		1.00	
ANNUAL RUNOFF (INCHES)	7.09		3.57		13.59	
10 PERCENT EXCEEDS	3.9		1.6		5.8	
50 PERCENT EXCEEDS	.96		.42		2.3	
90 PERCENT EXCEEDS	.24		.26		.80	

a Unadjusted for storage and diversions.
b Aug. 17, 18, Sept. 22.
c Oct. 3, Nov. 19.
d Oct. 29, 30, 1986.
f From rating curve extended above 200 ft^3/s on the basis of culvert measurements at gage heights 5.54 ft and 7.47 ft.
g Aug. 16-18.
h Many days.



01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD

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

DRAINAGE AREA.--56.6 mi^2.

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

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 425 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Slight diurnal fluctuation at low and medium flow caused by mill upstream from station. Low flow affected slightly by Cranberry Reservoir since August 1957, capacity, 113,700,000 gal. Records do not include a mean discharge of 3.00 ft^3/s diverted upstream from station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0200	*1,350	*5.08	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	17	27	31	27	35	65	41	61	28	31	16
2	20	17	82	31	25	34	59	38	45	24	22	16
3	20	17	226	32	25	33	55	37	39	33	21	19
4	19	16	79	40	25	32	52	34	36	36	54	18
5	19	16	46	46	25	32	49	50	78	26	26	17
6	24	17	37	35	24	32	44	52	69	24	21	69
7	18	17	34	32	24	58	43	40	46	23	20	40
8	16	17	32	29	26	45	42	47	38	21	20	26
9	16	16	33	35	23	35	42	76	35	22	21	39
10	17	18	131	36	20	35	50	49	32	20	19	25
11	19	24	55	32	24	74	45	41	31	20	19	64
12	24	20	42	29	22	49	44	38	30	20	22	28
13	19	19	40	29	22	41	39	36	30	20	19	24
14	18	19	49	42	29	37	37	36	29	18	21	21
15	18	18	38	35	66	36	37	37	29	23	20	20
16	20	18	33	28	74	33	38	42	26	25	23	20
17	44	17	31	28	43	32	39	36	26	27	22	19
18	41	18	30	27	44	34	38	35	25	22	24	19
19	24	18	27	26	46	56	41	33	33	19	33	18
20	21	18	27	25	41	49	38	31	32	17	22	18
21	20	19	29	26	36	43	55	30	26	25	20	17
22	20	128	29	26	34	45	114	29	25	98	19	20
23	20	82	28	32	33	45	62	29	24	58	19	36
24	20	38	30	43	36	41	51	30	26	61	18	19
25	20	29	27	29	41	37	49	32	48	99	17	29
26	20	25	26	28	84	130	59	43	42	46	16	104
27	20	22	26	25	55	473	52	43	28	36	16	51
28	19	22	25	27	43	116	44	31	25	32	25	39
29	18	22	68	27	39	87	42	29	23	26	33	29
30	17	21	48	27	---	72	41	44	23	25	19	25
31	17	---	35	27	---	80	---	209	---	28	17	---
TOTAL	648	765	1470	965	1056	1981	1466	1378	1060	1002	699	905
MEAN	20.9	25.5	47.4	31.1	36.4	63.9	48.9	44.5	35.3	32.3	22.5	30.2
MAX	44	128	226	46	84	473	114	209	78	99	54	104
MIN	16	16	25	25	20	32	37	29	23	17	16	16
CFSM	.37	.45	.84	.55	.64	1.13	.86	.79	.62	.57	.40	.53
IN.	.43	.50	.97	.63	.69	1.30	.96	.91	.70	.66	.46	.59

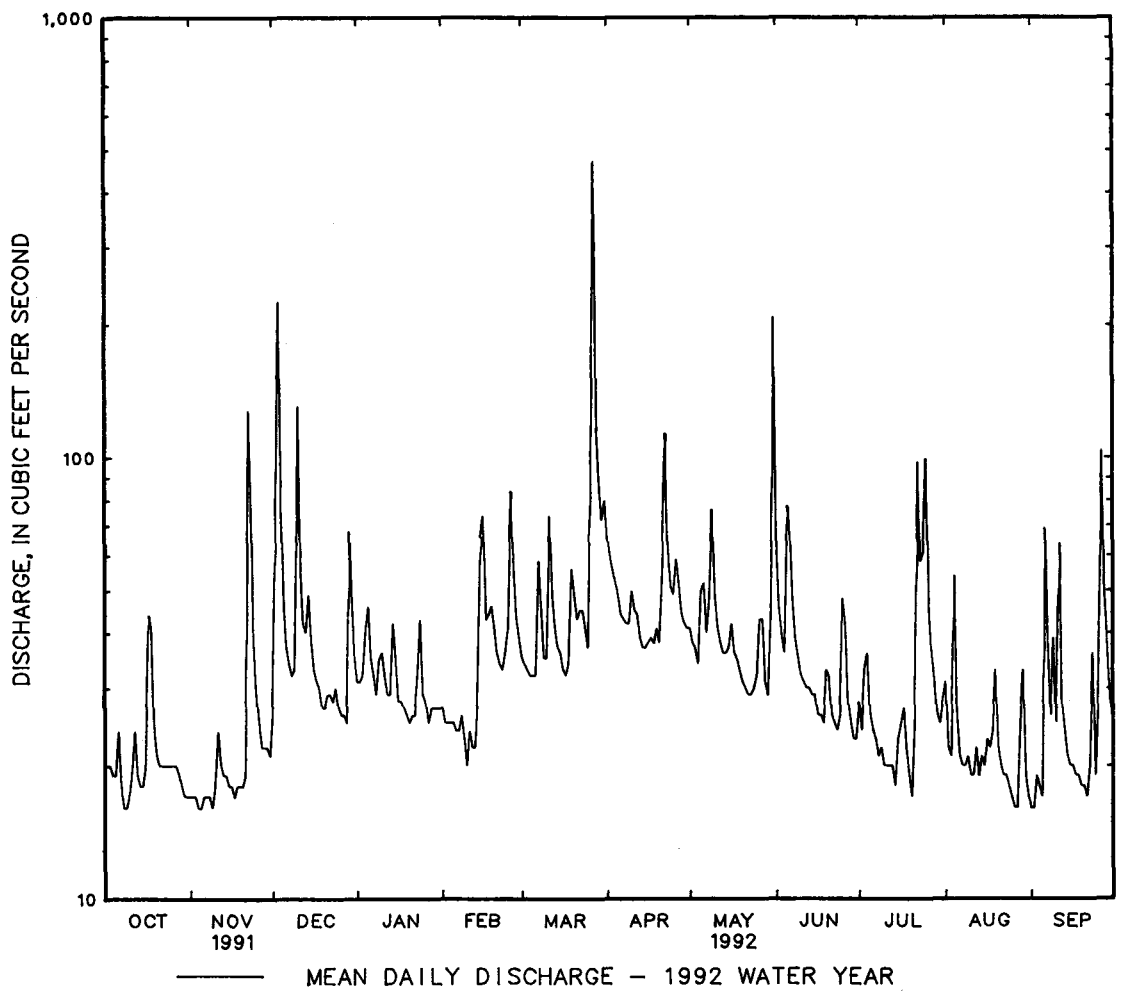
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1992, BY WATER YEAR (WY)

MEAN	41.4	49.1	60.8	71.5	86.0	89.3	84.3	76.1	64.6	48.5	42.0	42.2
MAX	214	114	164	212	212	186	204	201	389	149	165	356
(WY)	1980	1953	1973	1979	1979	1978	1952	1952	1972	1972	1955	1975
MIN	11.8	15.8	15.5	17.6	36.4	37.1	36.3	26.3	19.5	9.72	6.91	12.4
(WY)	1964	1966	1966	1966	1992	1959	1969	1969	1969	1966	1966	1964

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

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1945 - 1992	
ANNUAL TOTAL	17339		13395			
ANNUAL MEAN	47.5		36.6		62.9	
HIGHEST ANNUAL MEAN					121	1972
LOWEST ANNUAL MEAN					30.1	1966
HIGHEST DAILY MEAN	599	Aug 20	473	Mar 27	6000	Jun 22 1972
LOWEST DAILY MEAN	10	(a)	16	(b)	3.1	(c)
ANNUAL SEVEN-DAY MINIMUM	12	Aug 1	17	Nov 3	3.5	Sep 7 1966
INSTANTANEOUS PEAK FLOW	2060	Aug 20	1350	Mar 27	d27800	Jun 22 1972
INSTANTANEOUS PEAK STAGE	6.14	Aug 20	5.08	Mar 27	f20.75	Jun 22 1972
INSTANTANEOUS LOW FLOW	3.5	Jul 2	3.7	Jul 5	1.3	(g)
ANNUAL RUNOFF (CFSM)	.84		.65		1.11	
ANNUAL RUNOFF (INCHES)	11.40		8.80		15.09	
10 PERCENT EXCEEDS	84		55		110	
50 PERCENT EXCEEDS	32		29		43	
90 PERCENT EXCEEDS	16		18		19	

a Aug. 6, 18.
b Oct. 8, 9, Nov. 4, 5, 9, Aug. 26, 27, Sept. 1, 2.
c Sept. 10, 12, 1966.
d From rating curve extended above 4,100 ft^3/s on basis of contracted-opening measurement of peak flow.
f From high-water mark in well.
g Sept. 17, 1983 and Aug. 10, 1985, result of regulation.



01586210 BEAVER RUN NEAR FINKSBURG, MD

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

DRAINAGE AREA.--14.0 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 428.70 ft (corrected) above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Jan. 17, 18, 20, 21 (ice effect), 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 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0045	*337	*2.83	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	6.2	7.9	8.6	8.1	11	20	13	15	10	11	4.6
2	5.3	6.2	36	8.5	7.5	11	18	13	13	7.3	7.8	4.7
3	5.2	6.2	48	8.5	7.4	10	17	12	11	8.5	7.3	5.9
4	5.0	6.2	18	11	7.4	10	16	12	11	8.5	13	5.8
5	5.1	5.7	12	11	7.4	9.9	15	13	21	6.7	7.4	5.5
6	7.4	5.6	11	9.3	7.2	10	15	13	15	6.5	6.8	23
7	5.7	5.9	9.8	8.7	7.4	16	15	12	12	6.0	6.3	9.8
8	5.3	5.9	9.1	8.3	7.6	12	14	15	11	5.6	6.1	7.8
9	5.3	6.1	11	9.6	7.0	11	14	17	11	5.7	6.4	11
10	5.6	6.6	29	9.8	6.6	11	15	13	9.7	5.4	5.8	7.7
11	6.5	7.7	13	9.1	7.4	20	15	12	9.0	5.2	6.3	16
12	7.5	6.8	12	8.8	7.0	13	15	11	8.7	5.2	7.2	7.9
13	6.6	6.5	11	8.7	7.1	12	14	11	8.1	5.1	5.9	6.9
14	6.2	6.3	12	12	8.1	11	13	10	7.7	4.8	6.4	6.2
15	6.3	6.2	11	9.7	20	10	13	12	7.2	10	6.4	6.1
16	6.8	6.1	9.7	8.2	19	9.7	13	11	7.0	9.0	7.2	5.9
17	14	5.5	9.1	e8.0	12	9.6	13	11	6.8	6.0	7.2	5.6
18	11	5.3	8.8	e7.5	13	10	13	11	6.7	5.8	7.6	5.6
19	7.5	5.3	7.7	7.3	14	16	16	10	11	5.2	7.0	5.4
20	6.9	5.3	7.8	e7.2	12	13	14	e9.2	8.2	4.7	6.0	5.1
21	6.7	5.6	8.3	e7.5	11	12	22	8.6	7.1	7.5	5.0	5.0
22	6.7	39	8.1	8.1	10	11	38	8.4	6.9	17	4.8	6.5
23	6.9	19	8.2	10	10	12	21	8.1	6.6	22	4.8	9.3
24	6.7	10	8.3	11	10	11	18	8.0	6.8	19	4.5	5.5
25	6.2	8.1	7.7	8.5	12	11	17	8.3	12	39	4.3	9.4
26	6.3	7.4	7.2	8.2	24	50	18	11	12	13	4.3	26
27	6.5	6.9	7.2	8.2	15	104	17	10	7.4	12	4.2	12
28	6.5	6.9	7.0	8.2	13	32	15	9.0	6.7	10	6.1	10
29	6.2	6.8	19	8.2	12	25	14	8.6	6.5	8.7	7.0	8.3
30	6.3	6.5	12	8.0	---	22	13	13	6.9	8.0	5.0	7.3
31	6.1	---	9.4	8.3	---	24	---	47	---	11	4.9	---
TOTAL	205.6	237.8	396.3	274.0	310.2	550.2	491	381.2	289.0	298.4	200.0	255.8
MEAN	6.63	7.93	12.8	8.84	10.7	17.7	16.4	12.3	9.63	9.63	6.45	8.53
MAX	14	39	48	12	24	104	38	47	21	39	13	26
MIN	5.0	5.3	7.0	7.2	6.6	9.6	13	8.0	6.5	4.7	4.2	4.6
CFSM	.47	.57	.91	.63	.76	1.27	1.17	.88	.69	.69	.46	.61
IN.	.55	.63	1.05	.73	.82	1.46	1.30	1.01	.77	.79	.53	.68

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

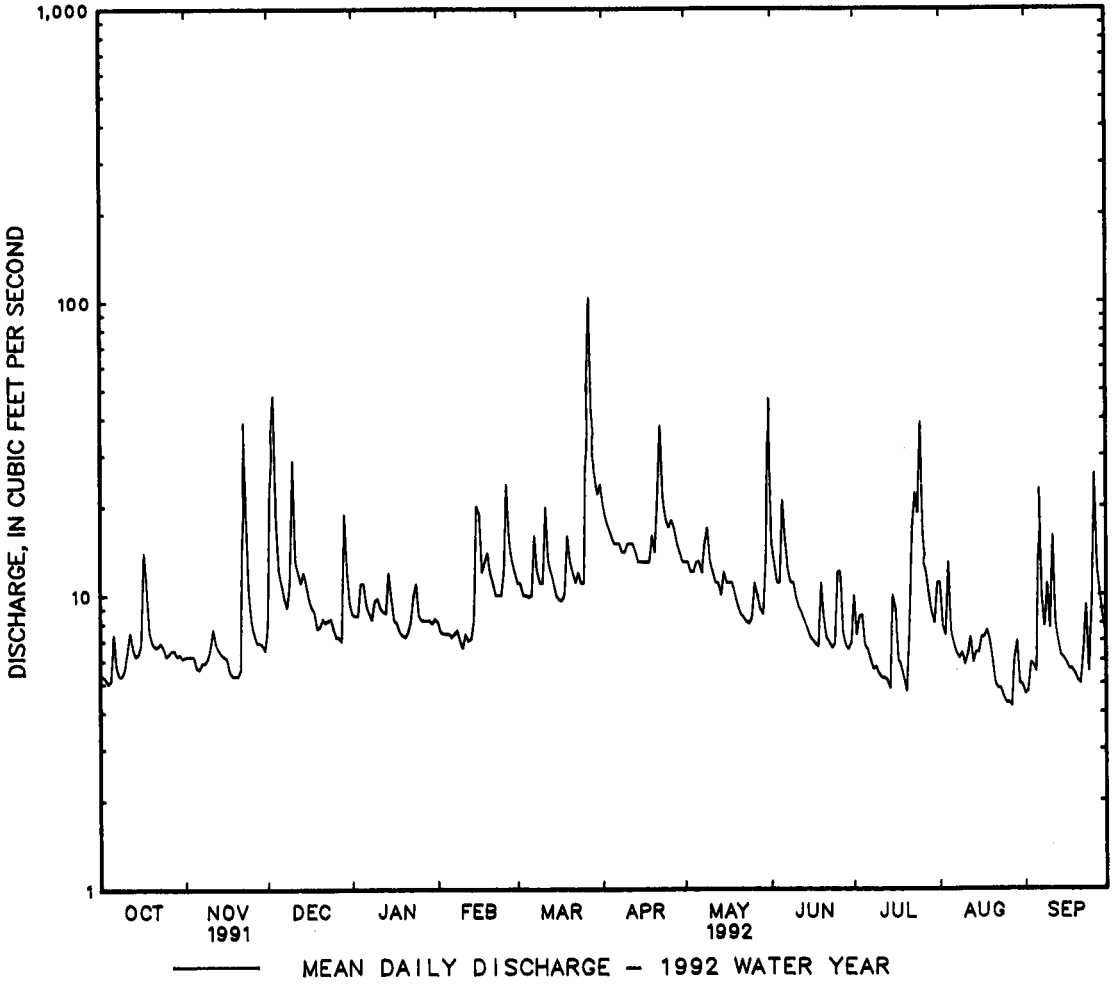
MEAN	9.30	12.8	15.9	16.5	21.1	20.5	22.8	23.9	13.0	9.44	9.54	7.42
MAX	17.2	17.5	35.5	32.5	37.8	32.5	51.0	51.9	25.3	17.1	29.9	13.9
(WY)	1991	1991	1984	1991	1985	1984	1983	1989	1989	1984	1984	1987
MIN	3.73	7.75	8.20	8.41	10.7	13.8	11.9	10.1	5.50	4.30	4.01	2.78
(WY)	1987	1983	1983	1983	1992	1990	1985	1986	1986	1991	1986	1986

01586210 BEAVER RUN NEAR FINKSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1983 - 1992	
ANNUAL TOTAL	5195.7		3889.5			
ANNUAL MEAN	14.2		10.6		15.2	
HIGHEST ANNUAL MEAN					24.7	1984
LOWEST ANNUAL MEAN					9.92	1986
HIGHEST DAILY MEAN	262	Aug 20	104	Mar 27	504	Feb 12 1985
LOWEST DAILY MEAN	2.6	Aug 18	4.2	Aug 27	2.1	(a)
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 12	4.6	Aug 21	2.2	Sep 15 1986
INSTANTANEOUS PEAK FLOW	1660	Aug 20	337	Mar 27	b2150	May 6 1989
INSTANTANEOUS PEAK STAGE	5.35	Aug 20	2.83	Mar 27	c5.70	May 6 1989
INSTANTANEOUS LOW FLOW	2.5	(d)	f2.9	Feb 10	2.0	(g)
ANNUAL RUNOFF (CFSM)	1.02		.76		1.08	
ANNUAL RUNOFF (INCHES)	13.81		10.33		14.70	
10 PERCENT EXCEEDS	26		16		27	
50 PERCENT EXCEEDS	9.4		8.5		12	
90 PERCENT EXCEEDS	4.1		5.6		5.0	

a Sept. 17, 18, 1986.

b From rating curve extended above 600 ft^3/s.
c From floodmarks.
d Aug. 18, 19.
f Result of freezeup.
g Sept. 12, 1983, Sept. 17, 18, 1986.



01586610 MORGAN RUN NEAR LOUISVILLE, MD

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

DRAINAGE AREA.--28.0 mi^2.

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

REVISED RECORDS.--WRD MD-DE-84: 1983(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 430 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for Oct. 5-16 (missing record) and Jan. 17, 19-21, 27 (ice effect), 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 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0100	*511	*3.84	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	15	17	15	21	43	26	31	17	17	8.9
2	9.9	10	54	17	14	21	39	24	24	14	13	9.0
3	9.7	10	91	17	14	20	35	23	21	17	13	12
4	9.5	10	40	21	14	19	33	22	19	17	18	11
5	e9.7	10	25	22	14	19	30	24	55	14	13	10
6	e12	10	21	19	13	19	28	24	45	13	12	32
7	e10	10	19	18	14	32	27	21	32	13	12	16
8	e9.6	10	18	17	14	26	26	30	27	12	11	14
9	e9.5	10	21	19	13	22	25	39	23	12	12	17
10	e9.7	10	54	20	15	22	25	26	21	12	12	21
11	e10	12	27	18	15	46	25	23	18	12	12	32
12	e13	11	23	17	14	31	26	21	18	11	13	14
13	e12	11	22	17	14	27	23	20	17	11	12	13
14	e11	11	24	21	14	24	22	20	16	10	12	12
15	e10	10	21	18	33	23	21	22	16	18	12	11
16	e9.9	10	19	16	38	21	21	24	15	15	12	11
17	22	10	18	e15	23	20	22	22	15	12	13	11
18	18	9.7	17	15	25	22	21	21	15	12	13	10
19	12	9.4	15	e15	27	34	29	20	20	11	12	10
20	11	9.4	16	e14	23	29	23	18	18	10	12	9.7
21	11	9.8	16	e14	20	26	41	17	16	44	11	9.7
22	11	61	16	14	19	24	76	17	15	41	11	13
23	11	37	16	18	19	26	45	16	15	26	11	14
24	11	19	16	21	19	25	38	16	15	26	11	9.9
25	11	15	15	17	21	23	36	17	24	122	11	18
26	10	14	14	16	49	73	35	24	23	28	10	46
27	10	13	14	e15	32	176	33	21	16	23	9.9	20
28	10	13	14	15	27	72	29	17	15	20	11	18
29	10	13	39	15	24	58	27	16	13	16	13	15
30	10	12	25	15	---	50	26	24	14	14	9.7	13
31	10	---	19	15	---	55	---	73	---	19	9.1	---
TOTAL	343.5	410.3	764	528	596	1106	930	728	632	642	373.7	461.2
MEAN	11.1	13.7	24.6	17.0	20.6	35.7	31.0	23.5	21.1	20.7	12.1	15.4
MAX	22	61	91	22	49	176	76	73	55	122	18	46
MIN	9.5	9.4	14	14	13	19	21	16	13	10	9.1	8.9
CFSM	.40	.49	.88	.61	.73	1.27	1.11	.84	.75	.74	.43	.55
IN.	.46	.55	1.02	.70	.79	1.47	1.24	.97	.84	.85	.50	.61

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

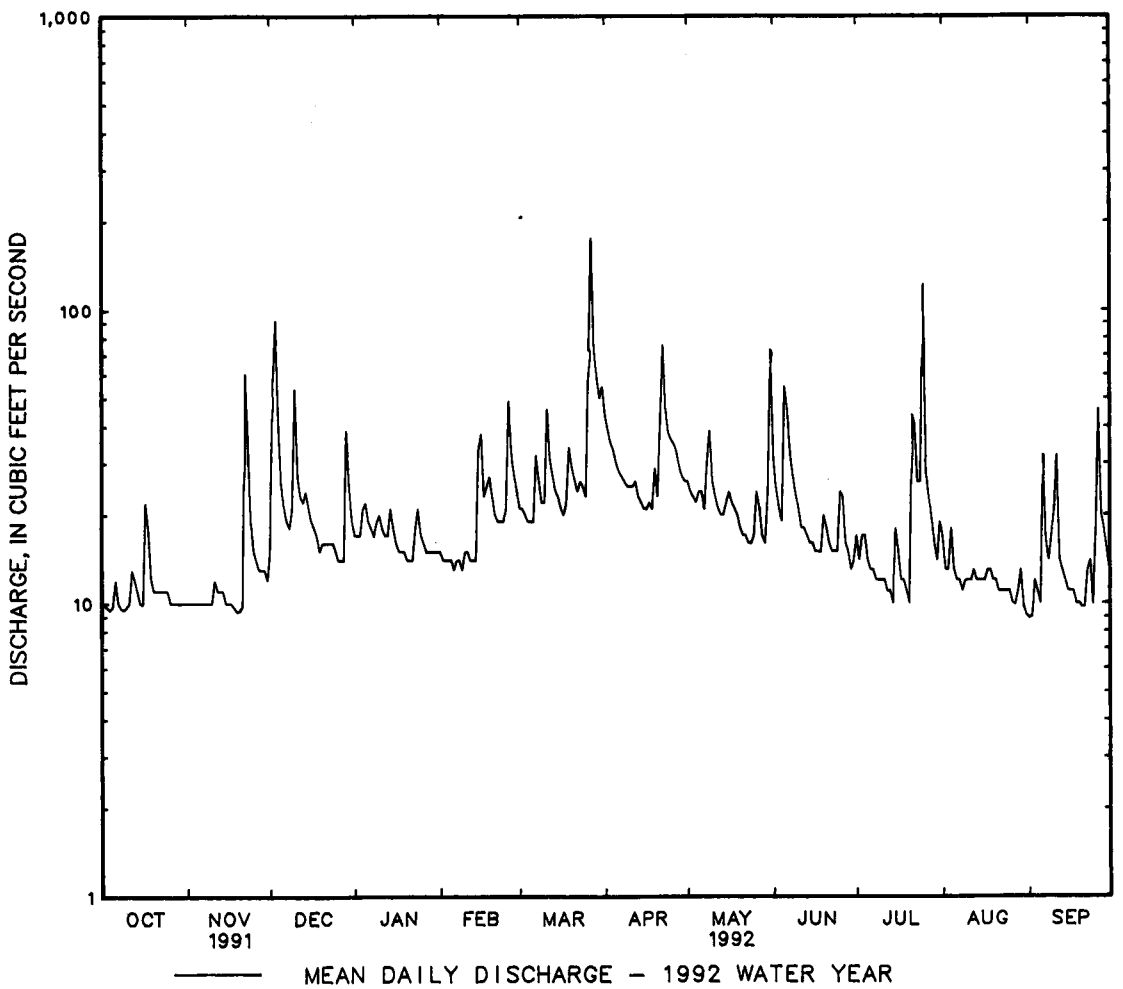
MEAN	17.9	23.2	32.3	33.8	42.4	45.3	50.1	49.3	27.1	18.7	17.0	13.6
MAX	44.3	31.4	85.9	65.8	91.2	80.9	119	111	52.0	30.8	46.2	23.7
(WY)	1991	1991	1984	1991	1984	1984	1983	1989	1989	1984	1984	1987
MIN	5.69	13.7	15.5	17.0	20.6	29.1	27.0	20.5	11.5	7.47	6.48	5.15
(WY)	1987	1992	1983	1992	1992	1985	1985	1986	1986	1986	1986	1986

01586610 MORGAN RUN NEAR LOUISVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1983 - 1992	
ANNUAL TOTAL	9655.0		7514.7			
ANNUAL MEAN	26.5		20.5		30.8	
HIGHEST ANNUAL MEAN					53.6	1984
LOWEST ANNUAL MEAN					19.5	1986
HIGHEST DAILY MEAN	321	Aug 20	176	Mar 27	1000	May 6 1989
LOWEST DAILY MEAN	4.3	Aug 18	8.9	Sep 1	4.0	(a)
ANNUAL SEVEN-DAY MINIMUM	5.0	Aug 2	9.8	Nov 15	4.2	Sep 17 1986
INSTANTANEOUS PEAK FLOW	2900	Aug 20	511	Mar 27	b3400	May 6 1989
INSTANTANEOUS PEAK STAGE	7.79	Aug 20	3.84	Mar 27	c8.31	May 6 1989
INSTANTANEOUS LOW FLOW	4.2	Aug 18	d8.1	Feb 10	UNKNOWN	
ANNUAL RUNOFF (CFSM)	.94		.73		1.10	
ANNUAL RUNOFF (INCHES)	12.83		9.98		14.96	
10 PERCENT EXCEEDS	52		33		58	
50 PERCENT EXCEEDS	16		17		23	
90 PERCENT EXCEEDS	7.9		10		9.4	

a Sept. 18-20, 1986.

b From rating curve extended above 1,900 ft^3/s.
c From floodmarks.
d Result of freezeup.



01589000 PATAPSCO RIVER AT HOLLOFIELD, MD

LOCATION.--Lat 39°18'36", long 76°47'34", Baltimore County, Hydrologic Unit 02060003, on left bank at downstream side of highway bridge at Hollofield, 0.3 mi downstream from Dogwood Run, 3.0 mi north of Ellicott City, and 28 mi upstream from mouth.

DRAINAGE AREA.--285 mi^2.

PERIOD OF RECORD.--May 1944 to January 1992 (Discontinued).

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

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Liberty Reservoir, 11 mi upstream, beginning July 22, 1954, usable capacity, 42,070,000,000 gal; dead storage, 1,260,000,000 gal. Diversions upstream from station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek), and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore, and beginning February 1970 for a small municipal supply for part of Carroll County.

PEAK DISCHARGE FOR CURRENT PERIOD.--Peak discharge, 769 ft^3/s, Dec. 3, gage height, 3.19 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1991 TO JANUARY 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	56	56	63	---	---	---	---	---	---	---	---
2	40	54	147	62	---	---	---	---	---	---	---	---
3	40	53	450	62	---	---	---	---	---	---	---	---
4	39	51	173	81	---	---	---	---	---	---	---	---
5	38	70	97	101	---	---	---	---	---	---	---	---
6	58	158	78	79	---	---	---	---	---	---	---	---
7	47	155	69	70	---	---	---	---	---	---	---	---
8	40	139	63	65	---	---	---	---	---	---	---	---
9	38	45	81	67	---	---	---	---	---	---	---	---
10	39	50	257	75	---	---	---	---	---	---	---	---
11	43	61	111	65	---	---	---	---	---	---	---	---
12	50	51	86	63	---	---	---	---	---	---	---	---
13	48	47	81	62	---	---	---	---	---	---	---	---
14	45	44	88	95	---	---	---	---	---	---	---	---
15	45	43	81	88	---	---	---	---	---	---	---	---
16	59	43	69	66	---	---	---	---	---	---	---	---
17	101	42	65	57	---	---	---	---	---	---	---	---
18	116	41	63	57	---	---	---	---	---	---	---	---
19	65	42	59	57	---	---	---	---	---	---	---	---
20	55	43	46	57	---	---	---	---	---	---	---	---
21	53	44	44	---	---	---	---	---	---	---	---	---
22	54	206	56	---	---	---	---	---	---	---	---	---
23	53	220	57	---	---	---	---	---	---	---	---	---
24	55	80	60	---	---	---	---	---	---	---	---	---
25	54	58	55	---	---	---	---	---	---	---	---	---
26	54	51	53	---	---	---	---	---	---	---	---	---
27	54	48	52	---	---	---	---	---	---	---	---	---
28	56	46	52	---	---	---	---	---	---	---	---	---
29	54	46	112	---	---	---	---	---	---	---	---	---
30	53	46	102	---	---	---	---	---	---	---	---	---
31	53	---	72	---	---	---	---	---	---	---	---	---
TOTAL	1639	2133	2935	---	---	---	---	---	---	---	---	---
MEAN	52.9	71.1	94.7	---	---	---	---	---	---	---	---	---
MAX	116	220	450	---	---	---	---	---	---	---	---	---
MIN	38	41	44	---	---	---	---	---	---	---	---	---
(†)	32536	30699	30864									
(≠)	158	130	118									

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1992, BY WATER YEAR (WY)

MEAN	120	143	187	218	266	284	282	257	225	153	118	139
MAX	857	590	675	770	724	804	1071	1102	2024	601	516	1493
(WY)	1980	1953	1973	1949	1951	1953	1952	1952	1972	1956	1971	1975
MIN	14.7	35.2	32.7	33.3	92.0	74.3	85.3	58.3	33.5	22.4	20.1	19.4
(WY)	1987	1966	1966	1966	1969	1981	1963	1963	1986	1966	1966	1986

† Month-end contents, in millions of gallons in Liberty Reservoir (contents on Sept. 30, 1991, 34,367,000,000 gal). Records provided by Baltimore Department of Public Works.

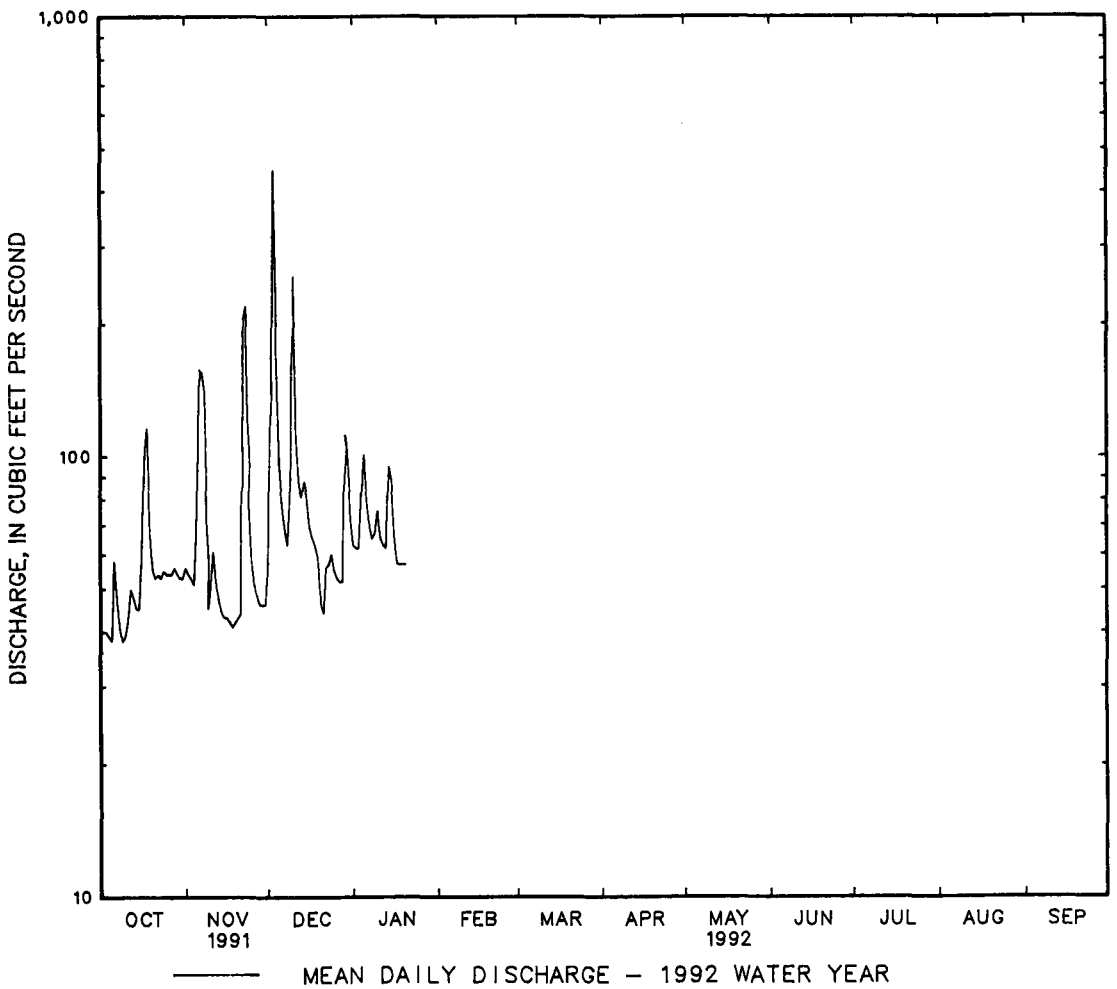
≠ Diversions, in cubic feet per second, upstream from station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records provided by cities of Westminster and Baltimore, respectively.

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		WATER YEARS 1944 - 1992	
ANNUAL TOTAL	38409			
ANNUAL MEAN	*105		*199	
ANNUAL MEAN DIVERSIONS≠	191		164	
HIGHEST ANNUAL MEAN			*524	1972
LOWEST ANNUAL MEAN			*64.3	1966
HIGHEST DAILY MEAN	733	Mar 23	30000	Jun 22 1972
LOWEST DAILY MEAN	21	Aug 7	7.9	Oct 12 1986
ANNUAL SEVEN-DAY MINIMUM	24	Aug 13	9.7	Oct 6 1986
INSTANTANEOUS PEAK FLOW	1550	Mar 23	a80600	Jun 22 1972
INSTANTANEOUS PEAK STAGE	4.04	Mar 23	b31.30	Jun 22 1972
INSTANTANEOUS LOW FLOW	20	(c)	6.0	Sep 6 1944
10 PERCENT EXCEEDS	197		415	
50 PERCENT EXCEEDS	74		113	
90 PERCENT EXCEEDS	30		39	

* Unadjusted for diversions.
≠ Diversions, in cubic feet per second, upstream from station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records provided by cities of Westminster and Baltimore, respectively.

a From rating curve extended above 27,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Aug. 6, 7.



01589500 SAWMILL CREEK AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'12", long 76°37'51", Anne Arundel County, Hydrologic Unit 02060003, on left bank 300 ft upstream from bridge on State Highway 648, 0.25 mile southeast of State Highway 3, and 0.50 mile northwest of Glen Burnie.

DRAINAGE AREA.--4.97 mi^2.

PERIOD OF RECORD.--May 1944 to September 1952. Annual maximum, water years 1965-70. October 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 17	1715	*24	*2.39	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	1.1	2.3	1.3	1.1	1.1	1.8	1.4	1.6	3.4	.88	.21
2	.92	1.2	4.0	1.3	1.0	1.1	1.7	1.3	1.1	1.5	.43	.20
3	.92	1.1	5.9	1.5	1.0	1.1	1.6	1.2	1.0	.93	.36	.46
4	.87	.96	3.6	2.0	1.0	1.1	1.6	1.2	.99	.90	.34	.47
5	.85	.96	1.9	1.9	1.0	1.1	1.5	1.2	4.2	.67	.30	.34
6	2.9	1.0	1.7	1.5	.95	1.1	1.4	1.1	2.2	.56	.25	6.4
7	1.2	1.1	1.6	1.3	1.0	5.9	1.4	1.1	1.3	.44	.23	3.1
8	.84	1.1	1.5	1.3	1.0	2.7	1.4	2.3	1.1	.37	.24	1.1
9	.84	1.1	2.5	1.4	.87	1.7	1.4	2.8	1.0	.39	.29	.68
10	.86	1.8	5.8	1.4	.77	1.7	1.4	1.5	.87	.34	.22	.84
11	1.2	1.7	2.3	1.3	.94	3.5	1.5	1.3	.74	.30	.30	1.5
12	1.2	1.0	1.8	1.2	.90	2.1	1.5	1.1	.69	.29	.41	.60
13	.94	.96	1.8	1.2	.92	1.5	1.3	1.1	.67	.30	.44	.46
14	.86	.92	2.1	2.2	1.2	1.3	1.3	1.1	.64	.25	.78	.41
15	.91	.82	1.6	1.4	3.1	1.2	1.3	1.6	.58	.21	1.6	.36
16	1.3	.86	1.4	1.2	3.1	1.1	1.4	1.7	.47	.22	1.2	.36
17	10	.77	1.4	1.1	1.6	1.1	1.5	1.4	.47	.27	.82	.32
18	5.5	.87	1.4	1.2	2.5	1.5	1.6	1.2	.45	.25	.70	.31
19	1.8	.89	1.2	.98	1.8	3.5	1.8	1.0	.52	.22	.56	.31
20	1.4	1.1	1.2	1.0	1.4	1.9	1.4	.92	.51	.19	.43	.29
21	1.2	1.2	1.5	1.2	1.1	1.4	1.5	.90	.46	.25	.31	.28
22	1.2	5.3	1.4	1.1	1.1	1.6	3.5	.84	.46	.40	.28	.63
23	1.1	3.8	1.4	2.0	1.1	1.7	2.0	.79	.40	.41	.27	1.0
24	1.1	1.6	1.4	2.1	1.1	1.3	2.0	.97	.59	2.3	.26	.47
25	1.1	1.3	1.2	1.2	1.3	1.2	2.0	1.9	.70	9.9	.24	2.9
26	1.1	1.3	1.1	1.2	5.5	5.9	3.9	1.8	.62	2.1	.23	7.7
27	1.1	1.2	1.2	1.1	2.0	13	2.2	1.5	.48	1.1	.20	2.0
28	1.1	1.2	1.2	1.2	1.4	4.4	1.6	1.0	.41	.85	.91	1.3
29	.96	1.2	4.4	1.2	1.2	2.4	1.4	.91	.34	.60	1.1	.92
30	.96	1.2	2.4	1.1	---	2.1	1.4	2.8	2.0	.45	.40	.68
31	1.1	---	1.5	1.2	---	2.1	---	4.5	---	1.1	.28	---
TOTAL	48.23	40.61	65.7	42.28	42.95	74.4	51.3	45.43	27.56	31.46	15.26	36.60
MEAN	1.56	1.35	2.12	1.36	1.48	2.40	1.71	1.47	.92	1.01	.49	1.22
MAX	10	5.3	5.9	2.2	5.5	13	3.9	4.5	4.2	9.9	1.6	7.7
MIN	.84	.77	1.1	.98	.77	1.1	1.3	.79	.34	.19	.20	.20
CFSM	.31	.27	.43	.27	.30	.48	.34	.29	.18	.20	.10	.25
IN.	.36	.30	.49	.32	.32	.56	.38	.34	.21	.24	.11	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1992, BY WATER YEAR (WY)

MEAN	3.84	4.46	4.82	5.03	5.26	5.56	5.59	5.84	5.20	4.71	4.73	4.73
MAX	9.03	10.3	13.0	14.4	14.4	13.5	13.8	13.3	11.4	9.45	12.4	13.1
(WY)	1949	1952	1949	1949	1949	1949	1952	1952	1948	1952	1948	1952
MIN	.030	.19	.13	.30	.76	.76	.75	.11	.081	.10	.15	.024
(WY)	1987	1987	1989	1989	1989	1986	1985	1986	1986	1985	1986	1986

01589500 SAWMILL CREEK AT GLEN BURNIE, MD--Continued

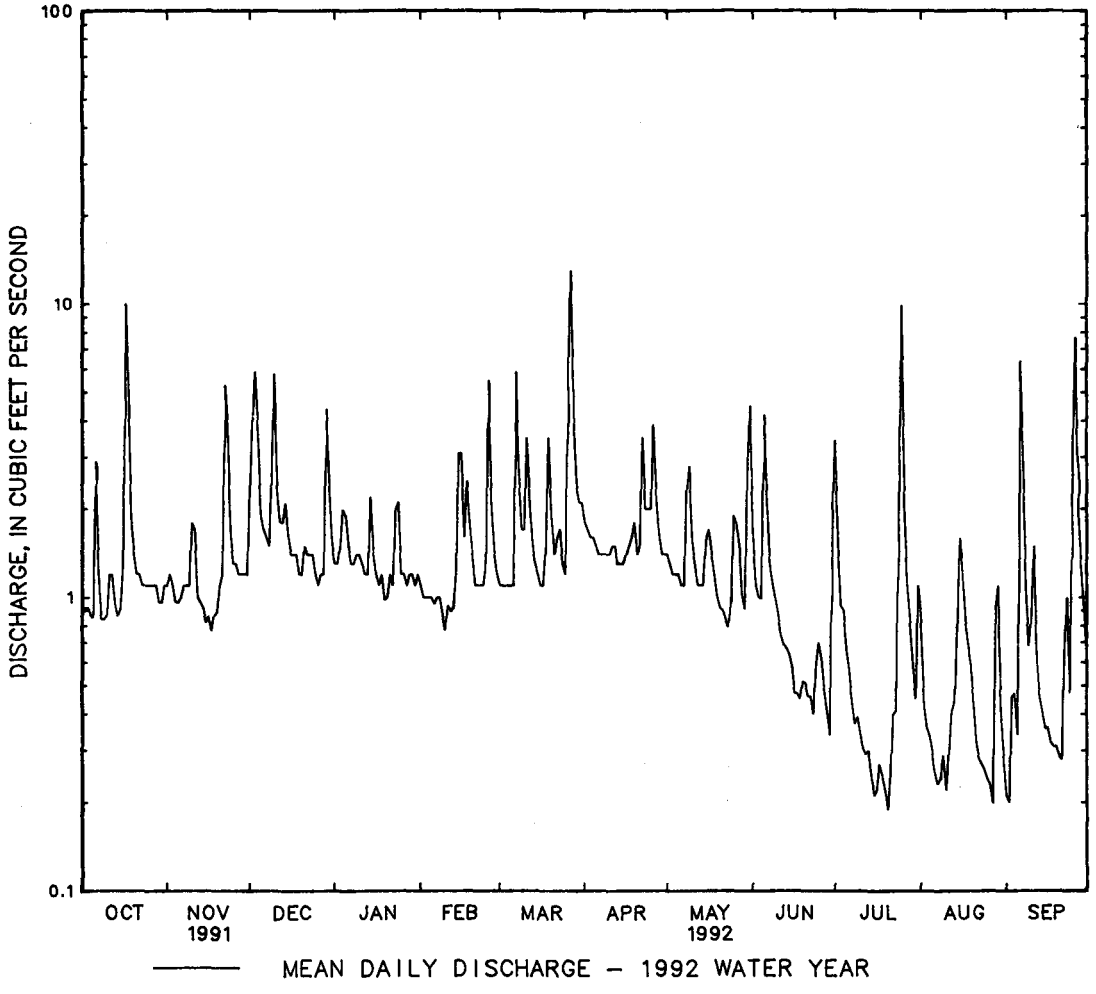
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1944 - 1992	
ANNUAL TOTAL	1096.49		521.78			
ANNUAL MEAN	3.00		1.43		4.96	
HIGHEST ANNUAL MEAN					11.0	1949
LOWEST ANNUAL MEAN					.43	1986
HIGHEST DAILY MEAN	31	Mar 23	13	Mar 27	84	Sep 1 1952
LOWEST DAILY MEAN	.58	Sep 2	.19	Jul 20	.01	(a)
ANNUAL SEVEN-DAY MINIMUM	.72	Aug 29	.23	Jul 14	.01	Jul 25 1986
INSTANTANEOUS PEAK FLOW	96	Mar 23	24	Oct 17	b178	Aug 29 1989
INSTANTANEOUS PEAK STAGE	3.74	Mar 23	2.39	Oct 17	5.12	Aug 29 1989
INSTANTANEOUS LOW FLOW	.55	(c)	.08	Jun 27	.00	(d)
ANNUAL RUNOFF (CFSM)	.60		.29		1.00	
ANNUAL RUNOFF (INCHES)	8.21		3.91		13.55	
10 PERCENT EXCEEDS	5.4		2.3		9.8	
50 PERCENT EXCEEDS	2.4		1.1		4.9	
90 PERCENT EXCEEDS	.91		.34		.23	

a Many days in 1985, 1986, 1987.

b From rating curve extended above 157 ft^3/s, on basis of contracted-opening measurement at gage height 4.77 ft.

c Sept. 1-3.

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



01589512 SAWMILL CREEK AT CRAIN HIGHWAY AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'59", long 76°36'51", Anne Arundel County, Hydrologic Unit 02060003, on right bank 150 ft downstream from bridge on Crain Highway (Maryland Route 3 Business), 250 ft upstream from bridge on Maryland Route 2 at Glen Burnie, and 650 ft upstream from mouth.

DRAINAGE AREA.--8.24 mi^2.

PERIOD OF RECORD.--October 1983 to September 1985. May 1990 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2.26 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges (backwater from tide), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 17	1600	223	6.08	July 1	1715	*339	*6.80
Mar. 26	2245	197	5.91	Sep. 6	1245	177	5.78
June 30	1845	237	6.17	Sep. 26	0030	204	5.95

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	e4.6	10	4.6	4.3	5.3	6.7	5.5	6.1	83	5.7	3.1
2	3.7	e4.5	22	4.6	4.1	5.0	6.2	5.2	4.9	17	3.5	3.1
3	3.7	4.3	26	5.4	3.9	4.9	5.7	4.9	4.6	e8.0	3.1	6.4
4	3.7	4.3	13	14	3.9	4.9	5.6	4.9	4.6	5.9	3.1	5.0
5	3.7	4.3	6.2	7.9	3.9	4.9	5.5	4.9	24	4.4	3.0	3.7
6	14	4.3	5.4	5.2	3.9	5.0	5.3	4.7	7.5	4.7	2.8	55
7	4.7	4.3	5.3	4.9	3.9	34	5.3	4.6	5.2	3.9	2.8	13
8	4.1	4.3	5.0	4.7	e4.0	8.7	5.3	12	4.8	3.7	2.8	5.7
9	3.9	4.3	12	5.3	4.0	6.5	5.3	9.9	4.5	3.8	2.9	4.5
10	3.9	11	28	5.2	3.8	8.4	5.5	5.6	4.2	3.4	2.7	6.4
11	5.7	7.7	7.1	4.7	3.8	18	5.9	5.1	3.9	3.1	3.8	9.2
12	5.6	4.7	5.6	4.6	3.9	7.0	5.9	4.7	3.8	3.1	4.1	4.4
13	4.3	4.5	5.5	4.6	4.5	6.1	5.3	4.6	3.7	3.1	4.5	4.1
14	4.0	4.1	7.1	11	5.8	5.6	5.3	4.4	3.7	3.0	6.4	3.9
15	4.0	3.9	5.3	5.5	18	5.5	5.3	8.4	3.5	3.0	10	3.9
16	5.4	3.9	4.7	4.7	13	5.3	5.7	7.5	3.1	3.3	7.6	3.9
17	76	3.9	4.6	4.3	5.6	5.3	6.4	5.3	3.3	3.2	5.2	3.8
18	16	3.9	4.6	4.3	11	7.8	6.8	4.8	3.1	3.1	4.9	3.7
19	6.1	3.9	4.3	4.3	6.8	19	7.4	4.4	3.1	3.0	4.0	3.7
20	5.0	3.9	4.3	4.1	5.3	7.3	6.1	4.3	3.4	2.8	3.5	3.7
21	4.8	4.1	4.4	4.3	4.7	6.0	6.7	4.1	3.1	3.6	3.3	3.7
22	4.6	30	4.6	4.3	4.6	7.4	17	3.9	3.1	3.8	3.1	6.6
23	4.6	12	4.7	8.6	4.6	7.4	7.6	3.9	3.1	3.8	3.1	8.2
24	4.6	5.6	4.7	8.5	5.1	5.5	8.4	4.9	6.3	13	3.1	4.2
25	4.6	4.7	4.3	4.7	6.9	5.3	7.4	8.0	5.7	52	3.1	24
26	4.6	4.6	4.1	4.7	31	47	15	9.0	3.4	7.7	3.1	51
27	4.6	4.4	3.9	4.4	7.5	45	7.4	6.1	3.2	5.3	3.1	10
28	4.6	4.3	4.0	4.3	6.0	10	6.0	4.6	3.1	4.6	18	7.1
29	4.5	4.3	22	4.3	5.5	7.2	5.5	4.2	2.8	3.9	7.6	5.6
30	4.5	4.3	7.9	4.3	---	6.5	e5.5	17	21	3.4	3.7	4.8
31	e4.6	---	5.1	4.3	---	6.3	---	24	---	7.3	3.3	---
TOTAL	231.8	172.9	255.7	170.6	193.3	328.1	203.0	205.4	159.8	276.9	140.9	275.4
MEAN	7.48	5.76	8.25	5.50	6.67	10.6	6.77	6.63	5.33	8.93	4.55	9.18
MAX	76	30	28	14	31	47	17	24	24	83	18	55
MIN	3.7	3.9	3.9	4.1	3.8	4.9	5.3	3.9	2.8	2.8	2.7	3.1
CFSM	.91	.70	1.00	.67	.81	1.28	.82	.80	.65	1.08	.55	1.11
IN.	1.05	.78	1.15	.77	.87	1.48	.92	.93	.72	1.25	.64	1.24

e Estimated

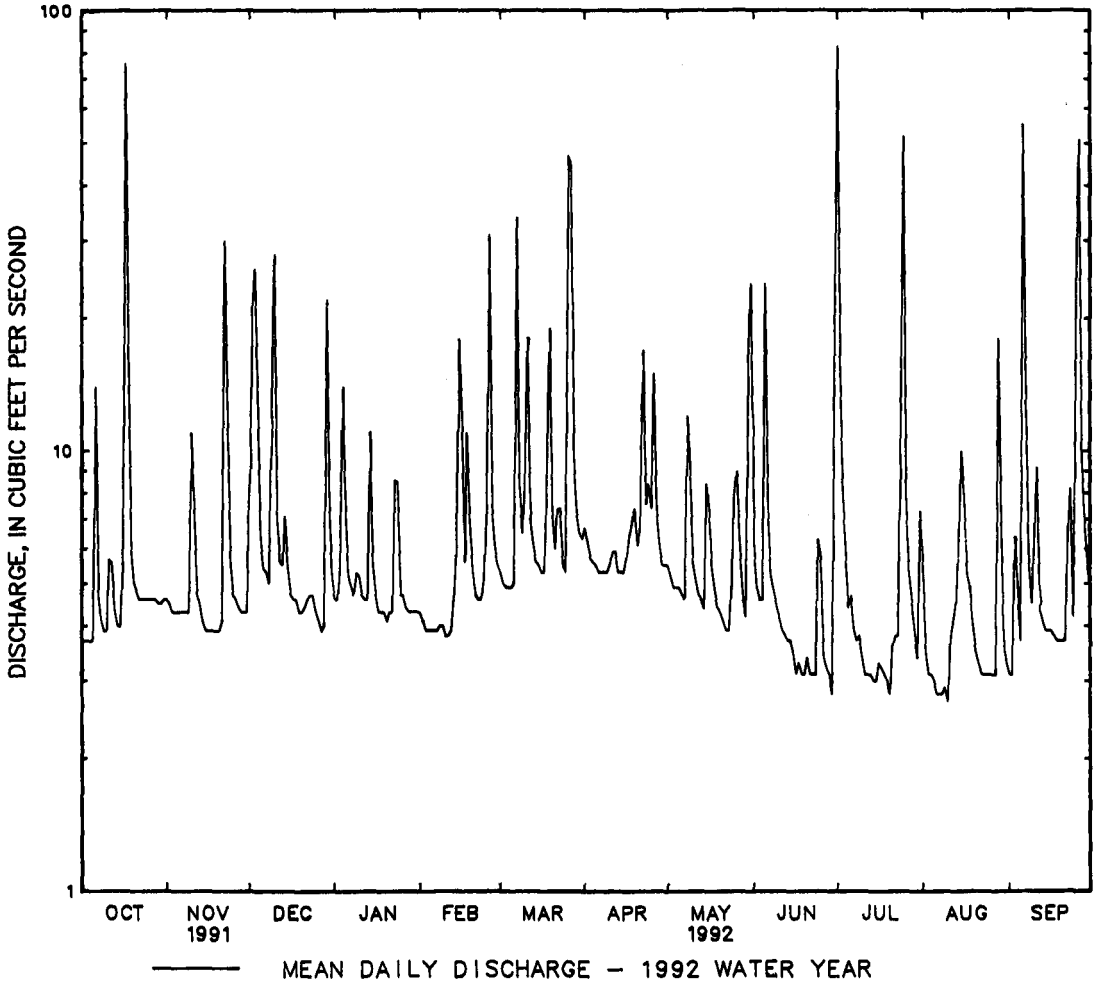
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

MEAN	6.85	7.34	10.1	7.47	8.63	11.6	7.68	9.63	6.19	8.04	7.86	7.22
MAX	10.0	10.0	14.3	14.8	10.7	17.8	10.7	16.2	10.3	15.6	15.0	9.18
(WY)	1991	1991	1984	1991	1984	1991	1984	1990	1990	1990	1990	1992
MIN	4.89	5.53	4.24	3.41	6.67	3.63	2.96	5.65	3.34	2.41	3.07	4.42
(WY)	1984	1985	1985	1985	1992	1985	1985	1985	1985	1985	1985	1984

01589512 SAWMILL CREEK AT CRAIN HIGHWAY AT GLEN BURNIE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1984 - 1992	
ANNUAL TOTAL	3207.4		2613.8			
ANNUAL MEAN	8.79		7.14		7.67	
HIGHEST ANNUAL MEAN					9.82	1991
LOWEST ANNUAL MEAN					4.65	1985
HIGHEST DAILY MEAN	141	Mar 23	83	Jul 1	184	Sep 27 1985
LOWEST DAILY MEAN	3.4	(a)	2.7	Aug 10	1.3	Oct 8 1983
ANNUAL SEVEN-DAY MINIMUM	3.6	Sep 10	2.9	Aug 4	1.5	Aug 11 1985
INSTANTANEOUS PEAK FLOW	431	Mar 23	339	Jul 1	465	Sep 27 1985
INSTANTANEOUS PEAK STAGE	7.38	Mar 23	6.80	Jul 1	7.67	Sep 27 1985
INSTANTANEOUS LOW FLOW	3.4	(b)	2.5	(c)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.07		.87		.93	
ANNUAL RUNOFF (INCHES)	14.48		11.80		12.64	
10 PERCENT EXCEEDS	13		11		15	
50 PERCENT EXCEEDS	6.9		4.7		5.5	
90 PERCENT EXCEEDS	3.9		3.3		2.7	

a Sept. 15, 16.
b Sept. 14-17.
c Aug. 10, 11.



01591000 PATUXENT RIVER NEAR UNITY, MD

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

DRAINAGE AREA.--34.8 mi^2.

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 National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to Aug. 14, 1946, non-recording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Several measurments 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 770 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 25	1030	*639	*5.06	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	6.7	12	18	15	23	42	34	37	16	31	7.6
2	5.7	7.1	39	17	14	22	39	32	28	14	18	7.9
3	5.0	7.1	94	17	14	21	35	30	24	13	16	12
4	4.8	7.1	38	24	14	21	34	28	22	17	16	11
5	4.6	7.2	22	37	14	20	32	28	42	12	14	9.5
6	7.0	6.8	18	25	13	20	30	31	48	16	14	29
7	5.7	6.6	16	21	14	39	29	26	32	13	13	19
8	4.9	6.8	15	19	14	35	28	36	27	11	13	15
9	5.0	6.9	19	20	13	28	27	56	24	11	13	16
10	5.1	7.9	63	21	12	27	26	39	21	10	12	13
11	5.8	10	28	18	12	59	26	32	19	9.1	13	39
12	6.7	9.1	21	17	13	41	25	29	18	9.2	16	15
13	6.8	8.3	20	17	12	34	24	27	17	9.7	13	12
14	6.5	8.1	23	23	15	30	23	25	17	8.8	15	12
15	6.8	7.7	20	21	31	28	23	28	16	9.6	14	11
16	8.0	7.6	17	18	57	25	23	33	15	11	16	11
17	15	7.4	16	e17	31	25	24	28	15	48	15	10
18	16	7.3	15	16	33	25	24	27	14	15	16	10
19	9.0	7.6	14	14	34	42	25	25	16	12	13	9.9
20	7.3	7.7	14	14	29	35	24	22	18	9.8	12	9.5
21	7.4	8.0	14	15	24	30	47	21	15	9.0	11	9.6
22	7.9	36	14	15	22	29	160	20	14	11	11	12
23	7.3	36	14	17	21	31	77	19	13	16	11	19
24	7.5	15	15	24	21	29	56	18	14	53	10	11
25	7.4	12	13	20	22	26	59	20	15	213	9.6	13
26	7.7	10	12	17	55	67	54	25	14	37	9.4	62
27	8.0	9.5	12	18	38	221	47	26	13	28	8.8	21
28	8.5	9.7	12	16	30	72	41	20	11	24	10	19
29	7.8	9.9	33	e16	26	54	37	19	11	18	12	16
30	7.7	9.6	27	16	---	47	36	24	11	16	9.0	14
31	7.0	---	20	16	---	49	---	86	---	31	7.9	---
TOTAL	225.6	306.7	710	584	663	1255	1177	914	601	731.2	412.7	476.0
MEAN	7.28	10.2	22.9	18.8	22.9	40.5	39.2	29.5	20.0	23.6	13.3	15.9
MAX	16	36	94	37	57	221	160	86	48	213	31	62
MIN	4.6	6.6	12	14	12	20	23	18	11	8.8	7.9	7.6
CFSM	.21	.29	.66	.54	.66	1.16	1.13	.85	.58	.68	.38	.46
IN.	.24	.33	.76	.62	.71	1.34	1.26	.98	.64	.78	.44	.51

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1992, BY WATER YEAR (WY)

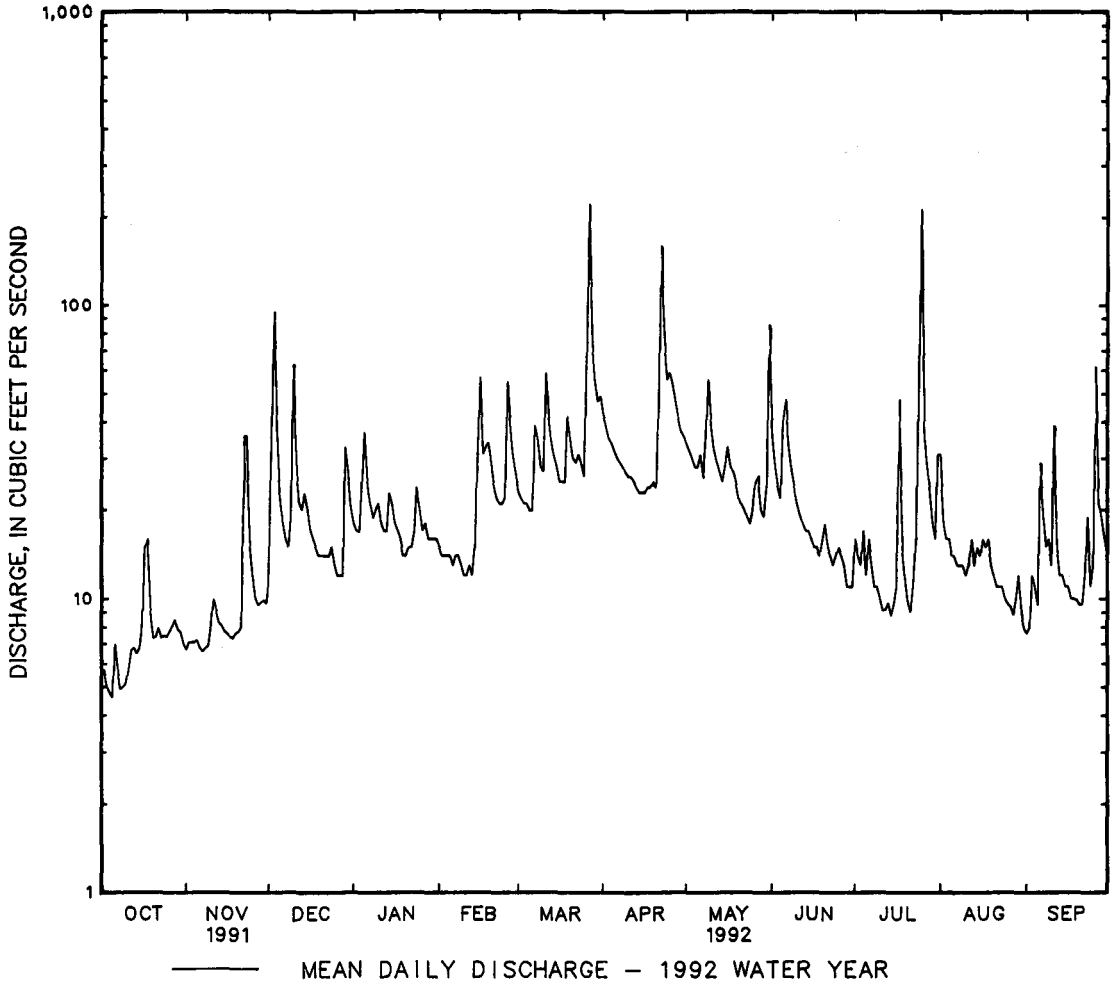
MEAN	21.7	27.4	38.4	45.1	54.3	58.1	56.3	49.6	36.7	26.6	22.0	26.6
MAX	150	82.8	106	135	152	104	150	141	206	102	120	214
(WY)	1980	1953	1949	1979	1979	1979	1952	1952	1972	1956	1971	1971
MIN	4.19	9.09	8.51	10.0	19.6	23.9	21.6	15.2	8.75	4.15	2.79	4.51

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1944 - 1992	
ANNUAL TOTAL	9937.6		8056.2			
ANNUAL MEAN	27.2		22.0		38.5	
HIGHEST ANNUAL MEAN					82.3	1972
LOWEST ANNUAL MEAN					19.8	1981
HIGHEST DAILY MEAN	287	Mar 23	221	Mar 27	2590	Sep 26 1975
LOWEST DAILY MEAN	3.3	Aug 19	4.6	Oct 5	.20	(a)
ANNUAL SEVEN-DAY MINIMUM	3.9	Aug 13	5.3	Oct 3	.40	Sep 6 1966
INSTANTANEOUS PEAK FLOW	776	Mar 23	639	Jul 25	b21800	Sep 11 1971
INSTANTANEOUS PEAK STAGE	5.44	Mar 23	5.06	Jul 25	18.60	Sep 11 1971
INSTANTANEOUS LOW FLOW	3.2	(c)	4.3	(d)	.20	(f)
ANNUAL RUNOFF (CFSM)	.78		.63		1.11	
ANNUAL RUNOFF (INCHES)	10.62		8.61		15.03	
10 PERCENT EXCEEDS	57		38		69	
50 PERCENT EXCEEDS	16		16		25	
90 PERCENT EXCEEDS	5.4		7.7		8.9	

a Sept. 10, 11, 1966.

b From rating curve extended above 1,500 ft^3/s on basis of slope-area measurement at gage height 13.00 ft.
c Aug. 18-20.
d Oct. 4, 5.
f Sept. 10-12, 1966.



01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)
OCT 1990								
15...	1025	13	129	7.2	17.0	20.5	3.0	8.5
OCT								
23-23	1007	1320	--	--	--	--	640	--
OCT								
23-23	1327	2760	--	--	--	--	390	--
OCT								
23-23	1623	2680	--	--	--	--	360	--
30...	1345	25	105	6.2	8.0	18.0	5.6	--
30...	1350	25	105	6.2	8.0	18.0	4.3	--
NOV								
10...	0739	73	--	--	--	--	--	--
10...	1315	779	--	--	--	--	--	--
10...	1507	883	--	--	--	--	--	--
10...	1639	993	--	--	--	--	--	--
10...	1811	573	--	--	--	--	--	--
10...	2219	213	--	--	--	--	--	--
11...	0943	86	--	--	--	--	--	--
13...	1015	53	104	7.5	5.5	6.0	4.8	12.0
27...	0840	24	103	5.8	8.0	9.0	2.9	--
27...	0845	24	--	--	--	--	2.1	--
27...	0900	24	224	5.9	8.0	--	5.0	--
27...	0910	24	312	5.3	12.0	--	0.70	--
DEC								
04...	0725	108	--	--	--	--	16	--
10...	1025	27	102	7.7	4.5	11.0	4.9	13.4
15...	2050	122	--	--	--	--	--	--
16...	2048	41	--	--	--	--	--	--
26...	1115	55	104	6.0	2.0	6.0	6.3	--
JAN 1991								
07...	0040	61	--	--	--	--	--	--
07...	1924	70	--	--	--	--	--	--
08...	1015	57	110	7.4	1.5	-2.5	3.3	14.3
08...	1656	55	--	--	--	--	--	--
09...	1619	55	--	--	--	--	--	--
10...	1720	54	--	--	--	--	--	--
JAN								
11-12	1532	134	--	--	--	--	--	--
JAN								
12-12	0540	233	--	--	--	--	--	--
16...	0300	78	--	--	--	--	6.7	--
16...	1215	518	--	--	--	--	310	--
16...	1450	501	--	--	--	--	350	--
16...	1910	251	--	--	--	--	130	--
17...	0145	189	--	--	--	--	51	--
29...	1300	50	101	6.2	4.5	11.0	5.6	--
FEB								
11...	1055	38	100	7.7	4.5	1.5	2.7	13.1
26...	0815	35	--	5.6	5.0	-1.0	2.4	--
26...	0820	35	--	--	--	--	2.6	--
MAR								
11...	1035	32	9	7.6	4.0	4.0	2.5	12.8
18...	1645	97	--	--	--	--	60	--
27...	1300	77	93	6.0	11.0	17.0	12	--
27...	1305	77	--	--	--	--	12	--
APR								
09...	0850	43	98	7.4	16.0	23.0	4.6	9.5
MAY								
06...	0955	39	100	7.3	16.0	20.0	8.2	9.0
06...	1300	41	93	6.3	17.0	25.0	10	--
29...	0915	17	96	6.5	20.5	25.0	17	--
JUN								
03...	1100	29	100	7.0	20.5	23.0	34	7.8
20...	0900	17	97	6.5	18.0	22.0	14	--
JUL								
08...	1050	14	110	7.1	22.0	29.0	20	8.2
22...	0730	7.2	94	6.5	23.0	25.5	8.8	--
AUG								
05...	1014	5.9	98	7.3	21.5	23.5	7.2	8.0
29...	1130	5.2	96	6.6	22.0	28.0	6.0	--
SEP								
03...	0958	3.8	98	7.2	17.5	20.5	6.4	8.7
11...	1200	5.2	99	6.8	20.0	26.0	4.7	--

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT 1990									
15...	--	--	1	1.29	0.009	1.30	<0.008	0.30	--
OCT									
23-23	--	5.3	635	1.79	0.010	1.80	0.040	1.7	0.60
OCT									
23-23	--	5.1	340	2.09	0.009	2.10	0.024	1.0	0.45
OCT									
23-23	--	4.5	255	1.49	0.010	1.50	0.024	0.80	0.30
30...	190	9.0	1	2.70	0.004	2.70	<0.008	0.10	<0.10
30...	190	9.2	2	2.80	0.004	2.80	<0.008	0.10	<0.10
NOV									
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
13...	--	--	3	2.30	0.003	2.30	0.028	0.35	--
27...	17	--	<1	2.70	0.002	2.70	0.002	0.25	0.20
27...	--	--	1	2.70	0.002	2.70	<0.008	0.20	0.15
27...	--	--	11	--	<0.002	2.00	<0.008	0.30	0.15
27...	--	--	<1	--	<0.002	1.70	<0.008	0.25	0.15
DEC									
04...	--	--	20	--	--	--	--	0.55	--
10...	--	--	1	2.89	0.006	2.90	<0.008	0.35	--
15...	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--
26...	16	7.7	4	2.69	0.007	2.70	0.076	0.40	0.35
JAN 1991									
07...	--	--	25	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
08...	--	--	3	3.09	0.006	3.10	0.028	0.25	--
08...	--	--	8	--	--	--	--	--	--
09...	--	--	9	--	--	--	--	--	--
10...	--	--	8	--	--	--	--	--	--
JAN									
11-12	--	9.8	104	1.59	0.006	1.60	--	--	--
JAN									
12-12	--	8.2	88	1.39	0.007	1.40	--	1.8	0.65
16...	--	--	6	--	--	--	--	0.15	--
16...	--	--	402	--	--	--	--	2.1	--
16...	--	--	422	--	--	--	--	2.0	--
16...	--	--	152	--	--	--	--	1.1	--
17...	--	--	63	--	--	--	--	0.60	--
29...	12	7.7	5	3.70	0.004	3.70	0.008	0.15	0.10
FEB									
11...	--	--	2	3.59	0.006	3.60	0.012	0.20	--
26...	13	7.3	2	3.40	0.003	3.40	<0.008	0.15	0.10
26...	--	7.3	2	3.40	0.004	3.40	0.012	0.20	0.10
MAR									
11...	--	--	2	3.09	0.005	3.10	0.008	0.25	--
18...	--	6.2	66	2.49	0.010	2.50	0.120	0.65	0.45
27...	12	8.6	12	2.70	0.004	2.70	--	0.10	0.10
27...	--	8.6	12	2.80	0.004	2.80	--	<0.10	0.15
APR									
09...	--	--	2	2.79	0.006	2.80	<0.008	--	--
MAY									
06...	--	--	4	2.70	--	2.70	--	--	--
06...	15	6.6	8	2.80	--	2.80	--	--	--
29...	19	9.2	21	2.58	0.016	2.60	0.064	0.35	0.10
JUN									
03...	--	--	15	2.47	0.026	2.50	0.032	0.60	--
20...	20	9.0	25	2.29	0.012	2.30	0.040	0.50	0.35
JUL									
08...	--	--	23	2.29	0.012	2.30	<0.008	0.55	--
22...	23	8.3	18	2.10	--	2.10	0.020	0.70	0.52
AUG									
05...	--	--	4	1.70	--	1.70	0.028	0.35	--
29...	23	--	2	1.79	0.006	1.80	0.016	--	--
SEP									
03...	--	--	9	1.59	0.007	1.60	0.036	0.25	--
11...	25	7.3	10	1.70	0.003	1.70	0.012	0.20	0.10

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHEOPHYTIN PHYTOPLANKTON, ACID M. (UG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL C PHYTOPLANKTON, UNCORR. (UG/L)
OCT 1990										
15...	1.6	0.040	--	0.034	4.6	--	0.400	0.001	--	--
OCT										
23-23	3.6	1.30	0.300	0.022	47	7.8	--	--	--	--
OCT										
23-23	3.1	0.380	0.240	0.028	37	8.3	--	--	--	--
OCT										
23-23	2.3	0.280	0.240	0.036	16	12	--	--	--	--
30...	2.8	0.030	0.020	0.004	1.8	1.9	--	0.200	--	--
30...	2.9	0.030	0.030	0.004	1.9	1.9	--	--	--	--
NOV										
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
13...	2.7	0.050	--	0.004	2.5	--	--	0.400	--	--
27...	3.0	0.010	<0.010	<0.004	3.6	3.3	--	1.20	--	--
27...	2.9	0.090	0.030	0.014	3.7	3.4	--	--	--	--
27...	2.3	0.090	0.020	0.022	3.3	3.3	--	--	--	--
27...	2.0	0.050	0.020	0.014	3.3	3.2	--	--	--	--
DEC										
04...	--	0.070	--	--	3.1	--	--	--	--	--
10...	3.3	0.040	--	0.008	1.5	--	--	1.20	--	0.400
15...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
26...	3.1	0.070	0.040	0.014	1.3	1.5	--	1.40	--	0.800
JAN 1991										
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
08...	3.4	0.010	--	0.008	2.9	--	--	0.600	--	0.200
08...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
JAN										
11-12	--	--	--	--	2.2	2.1	--	--	--	--
JAN										
12-12	3.2	0.200	0.110	--	3.7	3.6	--	--	--	--
16...	--	0.030	--	--	1	--	--	--	--	--
16...	--	0.500	--	--	4.8	--	--	--	--	--
16...	--	0.400	--	--	5.1	--	--	--	--	--
16...	--	0.290	--	--	4.0	--	--	--	--	--
17...	--	0.150	--	--	2.9	--	--	--	--	--
29...	3.9	0.030	0.020	<0.004	1.9	1.9	--	0.600	0.200	0.400
FEB										
11...	3.8	0.010	--	<0.004	0.9	--	--	0.001	--	--
26...	3.6	0.010	<0.010	<0.004	1.8	1.8	0.400	1.60	0.200	0.600
26...	3.6	0.010	<0.010	0.004	2.1	1.8	--	--	--	--
MAR										
11...	3.4	<0.010	--	0.004	0.7	--	--	1.20	0.200	0.400
18...	3.2	0.150	0.030	0.064	6.0	4.5	--	--	--	--
27...	2.8	<0.010	<0.010	0.004	1.0	1.0	0.400	1.20	--	--
27...	2.9	<0.010	<0.010	0.006	1.8	0.9	--	--	--	--
APR										
09...	--	<0.010	--	--	2.2	--	0.800	3.20	0.200	0.600
MAY										
06...	--	--	--	0.012	1.4	--	1.80	3.60	0.200	0.001
06...	--	--	--	0.016	1.5	1.4	0.002	4.20	0.400	0.001
29...	3.0	0.100	0.010	<0.004	1.1	1.1	2.20	3.20	--	--
JUN										
03...	3.1	0.090	--	0.024	3.3	--	0.002	0.004	0.400	--
20...	2.8	0.050	0.020	0.014	2.0	1.9	0.800	0.002	--	--
JUL										
08...	2.9	0.110	--	0.018	2.8	--	1.40	1.60	0.400	1.40
22...	2.8	0.090	0.010	0.006	5.9	1.7	0.002	2.60	0.400	0.200
AUG										
05...	2.1	0.050	--	0.014	1.5	--	0.001	1.40	0.400	1.20
29...	--	--	--	0.004	1.2	1.2	0.001	2.40	0.200	0.600
SEP										
03...	1.8	0.020	--	0.014	1.5	--	1.80	2.20	0.400	1.20
11...	1.9	0.050	<0.010	0.006	1.5	0.5	0.400	3.20	0.600	0.600

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ENDING DATE	ENDING TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 1990						
23-23	1007	901023	1255	1320	1230	4380
OCT						
23-23	1327	901023	1551	2760	557	4140
OCT						
30...	1345	--	--	25	3	0.20
NOV						
10...	0739	--	--	73	49	9.7
10...	1315	--	--	779	82	172
10...	1507	--	--	883	231	551
10...	1639	--	--	993	463	1240
10...	1811	--	--	573	223	345
10...	2219	--	--	213	58	33
11...	0943	--	--	86	25	5.8
27...	0840	--	--	24	3	0.19
27...	0900	--	--	24	32	2.1
DEC						
15...	2050	--	--	122	36	12
16...	2048	--	--	41	19	2.1
26...	1115	--	--	55	5	0.74
JAN 1991						
07...	1924	--	--	70	10	1.9
08...	1656	--	--	55	7	1.0
09...	1619	--	--	55	8	1.2
10...	1720	--	--	54	10	1.5
JAN						
11-12	1532	910112	0156	134	115	41
JAN						
12-12	0540	910112	1200	233	111	70
16...	0300	--	--	78	12	2.5
16...	1215	--	--	518	663	927
16...	1450	--	--	501	505	683
16...	1910	--	--	251	197	134
17...	0145	--	--	189	70	36
29...	1300	--	--	50	4	0.54
FEB						
26...	0815	--	--	35	5	0.47
MAR						
18...	1645	--	--	97	65	17
27...	1300	--	--	77	13	2.7
MAY						
06...	1300	--	--	41	17	1.9
29...	0915	--	--	17	21	0.96
JUN						
20...	0900	--	--	17	17	0.78
JUL						
22...	0730	--	--	7.2	9	0.17
AUG						
29...	1130	--	--	5.2	6	0.08
SEP						
11...	1200	--	--	5.2	4	0.06

01591400 CATTAIL CREEK NEAR GLENWOOD, MD

LOCATION (REVISED).--Lat 39°15'21", long 77°03'05", Howard County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 1.2 mi upstream from mouth.

DRAINAGE AREA.--22.9 mi^2.

PERIOD OF RECORD.--June 1978 to September 1983 (published as "at Roxbury Mills Road at Roxbury Mills, MD"), October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 28, 1983, at site 800 ft upstream at datum 1.76 ft lower.

REMARKS.--No estimated daily discharges. Records good. Several measurments 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 25	1100	*1,170	*5.22	No other peak greater than base discharge			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	5.6	8.6	9.8	9.8	14	18	15	19	18	18	5.5
2	4.5	5.7	39	9.6	9.2	14	17	15	15	12	12	5.5
3	4.4	5.1	55	9.8	9.3	13	16	14	13	11	11	7.3
4	4.5	5.0	22	16	9.3	13	15	13	12	11	11	6.9
5	4.6	5.0	13	18	9.3	13	15	13	24	7.8	9.7	6.5
6	7.4	5.0	11	12	9.2	13	14	13	21	10	9.1	21
7	5.2	5.1	10	11	9.4	19	14	12	15	7.7	8.6	14
8	5.0	5.2	9.5	10	9.4	17	14	19	13	7.0	8.6	10
9	5.1	5.3	13	11	9.0	14	13	26	12	6.7	8.6	11
10	4.7	6.3	44	11	9.0	15	13	17	11	6.5	8.2	9.4
11	5.0	7.6	16	9.9	8.9	28	13	14	10	5.8	8.8	22
12	5.8	6.9	13	9.3	9.2	18	13	13	9.9	5.8	9.7	10
13	5.4	6.7	12	9.3	9.7	16	12	12	9.6	6.3	8.5	8.5
14	5.0	6.4	14	14	10	14	12	12	9.3	5.5	9.7	8.1
15	5.3	6.3	12	12	24	14	12	14	9.1	5.4	9.5	8.0
16	6.3	6.3	11	9.8	33	13	12	16	8.4	5.6	10	7.8
17	14	6.2	11	9.5	19	13	13	13	8.1	31	9.9	7.4
18	12	5.9	10	8.9	21	14	13	13	8.1	8.0	10	7.1
19	7.3	5.8	9.0	8.6	21	24	14	12	9.1	7.0	9.0	7.0
20	6.5	6.2	8.9	8.7	18	18	13	11	9.3	6.4	8.6	6.8
21	6.4	6.8	9.2	8.5	15	16	21	10	8.2	5.8	7.8	6.8
22	6.5	25	9.1	8.7	14	15	63	9.9	7.7	6.2	7.6	8.4
23	6.5	19	9.3	11	14	16	30	9.5	7.5	13	7.6	12
24	6.5	10	9.5	15	14	15	22	9.5	7.8	32	7.2	7.3
25	6.3	8.4	8.7	11	14	14	23	10	9.1	318	6.7	11
26	6.3	7.6	8.2	11	34	52	23	13	7.9	26	6.6	41
27	6.5	7.1	8.1	11	20	109	22	12	7.4	19	6.5	14
28	6.4	7.0	8.0	9.9	17	29	18	10	6.7	16	7.2	13
29	5.8	6.9	19	9.9	15	22	16	9.7	6.4	13	8.4	11
30	5.6	6.8	14	9.9	---	19	16	13	6.5	11	6.3	9.3
31	5.6	---	11	10	---	21	---	57	---	21	6.0	---
TOTAL	190.9	222.2	456.1	334.1	423.7	645	530	450.6	321.1	665.5	276.4	323.6
MEAN	6.16	7.41	14.7	10.8	14.6	20.8	17.7	14.5	10.7	21.5	8.92	10.8
MAX	14	25	55	18	34	109	63	57	24	318	18	41
MIN	4.4	5.0	8.0	8.5	8.9	13	12	9.5	6.4	5.4	6.0	5.5
CFSM	.27	.32	.64	.47	.64	.91	.77	.63	.47	.94	.39	.47
IN.	.31	.36	.74	.54	.69	1.05	.86	.73	.52	1.08	.45	.53

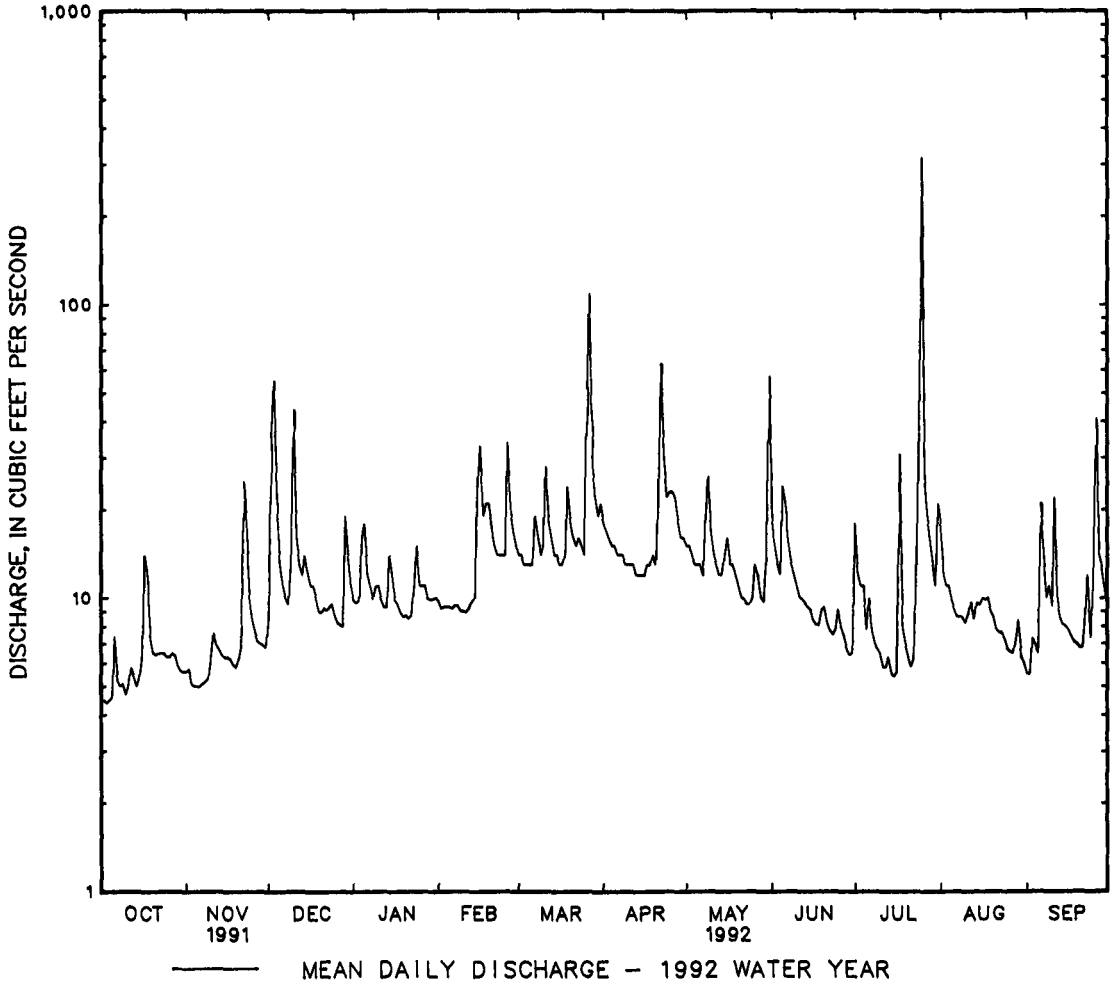
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1992, BY WATER YEAR (WY)

MEAN	18.7	19.6	24.7	27.4	37.6	32.3	32.9	32.0	21.3	16.3	12.2	15.1
MAX	76.6	37.9	83.1	83.0	103	58.7	90.6	92.5	38.4	31.5	30.7	81.6
(WY)	1980	1980	1984	1979	1979	1984	1983	1989	1989	1978	1984	1979
MIN	3.73	5.96	9.24	8.38	14.6	14.5	14.9	14.1	6.96	4.23	4.63	4.43
(WY)	1987	1982	1982	1981	1992	1981	1985	1986	1986	1986	1991	1991

01591400 CATTAIL CREEK NEAR GLENWOOD, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1978 - 1992	
ANNUAL TOTAL	5996.9		4839.2			
ANNUAL MEAN	16.4		13.2		23.9	
HIGHEST ANNUAL MEAN					42.0	1979
LOWEST ANNUAL MEAN					13.1	1981
HIGHEST DAILY MEAN	244	Mar 23	318	Jul 25	1400	Feb 12 1985
LOWEST DAILY MEAN	2.4	Aug 19	4.4	Oct 3	2.4	Aug 19 1991
ANNUAL SEVEN-DAY MINIMUM	3.0	Sep 11	5.0	Oct 1	2.6	Sep 16 1985
INSTANTANEOUS PEAK FLOW	1030	Mar 23	1170	Jul 25	a4340	Oct 23 1990
INSTANTANEOUS PEAK STAGE	4.99	Mar 23	5.22	Jul 25	8.41	Oct 23 1990
INSTANTANEOUS LOW FLOW	1.7	Aug 19	4.2	Oct 3	1.7	Aug 19 1991
ANNUAL RUNOFF (CFSM)	.72		.58		1.04	
ANNUAL RUNOFF (INCHES)	9.74		7.86		14.19	
10 PERCENT EXCEEDS	31		20		38	
50 PERCENT EXCEEDS	11		10		16	
90 PERCENT EXCEEDS	3.9		6.0		6.3	

a From rating curve extended above 175 ft^3/s on basis of contracted-opening and flow-over-road measurement at gage.



01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD

LOCATION.--Lat 39°11'31", long 77°00'16", Montgomery County, Hydrologic Unit 02060006, on right bank at Brighton Dam, 500 ft downstream from Triadelphia Reservoir, 1.3 mi east of Brighton, and 92 mi upstream from mouth.

DRAINAGE AREA.--78.6 mi^2.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 310 ft above National Geodetic Vertical Datum of 1929, 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 measurments of water temperature were made during the year. Water-quality records for some prior years have been collected at this station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a discharge of 17,800 ft^3/s. Data provided by Washington Suburban Sanitary Commission.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 623 ft^3/s, Mar. 28, gage height, 3.51 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	26	25	7.5	13	8.6	90	88	43	47	47	90
2	7.7	26	25	10	13	37	90	88	43	47	47	91
3	7.7	24	25	8.6	39	50	90	88	41	47	47	91
4	7.9	25	25	8.7	38	37	90	89	41	47	47	92
5	7.7	25	23	10	36	50	89	88	47	47	47	92
6	7.8	24	22	9.0	37	44	89	88	39	47	48	94
7	7.7	25	21	30	38	10	91	86	20	47	48	104
8	7.9	26	21	31	17	8.3	91	64	47	48	48	105
9	27	26	22	44	13	36	90	54	54	48	48	106
10	24	26	22	43	38	35	90	59	46	48	47	88
11	25	27	22	9.8	38	30	88	87	57	48	48	80
12	25	27	20	10	37	9.3	90	74	57	49	48	106
13	25	27	9.4	36	16	9.2	89	76	53	49	48	101
14	25	27	8.5	50	10	11	88	75	34	42	48	102
15	25	29	11	50	11	9.6	88	77	51	38	48	99
16	25	29	11	39	10	9.6	84	53	52	45	48	96
17	27	29	11	50	35	9.4	76	46	49	38	48	95
18	24	29	10	12	50	73	30	77	49	48	49	96
19	25	28	10	12	40	51	16	87	49	48	79	101
20	25	27	10	36	36	50	43	78	48	47	96	102
21	25	26	10	47	35	49	54	89	49	47	96	101
22	25	27	9.8	32	27	48	54	84	48	48	96	101
23	26	27	9.7	36	9.5	49	54	33	49	47	97	101
24	26	26	9.1	38	37	48	54	48	56	47	97	87
25	26	26	9.3	12	35	43	53	34	55	47	96	68
26	26	26	11	11	36	48	54	54	55	48	96	18
27	26	25	11	37	36	295	71	52	47	48	96	28
28	26	25	9.4	36	50	441	90	43	30	48	97	70
29	26	25	11	35	10	90	90	37	50	48	98	67
30	26	25	8.7	38	---	90	88	46	49	47	95	70
31	26	---	8.7	38	---	90	---	44	---	48	90	---
TOTAL	648.2	790	461.6	866.6	840.5	1869.0	2254	2086	1408	1448	2088	2642
MEAN	20.9	26.3	14.9	28.0	29.0	60.3	75.1	67.3	46.9	46.7	67.4	88.1
MAX	27	29	25	50	50	441	91	89	57	49	98	106
MIN	7.7	24	8.5	7.5	9.5	8.3	16	33	20	38	47	18
(†)	4230	4270	5130	5460	5880	6280	6260	6120	5980	6100	5480	4700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1992, BY WATER YEAR (WY)

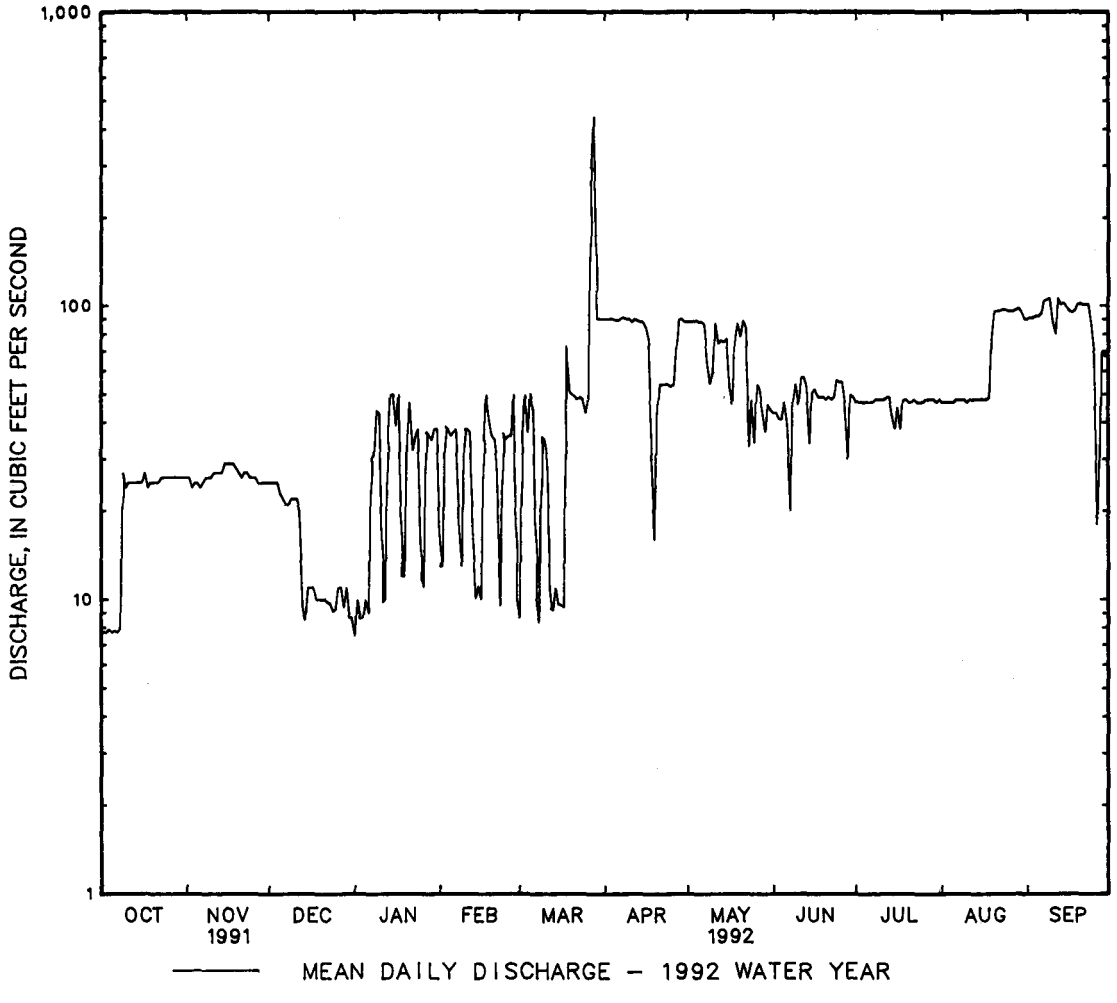
MEAN	57.5	45.1	80.5	63.3	68.5	87.0	114	97.7	74.4	58.7	64.3	75.9
MAX	117	82.1	373	183	142	205	261	229	170	66.9	86.4	205
(WY)	1981	1990	1984	1991	1984	1984	1983	1989	1989	1984	1982	1989
MIN	7.87	17.1	14.9	9.33	10.1	8.90	8.49	8.63	22.4	46.7	18.1	26.1
(WY)	1987	1989	1992	1982	1987	1981	1981	1981	1981	1992	1987	1991

† Month-end contents, in millions of gallons, in Triadelphia Reservoir (contents on Sept. 30, 1991, 4,340,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

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

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1981 - 1992	
ANNUAL TOTAL	24790.7		17401.9			
ANNUAL MEAN	67.9		47.5		73.9	
ANNUAL MEAN≠	65.6		49.0		74.0	
HIGHEST ANNUAL MEAN					134	1984
LOWEST ANNUAL MEAN					47.5	1992
HIGHEST DAILY MEAN	729	Jan 2	441	Mar 28	1730	May 6 1989
LOWEST DAILY MEAN	6.8	Jun 16	7.5	Jan 1	2.1	(a)
ANNUAL SEVEN-DAY MINIMUM	7.8	Oct 1	7.8	Oct 1	4.0	Oct 16 1980
INSTANTANEOUS PEAK FLOW	1140	Jan 2	623	Mar 28	2650	May 6 1989
INSTANTANEOUS PEAK STAGE	5.31	Jan 2	3.51	Mar 28	10.26	May 6 1985
INSTANTANEOUS LOW FLOW	6.1	Dec 26	4.9	Jan 8	1.2	Dec 3 1985
ANNUAL RUNOFF (CFSM)	.86		.60		.94	
ANNUAL RUNOFF (CFSM)≠	.83		.62		.94	
ANNUAL RUNOFF (INCHES)	11.73		8.24		12.77	
ANNUAL RUNOFF (INCHES)≠	11.33		8.49		12.79	
10 PERCENT EXCEEDS	97		90		133	
50 PERCENT EXCEEDS	60		44		51	
90 PERCENT EXCEEDS	9.4		10		8.8	

≠ Adjusted for change in reservoir contents.
a Jan. 27, 28, 1983.



01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD

LOCATION.--Lat 39°10'29", long 77°01'22", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 650, 1.0 mi upstream from mouth, and 1.7 mi north of Sandy Spring.

DRAINAGE AREA.--27.0 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (backwater from leaves), 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 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0030	*481	*3.80	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	e4.9	11	15	14	18	24	19	37	17	81	5.6
2	4.1	e4.9	52	14	12	17	23	18	23	15	30	5.1
3	4.1	e4.8	95	15	12	17	21	17	18	12	18	5.1
4	4.2	e4.7	43	60	12	16	20	16	15	13	11	5.7
5	4.2	e4.7	23	61	11	15	19	16	37	11	8.6	5.9
6	6.2	e4.6	17	29	10	15	18	19	46	8.5	7.1	12
7	e5.7	e4.6	14	22	10	25	18	16	26	8.3	6.5	27
8	e4.8	e4.5	12	19	10	22	18	28	22	7.4	5.9	22
9	e4.6	e4.4	16	19	9.5	19	18	41	18	6.7	5.9	16
10	e4.5	e4.5	86	19	8.2	18	19	27	15	6.7	5.9	12
11	e4.6	8.4	30	17	9.0	45	20	21	12	5.9	12	24
12	e5.0	5.5	22	15	9.3	26	20	18	11	5.2	24	23
13	e4.8	5.1	19	15	9.4	22	18	17	10	5.3	11	15
14	e4.7	4.8	22	23	12	19	18	16	9.9	5.3	9.8	10
15	e4.9	5.0	19	20	34	18	18	25	9.9	6.7	9.6	8.1
16	10	5.0	16	15	56	16	18	35	9.4	16	10	7.2
17	25	4.4	14	13	27	16	19	22	9.7	7.8	10	7.0
18	19	4.5	14	13	37	17	20	19	10	6.7	9.9	6.7
19	9.1	4.8	12	11	33	33	18	20	12	5.6	9.9	6.7
20	e5.7	5.0	11	11	25	25	18	16	14	4.8	9.2	6.0
21	e5.5	5.3	12	12	21	21	24	14	13	4.1	7.9	5.7
22	e5.5	53	12	11	19	20	100	13	11	3.8	7.3	7.8
23	e5.6	38	12	16	18	23	40	12	11	7.0	7.0	38
24	e5.5	17	13	26	17	19	29	11	11	90	6.7	21
25	e5.5	11	11	18	18	18	30	13	14	96	6.0	14
26	e5.3	8.4	11	15	58	83	28	15	13	51	5.6	57
27	e5.2	7.1	10	14	32	171	28	18	12	27	5.4	41
28	e5.2	6.5	10	14	24	46	23	14	11	18	5.5	35
29	e5.0	6.2	36	15	21	32	21	12	9.8	12	14	26
30	e5.0	6.0	26	15	---	27	19	19	9.4	7.9	11	20
31	e4.9	---	19	15	---	27	---	114	---	59	7.1	---
TOTAL	197.4	257.6	720	597	588.4	906	727	681	480.1	550.7	378.8	495.6
MEAN	6.37	8.59	23.2	19.3	20.3	29.2	24.2	22.0	16.0	17.8	12.2	16.5
MAX	25	53	95	61	58	171	100	114	46	96	81	57
MIN	4.0	4.4	10	11	8.2	15	18	11	9.4	3.8	5.4	5.1
CFSM	.24	.32	.86	.71	.75	1.08	.90	.81	.59	.66	.45	.61
IN.	.27	.35	.99	.82	.81	1.25	1.00	.94	.66	.76	.52	.68

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1992, BY WATER YEAR (WY)

MEAN	23.0	23.6	29.2	32.3	42.5	41.3	39.4	38.4	27.3	16.6	12.2	15.1
MAX	129	48.6	88.9	99.5	112	72.7	89.5	94.3	68.3	33.1	26.5	85.3
(WY)	1980	1980	1984	1979	1979	1984	1983	1989	1989	1978	1990	1979
MIN	2.68	7.27	11.8	9.31	20.3	18.8	19.2	15.1	6.21	4.72	3.98	3.11
(WY)	1987	1982	1981	1981	1992	1981	1985	1986	1986	1986	1987	1986

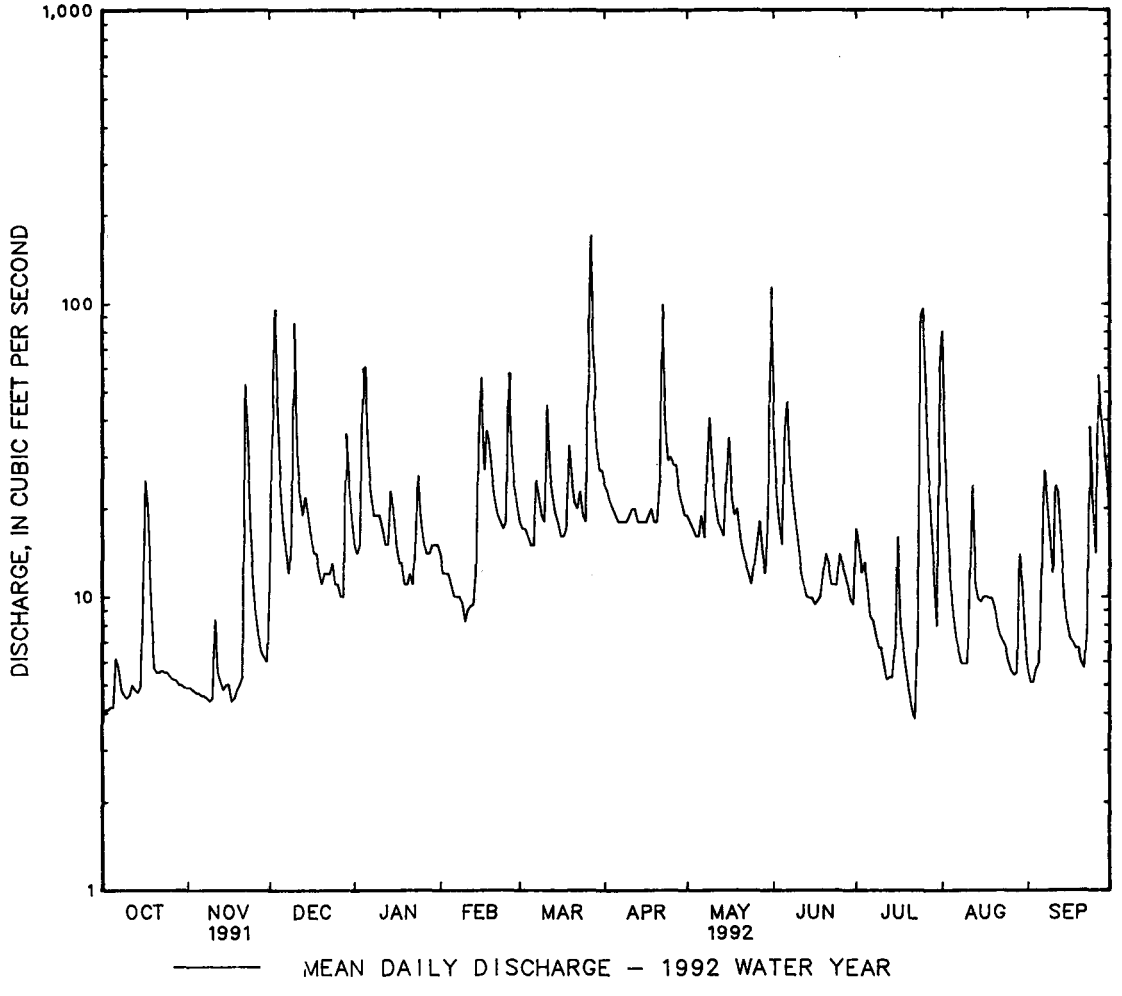
01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1978 - 1992	
ANNUAL TOTAL	7477.5		6579.6			
ANNUAL MEAN	20.5		18.0		28.2	
HIGHEST ANNUAL MEAN					48.3	1979
LOWEST ANNUAL MEAN					16.0	1986
HIGHEST DAILY MEAN	579	Mar 23	171	Mar 27	1500	Oct 1 1979
LOWEST DAILY MEAN	2.3	Aug 6	3.8	Jul 22	2.0	(a)
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 27	4.6	Nov 4	2.2	Oct 6 1986
INSTANTANEOUS PEAK FLOW	1470	Mar 23	481	Mar 27	b4300	Sep 6 1979
INSTANTANEOUS PEAK STAGE	6.39	Mar 23	3.80	Mar 27	8.80	Sep 6 1979
INSTANTANEOUS LOW FLOW	2.2	Aug 7	c3.2	Feb 10	c.75	Jan 30 1981
ANNUAL RUNOFF (CFSM)	.76		.67		1.04	
ANNUAL RUNOFF (INCHES)	10.30		9.07		14.18	
10 PERCENT EXCEEDS	38		32		47	
50 PERCENT EXCEEDS	13		14		18	
90 PERCENT EXCEEDS	3.0		5.1		5.6	

a Oct. 11, 12, 1986.

b From rating curve extended above 1,200 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.

c Result of freezeup.



01592500 PATUXENT RIVER NEAR LAUREL, MD

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

DRAINAGE AREA.--132 mi^2.

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

REVISED RECORDS.--WDR MD-DE-78-1: 1976(M). WDR MD-DE-89-1: 1978(M), 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 153.5 ft above National Geodetic Vertical Datum of 1929 (levels by Washington Suburban Sanitary Commission). Prior to Oct. 1, 1955, water-stage recorder and concrete control at site 0.3 mi downstream at different datum. Oct. 1, 1955 to Sept. 30, 1956, nonrecording gage at present site at datum 1.2 ft lower. Oct. 1, 1956 to Jan. 27, 1957, nonrecording gage at present site and datum. Jan. 28, 1957 to May 3, 1972, water-stage recorder and concrete control at present site and datum. May 4, 1972 to Sept. 4, 1973, nonrecording gage at present site and datum.

REMARKS.--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 Triadelphia Reservoir, and since March 1954 by T. Howard Duckett Reservoir, combined usable capacity, 11,800,000,000 gal; dead storage, 80,000,000 gal. Several measurements of water temperature were made during the year.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 1,040 ft^3/s, Jan. 18, gage height, 7.66 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	19	19	19	20	20	88	59	20	20	20
2	19	20	20	19	19	19	20	87	82	20	20	20
3	19	21	20	19	19	19	21	87	85	20	20	20
4	19	20	20	19	19	20	21	90	86	20	20	20
5	20	20	19	19	19	19	21	90	85	20	20	20
6	20	20	19	19	19	19	21	48	83	20	20	20
7	20	20	19	19	19	19	21	20	83	20	20	19
8	20	20	19	19	19	19	21	21	43	20	20	20
9	20	20	19	19	19	20	21	20	19	20	20	19
10	20	21	19	19	19	20	21	20	20	20	20	19
11	21	21	19	19	19	20	21	21	20	20	20	19
12	20	20	19	19	19	20	21	21	20	20	19	20
13	20	20	19	19	19	20	21	21	20	20	20	20
14	20	20	19	19	19	20	22	20	20	20	20	20
15	20	20	19	20	19	20	21	21	20	20	20	20
16	20	20	19	20	19	20	21	20	20	20	19	19
17	21	20	19	20	19	20	21	20	20	20	19	19
18	20	20	19	20	19	20	22	20	20	20	19	19
19	20	20	19	20	19	20	22	20	19	20	19	20
20	20	20	19	20	19	20	21	20	19	20	19	19
21	20	19	19	20	19	20	22	21	19	20	19	19
22	20	20	19	20	19	20	21	21	20	20	19	19
23	20	20	19	20	19	20	21	21	20	20	19	20
24	20	19	19	19	19	20	21	20	19	21	19	20
25	20	20	19	20	19	20	21	20	19	20	20	20
26	20	19	19	20	20	21	22	21	19	19	21	19
27	20	19	19	20	19	21	22	21	19	19	19	19
28	20	19	19	20	19	21	64	21	20	19	19	18
29	21	19	19	20	19	21	89	21	20	19	20	19
30	21	19	19	20	---	21	88	21	20	19	20	19
31	21	---	19	19	---	21	---	21	---	20	20	---
TOTAL	621	597	592	604	552	620	812	1004	1038	616	609	584
MEAN	20.0	19.9	19.1	19.5	19.0	20.0	27.1	32.4	34.6	19.9	19.6	19.5
MAX	21	21	20	20	20	21	89	90	86	21	21	20
MIN	19	19	19	19	19	19	20	20	19	19	19	18
(†)	8160	7880	8780	9270	9930	11650	11960	11930	10900	10600	9650	8950
(≠)	43.3	43.1	42.1	42.7	46.3	38.6	85.9	84.9	93.7	82.8	84.0	83.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1992, BY WATER YEAR (WY)

MEAN	45.1	49.2	75.7	105	117	125	134	116	89.1	61.4	50.3	65.2
MAX	379	272	390	480	462	373	444	397	822	280	226	587
(WY)	1980	1953	1984	1978	1979	1953	1952	1989	1972	1945	1971	1979
MIN	7.76	7.21	8.45	7.84	7.92	7.88	7.47	9.04	7.88	7.81	5.72	4.91
(WY)	1968	1985	1966	1966	1966	1966	1966	1985	1967	1967	1966	1966

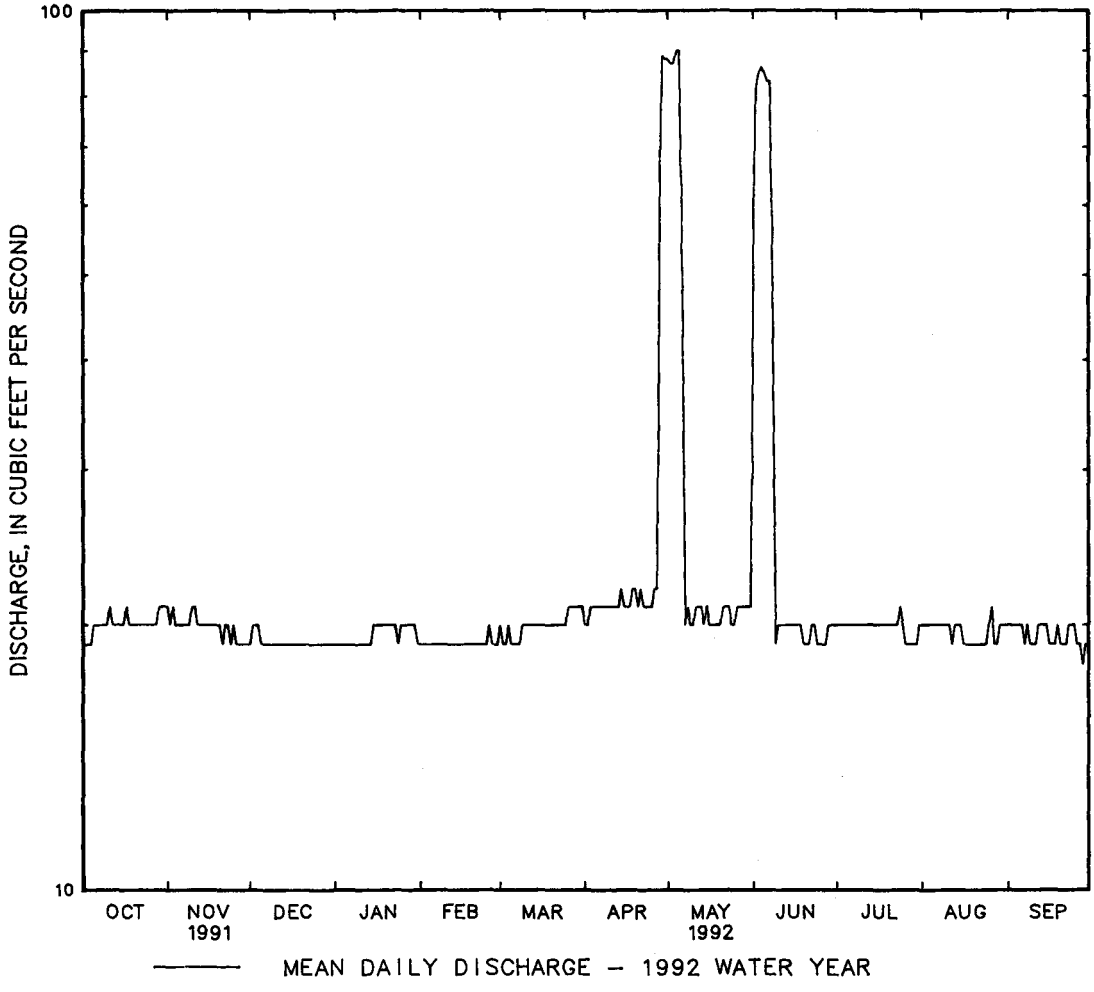
† Combined month-end total contents, in millions of gallons, in Triadelphia and T. Howard Duckett Reservoirs (contents on Sept. 30, 1991, 8,750,000,000 gal). Records provided by Washington Suburban Sanitary Commission.
≠ Diversions, in cubic feet per second, upstream from station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records provided by Washington Suburban Sanitary Commission.

01592500 PATUXENT RIVER NEAR LAUREL, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1945 - 1992	
ANNUAL TOTAL	21507		8249			
ANNUAL MEAN	58.9		22.5		85.8	
ANNUAL MEAN≠	120		86.6			
HIGHEST ANNUAL MEAN					241	1972
LOWEST ANNUAL MEAN					9.09	1966
HIGHEST DAILY MEAN	686	Mar 26	90	May 4	13000	Jun 22 1972
LOWEST DAILY MEAN	18	(a)	18	Sep 28	1.1	Jun 26 1956
ANNUAL SEVEN-DAY MINIMUM	18	Aug 3	19	Dec 5	3.7	Aug 29 1966
INSTANTANEOUS PEAK FLOW	1040	Jan 18	159	May 6	b26000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	7.66	Jan 18	5.51	May 6	c25.00	Jun 22 1972
INSTANTANEOUS LOW FLOW	9.5	Aug 12	UNKNOWN		d.05	Jul 18 1985
10 PERCENT EXCEEDS	155		21		187	
50 PERCENT EXCEEDS	20		20		23	
90 PERCENT EXCEEDS	19		19		11	

≠ Adjusted for diversions.
a Aug. 3-10, 12, 13, 16.

b From rating curve extended above 6,600 ft^3/s on basis of contracted-opening measurement of peak flow.
c From floodmarks.
d Valve closed for repair.



01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD

LOCATION.--Lat 39°10'04", long 76°51'07", Howard County, Hydrologic Unit 02060006, on left bank 25 ft downstream from bridge on Guilford Road (formerly State Highway 32), 1 mi west of Guilford, 3 mi upstream from Middle Patuxent River, 4 mi north of Laurel, and 20.1 mi upstream from mouth.

DRAINAGE AREA.--38.0 mi^2.

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

REVISED RECORDS.--WSP 1502: 1933, 1934(M), 1939(M), 1945(M), 1948(P).

GAGE.--Water-stage recorder. Concrete control since June 20, 1946. Datum of gage is 259.26 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1946, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges (recorder malfunction), which are fair. Low flow affected by regulation from unknown source. Several measurments 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 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0130	*1,180	*7.73	July 1	1930	914	6.61
May 31	0730	976	6.89	July 25	0700	936	6.71

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.0	9.8	30	18	18	24	31	22	55	255	100	7.8
2	e8.0	9.9	178	18	17	23	28	21	31	76	22	8.1
3	e7.6	9.9	278	18	16	22	27	20	25	28	16	25
4	7.1	9.7	68	98	20	21	25	18	22	29	14	19
5	7.0	9.6	29	76	16	21	24	18	236	18	13	13
6	21	9.7	23	37	15	24	23	24	100	17	11	77
7	10	9.6	20	32	16	82	23	21	36	15	10	38
8	8.4	9.8	18	26	16	38	23	40	28	13	10	19
9	7.6	9.8	47	26	16	28	21	53	32	13	10	16
10	8.1	14	298	25	18	31	22	34	28	12	9.4	17
11	20	22	46	23	15	125	24	24	17	11	16	35
12	14	13	32	20	15	41	24	19	16	11	23	15
13	9.0	12	25	18	16	30	21	18	15	10	16	12
14	8.1	11	32	63	25	26	20	17	14	9.7	26	11
15	8.6	10	26	31	130	25	20	29	14	30	25	9.8
16	18	10	21	23	126	23	20	35	12	33	29	9.3
17	175	9.7	17	27	36	22	24	21	12	15	21	8.7
18	44	9.5	17	18	69	27	26	20	12	12	20	8.5
19	17	9.1	15	26	49	78	24	18	16	11	15	8.5
20	12	9.2	25	16	41	39	22	16	14	9.5	13	8.4
21	10	9.5	15	31	29	29	41	15	12	8.6	11	8.3
22	9.8	255	14	24	26	31	186	15	11	8.3	11	26
23	9.3	102	15	50	24	39	42	14	10	11	10	35
24	9.2	25	16	59	24	27	39	15	14	43	9.9	13
25	9.5	17	14	26	28	24	46	21	22	345	9.9	85
26	9.9	14	14	23	169	250	66	28	14	36	10	259
27	9.9	13	13	25	47	600	43	27	12	23	9.1	39
28	9.9	12	13	20	33	64	28	19	10	20	11	29
29	10	12	62	19	28	41	24	16	9.7	14	14	17
30	9.7	11	43	19	---	35	23	69	103	13	9.4	12
31	9.8	---	22	19	---	38	---	488	---	158	8.5	---
TOTAL	525.5	687.8	1486	954	1098	1928	1010	1215	952.7	1308.1	533.2	889.4
MEAN	17.0	22.9	47.9	30.8	37.9	62.2	33.7	39.2	31.8	42.2	17.2	29.6
MAX	175	255	298	98	169	600	186	488	236	345	100	259
MIN	7.0	9.1	13	16	15	21	20	14	9.7	8.3	8.5	7.8
CFSM	.45	.60	1.26	.81	1.00	1.64	.89	1.03	.84	1.11	.45	.78
IN.	.51	.67	1.45	.93	1.07	1.89	.99	1.19	.93	1.28	.52	.87

e Estimated

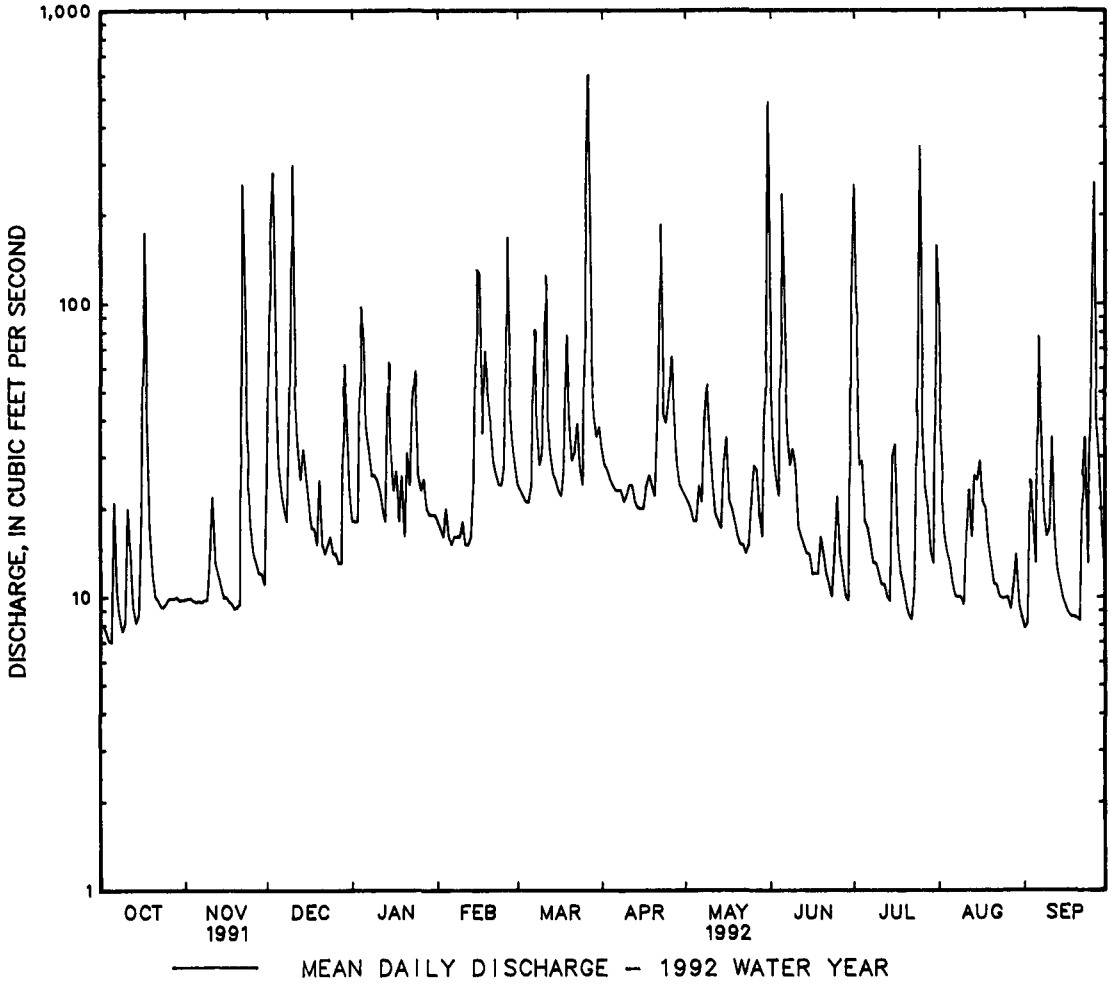
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1992, BY WATER YEAR (WY)

MEAN	26.0	36.0	43.9	51.3	60.4	61.9	58.5	49.6	38.5	29.7	27.5	31.1
MAX	107	108	119	145	147	123	160	197	265	119	130	214
(WY)	1980	1973	1973	1978	1979	1958	1973	1989	1972	1945	1955	1975
MIN	5.90	9.31	11.6	12.9	19.7	24.9	21.0	15.7	9.32	6.66	4.91	3.88
(WY)	1942	1942	1966	1955	1947	1981	1947	1955	1986	1966	1957	1932

01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1932 - 1992	
ANNUAL TOTAL	12685.2		12587.7			
ANNUAL MEAN	34.8		34.4		42.9	
HIGHEST ANNUAL MEAN					93.7	1972
LOWEST ANNUAL MEAN					23.3	1947
HIGHEST DAILY MEAN	877	Mar 23	600	Mar 27	4680	Jun 22 1972
LOWEST DAILY MEAN	3.8	Jul 24	7.0	Oct 5	.00	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	4.2	Jul 18	8.8	Sep 15	.73	Sep 6 1966
INSTANTANEOUS PEAK FLOW	2060	Mar 23	1180	Mar 27	a12400	Jun 22 1972
INSTANTANEOUS PEAK STAGE	9.93	Mar 23	7.73	Mar 27	b18.38	Jun 22 1972
INSTANTANEOUS LOW FLOW	3.3	(c)	7.0	(d)	.00	(f)
ANNUAL RUNOFF (CFSM)	.91		.91		1.13	
ANNUAL RUNOFF (INCHES)	12.42		12.32		15.35	
10 PERCENT EXCEEDS	61		60		71	
50 PERCENT EXCEEDS	20		20		26	
90 PERCENT EXCEEDS	6.7		9.7		10	

a From rating curve extended above 1,800 ft^3/s on basis of contracted-opening measurement at gage height 13.26 ft and contracted-opening and flow-over-embankment measurement at gage height 18.38 ft.
b From high-water mark in well.
c July 19, 24.
d Oct. 4, 5.
f Sept. 6-12, 1966.



01593710 MIDDLE PATUXENT RIVER NEAR SIMPSONVILLE, MD

LOCATION.--Lat 39°11'48", long 76°53'59", Howard County, Hydrologic Unit 02060006, on right bank 0.8 mi upstream from bridge on State Highway 32 on W. R. Grace Company property, 1.3 mi northwest of Simpsonville, and 7.8 mi upstream from Little Patuxent River.

DRAINAGE AREA.--48.4 mi^2.

PERIOD OF RECORD.--August 1987 to current year.

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

GAGE.--Water-stage recorder. Elevation of gage is 275 ft above National Geodetic Vertical Datum of 1929 from topographic maps.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Several measurments 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 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0045	*1,440	*4.99	No other peak greater than base discharge			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	23	30	30	35	45	32	52	85	55	13
2	11	14	79	29	28	35	42	31	36	61	25	13
3	11	14	164	31	28	34	40	29	31	24	22	17
4	11	14	69	75	28	33	38	27	28	28	24	16
5	11	14	39	78	28	33	37	28	82	20	20	15
6	15	15	34	44	27	33	35	30	56	19	18	41
7	13	15	31	38	28	48	36	27	38	18	17	29
8	12	15	29	34	29	40	35	42	33	17	17	21
9	12	15	36	35	27	36	34	62	28	16	18	20
10	12	16	149	35	e26	36	34	36	25	15	16	20
11	13	20	48	32	e26	82	36	31	23	14	19	30
12	15	17	38	31	26	47	35	28	22	14	22	18
13	14	16	36	31	27	40	32	27	21	15	19	16
14	13	16	39	43	31	37	32	26	21	14	23	16
15	13	15	33	37	64	36	32	33	20	19	22	15
16	16	16	31	32	94	33	32	39	19	19	25	15
17	39	15	30	36	45	34	34	29	19	27	23	15
18	30	15	29	30	63	35	35	28	18	16	24	14
19	15	16	28	29	56	63	36	26	20	14	20	14
20	14	16	e28	29	45	46	34	24	20	13	18	13
21	13	16	28	28	39	39	43	23	18	12	17	13
22	14	107	27	28	36	39	121	22	17	12	16	17
23	14	64	27	38	35	43	56	22	17	16	16	23
24	14	25	28	52	35	38	42	21	19	49	16	15
25	14	21	26	35	37	36	42	23	21	249	15	26
26	14	19	25	33	101	177	57	26	18	41	15	83
27	14	19	25	e32	53	404	51	27	17	31	14	32
28	14	18	25	32	43	79	40	22	16	27	16	29
29	14	17	56	31	39	58	36	20	15	22	21	22
30	14	17	41	31	---	50	33	44	23	20	15	19
31	14	---	32	31	---	51	---	243	---	76	14	---
TOTAL	454	631	1333	1130	1174	1830	1235	1128	793	1023	622	650
MEAN	14.6	21.0	43.0	36.5	40.5	59.0	41.2	36.4	26.4	33.0	20.1	21.7
MAX	39	107	164	78	101	404	121	243	82	249	55	83
MIN	11	14	23	28	26	33	32	20	15	12	14	13
CFSM	.30	.43	.89	.75	.84	1.22	.85	.75	.55	.68	.41	.45
IN.	.35	.49	1.02	.87	.90	1.41	.95	.87	.61	.79	.48	.50

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

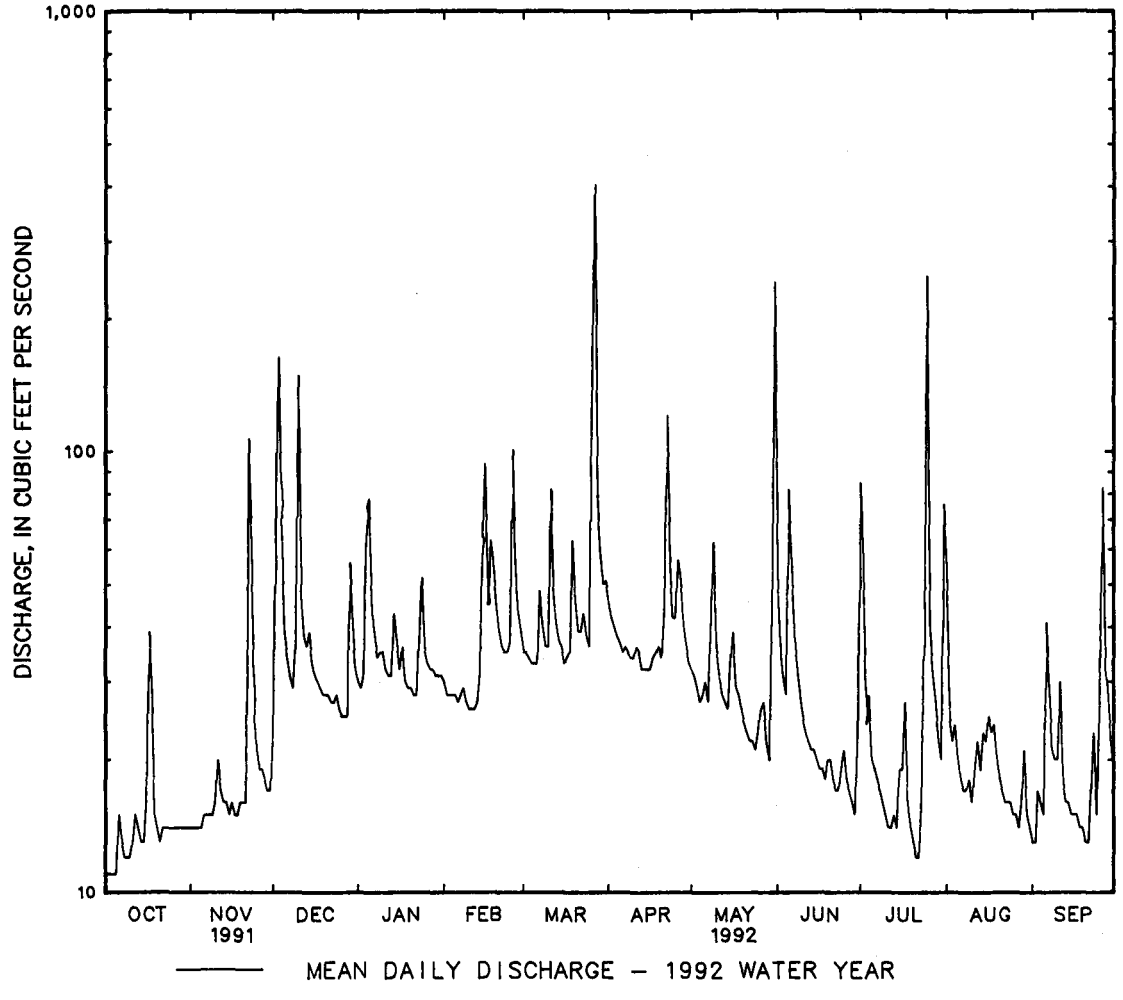
MEAN	32.6	43.9	45.2	62.5	53.9	66.6	54.6	79.8	53.1	34.5	22.7	25.4
MAX	66.6	61.0	75.3	85.0	64.6	102	75.5	169	149	71.2	39.7	42.5
(WY)	1990	1990	1991	1991	1988	1991	1990	1989	1989	1989	1990	1987
MIN	14.6	21.0	26.5	36.5	40.5	47.5	41.2	36.4	21.1	13.3	9.66	14.2
(WY)	1992	1992	1989	1992	1992	1988	1992	1992	1991	1991	1987	1991

01593710 MIDDLE PATUXENT RIVER NEAR SIMPSONVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	14339.5		12003			
ANNUAL MEAN	39.3		32.8		47.8	
HIGHEST ANNUAL MEAN					63.7	1989
LOWEST ANNUAL MEAN					32.8	1992
HIGHEST DAILY MEAN	900	Mar 23	404	Mar 27	2100	May 6 1989
LOWEST DAILY MEAN	6.8	Aug 6	11	(a)	6.6	Sep 4 1987
ANNUAL SEVEN-DAY MINIMUM	7.3	Sep 9	12	Oct 1	7.3	Sep 9 1991
INSTANTANEOUS PEAK FLOW	2610	Mar 23	1440	Mar 27	b4800	May 6 1989
INSTANTANEOUS PEAK STAGE	6.14	Mar 23	4.99	Mar 27	8.84	May 6 1989
INSTANTANEOUS LOW FLOW	6.4	Aug 6	10	Oct 1	6.4	Aug 6 1991
ANNUAL RUNOFF (CFSM)	.81		.68		.99	
ANNUAL RUNOFF (INCHES)	11.02		9.23		13.43	
10 PERCENT EXCEEDS	69		51		75	
50 PERCENT EXCEEDS	27		27		36	
90 PERCENT EXCEEDS	8.8		14		14	

a Oct. 1-5.

b From rating curve extended above 300 ft^3/s on the basis of slope-area measurement of peak flow.



01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD

LOCATION.--Lat 39°08'06", long 76°48'58", Howard County, Hydrologic Unit 02060006, on left bank 20 ft downstream from bridge on southbound lanes of U.S. Highway 1, 0.4 mi southeast of Savage, 0.9 mi downstream from Middle Patuxent River, and 16.2 mi upstream from mouth.

DRAINAGE AREA.--98.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1958. Annual maximums, water years 1959-66, 68, 72, 75. October 1975 to September 1980. May 1985 to current year. Prior to December 1939 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WRD MD-DE-89: 1985, 1987-88(P).

GAGE.--Water-stage recorder. Elevation of gage is 125 ft above National Geodetic Vertical Datum of 1929, 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 except those for estimated daily discharges (ice effect), which are fair. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 31	0830	*1,330	*7.67	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	31	67	60	54	71	98	73	155	330	229	23
2	23	32	187	59	50	70	88	69	93	226	61	22
3	22	32	484	61	50	67	80	65	75	66	45	52
4	22	30	196	155	e50	65	76	59	66	75	44	49
5	21	30	91	220	49	64	73	59	319	49	39	32
6	47	30	70	107	47	65	70	73	233	45	34	133
7	30	31	60	89	47	154	69	62	108	41	31	97
8	23	32	54	72	47	97	68	99	88	36	30	50
9	21	32	77	70	46	77	66	166	78	35	31	43
10	22	37	419	73	e46	80	67	103	79	34	29	40
11	32	53	123	66	e46	231	72	74	56	31	33	86
12	35	39	89	61	46	115	75	62	52	30	61	43
13	26	34	72	59	45	86	65	59	48	30	38	33
14	24	32	86	124	61	75	63	56	47	29	62	30
15	24	30	71	92	144	71	63	76	45	39	60	29
16	40	29	59	64	260	66	63	112	42	76	67	27
17	186	28	52	e60	103	64	69	68	41	46	55	26
18	128	27	51	e57	149	70	77	64	40	35	53	25
19	49	28	e51	e55	128	163	70	57	46	29	43	24
20	34	30	e50	e54	103	107	68	50	44	26	37	23
21	30	31	50	e52	79	82	84	48	39	24	33	22
22	28	266	49	e51	72	80	368	46	36	24	31	46
23	28	233	49	85	70	101	139	45	35	30	30	90
24	28	73	52	137	68	77	109	47	39	123	29	35
25	28	52	48	72	75	70	117	59	66	604	28	98
26	28	43	46	64	272	260	165	65	42	120	29	390
27	30	40	45	e62	127	629	136	74	37	70	27	89
28	30	40	46	59	93	200	91	52	33	61	27	80
29	30	39	147	57	81	129	79	46	31	45	42	49
30	30	37	119	56	---	110	75	109	73	39	28	37
31	31	---	72	55	---	114	---	738	---	159	24	---
TOTAL	1153	1501	3132	2408	2508	3710	2803	2835	2186	2607	1410	1823
MEAN	37.2	50.0	101	77.7	86.5	120	93.4	91.5	72.9	84.1	45.5	60.8
MAX	186	266	484	220	272	629	368	738	319	604	229	390
MIN	21	27	45	51	45	64	63	45	31	24	24	22
CFSM	.38	.51	1.03	.79	.88	1.22	.95	.93	.74	.85	.46	.62
IN.	.44	.57	1.18	.91	.95	1.40	1.06	1.07	.83	.99	.53	.69

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

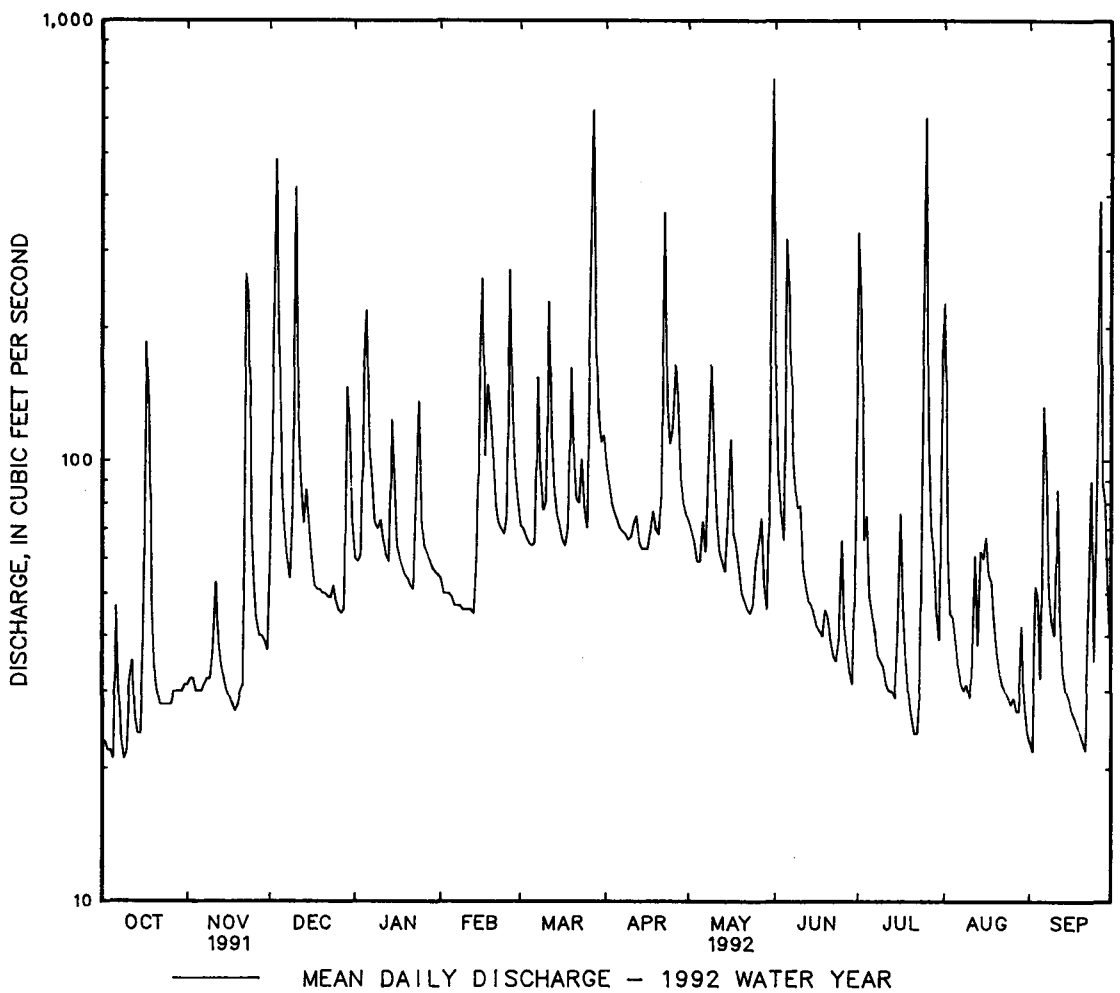
MEAN	72.1	91.1	112	142	139	152	136	127	94.0	76.8	64.0	67.2
MAX	336	228	260	386	375	308	351	367	294	312	315	432
(WY)	1980	1953	1978	1979	1979	1958	1952	1989	1951	1945	1955	1979
MIN	14.7	22.5	35.8	34.0	57.7	85.3	60.0	39.5	25.5	21.9	15.1	12.8
(WY)	1942	1942	1942	1942	1942	1947	1947	1955	1986	1957	1957	1986

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1940 - 1992	
ANNUAL TOTAL	29781		28076			
ANNUAL MEAN	81.6		76.7		106	
HIGHEST ANNUAL MEAN					196	1979
LOWEST ANNUAL MEAN					59.3	1942
HIGHEST DAILY MEAN	1400	Mar 23	738	May 31	5250	Sep 6 1979
LOWEST DAILY MEAN	11	Sep 3	21	(a)	7.0	Sep 19 1943
ANNUAL SEVEN-DAY MINIMUM	13	Sep 10	25	Sep 15	8.7	Oct 6 1986
INSTANTANEOUS PEAK FLOW	3290	Mar 23	1330	May 31	b35400	Jun 22 1972
INSTANTANEOUS PEAK STAGE	10.71	Mar 23	7.67	May 31	c25.40	Jun 22 1972
INSTANTANEOUS LOW FLOW	10	(d)	21	(f)	1.6	Aug 26 1944
ANNUAL RUNOFF (CFSM)	.83		.78		1.08	
ANNUAL RUNOFF (INCHES)	11.26		10.61		14.67	
10 PERCENT EXCEEDS	146		134		179	
50 PERCENT EXCEEDS	53		57		70	
90 PERCENT EXCEEDS	18		29		27	

a Oct. 5, 9.

b From rating curve extended above 11,000 ft^3/s on basis of contracted-opening measurement of peak flow.
c From floodmarks.
d Sept. 3, 4.
f Oct. 5, 6, 9-11.



01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)
OCT 1990							
18-18	1900	292	--	--	--	--	--
OCT							
18-19	2100	477	--	--	--	--	330
OCT							
19-19	0200	376	--	--	--	--	230
31...	1145	45	226	6.8	12.0	22.0	3.0
NOV							
29...	0745	54	228	5.8	11.0	9.0	1.7
DEC							
15-15	1610	454	--	--	--	--	--
DEC							
15-16	2310	317	--	--	--	--	--
26...	1515	110	217	6.9	3.0	3.0	10
JAN 1991							
11-11	2025	381	--	--	--	--	--
JAN							
11-11	2225	782	--	--	--	--	--
JAN							
12-12	0025	1190	--	--	--	--	--
JAN							
12-12	0225	1520	--	--	--	--	--
29...	1500	98	244	6.3	5.0	10.0	3.5
29...	1505	98	--	--	--	--	3.6
FEB							
26...	1400	81	--	6.5	6.0	5.0	2.3
MAR							
18...	1435	747	--	--	--	--	310
23...	1615	2610	--	--	--	--	1000
24...	2035	267	--	--	--	--	110
27...	0940	201	211	6.5	10.5	10.5	22
APR							
25...	1515	92	219	7.0	17.0	21.0	2.1
25...	1520	92	--	--	--	--	2.0
MAY							
29...	1115	42	228	7.1	26.0	31.5	1.4
JUN							
20...	1130	47	209	7.0	23.0	27.0	2.3
JUL							
22...	1245	16	228	7.9	27.0	33.0	0.90
AUG							
29...	0900	17	236	7.7	24.0	28.0	1.1
SEP							
11...	0850	14	230	7.6	22.0	27.0	0.60
11...	0855	14	--	--	--	--	0.80
17...	2030	238	--	--	--	--	280
25...	0106	241	--	--	--	--	210
25...	0630	953	--	--	--	--	410

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT 1990									
18-18	--	7.1	--	0.601	0.009	0.610	0.008	--	0.15
OCT									
18-19	--	7.7	600	0.678	0.012	0.690	0.008	1.2	0.10
OCT									
19-19	--	9.0	265	1.09	0.013	1.10	0.016	0.75	0.10
31...	60	13	<1	2.39	0.006	2.40	<0.008	0.15	<0.10
NOV									
29...	5	13	2	2.30	0.004	2.30	<0.001	0.55	0.20
DEC									
15-15	--	--	--	--	--	--	--	--	--
DEC									
15-16	--	--	--	--	--	--	--	--	--
26...	54	15	7	2.29	0.007	2.30	0.060	0.40	0.35
JAN 1991									
11-11	--	10	92	--	--	--	--	--	--
JAN									
11-11	--	8.0	246	--	--	--	--	--	--
JAN									
12-12	--	6.5	458	0.891	0.009	0.900	--	2.4	1.2
JAN									
12-12	--	6.8	360	0.991	0.009	1.00	--	2.3	0.90
29...	46	1.5	2	2.90	0.005	2.90	0.008	0.25	0.20
29...	--	1.5	2	2.90	0.005	2.90	<0.008	0.15	0.20
FEB									
26...	48	12	1	2.79	0.008	2.80	0.020	0.20	0.15
MAR									
18...	--	7.1	460	1.29	0.012	1.30	0.088	--	0.55
23...	--	4.8	1410	0.593	0.007	0.600	--	4.1	0.35
24...	--	14	785	1.79	0.009	1.80	--	1.0	0.40
27...	44	17	17	2.09	0.007	2.10	0.012	0.15	0.10
APR									
25...	49	9.1	6	1.89	0.010	1.90	0.008	--	0.20
25...	--	9.1	5	1.89	0.010	1.90	0.008	--	0.30
MAY									
29...	57	14	1	1.87	0.033	1.90	0.032	0.35	0.10
JUN									
20...	51	19	14	1.68	0.018	1.70	0.016	0.40	0.35
JUL									
22...	67	27	3	0.620	--	0.620	<0.008	0.70	0.55
AUG									
29...	66	--	<1	0.990	0.010	1.00	0.012	--	--
SEP									
11...	66	9.6	5	0.814	0.006	0.820	0.016	0.30	0.25
11...	--	9.6	5	0.795	0.005	0.800	0.012	0.25	0.20
17...	--	--	600	--	--	--	--	6.4	--
25...	--	7.2	835	0.783	0.017	0.800	0.072	1.6	0.40
25...	--	5.0	650	0.511	0.009	0.520	0.084	3.3	0.40

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHEOPHYTIN PHYTOPLANKTON, ACID M. (UG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL C PHYTOPLANKTON, UNCORR. (UG/L)
OCT 1990										
18-18	--	--	0.070	0.064	--	7.1	--	--	--	--
OCT										
18-19	1.8	0.370	0.030	0.020	17	6.4	--	--	--	--
OCT										
19-19	1.8	0.250	0.030	0.038	14	6.4	--	--	--	--
31...	2.6	0.020	0.010	0.006	3.1	3.3	--	0.400	--	--
NOV										
29...	2.9	0.080	0.040	<0.004	2.8	2.9	--	1.40	0.200	0.800
DEC										
15-15	--	--	--	--	--	--	--	--	--	--
DEC										
15-16	--	--	--	--	--	--	--	--	--	--
26...	2.7	0.060	0.050	0.018	2.1	2.2	0.200	2.40	0.200	1.20
JAN 1991										
11-11	--	--	--	--	3.9	3.9	--	--	--	--
JAN										
11-11	--	--	--	--	4.9	4.0	--	--	--	--
JAN										
12-12	3.3	0.300	0.040	--	6.9	4.3	--	--	--	--
JAN										
12-12	3.3	0.410	0.020	--	8.5	5.3	--	--	--	--
29...	3.2	0.030	0.020	<0.004	3.0	2.8	--	2.40	0.800	2.80
29...	3.1	0.030	0.020	<0.004	2.9	2.8	--	--	--	--
FEB										
26...	3.0	0.010	<0.010	0.004	2.4	2.4	0.400	4.80	0.001	0.800
MAR										
18...	--	--	0.030	0.006	15	6.7	--	--	--	--
23...	4.7	1.50	0.020	--	29	6.9	--	--	--	--
24...	2.8	0.260	0.020	0.012	6.3	5.6	--	--	--	--
27...	2.3	0.030	<0.010	0.006	2.7	2.6	0.200	2.60	--	--
APR										
25...	--	--	--	0.004	2.8	2.8	0.600	2.20	--	0.200
25...	--	--	--	0.004	2.6	2.7	--	--	--	--
MAY										
29...	2.3	0.040	0.010	0.004	1.8	1.8	--	0.001	--	--
JUN										
20...	2.1	0.020	0.030	0.014	3.1	3.1	0.400	1.80	--	--
JUL										
22...	1.3	0.070	0.170	0.006	2.2	2.2	0.001	0.002	0.400	0.400
AUG										
29...	--	--	--	0.006	2.0	1.9	1.40	2.20	0.200	0.200
SEP										
11...	1.1	0.030	<0.010	0.012	2.3	2.5	0.600	1.20	0.200	--
11...	1.0	0.020	<0.010	0.008	2.2	1.5	--	--	--	--
17...	--	<0.010	--	--	--	--	--	--	--	--
25...	2.4	0.300	0.050	0.046	1	4.5	--	--	--	--
25...	3.8	1.00	0.030	0.024	0.6	4.8	--	--	--	--

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990						
18-19	2100	901019	0100	477	614	791
OCT						
19-19	0200	901019	0700	376	313	318
31...	1145	--	--	45	1	0.12
NOV						
29...	0745	--	--	54	1	0.15
DEC						
15-15	1610	901215	2210	454	349	428
DEC						
15-16	2310	901216	0910	317	308	263
26...	1515	--	--	110	6	1.8
JAN 1991						
29...	1500	--	--	98	2	0.53
FEB						
26...	1400	--	--	81	2	0.44
MAR						
18...	1435	--	--	747	532	1070
23...	1615	--	--	2610	1980	14000
24...	2035	--	--	267	535	386
27...	0940	--	--	201	36	20
APR						
25...	1515	--	--	92	17	4.2
MAY						
29...	1115	--	--	42	1	0.11
JUN						
20...	1130	--	--	47	2	0.25
JUL						
22...	1245	--	--	16	2	0.09
AUG						
29...	0900	--	--	17	1	0.05
SEP						
11...	0850	--	--	14	2	0.08
25...	0106	--	--	241	275	179
25...	0630	--	--	953	820	2110

01594440 PATUXENT RIVER NEAR BOWIE, MD

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

DRAINAGE AREA.--348 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1955 to June 1977 (gage heights and discharge measurements only), August 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 13.10 ft above National Geodetic Vertical Datum of 1929. Prior to June 27, 1977, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. 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, 3,200 ft^3/s, Mar. 27, gage height, 11.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	110	176	201	166	213	293	261	975	250	538	101
2	92	111	306	177	160	197	260	252	314	848	218	97
3	91	109	958	185	158	188	235	241	263	288	147	112
4	90	108	962	258	153	184	217	227	244	191	134	192
5	90	107	346	628	153	180	210	219	421	148	129	126
6	249	107	220	338	146	175	203	227	1030	138	118	202
7	170	106	183	240	144	561	194	191	491	132	111	389
8	110	107	168	219	145	548	195	187	302	115	109	189
9	94	108	168	196	145	292	192	450	220	109	109	147
10	93	110	874	205	136	245	186	274	195	105	107	131
11	92	139	678	185	133	548	187	207	175	102	136	220
12	116	141	291	177	145	521	200	177	156	97	205	169
13	106	123	231	172	141	280	185	164	147	96	137	124
14	96	119	231	212	158	236	174	159	143	97	188	116
15	94	115	241	358	211	216	172	155	141	94	219	109
16	108	114	195	209	715	200	171	353	133	122	264	107
17	318	111	175	169	396	190	183	219	128	118	217	107
18	787	112	168	173	317	191	197	184	129	108	172	104
19	231	112	155	154	399	392	240	171	133	96	152	103
20	143	111	140	146	286	403	205	155	139	92	131	103
21	124	112	155	162	232	264	193	144	125	105	119	102
22	125	214	153	171	209	226	650	139	117	119	113	103
23	117	726	151	172	193	287	583	135	110	97	111	262
24	114	285	173	336	189	240	296	133	108	164	113	154
25	112	174	155	241	205	208	354	174	148	1350	107	134
26	109	144	142	192	645	301	342	163	132	1560	107	869
27	108	132	140	179	661	2000	474	211	113	288	106	468
28	113	128	138	182	310	1730	293	164	106	213	105	256
29	111	126	341	175	245	499	273	145	100	166	120	195
30	112	122	478	171	---	351	270	160	100	137	118	150
31	111	---	262	169	---	317	---	816	---	154	105	---
TOTAL	4520	4443	9154	6752	7296	12383	7827	6857	7038	7699	4765	5641
MEAN	146	148	295	218	252	399	261	221	235	248	154	188
MAX	787	726	962	628	715	2000	650	816	1030	1560	538	869
MIN	90	106	138	146	133	175	171	133	100	92	105	97
CFSM	.42	.43	.85	.63	.72	1.15	.75	.64	.67	.71	.44	.54
IN.	.48	.47	.98	.72	.78	1.32	.84	.73	.75	.82	.51	.60

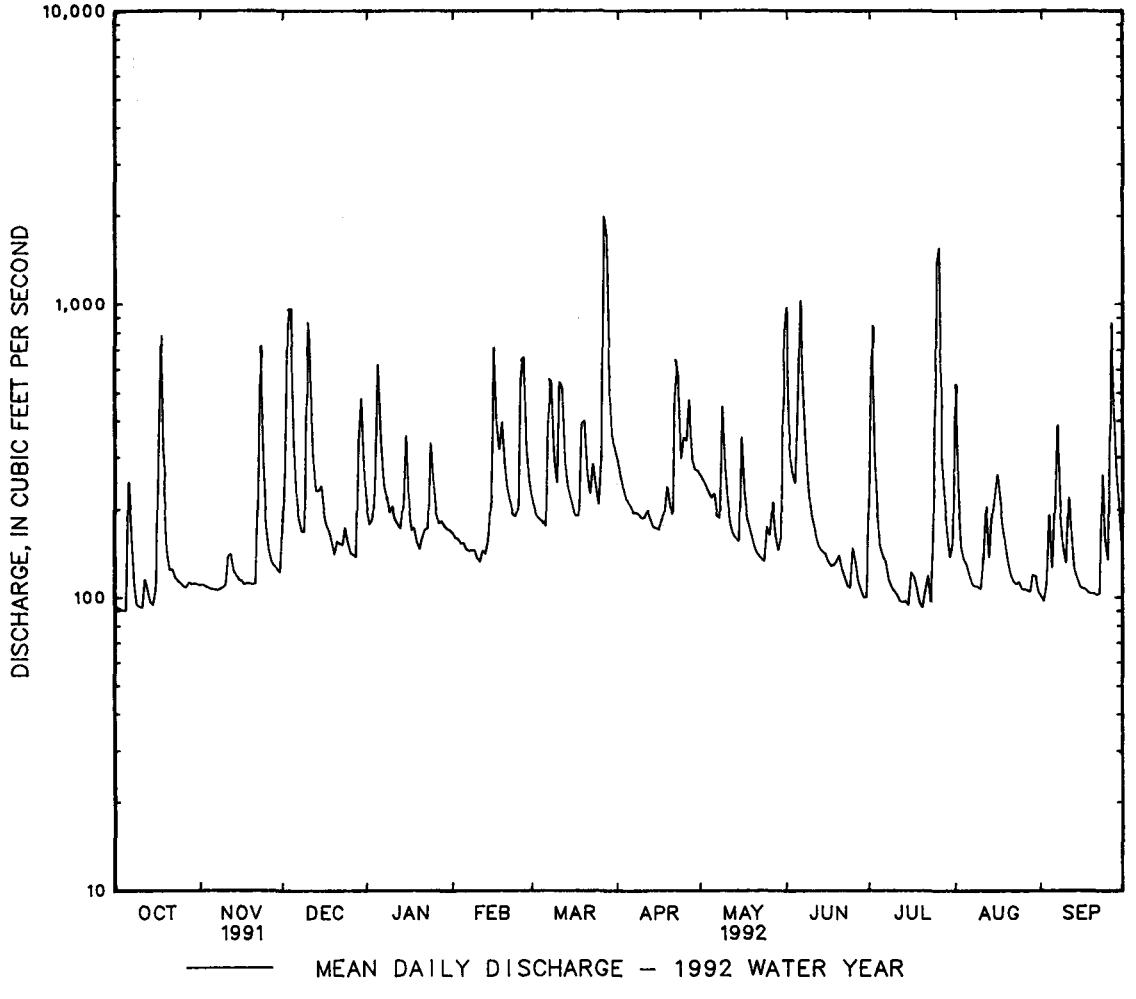
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1992, BY WATER YEAR (WY)

MEAN	247	268	367	465	446	505	487	502	336	208	194	231
MAX	1093	459	1030	1316	1232	854	1247	1291	846	492	532	1358
(WY)	1980	1980	1984	1978	1979	1978	1983	1989	1989	1989	1979	1979
MIN	80.4	108	136	119	252	173	167	154	115	102	86.1	65.2
(WY)	1987	1982	1981	1981	1992	1981	1985	1986	1991	1986	1987	1986

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1977 - 1992	
ANNUAL TOTAL	99511		84375			
ANNUAL MEAN	273		231		356	
HIGHEST ANNUAL MEAN					637	1979
LOWEST ANNUAL MEAN					175	1981
HIGHEST DAILY MEAN	3570	Mar 24	2000	Mar 27	8860	Jan 27 1978
LOWEST DAILY MEAN	70	Sep 4	90	(a)	56	(b)
ANNUAL SEVEN-DAY MINIMUM	75	Aug 29	99	Oct 9	57	Sep 15 1986
INSTANTANEOUS PEAK FLOW	4750	Mar 24	3200	Mar 27	c31100	Jun 22 1972
INSTANTANEOUS PEAK STAGE	12.95	Mar 24	11.50	Mar 27	d27.90	Jun 22 1972
INSTANTANEOUS LOW FLOW	69	(f)	86	(g)	32	Aug 9 1966
ANNUAL RUNOFF (CFSM)	.78		.66		1.02	
ANNUAL RUNOFF (INCHES)	10.64		9.02		13.90	
10 PERCENT EXCEEDS	582		393		731	
50 PERCENT EXCEEDS	159		171		207	
90 PERCENT EXCEEDS	86		107		99	

a Oct. 4, 5.
b Sept. 17-19, 1986.
c On basis of contracted-opening measurement of peak flow.
d From floodmarks.
f Sept. 1-4.
g Oct. 4-6.



01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued
(National stream-quality accounting network station)

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 temperatures were measured daily in field by local observer at time of sampling.

COOPERATION.--Some chemical data are collected by the U. S. Geological Survey and analyzed by the Maryland Department of Health and Mental Hygiene Laboratory Administration (DHMH).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1985-91): Maximum daily, 954 microsiemens, Dec. 15, 1989; minimum daily, 100 microsiemens, May 7, 1989.
WATER TEMPERATURE (water years 1985-91): Maximum daily, 29.0°C, July 25, 1987; minimum daily, 0.0°C, on many days during winter periods.
SEDIMENT CONCENTRATION: Maximun daily mean, 700 mg/L, June 3, 1985; minimum daily mean, 1 mg/L, Jan. 22,1990.
SEDIMENT LOAD: Maximum daily, 4,050 tons, May 7, 1989; minimum daily, 0.55 ton, Jan. 22, 1990.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 1991											
18...	1200	968	178	7.3	12.0	17.0	768	--	7.7	71	--
19...	1200	212	230	7.3	13.0	25.0	764	--	8.0	76	--
31...	1000	106	325	7.6	12.0	20.0	764	1.8	8.7	81	K100
DEC											
03...	1140	974	182	7.6	10.0	14.0	755	--	9.5	85	--
04...	1200	1010	190	7.8	9.0	5.0	760	--	9.6	83	--
11...	1100	652	198	7.5	8.0	15.0	773	--	10.0	83	--
JAN 1992											
13...	1030	154	300	7.7	7.0	20.0	762	2.0	8.7	72	50
22...	1100	165	248	7.8	4.0	12.0	773	--	12.2	92	--
MAR											
05...	1100	163	300	7.3	9.0	14.0	773	3.4	8.5	73	21
27...	1400	2260	--	7.1	9.0	16.0	756	--	9.3	--	--
28...	1200	1460	208	7.0	9.0	12.0	762	--	9.7	84	--
APR											
29...	1130	267	262	7.6	13.0	19.0	767	--	9.4	89	--
MAY											
14...	1110	157	307	7.5	19.0	27.0	764	4.2	7.9	85	K65
JUN											
01...	1040	1120	178	7.3	16.0	24.0	762	--	6.9	70	--
JUL											
08...	1135	109	320	7.6	21.0	30.0	768	5.1	6.9	77	260
22...	1030	114	270	7.8	24.0	27.0	769	--	5.6	66	--
SEP											
03...	1030	93	330	7.5	22.0	28.0	767	6.0	6.5	74	K7000
23...	1045	342	400	7.3	21.0	20.0	768	--	6.5	72	--
26...	1245	914	157	7.6	16.0	27.0	768	--	7.6	76	--
27...	1300	329	193	7.5	15.0	27.0	766	--	7.4	73	--

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

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1991											
18...	--	--	--	--	--	33	--	--	--	--	--
19...	--	--	--	--	--	42	--	--	--	--	--
31...	130	23	4.8	27	6.0	62	65	79	21	35	0.30
DEC											
03...	--	--	--	--	--	38	--	--	--	--	--
04...	--	--	--	--	--	36	--	--	--	--	--
11...	--	--	--	--	--	33	--	--	--	--	--
JAN 1992											
13...	11	22	4.5	21	4.9	58	59	72	23	32	0.30
22...	--	--	--	--	--	65	--	--	--	--	--
MAR											
05...	76	23	4.7	22	4.6	51	52	63	21	37	0.20
27...	--	--	--	--	--	23	--	--	--	--	--
28...	--	--	--	--	--	24	--	--	--	--	--
APR											
29...	--	--	--	--	--	--	47	57	--	--	--
MAY											
14...	28	25	5.0	21	4.6	--	65	79	19	34	0.30
JUN											
01...	--	--	--	--	--	--	33	40	--	--	--
JUL											
08...	280	23	4.2	21	4.8	--	64	78	20	33	0.30
22...	--	--	--	--	--	--	58	71	--	--	--
SEP											
03...	K>10000	23	4.2	25	5.9	--	61	74	22	36	0.50
23...	--	--	--	--	--	--	77	94	--	--	--
26...	--	--	--	--	--	--	35	43	--	--	--
27...	--	--	--	--	--	--	41	50	--	--	--

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
OCT 1991											
18...	5.0	--	--	0.910	--	0.010	--	0.920	--	<0.010	0.60
19...	7.4	--	--	1.39	--	0.010	--	1.40	--	0.040	0.40
31...	7.7	177	174	--	0.010	<0.010	2.00	2.10	0.040	0.040	0.50
DEC											
03...	6.0	--	--	0.820	--	0.020	--	0.840	--	0.080	1.0
04...	7.2	--	--	0.970	--	0.010	--	0.980	--	0.120	0.70
11...	8.1	--	--	0.990	--	0.010	--	1.00	--	0.140	0.70
JAN 1992											
13...	9.3	148	166	2.77	0.030	0.030	2.70	2.80	0.700	0.690	1.2
22...	9.8	--	--	3.37	--	0.030	--	3.40	--	0.560	1.1
MAR											
05...	7.9	171	159	1.68	0.020	0.020	1.70	1.70	0.080	0.080	0.30
27...	4.6	--	--	0.780	--	0.020	--	0.800	--	0.160	1.2
28...	6.3	--	--	0.980	--	0.020	--	1.00	--	0.100	0.70
APR											
29...	7.3	--	--	--	--	<0.010	--	1.70	--	0.060	0.40
MAY											
14...	7.8	162	168	2.58	0.020	0.020	2.50	2.60	0.090	0.070	0.30
JUN											
01...	6.9	--	--	1.18	--	0.020	--	1.20	--	0.110	0.80
JUL											
08...	9.1	166	164	2.18	0.020	0.020	2.20	2.20	0.070	0.070	0.40
22...	7.2	--	--	1.88	--	0.020	--	1.90	--	0.070	0.70
SEP											
03...	6.5	167	172	2.79	0.020	0.010	2.80	2.80	0.060	0.060	0.60
23...	6.2	--	--	3.79	--	0.010	--	3.80	--	0.040	0.70
26...	4.6	--	--	--	--	<0.010	--	1.20	--	0.130	0.80
27...	7.3	--	--	--	--	<0.010	--	0.770	--	0.120	1.5

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

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)	IRON, DISSOLVED (UG/L AS FE)
OCT 1991										
18...	0.30	--	0.190	0.050	--	0.040	70	--	--	--
19...	0.30	--	0.110	0.040	--	<0.010	40	--	--	--
31...	0.40	2.5	0.110	0.050	0.050	0.050	20	24	<3	330
DEC										
03...	0.40	--	0.370	0.050	--	0.040	110	--	--	--
04...	0.40	--	0.170	0.040	--	0.040	110	--	--	--
11...	0.40	--	0.170	0.030	--	0.030	90	--	--	--
JAN 1992										
13...	1.0	3.9	0.110	0.040	0.050	0.030	<10	--	--	--
22...	1.0	--	0.170	0.070	--	0.060	<10	--	--	--
MAR										
05...	0.60	2.0	0.040	<0.010	0.010	<0.010	10	27	<3	78
27...	0.60	--	0.320	<0.010	--	0.010	130	--	--	--
28...	0.40	--	0.130	<0.010	--	<0.010	90	--	--	--
APR										
29...	0.40	--	0.080	0.030	--	0.020	20	--	--	--
MAY										
14...	0.20	2.8	0.040	0.020	0.060	0.020	20	30	<3	120
JUN										
01...	0.40	--	0.160	0.050	--	0.030	60	--	--	--
JUL										
08...	0.30	2.6	0.170	0.060	0.110	0.050	<10	--	--	--
22...	0.40	--	0.280	0.110	--	0.110	20	--	--	--
SEP										
03...	0.40	3.4	0.170	0.070	0.110	0.060	20	21	<3	120
23...	0.30	--	0.300	0.090	--	0.080	20	--	--	--
26...	0.50	--	0.190	0.040	--	0.040	50	--	--	--
27...	0.40	--	0.640	0.040	--	0.040	30	--	--	--

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 1991										
18...	--	--	--	--	--	--	--	--	7.4	--
19...	--	--	--	--	--	--	--	--	5.6	--
31...	4	110	<10	3	<1	<1.0	80	<6	4.8	77
DEC										
03...	--	--	--	--	--	--	--	--	8.2	--
04...	--	--	--	--	--	--	--	--	8.7	--
11...	--	--	--	--	--	--	--	--	7.1	--
JAN 1992										
13...	--	--	--	--	--	--	--	--	4.0	73
22...	--	--	--	--	--	--	--	--	3.8	--
MAR										
05...	5	160	<10	3	1	<1.0	87	<6	3.8	77
27...	--	--	--	--	--	--	--	--	9.0	--
28...	--	--	--	--	--	--	--	--	8.1	--
APR										
29...	--	--	--	--	--	--	--	--	4.6	--
MAY										
14...	<4	150	<10	4	<1	<1.0	93	<6	3.8	83
JUN										
01...	--	--	--	--	--	--	--	--	7.9	--
JUL										
08...	--	--	--	--	--	--	--	--	5.0	75
22...	--	--	--	--	--	--	--	--	5.8	--
SEP										
03...	4	92	20	3	<1	<1.0	78	<6	4.3	75
23...	--	--	--	--	--	--	--	--	5.7	--
26...	--	--	--	--	--	--	--	--	9.7	--
27...	--	--	--	--	--	--	--	--	6.7	--

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
31...	1000	106	5	1.4	89
JAN 1992					
13...	1030	154	6	2.5	100
22...	1100	165	5	2.2	--
MAR					
05...	1100	163	7	3.1	90
27...	1400	2260	174	1060	--
28...	1200	1460	59	233	--
APR					
29...	1130	267	11	7.9	--
MAY					
14...	1110	157	11	4.7	94
JUN					
01...	1040	1120	53	160	--
JUL					
08...	1135	109	19	5.6	99
22...	1030	114	38	12	--
SEP					
03...	1030	93	11	2.8	99
23...	1045	342	56	52	--
26...	1245	914	310	765	--
27...	1300	329	47	42	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD

LOCATION.--Lat 38°48'52", long 76°44'53", Prince Georges County, Hydrologic Unit 02060006, on left bank 1000 ft upstream from bridge on Water street, 0.2 mi south of Upper Marlboro, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--89.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to September 1987, May 1992 to September 1992.

GAGE.--Water-stage recorder. Elevation of gage is 30 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily values (no gage-height record), which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft^3/s, Dec. 25, 1986, gage height, 10.15 ft; minimum discharge, 2.6 ft^3/s, June 19, 1986.

PEAK DISCHARGES FOR THE PERIOD MAY 1992 TO SEPTEMBER 1992.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 26	0045	*706	*7.16	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1992 TO SEPTEMBER 1992
MEAN DAILY VALUES

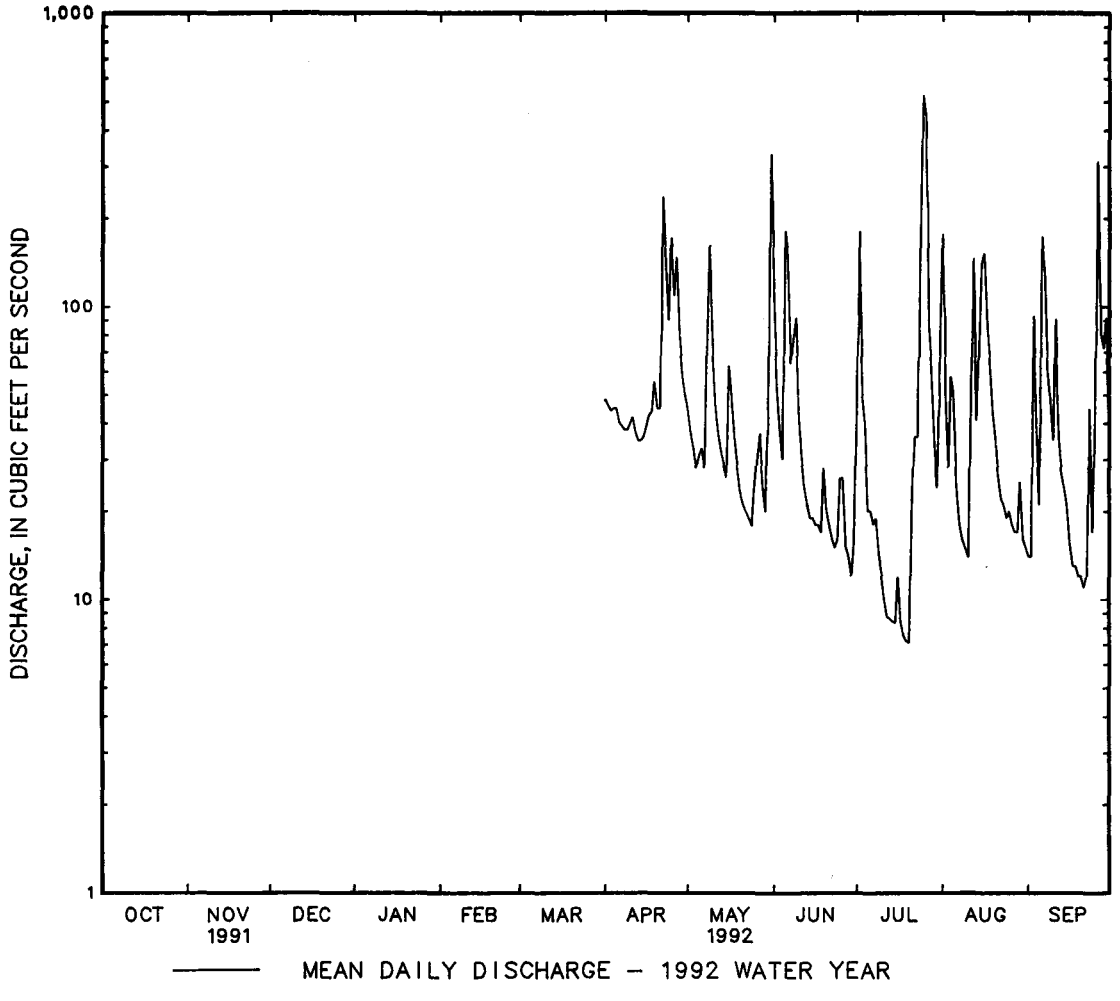
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e48	e45	111	42	177	14
2	---	---	---	---	---	---	e46	e37	53	179	52	14
3	---	---	---	---	---	---	e44	e33	38	49	28	93
4	---	---	---	---	---	---	e45	e28	30	40	58	37
5	---	---	---	---	---	---	e45	e31	182	20	50	21
6	---	---	---	---	---	---	e40	e33	150	20	24	174
7	---	---	---	---	---	---	e39	28	64	18	18	132
8	---	---	---	---	---	---	e38	77	79	19	16	61
9	---	---	---	---	---	---	e38	162	92	14	15	49
10	---	---	---	---	---	---	e40	70	42	12	14	35
11	---	---	---	---	---	---	e42	46	30	9.9	45	91
12	---	---	---	---	---	---	e37	37	24	8.7	146	36
13	---	---	---	---	---	---	e35	32	21	8.6	41	27
14	---	---	---	---	---	---	e35	29	19	8.4	70	24
15	---	---	---	---	---	---	36	26	19	8.3	142	21
16	---	---	---	---	---	---	39	63	18	12	152	15
17	---	---	---	---	---	---	43	48	18	8.2	87	13
18	---	---	---	---	---	---	44	35	17	7.5	62	13
19	---	---	---	---	---	---	56	28	28	7.2	43	12
20	---	---	---	---	---	---	45	23	20	7.1	35	12
21	---	---	---	---	---	---	45	21	18	22	26	11
22	---	---	---	---	---	---	237	20	16	36	22	12
23	---	---	---	---	---	---	142	19	15	36	21	45
24	---	---	---	---	---	---	90	18	16	178	19	17
25	---	---	---	---	---	---	173	24	26	523	20	41
26	---	---	---	---	---	---	109	30	26	442	18	313
27	---	---	---	---	---	---	148	37	15	88	17	81
28	---	---	---	---	---	---	81	24	14	62	17	72
29	---	---	---	---	---	---	59	20	12	34	25	92
30	---	---	---	---	---	---	50	65	16	24	16	39
31	---	---	---	---	---	---	---	331	---	72	15	---
TOTAL	---	---	---	---	---	---	1969	1520	1229	2015.9	1491	1617
MEAN	---	---	---	---	---	---	65.6	49.0	41.0	65.0	48.1	53.9
MAX	---	---	---	---	---	---	237	331	182	523	177	313
MIN	---	---	---	---	---	---	35	18	12	7.1	14	11
CFSM	---	---	---	---	---	---	.73	.55	.46	.72	.54	.60
IN.	---	---	---	---	---	---	.82	.63	.51	.84	.62	.67

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

MEAN	32.1	89.0	85.7	85.3	121	108	96.0	68.4	28.7	37.1	33.9	34.2
MAX	70.5	95.2	146	120	153	149	139	122	45.5	65.0	49.4	56.9
(WY)	1986	1986	1987	1988	1988	1989	1987	1988	1987	1992	1986	1987
MIN	10.9	85.9	38.4	54.5	89.5	76.8	63.6	23.3	9.42	12.3	13.1	9.35
(WY)	1987	1987	1989	1986	1989	1986	1986	1986	1986	1987	1987	1986

SUMMARY STATISTICS	WATER YEARS 1986 - 1992		
ANNUAL MEAN	68.3		
HIGHEST ANNUAL MEAN	76.2		1987
LOWEST ANNUAL MEAN	54.8		1986
HIGHEST DAILY MEAN	864	Dec 25	1986
LOWEST DAILY MEAN	2.8	Oct 7	1986
ANNUAL SEVEN-DAY MINIMUM	4.2	Oct 2	1986
INSTANTANEOUS PEAK FLOW	1290	Dec 25	1986
INSTANTANEOUS PEAK STAGE	10.15	Dec 25	1986
INSTANTANEOUS LOW FLOW	2.6	Jun 19	1986
ANNUAL RUNOFF (CFSM)	.76		
ANNUAL RUNOFF (INCHES)	10.34		
10 PERCENT EXCEEDS	147		
50 PERCENT EXCEEDS	45		
90 PERCENT EXCEEDS	8.8		



01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)
OCT 1990							
09...	0845	--	--	--	--	--	--
NOV							
19...	1010	--	--	--	--	--	--
DEC							
18...	1150	--	--	--	--	--	--
JAN 1991							
17...	1155	234	7.6	6.5	11.5	--	11.4
FEB							
18...	1405	--	--	--	--	--	--
MAR							
04...	1315	217	7.3	11.5	12.0	--	9.3
18...	1245	145	7.2	8.0	12.0	--	10.2
APR							
15...	0940	209	7.5	10.5	11.0	--	9.9
29...	1200	245	7.4	16.0	15.0	--	9.0
MAY							
13...	1110	242	7.5	21.5	32.0	--	8.6
28...	1150	277	7.6	26.5	33.0	--	7.9
JUN							
10...	1100	272	8.3	23.0	31.0	--	12.2
24...	1037	268	7.2	21.0	27.5	--	8.6
JUL							
15...	1415	305	8.5	29.0	31.0	--	11.5
29...	1334	259	7.4	22.0	20.0	--	7.4
AUG							
12...	1055	233	7.4	24.0	29.0	--	7.5
26...	0930	296	7.9	23.0	26.0	--	10.5
29...	0700	296	7.1	22.0	25.0	14	--
29...	0705	--	--	--	--	17	--
SEP							
09...	0925	278	7.3	22.5	24.5	--	8.4
12...	1245	296	7.4	24.0	25.0	15	--
23...	0920	308	7.4	16.5	22.0	--	9.1

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT 1990									
09...	--	--	--	--	--	--	--	--	--
NOV									
19...	--	--	--	--	--	--	--	--	--
DEC									
18...	--	--	--	--	--	--	--	--	--
JAN 1991									
17...	--	5.2	67	0.591	0.009	0.600	0.082	--	--
FEB									
18...	--	12	3	0.653	0.007	0.660	0.046	--	--
MAR									
04...	--	8.1	83	0.411	0.009	0.420	0.042	--	--
18...	--	5.7	258	0.370	0.010	0.380	0.088	--	--
APR									
15...	--	10	8	0.490	0.010	0.500	0.044	--	--
29...	--	9.7	4	0.354	0.006	0.360	0.019	--	--
MAY									
13...	--	14	4	0.532	0.018	0.550	0.069	--	--
28...	--	13	2	0.716	0.014	0.730	0.029	--	--
JUN									
10...	--	15	6	0.316	0.014	0.330	0.023	--	--
24...	--	12	4	0.418	0.012	0.430	0.038	--	--
JUL									
15...	--	13	3	0.192	0.008	0.200	0.026	--	--
29...	--	11	6	0.307	0.013	0.320	0.044	--	--
AUG									
12...	--	11	7	0.221	0.009	0.230	0.058	--	--
26...	--	11	4	0.174	0.006	0.180	0.026	--	--
29...	88	--	6	0.114	0.006	0.120	0.036	--	--
29...	--	--	3	0.124	0.006	0.130	0.036	--	--
SEP									
09...	--	10	5	0.232	0.008	0.240	0.061	--	--
12...	100	13	15	0.044	0.006	0.050	0.400	0.35	0.35
23...	--	11	8	0.185	0.005	0.190	0.049	--	--

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHEOPHYTIN PHYTOPLANKTON, ACID M. (UG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL C PHYTOPLANKTON, UNCORR. (UG/L)
OCT 1990										
09...	--	--	--	--	--	--	--	2.20	0.200	--
NOV										
19...	--	--	--	--	--	--	--	1.60	--	--
DEC										
18...	--	--	--	--	--	--	--	2.80	--	0.800
JAN 1991										
17...	1.4	0.160	0.030	0.015	8.0	5.0	--	2.40	0.600	0.002
FEB										
18...	1.1	0.040	0.020	0.017	3.2	2.6	--	2.40	--	0.400
MAR										
04...	1.2	0.230	0.040	0.017	9.1	4.5	0.800	18.8	0.400	1.60
18...	--	--	--	0.023	16	5.1	0.005	28.6	0.002	3.20
APR										
15...	0.94	0.070	0.030	0.019	5.9	4.6	0.400	4.60	0.001	1.40
29...	0.89	0.050	0.020	0.014	5.4	4.5	1.80	5.40	--	--
MAY										
13...	--	0.080	0.040	0.036	--	4.5	--	--	--	--
28...	1.2	0.070	0.040	0.032	5.3	4.6	--	2.80	0.200	0.600
JUN										
10...	0.88	0.090	0.040	0.024	5.7	4.5	0.200	10.2	0.600	3.60
24...	0.95	0.070	0.040	0.030	6.4	5.8	0.600	--	--	--
JUL										
15...	0.97	0.080	0.040	0.029	5.8	5.0	--	--	--	--
29...	0.89	0.100	0.040	0.041	7.0	6.2	--	4.60	0.600	0.800
AUG										
12...	1.1	0.100	0.040	0.030	6.8	5.8	0.600	0.003	0.600	0.800
26...	0.74	0.090	0.050	0.029	7.6	6.7	--	2.60	0.400	--
29...	--	--	--	0.012	4.2	4.2	2.20	2.60	0.400	1.20
29...	--	--	--	0.008	4.3	4.0	--	--	--	--
SEP										
09...	1.1	0.150	0.100	0.019	--	--	--	4.80	0.200	--
12...	0.40	0.070	<0.010	0.008	4.3	4.4	1.20	0.006	0.800	1.60
23...	0.67	0.110	0.050	0.029	5.6	4.9	0.200	3.60	0.800	0.003

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD

LOCATION.--Lat 38°35'02", long 76°36'20", Calvert County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on MD Rte. 263, 200 ft east of intersection of MD Rte. 4, 2.4 mi south of Huntingtown, and 0.1 mi upstream from Sewell Branch.

DRAINAGE AREA.--9.38 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and timber control. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good above 5.0 ft^3/s and poor below except those for estimated daily discharges (missing record), which are fair.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 14	0515	*125	*7.18	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.72	2.7	4.9	3.3	5.8	9.9	6.6	e10	1.2	20	.73
2	.26	.80	13	4.1	2.8	5.5	9.2	6.5	e5.8	2.6	4.8	.61
3	.29	.92	27	4.7	2.8	5.1	8.6	5.6	e4.5	2.0	2.4	.70
4	.38	.87	42	11	2.9	4.9	8.3	4.6	e4.3	5.8	2.3	.74
5	.31	.85	10	14	2.8	4.9	7.9	4.4	e14	2.7	3.3	.67
6	.26	.84	6.9	7.4	2.8	5.0	7.3	4.5	e10	1.6	1.9	16
7	.29	.85	5.4	6.0	2.8	54	7.4	4.2	e7.8	1.4	1.3	22
8	.27	.83	4.6	5.1	3.1	25	7.4	20	e5.9	1.1	.95	8.3
9	.25	.86	4.2	4.9	3.2	13	7.4	18	e4.2	.85	.83	3.9
10	.22	1.3	14	5.2	2.5	12	7.5	9.8	e4.5	.81	.86	2.8
11	.19	2.4	7.9	4.8	3.1	19	8.7	7.5	4.0	.71	.87	6.4
12	.20	2.3	5.3	4.2	3.3	11	7.6	6.7	3.3	.98	2.6	3.7
13	.19	1.8	4.5	4.2	2.8	9.2	6.7	6.3	2.7	1.9	2.3	2.2
14	.16	1.5	4.5	4.3	3.9	8.3	6.6	5.6	2.6	.97	9.4	1.6
15	.17	1.4	4.1	3.7	6.6	7.9	6.7	5.1	2.4	.79	22	1.3
16	.17	1.4	3.2	3.1	6.1	7.2	6.9	6.7	1.9	1.7	16	1.2
17	36	1.2	2.8	2.7	6.1	7.1	7.1	6.4	1.6	.88	13	1.1
18	31	1.1	2.8	3.0	6.6	7.3	7.1	5.7	1.4	.61	8.6	1.0
19	5.5	1.0	2.5	2.6	e6.9	13	6.8	4.8	1.4	.53	5.9	1.1
20	1.9	1.1	2.1	2.2	e5.0	11	6.8	3.3	1.5	.36	3.8	1.4
21	1.4	1.2	2.7	2.8	e4.2	8.3	7.0	3.0	1.3	1.2	2.7	1.2
22	1.3	1.5	2.9	3.1	e3.8	7.7	13	2.9	1.2	11	2.0	1.3
23	1.1	4.5	2.9	4.4	e3.8	8.1	8.8	2.7	1.0	3.6	1.9	1.9
24	1.1	3.0	5.2	7.4	e8.0	7.2	7.8	e2.7	2.8	7.5	1.7	1.4
25	.94	1.8	4.3	4.7	e10	7.0	11	e2.8	17	12	1.5	2.3
26	.80	1.4	3.1	4.1	23	16	12	e5.3	9.2	7.5	1.3	22
27	.79	1.2	2.9	3.7	13	54	12	e6.8	4.5	7.6	1.2	7.1
28	.72	1.3	2.9	4.2	8.5	16	8.2	e6.0	2.6	14	1.4	13
29	.72	1.4	13	4.0	7.0	13	7.2	e5.0	1.5	4.8	2.3	74
30	.68	1.5	11	3.8	---	11	6.9	e6.9	1.2	2.5	1.3	13
31	.73	---	6.1	3.7	---	11	---	e25	---	5.8	.92	---
TOTAL	88.61	42.84	226.5	148.0	160.7	395.5	245.8	211.4	136.1	106.99	141.33	214.65
MEAN	2.86	1.43	7.31	4.77	5.54	12.8	8.19	6.82	4.54	3.45	4.56	7.15
MAX	36	4.5	42	14	23	54	13	25	17	14	22	74
MIN	.16	.72	2.1	2.2	2.5	4.9	6.6	2.7	1.0	.36	.83	.61
CFSM	.30	.15	.78	.51	.59	1.36	.87	.73	.48	.37	.49	.76
IN.	.35	.17	.90	.59	.64	1.57	.97	.84	.54	.42	.56	.85

e Estimated

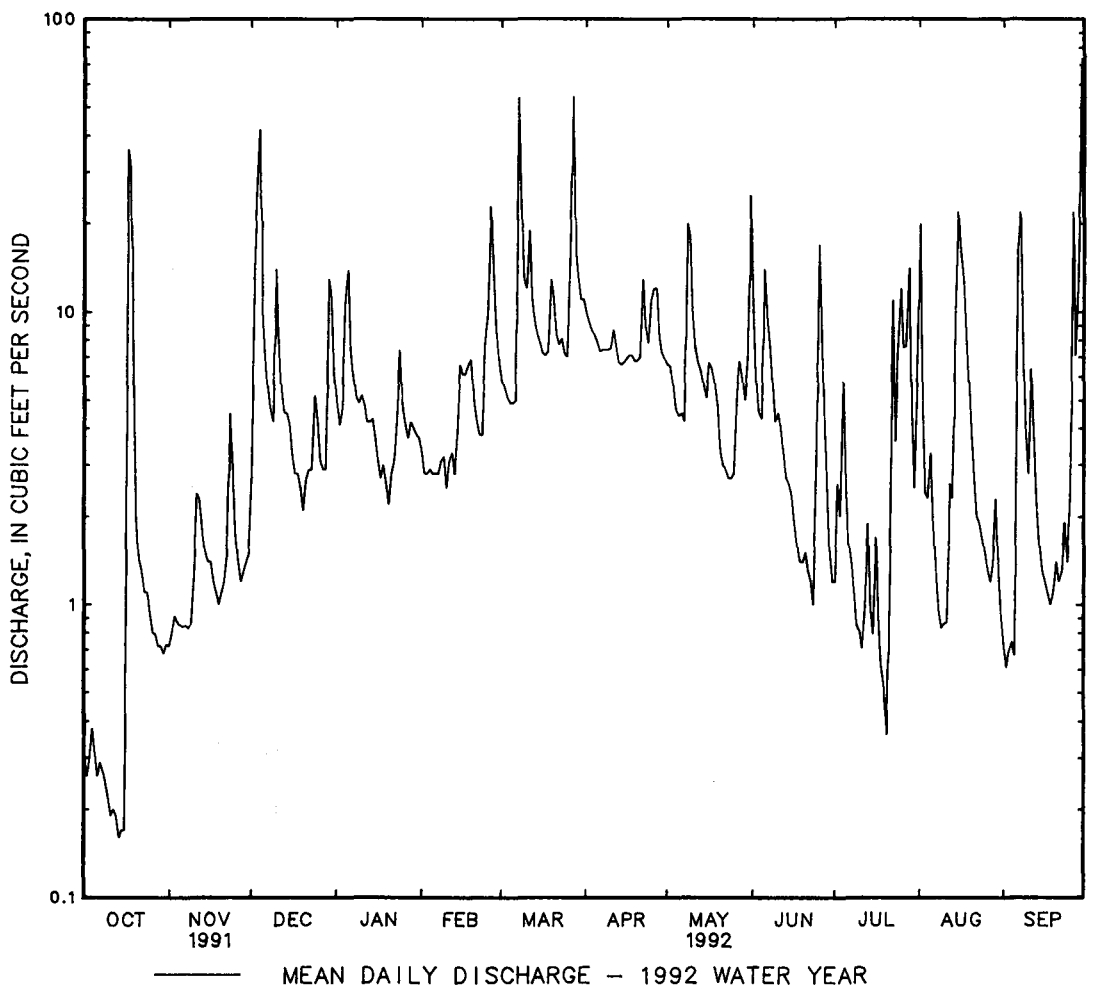
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

MEAN	4.43	5.66	6.87	11.1	9.10	13.3	14.0	18.4	16.6	9.57	7.19	4.45
MAX	10.3	11.4	8.88	18.6	14.8	15.1	18.5	28.8	31.0	24.0	14.2	7.29
(WY)	1990	1990	1991	1990	1990	1989	1989	1990	1989	1989	1990	1989
MIN	.52	1.43	3.80	4.77	5.54	12.5	8.19	6.82	2.19	1.80	1.82	.39
(WY)	1989	1992	1989	1992	1992	1990	1992	1992	1991	1991	1991	1991

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1989 - 1992	
ANNUAL TOTAL	2372.99		2118.42			
ANNUAL MEAN	6.50		5.79		10.1	
HIGHEST ANNUAL MEAN					14.7	1990
LOWEST ANNUAL MEAN					5.79	1992
HIGHEST DAILY MEAN	81	Jan 12	74	Sep 29	221	Jun 15 1990
LOWEST DAILY MEAN	.00	(a)	.16	Oct 14	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 16	.19	Oct 10	.00	Sep 16 1991
INSTANTANEOUS PEAK FLOW	250	May 14	125	Sep 29	568	Jun 15 1990
INSTANTANEOUS PEAK STAGE	8.08	May 14	7.18	Sep 29	9.54	Jun 15 1990
INSTANTANEOUS LOW FLOW	.00	(b)	.15	Oct 14	.00	(b)
ANNUAL RUNOFF (CFSM)	.69		.62		1.07	
ANNUAL RUNOFF (INCHES)	9.41		8.40		14.58	
10 PERCENT EXCEEDS	13		12		20	
50 PERCENT EXCEEDS	3.6		3.9		7.0	
90 PERCENT EXCEEDS	.25		.83		.80	

a Sept. 12, 16, 17, 19-23, 1991.
b Sept. 10-24, 1991.



01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986, 1988 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)
OCT 1990							
23-23	1320	53	--	--	--	--	70
OCT							
23-24	1920	68	--	--	--	--	51
OCT							
24-24	0120	46	--	--	--	--	39
NOV							
01...	0815	12	155	5.7	11.0	13.0	21
29...	1030	15	154	5.8	14.0	9.0	21
29...	1040	15	153	6.1	14.0	9.0	19
DEC							
15-16	2120	38	--	--	--	--	--
DEC							
16-16	0220	40	--	--	--	--	--
DEC							
16-16	0620	35	--	--	--	--	--
27...	0810	6.8	142	6.2	2.0	-2.0	--
27...	0815	6.8	142	6.2	2.0	-2.0	--
DEC							
28-28	0830	36	--	--	--	--	--
DEC							
28-28	1130	43	--	--	--	--	--
DEC							
28-28	1530	37	--	--	--	--	--
JAN 1991							
09-09	0727	38	--	--	--	--	28
JAN							
09-09	1027	44	--	--	--	--	36
JAN							
09-09	1327	41	--	--	--	--	28
JAN							
09-09	1627	38	--	--	--	--	24
JAN							
09-09	1927	33	--	--	--	--	24
JAN							
11-11	1847	38	--	--	--	--	--
JAN							
11-11	2047	64	--	--	--	--	--
JAN							
11-11	2247	92	--	--	--	--	--
JAN							
12-12	0047	116	--	--	--	--	--
JAN							
12-12	0247	128	--	--	--	--	--
JAN							
12-12	0447	131	--	--	--	--	--
JAN							
12-12	0647	119	--	--	--	--	--
JAN							
12-12	0847	71	--	--	--	--	--
JAN							
12-13	1847	33	--	--	--	--	--
30...	1200	10	133	6.3	5.0	12.0	12
FEB							
27...	0745	7.7	--	6.1	3.0	-1.0	12
MAR							
28...	0930	12	132	6.4	16.0	26.0	10
APR							
25...	0845	8.8	131	6.7	11.0	15.0	11
MAY							
28...	1400	5.2	146	6.7	27.0	31.5	29
JUN							
18...	1230	4.9	176	6.6	22.0	20.5	30
18...	1235	4.9	176	6.6	22.0	20.5	30
JUL							
23...	0915	0.19	222	7.0	26.0	32.0	39
AUG							
21...	0915	4.7	163	6.3	23.0	22.0	94
SEP							
12...	1045	0	248	7.0	21.0	22.0	34

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT 1990									
23-23	--	11	28	0.117	0.003	0.120	0.012	0.40	0.15
OCT									
23-24	--	12	3	0.107	0.003	0.110	0.012	0.30	0.15
OCT									
24-24	--	12	5	0.077	0.003	0.080	0.012	0.20	0.15
NOV									
01...	51	28	1	0.094	0.006	0.100	0.040	0.10	0.10
29...	51	--	11	0.056	0.004	0.060	0.024	0.20	0.15
29...	--	12	8	0.046	0.004	0.050	0.036	0.35	0.03
DEC									
15-16	--	--	--	--	--	--	--	--	--
DEC									
16-16	--	--	--	--	--	--	--	--	--
DEC									
16-16	--	--	--	--	--	--	--	--	--
27...	44	13	4	0.196	0.004	0.200	0.072	0.35	0.30
27...	44	14	4	--	0.004	--	0.068	0.40	0.35
DEC									
28-28	--	--	--	--	--	--	--	--	--
DEC									
28-28	--	--	--	--	--	--	--	--	--
DEC									
28-28	--	--	--	--	--	--	--	--	--
JAN 1991									
09-09	--	22	15	0.166	0.004	0.170	0.084	0.40	--
JAN									
09-09	--	10	18	0.176	0.004	0.180	0.076	0.54	--
JAN									
09-09	--	11	17	0.196	0.004	0.200	0.068	0.40	--
JAN									
09-09	--	11	11	0.186	0.004	0.190	0.048	0.35	--
JAN									
09-09	--	11	10	0.186	0.004	0.190	0.048	0.35	--
JAN									
11-11	--	13	20	--	--	--	--	--	--
JAN									
11-11	--	12	25	--	--	--	--	--	--
JAN									
11-11	--	9.9	36	--	--	--	--	--	--
JAN									
12-12	--	8.8	60	0.276	0.004	0.280	--	0.50	0.30
JAN									
12-12	--	8.7	46	0.256	0.004	0.260	--	0.45	0.50
JAN									
12-12	--	9.2	38	0.256	0.004	0.260	--	0.45	0.50
JAN									
12-12	--	9.3	37	0.256	0.004	0.260	--	0.40	0.45
JAN									
12-12	--	10	28	0.236	0.004	0.240	--	0.40	0.30
JAN									
12-13	--	13	12	0.226	0.004	0.230	--	0.75	0.30
30...	34	1.5	4	0.206	0.004	0.210	0.032	0.25	0.20
FEB									
27...	35	16	4	0.124	0.006	0.130	0.024	0.30	0.20
MAR									
28...	38	--	1	--	--	--	--	--	--
APR									
25...	43	11	10	0.094	0.006	0.100	0.044	0.25	0.20
MAY									
28...	51	18	8	0.168	0.012	0.180	0.084	0.60	0.15
JUN									
18...	41	14	16	0.282	0.018	0.300	0.088	0.75	0.60
18...	--	11	16	0.254	0.016	0.270	0.080	0.70	0.55
JUL									
23...	99	19	5	0.040	--	0.040	0.600	1.7	1.0
AUG									
21...	59	16	3	0.036	0.004	0.040	0.052	1.0	0.70
SEP									
12...	94	17	22	1.97	0.035	2.00	2.20	2.6	2.5

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT 1990										
23-23	0.52	0.140	0.010	0.006	9.8	7.6	--	--	--	--
OCT										
23-24	0.41	0.110	0.030	0.006	8.5	8.0	--	--	--	--
OCT										
24-24	0.28	0.070	<0.010	0.004	8.8	8.0	--	--	--	--
NOV										
01...	0.20	0.040	<0.010	0.004	6.1	5.7	--	1.20	0.200	--
29...	0.26	0.110	0.030	0.006	7.7	6.6	--	11.8	--	1.60
29...	0.40	0.100	0.020	0.010	6.8	8.5	--	--	--	--
DEC										
15-16	--	--	--	--	--	--	--	--	--	--
DEC										
16-16	--	--	--	--	--	--	--	--	--	--
DEC										
16-16	--	--	--	--	--	--	--	--	--	--
27...	0.55	0.090	0.030	0.016	3.8	3.7	0.200	0.800	0.200	0.600
27...	--	0.080	0.020	0.014	4.3	4.0	--	--	--	--
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
JAN 1991										
09-09	0.57	0.110	--	0.006	2.5	2.2	--	--	--	--
JAN										
09-09	0.72	0.120	--	0.070	2.3	1.8	--	--	--	--
JAN										
09-09	0.60	0.110	--	0.044	2.1	3.2	--	--	--	--
JAN										
09-09	0.54	0.090	--	0.004	2.3	--	--	--	--	--
JAN										
09-09	0.54	0.080	--	0.004	6.1	2.1	--	--	--	--
JAN										
11-11	--	--	--	--	4.3	4.5	--	--	--	--
JAN										
11-11	--	--	--	--	4.4	4.4	--	--	--	--
JAN										
11-11	--	--	--	--	5.0	4.4	--	--	--	--
JAN										
12-12	0.78	0.240	0.020	--	6.0	5.5	--	--	--	--
JAN										
12-12	0.71	0.210	0.020	--	6.3	6.2	--	--	--	--
JAN										
12-12	0.71	0.170	0.020	--	6.5	7.1	--	--	--	--
JAN										
12-12	0.66	0.160	0.020	--	6.7	7.3	--	--	--	--
JAN										
12-12	0.64	0.150	0.020	--	6.7	5.9	--	--	--	--
JAN										
12-13	0.98	0.160	0.020	--	5.2	4.6	--	--	--	--
30...	0.46	0.060	0.030	0.008	3.9	3.8	--	0.003	--	--
FEB										
27...	0.43	0.060	0.010	0.008	3.8	3.9	0.800	0.002	0.200	0.400
MAR										
28...	--	--	--	--	--	--	--	3.60	0.200	--
APR										
25...	0.35	0.060	0.030	0.014	4.8	5.3	0.200	2.80	--	--
MAY										
28...	0.78	0.120	0.040	0.024	6.6	6.6	--	1.60	--	--
JUN										
18...	1.0	0.120	0.010	0.008	7.3	7.0	0.200	8.60	0.800	--
18...	0.97	0.130	0.020	0.016	7.4	6.6	--	--	--	--
JUL										
23...	1.7	0.190	0.070	0.030	10	10	--	7.20	1.40	0.800
AUG										
21...	1.0	0.240	0.010	0.024	2.7	7.6	--	5.40	0.600	0.200
SEP										
12...	4.6	0.130	<0.010	0.006	8.8	8.8	1.20	2.40	0.400	0.200

01594670 HUNTING CREEK NEAR HUNTINGTOWN, MD--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990						
23-23	1320	901023	1820	53	75	11
OCT						
23-24	1920	901024	0020	68	37	6.8
OCT						
24-24	0120	901024	0620	46	23	2.8
NOV						
01...	0815	--	--	12	8	0.26
29...	1030	--	--	15	9	0.36
29...	1040	--	--	15	6	0.24
DEC						
15-16	2120	901216	0120	38	32	3.3
DEC						
16-16	0220	901216	0520	40	18	1.9
DEC						
16-16	0620	901216	0920	35	12	1.1
27...	0810	--	--	6.8	5	0.09
DEC						
28-28	0830	901228	1030	36	33	3.2
DEC						
28-28	1130	901228	1430	43	22	2.6
DEC						
28-28	1530	901228	2130	37	14	1.4
JAN 1991						
09-09	0727	910109	0927	38	26	2.7
JAN						
09-09	1027	910109	1227	44	24	2.8
JAN						
09-09	1327	910109	1527	41	19	2.1
JAN						
09-09	1627	910109	1827	38	16	1.7
JAN						
09-09	1927	910109	2127	33	14	1.2
JAN						
12-12	0847	910112	1747	71	41	7.9
JAN						
12-13	1847	910113	0247	33	32	2.8
30...	1200	--	--	10	3	0.08
FEB						
27...	0745	--	--	7.7	6	0.12
MAR						
28...	0930	--	--	12	4	0.13
APR						
25...	0845	--	--	8.8	11	0.26
MAY						
28...	1400	--	--	5.2	16	0.22
JUN						
18...	1230	--	--	4.9	25	0.33
JUL						
23...	0915	--	--	0.19	28	0.01
AUG						
21...	0915	--	--	4.7	58	0.74

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.--3.54 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete block control. Elevation of gage is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily values (backwater from leaves), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 24	2015	165	4.60	Sept. 6	1445	*195	*4.90
July 24	1615	105	3.91	Sept. 28	2215	165	4.60

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	e.62	2.3	1.9	1.6	2.2	3.6	2.4	2.8	1.9	2.3	.97
2	.66	e.68	8.1	1.8	1.3	2.2	3.5	2.4	2.2	1.9	1.6	.98
3	.92	e.74	24	1.6	1.3	2.0	3.3	2.2	1.9	1.8	1.4	1.5
4	.73	.76	7.7	12	1.3	2.0	3.1	2.0	1.9	1.8	1.7	1.3
5	.66	.76	2.7	5.2	1.3	2.0	3.1	2.0	8.0	1.3	1.6	1.3
6	.66	.76	2.1	3.1	1.3	2.0	3.0	2.0	3.2	1.3	1.3	50
7	.66	.76	1.7	2.8	1.3	30	2.9	2.0	2.2	1.2	1.2	9.2
8	.65	.77	1.4	2.6	1.4	11	2.9	8.0	1.8	1.2	1.2	4.7
9	.57	.76	2.5	2.6	1.5	5.3	2.9	4.6	2.4	1.2	1.3	3.5
10	.60	1.1	7.6	2.5	1.3	8.8	3.1	2.9	2.0	1.1	1.1	3.1
11	.63	1.0	2.3	2.3	1.4	8.9	3.4	2.5	1.6	1.0	3.8	4.2
12	.66	.93	1.6	2.0	1.4	5.1	3.1	2.2	1.4	15	2.6	2.5
13	.66	.88	1.4	2.0	1.4	4.3	2.8	2.0	1.4	3.0	2.9	2.2
14	.66	.88	1.7	2.0	1.6	3.9	2.6	1.9	1.2	1.8	4.6	2.3
15	.66	.88	1.2	1.8	3.2	3.6	2.6	2.3	1.2	1.6	12	2.2
16	.67	.89	1.1	1.8	3.0	3.4	2.6	2.2	1.2	1.5	6.3	2.1
17	14	1.0	1.1	1.6	2.0	3.4	2.6	2.1	1.1	1.2	5.4	2.1
18	2.4	1.0	1.1	1.6	2.5	3.4	2.6	1.9	1.1	1.1	4.5	2.1
19	1.4	1.0	1.1	1.4	2.6	5.8	2.6	1.7	1.1	.98	2.9	2.4
20	1.0	1.0	.95	1.7	2.0	4.3	2.6	1.6	1.1	.94	2.3	2.2
21	1.0	1.0	1.0	1.8	1.8	3.5	2.7	1.5	1.1	3.6	2.1	2.0
22	1.0	2.3	1.1	1.8	1.8	3.6	6.2	1.4	1.0	2.1	1.7	2.1
23	.91	1.6	1.3	3.2	1.8	3.4	3.1	1.4	.97	2.1	1.5	2.7
24	.74	1.1	2.3	2.7	2.5	3.1	2.6	2.7	23	15	1.4	1.8
25	.66	1.0	1.3	2.0	2.4	3.0	2.6	2.4	6.7	4.9	1.4	3.7
26	.65	.88	1.2	1.8	11	16	2.9	3.6	4.6	2.9	1.2	3.6
27	.62	.80	1.3	1.7	4.2	12	2.8	2.5	2.4	5.8	1.2	2.5
28	.62	.76	1.4	1.7	3.1	5.3	2.5	1.9	1.9	3.4	4.3	29
29	e.62	.76	7.3	1.6	2.5	4.3	2.4	1.6	1.7	2.1	2.1	11
30	e.62	.83	3.2	1.7	---	4.0	2.4	5.8	1.6	1.7	1.3	4.6
31	e.62	---	2.1	1.7	---	3.9	---	6.5	---	3.6	1.1	---
TOTAL	37.57	28.20	97.15	76.0	65.8	175.7	89.1	82.2	85.77	90.02	81.3	163.85
MEAN	1.21	.94	3.13	2.45	2.27	5.67	2.97	2.65	2.86	2.90	2.62	5.46
MAX	14	2.3	24	12	11	30	6.2	8.0	23	15	12	50
MIN	.57	.62	.95	1.4	1.3	2.0	2.4	1.4	.97	.94	1.1	.97
CFSM	.34	.27	.89	.69	.64	1.60	.84	.75	.81	.82	.74	1.54
IN.	.39	.30	1.02	.80	.69	1.85	.94	.86	.90	.95	.85	1.72

e Estimated

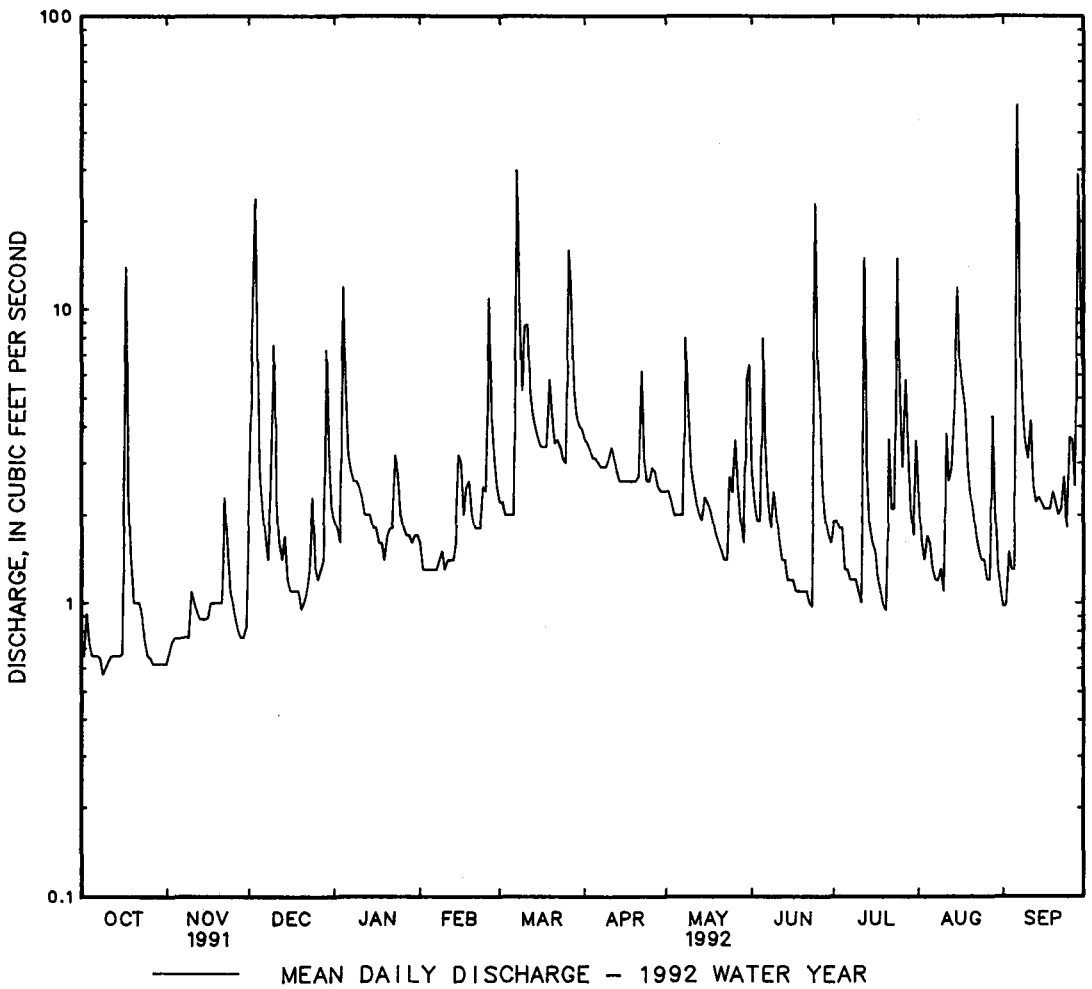
STATISTICS OFMONTHLYMEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

MEAN	2.26	3.13	3.56	4.48	4.60	5.16	4.80	4.67	3.43	2.55	2.13	2.10
MAX	4.83	7.20	5.92	6.60	7.45	6.43	6.45	9.43	8.10	6.05	4.49	5.46
(WY)	1990	1986	1987	1990	1987	1987	1987	1990	1990	1989	1990	1992
MIN	.83	.94	2.09	2.45	2.27	3.90	2.97	1.93	.98	.76	.72	.71
(WY)	1989	1992	1989	1992	1992	1988	1992	1986	1986	1991	1988	1986

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1986 - 1992	
ANNUAL TOTAL	839.27		1072.66			
ANNUAL MEAN	2.30		2.93		3.57	
HIGHEST ANNUAL MEAN					5.33	1990
LOWEST ANNUAL MEAN					2.43	1988
HIGHEST DAILY MEAN	25	Jan 11	50	Sep 6	69	May 29 1990
LOWEST DAILY MEAN	.27	Sep 12	.57	Oct 9	.27	Sep 12 1991
ANNUAL SEVEN-DAY MINIMUM	.31	Sep 9	.62	Oct 26	.31	Sep 9 1991
INSTANTANEOUS PEAK FLOW	110	Jan 11	195	Sep 6	255	May 29 1990
INSTANTANEOUS PEAK STAGE	3.97	Jan 11	4.90	Sep 6	5.50	May 29 1990
INSTANTANEOUS LOW FLOW	.16	(a)	.49	Oct 28	.16	(b)
ANNUAL RUNOFF (CFSM)	.65		.83		1.01	
ANNUAL RUNOFF (INCHES)	8.82		11.27		13.69	
10 PERCENT EXCEEDS	4.4		5.0		6.5	
50 PERCENT EXCEEDS	1.4		2.0		2.7	
90 PERCENT EXCEEDS	.48		.86		.71	

a Aug. 6, Sept. 18.
b Aug. 6, Sept. 18, 1991.



01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)
OCT 1990							
22-22	1330	1.8	--	--	--	--	53
OCT							
22-23	2330	3.7	--	--	--	--	35
OCT							
23-23	0430	7.5	--	--	--	--	69
OCT							
23-23	1030	32	--	--	--	--	380
OCT							
23-23	1330	14	--	--	--	--	80
OCT							
23-24	2330	4.6	--	--	--	--	20
NOV							
01...	1230	1.8	165	6.4	14.0	23.0	6.1
29...	1430	1.8	157	6.7	11.0	9.0	4.5
29...	1455	1.8	157	6.0	11.0	9.0	17
DEC							
15...	1700	19	--	--	--	--	--
DEC							
15-15	1800	15	--	--	--	--	--
DEC							
16-16	0100	4.4	--	--	--	--	--
27...	1100	2.2	158	6.6	3.0	1.0	--
DEC							
28-28	0200	19	--	--	--	--	--
DEC							
28-28	0700	20	--	--	--	--	--
DEC							
28-28	1200	11	--	--	--	--	--
DEC							
28-29	1800	7.3	--	--	--	--	--
JAN 1991							
09-09	0522	13	--	--	--	--	86
JAN							
09-09	0822	11	--	--	--	--	45
JAN							
09-09	1122	9.7	--	--	--	--	29
JAN							
11-11	1700	49	--	--	--	--	--
JAN							
11-11	2200	83	--	--	--	--	--
JAN							
12-12	0100	34	--	--	--	--	--
JAN							
12-12	0500	19	--	--	--	--	--
JAN							
12-12	0800	14	--	--	--	--	--
30...	0800	3.1	150	6.3	5.0	7.5	9.0

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)
FEB 1991							
27...	1045	2.4	--	6.0	4.0	4.0	4.8
MAR							
18...	0530	11	--	--	--	--	190
18...	0730	31	--	--	--	--	550
18...	0930	33	--	--	--	--	250
18...	1130	33	--	--	--	--	240
24...	0648	4.5	--	--	--	--	30
24...	0848	4.2	--	--	--	--	11
28...	1300	3.1	138	6.4	17.0	23.0	9.1
29...	1054	12	--	--	--	--	--
29...	1254	15	--	--	--	--	--
29...	1454	20	--	--	--	--	--
29...	1654	26	--	--	--	--	--
29...	1854	27	--	--	--	--	--
29...	2054	25	--	--	--	--	--
29...	2254	17	--	--	--	--	--
30...	0054	14	--	--	--	--	--
APR							
25...	1230	3.1	141	6.5	16.0	21.0	6.2
MAY							
28...	0915	1.5	173	6.8	21.0	30.0	7.1
28...	0920	1.5	--	--	--	--	7.2
JUN							
18...	1015	0.88	176	6.7	20.0	21.0	5.7
JUL							
08...	1520	0.66	--	--	--	--	--
23...	1150	0.35	178	6.1	27.0	35.0	5.6
23...	1155	0.35	--	--	--	--	5.8
AUG							
09...	0515	1.5	--	--	--	--	--
09...	1906	16	--	--	--	--	--
10...	0254	5.0	--	--	--	--	--
21...	1245	0.76	159	6.7	22.0	24.0	6.7
SEP							
12...	0730	0.29	191	6.9	18.0	17.0	3.4
25...	0415	5.4	--	--	--	--	380

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT 1990									
22-22	--	11	168	1.40	0.005	1.40	0.020	0.65	0.15
OCT									
22-23	--	10	77	1.09	0.005	1.10	0.012	0.30	0.10
OCT									
23-23	--	9.0	650	0.705	0.005	0.710	<0.008	0.45	0.10
OCT									
23-23	--	6.8	55	0.347	0.003	0.350	0.012	1.5	0.10
OCT									
23-23	--	8.1	14	0.394	0.006	0.400	0.012	0.40	0.15
OCT									
23-24	--	10	22	0.545	0.005	0.550	0.032	0.25	0.15
NOV									
01...	36	15	2	1.69	0.007	1.70	0.028	0.10	0.10
29...	38	12	7	0.805	0.005	0.810	0.024	0.25	0.20
29...	--	12	6	0.815	0.005	0.820	0.020	0.30	0.25
DEC									
15...	--	--	--	--	--	--	--	--	--
DEC									
15-15	--	--	--	--	--	--	--	--	--
DEC									
16-16	--	--	--	--	--	--	--	--	--
27...	36	11	10	1.20	0.005	1.20	0.092	0.35	0.35
DEC									
28-28	--	--	--	--	--	--	--	--	--
DEC									
28-28	--	--	--	--	--	--	--	--	--
DEC									
28-28	--	--	--	--	--	--	--	--	--
DEC									
28-29	--	--	--	--	--	--	--	--	--
JAN 1991									
09-09	--	8.1	100	0.466	0.004	0.470	0.008	1.0	0.35
JAN									
09-09	--	8.5	48	0.466	0.004	0.470	0.100	0.65	0.40
JAN									
09-09	--	9.0	33	0.436	0.004	0.440	0.112	0.45	0.40
JAN									
11-11	--	5.7	585	--	--	--	--	--	--
JAN									
11-11	--	4.6	485	--	--	--	--	--	--
JAN									
12-12	--	6.2	22	0.387	0.003	0.390	--	1.5	0.65
JAN									
12-12	--	7.4	82	0.417	0.003	0.420	--	1.1	0.65
JAN									
12-12	--	8.9	45	0.517	0.003	0.520	--	0.65	0.50
30...	28	10	7	1.50	0.005	1.50	0.048	0.25	0.20

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DISSOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
FEB 1991									
27...	30	9.2	2	1.29	0.006	1.30	0.028	0.20	0.02
MAR									
18...	--	7.4	315	0.793	0.007	0.800	0.072	1.8	0.45
18...	--	5.1	735	0.501	0.009	0.510	0.116	4.1	0.50
18...	--	5.2	385	0.383	0.017	0.400	0.100	2.3	1.3
18...	--	5.2	440	0.392	0.008	0.400	0.144	2.0	0.45
24...	--	12	62	0.762	0.008	0.770	--	0.45	0.20
24...	--	13	15	0.774	0.006	0.780	--	0.30	0.25
28...	27	--	3	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
APR									
25...	28	9.1	12	1.39	0.007	1.40	0.007	--	0.20
MAY									
28...	33	10	2	1.99	0.013	2.00	0.064	0.40	<0.20
28...	--	10	5	2.09	0.013	2.10	0.068	0.45	<0.20
JUN									
18...	30	10	7	--	0.008	--	0.036	0.55	0.40
JUL									
08...	--	--	--	--	--	--	--	--	--
23...	27	9.6	4	1.90	--	1.90	0.036	0.55	0.30
23...	--	9.4	1	1.90	--	1.90	0.032	0.50	0.30
AUG									
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
21...	29	8.8	6	1.59	0.005	1.60	0.020	0.55	0.40
SEP									
12...	29	9.1	8	1.70	0.005	1.70	0.020	0.20	0.10
25...	--	7.5	685	1.29	0.005	1.30	<0.008	4.2	0.35

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT 1990										
22-22	2.1	0.230	0.010	0.016	6.8	4.2	--	--	--	--
OCT										
22-23	1.4	0.100	0.010	0.014	6.5	5.5	--	--	--	--
OCT										
23-23	1.2	0.210	0.010	0.014	8.5	6.4	--	--	--	--
OCT										
23-23	1.9	1.80	0.010	0.012	20	7.9	--	--	--	--
OCT										
23-23	0.80	0.160	0.010	0.012	10	8.2	--	--	--	--
OCT										
23-24	0.80	0.070	0.010	0.012	6.6	6.2	--	--	--	--
NOV										
01...	1.8	0.030	0.020	0.010	3.4	3.3	--	0.001	--	--
29...	1.1	0.070	0.020	0.012	4.5	4.5	--	1.40	--	--
29...	1.1	0.190	0.030	0.012	4.6	4.5	--	--	--	--
DEC										
15...	--	--	--	--	--	--	--	--	--	--
DEC										
15-15	--	--	--	--	--	--	--	--	--	--
DEC										
16-16	--	--	--	--	--	--	--	--	--	--
27...	1.5	0.050	0.040	0.020	2.3	2.1	--	2.20	0.400	0.400
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
DEC										
28-28	--	--	--	--	--	--	--	--	--	--
DEC										
28-29	--	--	--	--	--	--	--	--	--	--
JAN 1991										
09-09	1.5	0.290	0.020	0.008	4.0	3.0	--	--	--	--
JAN										
09-09	1.1	0.150	0.030	0.010	3.0	2.7	--	--	--	--
JAN										
09-09	0.89	0.090	0.030	0.006	3.0	2.3	--	--	--	--
JAN										
11-11	--	--	--	--	14	6.9	--	--	--	--
JAN										
11-11	--	--	--	--	18	8.3	--	--	--	--
JAN										
12-12	1.9	0.300	0.040	--	9.4	7.9	--	--	--	--
JAN										
12-12	1.5	0.250	0.030	--	7.3	7.6	--	--	--	--
JAN										
12-12	1.2	0.150	0.020	--	5.7	6.2	--	--	--	--
30...	1.7	0.060	0.030	0.008	3.0	2.8	--	0.400	--	--

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHEOPHYTIN PHYTOPLANKTON, ACID M. (UG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL B PHYTOPLANKTON, UNCORR. (UG/L)	CHLOROPHYLL C PHYTOPLANKTON, UNCORR. (UG/L)
FEB 1991										
27...	1.5	0.040	0.020	0.008	2.7	2.7	--	1.60	0.400	1.20
MAR										
18...	2.6	--	0.050	0.020	16	5.7	--	--	--	--
18...	4.6	--	0.050	0.028	30	6.3	--	--	--	--
18...	2.7	--	0.110	0.094	19	13	--	--	--	--
18...	2.4	--	0.030	0.026	19	8.6	--	--	--	--
24...	1.2	0.260	0.100	0.044	--	--	--	--	--	--
24...	1.1	0.060	0.010	0.008	--	--	--	--	--	--
28...	--	--	--	--	--	--	0.200	1.40	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
APR										
25...	--	--	0.030	0.014	3.6	3.8	--	2.60	--	--
MAY										
28...	2.4	0.080	0.030	0.026	2.9	2.7	--	1.20	--	--
28...	2.6	0.090	0.030	0.022	2.7	2.8	--	--	--	--
JUN										
18...	--	0.030	0.040	0.032	2.6	2.6	--	0.001	0.200	--
JUL										
08...	--	--	--	--	--	--	--	--	--	--
23...	2.5	0.090	0.060	0.040	2.4	2.4	0.400	2.60	0.200	0.800
23...	2.4	0.110	0.070	0.034	2.4	2.3	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
21...	2.2	0.060	0.020	0.040	3.2	3.3	--	0.800	--	--
SEP										
12...	1.9	0.060	0.020	0.022	2.2	2.1	0.200	2.40	0.200	0.600
25...	5.5	2.00	0.060	0.038	15	5.2	--	--	--	--

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990						
22-22	1330	901022	2230	1.8	509	2.5
OCT						
22-23	2330	901023	0330	3.7	97	0.98
OCT						
23-23	0430	901023	0930	7.5	356	7.2
OCT						
23-23	1030	901023	1230	32	1180	101
OCT						
23-23	1330	901023	2230	14	354	13
OCT						
23-24	2330	901024	1030	4.6	38	0.48
NOV						
01...	1230	--	--	1.8	9	0.04
29...	1430	--	--	1.8	5	0.02
29...	1455	--	--	1.8	54	0.26
DEC						
15...	1700	--	--	19	1110	57
DEC						
15-15	1800	901215	2400	15	245	9.6
DEC						
16-16	0100	901216	1600	4.4	54	0.64
27...	1100	--	--	2.2	10	0.06
DEC						
28-28	0200	901228	0600	19	324	17
DEC						
28-28	0700	901228	1100	20	152	8.0
DEC						
28-28	1200	901228	1700	11	57	1.7
DEC						
28-29	1800	901229	0100	7.3	27	0.53
JAN 1991						
09-09	0522	910109	0722	13	111	4.0
JAN						
09-09	0822	910109	1022	11	55	1.6
JAN						
09-09	1122	910109	1322	9.7	36	0.95
JAN						
11-11	1700	910111	2100	49	937	125
JAN						
11-11	2200	910111	2400	83	589	132
JAN						
12-12	0100	910112	0400	34	224	20
JAN						
12-12	0500	910112	0700	19	97	5.0
JAN						
12-12	0800	910112	1300	14	49	1.8
30...	0800	--	--	3.1	8	0.07

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
FEB 1991						
27...	1045	--	--	2.4	9	0.06
MAR						
18...	0530	--	--	11	378	11
18...	0730	--	--	31	1310	110
18...	0930	--	--	33	855	76
18...	1130	--	--	33	640	57
24...	0648	--	--	4.5	74	0.90
24...	0848	--	--	4.2	13	0.15
28...	1300	--	--	3.1	11	0.09
29...	1054	--	--	12	232	7.3
29...	1254	--	--	15	204	8.3
29...	1454	--	--	20	305	16
29...	1654	--	--	26	362	25
29...	1854	--	--	27	295	21
29...	2054	--	--	25	200	14
29...	2254	--	--	17	119	5.6
30...	0054	--	--	14	75	2.8
APR						
25...	1230	--	--	3.1	20	0.17
MAY						
28...	0915	--	--	1.5	8	0.03
JUN						
18...	1015	--	--	0.88	7	0.02
JUL						
08...	1520	--	--	0.66	25	0.05
23...	1150	--	--	0.35	6	0.01
AUG						
09...	0515	--	--	1.5	2570	10
09...	1906	--	--	16	946	41
10...	0254	--	--	5.0	88	1.2
21...	1245	--	--	0.76	7	0.01
SEP						
12...	0730	--	--	0.29	7	0.01
25...	0415	--	--	5.4	1040	15

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 mi^2.

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (beaver dam, ice effect), which are fair. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2330	299	4.77	July 11	0330	286	4.67
Dec. 9	2245	177	3.82	July 24	1315	*386	*5.40
Feb. 26	0445	230	4.24	July 27	0700	243	4.34
July 9	1015	293	4.72				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	e2.7	12	21	15	39	41	14	8.7	4.8	22	4.5
2	2.4	e2.6	79	19	16	33	36	13	7.4	4.7	17	4.5
3	2.6	e2.5	155	20	13	26	29	26	6.6	5.9	14	4.7
4	3.7	e2.4	57	25	15	22	26	17	6.3	5.3	15	4.8
5	e4.5	e2.4	34	23	19	19	23	16	8.1	4.6	12	4.2
6	e3.5	e2.3	26	20	16	17	21	15	12	6.0	10	4.4
7	e3.0	e2.3	21	17	15	24	19	13	8.7	4.6	9.3	4.1
8	e2.8	2.2	19	16	14	35	18	17	20	4.4	8.9	4.5
9	e2.7	1.9	53	25	15	32	17	26	19	100	12	4.7
10	e2.7	2.6	83	23	20	29	16	22	13	34	8.9	6.6
11	e2.9	3.1	41	19	13	64	32	18	9.9	135	15	9.1
12	e5.0	2.6	30	17	10	41	22	16	8.3	64	15	5.2
13	e4.2	e2.3	60	18	11	34	18	19	7.3	40	10	4.5
14	e3.0	e2.1	57	35	17	27	17	23	7.2	28	9.3	4.2
15	e6.8	e2.1	40	29	28	24	15	22	8.6	29	8.4	3.9
16	e5.0	e2.3	32	e23	76	19	14	19	8.4	58	7.9	3.6
17	e3.8	e2.3	26	e21	45	20	13	16	6.3	29	7.6	3.5
18	e3.1	e2.2	21	e19	55	33	13	15	5.9	26	7.5	3.5
19	e2.9	e2.1	e19	e17	67	89	11	13	12	18	6.9	6.3
20	e2.9	e2.3	e17	e16	59	57	11	11	10	15	6.8	4.1
21	e2.8	e3.2	15	e15	44	42	19	9.3	7.7	12	5.8	4.0
22	e2.8	34	14	14	40	38	29	8.5	6.9	11	5.6	5.0
23	e2.8	31	41	25	37	34	19	7.9	6.3	12	5.3	6.2
24	e2.8	17	43	44	56	27	17	8.2	7.6	163	4.9	4.0
25	e2.7	12	29	34	56	27	16	8.2	11	73	4.8	3.7
26	e2.7	9.9	23	26	141	44	20	7.3	7.2	75	4.7	3.9
27	e2.7	8.5	20	22	64	54	24	6.7	6.2	174	4.6	4.5
28	e2.7	8.2	19	19	46	42	18	6.2	5.6	83	8.0	4.1
29	e2.7	7.6	39	17	58	35	16	5.9	5.2	46	8.0	3.5
30	e2.7	7.5	31	16	---	33	16	7.9	5.1	33	5.5	3.3
31	e4.0	---	25	16	---	50	---	8.6	---	27	4.8	---
TOTAL	101.3	186.2	1181	671	1081	1110	606	435.7	262.5	1325.3	285.5	137.1
MEAN	3.27	6.21	38.1	21.6	37.3	35.8	20.2	14.1	8.75	42.8	9.21	4.57
MAX	6.8	34	155	44	141	89	41	26	20	174	22	9.1
MIN	2.4	1.9	12	14	10	17	11	5.9	5.1	4.4	4.6	3.3
CFSM	.40	.75	4.63	2.63	4.53	4.35	2.45	1.71	1.06	5.19	1.12	.56
IN.	.46	.84	5.34	3.03	4.89	5.02	2.74	1.97	1.19	5.99	1.29	.62

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

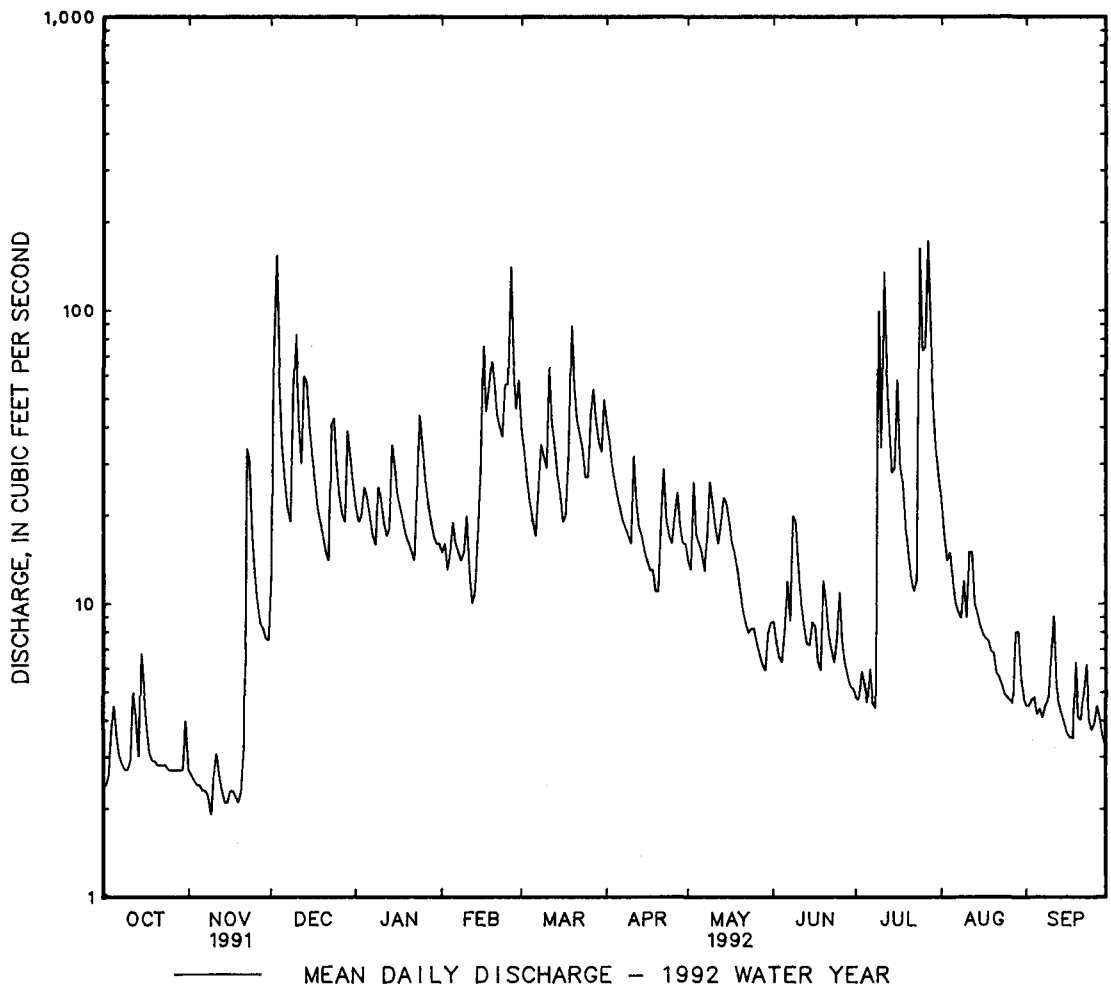
MEAN	11.2	26.7	31.2	23.7	37.1	36.1	32.1	28.2	21.6	19.6	11.1	7.13
MAX	20.4	90.8	51.9	43.6	67.2	51.7	61.0	46.9	62.8	42.8	40.2	13.6
(WY)	1990	1986	1985	1990	1986	1985	1984	1983	1981	1992	1980	1987
MIN	3.27	6.21	16.8	8.85	18.5	13.9	19.2	9.35	6.36	2.88	2.56	2.99
(WY)	1992	1992	1990	1981	1987	1990	1988	1991	1991	1988	1988	1991

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1980 - 1992	
ANNUAL TOTAL	6568.3		7382.6			
ANNUAL MEAN	18.0		20.2		23.3	
HIGHEST ANNUAL MEAN					29.3	1984
LOWEST ANNUAL MEAN					17.3	1988
HIGHEST DAILY MEAN	155	Dec 3	174	Jul 27	800	Nov 4 1985
LOWEST DAILY MEAN	1.9	Nov 9	1.9	Nov 9	1.7	(a)
ANNUAL SEVEN-DAY MINIMUM	2.2	Nov 13	2.2	Nov 13	1.9	Aug 12 1988
INSTANTANEOUS PEAK FLOW	298	Dec 2	386	Jul 24	b863	Nov 5 1985
INSTANTANEOUS PEAK STAGE	4.76	Dec 2	5.40	Jul 24	10.10	Nov 5 1985
INSTANTANEOUS LOW FLOW	1.8	Nov 9	1.8	Nov 9	1.7	(a)
ANNUAL RUNOFF (CFSM)	2.19		2.45		2.83	
ANNUAL RUNOFF (INCHES)	29.69		33.37		38.42	
10 PERCENT EXCEEDS	43		43		49	
50 PERCENT EXCEEDS	8.4		15		16	
90 PERCENT EXCEEDS	2.6		2.9		4.4	

a Aug. 17, 18, 1988.

b From rating curve extended above 450 ft^3/s on basis of runoff comparisons with nearby stations.



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-Corunna Road, 0.1 mi upstream from mouth and 0.8 mi northwest of Wilson.

DRAINAGE AREA.--1.91 mi^2.

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder and steel weir plate. Elevation of gage is 2,515 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good above 0.5 ft^3/s and fair below except those for Oct. 5-10, 12-31, Nov. 1, 4-9, 11-21 (backwater from beaver dams) and Jan. 21, 22, 28-31, Feb. 1 (ice effect), which are fair. Several observations 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2200	49	3.38	July 11	0145	*142	*4.47
Feb. 26	0315	51	3.41	July 24	1200	52	3.42
June 5	1700	52	3.42	July 27	0615	66	3.60
July 9	0930	102	4.04				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	e.20	.61	3.4	e2.8	7.6	7.8	2.9	2.8	2.0	6.4	.43
2	.16	.15	14	3.1	2.6	6.1	6.8	2.9	1.9	1.8	4.6	.37
3	.14	.15	19	3.4	2.6	5.2	5.7	7.1	1.1	1.8	3.3	.39
4	.17	e.14	7.2	5.8	3.6	4.2	5.1	3.8	1.2	1.3	2.9	.39
5	e.24	e.14	3.6	5.1	4.3	3.4	4.9	3.6	10	1.0	2.1	.40
6	e.17	e.15	2.8	4.0	3.4	3.2	4.1	3.2	8.8	2.0	1.6	.60
7	e.16	e.15	2.2	3.3	3.3	4.6	3.7	2.8	4.6	1.1	1.3	.34
8	e.16	e.15	2.1	3.0	3.1	6.1	3.3	4.0	7.2	.76	1.3	.29
9	e.16	e.15	9.6	5.3	2.6	5.6	3.1	7.3	6.3	26	1.8	.31
10	e.17	.22	13	4.4	2.2	5.3	3.0	5.8	4.3	12	1.2	.52
11	.20	e.28	5.8	3.5	2.0	13	3.9	4.6	3.5	45	3.8	.64
12	e.31	e.20	3.9	3.1	1.7	8.2	3.2	3.9	3.0	13	3.1	.47
13	e.24	e.20	9.1	3.3	1.7	6.6	2.8	3.5	2.5	8.5	2.3	.32
14	e.19	e.19	10	7.4	3.6	5.4	2.6	3.4	2.2	6.1	2.0	.24
15	e.50	e.18	6.5	5.5	7.1	4.7	2.3	3.8	2.0	5.5	1.4	.19
16	e.35	e.18	4.4	4.3	15	3.8	2.1	3.4	1.6	7.3	1.2	.19
17	e.27	e.18	3.7	3.7	9.1	4.5	2.4	2.6	1.3	4.2	1.1	.27
18	e.21	e.17	3.1	3.1	11	7.3	2.8	2.8	1.3	3.5	1.5	.39
19	e.18	e.17	2.3	2.7	13	15	2.2	2.6	3.3	2.5	1.2	.47
20	e.18	e.17	1.8	2.4	12	11	2.1	1.9	2.1	2.1	1.3	.30
21	e.17	e.16	2.1	e2.4	9.1	8.1	4.4	1.8	1.5	1.7	1.1	.44
22	e.17	6.9	1.8	e2.3	8.0	7.3	5.7	1.6	1.2	1.5	.96	.32
23	e.16	4.1	7.8	5.7	6.9	6.5	3.5	1.4	1.0	2.7	.60	.36
24	e.16	1.1	8.3	9.4	10	5.5	3.2	1.6	1.2	17	.66	.28
25	e.16	.61	5.0	5.3	12	5.6	2.9	1.5	1.8	9.9	.74	.30
26	e.15	.56	3.6	4.2	27	9.0	3.3	1.1	1.4	11	.62	.35
27	e.15	.49	3.0	3.4	13	11	4.4	1.3	1.1	38	.71	.38
28	e.15	.45	3.1	e3.4	9.5	8.6	3.6	1.2	.97	17	1.6	.37
29	e.15	.40	8.4	e3.2	12	7.2	3.1	1.1	.89	11	1.3	.34
30	e.28	.32	6.1	e3.0	---	6.7	2.9	2.0	.69	7.4	.66	.28
31	e.32	---	4.1	e2.9	---	9.7	---	2.3	---	7.5	.53	---
TOTAL	6.36	18.61	178.01	125.0	214.2	216.0	110.9	92.8	82.75	272.16	54.88	10.94
MEAN	.21	.62	5.74	4.03	7.39	6.97	3.70	2.99	2.76	8.78	1.77	.36
MAX	.50	6.9	19	9.4	27	15	7.8	7.3	10	45	6.4	.64
MIN	.14	.14	.61	2.3	1.7	3.2	2.1	1.1	.69	.76	.53	.19
CFSM	.11	.32	3.01	2.11	3.87	3.65	1.94	1.57	1.44	4.60	.93	.19
IN.	.12	.36	3.47	2.43	4.17	4.21	2.16	1.81	1.61	5.30	1.07	.21

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

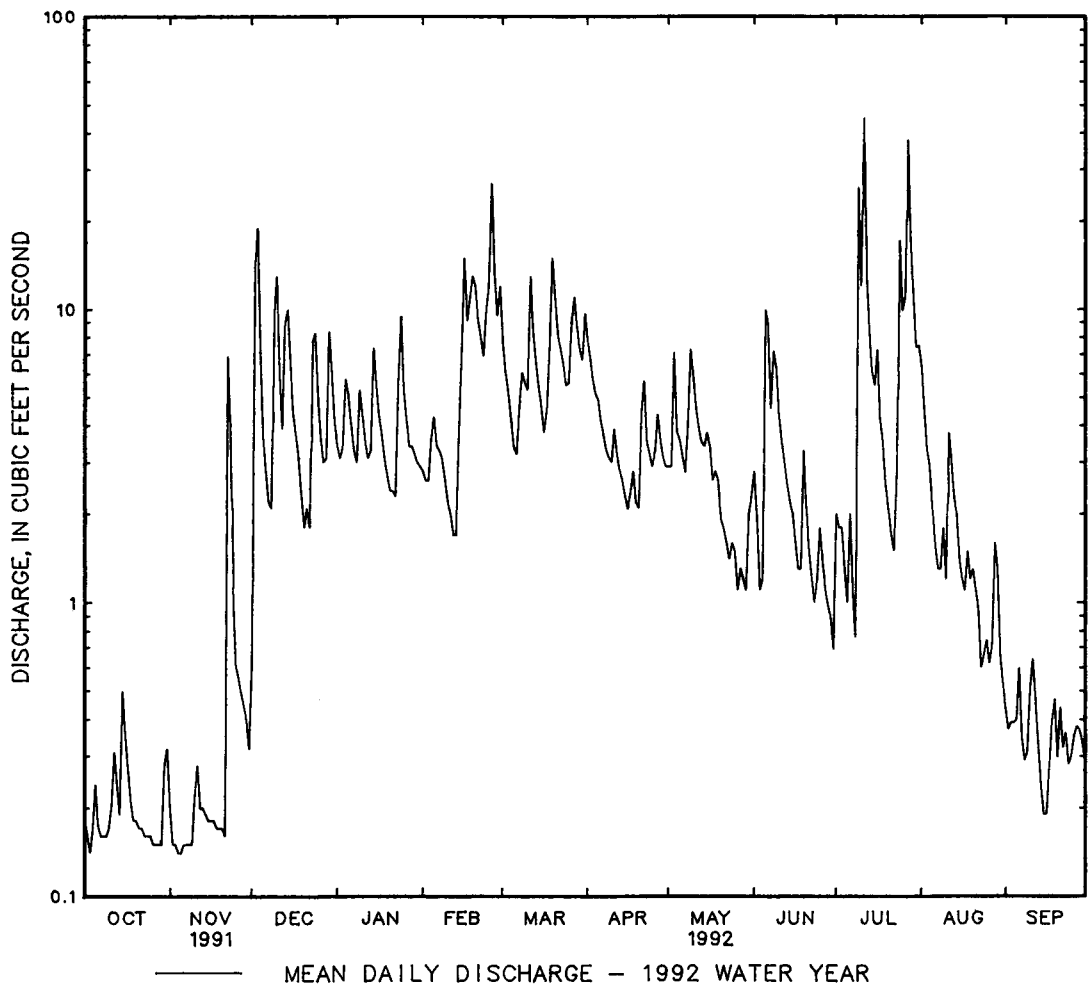
MEAN	1.65	4.73	5.75	4.84	7.67	7.69	6.78	5.58	3.82	3.55	1.70	1.19
MAX	3.65	17.5	8.67	9.75	15.9	11.6	13.4	9.25	12.7	8.78	7.91	3.42
(WY)	1990	1986	1991	1991	1986	1984	1984	1988	1981	1992	1980	1981
MIN	.21	.62	2.83	1.29	3.84	2.52	3.70	1.58	.63	.28	.30	.19
(WY)	1992	1992	1990	1981	1987	1990	1992	1991	1991	1988	1983	1991

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1980 - 1992	
ANNUAL TOTAL	1256.27		1382.61			
ANNUAL MEAN	3.44		3.78		4.49	
HIGHEST ANNUAL MEAN					5.57	1984
LOWEST ANNUAL MEAN					3.43	1983
HIGHEST DAILY MEAN	24	Feb 20	45	Jul 11	139	May 31 1985
LOWEST DAILY MEAN	.12	(a)	.14	Oct 3	.09	Aug 22 1983
ANNUAL SEVEN-DAY MINIMUM	.14	Aug 28	.15	Nov 2	.12	Aug 12 1988
INSTANTANEOUS PEAK FLOW	49	Dec 2	142	Jul 11	b895	May 31 1985
INSTANTANEOUS PEAK STAGE	3.38	Dec 2	4.47	Jul 11	10.47	May 31 1985
INSTANTANEOUS LOW FLOW	.05	Nov 6	.05	Nov 6	.01	(c)
ANNUAL RUNOFF (CFSM)	1.80		1.98		2.35	
ANNUAL RUNOFF (INCHES)	24.47		26.93		31.95	
10 PERCENT EXCEEDS	10		8.9		10	
50 PERCENT EXCEEDS	1.1		2.6		2.8	
90 PERCENT EXCEEDS	.17		.19		.46	

a Sept. 2, Nov. 4.

b From rating curve extended above 90 ft^3/s on basis of contracted-opening measurement of peak flow.
c July 18 and Aug. 9, 1988, result of beaver activity upstream.



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-Corunna Road, 1.7 mi southwest of Fort Pendleton, 1.0 mi south of Bayard, WV, and 200 ft upstream from mouth.

DRAINAGE AREA.--2.30 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder and sacrete bag control. Elevation of gage is 2,441.94 ft above National Geodetic Vertical Datum of 1929 (Garrett County bench mark).

REMARKS.--Water-discharge records good except those for Oct. 30 to Nov. 5 (missing record), Jan. 16-21, 25-27 (ice), and July 11 (backwater), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	2045	47	2.39	July 11	0100	UNKNOWN	a*4.61
July 9	0915	*89	3.14	July 27	0500	84	3.09

a Backwater

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	e.12	.41	3.7	2.8	8.7	9.2	3.3	1.5	.42	4.3	.28
2	.09	e.12	11	3.3	3.2	7.1	7.8	3.3	1.2	.37	3.3	.25
3	.09	e.11	14	3.5	2.3	6.1	6.6	6.1	.81	.48	2.7	.27
4	.10	e.10	4.6	5.2	3.2	5.2	5.8	4.3	.73	.34	2.6	.27
5	.14	e.09	2.5	4.9	4.1	4.5	5.3	3.9	4.5	.31	2.0	.23
6	.13	.10	1.8	4.1	3.9	4.1	4.9	3.4	5.8	.45	1.5	.21
7	.11	.10	1.6	3.5	3.1	4.9	4.6	3.0	3.5	.30	1.3	.21
8	.11	.10	1.6	3.1	2.8	6.3	4.2	3.9	5.5	.23	1.1	.23
9	.11	.09	9.4	4.6	3.0	6.1	3.9	5.9	5.5	17	1.4	.22
10	.12	.17	11	4.3	3.0	6.2	3.7	5.2	3.9	8.2	.97	.38
11	.17	.18	5.1	3.6	2.1	14	4.2	4.5	3.0	e50	3.9	.29
12	.22	.12	3.7	3.2	1.8	9.2	3.7	4.1	2.4	11	2.9	.24
13	.19	.12	7.6	3.4	1.8	7.6	3.1	3.7	2.0	6.8	3.1	.21
14	.12	.13	8.9	7.1	3.0	6.5	2.9	3.2	1.7	4.9	3.2	.21
15	.32	.12	6.2	5.6	5.9	5.7	2.7	3.6	1.8	4.1	2.1	.19
16	.21	.14	4.6	e4.9	16	4.8	2.6	3.0	1.4	4.1	1.6	.16
17	.15	.12	3.8	e4.0	9.0	5.1	2.6	2.6	1.1	3.0	1.3	.16
18	.12	.12	3.0	e3.3	11	7.1	2.8	2.6	.99	2.5	1.3	.14
19	.12	.11	2.7	e2.9	14	14	2.4	2.4	2.0	2.0	1.0	.22
20	.12	.11	2.0	e2.7	13	11	2.2	2.0	1.4	1.5	.92	.16
21	.12	.22	2.0	e2.6	9.5	9.1	3.9	1.6	.96	1.2	.68	.17
22	.12	3.0	1.7	2.3	8.4	8.4	5.7	1.4	.71	1.2	.61	.18
23	.11	1.6	7.0	4.8	7.9	7.5	4.2	1.2	.58	1.4	.54	.15
24	.11	.60	7.3	8.2	12	6.3	3.9	1.2	.68	13	.46	.12
25	.11	.37	4.7	e5.6	12	6.4	3.8	1.2	1.3	8.8	.40	.12
26	.11	.23	3.7	e4.3	33	10	4.2	1.0	.70	8.3	.39	.13
27	.11	.18	3.1	e3.8	16	13	5.0	.90	.51	44	.36	.15
28	.11	.18	3.1	3.5	11	10	4.2	.71	.41	19	.93	.12
29	.11	.17	7.2	3.3	13	8.7	3.7	.63	.36	9.9	.71	.11
30	e.13	.17	5.7	3.1	---	8.3	3.6	1.4	.31	6.6	.38	.11
31	e.19	---	4.4	3.0	---	11	---	1.4	---	5.6	.32	---
TOTAL	4.16	9.09	155.41	125.4	231.8	242.9	127.4	86.64	57.25	237.00	48.27	5.89
MEAN	.13	.30	5.01	4.05	7.99	7.84	4.25	2.79	1.91	7.65	1.56	.20
MAX	.32	3.0	14	8.2	33	14	9.2	6.1	5.8	50	4.3	.38
MIN	.09	.09	.41	2.3	1.8	4.1	2.2	.63	.31	.23	.32	.11
CFSM	.06	.13	2.18	1.76	3.48	3.41	1.85	1.22	.83	3.32	.68	.09
IN.	.07	.15	2.51	2.03	3.75	3.93	2.06	1.40	.93	3.83	.78	.10

e Estimated

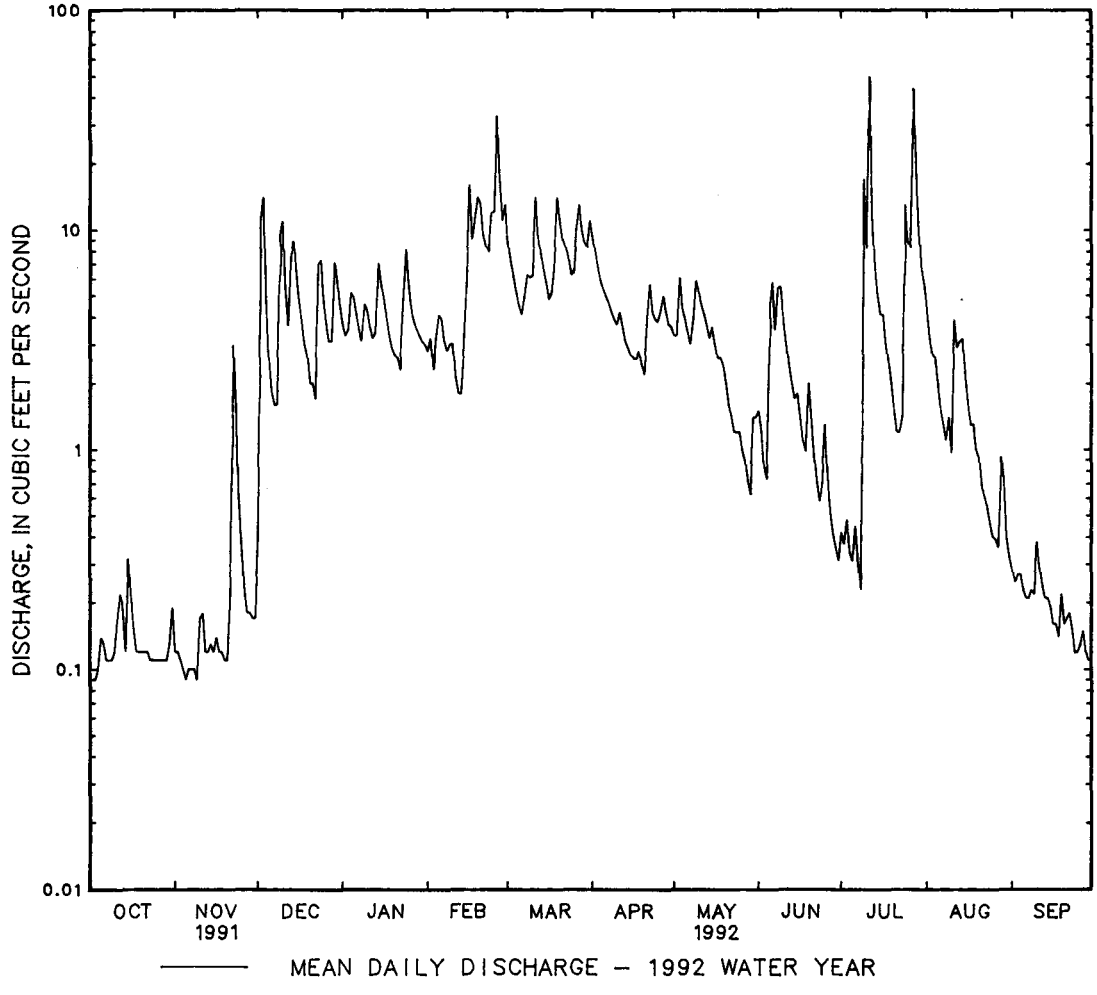
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

MEAN	2.02	4.11	6.24	7.63	7.23	7.10	6.53	6.67	2.48	3.37	1.06	1.34
MAX	4.57	10.2	10.0	11.5	8.89	10.4	11.3	12.2	5.29	7.65	2.55	3.71
(WY)	1990	1987	1991	1990	1989	1989	1987	1990	1989	1992	1989	1987
MIN	.13	.30	3.92	4.05	4.60	3.34	4.25	1.44	.26	.33	.15	.11
(WY)	1992	1992	1990	1992	1987	1990	1992	1991	1991	1988	1991	1991

01594950 MCMILLAN FORK NEAR FORT PENDLETON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	1168.28		1331.21			
ANNUAL MEAN	3.20		3.64		4.64	
HIGHEST ANNUAL MEAN					5.54	1989
LOWEST ANNUAL MEAN					3.64	1992
HIGHEST DAILY MEAN	28	Feb 20	50	Jul 11	110	May 26 1990
LOWEST DAILY MEAN	.09	(a)	.09	(b)	.09	(c)
ANNUAL SEVEN-DAY MINIMUM	.09	Sep 27	.10	Nov 3	.09	Sep 27 1991
INSTANTANEOUS PEAK FLOW	46	Feb 20	UNKNOWN	Jul 11	UNKNOWN	May 26 1990
INSTANTANEOUS PEAK STAGE	2.37	Feb 20	d4.61	Jul 11	d4.91	May 26 1990
INSTANTANEOUS LOW FLOW	.08	Sep 30	.08	(f)	.08	(g)
ANNUAL RUNOFF (CFSM)	1.39		1.58		2.02	
ANNUAL RUNOFF (INCHES)	18.90		21.53		27.41	
10 PERCENT EXCEEDS	9.0		8.7		10	
50 PERCENT EXCEEDS	.60		2.6		3.4	
90 PERCENT EXCEEDS	.11		.12		.23	

a · Sept. 28-30.
b Oct. 1-3, Nov. 9.
c Sept. 28-30, Oct. 1-3, Nov. 9, 1991.
d Affected by backwater.
f Oct. 1-3.
g Sept. 30, Oct. 1-3, 1991.



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 current year.
pH: November 1986 to current year.
WATER TEMPERATURE: November 1986 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1986. Digital recorder set for one-hour-interval punches.

REMARKS.--Periods of missing record due to monitor malfunction or probes buried by sediment.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 281 microsiemens, Sept. 4, 1988; minimum, 57 microsiemens, Feb. 20, 1991.
pH: Maximum, 8.4 units, Sept. 7, 1991; minimum, 4.9 units, Nov. 21, 22, 1988.
WATER TEMPERATURE: Maximum, 22.0°C, Aug. 18, 1988 and July 7, 1991; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT PERIOD.--
SPECIFIC CONDUCTANCE: Maximum, 241 microsiemens, Nov. 23; minimum, 62 microsiemens, July 27.
pH: Maximum, 8.1 units, Nov. 20; minimum 5.9 units, Feb. 26.
WATER TEMPERATURE: Maximum, 18.0°C, Sept. 9; minimum, 0.0°C, on many days during winter periods.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	168	163	166	167	165	166	172	138	145	97	95	96
2	170	162	166	168	166	167	234	136	188	100	97	98
3	169	164	166	169	167	168	136	127	131	101	99	100
4	170	166	168	173	168	169	135	128	132	100	95	98
5	170	156	165	183	173	178	140	135	137	98	95	97
6	160	156	158	176	166	171	142	137	140	100	98	98
7	163	159	161	169	164	166	142	140	141	103	99	101
8	164	162	163	174	166	167	145	140	144	106	103	104
9	165	163	164	186	173	180	139	91	123	107	96	103
10	165	163	164	173	143	162	93	90	92	104	101	102
11	165	153	160	151	142	147	95	92	93	107	103	105
12	155	139	151	155	151	154	99	94	97	108	106	107
13	149	136	143	158	154	156	99	90	94	110	108	109
14	155	148	151	160	158	159	90	88	89	110	94	103
15	156	132	144	163	160	161	89	87	88	101	97	99
16	144	135	139	164	157	161	92	88	89	102	98	100
17	150	142	146	161	158	159	93	90	92	103	101	101
18	154	150	152	163	161	161	95	92	94	107	102	105
19	156	154	155	166	162	164	101	95	98	111	107	110
20	167	155	161	166	163	165	106	101	103	113	109	111
21	168	165	167	167	134	157	103	101	101	115	112	114
22	168	166	167	236	121	169	106	103	105	119	114	117
23	170	167	169	241	234	238	106	94	101	119	106	113
24	174	161	168	239	228	234	94	90	91	111	98	103
25	162	159	161	228	202	215	91	89	90	99	96	98
26	163	160	161	202	186	193	92	90	91	100	97	98
27	164	157	161	192	161	181	98	92	94	103	100	101
28	166	162	164	161	155	157	99	95	97	104	102	103
29	166	163	164	160	156	158	96	94	95	107	104	106
30	186	163	166	160	153	158	95	92	93	109	107	108
31	166	163	164	---	---	---	95	93	94	110	108	109
MONTH	186	132	160	241	121	171	234	87	108	119	94	104

01594950 MCMILLAN FORT NEAR FORT PENDLETON, MD--CONTINUED

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	114	110	112	105	98	101	92	89	90	106	103	104
2	117	113	115	109	105	107	96	91	92	107	84	104
3	117	113	115	115	109	113	99	95	97	102	89	98
4	116	105	112	118	115	117	103	99	100	100	97	98
5	117	107	112	123	118	121	107	103	104	102	100	100
6	111	103	107	128	123	125	106	103	104	105	101	103
7	112	99	107	131	118	126	107	105	105	107	104	105
8	112	107	109	128	117	121	109	106	107	107	100	103
9	115	111	113	121	115	118	112	107	109	104	99	102
10	122	114	119	116	97	113	112	103	110	101	98	99
11	121	118	120	119	98	103	109	103	105	99	98	99
12	125	120	122	99	97	97	106	103	105	99	96	98
13	124	122	123	102	99	100	106	104	105	99	97	98
14	124	119	122	104	101	102	107	105	106	104	98	100
15	125	104	116	106	103	105	109	107	108	104	96	99
16	111	76	86	107	105	106	110	107	108	104	101	102
17	78	76	77	109	103	106	110	105	109	107	103	104
18	80	76	78	109	94	103	113	106	111	110	105	107
19	77	71	74	103	89	96	112	109	110	110	108	109
20	75	71	73	89	85	86	112	108	110	110	106	108
21	80	75	77	93	88	90	113	98	107	110	107	108
22	86	80	84	94	91	93	113	96	102	110	106	109
23	91	85	89	98	94	96	106	103	105	111	106	109
24	90	85	88	99	97	98	106	95	102	111	106	109
25	86	78	85	109	99	103	104	102	103	110	107	108
26	83	76	78	109	91	100	104	101	103	110	108	109
27	90	82	86	90	85	87	103	101	102	112	108	110
28	97	90	94	94	89	91	102	100	101	112	109	111
29	98	90	96	95	93	94	102	101	102	112	109	111
30	---	---	---	96	92	94	103	100	101	112	93	101
31	---	---	---	95	88	90	---	---	---	110	106	108
MONTH	125	71	100	131	85	103	113	89	104	112	84	104

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	111	102	106	152	134	145	114	107	110	145	142	143
2	112	108	109	147	138	143	119	113	116	146	143	144
3	110	106	108	149	131	140	124	118	121	147	142	144
4	110	103	108	147	138	142	132	122	125	147	143	145
5	111	82	100	151	142	148	131	128	129	148	144	146
6	101	90	94	142	137	139	128	124	125	148	145	146
7	97	93	95	150	139	144	127	124	125	150	145	147
8	111	96	101	157	149	152	128	125	126	152	143	148
9	105	92	96	155	108	128	135	121	127	149	145	146
10	92	89	90	130	94	124	136	131	133	157	124	139
11	92	90	91	85	66	70	133	99	121	134	125	129
12	96	92	94	79	72	75	131	123	126	161	130	134
13	102	96	98	86	79	82	143	110	121	139	135	137
14	106	102	103	93	86	89	143	127	134	142	137	139
15	108	99	105	92	89	91	127	124	125	144	139	142
16	113	107	109	95	89	92	130	126	127	153	142	145
17	116	113	114	102	95	98	130	127	128	145	142	144
18	122	115	117	112	102	106	135	129	132	145	138	144
19	115	104	109	116	111	113	135	130	132	138	133	135
20	117	111	114	122	116	118	137	132	134	141	138	139
21	119	117	118	124	120	121	136	133	134	143	138	141
22	125	119	121	124	121	123	141	133	135	140	133	138
23	129	124	126	126	118	121	144	134	136	136	133	134
24	129	117	125	125	82	102	139	135	136	138	136	137
25	141	114	133	84	77	81	140	137	138	140	134	137
26	137	131	134	93	82	86	154	138	141	137	133	134
27	140	136	137	82	62	70	142	140	141	139	131	134
28	145	139	141	81	68	74	142	114	130	140	133	135
29	149	142	146	90	81	85	158	129	152	164	137	144
30	151	146	148	99	91	95	151	142	145	144	142	143
31	---	---	---	108	99	103	143	140	141	---	---	---
MONTH	151	82	113	157	62	110	158	99	131	164	124	140

01594950 MCMILLAN FORT NEAR FORT PENDLETON, MD--CONTINUED

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.0	7.7	7.8	7.9	7.7	7.7	7.7	7.6	7.7	6.8	6.7	6.8
2	8.0	7.7	7.8	7.9	7.7	7.8	7.6	6.8	7.3	6.9	6.8	6.9
3	8.0	7.7	7.8	7.8	7.7	7.7	6.8	6.5	6.6	7.0	6.9	7.0
4	8.0	7.6	7.7	7.8	7.7	7.7	6.5	6.3	6.4	6.9	6.8	6.9
5	7.9	7.3	7.6	7.7	7.5	7.5	6.4	6.3	6.4	6.9	6.8	6.9
6	7.7	7.2	7.4	7.6	7.5	7.6	6.6	6.3	6.5	6.9	6.9	6.9
7	7.7	7.4	7.6	7.7	7.6	7.7	6.8	6.6	6.7	6.9	6.9	6.9
8	7.6	7.4	7.5	7.8	7.7	7.7	6.9	6.8	6.9	7.0	6.9	7.0
9	7.6	7.4	7.5	7.7	7.5	7.6	6.9	6.0	6.7	7.0	6.8	6.9
10	7.7	7.5	7.6	7.6	7.6	7.6	6.2	6.0	6.1	6.9	6.9	6.9
11	7.6	7.5	7.5	7.7	7.6	7.6	6.5	6.2	6.4	6.9	6.9	6.9
12	7.6	7.1	7.4	7.8	7.7	7.7	6.7	6.5	6.6	7.0	6.9	6.9
13	7.4	6.9	7.1	7.8	7.7	7.8	6.8	6.2	6.5	7.0	6.9	7.0
14	7.6	7.1	7.3	7.9	7.7	7.8	6.4	6.2	6.3	7.0	6.6	6.7
15	7.1	6.9	7.0	7.9	7.8	7.9	6.3	6.2	6.2	6.7	6.6	6.7
16	7.6	6.9	7.2	7.9	7.9	7.9	6.4	6.3	6.4	6.7	6.6	6.7
17	7.6	7.0	7.4	7.9	7.8	7.9	6.6	6.4	6.6	6.8	6.7	6.7
18	7.5	7.2	7.4	8.0	7.8	7.9	6.7	6.6	6.6	6.8	6.8	6.8
19	7.7	7.4	7.6	8.0	7.9	7.9	6.7	6.6	6.6	6.9	6.7	6.8
20	7.7	7.3	7.5	8.1	7.9	8.0	6.7	6.6	6.7	6.9	6.8	6.8
21	7.7	7.4	7.6	8.0	7.8	8.0	6.8	6.7	6.8	6.9	6.9	6.9
22	7.7	7.5	7.6	7.8	6.9	7.4	6.9	6.8	6.9	7.0	6.9	6.9
23	7.7	7.5	7.6	7.1	6.9	7.0	6.9	6.3	6.7	7.0	6.4	6.8
24	7.8	7.6	7.7	7.1	7.0	7.0	6.4	6.3	6.4	6.6	6.3	6.5
25	7.8	7.6	7.7	7.1	7.1	7.1	6.5	6.4	6.5	6.6	6.6	6.6
26	7.8	7.6	7.7	7.3	7.1	7.2	6.7	6.5	6.6	6.7	6.6	6.7
27	7.9	7.7	7.7	7.3	7.2	7.3	6.8	6.7	6.7	6.8	6.6	6.7
28	7.8	7.7	7.7	7.3	7.2	7.3	6.9	6.8	6.8	6.9	6.7	6.8
29	7.8	7.6	7.7	7.3	7.2	7.3	6.7	6.4	6.6	6.9	6.8	6.8
30	7.8	7.6	7.7	7.6	7.2	7.4	6.7	6.6	6.6	6.9	6.8	6.9
31	7.8	7.7	7.7	---	---	---	6.8	6.7	6.7	6.9	6.9	6.9
MONTH	8.0	6.9	7.6	8.1	6.9	7.6	7.7	6.0	6.6	7.0	6.3	6.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.7	6.8	7.3	7.0	7.1
2	6.9	6.8	6.9	6.9	6.8	6.9	6.8	6.8	6.8	7.4	7.1	7.2
3	7.0	6.9	6.9	7.0	6.8	6.9	6.9	6.8	6.8	7.1	6.9	7.0
4	7.1	6.8	7.0	7.0	6.8	6.9	7.0	6.8	6.9	7.1	7.0	7.0
5	6.9	6.8	6.8	7.1	6.9	7.0	7.0	6.9	6.9	7.2	7.0	7.1
6	6.9	6.8	6.9	7.1	7.0	7.0	7.0	6.9	6.9	7.2	7.1	7.1
7	6.9	6.8	6.9	7.1	6.9	7.0	7.0	6.9	7.0	7.3	7.1	7.2
8	6.9	6.9	6.9	6.9	6.9	6.9	7.1	6.9	7.0	7.2	7.0	7.2
9	6.9	6.8	6.9	7.0	6.9	6.9	7.0	6.9	6.9	7.0	7.0	7.0
10	6.9	6.7	6.8	7.0	6.8	6.9	7.1	6.9	7.0	7.1	6.9	7.0
11	6.9	6.8	6.9	6.7	6.5	6.5	7.0	6.9	6.9	7.2	7.0	7.1
12	7.0	6.9	7.0	6.7	6.6	6.6	7.0	6.9	6.9	7.3	7.0	7.1
13	7.0	6.9	7.0	6.8	6.6	6.7	7.0	6.9	6.9	7.3	7.1	7.2
14	6.9	6.8	6.8	6.9	6.8	6.8	7.1	6.9	7.0	7.3	7.1	7.2
15	6.8	6.5	6.7	6.9	6.8	6.9	7.1	6.9	7.0	7.3	7.1	7.2
16	6.5	6.2	6.3	6.9	6.6	6.9	7.1	6.9	7.0	7.4	7.1	7.3
17	6.6	6.4	6.5	7.0	6.9	6.9	7.1	6.8	7.0	7.4	7.2	7.3
18	6.6	6.5	6.6	6.9	6.7	6.8	7.1	6.7	6.9	7.3	7.2	7.3
19	6.6	6.3	6.5	6.7	6.5	6.6	7.2	6.8	6.9	7.4	7.2	7.3
20	6.6	6.4	6.5	6.7	6.5	6.6	7.1	6.8	7.0	7.4	7.3	7.4
21	6.8	6.6	6.7	6.9	6.7	6.8	7.1	6.6	6.8	7.5	7.2	7.4
22	6.8	6.7	6.7	6.9	6.8	6.9	6.8	6.6	6.7	7.5	7.3	7.4
23	6.8	6.7	6.7	6.9	6.8	6.9	6.8	6.6	6.7	7.6	7.3	7.4
24	6.7	6.4	6.6	7.0	6.9	6.9	6.7	6.6	6.7	7.4	7.4	7.4
25	6.6	6.3	6.5	7.0	6.9	6.9	6.8	6.6	6.6	7.5	7.4	7.4
26	6.4	5.9	6.1	6.9	6.7	6.8	6.8	6.6	6.7	7.6	7.4	7.5
27	6.7	6.4	6.6	6.7	6.6	6.7	7.0	6.6	6.7	7.6	7.4	7.5
28	6.9	6.7	6.8	6.9	6.7	6.8	7.0	6.9	7.0	7.6	7.4	7.5
29	6.7	6.6	6.6	7.0	6.8	6.9	7.1	6.9	7.0	7.6	7.4	7.5
30	---	---	---	7.0	6.8	6.9	7.1	7.0	7.1	7.5	7.3	7.4
31	---	---	---	6.8	6.7	6.7	---	---	---	7.4	7.3	7.3
MONTH	7.1	5.9	6.7	7.1	6.5	6.8	7.2	6.6	6.9	7.6	6.9	7.3

01594950 MCMILLAN FORT NEAR FORT PENDLETON, MD--CONTINUED

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.3	7.2	7.3	7.7	7.4	7.5	---	---	---	---	---	---
2	7.5	7.2	7.3	7.7	7.4	7.5	---	---	---	---	---	---
3	7.6	7.3	7.4	7.5	7.3	7.4	---	---	---	---	---	---
4	7.5	7.4	7.4	7.7	7.4	7.6	---	---	---	---	---	---
5	7.4	6.6	7.1	7.7	7.4	7.5	---	---	---	---	---	---
6	6.8	6.6	6.7	7.5	7.2	7.4	---	---	---	---	---	---
7	6.9	6.8	6.8	7.6	7.4	7.4	---	---	---	---	---	---
8	6.9	6.5	6.7	7.6	7.3	7.5	---	---	---	---	---	---
9	6.8	6.5	6.7	---	---	---	---	---	---	---	---	---
10	6.9	6.7	6.8	---	---	---	---	---	---	---	---	---
11	6.9	6.8	6.9	---	---	---	---	---	---	---	---	---
12	7.1	6.9	7.0	---	---	---	---	---	---	---	---	---
13	7.2	7.0	7.1	---	---	---	---	---	---	---	---	---
14	7.2	7.1	7.1	---	---	---	---	---	---	---	---	---
15	7.3	7.1	7.2	---	---	---	---	---	---	---	---	---
16	7.3	7.1	7.2	---	---	---	---	---	---	---	---	---
17	7.4	7.2	7.3	---	---	---	---	---	---	7.7	7.5	7.6
18	7.5	7.3	7.4	---	---	---	---	---	---	7.7	7.5	7.6
19	7.3	7.1	7.2	---	---	---	---	---	---	7.6	7.5	7.6
20	7.3	7.1	7.2	---	---	---	---	---	---	7.6	7.5	7.6
21	7.4	7.2	7.3	---	---	---	---	---	---	7.6	7.5	7.6
22	7.5	7.3	7.4	---	---	---	---	---	---	7.6	7.5	7.5
23	7.5	7.3	7.4	---	---	---	---	---	---	7.6	7.5	7.5
24	7.6	7.3	7.4	---	---	---	---	---	---	7.6	7.5	7.5
25	7.3	7.1	7.2	---	---	---	---	---	---	7.6	7.5	7.5
26	7.4	7.2	7.3	---	---	---	---	---	---	7.5	7.3	7.5
27	7.6	7.3	7.4	---	---	---	---	---	---	7.4	7.2	7.3
28	7.6	7.3	7.4	---	---	---	---	---	---	7.4	7.2	7.3
29	7.7	7.3	7.5	---	---	---	---	---	---	---	---	---
30	7.8	7.3	7.5	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	7.8	6.5	7.2	---	---	---	---	---	---	---	---	---

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.7	8.4	10.4	7.4	3.3	5.5	7.9	7.4	7.7	2.1	.0	1.1
2	12.7	8.4	10.5	7.3	3.9	5.9	7.6	6.3	6.8	2.9	.5	1.7
3	13.9	9.7	11.8	3.8	1.7	3.0	7.8	5.8	7.1	4.0	2.7	3.4
4	14.7	11.0	12.7	1.6	.0	.7	5.8	1.1	3.1	4.8	4.0	4.4
5	14.9	10.8	12.6	.1	.0	.1	1.9	.5	1.1	4.8	3.5	4.2
6	11.3	6.5	9.1	.2	.0	.0	3.0	1.9	2.5	3.5	2.6	3.1
7	7.9	5.2	6.6	.9	.0	.4	4.3	1.7	2.9	2.6	2.2	2.3
8	7.0	3.8	5.4	.8	.0	.5	7.3	4.3	5.8	3.2	1.6	2.4
9	8.1	3.9	6.0	.1	.0	.0	8.2	7.1	7.9	4.4	2.7	3.6
10	9.2	4.9	7.2	.6	.0	.1	7.1	4.9	6.2	3.9	2.0	3.0
11	9.0	7.7	8.4	1.4	.6	1.1	5.8	4.1	4.9	2.1	1.4	1.8
12	8.4	7.2	7.7	2.3	1.1	1.7	5.8	3.8	4.9	3.1	1.2	2.2
13	8.0	4.9	7.1	2.1	1.0	1.4	8.1	5.8	7.4	4.6	2.9	3.8
14	7.5	3.2	5.5	4.0	.8	2.3	8.4	4.4	7.3	5.3	1.3	3.7
15	8.5	7.0	7.8	6.3	3.2	4.5	4.2	2.5	3.2	1.3	.4	.9
16	7.4	4.7	6.7	7.3	4.9	6.5	2.5	1.1	1.6	.4	.0	.0
17	6.8	4.0	5.2	4.9	1.7	3.0	3.6	1.7	2.8	.4	.0	.1
18	8.3	4.0	6.1	3.7	.4	2.3	2.7	.2	1.6	.3	.0	.1
19	9.2	6.2	7.3	6.7	3.0	5.0	.2	.0	.0	.1	.1	.1
20	6.4	3.5	5.4	8.8	4.6	6.9	.6	.0	.1	.2	.1	.1
21	6.5	1.9	4.2	9.5	8.0	8.9	1.1	.5	.9	1.2	.2	.8
22	8.4	3.9	6.2	9.5	8.8	9.1	1.8	1.0	1.4	2.0	.9	1.4
23	9.0	5.2	7.1	8.8	7.2	8.3	4.2	1.8	2.8	1.8	1.3	1.6
24	10.9	6.4	8.7	7.2	2.2	4.9	4.0	2.0	2.9	1.5	.1	.8
25	10.6	7.7	9.1	2.0	.1	1.0	2.4	1.3	2.0	.3	.1	.1
26	10.8	7.3	9.0	.1	.0	.0	2.0	.1	1.1	.9	.1	.4
27	11.4	7.3	9.6	.0	.0	.0	2.5	1.0	1.7	.7	.1	.2
28	11.3	8.1	10.4	2.6	.0	1.3	2.8	1.1	1.9	2.2	.4	1.3
29	7.6	4.7	6.4	5.8	2.5	4.4	4.3	2.8	3.6	2.4	.4	1.3
30	6.0	2.4	4.3	7.6	3.3	5.5	3.2	2.8	3.0	2.8	.6	1.7
31	7.4	4.1	5.4	---	---	---	2.8	1.5	2.2	2.5	1.2	2.1
MONTH	14.9	1.9	7.7	9.5	.0	3.1	8.4	.0	3.5	5.3	.0	1.7

01594950 MCMILLAN FORT NEAR FORT PENDLETON, MD--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.2	.1	.8	5.1	1.9	3.3	4.4	3.3	3.9	11.7	7.2	9.3
2	.3	.1	.2	7.5	4.1	5.5	3.3	1.7	2.6	14.6	9.9	12.1
3	1.6	.3	.9	7.9	5.3	6.4	3.0	1.5	2.2	13.0	10.2	11.7
4	2.8	.8	1.8	8.2	4.6	6.3	3.8	1.0	2.6	10.2	7.7	8.9
5	1.7	.4	1.1	8.4	4.7	6.6	5.5	2.5	3.8	8.7	7.0	7.8
6	1.5	.0	.6	7.8	5.2	6.6	6.8	2.5	4.5	7.7	6.4	7.2
7	1.7	.0	.8	7.5	6.2	6.8	7.3	4.2	5.7	8.7	5.3	7.1
8	1.3	.0	.6	7.4	6.9	7.1	8.6	5.6	6.8	7.8	6.7	7.3
9	.0	.0	.0	9.3	6.7	7.7	8.0	5.0	6.3	9.3	7.1	8.2
10	.0	.0	.0	8.5	6.8	7.9	9.5	6.0	7.8	10.4	8.0	9.1
11	.6	.0	.3	6.8	1.9	3.4	11.0	7.4	9.1	13.1	7.6	10.3
12	.6	.0	.3	3.3	1.7	2.5	9.4	6.5	8.6	13.9	9.3	11.6
13	.5	.0	.3	2.9	1.6	2.2	7.3	4.4	5.9	12.9	10.0	11.6
14	1.1	.4	.8	3.4	1.5	2.4	7.6	5.5	6.5	13.9	10.7	12.2
15	1.9	.9	1.2	2.8	1.2	2.1	9.5	6.2	7.7	12.3	10.4	11.2
16	2.3	1.9	2.1	2.5	.1	1.2	10.3	6.3	8.3	14.2	10.8	12.5
17	3.6	2.1	2.9	4.6	1.1	2.9	11.4	8.7	10.0	15.3	11.8	13.5
18	4.3	3.0	3.6	3.8	1.9	3.2	12.8	9.3	10.8	14.0	12.8	13.4
19	4.8	3.4	4.0	3.1	2.4	2.9	14.0	10.0	11.5	13.0	11.9	12.5
20	3.7	2.9	3.3	4.3	2.5	3.3	12.6	10.0	11.2	13.6	10.8	12.0
21	5.2	3.0	3.9	4.0	2.3	3.1	10.9	10.1	10.6	13.6	8.5	11.2
22	6.0	3.3	4.4	3.2	1.9	2.6	12.3	9.4	10.6	14.2	8.9	11.6
23	5.8	3.4	4.6	3.0	1.8	2.4	12.9	7.4	10.2	14.7	10.0	12.4
24	5.2	4.6	5.0	4.7	1.6	2.9	12.9	9.0	10.8	12.5	10.4	11.8
25	5.1	4.5	4.8	5.0	1.6	3.4	10.7	7.0	9.1	11.1	9.5	10.1
26	4.6	3.6	4.2	4.7	3.7	4.2	7.8	7.0	7.3	10.7	9.5	10.0
27	4.7	3.6	4.0	4.8	3.1	3.8	8.3	5.6	7.0	10.3	8.2	9.4
28	5.8	4.3	5.0	5.3	2.8	3.8	8.7	5.9	7.2	10.3	6.5	8.5
29	5.1	2.1	3.3	5.3	2.4	3.9	10.1	5.3	7.7	10.6	7.3	8.9
30	---	---	---	5.7	4.3	5.1	8.1	7.3	7.9	10.2	8.8	9.5
31	---	---	---	6.3	4.2	5.1	---	---	---	10.7	9.9	10.4
MONTH	6.0	.0	2.2	9.3	.1	4.2	14.0	1.0	7.5	15.3	5.3	10.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.1	10.0	10.6	15.7	14.1	14.8	15.1	13.3	14.1	14.3	11.7	13.0
2	12.1	10.1	11.1	17.0	13.9	15.3	15.0	11.8	13.5	14.6	10.9	12.8
3	13.2	9.8	11.5	16.5	14.6	15.5	15.7	13.1	14.4	15.8	13.8	14.6
4	11.9	10.7	11.5	16.7	14.0	15.5	15.4	13.9	14.6	16.6	14.5	15.5
5	13.1	11.5	12.2	16.6	12.7	14.6	14.7	12.5	13.6	17.3	14.7	15.9
6	13.7	11.4	12.4	15.8	14.0	14.9	14.5	11.9	13.4	17.6	15.7	16.4
7	13.1	11.2	12.4	14.9	12.0	13.5	15.6	13.4	14.5	17.3	15.2	16.2
8	14.0	12.8	13.4	16.7	12.9	14.8	15.9	13.6	14.8	17.9	15.6	16.5
9	14.6	12.6	13.4	17.0	16.1	16.7	16.8	15.3	16.0	18.0	15.4	16.4
10	14.4	11.1	12.7	17.9	15.7	16.7	17.5	15.2	16.2	17.7	15.1	16.2
11	13.8	11.2	12.6	16.7	14.9	16.0	17.7	16.0	16.8	16.0	12.6	14.3
12	14.2	10.7	12.6	16.4	14.4	15.2	16.2	14.7	15.5	13.0	10.5	11.8
13	14.2	11.3	12.9	15.9	15.2	15.6	15.3	13.8	14.6	13.1	9.1	11.3
14	13.1	11.8	12.7	17.6	15.2	16.3	15.9	14.8	15.3	14.3	11.3	12.9
15	14.3	12.4	13.4	17.4	16.1	16.7	15.1	14.1	14.6	15.2	12.2	13.7
16	14.7	12.3	13.6	17.4	15.8	16.5	15.3	13.9	14.6	15.6	12.0	13.7
17	15.3	12.5	13.9	17.1	14.8	16.0	15.0	14.5	14.8	15.2	12.3	13.7
18	14.5	12.7	13.8	16.9	15.8	16.3	15.8	14.2	14.9	15.2	12.1	13.9
19	15.3	13.5	14.3	16.7	15.0	15.9	14.9	13.4	14.1	15.1	12.0	14.1
20	14.2	12.5	13.5	17.1	14.2	15.7	14.5	12.6	13.5	13.8	10.6	12.2
21	12.3	9.8	11.1	16.6	15.0	15.9	14.4	11.2	13.0	14.8	11.7	13.2
22	11.7	9.2	10.3	16.3	14.9	15.6	15.1	13.2	14.2	15.8	13.6	14.7
23	12.3	8.7	10.7	17.1	15.2	16.1	16.2	14.1	15.0	13.9	8.8	11.3
24	13.6	11.3	12.3	17.1	15.9	16.5	16.3	13.4	14.9	9.0	7.4	8.2
25	14.4	11.7	12.8	17.8	16.0	16.7	17.0	14.0	15.5	9.7	7.9	8.8
26	14.7	11.7	13.3	16.7	15.1	16.0	17.3	14.3	15.7	12.5	9.5	11.0
27	15.0	12.3	13.6	16.8	14.5	16.0	16.7	14.6	15.7	14.3	12.0	13.0
28	14.6	10.3	12.4	15.2	13.5	14.3	15.8	14.2	15.3	12.3	10.3	11.5
29	15.5	11.0	13.2	15.8	12.9	14.2	14.0	12.0	13.2	10.5	7.0	9.0
30	16.9	13.0	14.9	15.9	13.6	14.7	14.4	11.0	12.8	7.7	5.6	6.9
31	---	---	---	15.6	14.6	15.1	15.3	13.2	14.4	---	---	---
MONTH	16.9	8.7	12.6	17.9	12.0	15.6	17.7	11.0	14.6	18.0	5.6	13.1

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for estimated daily discharges (beaverdams, 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft^3/s, from rating curve extended as explained above.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 24	1300	*2,490	*6.53	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	e14	52	151	113	305	287	127	82	48	171	35
2	16	e14	340	132	126	260	255	119	74	54	135	43
3	15	e13	788	136	133	221	217	193	66	62	112	40
4	14	e13	299	218	126	199	205	140	62	60	104	41
5	14	e13	168	239	175	170	190	130	103	40	89	43
6	21	e12	127	185	135	150	185	131	160	56	77	39
7	23	e12	114	153	125	e200	172	115	110	56	73	41
8	17	e12	115	134	114	e260	149	142	143	45	68	35
9	17	e12	225	170	105	e280	142	255	167	714	86	38
10	17	e18	488	171	101	e240	132	216	117	270	74	44
11	15	e30	228	139	116	e480	184	180	93	1010	113	65
12	24	e19	165	129	94	e350	160	155	83	441	134	46
13	30	e15	293	136	96	e300	137	142	73	283	110	41
14	24	e17	367	275	139	e260	125	148	73	206	118	41
15	24	25	248	232	221	e200	120	160	72	167	86	35
16	45	24	187	184	600	e180	109	167	89	286	75	33
17	28	24	164	e170	350	e170	108	131	59	171	66	36
18	25	23	141	e160	414	e240	119	124	54	146	68	32
19	24	20	141	e145	504	e480	106	119	90	121	62	37
20	23	23	210	e135	447	454	99	99	102	91	59	37
21	16	24	160	e130	324	331	135	86	76	78	44	34
22	23	150	132	168	291	293	260	82	68	79	44	33
23	18	186	250	219	264	283	173	75	58	85	48	36
24	15	86	338	376	362	243	156	75	59	937	46	35
25	13	57	199	232	396	246	151	78	84	484	43	32
26	e13	45	158	196	1030	393	171	63	71	359	43	33
27	e13	42	136	e180	506	471	201	60	57	1180	43	41
28	e13	35	128	e160	357	348	178	58	49	624	69	42
29	e13	30	303	158	458	285	159	53	49	355	73	39
30	e14	36	243	147	---	258	142	68	40	235	42	36
31	e15	---	183	124	---	347	---	76	---	196	36	---
TOTAL	600	1044	7090	5484	8222	8897	4927	3767	2483	8939	2411	1163
MEAN	19.4	34.8	229	177	284	287	164	122	82.8	288	77.8	38.8
MAX	45	186	788	376	1030	480	287	255	167	1180	171	65
MIN	13	12	52	124	94	150	99	53	40	40	36	32
CFSM	.27	.48	3.13	2.42	3.88	3.93	2.25	1.66	1.13	3.95	1.07	.53
IN.	.31	.53	3.61	2.79	4.19	4.53	2.51	1.92	1.27	4.56	1.23	.59

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1992, BY WATER YEAR (WY)

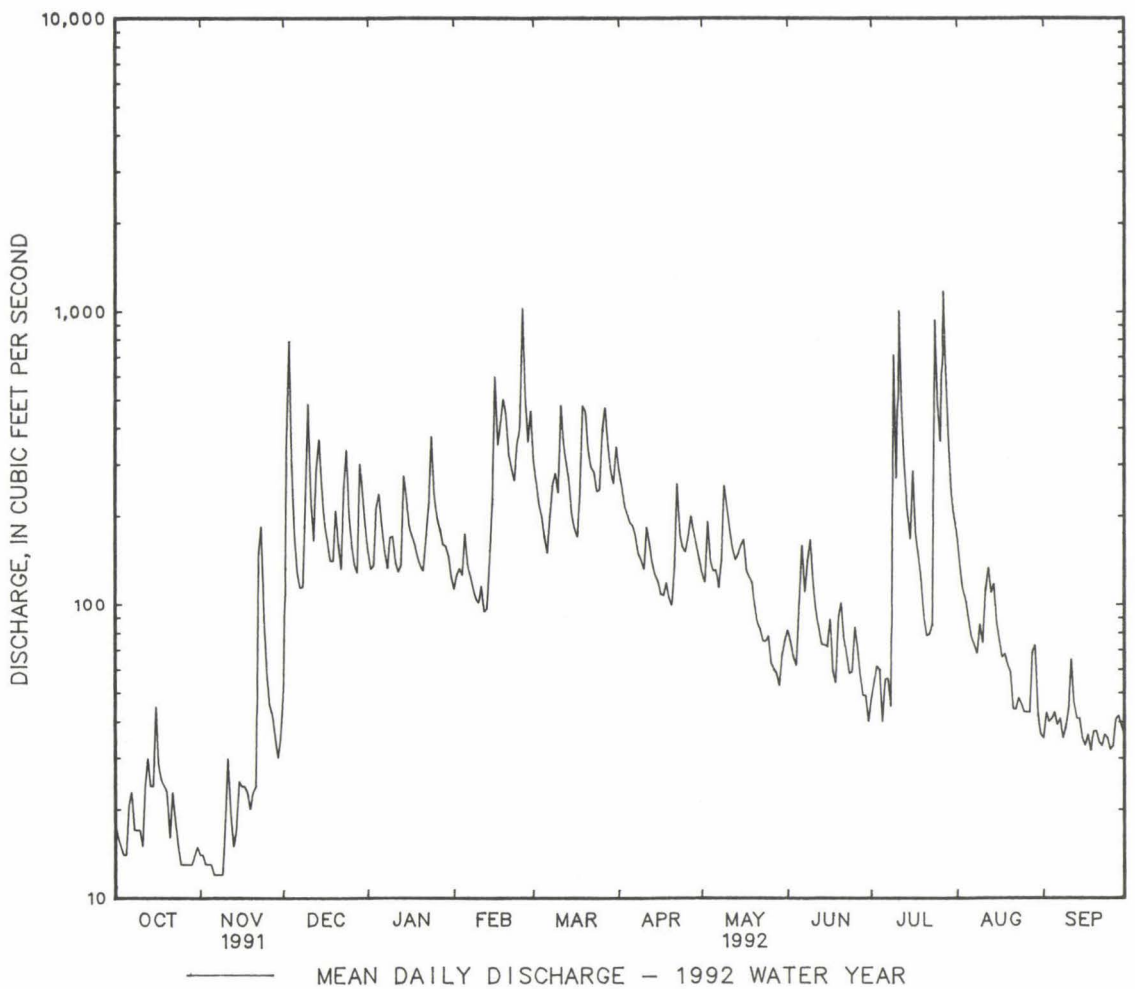
MEAN	75.6	139	232	231	258	336	281	192	121	90.6	71.0	49.9
MAX	316	588	527	569	491	885	573	419	442	340	334	238
(WY)	1977	1986	1973	1974	1961	1963	1958	1967	1981	1978	1956	1971
MIN	12.8	26.2	56.7	41.8	72.1	112	106	62.5	15.5	14.3	6.72	5.99
(WY)	1964	1966	1966	1977	1978	1990	1968	1965	1965	1965	1965	1959

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1956 - 1992	
ANNUAL TOTAL	46949.1		55027			
ANNUAL MEAN	129		150		172	
HIGHEST ANNUAL MEAN					225	1978
LOWEST ANNUAL MEAN					115	1959
HIGHEST DAILY MEAN	788	Dec 3	1180	Jul 27	4410	Nov 5 1985
LOWEST DAILY MEAN	4.5	Sep 3	12	(a)	3.1	Sep 9 1965
ANNUAL SEVEN-DAY MINIMUM	12	Sep 12	12	Nov 3	3.6	Sep 23 1959
INSTANTANEOUS PEAK FLOW	1350	Dec 2	2490	Jul 24	b11500	Nov 5 1985
INSTANTANEOUS PEAK STAGE	5.19	Dec 2	6.53	Jul 24	c13.14	Nov 5 1985
INSTANTANEOUS LOW FLOW	4.0	Sep 3	UNKNOWN		2.9	Sep 10 1965
ANNUAL RUNOFF (CFSM)	1.76		2.06		2.36	
ANNUAL RUNOFF (INCHES)	23.92		28.04		32.02	
10 PERCENT EXCEEDS	309		311		382	
50 PERCENT EXCEEDS	57		118		102	
90 PERCENT EXCEEDS	14		23		20	

a Nov. 6-9.

b From rating curve extended above 3,000 ft^3/s on basis of slope-area measurement at gage height 10.30 ft.



01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979-81, October 1991 to September 1992.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 1992									
16...	1100	82	704	7.2	16.5	708	9.0	99	110

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
JUN 1992									
16...	17	9.7	2.4	320	3.9	0.10	4.9	514	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN 1992									
16...	1.40	0.210	0.40	0.010	<0.010	<0.010	5	520	340

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 Mt. Storm, and at mile 6.4.

DRAINAGE AREA.--48.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for Oct. 1 to Nov. 1, Aug. 17 to Sept. 30 (beaverdams) and Jan. 17-22 (ice effect), 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, 1,280 ft^3/s, Feb. 27, gage height, 6.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.4	e3.5	6.1	58	54	305	240	48	33	15	37	e19
2	e2.9	3.1	111	58	51	90	156	45	34	13	27	e17
3	e2.6	2.9	166	61	49	89	127	73	33	18	27	e15
4	e2.4	2.8	51	151	58	86	66	60	31	15	25	e15
5	e2.3	3.1	29	293	70	87	64	61	104	11	24	e14
6	e2.7	2.7	23	238	63	167	61	90	261	13	22	e13
7	e3.4	2.9	21	204	51	204	75	147	373	16	23	e13
8	e3.2	3.0	20	174	51	121	78	72	45	12	23	e12
9	e3.0	3.0	43	158	48	224	88	172	58	206	22	e13
10	e2.8	3.7	83	147	47	193	86	247	50	81	19	e15
11	e2.5	9.6	42	102	43	272	89	232	45	214	20	e19
12	e3.2	7.5	30	48	45	230	69	199	45	129	38	e14
13	e4.8	6.4	42	39	48	193	59	174	37	120	35	e13
14	e3.9	5.1	47	97	54	164	62	117	33	85	53	e12
15	e3.8	4.3	33	86	92	58	64	127	39	59	52	e11
16	e7.0	4.0	28	77	197	49	55	224	40	53	39	e10
17	e4.4	3.7	27	e57	160	57	51	227	33	45	e28	e11
18	e4.2	3.4	25	e48	209	88	57	197	29	34	e32	e9.6
19	e3.9	5.5	25	e43	379	344	207	117	32	26	e33	e11
20	e3.1	6.3	27	e41	384	396	254	43	29	27	e28	e10
21	e2.5	4.3	22	e37	116	149	288	38	25	24	e23	e10
22	e3.4	39	18	e50	311	150	329	33	21	23	e19	e10
23	e3.0	30	37	105	351	236	274	31	24	27	e16	e11
24	e2.5	9.6	46	158	210	162	246	29	20	241	e17	e10
25	e2.1	7.5	28	126	99	72	187	29	20	198	e20	e9.6
26	e2.4	7.9	31	110	596	156	47	28	18	154	e17	e9.4
27	e3.9	7.3	24	103	467	359	52	36	16	348	e15	e10
28	e3.9	7.3	24	89	108	187	54	35	14	360	e20	e10
29	e4.0	5.6	77	72	245	74	51	32	13	241	e32	e11
30	e4.0	5.0	77	71	---	79	48	30	19	78	e24	e10
31	e4.1	---	61	66	---	112	---	28	---	45	e21	---
TOTAL	104.3	210.0	1324.1	3167	4656	5153	3584	3021	1574	2931	831	367.6
MEAN	3.36	7.00	42.7	102	161	166	119	97.5	52.5	94.5	26.8	12.3
MAX	7.0	39	166	293	596	396	329	247	373	360	53	19
MIN	2.1	2.7	6.1	37	43	49	47	28	13	11	15	9.4

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1992, BY WATER YEAR (WY)

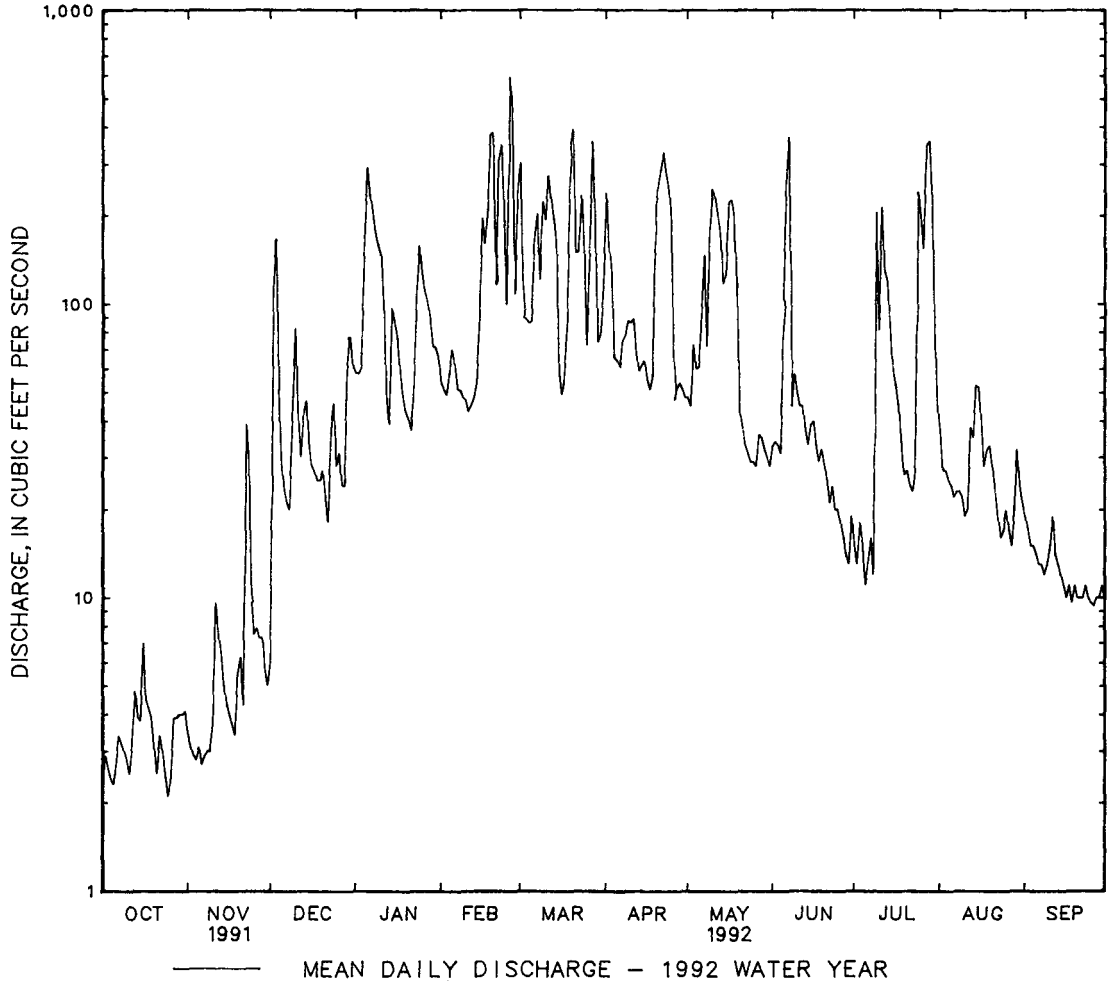
MEAN	52.6	93.5	113	113	138	212	156	117	72.3	47.4	29.0	30.7
MAX	234	669	301	239	253	537	371	271	237	205	104	140
(WY)	1977	1986	1973	1974	1982	1963	1987	1988	1981	1978	1975	1979
MIN	3.36	7.00	10.8	20.9	21.3	46.9	62.8	28.3	9.91	4.36	3.92	3.89
(WY)	1992	1992	1966	1981	1978	1990	1967	1964	1964	1968	1988	1985

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1962 - 1992	
ANNUAL TOTAL	22733.9		26923.0			
ANNUAL MEAN	a62.3		a73.6		a97.7	
HIGHEST ANNUAL MEAN					134	1978
LOWEST ANNUAL MEAN					42.0	1964
HIGHEST DAILY MEAN	799	Mar 4	596	Feb 26	9880	Nov 5 1985
LOWEST DAILY MEAN	2.1	Oct 25	2.1	Oct 25	1.3	Aug 28 1988
ANNUAL SEVEN-DAY MINIMUM	2.7	Oct 1	2.7	Oct 1	1.7	Aug 28 1988
INSTANTANEOUS PEAK FLOW			1280	Feb 27	b14000	Nov 5 1985
INSTANTANEOUS PEAK STAGE			6.03	Feb 27	c16.41	Nov 5 1985
INSTANTANEOUS LOW FLOW	UNKNOWN		UNKNOWN		1.3	(d)
10 PERCENT EXCEEDS	141		208		229	
50 PERCENT EXCEEDS	27		38		49	
90 PERCENT EXCEEDS	4.0		4.0		8.8	

a Unadjusted.
e Estimated.

b From rating curve extended above 7,500 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Aug. 22, 23, 28, 29, 1988.



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 TEMPERATURE: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol - actuated thermograph) since December 1961.

REMARKS.--Upstream reservoir regulation stopped June 1987. Temperature recorder malfunctioned Dec. 8 to Jan. 2 and Apr. 4-8.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 27.5°C, Aug. 14, 1984 and July 19,1990; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 23.5°C, July 28-30; minimum, 3.0°C, Nov. 7-12, Jan. 16, 17.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.5	12.5	8.5	7.5	8.0	7.5	---	---	5.0	5.0	9.0	6.0
2	15.0	12.5	9.5	7.0	8.0	6.5	---	---	5.0	4.0	8.0	5.5
3	15.5	13.5	7.0	6.0	6.5	6.0	6.5	5.0	4.0	4.0	9.5	7.5
4	16.0	14.5	6.0	5.0	6.5	5.5	7.0	6.5	4.5	4.0	9.5	8.0
5	16.0	15.0	5.0	4.0	5.5	3.5	8.0	7.0	5.0	4.5	10.5	9.0
6	15.0	11.0	4.0	3.5	4.0	3.5	8.0	8.0	4.5	4.5	12.5	10.0
7	11.0	9.5	3.5	3.0	4.0	4.0	8.0	8.0	4.5	4.5	13.5	10.0
8	10.0	8.5	3.0	3.0	---	---	8.0	7.5	4.5	4.5	10.0	9.5
9	11.0	8.5	3.0	3.0	---	---	8.0	7.5	4.5	4.5	13.5	9.5
10	11.5	9.5	3.0	3.0	---	---	8.5	8.0	4.5	4.0	12.5	11.0
11	11.5	11.0	3.0	3.0	---	---	8.0	6.5	4.0	4.0	12.5	8.5
12	11.0	10.0	3.5	3.0	---	---	6.5	6.0	4.0	4.0	9.0	8.5
13	10.0	9.5	4.0	3.5	---	---	6.0	6.0	4.5	4.0	9.0	8.5
14	9.5	7.5	4.0	3.5	---	---	6.0	5.5	4.5	4.5	8.5	7.5
15	9.0	8.5	5.5	4.0	---	---	5.5	4.0	5.0	4.5	7.5	5.5
16	9.0	8.5	6.5	5.5	---	---	4.0	3.0	5.0	5.0	5.5	3.5
17	9.0	7.0	6.0	5.5	---	---	3.5	3.0	6.5	5.0	6.5	4.0
18	9.0	7.0	5.5	4.5	---	---	3.5	3.5	7.0	6.5	6.5	4.5
19	9.0	8.5	7.0	5.0	---	---	3.5	3.5	10.0	7.0	9.0	4.5
20	9.0	8.0	9.0	7.0	---	---	3.5	3.5	10.0	9.0	10.0	9.0
21	8.0	7.5	9.5	9.0	---	---	3.5	3.5	9.0	7.0	10.0	6.0
22	9.5	7.5	9.5	9.5	---	---	4.5	3.5	10.5	7.0	10.0	6.0
23	10.5	9.0	9.5	9.0	---	---	5.0	4.0	11.0	10.5	10.5	9.0
24	11.5	10.0	9.0	6.0	---	---	5.0	4.5	11.0	8.0	10.5	7.5
25	12.5	11.0	6.0	5.0	---	---	4.5	4.0	8.0	7.0	7.5	6.0
26	12.5	11.0	5.0	4.0	---	---	4.0	4.0	10.5	7.0	10.0	7.0
27	12.5	11.0	4.0	4.0	---	---	5.0	4.0	10.5	7.0	11.0	10.0
28	12.5	12.5	4.0	4.0	---	---	5.5	5.0	7.0	6.5	11.0	7.0
29	12.5	9.5	5.0	4.0	---	---	5.5	5.0	8.5	5.0	7.0	5.5
30	9.5	7.0	7.5	5.0	---	---	5.0	5.0	---	---	8.5	6.5
31	8.5	7.5	---	---	---	---	5.0	5.0	---	---	9.5	8.5
MONTH	16.0	7.0	9.5	3.0	---	---	---	---	11.0	4.0	13.5	3.5

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	9.0	15.0	11.0	13.0	13.0	20.0	19.5	19.0	18.0	19.5	18.0
2	12.5	8.5	18.0	14.0	14.0	13.0	21.5	18.5	18.0	16.0	19.0	17.0
3	9.0	8.0	18.0	15.0	17.0	14.0	20.5	19.5	20.0	17.0	19.0	18.0
4	---	---	15.5	13.0	17.0	16.0	21.5	19.5	20.0	18.0	20.0	18.0
5	---	---	13.0	12.0	16.0	15.0	21.5	17.5	19.0	16.0	20.0	19.0
6	---	---	14.0	12.0	20.5	16.0	21.5	18.5	19.0	16.0	20.0	19.5
7	---	---	16.0	14.0	22.0	20.0	20.5	17.0	20.0	17.5	21.0	19.0
8	---	---	14.0	11.0	20.0	19.0	20.5	17.5	20.0	18.0	22.5	20.5
9	12.0	10.5	12.0	11.0	19.0	18.0	20.5	18.5	21.5	19.0	23.0	20.5
10	13.5	12.0	16.0	12.0	19.0	17.0	21.5	19.0	22.0	19.0	21.5	19.5
11	14.5	12.5	20.0	15.0	19.0	17.0	20.5	19.0	22.5	20.0	20.5	18.0
12	14.0	12.0	20.0	17.5	20.0	17.0	21.5	20.5	20.0	18.5	18.0	16.0
13	12.0	9.0	19.0	18.0	19.5	17.5	21.5	21.5	19.0	17.5	17.0	15.0
14	11.0	10.0	20.0	18.0	19.0	18.0	23.0	21.5	18.0	17.5	17.5	15.0
15	13.5	11.0	19.0	16.0	20.5	17.5	23.0	21.5	18.0	17.5	18.0	16.0
16	14.0	11.5	20.0	16.0	20.5	18.0	21.5	20.5	18.5	17.0	18.0	16.0
17	15.0	13.5	20.0	20.0	21.5	18.5	21.0	19.5	18.5	18.0	18.5	16.0
18	15.5	14.0	20.0	20.0	20.5	19.0	21.5	20.0	19.5	18.0	17.5	16.0
19	19.5	15.5	20.0	18.0	20.0	18.5	21.5	19.5	20.0	18.5	18.0	16.0
20	19.0	19.0	18.0	15.0	19.5	18.5	22.0	19.5	19.5	17.5	16.5	14.5
21	19.0	17.0	17.0	13.0	18.5	15.5	21.5	19.5	19.5	17.0	17.5	16.5
22	18.0	17.0	18.0	14.0	17.0	13.5	20.0	19.5	19.5	18.0	18.0	17.5
23	19.0	17.5	19.0	15.0	16.5	14.5	21.5	19.5	20.5	19.0	18.0	15.0
24	19.0	18.0	18.0	16.0	18.5	15.5	20.5	18.5	20.5	18.5	15.0	12.5
25	18.0	15.0	16.0	14.0	18.0	16.0	22.5	18.5	22.5	19.5	13.0	12.5
26	15.0	11.0	14.0	14.0	19.5	16.0	22.0	21.5	22.5	20.0	16.0	12.5
27	11.0	10.0	14.0	14.0	20.5	17.5	21.5	19.5	22.0	20.0	16.5	16.0
28	10.5	9.5	14.0	12.0	20.5	15.5	23.5	19.5	21.0	19.0	17.5	15.0
29	13.0	9.0	14.0	12.0	20.5	16.5	23.5	23.5	19.0	18.0	15.5	13.5
30	12.0	11.0	14.0	13.0	21.5	18.5	23.5	20.5	19.5	17.5	13.5	12.0
31	---	---	13.0	13.0	---	---	20.5	19.0	20.0	19.0	---	---
MONTH	---	---	20.0	11.0	22.0	13.0	23.5	17.0	22.5	16.0	23.0	12.0

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD

WATER-QUALITY RECORDS

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi downstream from bridge on State Highway 38 in Kitzmiller, 1.5 mi downstream from Wolfden Run, and at mile 68.9

DRAINAGE AREA.--225 mi^2.

PERIOD OF RECORD.--Water years 1961-85, October 1991 to September 1992.

INSTRUMENTATION.--Water-quality monitor October 1980 to September 1985. Temperature recorder prior to October 1980.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1985.
pH: October 1980 to September 1985.
WATER TEMPERATURES: October 1980 to September 1985.
DISSOLVED OXYGEN: October 1980 to September 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1983-85): Maximum, 1,470 microsiemens, Aug. 11, 1983; minimum, 96 microsiemens, Apr. 24, 1983.
pH (water years 1983-85): Maximum, 7.4 units, July 8, Aug. 14, 1985; minimum, 4.4 units, Aug. 29-31, 1983.
WATER TEMPERATURE (water years 1961-79, 1982-85): Maximum, 32.0°C, Aug. 15, 16, 18, 1965; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN (water years 1983-85): Maximum, 14.6 mg/L, Nov. 16, 1982; minimum, 7.0 mg/L, Sept. 13, 1984 and Sept. 7, 1985.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 1992 16...	1415	205	463	7.0	21.0	727	8.1	96	73

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
JUN 1992 16...	12	4.9	1.7	200	2.7	0.10	4.7	334	<0.010

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	HARDNESS TOTAL (MG/L AS CACO3)
JUN 1992 16...	0.870	0.040	<0.20	<0.010	<0.010	<0.010	<3	420	230

01596500 SAVAGE RIVER NEAR BARTON, MD

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, Hydrologic Unit 02070002, on right bank 0.9 mi upstream from Bear Pen Run, 1.5 mi downstream from Poplar Lick Run, 5.4 mi northwest of Barton, and 10 mi upstream from mouth.

DRAINAGE AREA.--49.1 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,603.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for Dec. 21-28, Jan. 1-3, 14-31, Feb. 2, 3, 9-14 (ice effect), which are fair and those for Oct. 1-15, 20-31, Nov. 1-9, 14-21 (missing record), which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	0700	*797	*3.33	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.7	e3.0	4.8	e45	35	126	199	65	32	8.0	7.9	8.7
2	e1.6	e3.1	15	e31	e35	106	161	57	27	7.4	6.3	6.8
3	e1.7	e3.1	103	e34	e31	91	130	58	24	9.9	5.2	6.2
4	e1.7	e3.2	51	46	29	79	109	49	23	11	5.0	6.1
5	e2.3	e3.2	27	78	45	68	95	47	85	8.3	4.9	5.5
6	e2.7	e3.2	21	72	55	59	83	43	106	8.4	4.6	8.3
7	e2.2	e3.2	16	60	49	70	77	37	87	6.7	4.5	10
8	e2.2	e3.2	15	47	40	84	73	46	74	5.7	4.5	8.5
9	e2.2	e3.2	16	41	e34	90	67	136	62	11	13	10
10	e2.3	7.1	30	39	e31	99	62	198	49	8.5	8.7	9.6
11	e2.6	16	26	34	e30	304	63	162	41	14	6.2	13
12	e2.9	11	22	28	e28	267	56	125	34	10	8.1	8.7
13	e2.8	7.6	20	28	e27	175	49	102	29	7.9	5.9	6.7
14	e2.7	e3.8	19	e41	e31	129	47	86	26	7.3	5.0	5.6
15	e3.1	e3.5	16	e42	69	103	45	73	22	8.8	4.7	5.1
16	7.0	e3.5	16	e33	133	84	43	64	19	7.4	4.6	4.8
17	5.8	e3.5	15	e28	116	80	41	55	16	5.7	4.7	4.7
18	5.0	e3.4	12	e28	114	112	39	49	15	5.7	4.5	4.7
19	4.6	e3.3	16	e27	139	142	39	45	15	5.4	4.5	4.8
20	e4.0	e3.3	15	e27	194	151	36	39	14	4.9	4.5	4.6
21	e3.4	e3.5	e13	e26	153	138	73	34	13	4.7	4.5	4.9
22	e2.9	38	e12	e24	130	120	245	30	11	4.6	4.5	6.6
23	e2.9	36	e11	e35	137	101	185	28	10	5.1	4.4	5.7
24	e2.9	14	e12	e61	198	85	145	28	12	15	4.2	4.6
25	e2.9	8.8	e11	e50	217	88	127	30	13	17	4.2	4.5
26	e2.9	6.6	e10	e43	628	197	108	26	11	11	4.2	4.6
27	e3.0	6.2	e10	e40	395	397	98	22	9.3	37	8.0	5.3
28	e3.0	5.3	e12	e38	232	363	87	20	7.7	34	59	5.6
29	e3.0	5.2	105	e35	177	239	77	18	6.7	20	54	4.5
30	e3.0	4.9	96	e35	---	180	72	36	6.3	14	22	4.2
31	e3.0	---	64	e38	---	216	---	37	---	9.7	13	---
TOTAL	94.0	222.9	831.8	1234	3532	4543	2731	1845	900.0	334.1	299.3	192.9
MEAN	3.03	7.43	26.8	39.8	122	147	91.0	59.5	30.0	10.8	9.65	6.43
MAX	7.0	38	105	78	628	397	245	198	106	37	59	13
MIN	1.6	3.0	4.8	24	27	59	36	18	6.3	4.6	4.2	4.2
CFSM	.06	.15	.55	.81	2.48	2.98	1.85	1.21	.61	.22	.20	.13
IN.	.07	.17	.63	.93	2.68	3.44	2.07	1.40	.68	.25	.23	.15

e Estimated

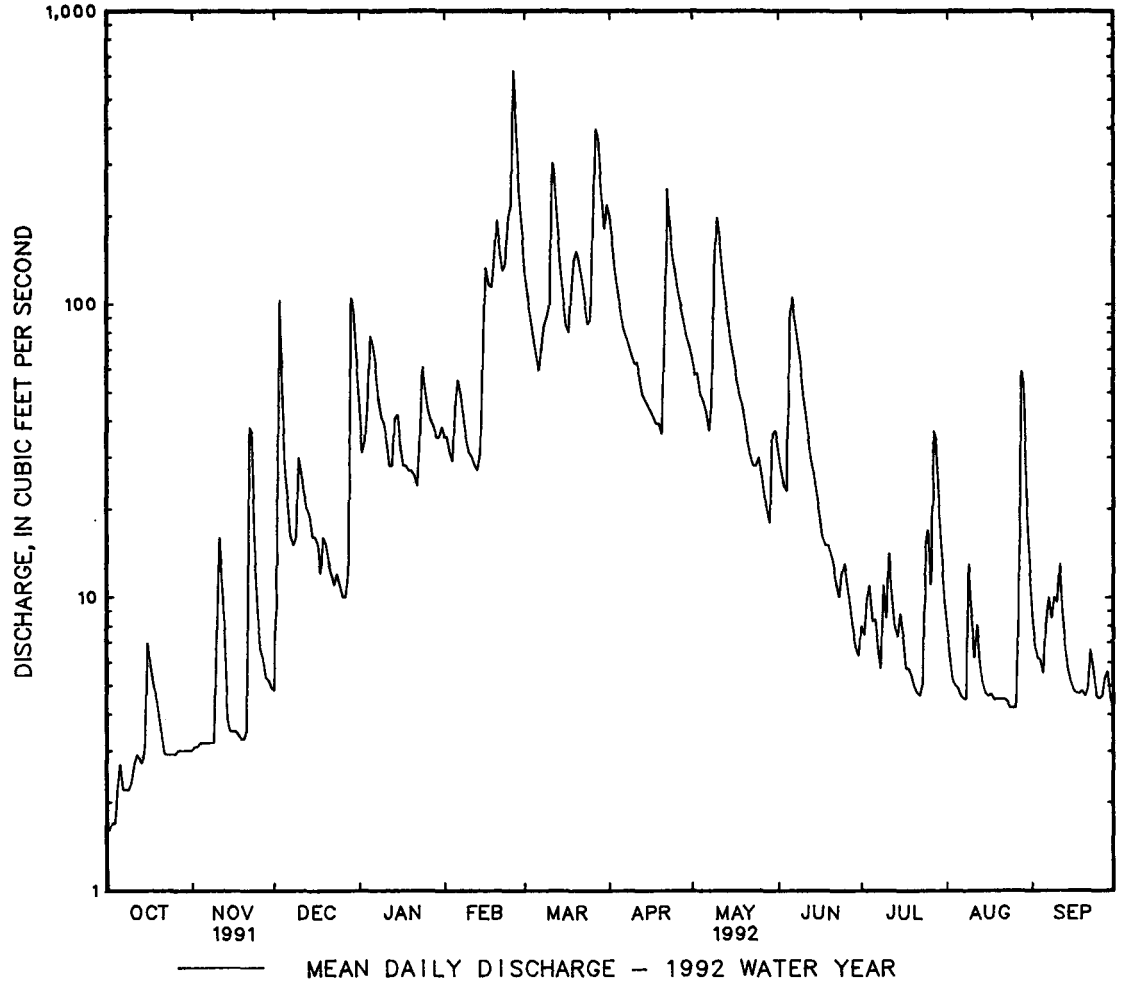
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

MEAN	28.3	50.7	90.5	93.0	126	177	141	92.1	44.9	20.3	16.8	15.3
MAX	157	336	256	251	307	348	331	205	154	111	116	98.1
(WY)	1955	1986	1973	1952	1956	1963	1970	1968	1981	1989	1956	1950
MIN	1.52	2.32	5.96	13.7	19.4	30.8	33.0	21.8	5.48	2.68	2.05	1.78
(WY)	1964	1954	1954	1977	1954	1990	1968	1991	1965	1965	1966	1991

01596500 SAVAGE RIVER NEAR BARTON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1948 - 1992	
ANNUAL TOTAL	18443.5		16760.0			
ANNUAL MEAN	50.5		45.8		74.4	
HIGHEST ANNUAL MEAN					102	1955
LOWEST ANNUAL MEAN					34.9	1954
HIGHEST DAILY MEAN	574	Apr 15	628	Feb 26	2180	Nov 5 1985
LOWEST DAILY MEAN	1.5	(a)	1.6	Oct 2	.50	(b)
ANNUAL SEVEN-DAY MINIMUM	1.6	Sep 12	2.0	Oct 1	.63	Aug 29 1966
INSTANTANEOUS PEAK FLOW	697	Jan 16	797	Feb 26	c7510	Oct 15 1954
INSTANTANEOUS PEAK STAGE	3.18	Jan 16	3.33	Feb 26	8.45	Oct 15 1954
INSTANTANEOUS LOW FLOW	UNKNOWN		UNKNOWN		.40	(d)
ANNUAL RUNOFF (CFSM)	1.03		.93		1.51	
ANNUAL RUNOFF (INCHES)	13.97		12.70		20.58	
10 PERCENT EXCEEDS	128		125		185	
50 PERCENT EXCEEDS	11		20		32	
90 PERCENT EXCEEDS	1.9		3.4		3.9	

a Sept. 17, 18.
b Sept. 2, 3, 12, 1966
c From rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow.
d Sept. 3, 4, 1966.



01596500 SAVAGE RIVER NEAR BARTON, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979-81, October 1991 to September 1992.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 1992									
17...	1915	15	83	7.0	20.0	723	8.3	97	6.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
JUN 1992									
17...	2.1	4.6	1.2	12	7.6	<0.10	3.8	26	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN 1992									
17...	0.330	0.030	<0.20	<0.010	<0.010	<0.010	16	5	25

01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD

LOCATION.--Lat 39°30'05", long 79°07'25", Garrett County, Hydrologic Unit 02070002, on left bank 0.7 mi downstream from Savage River Dam, 1.1 mi downstream from Crabtree Creek, 3.2 mi northwest of Bloomington, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--106 mi^2.

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

REVISED RECORDS.--WSP 1432: 1955.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft above National Geodetic Vertical Datum of 1929.

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, 1,190 ft^3/s, Oct. 11, gage height, 3.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	20	23	32	77	595	509	161	52	60	74	75
2	51	20	27	33	77	422	509	143	52	59	74	89
3	54	20	33	33	77	347	419	133	52	60	74	90
4	55	20	29	33	77	344	368	112	53	59	74	85
5	54	20	28	33	77	227	364	69	54	60	74	74
6	54	20	32	43	77	158	227	52	54	59	74	74
7	48	20	32	51	77	159	120	52	54	59	74	74
8	45	20	32	51	77	158	87	81	54	59	74	74
9	45	20	32	51	77	178	81	185	54	59	74	74
10	45	20	32	51	77	191	81	479	54	59	74	74
11	420	20	32	51	77	383	81	464	54	59	74	74
12	369	20	32	51	77	498	81	339	64	59	74	74
13	383	20	32	51	77	449	81	270	70	58	74	74
14	20	20	32	51	77	364	81	451	70	58	74	74
15	20	20	32	54	78	364	81	491	70	58	74	74
16	20	20	32	59	79	319	81	596	70	58	74	72
17	20	20	32	59	79	260	62	567	70	58	74	72
18	20	20	32	61	81	261	51	130	70	58	50	73
19	20	20	32	62	82	265	51	82	57	58	45	109
20	20	20	32	63	104	372	51	66	51	58	48	105
21	20	20	32	63	123	434	55	54	51	58	48	72
22	20	27	32	63	125	433	59	54	51	58	48	72
23	20	37	32	63	125	389	126	54	56	58	48	72
24	20	29	32	61	130	364	250	54	60	58	48	66
25	20	19	32	61	148	274	359	54	59	58	48	70
26	20	16	32	61	479	231	388	54	59	58	65	70
27	20	18	32	62	677	401	270	53	59	60	74	70
28	20	23	32	64	675	517	181	52	59	70	76	70
29	20	23	33	63	669	515	164	53	59	75	75	69
30	20	23	32	69	---	514	163	54	59	75	75	68
31	20	---	32	77	---	509	---	53	---	75	75	---
TOTAL	2034	635	973	1680	4732	10895	5481	5512	1751	1878	2081	2283
MEAN	65.6	21.2	31.4	54.2	163	351	183	178	58.4	60.6	67.1	76.1
MAX	420	37	33	77	677	595	509	596	70	75	76	109
MIN	20	16	23	32	77	158	51	52	51	58	45	66
(†)	6360	5720	7200	9730	17300	18600	19600	17500	17400	17400	13600	10200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

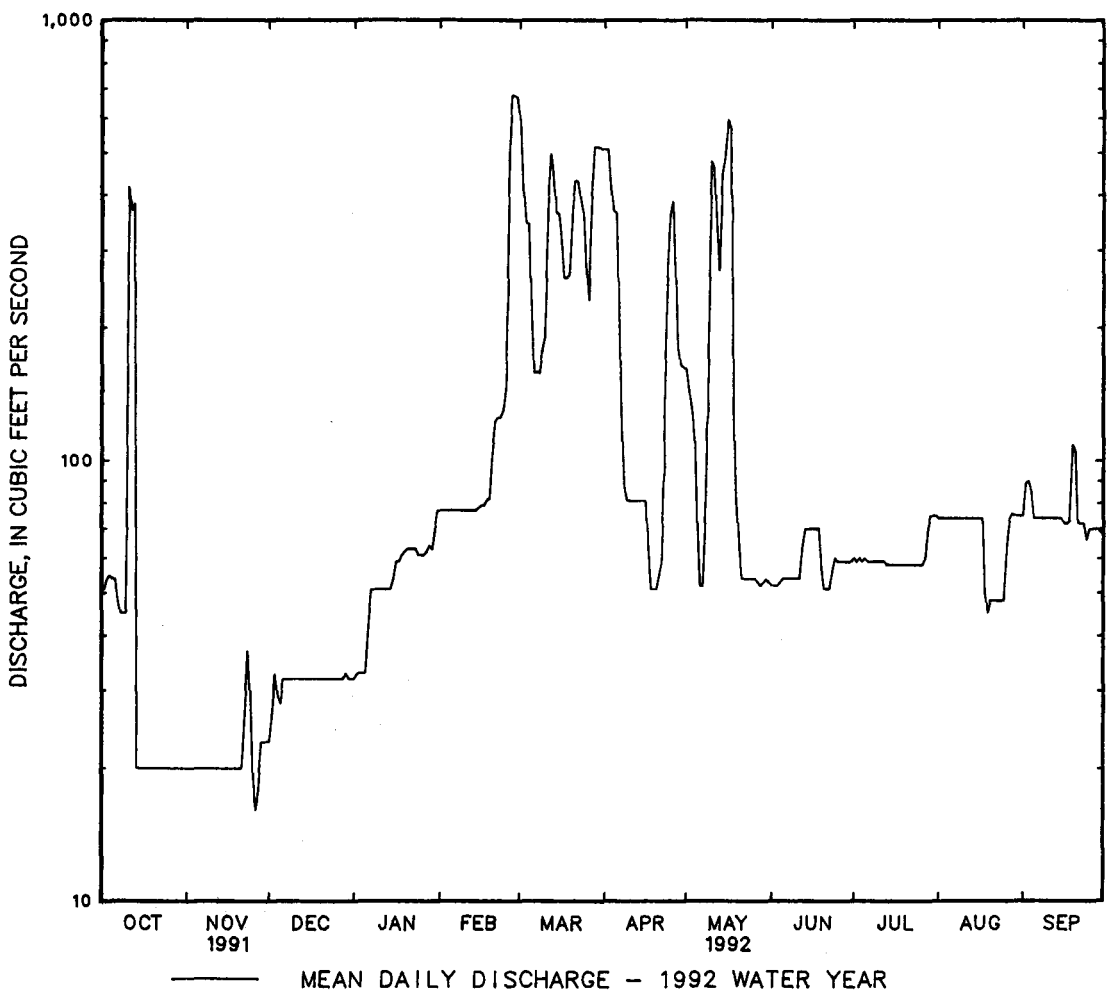
MEAN	113	124	215	209	272	325	203	196	107	68.0	70.5	88.1
MAX	446	641	655	713	596	684	610	488	298	329	262	206
(WY)	1955	1986	1973	1952	1956	1963	1970	1989	1951	1990	1956	1975
MIN	8.14	8.88	12.7	23.7	38.7	105	11.9	18.0	15.8	23.4	6.37	11.7
(WY)	1952	1952	1954	1954	1954	1976	1954	1976	1977	1951	1951	1951

† Monthend contents, in acre-feet, in Savage River Reservoir (contents on Sept. 30, 1991, 9,800 acre-feet). Records provided by U.S. Army Corps of Engineers.

01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1951 - 1992	
ANNUAL TOTAL	54251		39935			
ANNUAL MEAN	149		109		165	
ANNUAL MEAN≠	132		110		166	
HIGHEST ANNUAL MEAN					231	1955
LOWEST ANNUAL MEAN					69.7	1954
HIGHEST DAILY MEAN	1470	Apr 15	677	Feb 27	3790	Oct 16 1954
LOWEST DAILY MEAN	16	Nov 26	16	Nov 26	.60	(a)
ANNUAL SEVEN-DAY MINIMUM	20	Oct 14	20	Oct 14	.64	Aug 4 1951
INSTANTANEOUS PEAK FLOW	1740	Apr 15	1190	Oct 11	8550	Nov 4 1985
INSTANTANEOUS PEAK STAGE	4.09	Apr 15	3.50	Oct 11	7.81	Nov 4 1985
INSTANTANEOUS LOW FLOW	9.0	Oct 3	7.8	Sep 24	.35	Oct 27 1966
ANNUAL RUNOFF (CFSM)≠	1.25		1.04		1.57	
ANNUAL RUNOFF (INCHES)≠	16.91		14.09		21.27	
10 PERCENT EXCEEDS	344		360		411	
50 PERCENT EXCEEDS	56		61		84	
90 PERCENT EXCEEDS	20		20		20	

≠ Adjusted for change in reservoir contents since December 1950.
a July 27-31, Aug. 5, 6, 9, 10, 1951.



01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 mi^2.

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 946.22 ft above National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated prior to July 1981 by Stony River Reservoir, 45 mi upstream from station, since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station. Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 3,650 ft^3/s, July 27, gage height, 6.10 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	137	134	427	484	2400	1360	669	373	341	877	379
2	167	138	192	402	482	1690	1350	781	356	362	856	406
3	172	137	428	386	481	1320	1150	754	359	313	460	402
4	171	137	423	393	483	1260	957	541	364	295	441	415
5	172	137	270	402	488	1030	897	501	460	303	438	392
6	169	137	241	404	484	946	768	479	479	294	438	393
7	165	137	240	409	483	960	597	476	490	285	436	390
8	161	137	239	407	483	962	511	678	487	283	439	388
9	160	137	244	409	479	979	505	1650	428	290	457	387
10	158	145	247	410	477	1000	579	1710	422	292	436	391
11	541	143	244	407	468	1680	799	1460	419	539	441	367
12	494	135	266	407	430	1810	758	1150	426	999	437	363
13	507	121	301	407	431	1450	565	1070	432	900	436	360
14	143	123	302	419	431	1250	492	1240	430	650	435	360
15	144	128	300	417	443	1050	491	1260	431	497	439	360
16	141	127	299	419	473	936	489	1530	397	423	440	375
17	139	127	299	420	464	896	476	1560	374	492	445	398
18	139	126	298	417	476	985	652	884	377	620	419	397
19	139	121	297	415	484	1510	629	601	366	406	407	795
20	139	120	297	417	548	1980	466	472	354	375	410	888
21	139	122	301	416	637	1720	811	456	353	364	408	397
22	140	164	299	418	637	1560	1490	422	352	386	409	388
23	143	196	300	430	638	1450	1190	370	356	370	410	400
24	140	161	303	438	680	1080	1320	371	346	915	408	379
25	138	137	301	431	964	1020	1210	367	322	1750	389	373
26	143	116	301	427	2330	1200	991	365	322	870	383	372
27	143	119	301	425	2960	1750	833	362	320	2220	398	373
28	143	132	306	426	2900	2040	732	425	319	3250	425	370
29	143	131	413	426	2700	1860	702	364	317	2140	409	367
30	143	131	447	442	---	1580	700	626	315	1440	401	364
31	140	---	432	485	---	1380	---	613	---	934	397	---
TOTAL	5742	4059	9265	12958	23918	42734	24470	24207	11546	23598	14024	12389
MEAN	185	135	299	418	825	1379	816	781	385	761	452	413
MAX	541	196	447	485	2960	2400	1490	1710	490	3250	877	888
MIN	138	116	134	386	430	896	466	362	315	283	383	360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

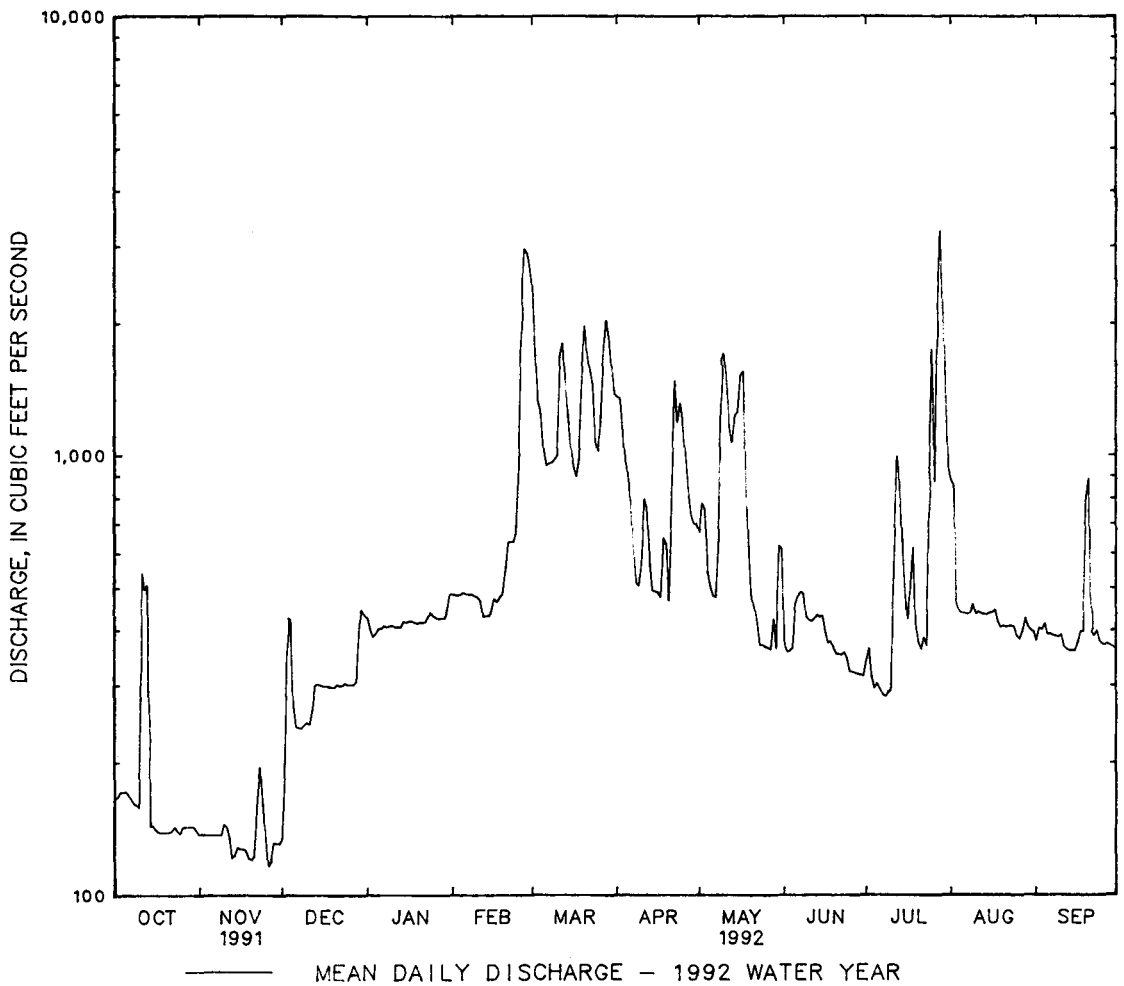
MEAN	367	486	829	891	1114	1498	1146	910	511	323	309	268
MAX	1423	2806	2536	2276	2421	3414	2442	2238	1493	1294	1401	737
(WY)	1955	1986	1973	1952	1956	1963	1958	1988	1981	1990	1955	1971
MIN	45.5	91.8	131	166	322	467	374	165	108	91.4	61.4	66.9
(WY)	1952	1954	1954	1977	1978	1988	1990	1982	1969	1953	1951	1951

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1950 - 1992	
ANNUAL TOTAL	222528		208910			
ANNUAL MEAN	610		571		719	
ANNUAL MEAN≠	534		576		715	
HIGHEST ANNUAL MEAN					943	1972
LOWEST ANNUAL MEAN					412	1969
HIGHEST DAILY MEAN	4390	Apr 16	3250	Jul 28	18400	Aug 18 1955
LOWEST DAILY MEAN	116	Nov 26	116	Nov 26	36	Oct 20 1951
ANNUAL SEVEN-DAY MINIMUM	124	Nov 15	124	Nov 15	38	Oct 18 1951
INSTANTANEOUS PEAK FLOW	4700	Apr 15	3650	Jul 27	a39400	Oct 15 1954
INSTANTANEOUS PEAK STAGE	6.82	Apr 15	6.10	Jul 27	17.15	Oct 15 1954
INSTANTANEOUS LOW FLOW	115	(b)	115	(b)	UNKNOWN	
ANNUAL RUNOFF (CFSM)≠	1.32		1.43		1.77	
ANNUAL RUNOFF (INCHES)≠	17.93		19.39		24.03	
10 PERCENT EXCEEDS	1510		1250		1610	
50 PERCENT EXCEEDS	270		418		412	
90 PERCENT EXCEEDS	142		142		112	

≠ Adjusted for change in reservoir contents since October 1949.

a From rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow.
b Nov. 26, 27.



01599000 GEORGES CREEK AT FRANKLIN, MD

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, Hydrologic Unit 02070002, on right bank at Franklin, and 1.2 mi upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 mi^2.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Westernport"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1940. WDR MD-DE-86-1: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 958.96 ft Westvaco Corporation datum. May 4, 1905, to July 15, 1906, nonrecording gage at bridge 0.8 mi downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, water-stage recorder at site 95 ft downstream at present datum.

REMARKS.--Records good excsept those for estimated daily discharges (ice effect), which are fair. Records include about 0.5 ft^3/s of sewage from city of Frostburg, which obtains its water supply from Big Piney Run (Monongahela River basin) and Savage River. A negligible discharge is diverted upstream from station by Frostburg Water Co. for municipal supplies of Eckhart and Welch Hill. An undetermined amount of water is diverted from the upper third of basin into the Wills Creek basin by the Hoffman drainage tunnel (see station 01601500). Several 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	0530	*903	*5.97	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	7.8	7.6	25	27	103	151	69	46	23	25	13
2	4.2	8.0	36	21	25	89	130	65	40	23	21	12
3	4.4	8.1	95	23	22	83	110	67	35	49	19	12
4	4.4	8.2	40	31	22	77	100	60	35	39	18	12
5	5.7	8.3	22	53	30	70	90	56	223	25	16	12
6	6.9	8.4	16	39	26	65	83	52	156	26	15	18
7	5.7	8.5	14	31	24	88	81	48	97	20	14	18
8	5.5	8.2	13	26	24	88	78	68	86	18	16	15
9	5.5	8.0	13	26	19	80	74	176	79	31	31	15
10	5.8	13	22	26	e18	81	71	149	67	31	18	14
11	6.8	17	17	24	e17	287	71	115	56	46	19	17
12	7.5	8.7	13	20	e16	171	65	99	49	28	21	13
13	7.3	7.3	13	19	15	133	57	91	43	23	17	11
14	7.0	6.6	12	31	18	106	54	87	39	22	17	11
15	8.0	6.3	11	32	30	95	51	82	36	23	16	10
16	8.4	6.2	10	23	73	85	50	80	30	20	16	10
17	7.1	6.2	9.4	e21	63	86	49	74	27	17	19	10
18	6.9	6.1	8.9	e20	65	105	47	69	26	16	17	9.8
19	6.8	6.0	e8.8	e19	76	155	45	64	27	14	15	10
20	6.9	6.0	e8.7	19	86	142	45	57	25	13	14	9.5
21	7.0	6.6	10	19	75	129	132	51	23	12	12	11
22	7.3	31	9.2	17	72	119	267	46	22	12	11	12
23	7.3	31	9.1	e20	72	106	144	43	19	15	12	11
24	7.2	13	10	e23	100	97	119	44	21	66	11	9.6
25	7.4	9.3	8.9	e26	129	107	106	45	23	51	11	10
26	7.3	7.8	7.8	e24	598	301	96	41	20	37	11	13
27	7.5	6.9	7.8	e25	303	359	91	39	18	80	11	13
28	7.7	7.2	9.5	27	181	284	83	35	16	66	38	11
29	7.7	6.9	74	25	151	212	79	32	15	43	37	10
30	7.8	6.6	55	25	---	175	76	58	15	33	19	9.6
31	7.7	---	34	28	---	195	---	60	---	29	15	---
TOTAL	207.1	289.2	625.7	788	2377	4273	2695	2122	1414	951	552	362.5
MEAN	6.68	9.64	20.2	25.4	82.0	138	89.8	68.5	47.1	30.7	17.8	12.1
MAX	8.4	31	95	53	598	359	267	176	223	80	38	18
MIN	4.2	6.0	7.6	17	15	65	45	32	15	12	11	9.5
CFSM	.09	.13	.28	.35	1.13	1.90	1.24	.95	.65	.42	.25	.17
IN.	.11	.15	.32	.40	1.22	2.20	1.38	1.09	.73	.49	.28	.19

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1991, BY WATER YEAR (WY)

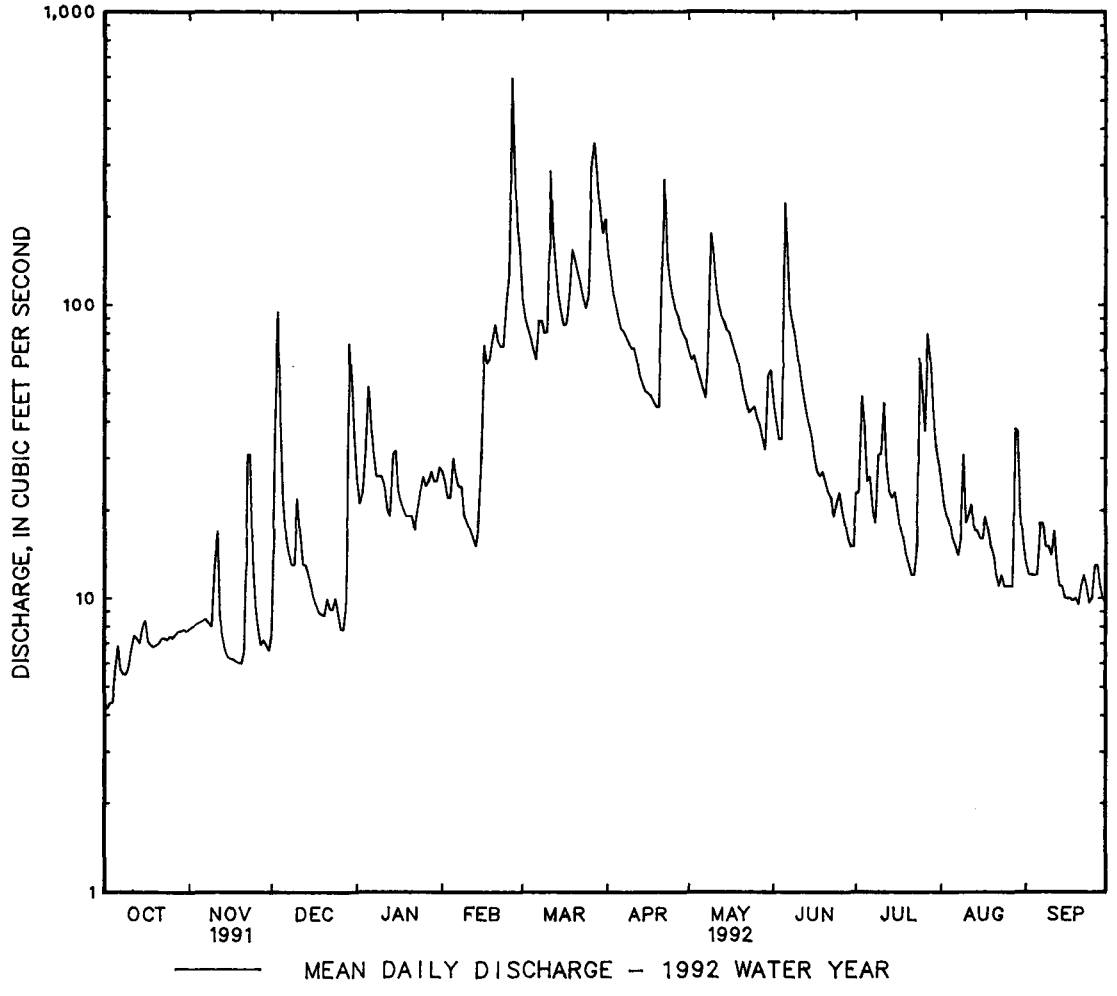
MEAN	34.6	41.9	77.6	92.9	124	200	173	122	56.9	30.9	22.3	19.8
MAX	270	355	314	371	283	682	408	294	161	185	120	141
(WY)	1943	1986	1973	1937	1971	1936	1970	1989	1951	1989	1955	1945
MIN	1.78	3.40	3.42	10.9	8.77	43.2	40.0	27.7	12.5	5.19	3.97	2.65
(WY)	1931	1931	1944	1940	1954	1990	1954	1934	1969	1930	1930	1932

01599000 GEORGES CREEK AT FRANKLIN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1905 - 1991	
ANNUAL TOTAL	22281.2		16656.5			
ANNUAL MEAN	61.0		45.5		81.6	
HIGHEST ANNUAL MEAN					129	1984
LOWEST ANNUAL MEAN					30.7	1969
HIGHEST DAILY MEAN	604	Apr 15	598	Feb 26	4130	Mar 17 1936
LOWEST DAILY MEAN	4.2	Oct 2	4.2	Oct 2	1.6	(a)
ANNUAL SEVEN-DAY MINIMUM	4.6	Sep 28	5.1	Oct 1	1.6	Sep 29 1930
INSTANTANEOUS PEAK FLOW	799	Jan 16	903	Feb 26	b8500	Mar 17 1936
INSTANTANEOUS PEAK STAGE	5.78	Jan 16	5.97	Feb 26	c9.60	Mar 17 1936
INSTANTANEOUS LOW FLOW	3.6	Oct 3	3.6	Oct 3	1.6	(d)
ANNUAL RUNOFF (CFSM)	.84		.63		1.13	
ANNUAL RUNOFF (INCHES)	11.45		8.56		15.32	
10 PERCENT EXCEEDS	149		101		199	
50 PERCENT EXCEEDS	14		23		37	
90 PERCENT EXCEEDS	6.4		7.5		7.0	

a Sept. 29, 30, 1930.

b From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow.
c At site then in use.
d Sept. 29 to Oct. 13, 1930.



01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD

WATER-QUALITY RECORDS

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 mi downstream from Mill Run, and at mile 32.6.

DRAINAGE AREA.--596 mi^2.

PERIOD OF RECORD.--Water years 1969-74, 1976-85, October 1991 to September 1992.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1985.
pH: October 1980 to September 1985.
WATER TEMPERATURES: October 1980 to September 1985.
DISSOLVED OXYGEN: October 1980 to September 1985.

INSTRUMENTATION.--Water-quality monitor October 1980 to September 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1982-85): Maximum, 1,240 microsiemens, Oct. 20, 1982; minimum, 160 microsiemens, July 5, 1982.
pH (water years 1982-85): Maximum, 8.6 units, June 27, 1982; minimum, 6.4 units, Oct. 30, 31, 1982.
WATER TEMPERATURE (water years 1982-85): Maximum, 28.5°C, Aug. 20, 21, 1983; minimum, 0.5°C on many days during winter periods.
DISSOLVED OXYGEN (water year 1983): Maximum, 14.5 mg/L, Nov. 28, 1982; minimum, 6.9 mg/L, June 28, 29, 1983.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 1992									
17...	1005	445	469	7.4	19.5	750	7.9	87	55

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
JUN 1992									
17...	10	23	<0.10	140	30	<0.10	4.7	300	<0.010

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	HARDNESS TOTAL (MG/L AS CACO3)
JUN 1992									
17...	0.750	0.020	0.20	0.020	<0.010	<0.010	48	200	180

01601500 WILLS CREEK NEAR CUMBERLAND, MD

LOCATION.--Lat 39°40'07", long 78°47'18", Allegany County, Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge, 0.15 mi downstream from Braddock Run, 2.0 mi upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Cumberland"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 640.89 ft above National Geodetic Vertical Datum of 1929. May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft upstream at present datum.

REMARKS.--Records good 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, and 1967-82, 84 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	0945	*2,240	*5.45	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	19	30	80	121	535	740	306	148	57	168	86
2	15	19	69	85	85	455	656	272	122	62	129	70
3	14	19	255	101	109	381	568	255	108	81	107	65
4	15	19	146	111	98	319	498	223	113	228	98	63
5	16	19	79	112	104	275	422	212	613	137	102	59
6	16	19	62	110	82	248	354	213	760	110	77	116
7	15	18	54	101	93	411	318	182	570	85	67	135
8	15	18	50	90	104	467	298	279	439	69	65	104
9	15	19	50	81	71	440	276	1410	346	68	143	115
10	15	24	53	80	57	463	262	1450	266	63	119	104
11	16	36	55	74	74	1140	301	1030	217	61	101	134
12	17	38	50	67	69	1070	267	770	181	59	116	119
13	17	31	47	63	60	842	236	628	157	65	88	107
14	17	26	47	88	65	662	220	524	140	59	78	93
15	18	24	44	132	93	550	216	424	125	54	71	79
16	19	23	39	100	222	440	209	369	110	52	70	69
17	19	22	36	93	258	395	204	315	99	51	69	63
18	20	21	36	e92	269	480	211	310	91	47	64	59
19	21	21	e34	91	316	721	195	269	91	43	60	57
20	20	21	e32	92	469	818	182	232	90	38	57	54
21	19	23	34	e80	449	813	305	205	80	37	53	58
22	19	108	e34	e78	393	775	977	182	72	40	50	63
23	18	212	e34	e92	367	679	879	165	67	48	49	58
24	18	73	e34	e115	490	584	742	163	67	178	46	51
25	18	49	e33	e110	621	589	651	157	78	833	42	47
26	19	38	33	e105	1850	1120	560	140	77	483	40	49
27	19	31	34	e125	1380	1660	470	130	71	1430	43	52
28	19	28	39	136	873	1430	401	117	63	733	161	54
29	19	27	152	126	726	1050	355	107	58	421	351	47
30	19	27	207	116	---	840	333	144	55	274	158	41
31	19	---	122	128	---	845	---	192	---	207	113	---
TOTAL	541	1072	2024	3054	9968	21497	12306	11375	5474	6173	2955	2271
MEAN	17.5	35.7	65.3	98.5	344	693	410	367	182	199	95.3	75.7
MAX	21	212	255	136	1850	1660	977	1450	760	1430	351	135
MIN	14	18	30	63	57	248	182	107	55	37	40	41
CFSM	.07	.14	.26	.40	1.39	2.81	1.66	1.49	.74	.81	.39	.31
IN.	.08	.16	.30	.46	1.50	3.24	1.85	1.71	.82	.93	.45	.34

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1992, BY WATER YEAR (WY)

MEAN	142	188	321	377	509	790	672	458	227	114	90.6	74.0
MAX	1130	1520	1113	1477	1255	2410	1398	1109	967	641	674	412
(WY)	1943	1986	1973	1937	1971	1936	1970	1989	1972	1989	1984	1945
MIN	11.9	15.5	18.4	54.2	65.8	182	184	101	51.1	24.3	16.6	12.1
(WY)	1931	1931	1944	1940	1954	1990	1968	1934	1965	1965	1930	1932

01601500 WILLS CREEK NEAR CUMBERLAND, MD--Continued

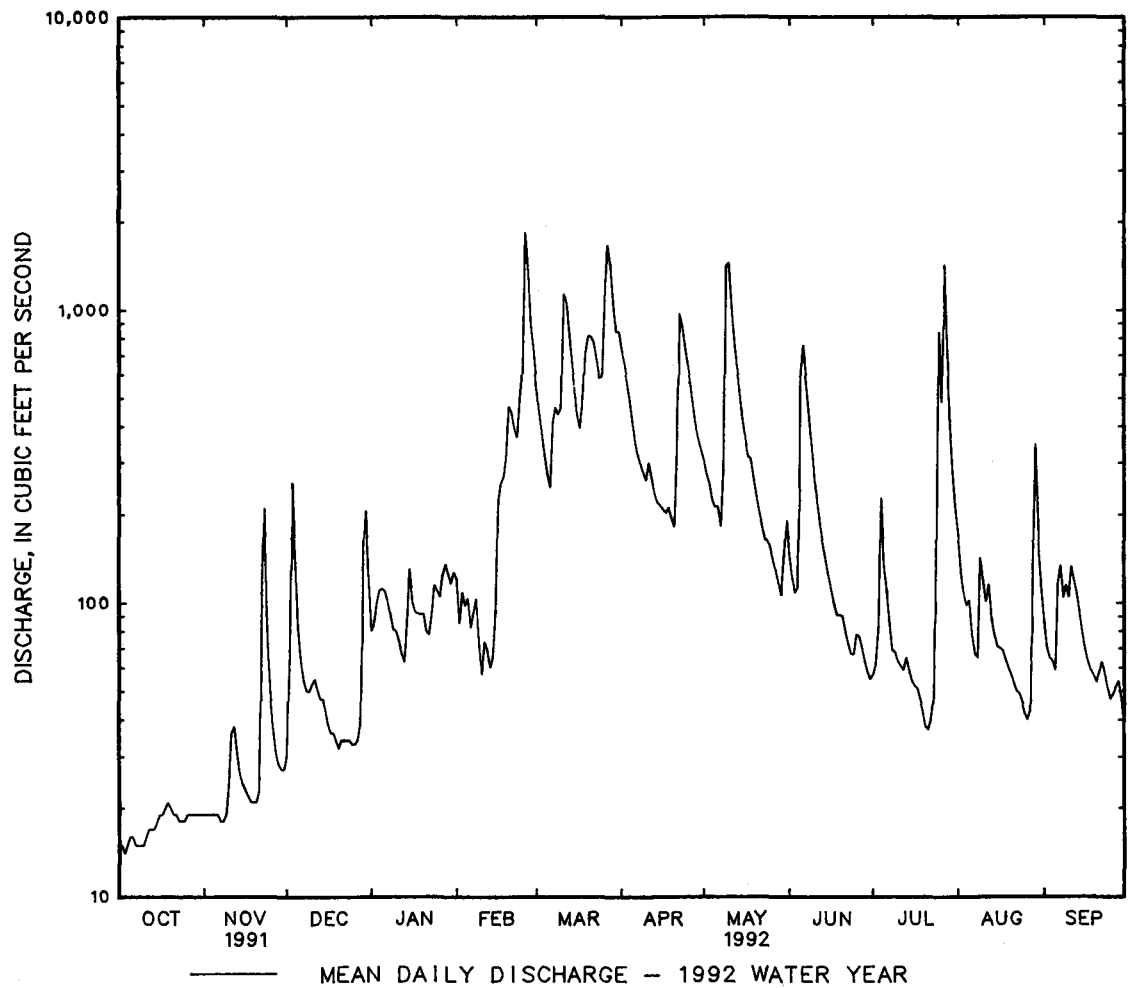
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1905 - 1992	
ANNUAL TOTAL	100649		78710			
ANNUAL MEAN	276		215		329	
HIGHEST ANNUAL MEAN					491	1984
LOWEST ANNUAL MEAN					122	1954
HIGHEST DAILY MEAN	2880	Jan 17	1850	Feb 26	15700	Oct 15 1942
LOWEST DAILY MEAN	14	Oct 3	14	Oct 3	10	(a)
ANNUAL SEVEN-DAY MINIMUM	15	Sep 29	15	Oct 1	10	Oct 8 1930
INSTANTANEOUS PEAK FLOW	3230	Jan 17	2240	Feb 26	b38100	Mar 17 1936
INSTANTANEOUS PEAK STAGE	6.14	Jan 17	5.45	Feb 26	c20.20	Mar 17 1936
INSTANTANEOUS LOW FLOW	13	(d)	13	(d)	9.0	Oct 14 1930
ANNUAL RUNOFF (CFSM)	1.12		.87		1.33	
ANNUAL RUNOFF (INCHES)	15.16		11.85		18.12	
10 PERCENT EXCEEDS	771		596		786	
50 PERCENT EXCEEDS	57		93		145	
90 PERCENT EXCEEDS	18		19		29	

a Oct. 8-10, 1930.

b From rating curve extended above 11,000 ft^3/s on basis of slope-area measurements at gage heights of 13.45 and 20.2 ft.

c From floodmarks at present site.

d Oct. 2, 3.



01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--875 mi^2.

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily dicharges (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 gage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft June 1, 1889, discharge, about 89,000 ft^3/s.
Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft^3/s.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 6,430 ft^3/s, Feb. 26, gage height, 7.32 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	198	208	531	709	3380	2470	1200	869	461	1140	531
2	206	196	266	515	656	2480	2290	1130	650	570	1060	479
3	209	195	839	513	682	1870	2110	1180	598	618	859	497
4	216	195	785	512	676	1710	1740	1090	612	776	637	515
5	230	195	512	551	698	1490	1580	921	1450	586	612	513
6	224	195	369	573	703	1270	1450	881	1910	550	582	581
7	210	195	326	550	698	1530	1230	835	1400	487	558	611
8	209	199	317	529	711	1700	1050	928	1280	448	556	560
9	206	202	322	517	662	1610	1000	3050	1120	456	711	563
10	204	215	340	517	607	1630	986	4020	967	535	627	560
11	234	257	342	510	650	3230	1170	3150	867	533	577	599
12	539	235	328	496	619	3830	1310	2380	804	970	606	545
13	515	213	347	499	589	2840	1050	2040	768	1120	565	539
14	484	198	368	551	598	2340	905	2020	727	890	577	526
15	201	195	350	610	663	1960	880	1880	703	745	609	508
16	200	199	343	576	862	1640	862	1940	672	563	592	498
17	194	198	339	542	944	1500	858	2110	601	574	589	506
18	191	198	336	e590	934	1590	865	1720	583	623	579	508
19	191	196	323	e580	1030	2330	971	1210	581	649	526	529
20	184	193	319	e570	1160	3270	913	996	561	474	509	1070
21	188	197	338	e560	1230	3190	948	882	538	442	506	685
22	191	331	348	560	1190	2790	3230	848	531	436	491	490
23	192	543	340	586	1140	2750	2570	765	511	486	486	463
24	193	335	345	723	1290	2070	2370	732	516	859	484	459
25	195	253	342	676	1630	2020	2280	717	513	2900	466	428
26	193	220	337	664	5170	2790	1890	680	497	1750	435	445
27	198	195	332	612	5400	4270	1620	665	479	2920	463	446
28	199	192	350	629	4250	4130	1410	634	462	4300	673	450
29	196	203	571	629	3770	3670	1270	665	446	3070	968	432
30	196	202	764	623	---	2940	1220	738	442	2050	625	424
31	198	---	613	693	---	2740	---	987	---	1370	563	---
TOTAL	7193	6738	12359	17787	39921	76560	44498	42994	22658	33211	19231	15960
MEAN	232	225	399	574	1377	2470	1483	1387	755	1071	620	532
MAX	539	543	839	723	5400	4270	3230	4020	1910	4300	1140	1070
MIN	184	192	208	496	589	1270	858	634	442	436	435	424

e Estimated

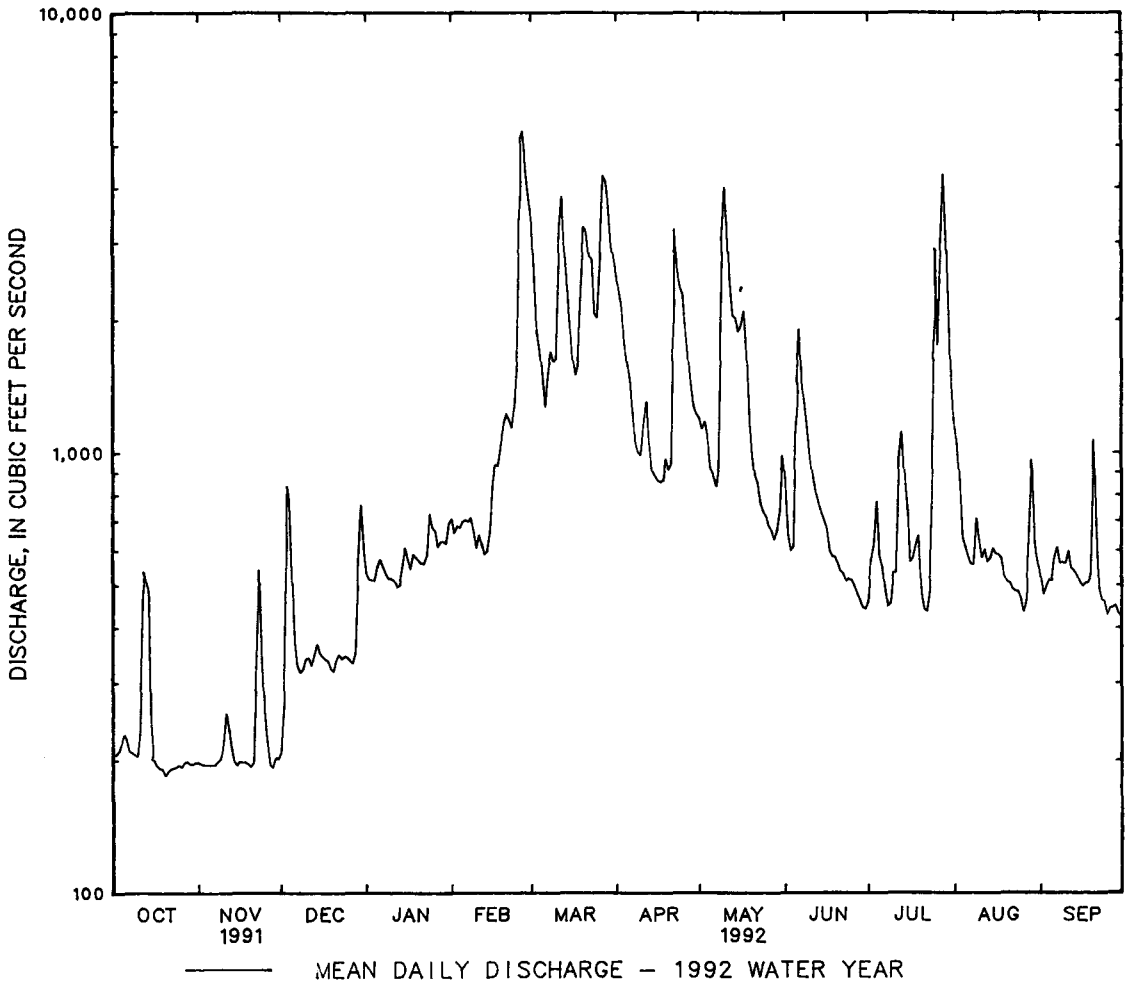
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1992, BY WATER YEAR (WY)

MEAN	610	757	1291	1536	1984	2837	2333	1714	886	515	435	387
MAX	3791	5350	4652	5115	4125	8763	4888	3902	2375	2270	2028	2036
(WY)	1943	1986	1973	1937	1961	1936	1970	1988	1981	1989	1955	1945
MIN	28.9	44.8	134	269	393	789	723	374	209	89.7	57.7	40.3
(WY)	1931	1931	1931	1940	1934	1990	1968	1934	1965	1930	1930	1932

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1929 - 1992	
ANNUAL TOTAL	388841		339110			
ANNUAL MEAN	1065		927		1272	
ANNUAL MEAN≠	989		932		1272	
HIGHEST ANNUAL MEAN					1801	1973
LOWEST ANNUAL MEAN					632	1969
HIGHEST DAILY MEAN	7500	Jan 17	5400	Feb 27	47400	Mar 18 1936
LOWEST DAILY MEAN	184	Oct 20	184	Oct 20	13	(a)
ANNUAL SEVEN-DAY MINIMUM	190	Oct 18	190	Oct 18	16	Sep 20 1932
INSTANTANEOUS PEAK FLOW	7810	Apr 16	6430	Feb 26	b88200	Mar 17 1936
INSTANTANEOUS PEAK STAGE	8.31	Apr 16	7.32	Feb 26	29.10	Mar 17 1936
INSTANTANEOUS LOW FLOW	184	(c)	184	(c)	12	Sep 22 1932
ANNUAL RUNOFF (CFSM)≠	1.13		1.07		1.45	
ANNUAL RUNOFF (INCHES)≠	15.35		14.46		19.74	
10 PERCENT EXCEEDS	2600		2110		2950	
50 PERCENT EXCEEDS	345		591		664	
90 PERCENT EXCEEDS	202		202		162	

≠ Adjusted for change in reservoir contents since October 1981.
a Sept. 21-24, 1932.
b From rating curve extended above 33,000 ft^3/s on basis of slope-area measurement of peak flow.
c Oct. 20, 21.



01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", Mineral County, Hydrologic Unit 02070002, on right bank 100 ft downstream from Hazel Run, 1.0 mi downstream from Cabin Run, 4.0 mi northeast of Headsville, 8.0 mi east of Keyser, and at mile 12.5.

DRAINAGE AREA.--219 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (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.--Water-discharge records good except those for estimated daily discharges (ice effect), which are fair. The flow from 115 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,887 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft^3/s, Aug. 19, 1955, gage height, 12.20 ft, from rating curve extended above 4,900 ft^3/s, on basis of contracted-opening measurement at gage height 11.53 ft; minimum daily discharge, 1.2 ft^3/s, Aug. 18, 1988.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 1,310 ft^3/s, Feb. 26, gage height, 6.74 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.4	4.1	121	e49	383	273	171	82	33	134	51
2	2.0	2.5	17	99	e50	331	242	146	71	42	97	39
3	2.1	2.5	431	83	e48	278	215	128	62	52	75	32
4	2.1	2.6	305	82	e47	237	193	113	59	54	65	31
5	2.4	2.7	205	139	e50	203	170	101	160	39	50	28
6	2.7	2.7	143	169	e47	172	147	93	225	32	40	33
7	2.2	3.1	102	146	e43	179	131	85	177	27	31	50
8	1.7	2.7	77	122	e42	262	119	93	181	22	28	43
9	1.8	2.4	64	106	e40	250	108	308	216	26	50	34
10	1.9	3.1	94	94	e38	228	101	428	170	116	37	31
11	2.0	6.5	89	81	e40	655	107	369	134	104	29	27
12	2.1	5.9	76	71	41	599	104	313	107	90	27	21
13	2.2	5.7	66	64	40	478	93	279	91	81	25	16
14	2.2	5.0	57	62	40	398	84	294	83	64	47	15
15	2.2	4.0	46	e52	50	339	77	347	76	49	77	14
16	2.3	3.3	41	e41	98	282	73	540	65	37	67	13
17	2.4	2.5	36	e38	142	242	70	439	57	28	54	11
18	2.3	2.5	33	e38	204	215	69	380	53	24	50	10
19	2.3	2.5	26	e36	302	320	72	334	57	20	41	9.9
20	2.2	2.3	23	e33	277	532	76	289	52	16	40	9.0
21	2.2	2.4	31	e33	236	562	100	248	49	13	36	8.9
22	2.3	7.3	27	e30	200	491	894	216	45	12	31	10
23	2.3	13	26	e33	169	482	622	186	37	16	32	13
24	2.2	11	27	e38	172	429	507	165	30	32	33	9.9
25	2.2	8.1	26	e42	216	377	437	149	31	77	36	10
26	2.2	6.1	24	e39	983	396	376	126	29	90	44	14
27	3.1	5.1	24	e42	716	460	321	110	25	191	39	13
28	2.4	4.5	25	e47	545	409	268	94	20	480	87	13
29	2.4	3.9	95	e44	456	358	227	81	17	318	118	10
30	2.4	3.4	172	e43	---	320	197	80	18	233	91	9.2
31	2.4	---	153	e48	---	312	---	92	---	175	67	---
TOTAL	69.3	131.7	2565.1	2116	5381	11179	6473	6797	2479	2593	1678	628.9
MEAN	2.24	4.39	82.7	68.3	186	361	216	219	82.6	83.6	54.1	21.0
MAX	3.1	13	431	169	983	655	894	540	225	480	134	51
MIN	1.7	2.3	4.1	30	38	172	69	80	17	12	25	8.9
CFSM	.01	.02	.38	.31	.85	1.65	.99	1.00	.38	.38	.25	.10
IN.	.01	.02	.44	.36	.91	1.90	1.10	1.15	.42	.44	.29	.11

e Estimated

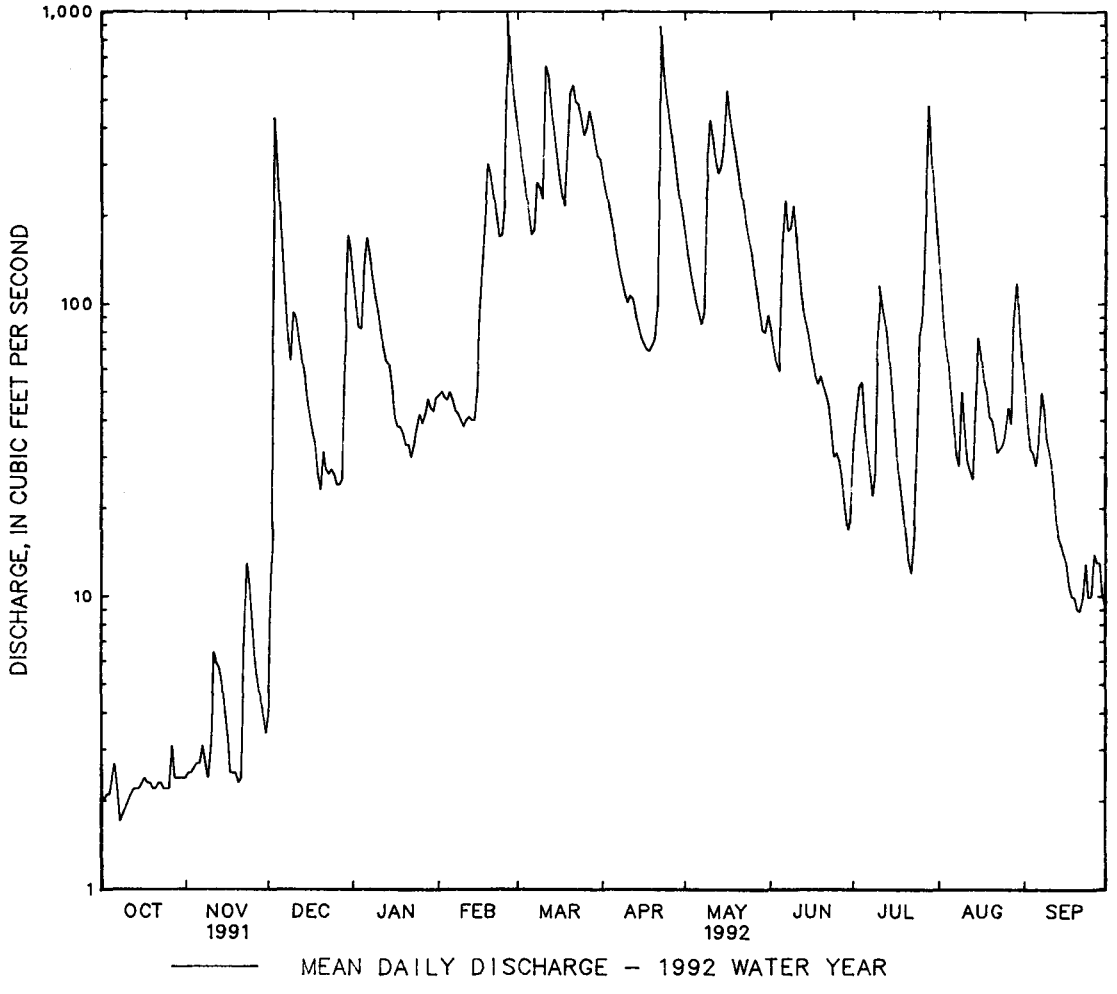
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

MEAN	79.4	81.4	160	195	300	409	307	221	109	60.4	49.7	39.7
MAX	745	901	825	558	752	1346	845	763	379	415	475	395
(WY)	1943	1986	1973	1991	1971	1963	1984	1988	1940	1989	1955	1945
MIN	2.24	4.39	9.70	22.0	30.7	58.3	54.1	21.2	13.4	4.45	5.20	2.80
(WY)	1992	1992	1944	1981	1954	1990	1969	1969	1969	1966	1966	1991

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1938 - 1992	
ANNUAL TOTAL	49678.9		42091.0			
ANNUAL MEAN	136		115		167	
HIGHEST ANNUAL MEAN					299	1973
LOWEST ANNUAL MEAN					35.1	1969
HIGHEST DAILY MEAN	1680	Jan 17	983	Feb 26	11100	Oct 15 1942
LOWEST DAILY MEAN	1.7	Oct 8	1.7	Oct 8	1.2	Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 7	2.0	Oct 7	1.7	Sep 5 1965
INSTANTANEOUS PEAK FLOW	2400	Mar 23	1310	Feb 26	a16000	Aug 19 1955
INSTANTANEOUS PEAK STAGE	8.71	Mar 23	6.74	Feb 26	12.20	Aug 19 1955
INSTANTANEOUS LOW FLOW	1.6	(b)	1.6	(b)	1.1	(c)
ANNUAL RUNOFF (CFSM)	.62		.53		.76	
ANNUAL RUNOFF (INCHES)	8.44		7.15		10.36	
10 PERCENT EXCEEDS	429		320		422	
50 PERCENT EXCEEDS	26		50		58	
90 PERCENT EXCEEDS	2.4		2.5		9.8	

a From rating curve extended above 4,900 ft^3/s on basis of contracted-opening measurement of peak flow.
b Oct. 7, 8.
c Aug. 18, 19, 1988.



01604500 PATTERSON CREEK NEAR HEADSVILLE, WV---Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
OCT 1991								
07...	1100	2.5	230	7.6	14.0	747	8.1	80
DEC								
09...	1425	54	272	8.0	9.5	760	10.8	95
FEB 1992								
12...	1245	42	115	8.6	1.5	760	16.0	114
APR								
01...	1030	264	101	7.2	5.0	780	12.7	97
JUN								
16...	1000	77	135	7.9	20.0	760	7.8	86
AUG								
05...	1300	54	164	8.0	23.5	760	--	--
SEP								
14...	0930	15	168	--	22.0	760	7.6	87

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION (REVISED).--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 72.7.

DRAINAGE AREA.--642 mi^2.

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 National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1928, nonrecording gage at site 700 ft downstream and at different datum. June 1928 to Nov. 5, 1985, water-stage recorder at site 700 ft downstream at datum 6.34 ft lower.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft^3/s, Nov. 5, 1985, gage height, 21.80 ft, from floodmarks, from rating curve extended above 63,000 ft^3/s, on basis of slope-area measurement of peak flow; minimum, 42 ft^3/s, Sept. 28, 29, 1959, Sept. 11, 12, 1966; minimum gage height, 0.45 ft, part or all of each day Aug. 11-20, 1988.

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 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Dec. 3	0300	6,340	5.72	Apr. 22	0500	*11,000	*7.52

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	65	117	775	440	1890	971	763	423	373	436	153
2	60	65	362	609	418	1550	899	638	389	585	378	136
3	60	64	4660	550	397	1320	818	798	367	450	308	128
4	60	64	2320	1440	e340	1100	726	851	355	524	263	127
5	60	64	1300	2350	e320	921	653	736	1020	443	238	150
6	61	64	781	1860	e330	787	579	650	1870	390	207	245
7	62	64	510	1390	e330	731	511	560	1480	390	185	258
8	66	64	412	1070	e310	1270	507	684	1440	320	174	211
9	64	64	397	867	e295	1640	498	1620	1330	335	183	189
10	61	66	399	792	e280	1480	528	1860	1250	344	174	197
11	61	75	433	662	e260	2540	546	1630	1020	291	165	175
12	61	85	424	590	e250	2810	536	1360	812	250	158	170
13	62	92	380	538	e240	2130	495	1160	643	224	153	156
14	63	94	358	536	e250	1620	457	1060	531	204	184	143
15	64	89	358	536	e260	1340	451	936	497	188	222	139
16	65	80	358	513	401	1100	434	1250	453	189	199	135
17	66	77	333	417	717	906	424	1380	408	174	227	125
18	66	74	329	e400	1150	850	440	1150	414	167	233	119
19	66	74	298	e360	1190	2220	441	1050	908	170	202	114
20	65	74	211	e355	1270	3160	416	981	663	157	177	113
21	65	74	220	e350	1230	2400	808	804	490	145	161	113
22	65	105	244	e360	1030	1860	8050	687	422	141	150	112
23	65	373	225	e370	888	1710	4370	593	371	208	146	110
24	65	338	339	e380	1030	1410	2820	520	339	341	137	104
25	65	227	420	e400	1730	1210	2280	489	321	404	130	107
26	65	173	402	e410	3200	1100	1730	457	307	335	123	116
27	65	146	366	e430	3700	1200	1360	452	275	945	124	115
28	65	128	324	453	2400	1220	1150	416	248	1680	186	110
29	65	118	514	443	2050	1110	988	378	230	716	297	103
30	65	114	1240	439	---	1010	833	384	282	448	266	97
31	65	---	1020	440	---	986	---	429	---	363	180	---
TOTAL	1969	3254	20054	21085	26706	46581	35719	26726	19558	11894	6366	4270
MEAN	63.5	108	647	680	921	1503	1191	862	652	384	205	142
MAX	66	373	4660	2350	3700	3160	8050	1860	1870	1680	436	258
MIN	60	64	117	350	240	731	416	378	230	141	123	97
CFSM	.10	.17	1.01	1.06	1.43	2.34	1.85	1.34	1.02	.60	.32	.22
IN.	.11	.19	1.16	1.22	1.55	2.70	2.07	1.55	1.13	.69	.37	.25

e Estimated

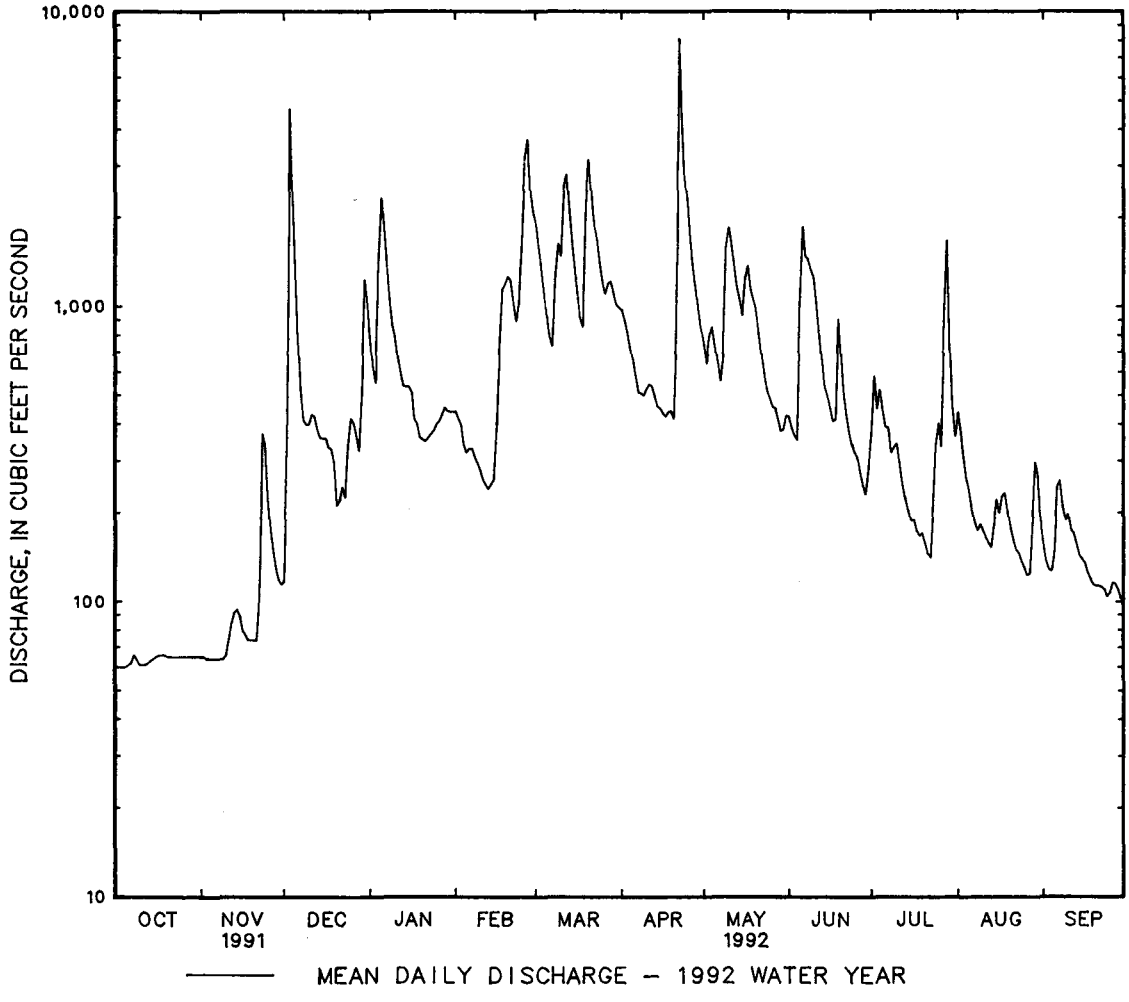
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

MEAN	341	481	699	877	1121	1565	1263	965	536	286	273	224
MAX	1863	5569	2511	2355	2880	4090	2669	2374	2175	1479	1290	1196
(WY)	1977	1986	1973	1937	1939	1936	1958	1989	1949	1949	1955	1950
MIN	49.3	62.7	95.1	143	212	543	398	233	128	70.5	54.1	52.3
(WY)	1931	1931	1966	1981	1934	1990	1986	1930	1991	1930	1930	1930

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1928 - 1992	
ANNUAL TOTAL	217271		224182			
ANNUAL MEAN	595		613		717	
HIGHEST ANNUAL MEAN					1181	1973
LOWEST ANNUAL MEAN					365	1969
HIGHEST DAILY MEAN	8930	Mar 23	8050	Apr 22	77000	Nov 5 1985
LOWEST DAILY MEAN	60	(a)	60	(a)	43	(b)
ANNUAL SEVEN-DAY MINIMUM	60	Sep 30	61	Oct 1	44	Sep 6 1966
INSTANTANEOUS PEAK FLOW	16200	Mar 23	11000	Apr 22	c130000	Nov 5 1985
INSTANTANEOUS PEAK STAGE	9.06	Mar 23	7.52	Apr 22	d21.80	Nov 5 1985
INSTANTANEOUS LOW FLOW	60	(a)	60	(a)	42	(f)
ANNUAL RUNOFF (CFSM)	.93		.95		1.12	
ANNUAL RUNOFF (INCHES)	12.59		12.99		15.77	
10 PERCENT EXCEEDS	1340		1400		1600	
50 PERCENT EXCEEDS	232		378		372	
90 PERCENT EXCEEDS	65		66		96	

a Oct. 2-5.
b Sept. 27-29, 1959, Sept. 11, 12, 1966.
c From rating curve extended above 63,000 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
f Sept. 28, 29, 1959, Sept. 11, 12, 1966.



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 6.0.

DRAINAGE AREA.--283 mi^2.

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 National Geodetic Vertical Datum of 1929 (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 Jan. 17-29 (ice effect) and Mar. 2-31 (missing record), which are fair. The flow from 92.7 mi^2 upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge, 9,430 ft^3/s, Apr. 22, gage height, 7.43 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	23	244	51	294	164	225	130	81	82	22
2	11	14	76	161	49	e210	154	201	124	100	88	20
3	11	14	843	139	45	e170	144	210	116	83	65	19
4	11	14	650	1290	47	e150	135	204	113	100	57	19
5	11	15	398	2370	47	e130	133	188	133	102	49	21
6	12	15	266	1260	42	e120	125	181	902	94	43	22
7	12	15	152	694	42	e115	117	172	644	90	38	44
8	11	15	117	437	41	e130	112	266	409	86	34	36
9	11	15	99	317	40	e180	107	1210	293	89	37	46
10	15	17	98	252	35	e190	106	1060	238	83	31	41
11	13	22	99	198	34	e270	108	755	196	70	30	43
12	14	22	99	161	34	e480	107	534	168	58	29	37
13	13	20	92	137	35	e350	102	390	147	50	28	33
14	13	20	88	127	34	e260	97	340	132	44	28	30
15	13	19	86	116	37	e210	94	316	124	36	29	28
16	14	18	82	104	41	e170	92	495	127	33	40	26
17	13	17	75	e94	62	e150	89	717	113	29	35	25
18	13	17	73	e79	70	e140	93	525	115	28	32	22
19	13	16	67	e84	74	e170	96	394	421	25	29	22
20	13	16	64	e70	82	e410	93	393	481	22	26	21
21	13	17	54	e73	84	e360	220	382	300	23	25	21
22	13	56	56	e66	80	e280	5330	315	217	23	23	21
23	13	55	52	e58	82	e240	2350	259	167	28	22	21
24	13	45	52	e60	106	e210	1470	218	140	30	21	19
25	13	42	48	e64	367	e180	1100	193	125	30	21	23
26	13	32	45	e56	1630	e160	637	175	113	54	20	26
27	13	26	42	e58	898	e170	432	165	102	63	20	23
28	14	22	41	53	570	e180	342	151	89	162	21	22
29	14	21	66	54	401	e175	286	136	85	102	21	21
30	14	21	342	51	---	e170	249	131	81	70	19	20
31	14	---	337	51	---	e170	---	129	---	54	21	---
TOTAL	396	672	4682	8978	5160	6594	14684	11030	6545	1942	1064	794
MEAN	12.8	22.4	151	290	178	213	489	356	218	62.6	34.3	26.5
MAX	15	56	843	2370	1630	480	5330	1210	902	162	88	46
MIN	11	14	23	51	34	115	89	129	81	22	19	19
CFSM	.05	.08	.53	1.02	.63	.75	1.73	1.26	.77	.22	.12	.09
IN.	.05	.09	.62	1.18	.68	.87	1.93	1.45	.86	.26	.14	.10

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

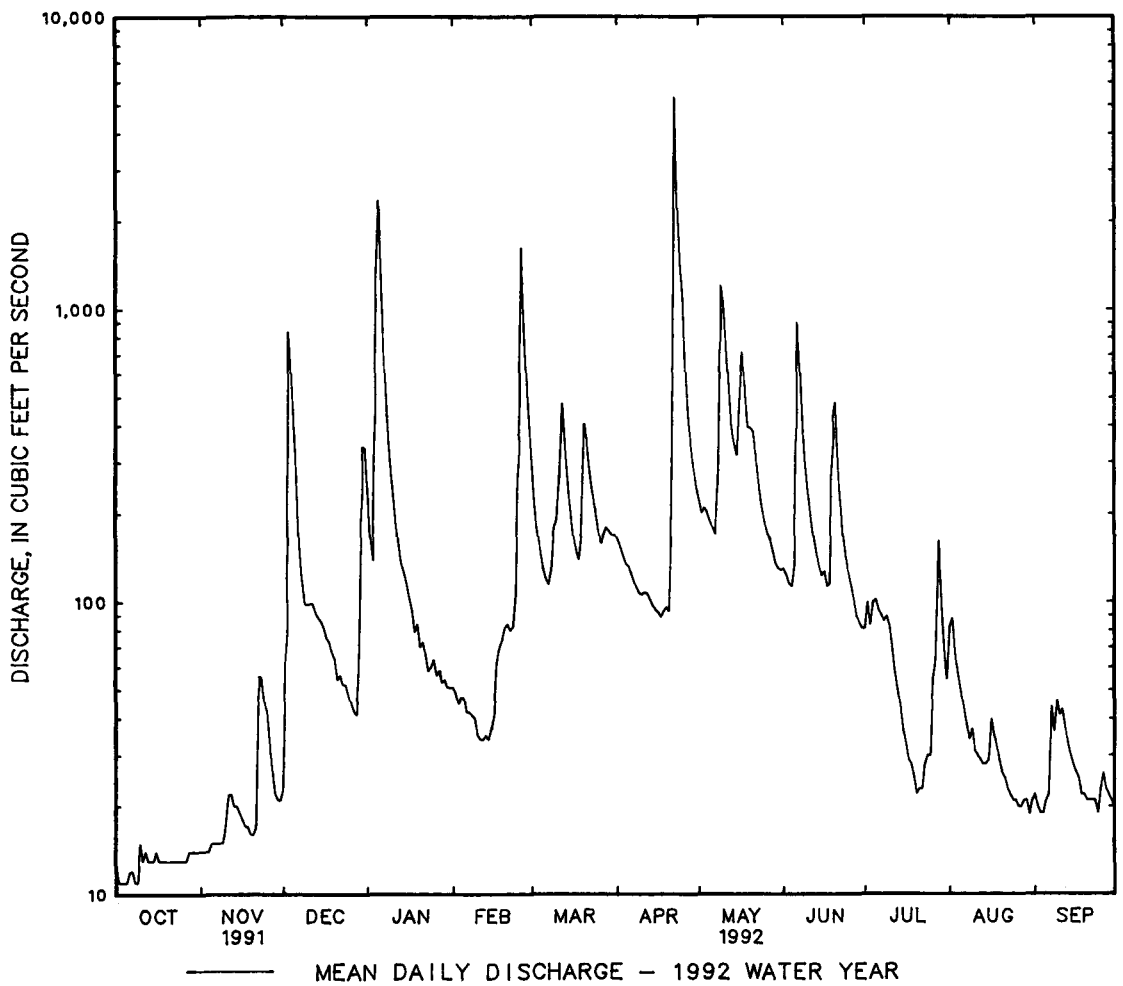
MEAN	137	179	207	243	321	462	407	324	168	83.9	102	77.3
MAX	776	2951	879	716	892	1086	1787	946	1071	510	801	497
(WY)	1977	1986	1974	1991	1939	1963	1987	1988	1949	1949	1955	1945
MIN	12.8	17.1	17.4	21.3	25.2	72.2	91.7	51.2	28.1	13.7	10.4	10.2
(WY)	1992	1932	1966	1981	1934	1981	1981	1930	1977	1966	1965	1968

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1928 - 1992	
ANNUAL TOTAL	70500		62541			
ANNUAL MEAN	193		171		225	
HIGHEST ANNUAL MEAN					418	1949
LOWEST ANNUAL MEAN					85.9	1934
HIGHEST DAILY MEAN	4400	Mar 24	5330	Apr 22	28000	Nov 5 1985
LOWEST DAILY MEAN	11	(a)	11	(a)	4.4	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	11	Oct 2	11	Oct 2	5.3	Sep 5 1966
INSTANTANEOUS PEAK FLOW	9220	Mar 23	9430	Apr 22	b110000	Nov 5 1985
INSTANTANEOUS PEAK STAGE	7.34	Mar 23	7.43	Apr 22	c19.99	Nov 5 1985
INSTANTANEOUS LOW FLOW	10	Oct 5	10	Oct 5	4.4	(d)
ANNUAL RUNOFF (CFSM)	.68		.60		.80	
ANNUAL RUNOFF (INCHES)	9.27		8.22		10.82	
10 PERCENT EXCEEDS	365		371		490	
50 PERCENT EXCEEDS	64		74		95	
90 PERCENT EXCEEDS	13		15		21	

a Oct. 2-5, 8,9.

b From rating curve extended above 39,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Sept. 10, 11, 1965, Sept. 9-11, 1966.



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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
OCT 1991								
02...	1300	12	200	6.0	20.0	737	10.5	120
DEC								
09...	1200	96	169	7.7	9.5	740	10.9	98
FEB 1992								
12...	0930	49	98	7.0	1.5	757	8.2	59
APR								
02...	0920	155	77	7.0	6.5	--	12.5	--
23...	1200	2410	76	6.6	12.5	760	--	--
MAY								
18...	1045	556	83	7.8	17.0	747	--	--
JUN								
15...	1015	124	135	7.5	20.0	760	9.4	104
AUG								
05...	1015	77	151	8.3	21.0	760	--	--

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.4.

DRAINAGE AREA.--1,471 mi^2.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above National Geodetic Vertical Datum of 1929. June 1984 to February 1986, 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 Oct.1 to Nov. 23 (backwater from leaves) and Jan. 18-30 (ice effect), which are fair. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telementer at station. Several measurments 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 in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	2200	*18,000	*13.15	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e94	e100	184	1260	613	2670	1500	1350	814	454	654	267
2	e94	e100	217	1020	604	2190	1420	1240	802	570	671	208
3	e94	e100	3430	871	558	1870	1320	1140	736	918	666	178
4	e94	e100	4290	825	534	1630	1230	1240	681	771	533	163
5	e94	e100	2240	4790	524	1450	1140	1240	798	791	433	149
6	e94	e100	1470	4110	538	1310	1070	1160	1880	772	374	163
7	e94	e100	1060	2580	572	1270	987	1080	2550	629	331	220
8	e94	e100	831	1840	547	1420	938	1030	2050	592	300	327
9	e94	e100	713	1440	527	2020	918	2510	1920	557	327	313
10	e96	e110	735	1220	498	2050	905	4080	1690	751	283	270
11	e96	e120	723	1080	436	2940	941	3320	1550	689	266	295
12	e98	e120	736	952	417	5200	969	2570	1340	539	258	293
13	e98	e120	677	845	431	3810	931	2110	1170	452	243	230
14	e100	e120	625	778	422	2830	881	1970	1020	407	245	221
15	e100	e120	583	742	430	2250	838	2140	910	349	247	197
16	e100	e120	565	754	517	1900	808	2820	854	305	282	180
17	e100	e120	548	676	1110	1620	790	2600	813	273	306	167
18	e100	e115	514	e560	1320	1470	786	2350	714	263	311	154
19	e100	e115	483	e540	1430	1810	822	2010	870	241	351	145
20	e100	e110	441	e550	1480	4500	856	1780	1460	223	304	140
21	e100	e120	389	e560	1450	4020	871	1640	1240	217	259	134
22	e100	e150	383	e540	1270	3090	10800	1460	992	202	229	135
23	e100	e260	414	e520	1130	2660	11200	1300	841	196	207	138
24	e100	385	386	e540	1080	2330	5770	1190	731	247	191	132
25	e100	476	454	e600	1490	1960	3930	1120	644	438	181	131
26	e100	336	582	e580	3270	1790	2980	1030	576	620	172	144
27	e100	264	524	e560	6390	1930	2260	964	539	623	160	171
28	e100	226	480	e560	4120	1930	1900	917	473	1940	155	161
29	e100	205	545	e560	2920	1750	1660	831	420	1760	175	148
30	e100	186	993	e580	---	1610	1480	782	413	1130	273	135
31	e100	---	1540	586	---	1540	---	787	---	820	351	---
TOTAL	3034	4798	27755	33619	36628	70820	62901	51761	31491	18739	9738	5709
MEAN	97.9	160	895	1084	1263	2285	2097	1670	1050	604	314	190
MAX	100	476	4290	4790	6390	5200	11200	4080	2550	1940	671	327
MIN	94	100	184	520	417	1270	786	782	413	196	155	131
CFSM	.07	.11	.61	.74	.86	1.55	1.43	1.14	.71	.41	.21	.13
IN.	.08	.12	.70	.85	.93	1.79	1.59	1.31	.80	.47	.25	.14

e Estimated

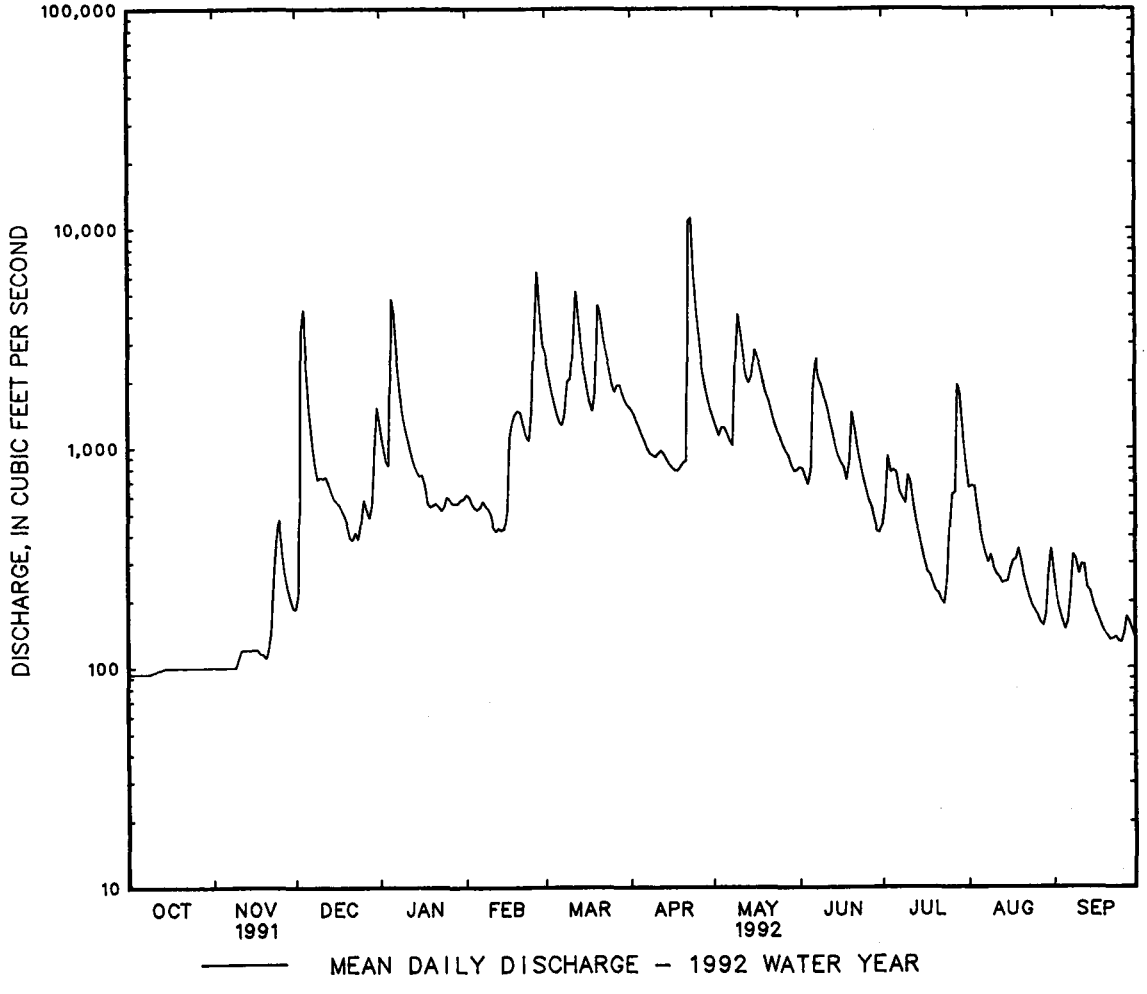
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1992, BY WATER YEAR (WY)

MEAN	649	852	1230	1542	1987	2892	2367	1769	1031	521	506	397
MAX	4629	12850	5000	4595	5137	10490	6421	4079	5231	2638	3923	1980
(WY)	1977	1986	1973	1937	1939	1936	1987	1989	1949	1949	1955	1950
MIN	79.4	82.2	147	271	362	791	829	366	225	105	73.5	76.6
(WY)	1931	1905	1966	1981	1934	1981	1976	1977	1991	1930	1930	1930

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1899 - 1992	
ANNUAL TOTAL	404644		356993			
ANNUAL MEAN	1109		975		1308	
HIGHEST ANNUAL MEAN					2232	1973
LOWEST ANNUAL MEAN					566	1969
HIGHEST DAILY MEAN	23900	Mar 24	11200	Apr 23	145000	Nov 5 1985
LOWEST DAILY MEAN	e94	(a)	e94	(a)	52	(b)
ANNUAL SEVEN-DAY MINIMUM	94	Oct 1	94	Oct 1	54	Sep 7 1966
INSTANTANEOUS PEAK FLOW	31500	Mar 24	18000	Apr 22	c240000	Nov 5 1985
INSTANTANEOUS PEAK STAGE	17.38	Mar 24	13.15	Apr 22	d44.22	Nov 5 1985
INSTANTANEOUS LOW FLOW	UNKNOWN		UNKNOWN		29	(f)
ANNUAL RUNOFF (CFSM)	.75		.66		.89	
ANNUAL RUNOFF (INCHES)	10.23		9.03		12.08	
10 PERCENT EXCEEDS	2580		2150		2970	
50 PERCENT EXCEEDS	383		582		636	
90 PERCENT EXCEEDS	100		100		153	

e estimated
a Oct. 1-9.
b Sept. 11, 12, 1966.
c From rating curve extended above 145,000 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.
f Jan. 28, 1956 (result of freezeup), July 30, 1966 (result of temporary dam).



01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 mi^2.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Low flow affected by Stony River Reservoir prior to July 1981, since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft on Mar. 18, 1936, discharge, 240,000 ft^3/s, from rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	2315	*25,100	*17.37	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	315	455	2580	1600	7160	5160	3370	2170	1380	2450	1080
2	347	315	516	2200	1550	5990	4790	3090	1830	1500	2120	933
3	345	315	3320	1940	1510	4950	4460	2990	1660	2060	2060	871
4	345	312	6890	1800	1500	4260	3970	2870	1540	2510	1560	848
5	342	309	4130	4410	1440	3820	3590	2730	2410	1840	1350	848
6	340	306	2730	5880	1420	3340	3240	2540	5320	1650	1230	1040
7	340	306	2030	4260	1450	3680	2890	2360	5590	1400	1140	1220
8	340	304	1610	3280	1470	4700	2610	2340	4540	1220	1080	1150
9	340	301	1400	2690	1400	4820	2420	6290	4120	1160	1190	1260
10	340	301	1560	2350	1270	4880	2350	10400	3580	1290	1300	1230
11	340	349	1580	2140	1230	6900	2450	8710	3170	1500	1140	1170
12	574	491	1500	1940	1210	11000	2740	6790	2730	1460	1120	1170
13	700	462	1390	1760	1150	9000	2550	5600	2410	1840	1090	1020
14	687	434	1330	1670	1150	7060	2250	5380	2150	1690	1040	943
15	500	401	1220	1720	1190	5830	2080	5250	1940	1350	1050	906
16	372	388	1140	1690	1610	4930	2010	6870	1800	1150	1070	856
17	354	382	1120	1540	2360	4280	1970	6150	1680	947	1100	820
18	342	366	1070	1400	3020	4050	1940	5810	1520	1010	1090	819
19	337	352	989	1150	3330	5050	2130	4760	1520	1090	1080	797
20	332	345	949	1290	3530	9240	2140	4030	2110	867	1020	1040
21	327	341	912	1450	3570	9800	2050	3530	2200	791	951	1330
22	324	422	880	1350	3320	8080	11900	3160	1790	753	893	842
23	322	927	895	1420	3020	7240	17600	2840	1550	806	857	820
24	321	945	901	1460	2930	6310	10300	2610	1400	1280	829	773
25	323	1000	868	1470	3580	5480	8110	2560	1340	3720	808	741
26	323	787	1070	1770	9210	5800	6650	2300	1250	3480	784	752
27	322	614	1060	1520	14000	8770	5400	2130	1200	4310	754	780
28	320	513	995	1500	10500	8170	4580	1980	1140	6680	941	804
29	320	470	1380	1570	8260	7200	3990	1860	1040	6340	1560	766
30	320	460	2320	1470	---	6000	3610	1760	1020	4150	1310	720
31	317	---	3080	1500	---	5600	---	2190	---	3230	1190	---
TOTAL	11506	13533	51290	64170	92780	193390	131930	125250	67720	64454	37157	28349
MEAN	371	451	1655	2070	3199	6238	4398	4040	2257	2079	1199	945
MAX	700	1000	6890	5880	14000	11000	17600	10400	5590	6680	2450	1330
MIN	317	301	455	1150	1150	3340	1940	1760	1020	753	754	720
CFSM	.12	.15	.53	.67	1.03	2.01	1.41	1.30	.73	.67	.39	.30
IN.	.14	.16	.61	.77	1.11	2.31	1.58	1.50	.81	.77	.44	.34

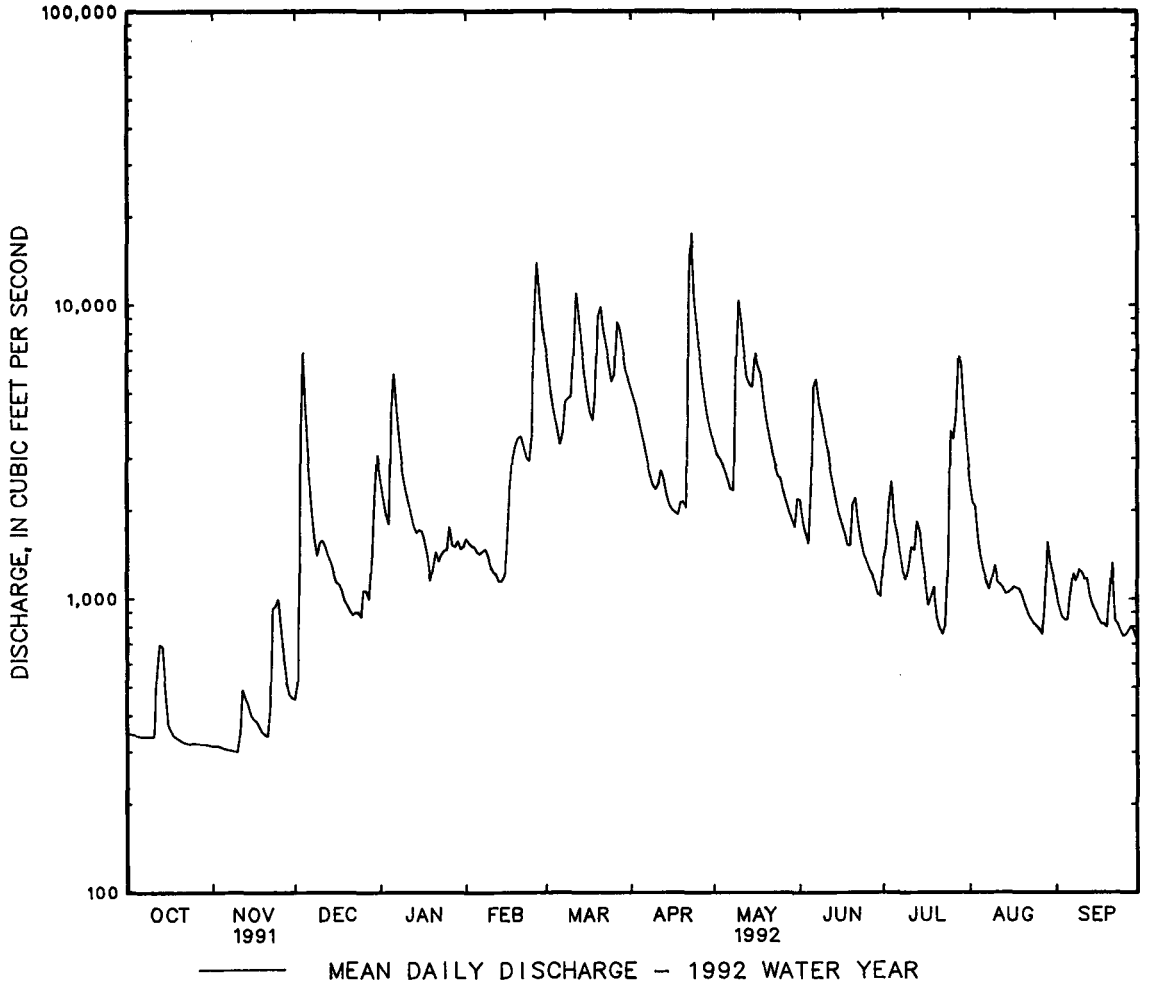
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

MEAN	1589	1983	3280	3788	5233	7195	5931	4423	2572	1345	1178	991
MAX	9709	17180	12300	9099	11440	17120	13050	10450	7612	5071	6458	5012
(WY)	1977	1986	1973	1991	1939	1963	1987	1988	1972	1949	1955	1945
MIN	261	327	388	679	1116	2043	2258	1074	544	303	278	252
(WY)	1952	1966,	1966	1981	1954	1990	1968	1941	1965	1966	1944	1959

01610000 POTOMAC RIVER AT PAW PAW, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1939 - 1992	
ANNUAL TOTAL	1007598		881529			
ANNUAL MEAN	2761		2409		3282	
HIGHEST ANNUAL MEAN					5080	1973
LOWEST ANNUAL MEAN					1499	1969
HIGHEST DAILY MEAN	34700	Mar 24	17600	Apr 23	125000	Nov 6 1985
LOWEST DAILY MEAN	301	(a)	301	(a)	172	(b)
ANNUAL SEVEN-DAY MINIMUM	306	Nov 4	306	Nov 4	179	Sep 7 1966
INSTANTANEOUS PEAK FLOW	39700	Mar 24	25100	Apr 22	c235000	Nov 5 1985
INSTANTANEOUS PEAK STAGE	22.11	Mar 24	17.37	Apr 22	53.58	Nov 5 1985
INSTANTANEOUS LOW FLOW	301	(d)	301	(d)	164	(f)
ANNUAL RUNOFF (CFSM)	.89		.77		1.06	
ANNUAL RUNOFF (INCHES)	12.06		10.55		14.34	
10 PERCENT EXCEEDS	6490		5800		7430	
50 PERCENT EXCEEDS	936		1500		1770	
90 PERCENT EXCEEDS	348		348		425	

a Nov. 9, 10.
b Sept. 10, 12, 13, 1966.
c From rating curve extended above 85,000 ft^3/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, WV.
d Nov. 8-11.
f Sept. 10, 11, 1966.



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.--677 mi^2.

PERIOD OF RECORD.--December 1922 to current year.

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37. WSP 1552: 1925-26(M), 1928 1929(M), 1932.

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft above National Geodetic Vertical Datum of 1929. (U.S. Army Corps of Engineers bench mark). Prior to Nov. 10, 1933, nonrecording gage at same site and datum. National Weather Service gage-height telemeter at the station.

REMARKS.--Records good except those for Oct. 1-9, Nov. 11-20, Sept. 15 (missing record) and Jan. 14-20 (ice effect), which are fair. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of about 24.7 ft, from floodmarks, discharge 57,500 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Apr. 22	1900	*10,200	*10.84	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e50	53	77	442	154	740	693	616	299	168	242	130
2	e52	55	87	330	146	593	607	575	287	213	199	99
3	e51	60	929	288	148	489	536	509	260	407	229	86
4	e50	57	1520	271	151	414	474	476	240	373	229	79
5	e78	54	719	447	139	358	423	483	305	261	175	80
6	e100	54	428	1400	141	326	377	426	1720	210	166	232
7	e160	55	304	967	139	332	340	389	1570	177	149	596
8	e120	58	237	680	135	486	314	446	1090	153	129	681
9	e72	70	201	517	132	665	293	1530	919	140	122	483
10	48	e98	254	423	123	635	279	2890	716	138	134	409
11	52	e110	348	361	126	661	278	2040	564	225	131	354
12	53	e120	331	316	125	1750	284	1470	447	266	130	319
13	54	e130	297	278	116	1600	271	1140	360	197	127	243
14	54	e120	257	e240	121	1230	253	967	310	163	145	203
15	51	e100	224	e230	128	984	235	1010	273	137	196	e180
16	53	e90	192	e220	151	820	218	1650	241	120	162	148
17	57	e80	168	e210	220	691	210	1360	216	107	143	135
18	57	e70	153	e200	274	632	210	1090	210	100	136	123
19	55	e66	136	e200	291	696	223	1090	302	97	125	113
20	53	e64	143	e210	339	995	254	1420	376	86	115	104
21	54	66	135	237	357	1320	289	1090	320	79	106	98
22	55	82	122	194	340	1300	4120	837	259	74	98	98
23	54	108	122	194	313	1120	4820	696	213	74	91	101
24	52	121	120	189	300	957	2200	607	188	116	85	96
25	52	134	118	210	332	779	1620	595	174	181	79	98
26	54	132	112	176	538	745	1330	544	171	158	77	103
27	55	108	112	190	1430	1230	1100	474	166	254	77	138
28	55	91	109	191	1310	1280	913	453	144	453	77	215
29	54	82	134	168	952	1020	770	369	133	740	74	196
30	54	77	308	152	---	842	680	323	129	471	75	160
31	54	---	583	162	---	752	---	308	---	317	102	---
TOTAL	1913	2565	8980	10293	9171	26442	24614	27873	12602	6655	4125	6100
MEAN	61.7	85.5	290	332	316	853	820	899	420	215	133	203
MAX	160	134	1520	1400	1430	1750	4820	2890	1720	740	242	681
MIN	48	53	77	152	116	326	210	308	129	74	74	79
CFSM	.09	.13	.43	.49	.47	1.26	1.21	1.33	.62	.32	.20	.30
IN.	.11	.14	.49	.57	.50	1.45	1.35	1.53	.69	.37	.23	.34

e Estimated

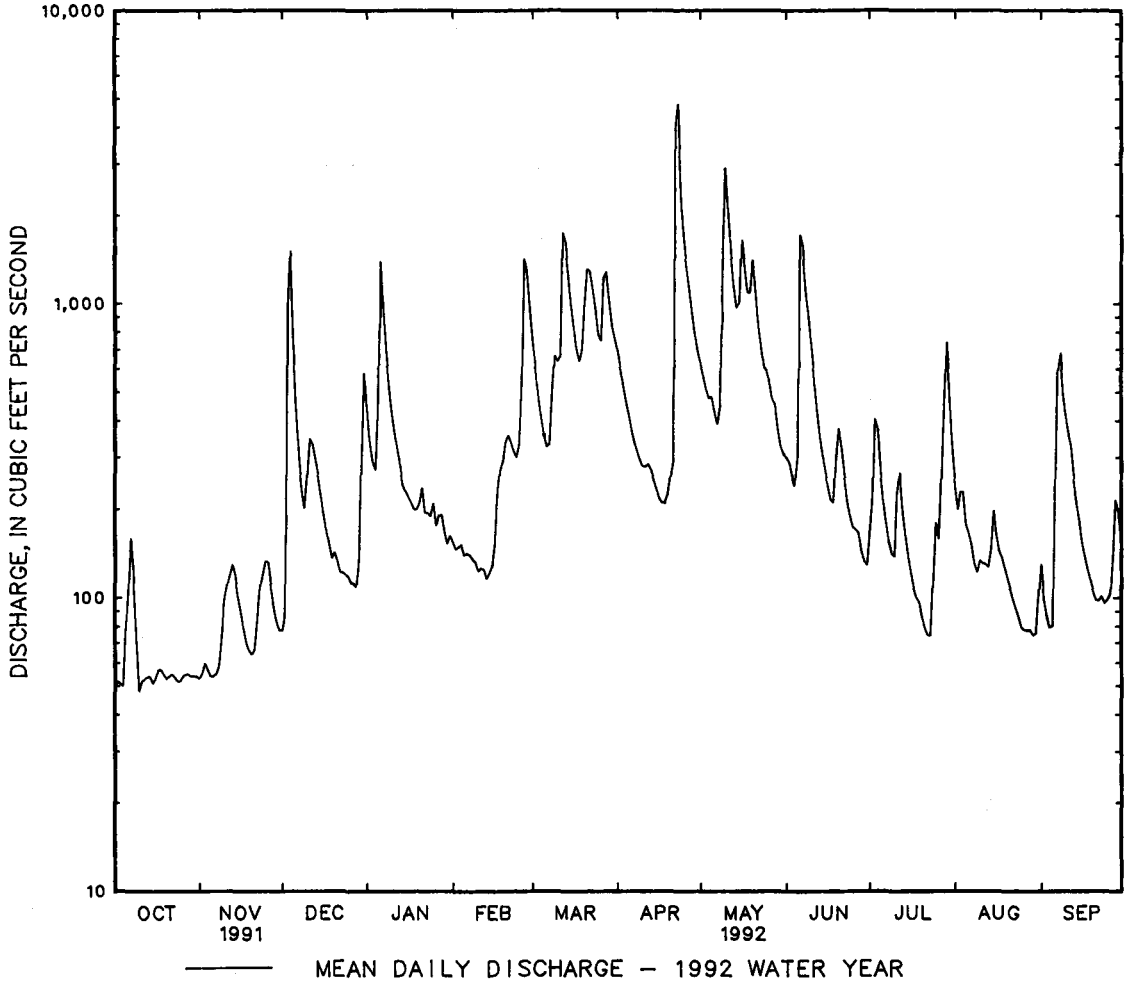
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1992, BY WATER YEAR (WY)

MEAN	339	355	499	618	872	1227	1113	877	440	196	236	180
MAX	2976	2577	2121	1683	2243	5708	2976	3565	3525	936	2791	1636
(WY)	1943	1986	1973	1991	1971	1936	1987	1924	1972	1972	1955	1975
MIN	44.8	51.1	56.5	69.6	89.1	247	242	157	77.0	56.4	39.8	39.4
(WY)	1931	1966	1966	1956	1934	1990	1947	1969	1969	1930	1966	1932

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1923 - 1992	
ANNUAL TOTAL	166505		141333			
ANNUAL MEAN	456		386		582	
HIGHEST ANNUAL MEAN					1135	1972
LOWEST ANNUAL MEAN					180	1969
HIGHEST DAILY MEAN	11200	Mar 24	4820	Apr 23	67900	Mar 18 1936
LOWEST DAILY MEAN	48	Oct 10	48	Oct 10	26	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	51	Sep 28	52	Oct 10	28	Sep 7 1966
INSTANTANEOUS PEAK FLOW	15700	Mar 24	10200	Apr 22	a87600	Mar 18 1936
INSTANTANEOUS PEAK STAGE	13.31	Mar 24	10.84	Apr 22	30.10	Mar 18 1936
INSTANTANEOUS LOW FLOW	UNKNOWN		47	(b)	26	(c)
ANNUAL RUNOFF (CFSM)	.67		.57		.86	
ANNUAL RUNOFF (INCHES)	9.15		7.77		11.67	
10 PERCENT EXCEEDS	1050		972		1310	
50 PERCENT EXCEEDS	143		210		240	
90 PERCENT EXCEEDS	57		66		66	

a From rating curve extended above 52,000 ft^3/s.
b Oct. 9, 10.
c Sept. 11-13, 1966.



01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank, 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 mi^2.

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 National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Records good except those for 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 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 23	0615	*28,500	*14.77	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	461	513	725	3330	1690	8080	6160	4070	2490	1400	3080	1420
2	459	530	745	2750	1740	7110	5600	3770	2370	1880	2470	1280
3	454	531	1300	2400	1710	5770	5140	3470	2050	2020	2270	1140
4	453	521	7760	2180	1680	4800	4740	3290	1900	3740	2180	1070
5	457	510	5910	2210	1640	4290	4180	3270	2230	2820	1720	1030
6	470	506	3770	7320	1600	3820	3800	3030	5820	2130	1560	1250
7	477	510	2730	5830	1590	3690	3450	2830	7370	1880	1440	1870
8	494	511	2140	4310	1610	5130	3100	2690	6020	1610	1350	2030
9	463	520	1830	3430	1610	5480	2820	5390	5110	1450	1300	1870
10	460	535	1780	2900	1530	5650	2650	12900	4540	1380	1410	1910
11	477	594	2040	2580	1420	5890	2600	11800	3840	1580	1470	1750
12	498	638	1960	2360	1390	11600	2750	9090	3340	1790	1360	1700
13	664	755	1870	2150	1380	11600	2940	7180	2900	1800	1350	1530
14	872	762	1720	2010	1330	8980	2660	6350	2570	1960	1310	1370
15	865	708	1620	1960	1350	7310	2410	6200	2310	1770	1310	1270
16	750	660	1490	2080	1490	6160	2280	7800	2100	1480	1330	1200
17	523	636	1400	1980	2090	5240	2200	7620	1970	1300	1310	1120
18	501	624	1360	1820	3000	4690	2170	6990	1850	1140	1320	1100
19	490	601	1290	1690	3340	4860	2160	6030	1800	1180	1290	1090
20	486	582	1220	1370	3740	8120	2350	5610	1970	1240	1270	1020
21	481	587	1200	e1600	3880	11600	2430	4760	2520	1030	1200	1290
22	476	677	1140	e1750	3790	10300	6390	4110	2240	957	1140	1480
23	476	747	1100	1750	3430	8870	24200	3630	1910	944	1080	1080
24	477	1240	1100	1660	3210	7990	14100	3250	1730	1120	1040	1030
25	486	1240	1100	1700	3340	6750	10400	3170	1610	2620	1010	994
26	496	1310	1070	1840	6480	6520	8660	2980	1550	4660	986	1030
27	509	1090	1260	2040	15200	11000	7020	2670	1520	4080	970	1000
28	509	915	1240	2080	13100	10600	5840	2500	1430	6200	956	1110
29	513	798	1290	1900	9760	8990	5010	2320	1330	7980	1240	1160
30	518	734	2000	1740	---	7660	4430	2180	1260	5670	1800	1070
31	516	---	3170	1660	---	6650	---	2160	---	4040	1450	---
TOTAL	16231	21085	60330	76380	99120	225200	154640	153110	81650	74851	44972	39264
MEAN	524	703	1946	2464	3418	7265	5155	4939	2722	2415	1451	1309
MAX	872	1310	7760	7320	15200	11600	24200	12900	7370	7980	3080	2030
MIN	453	506	725	1370	1330	3690	2160	2160	1260	944	956	994
CFSM	.13	.17	.48	.60	.84	1.78	1.27	1.21	.67	.59	.36	.32
IN.	.15	.19	.55	.70	.91	2.06	1.41	1.40	.75	.68	.41	.36

e Estimated

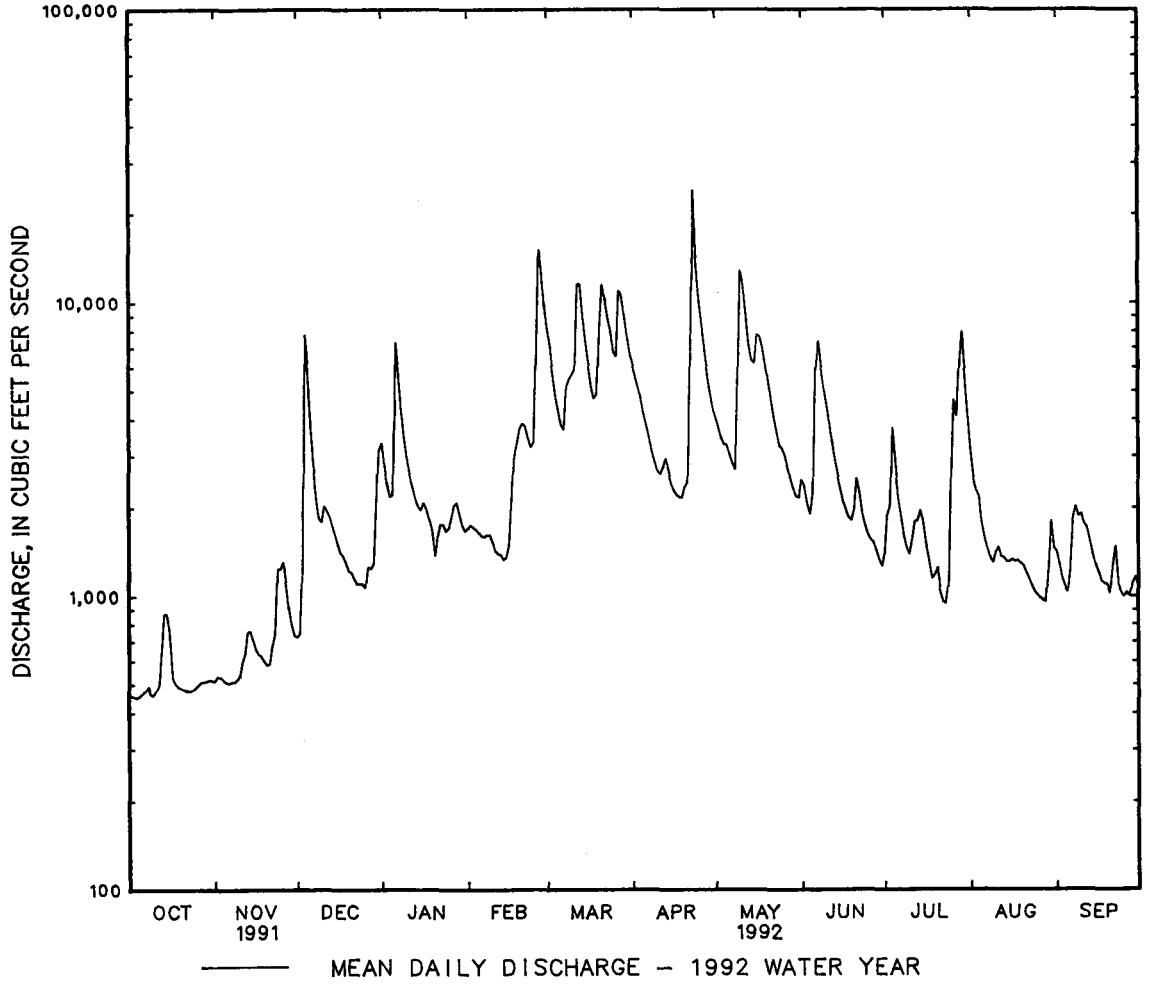
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1992, BY WATER YEAR (WY)

MEAN	2097	2437	3960	4927	6502	9103	7611	5495	3117	1574	1504	1265
MAX	13270	20090	15160	15450	16720	32280	16950	13260	13390	6677	9479	6756
(WY)	1977	1986	1973	1937	1971	1936	1987	1988	1972	1949	1955	1945
MIN	309	399	463	751	1041	2311	2857	1344	622	357	342	329
(WY)	1942	1966	1966	1956	1934	1990	1968	1941	1969	1966	1944	1946

01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1933 - 1992	
ANNUAL TOTAL	1212926		1046833			
ANNUAL MEAN	3323		2860		4121	
HIGHEST ANNUAL MEAN					6319	1973
LOWEST ANNUAL MEAN					1770	1969
HIGHEST DAILY MEAN	40500	Mar 24	24200	Apr 23	261000	Mar 18 1936
LOWEST DAILY MEAN	453	Oct 4	453	Oct 4	184	Oct 3 1932
ANNUAL SEVEN-DAY MINIMUM	462	Oct 1	462	Oct 1	215	Sep 7 1966
INSTANTANEOUS PEAK FLOW	46500	Mar 24	28500	Apr 23	a340000	Mar 18 1936
INSTANTANEOUS PEAK STAGE	19.31	Mar 24	14.77	Apr 23	47.60	Mar 18 1936
INSTANTANEOUS LOW FLOW	446	(b)	446	(b)	180	Oct 4 1932
ANNUAL RUNOFF (CFSM)	.82		.70		1.01	
ANNUAL RUNOFF (INCHES)	11.08		9.56		13.75	
10 PERCENT EXCEEDS	7770		6560		9360	
50 PERCENT EXCEEDS	1210		1800		2140	
90 PERCENT EXCEEDS	514		534		520	

a From rating curve extended above 120,000 ft^3/s on basis of slope-area measurement of peak flow.
b Oct. 4, 5, 9, 10.



01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, Hydrologic Unit 02070004, on right bank 0.7 mi upstream from highway bridge in Fairview, 2.0 mi upstream from Rockdale Run, 6.5 mi northwest of Hagerstown, and 19.1 mi upstream from mouth.

DRAINAGE AREA.--494 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1432: 1929(M), 1930, 1931-32(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 391.85 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1932, nonrecording gage at highway bridge 0.7 mi downstream at datum 2.93 ft lower. Dec. 6, 1932, to Oct. 7, 1933, nonrecording gage 150 ft downstream from former site at datum 4.92 ft lower than present datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges (ice effect), which are fair. Low flow partly regulated by small powerplants near Mercersburg, Pa.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1928, about 16.5 ft, present datum, sometime in 1889, from information by local residents, discharge, about 22,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	0845	*4,280	*7.48	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	94	112	289	163	510	1030	623	631	323	326	163
2	98	94	127	254	140	439	879	572	416	333	286	148
3	96	92	473	240	156	390	783	532	351	331	259	144
4	94	90	519	240	147	345	714	487	315	990	310	144
5	102	90	339	264	142	314	649	458	713	581	265	140
6	341	91	243	269	136	298	592	441	1510	418	230	186
7	226	90	202	240	132	1200	557	425	936	342	214	275
8	152	90	181	215	140	1620	526	409	735	294	201	231
9	128	88	178	204	128	1080	490	539	703	269	209	419
10	118	89	291	218	122	845	464	538	570	244	207	317
11	122	101	296	203	e120	980	449	457	481	231	196	434
12	133	107	254	190	e120	1020	440	403	423	228	364	372
13	124	108	227	180	e125	877	403	377	381	222	261	274
14	119	101	233	254	e130	758	376	395	349	208	249	237
15	112	98	213	526	152	672	353	420	323	191	219	213
16	113	98	198	397	372	583	340	601	298	182	219	196
17	110	94	182	287	557	527	330	549	277	178	228	184
18	115	92	176	e175	481	502	331	483	264	336	209	174
19	109	91	153	e170	488	555	340	443	296	217	195	167
20	105	93	176	e180	481	673	325	395	554	188	183	156
21	101	95	160	e190	423	810	511	362	370	175	172	151
22	100	160	147	e185	365	821	3720	336	301	166	166	160
23	101	353	144	190	325	826	2450	316	268	170	160	290
24	101	287	142	219	308	761	1590	307	254	511	151	196
25	100	181	135	195	351	697	1440	315	276	2120	148	172
26	98	145	125	198	902	1020	1170	311	327	1220	144	233
27	97	129	121	173	1200	2870	984	326	421	938	141	266
28	96	121	121	180	833	2160	848	293	271	746	159	246
29	93	115	345	174	644	1490	745	262	235	553	366	200
30	93	111	569	161	---	1210	673	256	248	440	236	174
31	93	---	416	163	---	1180	---	522	---	370	182	---
TOTAL	3688	3588	7198	7023	9783	28033	24502	13153	13497	13715	6855	6662
MEAN	119	120	232	227	337	904	817	424	450	442	221	222
MAX	341	353	569	526	1200	2870	3720	623	1510	2120	366	434
MIN	93	88	112	161	120	298	325	256	235	166	141	140
CFSM	.24	.24	.47	.46	.68	1.83	1.65	.86	.91	.90	.45	.45
IN.	.28	.27	.54	.53	.74	2.11	1.85	.99	1.02	1.03	.52	.50

e Estimated

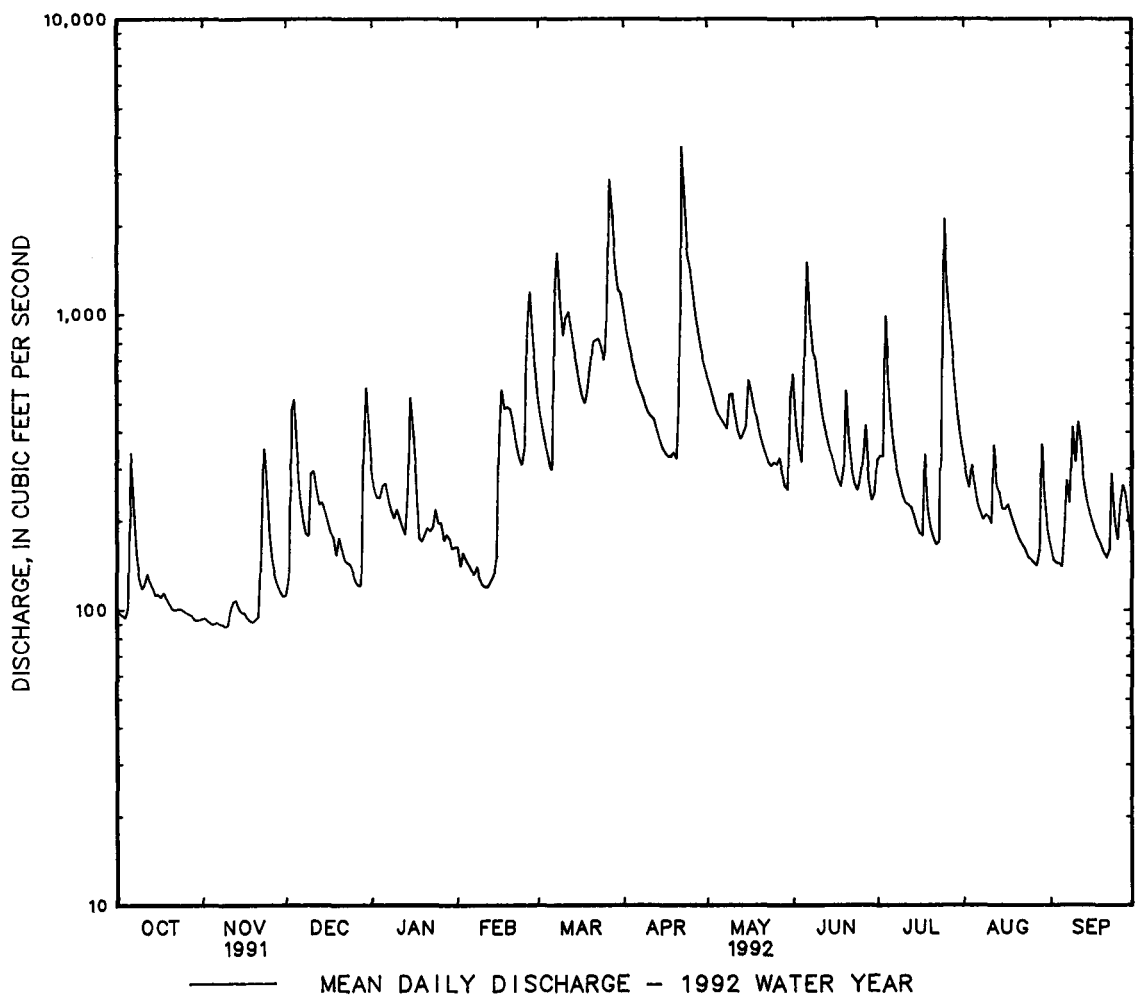
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

MEAN	333	424	593	643	839	1126	1041	741	504	323	224	242
MAX	2177	1453	1904	1685	2446	3557	2417	1736	3278	1358	921	1828
(WY)	1977	1933	1973	1937	1984	1936	1970	1989	1972	1928	1942	1975
MIN	42.3	45.4	61.2	88.8	151	274	367	218	120	62.2	48.0	54.6
(WY)	1931	1931	1931	1931	1931	1990	1947	1941	1965	1966	1966	1930

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1928 - 1992	
ANNUAL TOTAL	156278		137697			
ANNUAL MEAN	428		376		581	
HIGHEST ANNUAL MEAN					1078	1972
LOWEST ANNUAL MEAN					301	1954
HIGHEST DAILY MEAN	5150	Jan 17	3720	Apr 22	26700	Jun 23 1972
LOWEST DAILY MEAN	88	Nov 9	88	Nov 9	25	Nov 28 1930
ANNUAL SEVEN-DAY MINIMUM	90	Nov 4	90	Nov 4	28	Sep 7 1966
INSTANTANEOUS PEAK FLOW	5460	Jan 17	4280	Apr 22	a32400	Jun 23 1972
INSTANTANEOUS PEAK STAGE	8.51	Jan 17	7.48	Apr 22	b24.50	Jun 23 1972
INSTANTANEOUS LOW FLOW	84	Oct 5	81	Feb 13	21	(c)
ANNUAL RUNOFF (CFSM)	.87		.76		1.18	
ANNUAL RUNOFF (INCHES)	11.77		10.37		15.98	
10 PERCENT EXCEEDS	984		759		1280	
50 PERCENT EXCEEDS	182		257		327	
90 PERCENT EXCEEDS	98		106		101	

a From rating curve extended above 15,000 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
b From floodmark.
c Aug. 8, Sept. 12, 1966.



01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-83, October 1991 to September 1992.

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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 1992 15...	1245	323	362	8.0	20.5	754	7.9	89	54

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
JUN 1992 15...	11	7.9	2.7	21	18	0.10	6.1	206	4.58	0.020

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN 1992 15...	4.60	0.030	0.50	0.160	0.130	0.120	10	8	180

DATE	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L)	METHO-MYL TOTAL (UG/L)	PICLO-RAM (TOR-DON) (AMDON) TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 1992 15...	<0.01	<0.5	<0.01	<0.5	<0.01	<0.01	<0.01	<0.5	<0.01

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 11.1.

DRAINAGE AREA.--272 mi^2.

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

REVISED RECORDS.--WSP 1702: 1959.

GAGE.--Water-stage recorder. Datum of gage is 354.89 ft above National Geodetic Vertical Datum of 1929. 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. National Weather Service gage-height telemeter at the station.

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

EXTREMES 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 7	2300	2,700	10.03	June 6	1300	2,270	9.17
Apr. 22	1400	*12,300	*15.27				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	48	47	128	67	186	226	248	256	134	109	66
2	48	48	184	105	64	163	211	230	188	126	83	61
3	47	46	632	102	62	147	196	219	158	94	75	63
4	45	45	233	129	61	136	183	202	142	85	114	68
5	57	45	126	623	61	129	173	192	815	76	113	67
6	130	46	92	379	59	130	162	185	1750	92	106	134
7	70	44	77	223	57	1560	159	174	580	86	91	329
8	50	43	67	167	57	1260	153	213	362	79	86	175
9	48	42	66	146	57	539	147	872	280	71	92	215
10	46	47	165	143	53	377	146	534	231	73	91	213
11	51	62	156	127	55	473	150	358	202	65	93	254
12	52	64	108	110	54	474	144	280	178	63	95	196
13	49	52	89	101	55	355	136	240	158	62	93	124
14	46	50	89	e96	57	289	129	234	148	61	89	102
15	47	47	77	e92	70	257	128	224	138	61	86	94
16	47	45	66	e86	126	230	124	330	129	62	94	86
17	47	44	61	e84	128	212	124	262	122	62	98	80
18	49	42	60	e80	132	205	129	225	124	59	91	77
19	50	42	56	e82	173	254	127	224	166	56	85	75
20	46	43	58	e76	175	331	123	192	186	55	88	69
21	43	43	58	e72	147	297	673	170	135	56	72	67
22	45	78	53	e70	126	260	8470	157	112	80	69	85
23	45	126	51	70	115	244	1420	144	103	70	69	125
24	47	83	53	76	150	218	662	140	101	73	67	85
25	47	54	51	69	291	197	530	170	111	164	67	86
26	46	46	47	65	602	237	447	165	113	137	64	178
27	46	42	46	67	557	615	372	202	95	93	64	152
28	46	42	48	73	309	421	320	162	84	139	84	125
29	45	41	265	64	237	308	288	139	81	96	164	115
30	46	41	375	66	---	267	263	137	90	74	115	89
31	46	---	183	67	---	251	---	290	---	65	75	---
TOTAL	1575	1541	3739	3838	4157	11022	16515	7514	7338	2569	2782	3655
MEAN	50.8	51.4	121	124	143	356	550	242	245	82.9	89.7	122
MAX	130	126	632	623	602	1560	8470	872	1750	164	164	329
MIN	43	41	46	64	53	129	123	137	81	55	64	61
CFSM	.19	.19	.44	.46	.53	1.31	2.02	.89	.90	.30	.33	.45
IN.	.22	.21	.51	.52	.57	1.51	2.26	1.03	1.00	.35	.38	.50

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1992, BY WATER YEAR (WY)

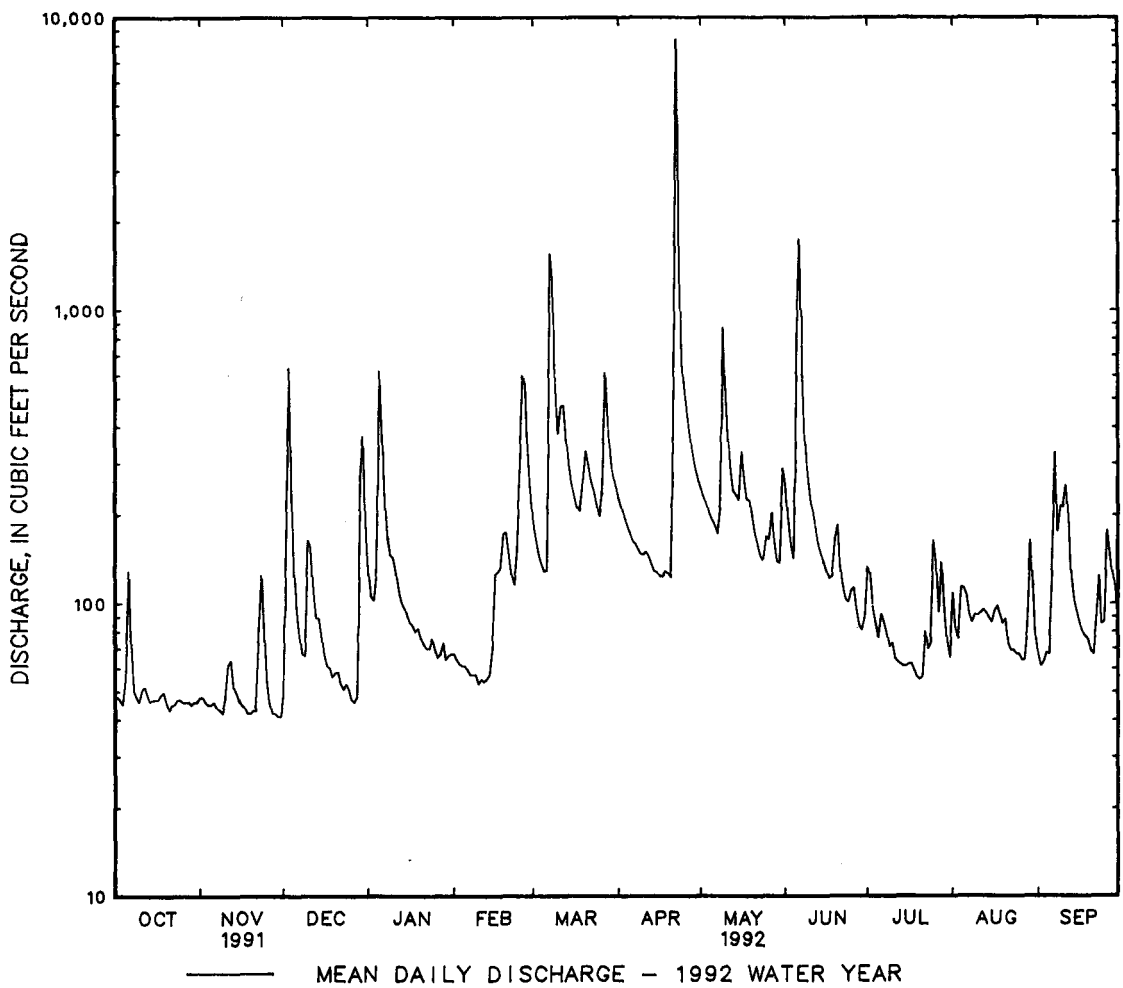
MEAN	146	158	224	256	332	397	365	277	214	136	127	115
MAX	788	504	821	700	1022	990	1199	1091	1190	456	543	911
(WY)	1977	1971	1973	1979	1984	1984	1984	1988	1972	1972	1978	1975
MIN	30.5	35.1	33.7	39.6	76.6	119	97.8	86.0	65.4	49.4	36.6	35.2
(WY)	1948	1966	1966	1966	1954	1959	1954	1969	1969	1966	1966	1947

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1947 - 1992	
ANNUAL TOTAL	70260		66245			
ANNUAL MEAN	192		181		228	
HIGHEST ANNUAL MEAN					464	1984
LOWEST ANNUAL MEAN					85.7	1954
HIGHEST DAILY MEAN	2850	Mar 24	8470	Apr 22	8890	Jun 22 1972
LOWEST DAILY MEAN	41	(a)	41	(a)	26	Oct 25 1947
ANNUAL SEVEN-DAY MINIMUM	44	Nov 15	44	Nov 15	27	Sep 7 1966
INSTANTANEOUS PEAK FLOW	4360	Mar 24	12300	Apr 22	b19000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	11.50	Mar 24	15.27	Apr 22	17.45	Jun 22 1972
INSTANTANEOUS LOW FLOW	40	(a)	40	(a)	c25	Oct 25 1947
ANNUAL RUNOFF (CFSM)	.71		.67		.84	
ANNUAL RUNOFF (INCHES)	9.61		9.06		11.41	
10 PERCENT EXCEEDS	414		293		443	
50 PERCENT EXCEEDS	98		97		136	
90 PERCENT EXCEEDS	47		47		55	

a Nov. 29, 30.

b From rating curve extended above 7,100 ft^3/s.
c Observed.



01617800 MARSH RUN AT GRIMES, MD

LOCATION.--Lat 39°30'53", long 77°46'38", Washington County, Hydrologic Unit 02070004, on right bank 220 ft upstream from bridge on Sprecher Road, 0.1 mi downstream from unnamed tributary, 0.5 mi southwest of Grimes, 1.5 mi upstream from mouth, and 2.2 mi southwest of Fairplay.

DRAINAGE AREA.--18.9 mi^2.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.72 ft above National Geodetic Vertical Datum of 1929.

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 60 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 21	2330	*205	*3.11	July 25	0845	67	2.00

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	1.5	1.5	7.8	4.6	6.5	17	20	19	19	17	12
2	2.3	1.6	5.6	7.1	4.6	6.2	17	19	18	18	16	11
3	2.3	1.5	25	7.0	4.5	6.0	16	19	18	18	17	10
4	2.3	1.0	15	7.3	4.1	5.8	16	18	16	18	36	10
5	2.9	.98	10	9.4	3.8	5.7	16	18	19	17	19	9.6
6	11	.98	7.8	8.5	3.6	5.8	15	19	23	16	18	11
7	5.4	1.0	6.6	7.6	3.6	30	15	18	19	16	18	13
8	4.6	1.0	6.2	7.0	3.9	21	15	20	18	15	17	12
9	3.8	1.0	5.8	6.7	3.9	18	14	22	18	15	17	16
10	2.1	1.7	10	6.7	7.3	18	14	21	17	14	16	17
11	2.5	3.6	9.3	6.5	5.7	18	13	19	16	14	16	25
12	3.0	2.6	7.7	6.3	4.5	18	13	18	16	14	15	18
13	2.8	1.3	6.8	e5.2	4.1	17	12	18	15	13	15	16
14	2.8	1.2	6.6	e5.5	4.1	16	12	18	15	13	15	15
15	2.8	1.1	5.9	e5.2	4.9	15	12	18	14	13	15	13
16	3.2	1.1	5.5	e5.0	8.0	14	12	21	14	13	14	13
17	3.2	1.1	5.2	e4.7	7.8	14	12	19	14	13	14	12
18	3.7	1.1	5.0	e4.6	7.0	13	12	18	13	12	14	12
19	3.2	1.1	e4.8	e4.5	6.6	15	12	19	13	12	14	11
20	2.3	1.1	e4.6	e4.6	6.2	15	12	18	14	11	14	11
21	.86	1.2	e4.4	e4.8	6.0	15	32	17	14	11	14	10
22	.94	3.5	4.2	4.9	5.7	15	112	17	14	11	14	11
23	1.5	5.3	4.1	5.6	5.5	14	35	16	13	12	14	14
24	1.9	3.7	4.1	6.8	5.6	14	29	16	12	19	13	14
25	1.5	2.3	4.1	6.2	6.0	13	30	16	12	49	13	13
26	1.3	1.8	3.9	5.6	7.5	16	26	16	12	26	13	18
27	1.2	1.5	3.8	5.2	7.9	23	25	17	16	23	13	17
28	1.4	1.5	3.7	4.9	7.5	19	23	17	15	21	14	15
29	1.3	1.5	13	4.8	7.1	19	22	16	14	19	18	14
30	1.7	1.4	14	4.7	---	18	21	16	14	19	16	13
31	1.5	---	9.9	4.6	---	18	---	22	---	18	14	---
TOTAL	83.80	51.26	224.1	185.3	161.6	462.0	632	566	465	522	493	406.6
MEAN	2.70	1.71	7.23	5.98	5.57	14.9	21.1	18.3	15.5	16.8	15.9	13.6
MAX	11	5.3	25	9.4	8.0	30	112	22	23	49	36	25
MIN	.86	.98	1.5	4.5	3.6	5.7	12	16	12	11	13	9.6
CFSM	.14	.09	.38	.32	.29	.79	1.11	.97	.82	.89	.84	.72
IN.	.16	.10	.44	.36	.32	.91	1.24	1.11	.92	1.03	.97	.80

e Estimated

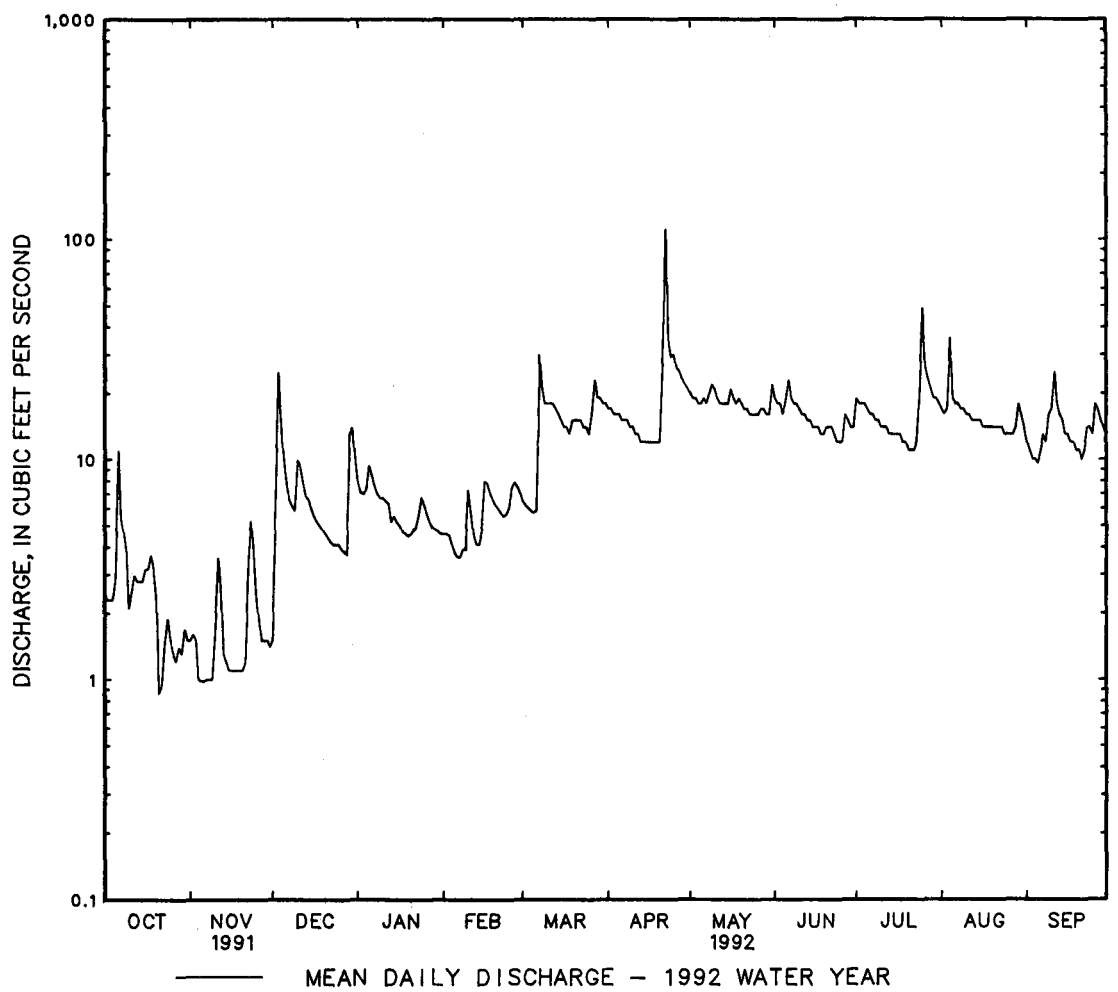
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

MEAN	8.02	7.60	9.77	11.8	14.5	17.3	18.3	15.8	13.7	9.92	7.25	6.34
MAX	39.5	27.0	29.7	30.1	32.2	38.0	49.8	36.2	48.2	32.4	18.0	31.8
(WY)	1977	1976	1973	1979	1973	1979	1984	1972	1972	1972	1972	1975
MIN	.83	1.71	1.60	2.24	4.14	5.08	4.45	3.65	2.74	2.13	1.62	1.68
(WY)	1987	1992	1989	1981	1989	1990	1969	1969	1969	1991	1991	1988

01617800 MARSH RUN AT GRIMES, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1964 - 1992	
ANNUAL TOTAL	3032.66		4252.66			
ANNUAL MEAN	8.31		11.6		11.7	
HIGHEST ANNUAL MEAN					23.9	1972
LOWEST ANNUAL MEAN					4.31	1969
HIGHEST DAILY MEAN	42	Sep 19	112	Apr 22	223	Jun 23 1972
LOWEST DAILY MEAN	.86	Oct 21	.86	Oct 21	.00	Oct 1 1977
ANNUAL SEVEN-DAY MINIMUM	1.1	Nov 3	1.1	Nov 3	.60	Oct 21 1986
INSTANTANEOUS PEAK FLOW	109	Sep 19	205	Apr 21	a459	Feb 12 1985
INSTANTANEOUS PEAK STAGE	2.40	Sep 19	3.11	Apr 21	4.45	Feb 12 1985
INSTANTANEOUS LOW FLOW	.85	Oct 21	.85	Oct 21	b.00	Oct 1 1977
ANNUAL RUNOFF (CFSM)	.44		.61		.62	
ANNUAL RUNOFF (INCHES)	5.97		8.37		8.40	
10 PERCENT EXCEEDS	19		19		23	
50 PERCENT EXCEEDS	4.7		12		8.7	
90 PERCENT EXCEEDS	1.4		2.0		3.0	

a From rating curve extended above 220 ft^3/s.
b Result of regulation caused by construction work upstream from station.



01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank, 0.1 mi downstream from Rumsey Bridge at Shepherdstown, 3.3 mi upstream from Antietam Creek, and at mile 184.

DRAINAGE AREA.--5,936 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of the Maryland/Delaware/DC district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges (doubtful or missing record), which are fair. Some regulation at low flow by power plants upstream from station, 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft and 29.8 ft respectively, from floodmarks, discharges, about 290,000 ft^3/s and 168,000 ft^3/s respectively, from rating curve extended as explained above.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 23	1500	*39,900	*12.46	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	865	1020	1320	e5400	2210	11600	9910	7460	4440	3630	5050	e2100
2	731	921	2160	e4400	2010	9860	8800	7430	4370	3490	4110	e1950
3	710	943	3850	3750	2230	8280	7940	6910	3720	3880	3470	e1900
4	684	958	7490	3470	2290	6760	7240	5620	3270	4440	3610	e1850
5	728	1090	7890	3680	2260	5920	6550	5080	3370	6070	3430	e1800
6	1010	921	5250	5260	2360	5260	5810	4880	9770	4410	2720	e1800
7	1270	772	3790	8930	2150	6290	5280	4660	12800	3480	2340	e2100
8	938	661	2960	6660	2060	11300	4850	4460	10700	2960	2090	e3000
9	998	824	2780	5210	1970	10600	4430	5780	8350	2560	1960	e3500
10	939	929	2990	4360	1940	9190	4080	13500	7220	2290	1930	e3300
11	731	1220	3260	3790	1880	8830	3870	17600	6220	2120	1980	e3200
12	804	1130	3030	3430	1810	11500	3880	13900	5330	2210	2040	e3100
13	696	1070	2660	3060	1770	16800	3900	10900	4630	2430	2320	e3000
14	776	1140	2600	2860	1830	14100	3930	9100	4190	2380	2190	e2800
15	1090	1060	2500	3030	2060	11500	3600	8540	3790	2580	e2200	e2500
16	1170	1120	2250	3200	1880	9490	3340	9420	3370	2420	e2200	e2300
17	1020	987	1960	2970	e2500	8050	3190	11600	3100	2070	e2200	e2100
18	840	1010	1620	2750	e3800	7020	3120	10200	3110	1890	e2200	e2000
19	881	1080	1710	2350	e4300	6790	3000	9280	3080	1760	e2200	e1900
20	596	925	1880	2000	e4600	8080	2990	7990	3150	1670	e2200	e1800
21	743	969	1810	1640	e5000	13900	3420	7200	3460	1640	e2150	e1750
22	726	1520	1690	2340	e4800	15500	15200	6160	3640	1570	e2100	e2000
23	653	2010	1690	2610	e4500	13600	35600	5450	3230	1450	e2000	e2500
24	650	2150	1550	2550	e4000	11900	27000	4920	2860	1740	e1900	e2100
25	659	2250	1620	2260	e4200	10400	18300	4630	2670	4100	e1800	e1800
26	673	2000	1860	2150	e5000	9250	14700	4580	2620	8430	e1750	e1750
27	669	1880	2400	2240	15800	15600	12300	4410	2750	7200	e1700	e1750
28	971	1540	3740	2280	20000	20300	10000	3980	2630	7310	e1650	e1750
29	960	1430	4290	2260	15000	15800	8620	3630	2300	9360	e1600	e1800
30	868	1180	e4600	2290	---	13000	7680	3370	2260	9120	e1900	e2000
31	944	---	e5000	2330	---	10900	---	3640	---	6400	e2900	---
TOTAL	25993	36710	94200	105510	126210	337370	252530	226280	136400	117060	73890	67200
MEAN	838	1224	3039	3404	4352	10880	8418	7299	4547	3776	2384	2240
MAX	1270	2250	7890	8930	20000	20300	35600	17600	12800	9360	5050	3500
MIN	596	661	1320	1640	1770	5260	2990	3370	2260	1450	1600	1750
CFSM	.14	.21	.51	.57	.73	1.83	1.42	1.23	.77	.64	.40	.38
IN.	.16	.23	.59	.66	.79	2.11	1.58	1.42	.85	.73	.46	.42

e Estimated

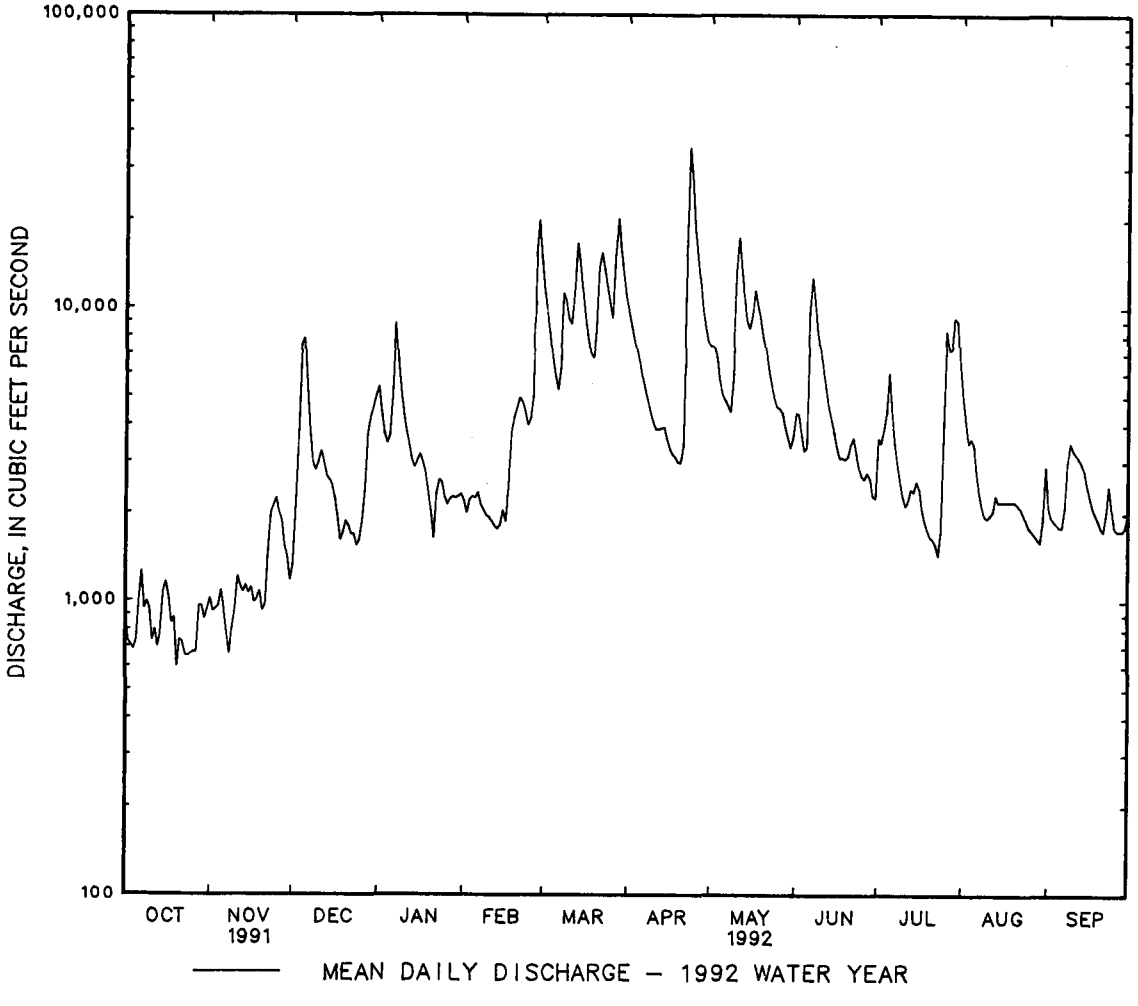
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1992, BY WATER YEAR (WY)

MEAN	3186	3666	5618	6866	9068	12670	11100	8086	4586	2478	2247	1973
MAX	20080	24780	22070	20480	23770	45990	25020	20450	22600	9529	12140	11750
(WY)	1977	1986	1973	1937	1971	1936	1984	1988	1972	1949	1955	1975
MIN	351	395	621	1009	1580	3081	4010	2049	970	556	429	378
(WY)	1931	1931	1931	1981	1934	1990	1969	1930	1969	1966	1930	1930

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1928 - 1992	
ANNUAL TOTAL	1856108		1599353			
ANNUAL MEAN	5085		4370		5944	
HIGHEST ANNUAL MEAN					9988	1972
LOWEST ANNUAL MEAN					2607	1969
HIGHEST DAILY MEAN	54000	Jan 18	35600	Apr 23	287000	Mar 19 1936
LOWEST DAILY MEAN	596	Oct 20	596	Oct 20	185	Jul 31 1966
ANNUAL SEVEN-DAY MINIMUM	671	Oct 20	671	Oct 20	294	Sep 4 1966
INSTANTANEOUS PEAK FLOW	59600	Jan 18	39900	Apr 23	a335000	Mar 19 1936
INSTANTANEOUS PEAK STAGE	16.12	Jan 12	12.46	Apr 23	b42.10	Mar 19 1936
INSTANTANEOUS LOW FLOW	493	Oct 11	493	Oct 11	170	Aug 1 1966
ANNUAL RUNOFF (CFSM)	.86		.74		1.00	
ANNUAL RUNOFF (INCHES)	11.63		10.02		13.61	
10 PERCENT EXCEEDS	11400		9870		13400	
50 PERCENT EXCEEDS	1880		2880		3200	
90 PERCENT EXCEEDS	909		995		862	

a From rating curve extended above 200,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.



01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to September 1981.
WATER TEMPERATURE: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE: Maximum, 670 microsiemens, Aug. 6, 10, 15, 30, Sept. 3, 1981; minimum, 160 microsiemens, Apr. 14-15, 1981.
WATER TEMPERATURE: Maximum, 30.0°C, July 17, 21, 25, 1981; minimum, 1.0°C, Feb. 13, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
OCT 1991											
28...	0930	1090	400	577	8.0	15.0	21.0	763	1.7	10.6	105
JAN 1992											
29...	1030	1800	372	366	8.1	2.0	8.0	764	2.7	14.4	104
MAR											
02...	0730	9900	232	215	7.5	7.0	14.0	758	5.3	12.5	104
MAY											
18...	1030	10400	225	208	8.0	17.0	25.0	760	4.9	9.3	97
AUG											
31...	0800	3300	433	428	8.1	24.0	26.0	757	1.2	7.0	84

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 1991										
28...	120	130	80	13	24	3.8	162	198	91	37
JAN 1992										
29...	<1	K7	48	8.0	13	2.2	79	96	69	20
MAR										
02...	K85	35	26	5.1	5.3	1.5	39	48	47	8.8
MAY										
18...	K65	120	27	5.2	5.5	1.9	60	72	35	7.9
AUG										
31...	110	220	55	10	14	3.0	118	143	61	24
SEP										

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT 1991										
28...	0.10	2.7	349	357	1.68	0.010	0.020	1.60	1.70	0.020
JAN 1992										
29...	0.20	2.8	233	218	--	0.010	<0.010	1.60	1.60	0.020
MAR										
02...	<0.10	5.9	126	131	--	0.010	<0.010	1.60	1.60	0.050
MAY										
18...	0.20	5.3	121	128	0.920	0.020	0.020	0.970	0.940	0.060
AUG										
31...	0.20	3.9	243	249	--	<0.010	<0.010	1.50	1.50	0.060

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

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)
OCT 1991										
28...	0.020	0.40	2.0	0.030	0.030	0.020	0.010	<10	65	<3
JAN 1992										
29...	0.030	<0.20	--	0.030	0.020	0.020	0.020	<10	42	<3
MAR										
02...	0.050	0.30	1.9	0.050	<0.010	0.010	<0.010	20	33	<3
MAY										
18...	0.070	<0.20	--	0.040	0.030	0.030	0.020	40	39	<3
AUG										
31...	0.070	0.50	2.0	0.060	0.040	0.040	0.040	20	50	<3

DATE	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 1991										
28...	24	11	39	<10	3	<1	<1.0	370	<6	250
JAN 1992										
29...	32	10	51	<10	3	<1	<1.0	230	<6	150
MAR										
02...	26	5	54	<10	3	<1	<1.0	120	<6	86
MAY										
18...	46	5	21	<10	3	<1	<1.0	140	<6	89
AUG										
31...	8	6	21	<10	3	<1	<1.0	270	<6	180

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
28...	0930	1090	4	12	90
JAN 1992					
29...	1030	1800	2	9.7	100
MAR					
02...	0730	9900	12	321	96
MAY					
18...	1030	10400	17	477	98
AUG					
31...	0800	3300	5	45	96

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 National Geodetic Vertical Datum of 1929, 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, 20 ft^3/s, Apr. 22, gage height, 1.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.9	5.2	6.9	6.6	6.3	8.8	10	8.7	7.9	8.0	7.2
2	6.3	5.8	5.2	6.9	6.6	6.3	8.8	10	8.5	8.4	7.8	7.2
3	6.2	5.8	5.2	6.9	6.6	6.3	8.8	10	8.5	8.1	7.8	7.2
4	6.1	5.8	5.2	6.9	6.6	6.3	8.8	10	8.5	8.1	8.0	7.2
5	6.1	5.8	6.8	6.9	6.6	6.3	8.8	9.7	8.5	8.1	7.8	7.2
6	6.6	5.8	6.9	6.9	6.6	6.3	8.8	9.7	8.5	8.1	7.8	7.2
7	6.4	5.8	6.9	6.9	6.3	7.4	8.8	9.7	8.5	7.9	7.8	7.2
8	6.3	5.5	6.9	6.9	6.3	7.8	8.8	9.7	8.5	7.8	7.8	7.4
9	6.3	5.5	6.9	6.9	6.2	7.7	8.8	9.7	8.5	7.8	7.8	7.7
10	6.3	5.5	6.9	7.0	6.1	7.5	8.8	9.7	8.5	8.0	7.8	8.2
11	6.3	5.4	6.9	7.2	6.1	7.8	8.8	9.7	8.5	8.1	8.0	9.7
12	6.3	5.2	6.9	7.2	6.1	7.8	8.8	9.7	8.2	8.1	8.1	9.0
13	6.3	5.2	6.9	7.2	6.1	7.8	8.8	9.4	8.1	8.1	7.9	8.5
14	6.3	5.2	6.9	7.2	6.1	7.8	8.8	9.4	8.1	8.1	7.8	8.2
15	6.3	5.2	6.9	7.2	6.2	7.8	8.5	9.1	8.1	8.1	7.8	8.1
16	6.3	5.2	6.9	7.2	6.3	7.8	8.5	9.1	8.1	8.1	7.8	8.1
17	6.3	5.2	6.9	7.2	6.3	7.8	8.5	9.1	8.1	8.1	7.8	7.9
18	6.3	5.2	6.9	7.2	6.3	7.8	8.5	9.1	8.1	8.1	7.6	7.8
19	6.3	5.2	6.9	7.2	6.3	7.8	8.4	9.0	8.1	7.9	7.5	7.8
20	6.3	5.2	6.9	7.2	6.3	7.8	8.1	8.8	8.1	7.8	7.5	7.8
21	6.3	5.2	6.9	7.2	6.3	7.8	9.9	8.8	8.1	7.8	7.5	7.6
22	6.2	5.2	6.9	7.2	6.3	7.8	17	8.8	8.0	7.8	7.5	7.5
23	6.1	5.2	6.9	7.2	6.3	7.8	15	8.8	7.8	7.5	7.5	7.5
24	6.1	5.2	6.9	6.8	6.3	7.8	14	8.8	7.8	7.5	7.5	7.5
25	6.1	5.2	6.9	6.6	6.3	7.8	13	8.8	7.9	9.9	7.5	7.3
26	6.1	5.2	6.9	6.6	6.3	7.8	12	8.8	8.1	8.9	7.5	7.2
27	6.1	5.2	6.9	6.6	6.3	8.5	12	8.8	7.7	8.8	7.5	7.2
28	6.1	5.2	6.9	6.6	6.3	8.7	11	8.8	7.5	8.8	7.5	7.2
29	6.1	5.2	6.9	6.6	6.3	8.5	11	8.8	7.5	8.7	7.5	7.2
30	6.1	5.2	6.9	6.6	---	8.5	10	8.8	7.5	8.1	7.3	7.2
31	6.1	---	6.9	6.6	---	8.6	---	8.8	---	8.1	7.2	---
TOTAL	193.3	161.4	207.0	215.7	183.3	235.8	298.6	287.4	244.6	252.6	238.2	230.0
MEAN	6.24	5.38	6.68	6.96	6.32	7.61	9.95	9.27	8.15	8.15	7.68	7.67
MAX	6.6	5.9	6.9	7.2	6.6	8.7	17	10	8.7	9.9	8.1	9.7
MIN	6.1	5.2	5.2	6.6	6.1	6.3	8.1	8.8	7.5	7.5	7.2	7.2

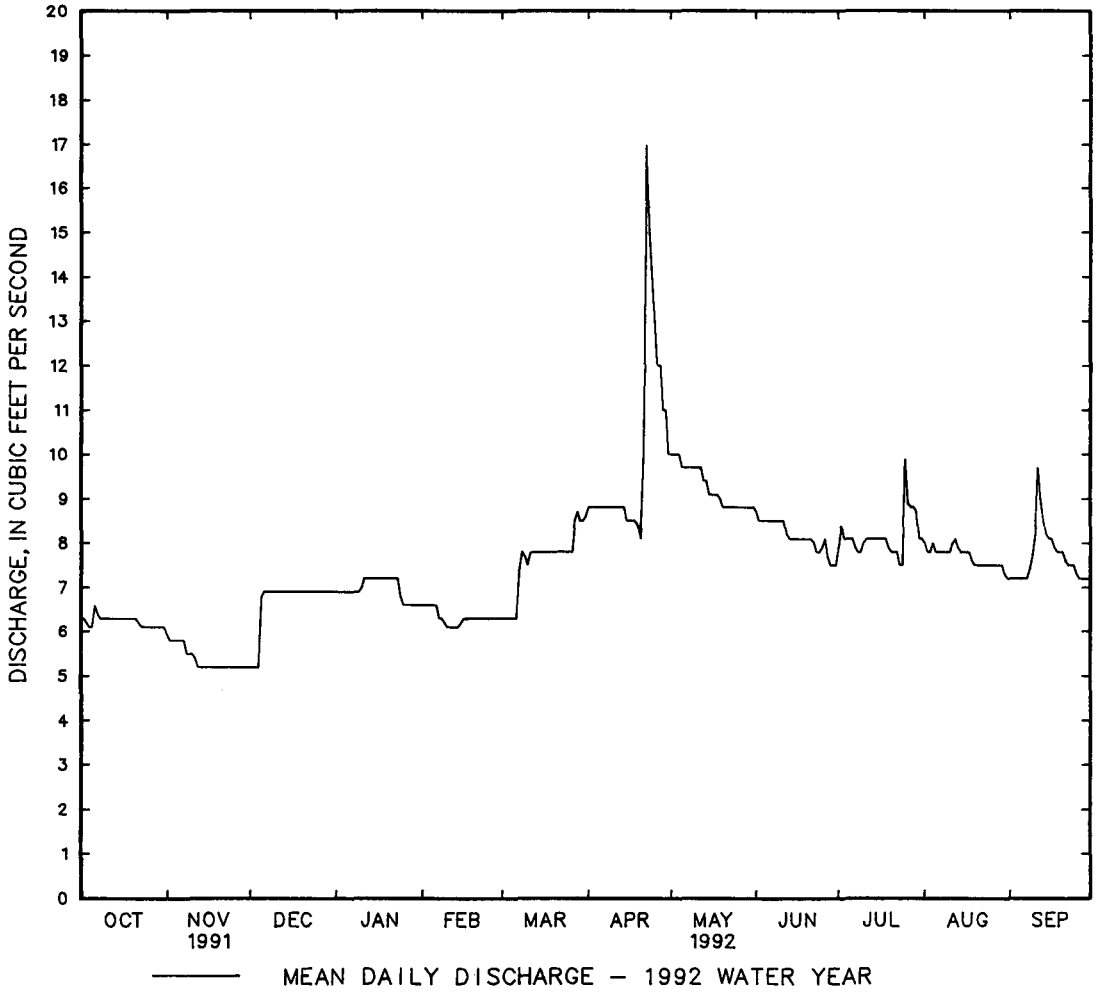
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1992, BY WATER YEAR (WY)

MEAN	6.33	5.97	6.20	7.07	7.03	7.42	7.89	8.65	8.17	7.57	6.90	6.57
MAX	7.18	7.08	7.61	10.6	9.37	9.07	9.95	10.6	9.70	8.44	7.68	7.67
(WY)	1991	1991	1991	1991	1991	1991	1992	1989	1989	1989	1992	1992
MIN	5.64	5.32	5.30	5.63	5.54	6.40	6.14	7.17	7.53	6.83	6.22	6.08
(WY)	1989	1988	1989	1989	1989	1988	1988	1990	1990	1991	1991	1988

01619320 ALBERT POWELL FISH HATCHERY SPRING AT BEAVER CREEK, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1987 - 1992	
ANNUAL TOTAL	2774.0		2747.9			
ANNUAL MEAN	7.60		7.51		7.18	
HIGHEST ANNUAL MEAN					7.90	1991
LOWEST ANNUAL MEAN					6.51	1988
HIGHEST DAILY MEAN	12	(a)	17	Apr 22	17	Apr 22 1992
LOWEST DAILY MEAN	5.2	(b)	5.2	(b)	5.0	(c)
ANNUAL SEVEN-DAY MINIMUM	5.2	Nov 12	5.2	Nov 12	5.1	Dec 13 1988
INSTANTANEOUS PEAK FLOW	12	(d)	20	Apr 22	20	Apr 22 1992
INSTANTANEOUS PEAK STAGE	1.51	Jan 16	1.72	Apr 22	1.72	Apr 22 1992
INSTANTANEOUS LOW FLOW	5.2	(f)	5.2	(f)	4.9	(c)
10 PERCENT EXCEEDS	9.7		8.8		8.8	
50 PERCENT EXCEEDS	7.2		7.5		7.0	
90 PERCENT EXCEEDS	5.8		6.1		5.5	

a Jan. 17-21.
b Nov. 12-30, Dec. 1-4.
c Dec. 18, 19, 1988.
d Jan. 16-21.
f Nov. 11-30, Dec. 1-5.



01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, Hydrologic Unit 02070004, on left bank 400 ft downstream from Burnside Bridge, 1.0 mi southeast of Sharpsburg, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--281 mi^2.

PERIOD OF RECORD.--June 1897 to September 1905, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 192: 1897-1905. WSP 726: Drainage area. WSP 1432: 1929-31(M), 1933, 1935(M), 1937(M), 1949(M), 1952(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 29, 1934. Datum of gage is 311.05 ft above National Geodetic Vertical Datum of 1929. June 24, 1897, to Aug. 25, 1905, nonrecording gage a few hundred feet downstream from Middle Bridge, 1.2 mi upstream at datum 12 ft higher. Aug. 21, 1928, to July 13, 1933, nonrecording gage at Burnside Bridge, 0.1 mi upstream at present datum. National Weather Service gage height telemeter at station.

REMARKS.--No estimated daily discharges. Records good. 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. 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 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	0030	*3,730	*8.46	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	116	115	222	153	197	474	485	394	296	265	159
2	131	116	156	207	148	193	442	453	319	268	250	159
3	128	115	479	206	146	190	416	436	296	255	256	160
4	126	112	338	209	146	187	395	413	288	295	379	161
5	151	111	241	243	145	184	380	400	356	248	261	159
6	295	110	210	227	142	182	356	410	446	228	244	209
7	234	110	195	216	142	511	343	381	357	218	234	218
8	171	108	183	207	141	626	335	382	325	209	227	193
9	160	106	180	202	138	464	322	460	313	206	230	267
10	154	110	271	207	133	411	316	451	294	202	220	214
11	162	129	261	199	131	501	312	398	279	200	226	355
12	198	119	216	191	134	509	303	381	269	196	262	231
13	166	117	208	187	137	436	287	362	258	196	227	191
14	149	113	217	192	137	408	275	362	251	191	220	180
15	145	109	202	200	151	388	270	371	245	185	213	175
16	155	107	191	187	201	361	263	472	238	183	210	170
17	157	104	185	172	201	344	262	386	232	206	208	165
18	166	102	180	173	193	338	260	373	237	188	207	162
19	153	102	174	170	197	367	258	379	266	175	210	158
20	144	102	167	170	199	362	254	341	297	168	204	154
21	139	104	168	168	192	339	619	326	249	170	192	156
22	135	156	165	165	184	330	2820	315	228	182	185	167
23	134	199	166	166	182	335	1150	305	220	196	180	293
24	131	174	167	189	186	316	846	301	220	310	177	198
25	128	134	159	177	186	303	770	313	291	912	174	185
26	124	126	152	164	220	357	677	317	321	643	172	240
27	123	122	151	160	245	754	615	331	320	445	168	238
28	119	117	151	155	220	697	564	296	260	382	166	201
29	116	113	282	158	208	585	525	274	231	326	216	185
30	114	111	307	157	---	531	501	275	238	297	174	171
31	116	---	247	156	---	510	---	448	---	278	163	---
TOTAL	4658	3574	6484	5802	4938	12216	15610	11597	8538	8454	6720	5874
MEAN	150	119	209	187	170	394	520	374	285	273	217	196
MAX	295	199	479	243	245	754	2820	485	446	912	379	355
MIN	114	102	115	155	131	182	254	274	220	168	163	154
(†)	-15.1	-14.8	-14.6	-15.5	-15.6	-15.0	-15.1	-15.0	-15.5	-15.8	-15.4	-15.3
MEAN≠	135	104	194	171	154	379	505	359	270	257	202	181
CFSM≠	0.48	0.37	0.69	0.61	0.55	1.35	1.80	1.28	0.96	0.91	0.72	0.64
IN≠	0.55	0.41	0.80	0.70	0.59	1.56	2.01	1.48	1.07	1.05	0.83	0.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

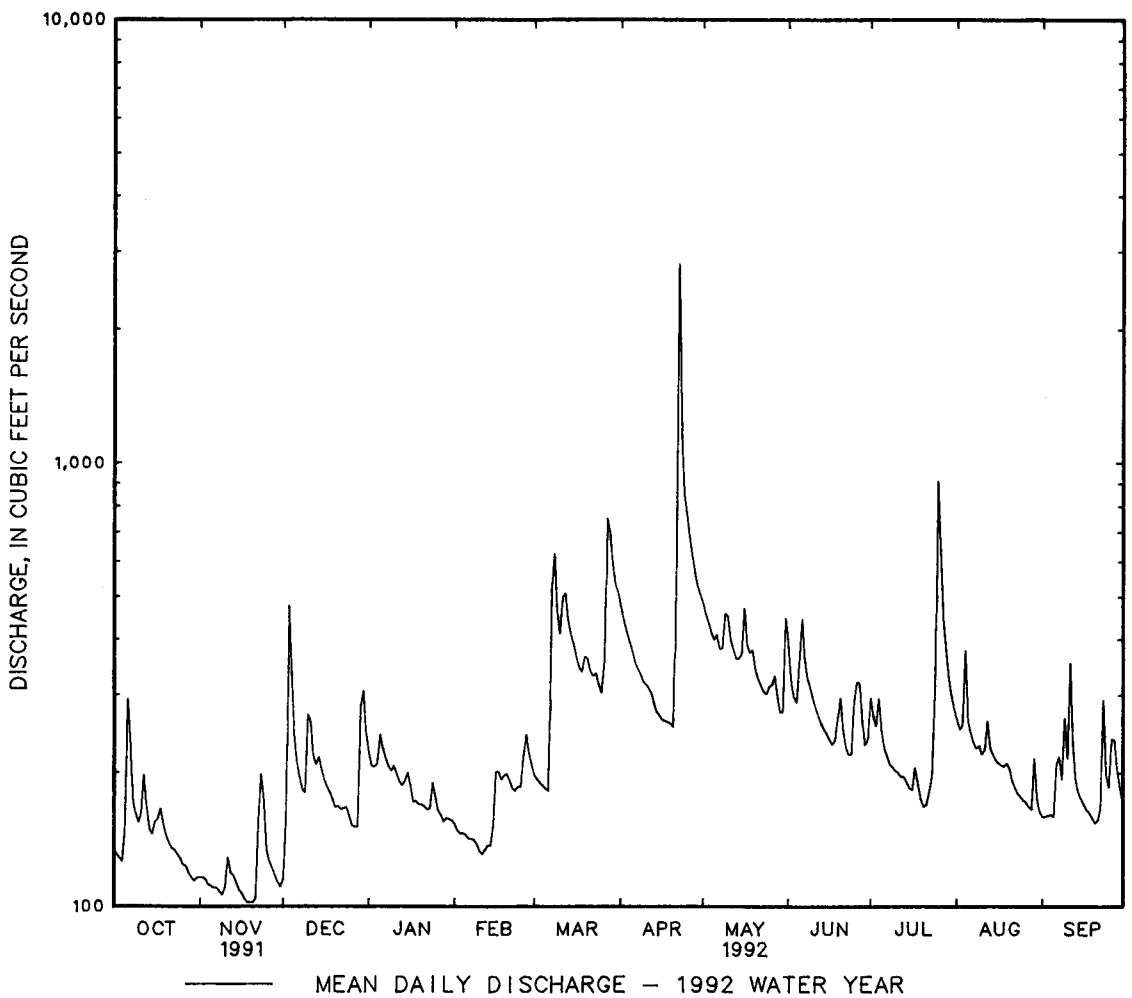
MEAN	172	186	239	282	348	437	452	369	287	211	170	163
MAX	916	589	776	799	938	1290	1001	779	1278	586	474	1090
(WY)	1977	1976	1951	1949	1984	1936	1984	1952	1972	1949	1984	1975
MIN	65.5	65.6	61.5	57.3	72.5	101	163	139	109	86.7	65.0	69.4
(WY)	1964	1966	1966	1966	1931	1931	1969	1931	1966	1954	1966	1963

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

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1931 - 1992	
ANNUAL TOTAL	94157		94465			
ANNUAL MEAN	258		258		276	
ANNUAL MEAN≠	243		243		267	
HIGHEST ANNUAL MEAN					510	1972
LOWEST ANNUAL MEAN					124	1966
HIGHEST DAILY MEAN	1350	Sep 19	2820	Apr 22	8970	Sep 26 1975
LOWEST DAILY MEAN	82	Sep 2	102	(a)	37	Jan 30 1966
ANNUAL SEVEN-DAY MINIMUM	87	Sep 11	104	Nov 15	49	Jan 26 1966
INSTANTANEOUS PEAK FLOW	2060	Sep 19	3730	Apr 22	b12600	Jul 20 1956
INSTANTANEOUS PEAK STAGE	6.27	Sep 19	8.46	Apr 22	16.73	Jul 20 1956
INSTANTANEOUS LOW FLOW	100	(c)	100	(c)	d9.4	Nov 22 1957
ANNUAL RUNOFF (CFSM)≠	.86		.86		.95	
ANNUAL RUNOFF (INCHES)≠	11.72		11.75		12.90	
10 PERCENT EXCEEDS	500		414		529	
50 PERCENT EXCEEDS	183		207		201	
90 PERCENT EXCEEDS	97		130		97	

≠ Adjusted for inflow since January 1930.
a Nov. 18-20.
b From rating curve extended above 7,300 ft^3/s on basis of contracted-opening measurement of peak flow.
c Nov. 17-21.
d Result of regulation caused by construction work upstream from station.



01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 5.0.

DRAINAGE AREA.--3,040 mi^2.

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 National Geodetic Vertical Datum of 1929. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Regulation by hydroelectric plants, particularly 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 23	1015	*52,400	*15.36	June 7	0145	17,000	8.75

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	498	447	543	2430	1040	4950	2600	3730	2140	1270	1450	702
2	495	453	616	2240	1010	3990	2450	3350	2030	1240	1360	678
3	460	448	872	1960	980	3300	2290	3140	1940	1210	1180	670
4	481	449	1680	1930	950	2780	2140	2920	1800	1220	1110	668
5	473	450	2880	4350	942	2420	2020	2710	2220	1290	951	643
6	511	456	2580	9660	894	2180	1890	2530	9400	1310	854	2810
7	514	459	1860	7570	883	2620	1800	2310	14500	1300	814	6070
8	485	454	1490	5460	875	4980	1740	2370	9440	1240	744	2890
9	488	445	1260	4180	872	5790	1630	4010	6640	1200	752	2340
10	538	507	1280	3370	851	5240	1580	7960	5040	1180	732	2340
11	521	530	1300	2760	833	4930	1510	7670	4180	1130	750	2090
12	491	634	1250	2390	819	5810	1520	6030	3640	1010	732	2450
13	497	669	1360	2080	823	7060	1470	4870	3060	929	918	1810
14	482	685	1240	1900	821	5880	1370	4180	2670	973	888	1570
15	471	713	1130	1770	834	4810	1310	3880	2360	877	808	1350
16	474	631	1020	1620	848	4100	1310	3960	2110	878	843	1190
17	486	539	931	1560	911	3540	1230	5330	1920	850	844	1060
18	492	520	881	1530	1040	3130	1240	5260	1870	767	851	957
19	480	500	870	1480	1130	2910	1260	4750	1840	752	826	876
20	470	495	824	1250	1230	2930	1320	4460	2100	733	792	809
21	455	488	766	1380	1230	3420	1750	4330	1940	745	751	790
22	458	534	791	1300	1210	3680	31000	4200	2060	822	711	785
23	453	575	767	1240	1200	3490	48200	3670	1910	771	679	816
24	461	656	744	1230	1200	3200	22600	3200	1760	835	653	768
25	466	647	754	1200	1230	2920	13100	2900	1650	1040	616	752
26	444	623	735	1160	1460	2710	9610	2670	1540	1020	602	1030
27	454	668	724	1250	4370	2910	7210	2620	1480	1570	575	2030
28	464	607	718	1170	9270	3300	5820	2430	1460	1830	563	2030
29	460	556	845	1140	6630	3240	4840	2320	1270	1740	569	1690
30	453	530	1220	1100	---	2920	4180	2200	1230	1430	690	1410
31	450	---	1580	1060	---	2730	---	2260	---	1310	723	---
TOTAL	14825	16368	35511	74720	46386	117870	181990	118220	97200	34472	25331	46074
MEAN	478	546	1146	2410	1600	3802	6066	3814	3240	1112	817	1536
MAX	538	713	2880	9660	9270	7060	48200	7960	14500	1830	1450	6070
MIN	444	445	543	1060	819	2180	1230	2200	1230	733	563	643
CFSM	.16	.18	.38	.79	.53	1.25	2.00	1.25	1.07	.37	.27	.51
IN.	.18	.20	.43	.91	.57	1.44	2.23	1.45	1.19	.42	.31	.56

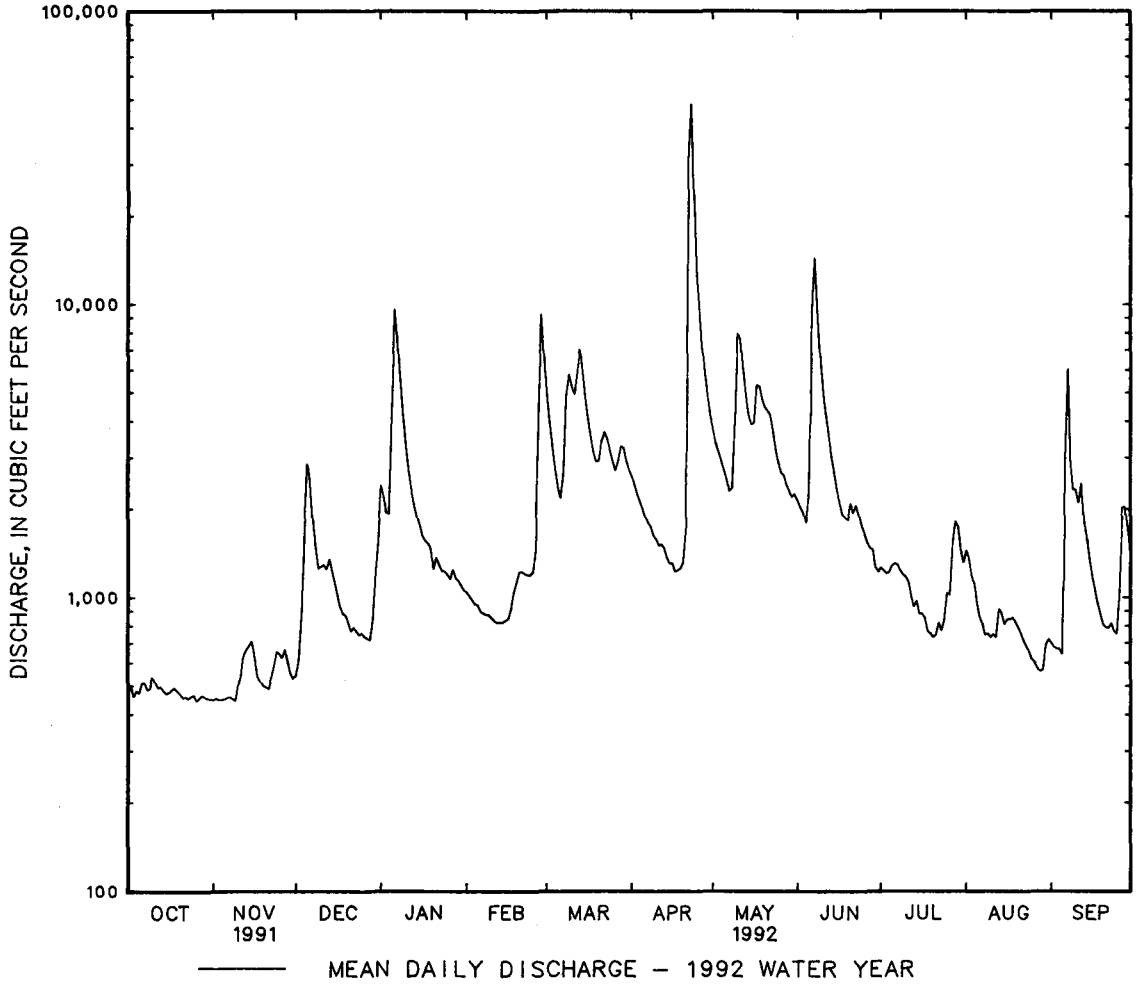
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1992, BY WATER YEAR (WY)

MEAN	1980	1815	2416	3019	3777	4795	4326	3352	2381	1431	1623	1326
MAX	16250	13350	8164	7925	13100	17540	12840	8700	10380	4809	10390	6701
(WY)	1943	1986	1973	1991	1897	1936	1901	1901	1972	1972	1955	1945
MIN	343	388	410	503	542	929	992	1001	660	402	388	411
(WY)	1931	1932	1966	1966	1931	1931	1981	1969	1977	1966	1930	1963

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1895 - 1992	
ANNUAL TOTAL	854258		808967			
ANNUAL MEAN	2340		2210		2680	
HIGHEST ANNUAL MEAN					4838	1973
LOWEST ANNUAL MEAN					1111	1981
HIGHEST DAILY MEAN	21800	Mar 24	48200	Apr 23	192000	Oct 16 1942
LOWEST DAILY MEAN	367	Sep 13	444	Oct 26	194	Jul 24 1930
ANNUAL SEVEN-DAY MINIMUM	450	Oct 30	450	Oct 30	240	Sep 7 1966
INSTANTANEOUS PEAK FLOW	25300	Mar 24	52400	Apr 23	230000	Oct 16 1942
INSTANTANEOUS PEAK STAGE	10.95	Mar 24	15.36	Apr 23	a32.40	Oct 16 1942
INSTANTANEOUS LOW FLOW	100	Sep 24	315	Nov 19	59	Oct 4 1930
ANNUAL RUNOFF (CFSM)	.77		.73		.88	
ANNUAL RUNOFF (INCHES)	10.45		9.90		11.98	
10 PERCENT EXCEEDS	5280		4400		5400	
50 PERCENT EXCEEDS	1250		1240		1590	
90 PERCENT EXCEEDS	484		496		607	

a From floodmarks.



01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

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 1991 TO SEPTEMBER 1992

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
OCT 1991											
28...	1200	468	390	380	8.2	17.0	19.0	762	1.2	10.5	109
JAN 1992											
29...	1330	1100	330	313	8.2	2.0	7.0	761	0.80	15.0	109
MAR											
02...	1130	3900	203	186	7.6	8.0	22.0	758	9.2	11.2	95
MAY											
18...	1330	5100	237	221	7.7	20.0	25.0	760	2.0	9.2	102
AUG											
31...	1200	732	345	343	8.3	24.0	23.0	756	1.0	7.4	89

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT 1991										
28...	K75	510	42	17	13	3.3	163	199	17	18
JAN 1992										
29...	<1	K4	40	11	8.7	2.1	123	149	19	14
MAR										
02...	K95	22	24	5.1	3.9	1.9	64	79	22	7.2
MAY										
18...	730	870	28	7.5	5.1	2.0	87	104	13	7.6
AUG										
31...	K80	510	37	14	14	2.5	131	157	23	18

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
OCT 1991										
28...	0.10	0.51	205	210	0.230	<0.010	0.010	0.250	0.240	0.020
JAN 1992										
29...	0.10	1.3	176	177	1.59	<0.010	0.010	1.60	1.60	<0.010
MAR										
02...	<0.10	5.8	123	115	1.39	0.020	0.010	1.40	1.40	0.100
MAY										
18...	0.20	3.2	126	124	1.28	0.020	0.020	1.20	1.30	0.030
AUG										
31...	0.20	2.2	170	191	--	<0.010	<0.010	0.560	0.590	0.040

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

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCT 1991OBER 1991 TO SEPTEMBER 1992

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	BARIUM, DISSOLVED (UG/L AS BA)	COBALT, DISSOLVED (UG/L AS CO)
OCT 1991										
28...	0.020	0.40	0.65	0.040	0.040	0.030	0.020	10	34	<3
JAN 1992										
29...	<0.010	<0.20	--	0.080	0.070	0.060	0.050	<10	27	<3
MAR										
02...	0.100	0.50	1.9	0.130	0.070	0.060	0.060	30	18	<3
MAY										
18...	0.050	0.20	1.4	0.090	0.060	0.060	0.050	10	30	<3
AUG										
31...	0.050	0.40	0.96	0.090	0.080	0.070	0.060	<10	33	<3

DATE	IRON, DISSOLVED (UG/L AS FE)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 1991										
28...	13	8	11	<10	3	3	<1.0	170	<6	180
JAN 1992										
29...	7	7	3	<10	<1	<1	<1.0	130	<6	150
MAR										
02...	54	6	9	<10	2	<1	<1.0	76	<6	81
MAY										
18...	23	4	9	<10	1	<1	<1.0	93	<6	100
AUG										
31...	11	7	15	<10	<1	<1	<1.0	150	<6	150

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
28...	1200	468	4	5.1	76
JAN 1992					
29...	1330	1100	1	3.0	87
MAR					
02...	1130	3900	24	253	88
MAY					
18...	1330	5100	18	248	98
AUG					
31...	1200	732	8	16	93

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD

LOCATION.--Lat 39°25'35", long 77°33'25", Frederick County, Hydrologic Unit 02070008, on right bank 300 ft downstream from bridge on State Highway 17, 1.3 mi south of Middletown, 2.2 mi downstream from Little Catoctin Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--66.9 mi^2.

PERIOD OF RECORD.--August 1947 to current year.

REVISED RECORDS.--WSP 1432: 1947-48. WDR MD-DE-77-1: 1960(M), 1965(M), 1970(M), 1972(P), 1975(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 385 ft above National Geodetic Vertical Datum of 1929, 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 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	0230	*4,430	*8.32	July 25	0700	1,860	5.47
July 17	0130	1,550	5.05				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	6.1	15	62	27	59	126	115	67	70	67	12
2	3.4	6.3	80	57	22	56	111	103	54	41	55	12
3	2.9	5.8	323	54	26	52	98	97	47	45	88	12
4	2.6	5.8	102	65	23	48	90	84	43	66	254	14
5	3.2	5.4	66	86	23	45	82	79	116	35	81	13
6	50	5.6	53	63	19	45	73	77	136	29	62	46
7	20	5.8	44	56	21	314	69	68	83	26	52	42
8	11	5.8	38	51	23	222	65	80	71	22	48	27
9	8.0	5.8	38	50	17	163	60	138	64	20	48	73
10	7.0	6.7	109	54	14	139	59	116	55	18	40	42
11	7.2	10	67	46	e14	262	61	85	48	17	48	132
12	12	14	54	41	e14	186	56	75	43	16	58	42
13	11	11	53	39	13	159	48	71	40	15	39	30
14	8.6	9.8	67	46	26	136	45	68	37	14	38	26
15	7.0	8.9	54	47	46	121	44	69	35	14	34	24
16	7.6	8.1	44	34	103	103	42	93	32	16	38	21
17	12	7.4	39	28	79	96	42	69	30	263	37	20
18	20	7.0	37	35	80	92	44	65	41	70	33	19
19	13	7.0	28	28	91	105	45	60	61	38	32	17
20	9.2	7.0	28	e32	82	95	41	52	47	28	31	16
21	8.0	7.6	32	e32	72	93	760	47	35	23	25	15
22	7.4	71	29	32	66	89	1580	44	29	28	22	24
23	7.3	117	28	33	60	88	466	42	27	34	21	45
24	7.0	36	31	44	62	80	357	43	26	143	19	21
25	6.8	24	26	28	62	77	305	48	46	779	18	28
26	7.0	18	23	31	93	153	232	59	46	222	17	53
27	7.0	15	22	23	82	343	194	66	33	210	16	41
28	6.8	14	22	30	72	226	161	45	27	150	16	36
29	6.4	13	155	27	67	183	139	39	22	109	18	28
30	6.3	12	104	27	---	159	126	40	23	86	15	23
31	5.9	---	74	28	---	149	---	117	---	76	14	---
TOTAL	295.3	476.9	1885	1309	1399	4138	5621	2254	1464	2723	1384	954
MEAN	9.53	15.9	60.8	42.2	48.2	133	187	72.7	48.8	87.8	44.6	31.8
MAX	50	117	323	86	103	343	1580	138	136	779	254	132
MIN	2.6	5.4	15	23	13	45	41	39	22	14	14	12
CFSM	.14	.24	.91	.63	.72	2.00	2.80	1.09	.73	1.31	.67	.48
IN.	.16	.27	1.05	.73	.78	2.30	3.13	1.25	.81	1.51	.77	.53

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1992, BY WATER YEAR (WY)

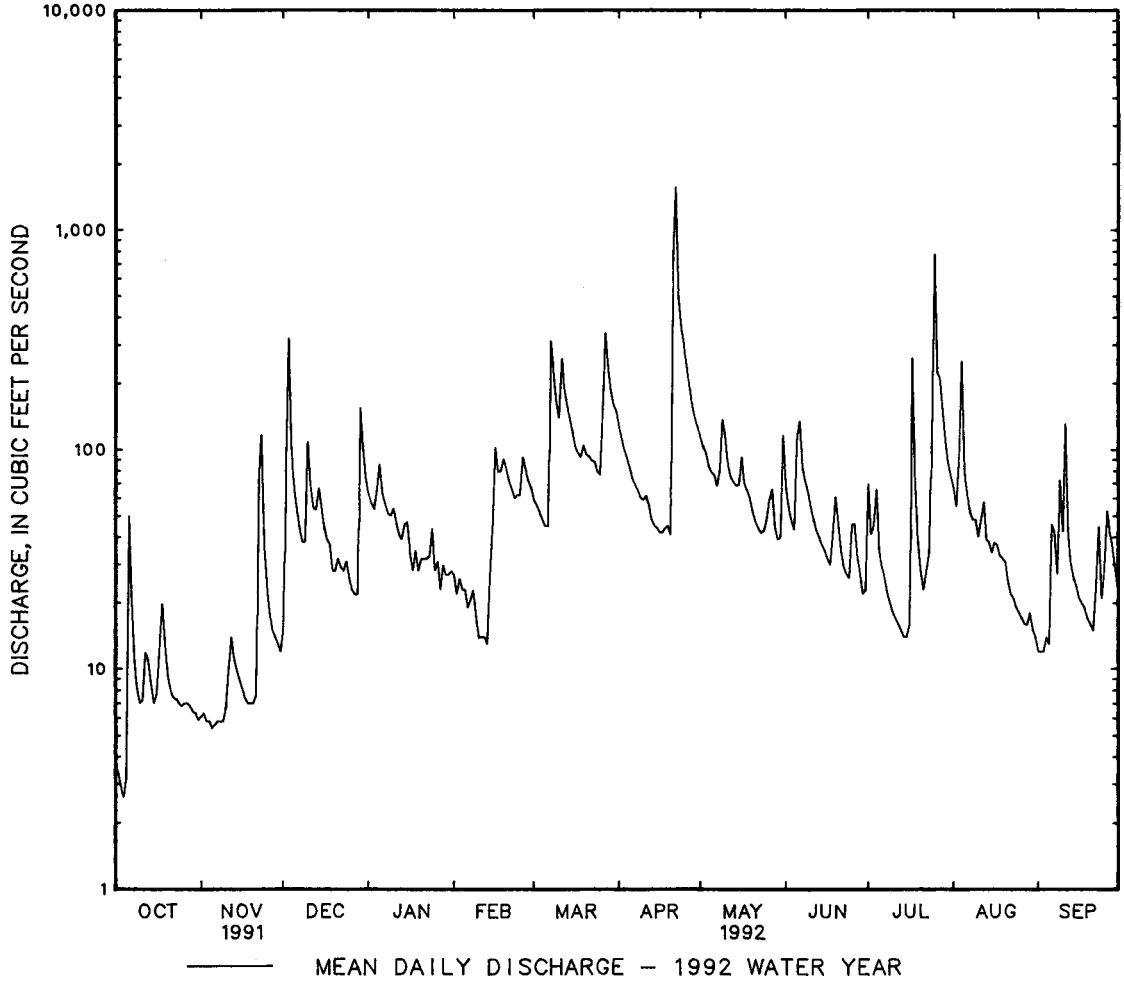
MEAN	35.3	45.9	77.1	95.4	122	143	138	102	58.5	33.0	21.0	24.0
MAX	399	162	246	278	357	243	349	391	439	214	208	284
(WY)	1977	1986	1973	1979	1984	1979	1983	1988	1972	1949	1955	1975
MIN	2.62	3.61	3.80	4.25	28.7	46.3	44.5	29.2	13.5	4.86	2.04	1.68
(WY)	1964	1966	1966	1966	1954	1969	1963	1963	1954	1966	1966	1965

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1947 - 1992	
ANNUAL TOTAL	20039.96		23903.2			
ANNUAL MEAN	54.9		65.3		74.3	
HIGHEST ANNUAL MEAN					154	1972
LOWEST ANNUAL MEAN					29.7	1954
HIGHEST DAILY MEAN	443	Jan 16	1580	Apr 22	4880	Oct 9 1976
LOWEST DAILY MEAN	.96	Aug 7	2.6	Oct 4	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 2	5.7	Nov 3	.00	Aug 27 1966
INSTANTANEOUS PEAK FLOW	688	Jan 16	4430	Apr 22	b12000	Oct 9 1976
INSTANTANEOUS PEAK STAGE	3.60	Jan 16	8.32	Apr 22	14.13	Oct 9 1976
INSTANTANEOUS LOW FLOW	.86	Aug 7	c2.3	(d)	.00	(a)
ANNUAL RUNOFF (CFSM)	.82		.98		1.11	
ANNUAL RUNOFF (INCHES)	11.14		13.29		15.09	
10 PERCENT EXCEEDS	141		126		170	
50 PERCENT EXCEEDS	26		42		37	
90 PERCENT EXCEEDS	2.6		8.1		5.7	

a Aug. 27 to Sept. 12, 1966.

b From rating curve extended above 2,600 ft^3/s on basis of slope-area measurement of peak flow.
c Result of freezeup.
d Feb. 2, 12.



01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--Water-discharge records good except those for estimated daily discharges (backwater from grass), which are fair. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft^3/s from rating curve extended as explained in footnotes.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 23	1700	*90,000	*16.25	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1400	e1200	1920	7330	3810	18100	13400	11000	6580	4040	7180	3680
2	e1350	e1100	2060	7610	3510	14900	12200	10000	6780	4300	6140	3160
3	e1300	e1100	3770	6640	3470	12800	11100	9270	6160	4740	5040	3030
4	e1300	e1100	6810	6020	3560	10600	10100	8540	5510	4950	5200	2880
5	e1300	e1200	13200	7480	3410	8970	9360	8010	5680	7320	4860	2740
6	e1500	e1300	11300	13800	3430	8220	8400	7650	13800	6320	4210	2860
7	e1800	e1100	7980	17600	3270	9810	7770	7130	27300	5070	3640	9660
8	e1900	e1100	6050	14100	3060	16300	7210	6970	21300	4450	3370	6660
9	e1500	e1000	4920	10800	3120	17500	6640	8540	16000	4000	3160	6420
10	e1700	e1100	4720	8780	3110	15800	6210	17700	12900	3640	3140	6940
11	e1500	e1300	4880	7480	2980	15400	5930	24900	10900	3470	3250	7050
12	e1400	e1300	5060	6580	2850	16400	5850	21200	9320	3250	3600	7350
13	e1400	e1400	4990	5910	2890	23600	5730	16900	8050	3480	3590	6130
14	e1300	e1400	4590	5390	2800	21700	5770	14000	7030	3350	3800	5240
15	e1300	e1600	4290	5340	3060	17800	5400	12500	6340	3560	3440	4610
16	e1600	e1600	3930	5360	3110	14800	5060	13100	5720	3540	3430	4140
17	e2200	e1500	3720	5180	3500	12600	4810	16300	5160	3370	3450	3760
18	e2000	e1400	3380	4810	4690	10900	4720	15900	4900	2910	3420	3530
19	e1700	e1400	3250	4750	5780	10300	4630	14400	4950	2740	3380	3330
20	e1500	e1400	3350	4000	6510	10700	4640	12700	5090	2650	3320	3190
21	e1300	e1300	2430	3560	6980	15500	5700	11800	5270	2460	3170	3070
22	e1400	e1800	2820	3620	6930	19100	38400	10700	5550	2620	2990	3030
23	e1400	2440	2840	4310	6700	18000	82300	9430	5350	2550	2820	3800
24	e1300	2740	2730	4310	6290	15900	58200	8340	4800	2740	2760	3700
25	e1300	2930	2630	4220	6130	14200	34700	7700	4490	5070	2680	3220
26	e1200	3210	2600	3630	6930	12700	26400	7370	4430	9380	2600	3350
27	e1200	2700	2520	3840	15100	16500	21100	7280	4400	9710	2540	4380
28	e1200	2790	2530	3850	28400	24200	17000	6680	4380	9070	2460	4890
29	e1200	2380	3210	3820	23200	21100	14300	6200	3870	10700	2610	4430
30	e1200	2230	4110	3780	---	17400	12300	5870	3580	11600	2890	3850
31	e1100	---	6030	3800	---	15000	---	6490	---	8950	3490	---
TOTAL	44750	50120	138620	197700	178580	476800	455330	344570	235590	156000	111630	134080
MEAN	1444	1671	4472	6377	6158	15380	15180	11120	7853	5032	3601	4469
MAX	2200	3210	13200	17600	28400	24200	82300	24900	27300	11600	7180	9660
MIN	1100	1000	1920	3560	2800	8220	4630	5870	3580	2460	2460	2740
CFSM	.15	.17	.46	.66	.64	1.59	1.57	1.15	.81	.52	.37	.46
IN.	.17	.19	.53	.76	.69	1.84	1.76	1.33	.91	.60	.43	.52

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1992, BY WATER YEAR (WY)

MEAN	5094	5485	8341	11080	14210	19160	16360	12320	8016	4518	4192	3496
MAX	37030	39000	32610	31350	42640	68360	39840	41970	40400	16000	23580	17820
(WY)	1943	1986	1973	1937	1897	1936	1918	1924	1972	1949	1955	1975
MIN	706	840	1253	1703	2661	5400	4368	3276	1932	1056	771	834
(WY)	1931	1931	1966	1981	1934	1931	1915	1930	1969	1966	1930	1930

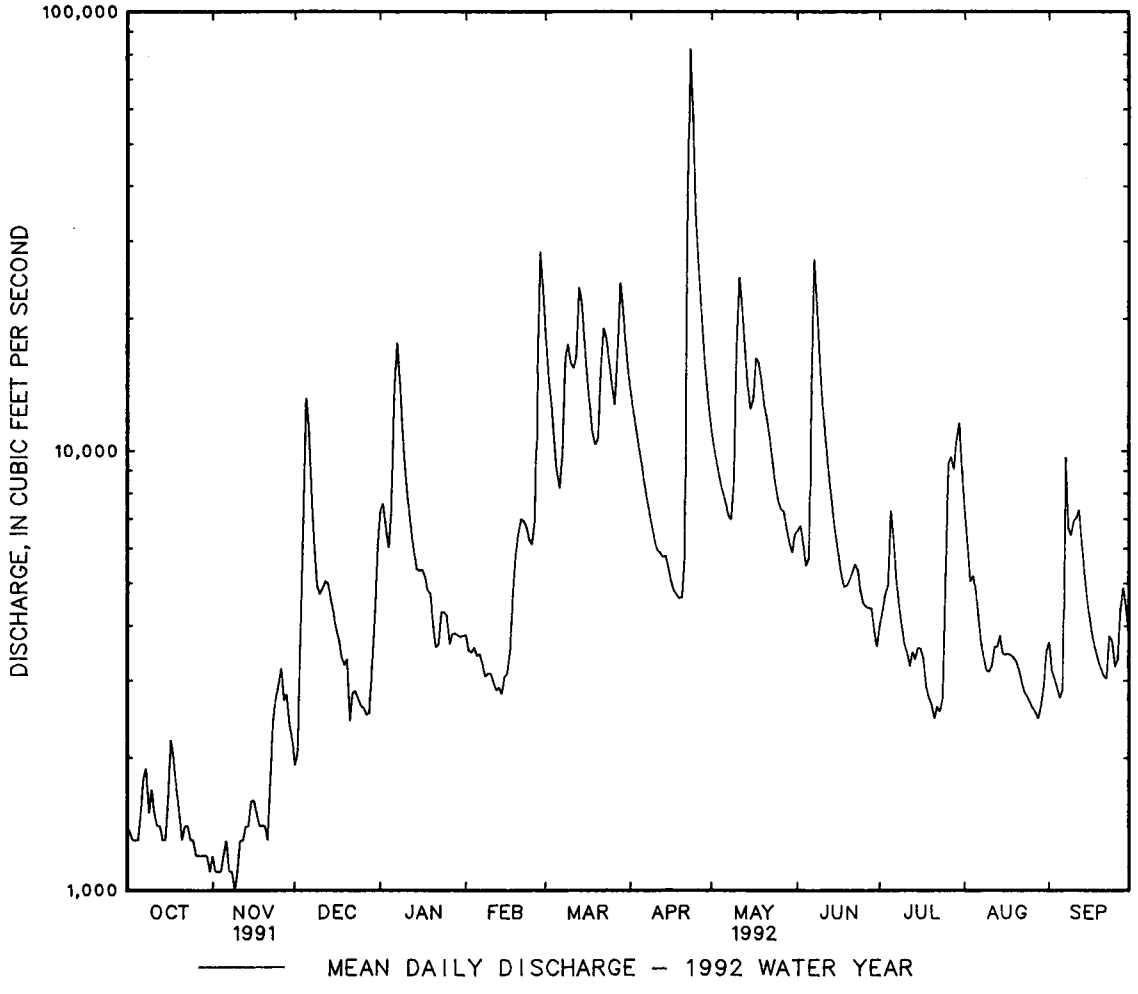
01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1895 - 1992	
ANNUAL TOTAL	2797680		2523770			
ANNUAL MEAN	7665		6896		9341	
HIGHEST ANNUAL MEAN					15840	1972
LOWEST ANNUAL MEAN					4366	1969
HIGHEST DAILY MEAN	78100	Jan 18	82300	Apr 23	434000	Mar 19 1936
LOWEST DAILY MEAN	e1000	Nov 9	e1000	Nov 9	540	Sep 10 1914
ANNUAL SEVEN-DAY MINIMUM	1130	Nov 3	1130	Nov 3	593	Sep 6 1966
INSTANTANEOUS PEAK FLOW	85000	Mar 25	90000	Apr 23	a480000	Mar 19 1936
INSTANTANEOUS PEAK STAGE	15.63	Mar 25	16.25	Apr 23	41.03	Mar 19 1936
INSTANTANEOUS LOW FLOW	UNKNOWN		UNKNOWN		530	(b)
ANNUAL RUNOFF (CFSM)	.79		.71		.97	
ANNUAL RUNOFF (INCHES)	10.78		9.73		13.15	
10 PERCENT EXCEEDS	17600		15200		20300	
50 PERCENT EXCEEDS	3250		4630		5380	
90 PERCENT EXCEEDS	1400		1400		1650	

e Estimated.

a From rating curve extended above 300,000 ft^3/s, on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow.

b September 11, 12, 1966.



01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1960 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE (water years 1961-1990): Maximum daily, 33.5°C, Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATION: Maximum daily mean, 2,690 mg/L, Nov. 7, 1985; minimum daily mean, 1 mg/L, on many days most years.
SEDIMENT LOAD: Maximum daily, 1,930,000 tons, Nov. 7, 1985; minimum daily, 2.0 tons on many days during 1964, 1966-1969.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 775 mg/L, Apr. 23; minimum daily mean, 1 mg/L, on many days.
SEDIMENT LOAD: Maximum daily, 170,000 tons, Apr. 23; minimum daily, 3.0 tons, Oct. 31, Nov. 2-4.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
APR 1992								
23...	0845	79900	655	141000	37	50	62	74

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
APR 1992							
23...	81	89	96	99	99	100	100

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	14.0	11.0	4.0	2.0	8.0	10.0	---	17.0	---	---	---
2	22.0	---	10.0	4.0	---	11.0	8.0	21.0	---	27.0	25.0	---
3	21.0	12.0	---	4.0	4.0	9.0	8.0	---	22.0	23.0	26.0	---
4	23.0	8.0	5.0	5.0	3.0	8.0	9.0	---	---	---	27.0	---
5	24.0	7.0	6.0	6.0	4.0	9.0	---	---	21.0	25.0	---	---
6	20.0	7.0	6.0	7.0	4.0	---	12.0	16.0	---	27.0	24.0	---
7	16.0	---	7.0	4.0	2.0	11.0	13.0	14.0	22.0	27.0	24.0	---
8	17.0	10.0	5.0	6.0	3.0	10.0	14.0	---	21.0	26.0	25.0	---
9	19.0	---	10.0	7.0	2.0	10.0	14.0	15.0	23.0	---	---	---
10	19.0	---	8.0	6.0	1.0	11.0	15.0	16.0	27.0	30.0	28.0	---
11	16.0	---	7.0	5.0	4.0	---	---	18.0	---	27.0	30.0	25.0
12	---	---	7.0	5.0	2.0	10.0	---	14.0	---	28.0	---	---
13	15.0	---	8.0	5.0	.0	8.0	14.0	15.0	---	---	24.0	---
14	16.0	10.0	10.0	9.0	5.0	5.0	16.0	21.0	---	29.0	24.0	23.0
15	18.0	14.0	5.0	4.0	3.0	5.0	15.0	18.0	---	30.0	---	---
16	15.0	12.0	7.0	1.0	5.0	3.0	---	18.0	---	30.0	22.0	---
17	14.0	10.0	4.0	3.0	5.0	9.0	---	18.0	---	30.0	23.0	25.0
18	12.0	9.0	3.0	.0	4.0	5.0	---	---	---	---	---	---
19	---	10.0	.0	.0	6.0	---	13.0	20.0	23.0	---	25.0	---
20	---	13.0	1.0	2.0	7.0	7.0	15.0	---	---	30.0	25.0	---
21	---	13.0	4.0	4.0	7.0	---	---	---	---	29.0	---	23.0
22	15.0	15.0	---	3.0	---	5.0	18.0	22.0	22.0	26.0	24.0	---
23	16.0	15.0	3.0	2.0	8.0	6.0	17.0	20.0	22.0	28.0	25.0	---
24	17.0	---	---	---	7.0	8.0	15.0	---	23.0	26.0	---	20.0
25	18.0	7.0	---	.0	---	8.0	---	17.0	24.0	23.0	---	---
26	---	6.0	2.0	7.0	---	---	---	18.0	26.0	24.0	29.0	18.0
27	---	5.0	4.0	.0	5.0	8.0	15.0	20.0	---	25.0	---	20.0
28	19.0	5.0	3.0	3.0	6.0	8.0	---	---	23.0	25.0	27.0	---
29	16.0	10.0	3.0	4.0	6.0	8.0	16.0	20.0	---	25.0	---	18.0
30	14.0	10.0	5.0	4.0	---	9.0	---	---	27.0	---	---	---
31	14.0	---	3.0	2.0	---	11.0	---	17.0	---	26.0	---	---

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6	23	e1	3.2	2	10	8	158	3	31	45	2200
2	8	29	e1	3.0	2	11	8	164	e3	28	25	1010
3	5	18	1	3.0	10	102	8	143	e2	19	15	518
4	3	11	1	3.0	50	919	7	114	2	19	9	258
5	3	11	2	6.5	92	3280	15	303	3	28	6	145
6	3	12	3	11	51	1560	64	2380	3	28	5	111
7	2	9.7	2	5.9	30	646	64	3040	2	18	9	238
8	1	5.1	4	12	19	310	29	1100	2	17	35	1540
9	2	8.1	4	11	17	226	22	642	2	17	57	2690
10	4	18	2	5.9	11	140	17	403	2	17	32	1370
11	2	8.1	1	3.5	10	132	15	303	2	16	21	873
12	e2	7.6	1	3.5	12	164	11	195	2	15	22	974
13	e1	3.8	1	3.8	10	135	7	112	1	7.8	44	2800
14	1	3.5	1	3.8	7	87	5	73	2	15	40	2340
15	1	3.5	2	8.6	5	58	4	58	3	25	25	1200
16	4	17	2	8.6	6	64	3	43	3	25	15	599
17	3	18	3	12	7	70	2	28	2	19	10	340
18	3	16	4	15	5	46	e2	26	3	38	8	235
19	e3	14	4	15	3	26	e2	26	5	78	7	195
20	e3	12	3	11	4	36	e4	43	5	88	7	202
21	e3	11	3	11	8	52	6	58	5	94	16	670
22	e3	11	4	19	10	76	3	29	6	112	26	1340
23	6	23	3	20	12	92	3	35	7	127	23	1120
24	5	18	3	22	11	81	e3	35	9	153	31	1330
25	4	14	3	24	e9	64	e3	34	e9	149	35	1340
26	e4	13	4	35	e6	42	2	20	e15	281	25	857
27	e3	9.7	2	15	4	27	e2	21	41	1670	19	846
28	2	6.5	2	15	3	20	7	73	118	9050	66	4310
29	2	6.5	2	13	7	61	6	62	82	5140	55	3130
30	1	3.2	2	12	4	44	3	31	---	---	33	1550
31	1	3.0	---	---	6	98	2	21	---	---	22	891
TOTAL	---	367.3	---	335.3	---	8679	---	9773	---	17324.8	---	37222
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14	507	21	624	14	249	6	65	22	426	e3	30
2	12	395	19	513	11	201	8	93	13	216	e2	17
3	9	270	e18	451	7	116	8	102	8	109	e1	8.3
4	8	218	e17	392	7	104	9	120	7	98	e1	7.9
5	9	227	e16	346	6	92	18	356	7	92	e1	7.6
6	11	249	15	310	34	1270	15	256	6	68	e1	7.9
7	8	168	13	250	122	8990	11	151	4	39	e40	1060
8	5	97	12	226	73	4200	9	108	2	18	e35	639
9	6	108	14	323	42	1810	8	86	2	17	e30	529
10	4	67	47	2250	12	418	7	69	3	25	e25	475
11	e4	64	72	4840	e11	324	9	84	2	18	20	388
12	e4	63	48	2750	e10	252	6	53	1	9.7	e17	344
13	4	62	33	1510	e10	217	e6	56	1	9.7	e14	237
14	4	62	24	907	e10	190	e5	45	1	10	11	159
15	6	87	25	844	e10	171	5	48	2	19	e10	128
16	e6	82	28	990	e9	139	6	57	2	19	e9	104
17	e6	78	32	1410	e9	125	6	55	2	19	8	84
18	e6	76	28	1200	e9	119	e5	39	2	18	e6	59
19	6	75	24	933	9	120	e4	30	2	18	e6	56
20	5	63	e21	720	9	124	3	21	1	9.0	e4	36
21	7	108	e18	573	9	128	3	20	4	34	3	26
22	738	97300	15	433	8	120	3	21	7	57	e3	26
23	775	170000	15	382	8	116	6	41	4	31	e5	53
24	318	51400	16	360	7	91	8	59	e3	23	2	21
25	200	18700	17	353	6	73	162	2220	e3	22	3	27
26	110	7840	14	279	5	60	70	1770	2	14	4	38
27	45	2560	9	177	6	71	55	1440	2	14	6	74
28	36	1650	8	144	7	83	38	931	1	6.7	6	82
29	26	1000	7	117	5	52	40	1160	e1	7.2	5	62
30	23	764	7	111	5	48	46	1440	e2	16	3	33
31	---	---	9	158	---	---	37	894	e4	38	---	---
TOTAL	---	354340	---	24876	---	20073	---	11890	---	1520.3	---	4818.7

TOTAL LOAD FOR YEAR: 491219.4 TONS.

e Estimated

01639000 MONOCACY RIVER AT BRIDGEPORT, MD

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, Hydrologic Unit 02070009, on right bank 60 ft downstream from bridge on State Highway 140 at Bridgeport, 0.9 mi upstream from Cattail Branch, 3.4 mi northwest of Taneytown, 4.8 mi downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 52 mi upstream from mouth.

DRAINAGE AREA.--173 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mi downstream at datum 0.98 ft lower.

REMARKS.--No estimated daily discharges. Water-discharge records good. Occasional regulation at low flow from unknown source upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 24, 1933, reached a stage of about 25 ft, present site and datum, from floodmarks, discharge, about 23,000 ft^3/s. Stage exceeded that of June 1889, from information by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 07	1430	5,570	10.90	Apr. 22	0745	*7,080	*12.33
Mar. 27	0530	6,730	12.01				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	11	36	120	63	134	233	118	253	46	40	9.0
2	12	13	67	108	53	119	193	105	127	153	33	8.0
3	11	11	2360	112	56	106	160	98	91	64	29	7.1
4	10	10	566	179	49	96	141	84	74	137	27	6.8
5	9.6	9.9	229	386	49	88	129	77	118	79	23	7.1
6	97	9.9	155	184	44	90	112	101	322	50	20	18
7	94	9.9	109	129	42	3120	101	84	143	38	17	151
8	41	9.5	93	105	45	903	97	88	103	30	15	57
9	27	9.9	95	97	32	410	89	273	86	25	15	105
10	19	11	1170	121	29	289	85	163	71	22	15	76
11	16	11	329	103	31	2170	86	113	59	19	15	269
12	34	15	202	84	30	529	88	89	51	16	18	94
13	44	22	154	76	28	317	79	78	45	20	22	48
14	30	18	230	90	30	230	67	104	41	24	21	33
15	21	15	184	178	67	193	62	86	39	18	19	26
16	18	46	113	83	531	153	61	162	34	15	21	21
17	26	47	90	60	261	136	60	122	31	89	30	19
18	80	46	83	64	277	135	61	108	31	56	28	16
19	70	41	62	48	408	186	68	92	56	36	25	15
20	43	39	55	43	353	320	71	74	225	26	33	14
21	32	42	60	41	227	444	113	63	82	20	22	14
22	23	119	60	42	171	379	3890	57	52	15	17	15
23	19	750	61	47	146	351	706	52	41	18	15	73
24	19	181	68	111	150	372	376	48	38	53	13	59
25	17	112	61	90	277	270	360	51	109	1200	13	32
26	15	87	48	68	942	1080	278	52	158	338	11	329
27	15	63	46	53	439	3850	227	78	72	212	10	194
28	15	47	40	55	256	749	173	58	50	168	9.9	99
29	14	39	445	54	192	410	142	46	38	92	9.6	66
30	14	36	440	56	---	305	125	45	32	63	8.9	46
31	12	---	204	65	---	312	---	718	---	49	9.7	---
TOTAL	911.6	1881.1	7915	3052	5278	18246	8433	3487	2672	3191	605.1	1927.0
MEAN	29.4	62.7	255	98.5	182	589	281	112	89.1	103	19.5	64.2
MAX	97	750	2360	386	942	3850	3890	718	322	1200	40	329
MIN	9.6	9.5	36	41	28	88	60	45	31	15	8.9	6.8
CFSM	.17	.36	1.48	.57	1.05	3.40	1.62	.65	.51	.60	.11	.37
IN.	.20	.40	1.70	.66	1.13	3.92	1.81	.75	.57	.69	.13	.41

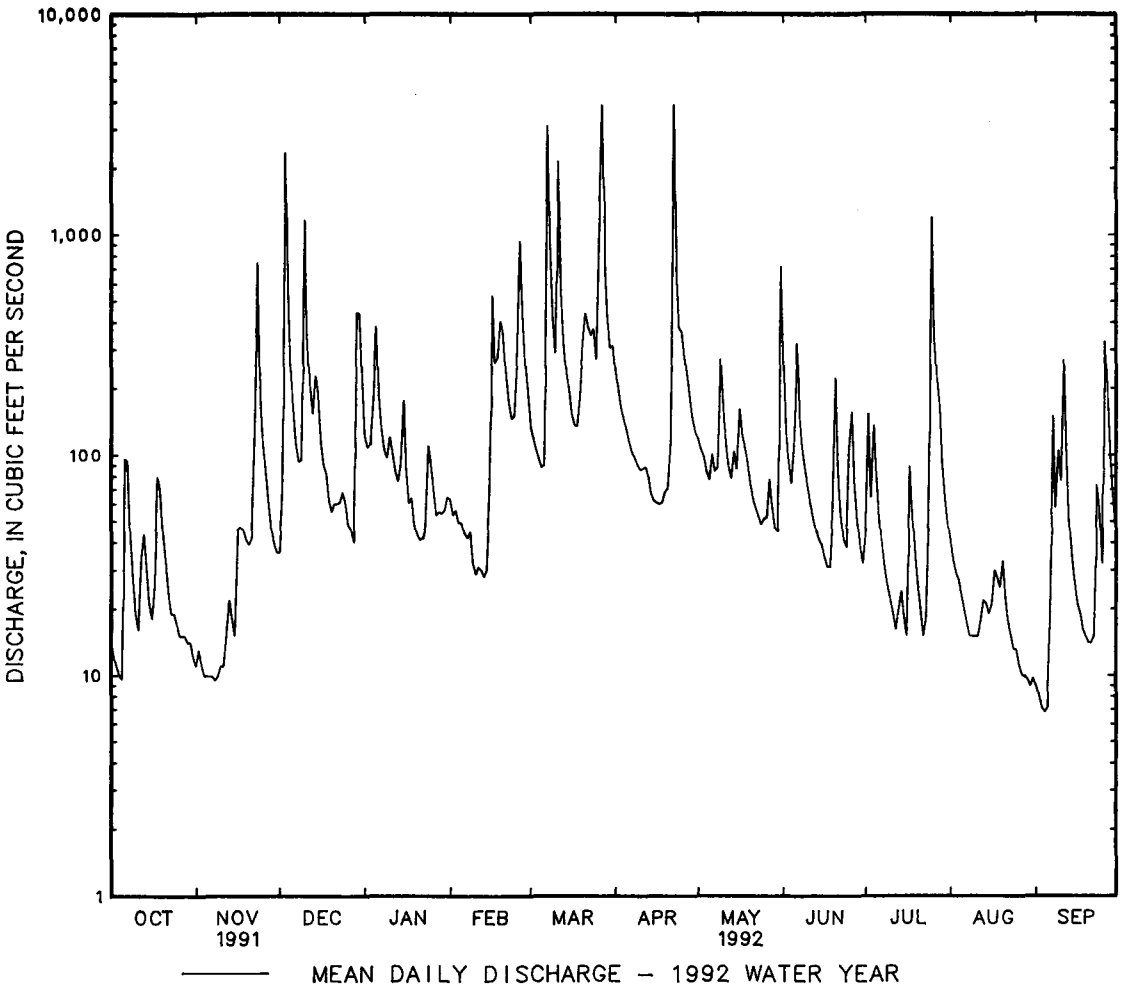
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

MEAN	92.5	163	258	277	382	422	295	218	125	81.1	60.0	78.7
MAX	906	513	697	784	1029	1025	1029	964	1065	598	613	1027
(WY)	1977	1986	1984	1979	1961	1963	1983	1989	1972	1949	1942	1975
MIN	3.24	10.4	13.7	13.8	51.0	94.7	58.7	41.2	10.5	2.68	2.40	2.34
(WY)	1964	1954	1966	1981	1980	1949	1946	1969	1966	1966	1944	1943

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1942 - 1992	
ANNUAL TOTAL	52987.8		57598.8			
ANNUAL MEAN	145		157		202	
HIGHEST ANNUAL MEAN					372	1972
LOWEST ANNUAL MEAN					76.8	1954
HIGHEST DAILY MEAN	2580	Jan 16	3890	Apr 22	16700	Jun 22 1972
LOWEST DAILY MEAN	1.1	(a)	6.8	Sep 4	.00	(b)
ANNUAL SEVEN-DAY MINIMUM	2.1	Aug 3	8.1	Aug 30	.04	Jul 22 1966
INSTANTANEOUS PEAK FLOW	5330	Jan 16	7080	Apr 22	c21300	Jun 22 1972
INSTANTANEOUS PEAK STAGE	10.66	Jan 16	12.33	Apr 22	24.05	Jun 22 1972
INSTANTANEOUS LOW FLOW	.85	(d)	6.6	(f)	.00	(g)
ANNUAL RUNOFF (CFSM)	.84		.91		1.17	
ANNUAL RUNOFF (INCHES)	11.39		12.39		15.84	
10 PERCENT EXCEEDS	357		318		430	
50 PERCENT EXCEEDS	54		63		62	
90 PERCENT EXCEEDS	5.0		15		8.0	

a Aug. 9, 18.
b July 25-28, 1966.
c From rating curve extended above 7,000 ft^3/s on basis of slope-conveyance study.
d Aug. 8, 9.
f Sept. 3, 4.
g July 24-29, 1966.



01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-51, 1969-72, 1974-79, 1882-83, 1990 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1989 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1989 to current year.

INSTRUMENTATION.--Pumping sampler for nutrients and sediment since Nov. 29, 1989.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: Maximum daily mean, 565 mg/L, Oct. 20, 1989, July 25, 1992; minimum daily mean, 1 mg/L, on many days.
SEDIMENT LOAD: Maximum daily, 7,230 tons, Jan. 30, 1990; minimum daily, 0.04 ton, Aug. 9, 18, 1991.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 565 mg/L, July 25; minimum daily mean, 1 mg/L, Dec. 8, 9, 16-28, Jan. 10-12, Feb. 14, 15.
SEDIMENT LOAD: Maximum daily, 2,940 tons, Mar. 7; minimum daily, 0.05 ton, Nov. 5-9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 1991										
01...	1050	--	12	397	7.5	11.5	12.0	--	--	--
07...	0945	--	11	445	7.9	4.0	6.0	--	--	--
DEC										
20...	1130	--	54	321	7.7	-1.5	-3.0	--	--	--
JAN 1992										
22...	1045	--	44	348	7.4	0.5	1.5	--	--	--
FEB										
25...	1115	--	298	264	7.2	8.0	6.0	--	--	--
MAR										
18...	1320	--	137	224	7.5	5.0	5.0	--	--	--
APR										
10...	1050	--	86	209	9.2	14.0	19.0	--	--	--
22...	0130	--	3910	--	--	--	--	--	--	--
22...	0325	--	5800	--	--	--	--	--	--	--
22...	0900	--	7020	--	--	--	--	--	--	--
22...	0910	--	6960	102	7.0	15.0	18.0	--	--	--
22...	0950	--	6790	--	--	--	--	--	--	--
22...	1020	--	6480	--	--	--	--	--	--	--
22...	1145	--	5080	110	7.1	14.5	21.0	--	--	--
22...	1200	--	4680	--	--	--	--	--	--	--
22...	1325	--	3340	122	7.2	14.5	23.5	--	--	--
22...	1450	--	2240	--	--	--	--	--	--	--
22...	1535	--	1980	132	7.2	15.0	23.0	--	--	--
MAY										
12...	1045	--	90	204	7.8	19.0	19.5	--	--	--
MAY										
31-31	1215	1607	1250	--	--	--	--	--	--	--
JUN										
03...	1210	--	90	202	7.5	19.0	--	8.6	260	440
23...	1020	--	43	238	7.4	19.0	20.0	--	--	--
JUL										
31...	1000	--	48	289	7.5	25.0	28.0	--	--	--
AUG										
24...	1140	--	13	402	7.8	23.0	24.5	--	--	--
SEP										
02...	1045	--	8.0	361	7.4	21.0	21.0	--	--	--

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
NOV 1991												
01...	--	--	--	--	--	--	--	--	--	--	0.010	<0.010
07...	--	--	--	--	--	--	--	--	--	--	<0.010	<0.010
DEC												
20...	--	--	--	--	--	--	--	--	--	4.78	0.020	0.020
JAN 1992												
22...	--	--	--	--	--	--	--	--	--	--	0.010	<0.010
FEB												
25...	--	--	--	--	--	--	--	--	--	3.08	0.020	0.020
MAR												
18...	--	--	--	--	--	--	--	--	--	3.09	<0.010	0.010
APR												
10...	--	--	--	--	--	--	--	--	--	0.990	0.020	0.010
22...	--	--	--	--	--	--	--	--	--	0.940	0.030	0.020
22...	--	--	--	--	--	--	--	--	--	0.970	0.030	0.030
22...	--	--	--	--	--	--	--	--	--	0.970	0.020	0.030
22...	--	--	--	--	--	--	--	--	--	0.970	0.030	0.030
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	1.08	0.030	0.020
22...	--	--	--	--	--	--	--	--	--	1.17	0.030	0.030
22...	--	--	--	--	--	--	--	--	--	1.18	0.030	0.020
22...	--	--	--	--	--	--	--	--	--	1.27	0.050	0.030
22...	--	--	--	--	--	--	--	--	--	1.47	0.030	0.030
22...	--	--	--	--	--	--	--	--	--	1.37	0.060	0.030
MAY												
12...	--	--	--	--	--	--	--	--	--	0.540	0.010	0.010
MAY												
31-31	--	--	--	--	--	--	--	--	--	1.48	0.020	0.020
JUN												
03...	23	6.9	8.9	3.0	22	14	0.10	11	156	1.78	--	0.020
23...	--	--	--	--	--	--	--	--	--	1.28	0.030	0.020
JUL												
31...	--	--	--	--	--	--	--	--	--	2.18	0.020	0.020
AUG												
24...	--	--	--	--	--	--	--	--	--	--	<0.010	<0.010
SEP												
02...	--	--	--	--	--	--	--	--	--	--	<0.010	<0.010

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)
NOV 1991												
01...	0.980	0.990	0.040	0.030	0.60	0.80	1.6	0.070	0.050	0.030	0.020	--
07...	0.510	0.480	0.020	0.020	0.50	0.50	1.0	0.040	0.020	0.030	0.030	--
DEC												
20...	4.80	4.80	0.040	0.030	0.40	0.50	5.2	0.060	0.050	0.050	0.050	--
JAN 1992												
22...	3.50	3.50	<0.010	0.010	0.30	0.30	3.8	0.040	0.020	0.030	0.020	--
FEB												
25...	3.10	3.10	0.040	0.030	0.50	0.60	3.6	0.050	0.050	0.030	0.030	--
MAR												
18...	3.20	3.10	0.020	0.030	0.20	0.20	3.4	0.030	0.020	0.030	0.030	--
APR												
10...	1.10	1.00	0.020	<0.010	0.40	0.30	1.5	0.040	0.010	0.010	0.010	--
22...	1.00	0.960	0.180	0.180	1.3	1.0	2.3	0.230	0.090	0.080	0.060	--
22...	1.00	1.00	0.160	0.160	1.6	1.0	2.6	0.270	0.100	0.090	0.080	--
22...	1.00	1.00	0.220	0.220	1.1	1.2	2.1	0.250	0.120	0.120	0.110	--
22...	1.00	1.00	0.210	0.200	1.5	0.90	2.5	0.390	0.130	0.120	0.110	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	1.10	1.10	0.180	0.190	1.9	1.1	3.0	0.340	0.140	0.120	0.110	--
22...	1.20	1.20	0.180	0.170	1.2	0.90	2.4	0.250	0.150	0.130	0.120	--
22...	1.30	1.20	0.180	0.180	1.1	1.1	2.4	0.260	0.160	0.130	0.120	--
22...	1.30	1.30	0.190	0.170	1.2	1.1	2.5	0.250	0.160	0.180	0.130	--
22...	1.50	1.50	0.220	0.210	1.6	1.3	3.1	0.310	0.150	0.130	0.120	--
22...	1.40	1.40	0.210	0.190	1.5	1.0	2.9	0.280	0.150	0.180	0.140	--
MAY												
12...	0.560	0.550	0.040	0.030	0.40	0.30	0.96	0.040	0.020	0.030	0.030	--
MAY												
31-31	1.50	1.50	0.110	0.110	0.90	0.60	2.4	0.200	0.130	0.110	0.100	--
JUN												
03...	--	1.80	--	0.030	0.50	--	--	0.090	0.070	--	0.060	59
23...	1.30	1.30	0.060	0.050	0.70	0.60	2.0	0.120	0.100	0.110	0.090	--
JUL												
31...	2.20	2.20	0.070	0.080	0.70	0.60	2.9	0.130	0.110	0.100	0.100	--
AUG												
24...	0.580	0.610	0.070	0.070	0.60	0.40	1.2	0.130	0.100	0.080	0.080	--
SEP												
02...	0.097	0.091	0.080	0.080	0.70	0.50	0.80	0.100	0.100	0.080	0.080	--

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARDNESS TOTAL (MG/L AS CACO3)	DICAMBA (MEDIBEN) (BANVEL D) TOTAL (UG/L)	METHOMYL TOTAL (UG/L)	PICLORAM (TORDON) (AMDON) TOTAL (UG/L)	PROPHAM TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 1991												
01...	--	7.0	--	--	--	--	--	--	--	--	--	--
07...	--	6.6	--	--	--	--	--	--	--	--	--	--
DEC												
20...	--	3.3	--	--	--	--	--	--	--	--	--	--
JAN 1992												
22...	--	3.5	--	--	--	--	--	--	--	--	--	--
FEB												
25...	--	4.8	--	--	--	--	--	--	--	--	--	--
MAR												
18...	--	3.1	--	--	--	--	--	--	--	--	--	--
APR												
10...	--	3.5	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	19	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	15	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	14	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	16	--	--	--	--	--	--	--	--	--	--
MAY												
12...	--	5.4	--	--	--	--	--	--	--	--	--	--
MAY												
31-31	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
03...	16	--	86	0.03	<0.5	<0.01	<0.5	0.27	<0.01	<0.01	<0.5	<0.01
23...	--	7.1	--	--	--	--	--	--	--	--	--	--
JUL												
31...	--	6.9	--	--	--	--	--	--	--	--	--	--
AUG												
24...	--	4.8	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	5.0	--	--	--	--	--	--	--	--	--	--

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
NOV 1991				
01...	1050	12	3	0.10
07...	0945	11	3	0.09
DEC				
20...	1130	54	5	0.73
JAN 1992				
22...	1045	44	2	0.24
FEB				
25...	1115	298	5	4.0
MAR				
18...	1320	137	4	1.5
APR				
10...	1050	86	6	1.4
22...	0910	6960	331	6220
22...	1020	5080	159	2180
22...	1145	5080	159	2180
22...	1325	3340	115	1040
22...	1535	1980	82	438
MAY				
12...	1045	90	6	1.5
JUN				
03...	1020	43	19	2.2
23...	1020	43	19	2.2
JUL				
31...	1000	48	21	2.7
AUG				
24...	1140	13	3	0.11
SEP				
02...	1045	8.0	24	0.52

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
APR 1992								
22...	0950	6790	254	4660	95	97	98	99

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.5	11.5	---	9.0	---	6.0	8.0	10.0	---	11.0	---	---
2	---	---	7.0	7.0	5.0	10.0	5.0	11.0	10.0	11.0	12.0	21.0
3	20.0	11.0	5.0	---	---	---	7.0	11.0	---	---	---	11.0
4	---	---	3.0	7.0	10.0	---	7.0	---	---	11.0	---	12.0
5	17.0	7.0	8.0	8.0	6.0	7.0	6.0	9.0	10.0	---	12.0	---
6	---	5.0	8.0	8.0	6.0	7.0	9.0	---	12.0	11.0	12.0	---
7	11.0	4.0	8.0	6.0	7.0	8.0	10.0	8.0	12.0	---	12.0	11.0
8	12.0	---	---	---	7.0	---	---	9.0	11.0	---	---	---
9	10.0	3.0	11.0	8.0	---	9.0	---	9.0	12.0	---	---	12.0
10	12.0	7.0	---	---	---	---	---	11.0	---	---	13.0	12.0
11	---	3.0	11.0	7.0	4.0	7.0	11.0	11.0	---	---	13.0	11.0
12	---	4.0	11.0	8.0	4.0	5.0	9.0	12.0	---	---	---	11.0
13	11.0	8.0	14.0	---	6.0	5.0	8.0	12.0	12.0	---	11.0	11.0
14	12.0	6.0	---	8.0	6.0	5.0	---	---	12.0	---	---	11.0
15	10.0	---	---	5.0	---	---	10.0	10.0	---	---	11.0	---
16	9.0	4.0	5.0	---	7.0	5.0	---	10.0	---	---	---	---
17	---	4.0	5.0	5.0	7.0	10.0	10.0	---	---	---	12.0	12.0
18	---	4.0	6.0	4.0	---	6.0	---	---	11.0	---	---	12.0
19	11.0	---	6.0	---	9.0	5.0	9.0	9.0	---	---	12.0	11.0
20	10.0	6.0	7.0	4.0	6.0	5.0	9.0	12.0	---	12.0	12.0	---
21	7.0	8.0	8.0	5.0	8.0	6.0	8.0	---	9.0	12.0	12.0	11.0
22	9.0	6.0	---	.5	9.0	6.0	---	---	10.0	---	12.0	11.0
23	---	7.0	---	7.0	10.0	6.0	11.0	---	---	---	13.0	10.0
24	---	---	6.0	3.0	---	7.0	11.0	---	---	12.0	23.0	10.0
25	11.0	3.0	---	2.0	---	7.0	9.0	---	---	---	---	---
26	11.0	3.0	8.0	---	7.0	6.0	8.0	---	---	23.0	---	11.0
27	13.0	3.0	---	3.0	6.0	6.0	---	13.0	---	---	12.0	10.0
28	11.0	3.0	7.0	4.0	5.0	6.0	9.0	10.0	---	12.0	---	11.0
29	9.0	5.0	---	5.0	---	6.0	11.0	---	---	13.0	10.0	9.0
30	8.0	6.0	8.0	7.0	---	7.0	9.0	8.0	---	---	12.0	---
31	---	---	6.0	6.0	---	---	---	9.0	---	---	12.0	---

01639000 MONOCACY RIVER AT BRIDGEPORT, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10	.38	e2	.06	e2	.19	2	.65	3	.51	4	1.4
2	10	.32	e3	.11	3	.54	2	.58	2	.29	5	1.6
3	7	.21	4	.12	92	577	2	.60	2	.30	5	1.4
4	e8	.22	3	.08	32	49	2	.97	4	.53	4	1.0
5	e12	.31	2	.05	11	6.8	17	18	3	.40	4	.95
6	e20	5.2	2	.05	6	2.5	12	6.0	3	.36	6	1.5
7	32	8.1	2	.05	2	.59	5	1.7	3	.34	256	2940
8	23	2.5	2	.05	1	.25	3	.85	2	.24	65	158
9	20	1.5	2	.05	1	.26	2	.52	e2	.17	22	24
10	18	.92	3	.09	241	872	1	.33	e2	.16	12	9.4
11	15	.65	4	.12	30	27	1	.28	2	.17	224	1660
12	12	1.1	3	.12	6	3.3	1	.23	2	.16	40	57
13	9	1.1	2	.12	3	1.2	2	.41	2	.15	12	10
14	9	.73	2	.10	5	3.1	3	.73	1	.08	7	4.3
15	7	.40	2	.08	3	1.5	5	2.4	1	.18	6	3.1
16	8	.39	5	.62	1	.31	9	2.0	24	34	5	2.1
17	8	.56	6	.76	1	.24	11	1.8	16	11	4	1.5
18	9	1.9	4	.50	1	.22	11	1.9	11	8.2	5	1.8
19	10	1.9	4	.44	1	.17	8	1.0	11	12	5	2.5
20	5	.58	3	.32	1	.15	6	.70	11	10	8	6.9
21	4	.35	4	.45	1	.16	4	.44	9	5.5	14	17
22	5	.31	7	2.2	e1	.16	2	.23	6	2.8	11	11
23	e5	.26	46	93	e1	.16	2	.25	4	1.6	8	7.6
24	e5	.26	19	9.3	1	.18	3	.90	4	1.6	10	10
25	6	.28	10	3.0	1	.16	4	.97	8	6.0	20	15
26	6	.24	6	1.4	1	.13	4	.73	47	120	95	594
27	6	.24	12	2.0	1	.12	4	.57	16	19	194	2450
28	6	.24	3	.38	1	.11	3	.45	8	5.5	30	61
29	4	.15	2	.21	26	31	3	.44	5	2.6	10	11
30	2	.08	2	.19	20	24	2	.30	---	---	10	8.2
31	e2	.06	---	---	7	3.9	2	.35	---	---	e12	10
TOTAL	---	31.44	---	116.02	---	1606.40	---	47.28	---	243.84	---	8083.25
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8	5.0	e9	2.9	e13	8.9	e13	1.6	e17	1.8	e15	.36
2	5	2.6	e9	2.6	e7	2.4	e25	10	e15	1.3	20	.43
3	5	2.2	e8	2.1	e6	1.5	e10	1.7	e15	1.2	19	.36
4	4	1.5	e8	1.8	e5	1.0	e14	5.2	e14	1.0	12	.22
5	4	1.4	e8	1.7	e10	3.2	e12	2.6	e13	.81	e10	.19
6	5	1.5	e10	2.7	e15	13	e10	1.3	e14	.76	e13	.63
7	4	1.1	e6	1.4	e13	5.0	e10	1.0	e12	.55	e39	16
8	e4	1.0	e6	1.4	e10	2.8	e13	1.1	e12	.49	e26	4.0
9	e4	.96	e15	11	e12	2.8	e11	.74	e10	.40	e24	6.8
10	4	.92	e10	4.4	e11	2.1	e9	.53	e8	.32	12	2.5
11	e4	.93	e8	2.4	e10	1.6	e8	.41	e6	.24	110	80
12	e4	.95	6	1.4	e9	1.2	e7	.30	e7	.34	56	14
13	e4	.85	e6	1.3	e7	.85	e7	.38	e9	.53	36	4.7
14	e4	.72	e10	2.8	e8	.89	e8	.52	e8	.45	15	1.3
15	e4	.67	e8	1.9	e7	.74	e7	.34	e6	.31	e12	.84
16	e4	.66	e10	4.4	e7	.64	e7	.28	e10	.57	e12	.68
17	e4	.65	e8	2.6	e6	.50	e15	3.6	e16	1.3	15	.77
18	e4	.66	e8	2.3	e6	.50	e10	1.5	e13	.98	18	.78
19	e4	.73	e10	2.5	e10	1.5	e7	.68	e9	.61	12	.49
20	e4	.77	e10	2.0	e25	15	e7	.49	e13	1.2	9	.34
21	e10	3.1	e8	1.4	e17	3.8	e7	.38	e10	.59	7	.26
22	205	2810	e6	.92	e22	3.1	e6	.24	e7	.32	12	.49
23	e25	48	e6	.84	20	2.2	e7	.34	e6	.24	14	2.8
24	e20	20	e6	.78	e20	2.1	e15	2.1	4	.14	7	1.1
25	e20	19	e6	.83	e22	6.5	565	2540	e4	.14	e5	.43
26	e17	13	e6	.84	e24	10	75	68	e8	.24	e40	36
27	e15	9.2	e9	1.9	e22	4.3	19	11	e8	.22	30	16
28	e13	6.1	e4	.63	e20	2.7	14	6.4	e12	.32	16	4.3
29	e11	4.2	e4	.50	e17	1.7	e14	3.5	e10	.26	7	1.2
30	e11	3.7	e10	1.2	e15	1.3	e18	3.1	e15	.36	e7	.87
31	---	---	e30	58	---	---	20	2.6	e15	.39	---	---
TOTAL	---	2962.07	---	123.44	---	103.82	---	2671.93	---	18.38	---	198.84

TOTAL LOAD FOR YEAR: 16206.71 TONS.

e Estimated

01639140 PINEY CREEK NEAR TANEYTOWN, MD

LOCATION.--Lat 39°39'38", long 77°13'16", Carroll County, Hydrologic Unit 02070009, on left bank at downstream side of bridge on Roop Road, 2.4 mi west of Taneytown, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--31.3 mi^2.

PERIOD OF RECORD.--May 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 383.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Oct. 27-31, Nov. 1-8, 10, 11 (backwater from leaves) and Feb. 9, 10 (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 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2345	676	4.08	Mar. 27	0115	*1,170	*5.40
Mar. 11	0615	1,020	5.03				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	e1.9	5.5	26	9.8	26	43	20	30	25	9.0	1.9
2	1.5	e2.0	92	23	8.3	25	38	17	20	22	6.8	1.7
3	1.4	e1.9	295	25	9.1	22	33	16	15	30	6.4	1.4
4	1.3	e1.8	76	45	8.6	20	32	12	11	29	48	1.4
5	1.6	e1.8	38	52	8.0	18	29	11	30	14	13	1.7
6	4.7	e1.8	30	32	8.0	19	25	12	55	9.8	7.9	20
7	5.0	e1.8	25	25	7.7	204	24	10	26	8.0	6.2	20
8	2.7	e1.9	21	21	7.5	78	23	16	20	6.3	5.3	10
9	1.9	2.0	46	23	e7.4	51	20	38	16	5.3	5.3	21
10	1.6	e2.0	181	27	e7.2	44	22	20	12	4.9	4.8	16
11	1.5	e2.1	54	21	7.0	429	28	15	9.6	4.1	4.9	38
12	2.5	2.3	40	16	6.2	85	29	11	8.2	3.8	4.8	13
13	3.0	2.8	41	15	6.3	59	20	10	7.1	3.5	4.1	7.7
14	2.6	2.2	56	23	7.0	46	18	10	6.4	3.4	4.1	5.9
15	2.1	2.1	36	21	38	39	17	9.9	5.7	3.0	3.9	4.9
16	2.0	2.1	26	15	71	31	16	19	5.0	2.8	5.5	4.2
17	4.9	2.0	22	16	37	28	16	12	4.4	20	6.6	3.9
18	21	2.0	20	12	59	27	16	11	4.5	7.8	5.6	3.6
19	8.5	1.9	18	11	67	47	16	9.0	25	4.7	5.1	3.3
20	4.4	1.8	16	11	51	65	15	6.9	30	3.4	4.2	3.1
21	3.3	2.1	13	10	35	57	16	6.0	9.6	3.0	3.7	3.0
22	2.9	70	13	9.3	29	41	219	5.8	6.8	4.6	3.2	6.0
23	2.9	68	14	12	26	53	72	5.3	5.6	5.7	2.9	13
24	2.6	17	18	21	34	45	41	5.1	17	44	2.8	5.5
25	2.4	9.4	12	11	50	34	41	5.5	65	171	2.6	5.1
26	2.1	7.1	10	10	131	223	35	7.9	49	37	2.4	52
27	e1.9	6.0	9.4	10	60	493	32	10	17	33	2.5	24
28	e1.9	5.4	8.8	9.5	44	104	27	6.2	11	25	2.0	17
29	e1.8	5.2	98	9.5	35	67	23	5.1	8.0	16	2.3	11
30	e1.8	4.9	56	10	---	55	21	9.6	7.0	11	3.2	8.2
31	e1.8	---	32	10	---	54	---	92	---	9.4	2.4	---
TOTAL	101.3	235.3	1422.7	582.3	875.1	2589	1007	444.3	536.9	570.5	191.5	327.5
MEAN	3.27	7.84	45.9	18.8	30.2	83.5	33.6	14.3	17.9	18.4	6.18	10.9
MAX	21	70	295	52	131	493	219	92	65	171	48	52
MIN	1.3	1.8	5.5	9.3	6.2	18	15	5.1	4.4	2.8	2.0	1.4
CFSM	.10	.25	1.47	.60	.96	2.67	1.07	.46	.57	.59	.20	.35
IN.	.12	.28	1.69	.69	1.04	3.08	1.20	.53	.64	.68	.23	.39

e Estimated

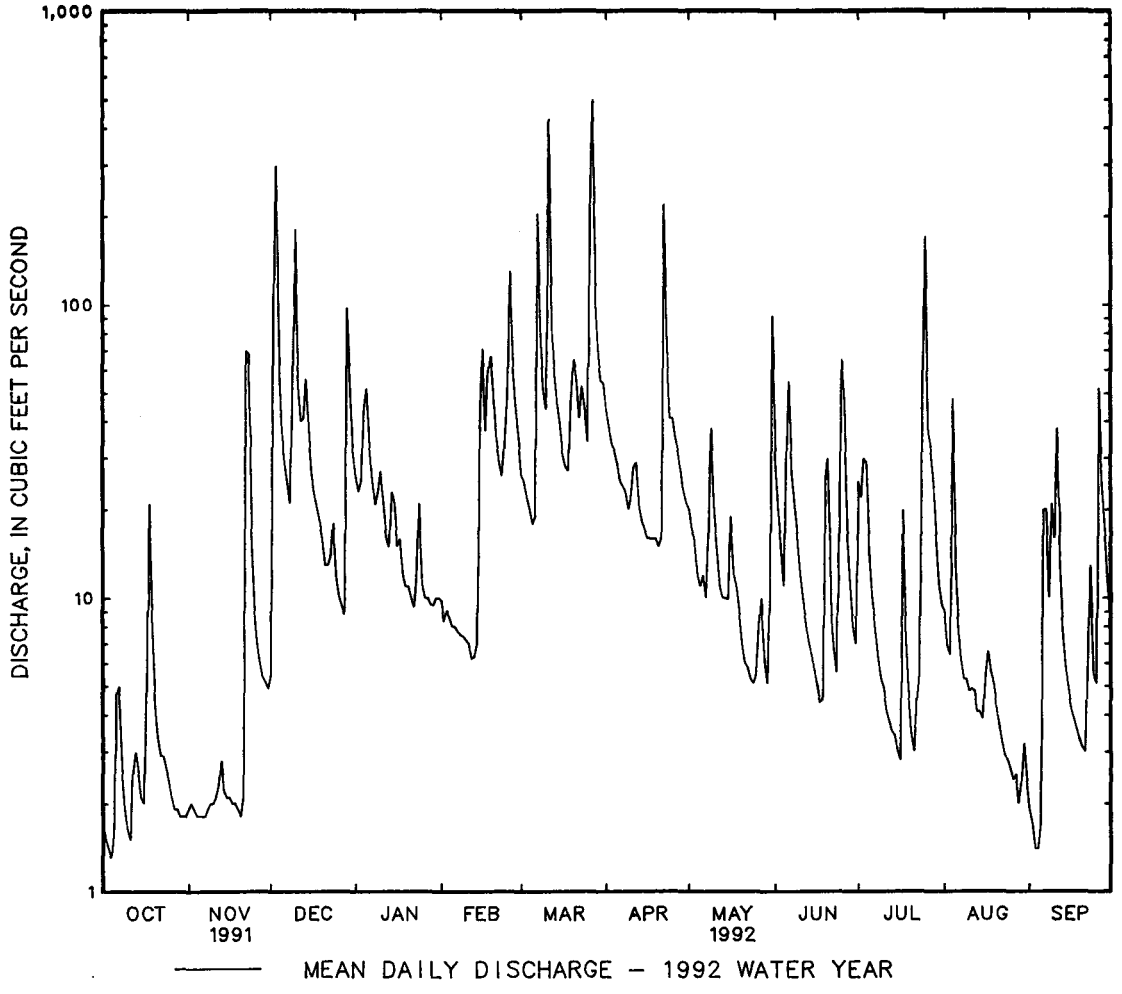
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

MEAN	30.5	21.8	64.7	55.0	28.7	67.0	27.9	27.6	13.8	10.8	7.48	7.64
MAX	57.8	35.8	83.5	91.1	30.2	83.5	33.6	59.1	21.4	18.4	15.2	10.9
(WY)	1991	1991	1991	1991	1992	1992	1992	1990	1990	1992	1990	1992
MIN	3.27	7.84	45.9	18.8	27.1	50.4	22.2	9.45	1.98	.57	1.09	5.66
(WY)	1992	1992	1992	1992	1991	1991	1991	1991	1991	1991	1991	1991

01639140 PINEY CREEK NEAR TANEYTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1990 - 1992	
ANNUAL TOTAL	8144.87		8883.4			
ANNUAL MEAN	22.3		24.3		28.3	
HIGHEST ANNUAL MEAN					32.4	1991
LOWEST ANNUAL MEAN					24.3	1992
HIGHEST DAILY MEAN	521	Jan 16	493	Mar 27	704	Oct 23 1990
LOWEST DAILY MEAN	.00	(a)	1.3	Oct 4	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	.03	Aug 2	1.9	Oct 29	.03	Aug 2 1991
INSTANTANEOUS PEAK FLOW	1100	Jan 16	1170	Mar 27	1440	Oct 23 1990
INSTANTANEOUS PEAK STAGE	5.24	Jan 16	5.40	Mar 27	6.03	Oct 23 1990
INSTANTANEOUS LOW FLOW	.00	(b)	.74	Oct 5	.00	(b)
ANNUAL RUNOFF (CFSM)	.71		.78		.91	
ANNUAL RUNOFF (INCHES)	9.68		10.56		12.31	
10 PERCENT EXCEEDS	56		52		58	
50 PERCENT EXCEEDS	6.8		11		12	
90 PERCENT EXCEEDS	.38		2.1		1.5	

a Aug. 4,5, Sept. 2,3, 1991.
b Aug. 3-9, 17, Sept. 1-4, 1991



01639500 BIG PIPE CREEK AT BRUCEVILLE, MD

LOCATION.--Lat 39°36'45", long 77°14'10", Carroll County, Hydrologic Unit 02070009, on left bank 300 ft downstream from bridge on State Highway 194, 800 ft downstream from Bruceville, 3.5 mi upstream from Detour, and confluence with Little Pipe Creek.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--October 1947 to current year. Prior to December 1947, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 336.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges (backwater from ice), 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0700	1,720	5.34	Mar. 27	0200	*2,110	*6.12

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	28	41	75	50	84	148	78	98	51	44	20
2	27	28	190	73	e49	80	130	72	71	49	38	18
3	27	28	862	74	48	76	116	70	61	57	37	18
4	24	27	228	92	45	71	109	63	56	78	293	22
5	25	26	120	106	44	68	100	63	89	47	80	21
6	52	26	95	81	44	70	91	74	181	42	58	80
7	35	26	81	72	43	309	87	62	85	40	47	93
8	29	27	74	66	43	161	83	70	71	37	42	47
9	27	26	104	68	42	114	79	132	63	34	41	74
10	26	27	506	76	40	104	85	81	57	33	36	50
11	27	31	158	66	e45	622	92	69	52	29	33	165
12	35	35	121	60	44	194	84	63	49	27	36	59
13	31	32	112	59	44	143	74	60	47	30	30	43
14	28	30	137	80	51	119	70	61	45	25	31	39
15	27	29	109	80	101	106	68	58	44	23	31	35
16	30	29	85	60	192	91	66	72	41	24	34	33
17	46	27	76	56	99	88	69	62	39	234	38	32
18	98	28	73	e56	124	88	67	60	38	69	40	30
19	51	26	e66	e56	138	124	68	56	54	42	46	28
20	40	27	61	e53	114	138	66	49	82	35	39	25
21	36	27	e59	e50	89	125	101	47	49	30	33	25
22	34	186	60	e50	79	104	381	45	43	45	28	29
23	33	270	60	56	75	118	162	44	41	44	28	59
24	32	80	65	e74	86	109	122	44	42	96	26	35
25	31	56	57	e74	112	94	120	46	101	504	24	30
26	31	46	54	63	273	380	105	51	85	143	26	221
27	31	42	50	e59	158	1310	103	63	54	101	25	86
28	29	41	50	54	119	342	88	49	44	83	22	81
29	29	40	203	e54	101	229	80	45	41	61	30	55
30	27	39	155	e54	---	188	78	55	40	51	27	43
31	27	---	92	51	---	180	---	224	---	45	22	---
TOTAL	1053	1390	4204	2048	2492	6029	3092	2088	1863	2209	1365	1596
MEAN	34.0	46.3	136	66.1	85.9	194	103	67.4	62.1	71.3	44.0	53.2
MAX	98	270	862	106	273	1310	381	224	181	504	293	221
MIN	24	26	41	50	40	68	66	44	38	23	22	18
CFSM	.33	.45	1.33	.65	.84	1.91	1.01	.66	.61	.70	.43	.52
IN.	.38	.51	1.53	.75	.91	2.20	1.13	.76	.68	.81	.50	.58

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

MEAN	59.8	81.3	117	141	174	179	158	121	99.8	70.6	53.7	63.7
MAX	390	289	356	401	387	360	401	383	891	295	212	729
(WY)	1980	1948	1973	1979	1979	1978	1983	1989	1972	1949	1955	1975
MIN	14.9	16.7	18.9	22.5	58.1	71.4	61.3	38.6	19.8	10.4	4.39	13.0
(WY)	1964	1966	1966	1966	1954	1981	1965	1965	1966	1966	1966	1963

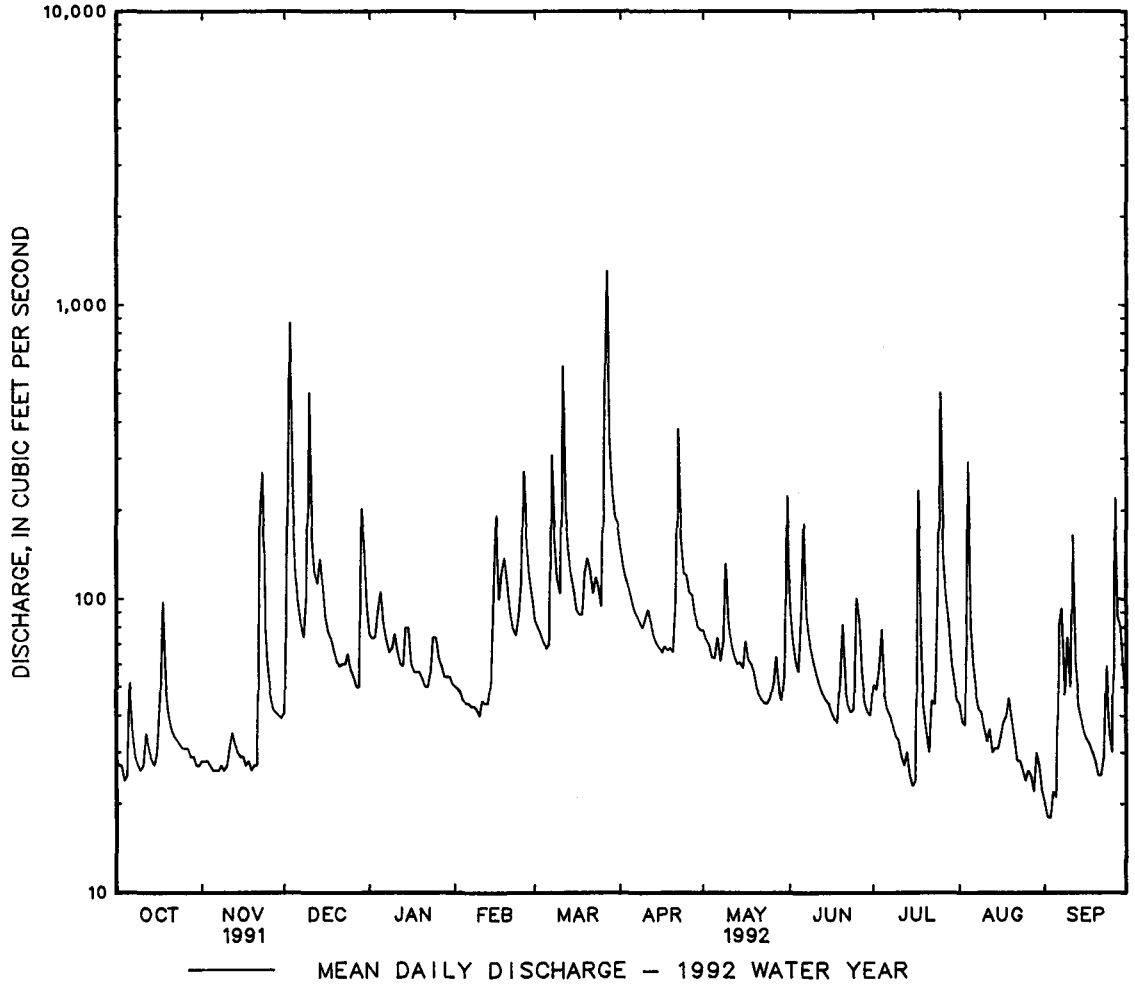
01639500 BIG PIPE CREEK AT BRUCEVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1948 - 1992	
ANNUAL TOTAL	32514		29429			
ANNUAL MEAN	89.1		80.4		110	
HIGHEST ANNUAL MEAN					227	1972
LOWEST ANNUAL MEAN					50.8	1966
HIGHEST DAILY MEAN	1210	Jan 16	1310	Mar 27	14400	Jun 22 1972
LOWEST DAILY MEAN	10	Aug 8	18	(a)	1.0	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	12	Aug 2	21	Aug 30	1.4	Sep 7 1966
INSTANTANEOUS PEAK FLOW	2050	Jan 16	2110	Mar 27	b28000	Sep 26 1975
INSTANTANEOUS PEAK STAGE	6.00	Jan 16	6.12	Mar 27	18.98	Sep 26 1975
INSTANTANEOUS LOW FLOW	9.7	(c)	13	Sep 1	1.0	Sep 12 1966
ANNUAL RUNOFF (CFSM)	.87		.79		1.07	
ANNUAL RUNOFF (INCHES)	11.86		10.73		14.60	
10 PERCENT EXCEEDS	172		137		205	
50 PERCENT EXCEEDS	52		56		65	
90 PERCENT EXCEEDS	18		27		23	

a Sept. 2, 3.

b From rating curve extended above 3,900 ft^3/s on the basis of contracted-opening measurement at gage height of 17.86 ft.

c July 18, Aug. 8, 19.



01640965 HUNTING CREEK NEAR FOXVILLE, MD

LOCATION.--Lat 39°37'10", long 77°28'00", Frederick County, Hydrologic Unit 02070009, on left downstream wingwall of culvert on park road in Cunningham Falls State Park, 0.25 mi upstream from Hunting Creek Lake, and 2.9 mi west of Thurmont.

DRAINAGE AREA.--2.14 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,030 ft above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for Oct. 20-24, 26-31, Nov. 2-7 (backwater from leaves), May 22-27, June 3, 4 (missing record), and discharges below 1.0 ft^3/s and above 40 ft^3/s, which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 21	2030	*148	*3.38	July 25	0345	91	3.07

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.19	.55	2.2	1.8	3.4	5.3	4.7	4.4	1.1	1.8	.41
2	.06	e.19	6.4	2.1	1.5	3.2	4.7	4.3	3.6	.85	1.4	.41
3	.06	e.19	10	2.4	1.5	3.1	4.4	4.2	e3.7	2.1	1.7	.44
4	.06	e.18	3.9	4.2	1.5	2.9	4.1	3.7	e5.4	1.5	4.0	.43
5	.33	e.18	2.4	3.9	1.4	2.7	3.7	3.6	15	.89	1.7	.43
6	1.2	e.18	1.9	3.0	1.3	3.6	3.4	3.2	9.9	.78	1.3	4.3
7	.25	e.18	1.6	2.6	1.3	16	3.2	2.9	6.3	.65	1.1	1.8
8	.16	.18	1.4	2.3	1.3	9.3	3.1	5.4	5.0	.57	1.1	3.3
9	.14	.18	1.9	2.5	1.1	6.5	2.9	6.9	4.2	.55	1.1	3.0
10	.12	.39	5.0	2.4	1.1	6.1	2.9	5.5	3.5	.52	.91	4.6
11	.26	.95	2.6	2.1	1.2	11	2.8	4.7	2.9	.50	1.1	4.9
12	.29	.68	2.1	1.9	1.1	7.2	2.6	4.2	2.5	.46	1.1	2.1
13	.20	.35	2.4	1.9	1.1	6.1	2.3	3.9	2.2	.44	.98	1.5
14	.18	.27	2.8	2.7	1.2	5.4	2.2	3.7	2.0	.39	1.0	1.3
15	.19	.23	2.2	2.3	2.7	4.8	2.1	4.5	1.8	.38	.97	1.2
16	.26	.23	1.8	1.8	5.5	4.3	2.0	4.7	1.6	.74	1.8	1.0
17	.58	.20	1.7	1.8	3.6	4.1	2.0	3.9	1.4	3.3	1.3	.94
18	.57	.18	1.5	1.7	4.9	3.9	2.0	3.8	1.8	1.6	2.3	.84
19	.37	.18	1.2	1.7	4.6	3.9	2.0	3.3	2.0	.69	3.4	.81
20	e.35	.18	1.1	1.8	4.0	3.7	1.9	2.9	1.7	.51	1.5	.72
21	e.32	.22	1.2	1.6	3.5	3.7	23	2.5	1.3	.48	1.1	.70
22	e.29	6.6	1.1	1.5	3.2	3.5	29	e2.6	1.2	.69	.95	1.2
23	e.27	3.6	1.2	2.1	3.1	3.3	14	e2.6	1.0	1.0	.86	1.1
24	e.25	1.2	1.2	2.3	3.4	3.3	13	e2.8	1.5	2.3	.74	.66
25	.24	.74	1.0	1.8	4.2	3.8	11	e3.4	1.8	27	.64	1.1
26	e.23	.53	.94	1.6	6.3	11	8.8	e4.5	1.4	8.4	.59	3.2
27	e.22	.41	.92	1.6	4.7	15	7.4	e3.0	1.1	7.5	.53	1.7
28	e.21	.37	.89	1.6	4.3	9.6	6.4	1.9	.86	4.8	.70	1.4
29	e.21	.38	7.0	1.7	3.8	7.4	5.7	1.7	.74	3.3	.69	1.1
30	e.20	.37	3.7	1.7	---	6.5	5.2	3.4	.99	2.4	.50	.90
31	e.20	---	2.7	1.8	---	6.1	---	8.9	---	2.1	.45	---
TOTAL	8.34	19.91	76.30	66.6	80.2	184.4	183.1	121.3	92.79	78.49	39.31	47.49
MEAN	.27	.66	2.46	2.15	2.77	5.95	6.10	3.91	3.09	2.53	1.27	1.58
MAX	1.2	6.6	10	4.2	6.3	16	29	8.9	15	27	4.0	4.9
MIN	.06	.18	.55	1.5	1.1	2.7	1.9	1.7	.74	.38	.45	.41
CFSM	.13	.31	1.15	1.00	1.29	2.78	2.85	1.83	1.45	1.18	.59	.74
IN.	.14	.35	1.33	1.16	1.39	3.21	3.18	2.11	1.61	1.36	.68	.83

e Estimated

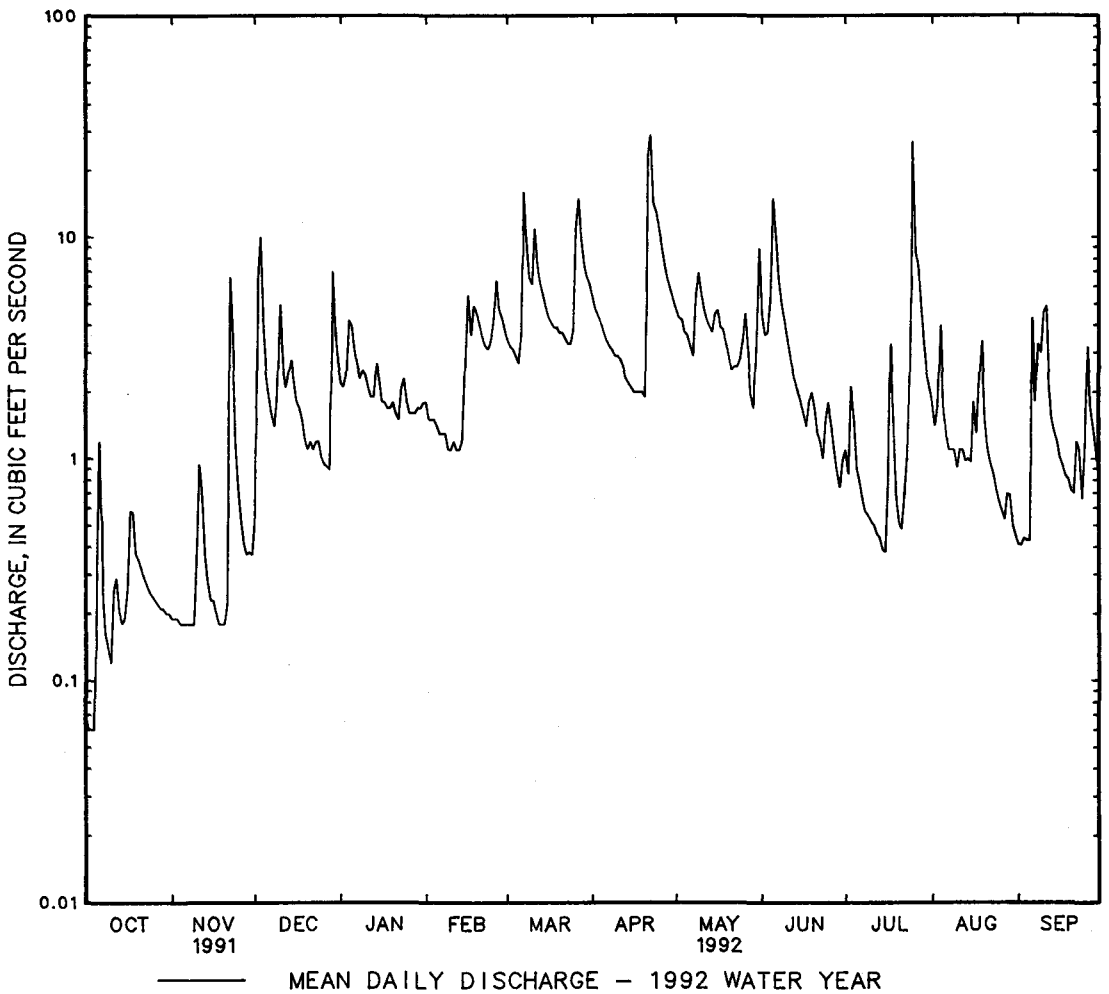
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1992, BY WATER YEAR (WY)

MEAN	.92	2.49	3.26	3.00	5.45	5.99	6.46	5.83	2.09	.91	.93	.36
MAX	4.12	10.6	8.28	7.18	12.6	10.1	13.6	15.2	5.43	2.69	6.33	1.58
(WY)	1991	1986	1984	1991	1984	1983	1987	1989	1982	1989	1984	1992
MIN	.093	.49	.68	1.25	2.23	2.62	2.56	1.90	.48	.17	.052	.063
(WY)	1987	1982	1989	1983	1987	1988	1985	1991	1991	1991	1987	1986

01640965 HUNTING CREEK NEAR FOXVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1982 - 1992	
ANNUAL TOTAL	897.59		998.23			
ANNUAL MEAN	2.46		2.73		3.13	
HIGHEST ANNUAL MEAN					5.14	1984
LOWEST ANNUAL MEAN					1.82	1985
HIGHEST DAILY MEAN	17	(a)	29	Apr 22	101	Feb 14 1984
LOWEST DAILY MEAN	.02	(b)	.06	(c)	.02	(b)
ANNUAL SEVEN-DAY MINIMUM	.03	Aug 28	.18	Nov 3	.03	Aug 28 1991
INSTANTANEOUS PEAK FLOW	24	(d)	148	Apr 21	f814	May 19 1988
INSTANTANEOUS PEAK STAGE	2.54	(d)	3.38	Apr 21	4.71	May 19 1988
INSTANTANEOUS LOW FLOW	.01	Sep 3	.06	(g)	.01	Sep 3 1991
ANNUAL RUNOFF (CFSM)	1.15		1.27		1.46	
ANNUAL RUNOFF (INCHES)	15.60		17.35		19.85	
10 PERCENT EXCEEDS	6.4		5.5		7.4	
50 PERCENT EXCEEDS	.90		1.8		1.7	
90 PERCENT EXCEEDS	.06		.26		.12	

a Jan. 16, 17, Mar. 4.
b Aug. 18, Sept. 1-3, 1991.
c Oct. 2-4.
d Jan. 16, Mar. 4.
f From rating curve extended above 40 ft^3/s on basis of computation of peak flow through culvert.
g Oct. 2-5.



01640965 HUNTING CREEK NEAR FOXVILLE, MD--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1987 to July 1991.
WATER TEMPERATURE: October 1987 to July 1991.

INSTRUMENTATION.--Water-quality monitor October 1987 to July 1991.

REMARKS.--Periods of missing record were due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water year 1990): Maximum, 121 microsiemens, Dec. 31, 1989; minimum, 64 microsiemens, May 10, 11, 30, 31, June 16 and July 5, 1990.
WATER TEMPERATURE (water years 1989-90): Maximum daily, 21.5°C, July 25, 1989; minimum daily, 0.0°C, on many days during winter periods.

WATER QUALITY DATA, OCTOBER 1991 TO JUNE 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991								
03...	0848	0.07	81	7.1	14.0	--	--	--
10...	0905	0.11	83	7.2	10.0	--	--	--
17...	0858	0.23	83	7.2	10.0	7.0	3.1	3.1
24...	1005	0.19	87	7.2	11.0	7.3	3.2	3.0
31...	0900	0.40	89	7.1	9.0	--	--	--
NOV								
07...	0900	0.32	73	7.1	5.0	--	--	--
14...	0900	0.29	90	7.3	6.0	9.6	4.2	3.1
21...	0930	0.18	88	7.2	10.0	--	--	--
27...	0930	0.40	86	7.2	--	--	--	--
DEC								
12...	0925	2.2	72	7.3	6.0	7.0	3.3	2.2
14...	0940	2.8	72	7.3	6.0	--	--	--
18...	0945	1.5	70	7.4	2.0	--	--	--
30...	0930	3.7	61	7.1	4.0	--	--	--
JAN 1992								
02...	0907	2.2	66	7.1	3.0	--	--	--
09...	0915	2.3	71	7.3	4.0	--	--	--
16...	1210	2.1	67	7.4	0.5	6.2	3.1	2.1
23...	1140	1.5	66	7.0	1.0	--	--	--
30...	0940	1.7	65	7.3	1.0	--	--	--
FEB								
06...	0922	1.2	65	7.1	0.0	--	--	--
14...	1040	1.1	66	7.2	1.0	6.2	3.1	2.2
20...	0928	4.1	59	7.3	3.0	--	--	--
27...	0935	4.7	70	7.3	4.0	--	--	--
MAR								
05...	0915	2.7	70	7.3	5.0	--	--	--
12...	0910	6.9	63	7.2	3.0	5.9	2.8	2.8
19...	0920	3.9	68	7.2	3.0	--	--	--
26...	0950	9.5	77	7.1	4.0	--	--	--
APR								
01...	1605	5.1	71	7.1	7.0	5.7	2.7	2.9
02...	1130	4.7	72	7.0	5.0	--	--	--
08...	0820	3.2	31	7.1	7.0	--	--	--
16...	1040	2.0	76	7.3	9.0	6.4	3.0	3.2
23...	1515	13	68	7.1	14.0	--	--	--
30...	1030	5.2	75	7.2	10.0	--	--	--
MAY								
07...	0946	2.8	76	7.3	9.0	--	--	--
14...	1040	3.7	74	7.2	13.0	6.8	3.1	2.9
21...	0930	2.7	78	7.2	10.0	--	--	--
27...	1405	2.3	79	7.2	11.0	--	--	--
JUN								
04...	1030	2.7	78	7.4	13.0	--	--	--
11...	1317	2.8	71	7.2	14.0	6.4	2.9	2.9
19...	0945	2.0	82	7.3	16.0	7.3	3.2	3.4
25...	0900	1.7	81	7.3	14.0	--	--	--
30...	0900	0.74	86	7.2	16.0	--	--	--

01640965 HUNTING CREEK NEAR FOXVILLE, MD--Continued

WATER QUALITY DATA, OCTOBER 1991 TO JUNE 1992

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER WH IT LAB MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 1991							
03...	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--
17...	0.36	31	6.1	5.8	9.6	0.78	30
24...	0.39	28	6.0	6.0	9.6	0.55	31
31...	--	--	--	--	--	--	--
NOV							
07...	--	--	--	--	--	--	--
14...	0.44	31	8.0	6.1	11	0.40	41
21...	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--
DEC							
12...	0.30	20	10	4.4	10	1.3	31
14...	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--
JAN 1992							
02...	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--
16...	0.24	18	9.9	4.5	9.4	1.7	28
23...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--
FEB							
06...	--	--	--	--	--	--	--
14...	0.23	15	6.9	3.8	9.1	1.6	28
20...	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--
MAR							
05...	--	--	--	--	--	--	--
12...	0.17	16	10	5.6	9.2	2.5	26
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
APR							
01...	0.21	15	9.5	3.1	8.7	2.7	25
02...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
16...	0.24	21	8.3	6.2	9.2	1.3	28
23...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--
MAY							
07...	--	--	--	--	--	--	--
14...	0.27	25	8.9	5.6	9.4	1.0	30
21...	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--
JUN							
04...	--	--	--	--	--	--	--
11...	0.17	24	8.5	5.3	10	0.82	28
19...	0.23	28	7.2	6.2	11	0.63	32
25...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--

01640970 HUNTING CREEK TRIBUTARY NEAR FOXVILLE, MD

WATER-QUALITY RECORDS

LOCATION.--Lat 39°37'42", long 77°27'44", Frederick County, Hydrologic Unit 02070009, on left downstream wingwall of culvert of park road in Cunningham Falls State Park, 600 ft upstream from Hunting Creek Lake, and 2.7 mi west of Thurmont.

DRAINAGE AREA.--4.01 mi^2.

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1987 to July 1991.
WATER TEMPERATURE: October 1987 to July 1991.

INSTRUMENTATION.--Water-quality monitor October 1987 to July 1991.

REMARKS.--Periods of missing record were due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1989-90): Maximum, 360 microsiemens, Jan. 8, 1989; minimum, 61 microsiemens, Sept. 11, 1989.
WATER TEMPERATURE: Maximum, 36.0°C, Aug. 15, 17, 1988; minimum, 0.0°C, on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO JUNE 1992

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991							
03...	0910	131	7.7	15.0	--	--	--
10...	0945	132	7.7	11.0	--	--	--
APR 1992							
01...	1530	105	7.1	6.0	7.2	2.9	7.5
JUN							
19...	1015	109	7.5	16.0	9.5	3.4	6.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER WH IT LAB MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 1991							
03...	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--
APR 1992							
01...	0.67	16	7.7	13	11	4.3	30
JUN							
19...	1.0	30	5.1	13	13	1.7	38

01640980 BEAR BRANCH NEAR THURMONT, MD

LOCATION.--Lat 39°37'15", long 77°26'24", Frederick County, Hydrologic Unit 02070009, on right bank 250 ft upstream from culvert under Maryland Route 77, 350 ft upstream from Hunting Creek, and 1.5 mi west of Thurmont.

DRAINAGE AREA.--0.38 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1990 to current year.

GAGE.--Water-stage recorder. Datum of gage is 763.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges (backwater affect, frozen float, and sluggish float), which are fair.

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 5 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 21	2030	*30	*4.34	July 25	0315	8.7	4.11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.04	.07	.12	.14	.64	1.2	1.0	.64	.31	.36	.14
2	.04	e.04	.30	.12	.14	.64	1.2	.92	.64	.31	.33	.14
3	.04	e.04	.43	.12	.14	.61	1.1	.85	.64	.40	.34	.14
4	.04	e.04	.22	.16	.14	.58	1.0	.85	.64	.32	.34	.14
5	.05	e.04	e.13	.16	.14	.55	.98	.85	.77	.29	.31	.14
6	.07	e.04	e.12	.14	.14	.58	.90	.80	.80	.26	.29	.36
7	.04	e.04	.12	.14	.14	1.9	.82	.75	.80	.26	.26	.21
8	.04	e.04	.11	.14	.14	2.3	.80	.77	.85	.23	.26	.22
9	.04	.05	.11	.14	.14	1.8	.77	.76	.85	.22	.26	.22
10	.04	.06	.15	.14	.14	1.3	.75	.73	.83	.21	.26	.28
11	.05	.06	.12	.14	.14	1.3	.72	.69	.80	.19	.27	.30
12	.05	.05	.11	.14	.14	1.2	.69	.69	.77	.19	.26	.26
13	.04	.04	.11	.14	.14	1.2	.68	.69	.73	.19	.22	.26
14	.04	.04	.11	.18	.14	1.1	.64	.69	.69	.18	.22	.26
15	.04	.04	.11	.18	.20	1.1	.64	.72	.69	.16	.22	.24
16	.05	.04	.11	.17	.23	1.1	.61	.72	.66	.17	.22	.22
17	.06	.04	.11	.18	.22	1.0	.58	.69	.64	.26	.22	.22
18	.05	.04	.11	.16	.24	.96	.58	.69	.66	.21	.30	.21
19	.04	.04	.11	.16	.24	.96	.58	.66	.64	.19	.30	.19
20	.04	.04	.11	.16	.22	.92	.58	.64	.64	.18	.24	.19
21	.04	.04	.10	.16	.22	.87	5.5	.64	.61	.17	.21	.19
22	.04	.34	.10	.16	.22	.85	9.4	.62	.58	.19	.19	.22
23	.04	.14	.10	.19	.22	.82	4.1	.58	.56	.23	.19	.22
24	.04	.10	.10	.20	.30	.77	2.8	.58	.57	.25	.18	.19
25	.04	.10	.10	.18	.36	.75	2.2	.58	.60	1.8	.16	.20
26	.04	.09	.10	.16	.52	1.0	1.8	.62	.55	.75	.16	.28
27	.04	.09	.10	.15	.55	e3.1	1.5	.61	.50	.62	.15	.22
28	.04	.08	.10	.14	.61	3.0	1.2	.58	.45	.50	.16	.21
29	e.04	.08	.26	.14	.64	2.3	1.1	.56	.39	.45	.18	.19
30	.04	.07	.17	.14	---	1.9	1.1	.57	.34	.42	.16	.19
31	.04	---	.13	.14	---	1.5	---	.70	---	.40	.14	---
TOTAL	1.34	1.99	4.23	4.75	6.95	38.60	46.52	21.80	19.53	10.51	7.36	6.45
MEAN	.043	.066	.14	.15	.24	1.25	1.55	.70	.65	.34	.24	.21
MAX	.07	.34	.43	.20	.64	3.1	9.4	1.0	.85	1.8	.36	.36
MIN	.04	.04	.07	.12	.14	.55	.58	.56	.34	.16	.14	.14
CFSM	.11	.17	.36	.40	.63	3.28	4.08	1.85	1.71	.89	.62	.57
IN.	.13	.19	.41	.46	.68	3.78	4.55	2.13	1.91	1.03	.72	.63

e Estimated

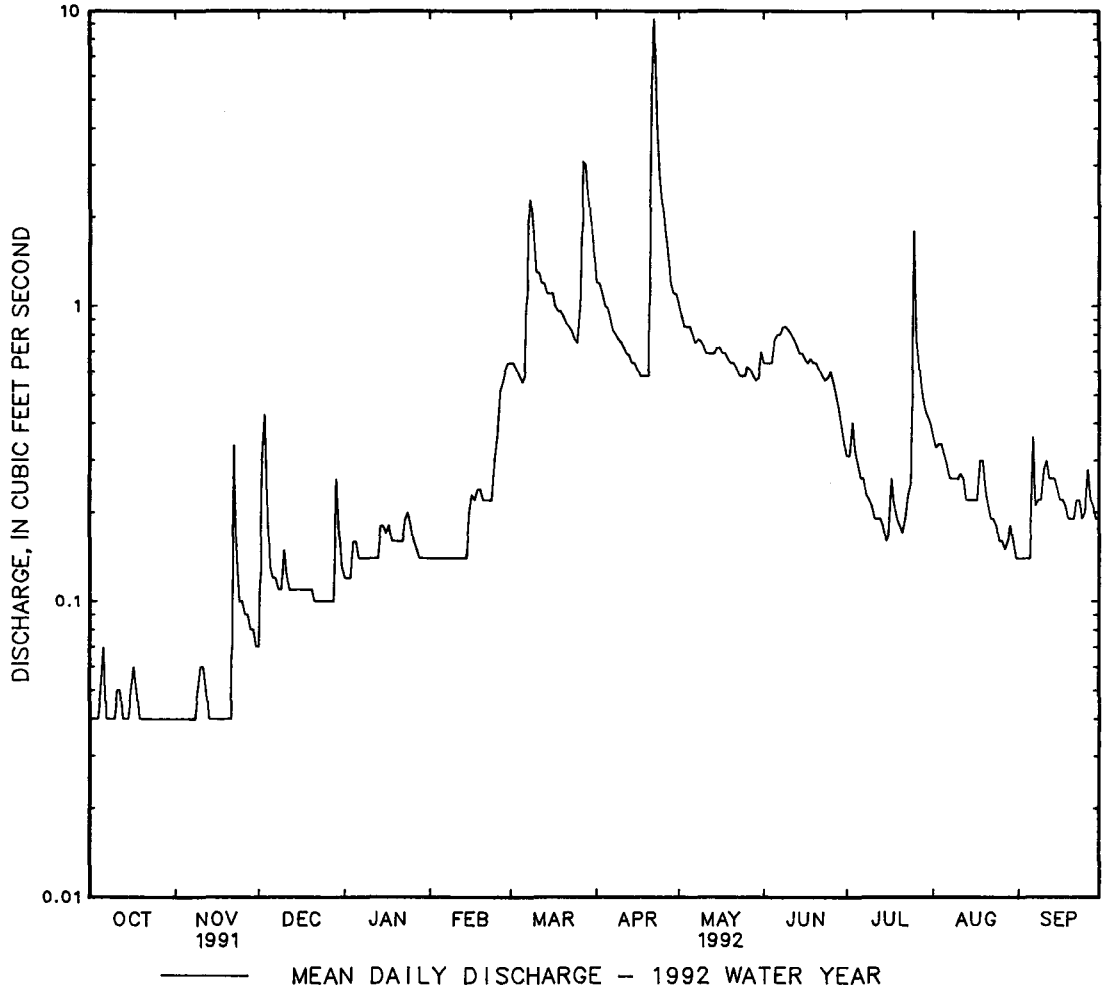
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

MEAN	.45	.29	.51	.90	.43	1.18	1.20	.61	.43	.24	.17	.16
MAX	.86	.51	.88	1.65	.62	1.25	1.55	.70	.65	.34	.24	.22
(WY)	1991	1991	1991	1991	1991	1992	1992	1992	1992	1992	1992	1990
MIN	.043	.066	.14	.15	.24	1.11	.84	.51	.18	.096	.052	.057
(WY)	1992	1992	1992	1992	1992	1991	1991	1991	1991	1991	1991	1991

01640980 BEAR BRANCH NEAR THURMONT, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1990 - 1992	
ANNUAL TOTAL	163.56		170.03			
ANNUAL MEAN	.45		.46		.54	
HIGHEST ANNUAL MEAN					.62	1991
LOWEST ANNUAL MEAN					.46	1992
HIGHEST DAILY MEAN	3.6	Jan 18	9.4	Apr 22	9.4	Apr 22 1992
LOWEST DAILY MEAN	.04	(a)	.04	(b)	.04	many days
ANNUAL SEVEN-DAY MINIMUM	.04	Aug 23	.04	Oct 19	.04	Aug 23 1991
INSTANTANEOUS PEAK FLOW	3.8	(c)	30	Apr 21	30	Apr 21 1992
INSTANTANEOUS PEAK STAGE	3.98	(c)	4.34	Apr 21	4.34	Apr 21 1992
INSTANTANEOUS LOW FLOW	.04	(d)	.04	(f)	.04	many days
ANNUAL RUNOFF (CFSM)	1.18		1.22		1.42	
ANNUAL RUNOFF (INCHES)	16.01		16.65		19.33	
10 PERCENT EXCEEDS	1.1		.93		1.1	
50 PERCENT EXCEEDS	.14		.22		.29	
90 PERCENT EXCEEDS	.04		.04		.05	

a Aug. 23 to Sept. 3, Sept. 8-17, 27-30, Oct. 1-4, 7-10, 13-15, 19-31, Nov. 1-8, 13-21.
b Oct. 1-4, 7-10, 13-15, 19-31, Nov. 1-8, 13-21.
c Jan. 17, 18.
d Aug. 17, 18, Aug. 23 to Sept. 3, Sept. 8-17, 22-24, Sept. 27 to Oct. 4, Oct. 7-10, 13-14, 19-28, Oct. 30 to Nov. 1, Nov. 13-20.
f Oct. 1 to Nov. 2, Nov. 12-21.



01640980 BEAR BRANCH NEAR THURMONT, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-Water years 1990 to current year.

WATER QUALITY DATA, OCTOBER 1991 TO MAY 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 1991							
01...	1005	0.04	14	5.3	13.0	0.47	0.38
08...	1050	0.04	16	5.3	11.0	0.53	0.40
15...	1015	0.04	14	5.3	11.0	0.42	0.34
22...	1030	0.04	15	5.3	8.0	0.44	0.35
29...	0935	0.04	16	5.3	10.0	0.51	0.37
NOV							
05...	0940	0.04	14	5.3	6.0	0.50	0.37
12...	1025	0.05	16	5.5	7.0	0.51	0.40
19...	1050	0.04	16	5.6	8.0	0.49	0.40
26...	1135	0.09	16	5.7	6.0	0.53	0.49
DEC							
03...	1010	0.42	25	5.6	6.0	1.1	0.85
10...	1125	0.14	20	5.8	8.0	0.78	0.63
17...	1000	0.11	19	5.9	3.0	0.72	0.53
23...	1030	0.10	19	5.6	3.0	0.70	0.56
30...	1030	0.14	22	5.6	4.0	0.89	0.68
JAN 1992							
07...	1045	0.14	21	5.6	4.0	0.86	0.66
14...	0930	0.18	23	5.7	6.0	0.93	0.60
21...	1020	0.16	22	5.8	1.0	0.99	0.67
28...	1120	0.14	23	5.7	2.0	0.95	0.70
FEB							
04...	1015	0.14	23	5.8	2.0	0.97	0.73
11...	0955	0.14	23	5.7	1.0	0.98	0.73
18...	1030	0.24	26	5.6	4.0	1.2	0.94
25...	1145	0.35	27	5.6	5.0	1.2	0.92
MAR							
03...	1010	0.61	26	5.7	7.0	1.2	0.94
10...	1020	1.3	29	5.3	9.0	1.4	0.97
17...	1425	1.0	27	5.5	5.0	1.2	0.92
24...	1020	0.77	26	5.5	4.0	1.2	0.82
31...	1215	1.4	27	5.4	9.0	1.2	0.86
APR							
06...	1110	0.90	26	5.4	7.0	1.2	0.82
13...	0910	0.68	24	5.6	7.0	1.2	0.73
21...	0900	0.58	23	5.5	10.0	1.0	0.70
23...	1240	3.8	29	5.1	12.0	1.3	0.83
28...	0940	1.2	26	5.3	10.0	1.1	0.80
MAY							
03...	0900	0.85	24	5.4	12.0	--	--
12...	0900	0.69	23	5.4	12.0	0.96	0.75
19...	1130	0.64	23	5.4	12.0	--	--
26...	1140	0.62	23	5.4	10.0	1.0	0.77

01640980 BEAR BRANCH NEAR THURMONT, MD--Continued

WATER QUALITY DATA, OCTOBER 1991 TO MAY 1992

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 1991							
01...	0.73	0.29	2.8	1.1	5.8	12	3
08...	0.69	0.23	3.1	1.2	5.9	12	3
15...	0.68	0.22	2.8	1.2	5.4	--	2
22...	0.69	0.21	2.9	1.2	5.2	11	3
29...	0.71	0.30	3.0	1.3	6.4	--	3
NOV							
05...	0.69	0.34	3.1	1.3	6.1	13	3
12...	0.71	0.86	3.5	1.3	6.1	13	3
19...	0.75	0.54	2.9	1.2	5.8	12	3
26...	0.75	0.83	3.6	1.3	5.8	13	3
DEC							
03...	0.79	1.4	5.8	1.5	5.0	17	6
10...	0.78	1.0	4.0	1.2	5.4	14	5
17...	0.77	0.77	3.4	1.5	5.5	14	4
23...	0.78	0.80	3.4	3.1	5.4	15	4
30...	0.76	0.93	4.9	1.8	5.3	16	5
JAN 1992							
07...	0.77	0.89	4.2	1.3	5.4	14	5
14...	0.65	0.95	5.0	1.3	4.4	14	5
21...	0.73	0.84	4.7	1.4	5.3	15	5
28...	0.70	0.86	4.7	1.4	5.2	15	5
FEB							
04...	0.74	0.90	4.8	1.4	5.0	15	5
11...	0.71	0.87	4.8	1.4	5.1	15	5
18...	0.75	1.1	5.6	1.4	4.7	16	7
25...	0.71	1.2	5.8	1.4	4.9	16	7
MAR							
03...	0.75	1.1	5.7	1.5	5.0	--	7
10...	0.75	1.2	6.0	1.5	4.9	--	7
17...	0.72	1.1	5.4	1.4	4.8	16	7
24...	0.70	0.99	5.5	1.4	4.6	15	6
31...	0.72	1.1	5.7	1.4	4.6	--	7
APR							
06...	0.67	0.98	5.0	1.5	4.6	15	6
13...	0.68	0.94	5.3	1.4	4.6	15	6
21...	0.67	0.94	4.8	1.4	4.7	14	5
23...	0.73	1.2	6.0	1.4	4.8	--	7
28...	0.66	0.99	5.4	1.4	4.6	--	6
MAY							
03...	--	--	--	--	--	--	--
12...	0.68	0.95	5.2	1.3	4.4	14	5
19...	--	--	--	--	--	--	--
26...	0.68	0.84	5.2	1.3	4.7	--	6

01641000 HUNTING CREEK AT JIMTOWN, MD

LOCATION.--Lat 39°35'40", long 77°23'50", Frederick County, Hydrologic Unit 02070009, on right bank just downstream from highway bridge, 0.4 mi southwest of Jimtown, about 2.2 mi upstream from Little Hunting Creek, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--18.4 mi^2.

PERIOD OF RECORD.--October 1949 to February 1992 (Discontinued).

REVISED RECORDS.--WSP 1332: 1952.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 355 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Slight regulation at irregular intervals caused by pumpage at recreation camp near Foxville, and from occasional draining and refilling of pond near Thurmont by Maryland Game and Inland Fish Commission. Regulation since spring of 1970 at low flow by Hunting Creek Lake, 5.6 miles 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 PERIOD.--Peak discharges greater than base discharge of 350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 22	1800	*206	*2.77	No peak greater than base discharge			

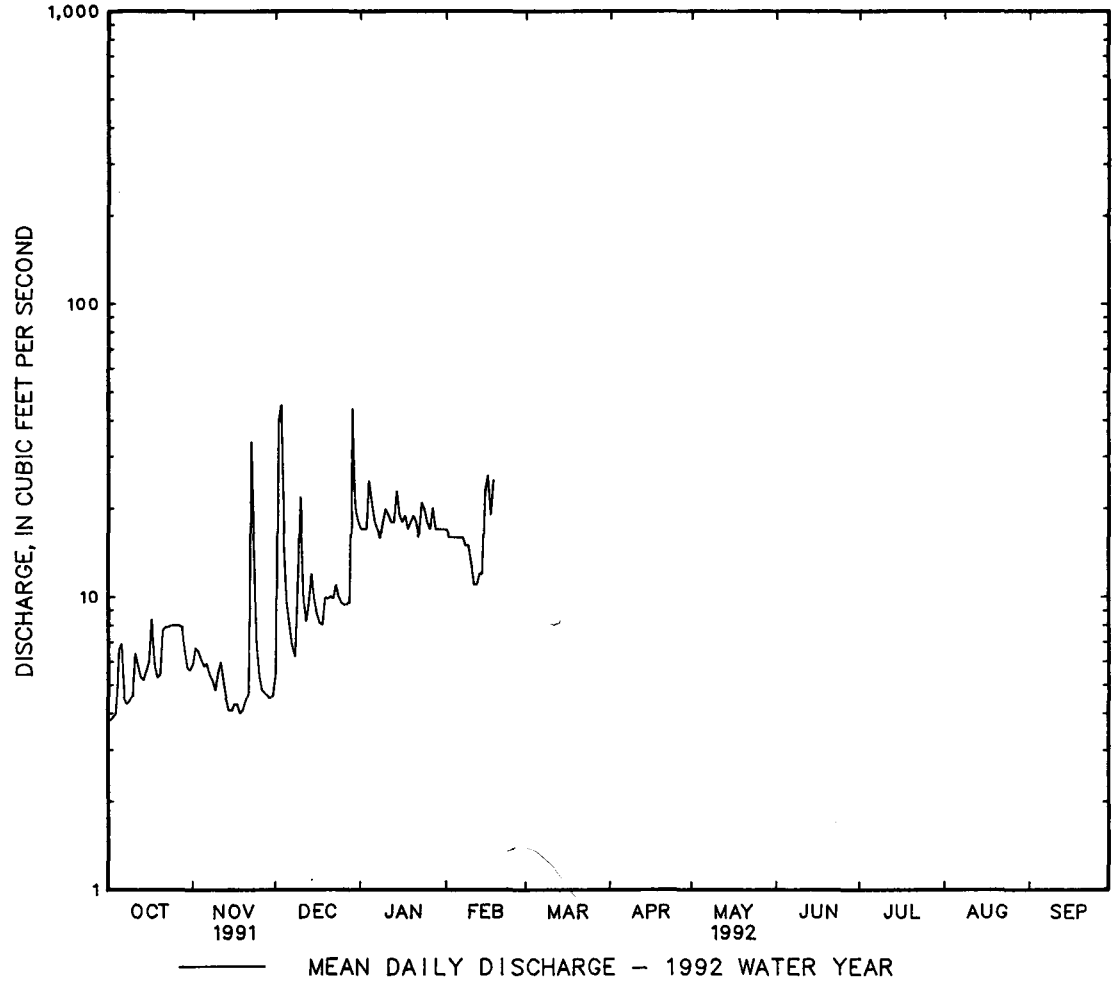
DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1991 TO FEBRUARY 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	5.9	5.5	17	17	---	---	---	---	---	---	---
2	3.8	6.7	40	17	16	---	---	---	---	---	---	---
3	3.9	6.5	45	17	16	---	---	---	---	---	---	---
4	4.0	6.1	15	25	16	---	---	---	---	---	---	---
5	6.6	5.8	9.3	21	16	---	---	---	---	---	---	---
6	6.9	5.9	7.9	18	16	---	---	---	---	---	---	---
7	4.5	5.4	6.7	17	16	---	---	---	---	---	---	---
8	4.3	5.2	6.2	16	15	---	---	---	---	---	---	---
9	4.4	4.8	11	18	15	---	---	---	---	---	---	---
10	4.6	5.5	22	20	13	---	---	---	---	---	---	---
11	6.4	6.0	10	19	11	---	---	---	---	---	---	---
12	5.8	5.1	8.2	18	11	---	---	---	---	---	---	---
13	5.3	4.5	9.3	18	12	---	---	---	---	---	---	---
14	5.2	4.1	12	23	12	---	---	---	---	---	---	---
15	5.6	4.1	9.8	19	23	---	---	---	---	---	---	---
16	6.0	4.3	8.7	18	26	---	---	---	---	---	---	---
17	8.4	4.3	8.1	19	19	---	---	---	---	---	---	---
18	5.8	4.0	8.0	17	25	---	---	---	---	---	---	---
19	5.3	4.1	10	18	---	---	---	---	---	---	---	---
20	5.4	4.4	9.9	19	---	---	---	---	---	---	---	---
21	7.7	4.7	10	18	---	---	---	---	---	---	---	---
22	7.9	34	9.9	16	---	---	---	---	---	---	---	---
23	7.9	15	11	21	---	---	---	---	---	---	---	---
24	8.0	6.8	10	20	---	---	---	---	---	---	---	---
25	8.0	5.3	9.5	18	---	---	---	---	---	---	---	---
26	8.0	4.8	9.4	17	---	---	---	---	---	---	---	---
27	8.0	4.7	9.4	20	---	---	---	---	---	---	---	---
28	7.9	4.6	9.6	17	---	---	---	---	---	---	---	---
29	6.5	4.5	44	17	---	---	---	---	---	---	---	---
30	5.7	4.6	20	17	---	---	---	---	---	---	---	---
31	5.6	---	18	17	---	---	---	---	---	---	---	---
TOTAL	187.2	191.7	423.4	572	---	---	---	---	---	---	---	---
MEAN	6.04	6.39	13.7	18.5	---	---	---	---	---	---	---	---
MAX	8.4	34	45	25	---	---	---	---	---	---	---	---
MIN	3.8	4.0	5.5	16	---	---	---	---	---	---	---	---
CFSM	.33	.35	.74	1.00	---	---	---	---	---	---	---	---
IN.	.38	.39	.86	1.16	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

MEAN	14.2	17.3	25.2	28.7	39.8	51.4	50.3	39.3	21.6	10.5	8.57	11.9
MAX	125	58.4	68.1	84.4	119	92.1	141	114	116	34.9	67.0	125
(WY)	1977	1986	1951	1979	1984	1979	1983	1989	1972	1972	1984	1975
MIN	1.85	1.95	2.51	3.22	9.17	17.2	19.1	13.6	4.43	1.51	1.35	1.66
(WY)	1964	1966	1961	1966	1963	1988	1963	1955	1966	1966	1966	1965

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		WATER YEARS 1950 - 1992		
ANNUAL TOTAL	7402.5				
ANNUAL MEAN	20.3		26.6		
HIGHEST ANNUAL MEAN			47.6		1984
LOWEST ANNUAL MEAN			11.3		1969
HIGHEST DAILY MEAN	167	Jan 16	1330	Oct 9	1976
LOWEST DAILY MEAN	2.6	Aug 17	.60	Sep 9	1966
ANNUAL SEVEN-DAY MINIMUM	3.0	Aug 11	.86	Aug 29	1966
INSTANTANEOUS PEAK FLOW	371	Mar 23	2670	Oct 9	1976
INSTANTANEOUS PEAK STAGE	3.25	Mar 23	6.32	Oct 9	1976
INSTANTANEOUS LOW FLOW	UNKNOWN		.40	Sep 9	1966
ANNUAL RUNOFF (CFSM)	1.10		1.44		
ANNUAL RUNOFF (INCHES)	14.97		19.62		
10 PERCENT EXCEEDS	47		58		
50 PERCENT EXCEEDS	9.6		14		
90 PERCENT EXCEEDS	3.6		3.3		



FCT

01641510 FISHING CREEK TRIBUTARY NEAR LEWISTOWN, MD

LOCATION.--Lat 39°32'09", long 77°26'48", Frederick County, Hydrologic Unit 02070009, on right bank 800 ft upstream from entrance to Lewistown State Fish Hatchery, 1.2 mi west of U.S. Route 15, 1.7 mi west of Lewistown, and 0.6 mi upstream from Fishing Creek.

DRAINAGE AREA.--0.40 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1987 to current year. This is gage datum = zero

GAGE.--Water-stage recorder. Datum of gage is 542.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for Oct. 19 to Nov. 8 (backwater correction), Dec. 15 to Jan. 3 (ADR malfunction), and Jan. 16-21 (frozen float), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 21	2045	13	3.15	July 25	0400	*17	*3.25

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	e.10	.13	e.17	.16	.35	.83	1.2	.76	.49	.75	.28
2	.05	e.10	.64	e.13	.30	.35	.83	1.1	.72	.44	.69	.27
3	.06	e.10	.38	e.15	.30	.29	.83	1.0	.71	.55	1.0	.27
4	.06	e.10	.14	.18	.18	.26	.83	.98	.73	.44	.81	.28
5	.12	e.09	.10	.15	.24	.26	.83	.95	1.3	.38	.64	.27
6	.12	e.09	.09	.13	.26	.38	.72	.87	1.1	.36	.61	.81
7	.10	e.09	.09	.13	.26	1.1	.66	.83	1.0	.33	.59	.37
8	.10	e.09	.09	.13	.28	.71	.59	1.0	1.0	.33	.57	.47
9	.09	.09	.18	.15	.30	.67	.59	.90	1.0	.33	.56	.37
10	.09	.15	.25	.15	.30	.58	.61	.83	.99	.33	.53	.54
11	.14	.19	.14	.14	.17	.73	.67	.77	.94	.31	.60	.43
12	.14	.13	.13	.13	.09	.67	.67	.73	.89	.32	.55	.33
13	.12	.08	.17	.12	.09	.67	.59	.71	.86	.30	.52	.30
14	.11	.09	.21	.31	.11	.67	.51	.69	.82	.29	.51	.30
15	.11	.09	e.17	.53	.43	.67	.49	.79	.77	.38	.49	.29
16	.13	.11	e.15	e.40	.45	.67	.49	.72	.73	.54	.58	.28
17	.25	.12	e.12	e.30	.33	.62	.49	.67	.71	.59	.51	.28
18	.19	.12	e.10	e.21	.28	.64	.48	.65	.87	.35	.46	.28
19	e.17	.12	e.09	e.16	.20	.67	.47	.63	.77	.29	.44	.28
20	e.16	.12	e.08	e.13	.18	.67	.46	.63	.67	.27	.41	.27
21	e.15	.12	e.08	e.12	.23	.67	3.2	.61	.63	.28	.39	.27
22	e.14	.66	e.08	.12	.26	.67	4.3	.59	.61	.31	.39	.40
23	e.13	.21	e.08	.21	.26	.67	2.5	.57	.57	.33	.38	.31
24	e.12	.18	e.08	.29	.27	.63	2.2	.60	.63	.49	.35	.28
25	e.12	.18	e.07	.36	.23	.59	1.9	.62	.67	4.4	.33	.34
26	e.11	.12	e.07	.40	.40	.86	1.7	.73	.55	1.2	.31	.45
27	e.11	.09	e.06	.40	.33	1.1	1.5	.63	.48	1.1	.30	.32
28	e.11	.09	e.10	.21	.31	.95	1.4	.57	.45	.97	.32	.29
29	e.10	.09	e.62	.12	.35	1.0	1.3	.54	.43	.89	.33	.27
30	e.10	.09	e.43	.12	---	1.0	1.3	.68	.52	.83	.30	.25
31	e.10	---	e.26	.12	---	.91	---	1.2	---	.80	.29	---
TOTAL	3.65	4.00	5.38	6.37	7.55	20.68	33.94	23.99	22.88	19.22	15.51	10.15
MEAN	.12	.13	.17	.21	.26	.67	1.13	.77	.76	.62	.50	.34
MAX	.25	.66	.64	.53	.45	1.1	4.3	1.2	1.3	4.4	1.0	.81
MIN	.05	.08	.06	.12	.09	.26	.46	.54	.43	.27	.29	.25
CFSM	.29	.33	.43	.51	.65	1.67	2.83	1.93	1.91	1.55	1.25	.85
IN.	.34	.37	.50	.59	.70	1.92	3.16	2.23	2.13	1.79	1.44	.94

e Estimated

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

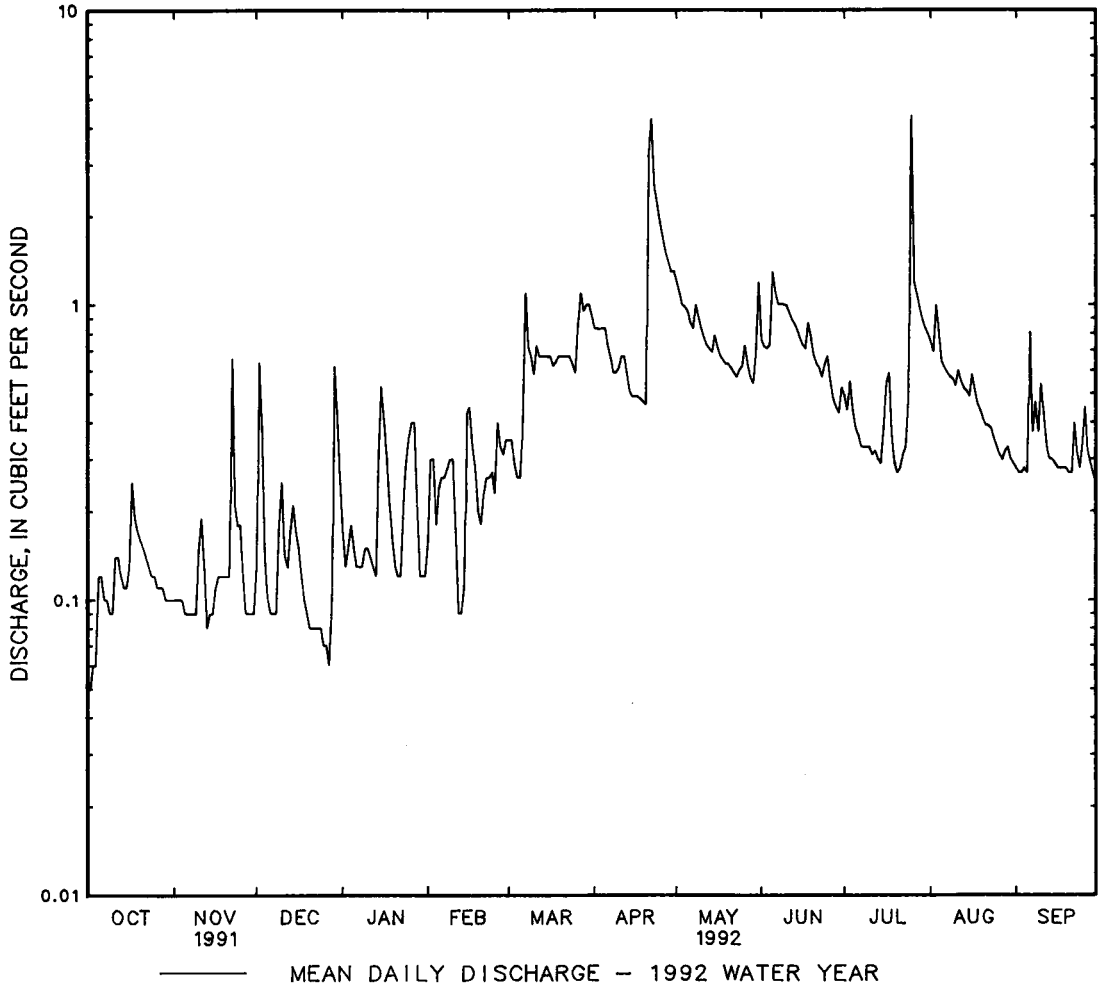
MEAN	.16	.22	.32	.55	.52	.64	.81	1.47	.62	.35	.23	.17
MAX	.29	.36	.64	1.39	.77	.85	1.13	2.47	.76	.62	.50	.34
(WY)	1991	1991	1991	1991	1991	1991	1992	1988	1992	1992	1992	1992
MIN	.093	.13	.12	.21	.26	.53	.58	.56	.30	.16	.092	.091
(WY)	1989	1992	1989	1992	1992	1989	1988	1991	1991	1991	1991	1991

when stage = 0 that's what this is to get this # took elevations at all rms. Then subtracted mean sea level from that then took an average of all those # + can up w/ this number when G.HT = 3.16 then really its 3.16 + 542.30 = 545.46 can then plot this on a topo.

01641510 FISHING CREEK TRIBUTARY NEAR LEWISTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1988 - 1992	
ANNUAL TOTAL	167.16		173.32			
ANNUAL MEAN	.46		.47		.50	
HIGHEST ANNUAL MEAN					.57	1988
LOWEST ANNUAL MEAN					.45	1990
HIGHEST DAILY MEAN	1.9	(a)	4.4	Jul 25	11	May 19 1988
LOWEST DAILY MEAN	.05	(b)	.05	(b)	.05	(b)
ANNUAL SEVEN-DAY MINIMUM	.06	Sep 10	.07	Dec 21	.06	Sep 10 1991
INSTANTANEOUS PEAK FLOW	7.40	Jun 18	17	Jul 25	33	May 18 1988
INSTANTANEOUS PEAK STAGE	2.08	Jun 18	3.25	Jul 25	3.25	Jul 25 1992
INSTANTANEOUS LOW FLOW	.05	(b)	.05	(b)	.03	Aug 15 1988
ANNUAL RUNOFF (CFSM)	1.14		1.18		1.26	
ANNUAL RUNOFF (INCHES)	15.55		16.12		17.15	
10 PERCENT EXCEEDS	1.1		.89		.97	
50 PERCENT EXCEEDS	.26		.34		.35	
90 PERCENT EXCEEDS	.08		.10		.10	

a Jan. 18-21.
b Oct. 1, 2, 1991.



01641510 FISHING CREEK TRIBUTARY NEAR LEWISTOWN, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1987 to September 1990.
WATER TEMPERATURE: October 1987 to September 1990.

INSTRUMENTATION.--Water-quality monitor October 1987 to September 1990.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 90 microsiemens, Oct. 29, 1988; minimum, 13 microsiemens, Sept. 6, 7, 1989.
WATER TEMPERATURE: Maximum daily, 23.0°C, Aug. 15, 1988; minimum daily, 1.0°C, Jan. 6, 7, 8, 15, 16, 1988, Mar. 6, 1989.

WATER QUALITY DATA, OCTOBER 1991 TO JUNE 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991								
01...	1125	0.05	15	6.5	14.0	0.56	0.47	1.0
08...	1235	0.10	14	6.5	12.0	0.55	0.47	1.1
15...	1120	0.11	15	6.6	12.0	0.50	0.45	0.96
22...	1205	0.14	15	6.6	10.0	0.50	0.45	0.93
29...	1040	0.14	16	6.5	12.0	0.56	0.47	1.0
NOV								
05...	1040	0.13	15	6.6	8.0	0.53	0.45	1.0
12...	1130	0.12	21	6.5	8.0	0.77	0.67	1.1
19...	1225	0.12	17	6.5	10.0	0.58	0.50	1.1
26...	1000	0.09	19	6.3	6.0	0.70	0.57	1.0
DEC								
03...	0915	0.35	29	6.0	9.0	1.4	1.1	1.1
10...	1335	0.14	24	6.3	8.0	1.0	0.93	1.1
17...	1100	0.12	19	6.4	5.0	0.68	0.58	1.0
23...	1345	0.08	20	6.3	5.0	0.68	0.61	1.0
30...	1300	0.12	23	6.2	6.0	0.82	0.78	1.1
JAN 1992								
07...	0930	0.13	19	6.5	5.0	0.72	0.57	1.1
14...	1120	0.35	23	6.2	8.0	0.86	0.73	1.0
21...	1100	0.14	18	6.2	2.0	0.59	0.59	1.0
28...	0935	0.12	19	6.2	3.0	0.66	0.51	1.0
FEB								
04...	1105	0.09	18	6.3	4.0	0.56	0.52	0.98
11...	1045	0.09	18	6.4	2.0	0.57	0.52	0.99
18...	1150	0.30	22	6.3	5.0	0.85	0.83	1.0
25...	1300	0.18	23	6.3	6.0	0.86	0.81	1.0
MAR								
03...	1105	0.26	18	6.5	7.0	0.62	0.59	1.0
10...	1155	0.53	19	6.2	10.0	0.65	0.62	0.97
17...	1025	0.59	17	6.2	5.0	0.64	0.52	0.97
24...	1125	0.59	18	6.4	6.0	0.52	0.48	0.82
31...	1430	0.83	17	6.2	10.0	0.50	0.49	0.97
APR								
06...	0820	0.67	17	6.4	7.0	0.63	0.47	0.94
13...	1015	0.59	17	6.5	9.0	0.51	0.45	0.91
21...	1045	0.44	18	6.4	12.0	0.65	0.55	0.95
23...	1000	2.5	20	5.8	12.0	0.76	0.54	0.85
28...	1130	1.4	16	6.3	11.0	0.48	0.45	0.88
MAY								
03...	1000	1.0	16	6.4	14.0	--	--	--
12...	1035	0.72	16	6.3	13.0	0.54	0.47	0.94
19...	1300	0.63	17	6.3	14.0	--	--	--
26...	1410	0.90	20	6.1	12.0	0.82	0.75	0.99
JUN								
02...	1345	--	16	6.6	13.0	--	--	--
09...	1045	--	16	6.2	14.0	0.57	0.54	0.98
16...	1115	--	16	6.4	14.0	0.52	0.48	0.97
23...	1205	--	16	6.4	14.0	--	--	--
30...	1145	--	15	6.3	16.0	--	--	--

01641510 FISHING CREEK TRIBUTARY NEAR LEWISTOWN, MD--Continued

WATER-QUALITY RECORDS, OCTOBER 1991 to JUNE 1992

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3)	HARDNESS TOTAL (MG/L AS CACO3)
OCT 1991							
01...	0.55	1.6	1.3	7.7	15	0.31	3
08...	0.50	1.7	1.3	7.3	14	0.22	3
15...	0.52	1.7	1.3	6.9	14	0.19	3
22...	0.50	1.9	1.3	7.0	13	0.50	3
29...	0.66	1.8	1.3	8.2	15	<0.007	3
NOV							
05...	0.68	1.9	1.3	7.8	15	<0.007	3
12...	1.1	3.1	2.0	7.6	18	<0.007	5
19...	0.79	1.8	1.4	7.6	15	<0.007	4
26...	1.1	2.7	1.5	7.6	16	<0.007	4
DEC							
03...	1.4	6.3	1.8	5.9	19	<0.007	8
10...	1.4	5.2	1.6	7.1	20	<0.007	6
17...	0.95	2.6	1.5	7.5	16	<0.007	4
23...	0.92	2.5	1.3	7.1	16	0.19	4
30...	1.2	4.1	1.4	7.1	17	<0.007	5
JAN 1992							
07...	1.0	2.8	1.3	7.2	16	0.11	4
14...	1.3	4.1	4.4	6.4	20	0.81	5
21...	0.91	2.5	1.3	7.4	16	0.69	4
28...	0.96	2.2	1.2	7.4	15	0.53	4
FEB							
04...	0.91	2.5	1.3	7.5	16	0.62	4
11...	0.90	2.3	1.3	7.5	16	0.72	4
18...	1.2	3.9	1.3	6.9	17	0.57	6
25...	1.3	4.0	1.3	7.0	17	0.55	5
MAR							
03...	1.0	2.5	1.3	7.2	16	0.67	4
10...	1.1	3.0	1.4	7.3	17	0.62	4
17...	0.94	2.3	1.3	7.0	16	0.60	4
24...	1.2	2.5	1.3	5.9	14	0.60	3
31...	0.97	2.3	1.3	6.6	14	0.39	3
APR							
06...	0.85	2.0	1.3	6.7	15	0.61	3
13...	0.84	1.9	1.3	6.6	14	0.63	3
21...	0.91	2.0	1.3	6.6	15	0.52	4
23...	1.1	3.5	1.3	6.3	15	0.83	4
28...	0.83	1.9	1.3	6.5	14	0.76	3
MAY							
03...	--	--	--	--	--	--	--
12...	0.84	1.8	1.2	6.0	13	0.54	3
19...	--	--	--	--	--	--	--
26...	0.84	2.9	1.1	6.0	15	0.64	5
JUN							
02...	--	--	--	--	--	--	--
09...	0.77	1.7	1.8	7.2	15	<0.007	4
16...	0.69	1.6	1.3	7.0	14	0.74	3
23...	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°24'13", long 77°21'58", Frederick County, Hydrologic Unit 02070009, on right bank 0.2 mi upstream from Jug Bridge on U.S. Highway 40, 0.4 mi downstream from Linganore Creek, 2.0 mi east of Frederick, and 16.9 mi upstream from mouth.

DRAINAGE AREA.--817 mi^2.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for October, November 1929, published in WSP 1302.

REVISED RECORDS.--WSP 711: 1930.

GAGE.--Water-stage recorder. Nonrecording gage at site 0.2 mile downstream. Datum of gage is 231.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low and medium flows since September 1972 by Linganore Reservoir, total capacity, 883,200,000 gal, 2.8 mi upstream from station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 reached a stage of 30 ft, from floodmarks, discharge, 56,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 7	2400	9,010	10.96	Apr. 22	1730	*13,200	*13.64
Mar. 27	1700	13,000	13.49	July 25	1430	12,400	13.18

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	119	198	662	350	762	1450	776	1850	390	470	140
2	116	119	343	541	290	658	1210	715	859	751	399	134
3	112	118	4370	536	313	610	1040	659	649	539	343	136
4	107	116	2750	606	307	561	919	603	553	721	1040	137
5	107	118	1100	1110	291	524	830	560	862	579	575	141
6	139	117	690	910	275	510	745	567	2670	403	383	378
7	196	117	569	655	262	4210	683	585	1340	331	322	646
8	242	118	472	555	265	5270	653	580	923	284	286	526
9	160	121	445	510	259	1990	611	1080	758	256	284	587
10	134	122	2250	543	199	1440	586	1040	656	235	269	529
11	130	128	1690	544	204	4220	618	739	566	223	271	1130
12	125	133	896	470	251	3280	620	612	497	204	306	834
13	128	144	699	424	214	1670	559	553	451	193	272	453
14	160	151	776	455	237	1310	502	532	416	186	260	323
15	146	148	848	625	321	1120	474	557	384	186	252	279
16	137	138	618	544	1310	951	457	650	359	217	286	250
17	156	136	494	323	1270	824	456	698	330	497	304	229
18	203	166	444	358	928	793	453	630	321	567	289	214
19	318	162	388	319	1360	970	510	581	429	336	310	200
20	242	158	276	307	1280	1270	476	495	599	241	298	188
21	182	155	365	324	978	1460	667	441	603	200	252	178
22	157	322	331	312	754	1260	10600	408	392	202	224	219
23	146	1850	324	340	658	1210	4390	386	322	295	204	296
24	139	973	348	432	638	1270	2190	372	294	398	194	315
25	134	493	346	468	874	1020	1940	383	387	7570	182	312
26	131	353	303	401	1820	1330	1520	421	790	3280	174	679
27	128	284	269	312	2180	10400	1310	498	621	1440	169	1050
28	125	238	260	342	1220	4330	1100	460	436	1140	164	617
29	120	209	784	335	964	2290	937	376	329	787	165	459
30	119	191	1960	325	---	1770	829	392	305	593	164	351
31	118	---	967	357	---	1650	---	2250	---	511	158	---
TOTAL	4678	7717	26573	14945	20272	60933	39335	19599	19951	23755	9269	11930
MEAN	151	257	857	482	699	1966	1311	632	665	766	299	398
MAX	318	1850	4370	1110	2180	10400	10600	2250	2670	7570	1040	1130
MIN	107	116	198	307	199	510	453	372	294	186	158	134
CFSM	.18	.31	1.05	.59	.86	2.41	1.60	.77	.81	.94	.37	.49
IN.	.21	.35	1.21	.68	.92	2.77	1.79	.89	.91	1.08	.42	.54

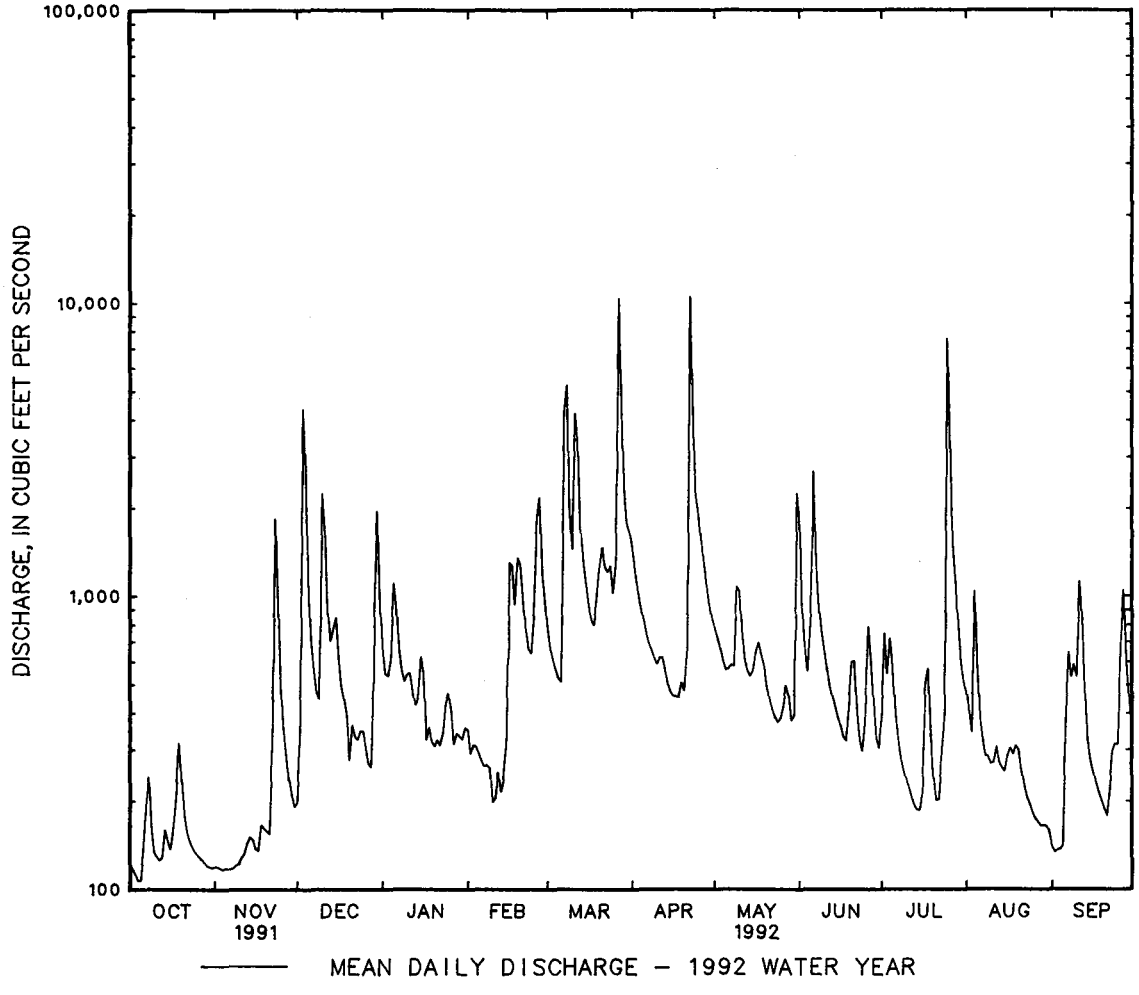
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1992, BY WATER YEAR (WY)

MEAN	512	682	985	1156	1462	1712	1507	1030	708	448	412	479
MAX	3943	2504	3007	3664	4062	4345	4533	3773	6826	2571	3233	5165
(WY)	1977	1933	1973	1979	1984	1936	1983	1989	1972	1949	1933	1975
MIN	46.8	65.1	108	123	175	589	453	296	158	64.5	36.4	59.9
(WY)	1931	1931	1966	1981	1931	1981	1947	1963	1966	1966	1966	1963

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1930 - 1992	
ANNUAL TOTAL	255761		258957			
ANNUAL MEAN	701		708		921	
HIGHEST ANNUAL MEAN					1834	1972
LOWEST ANNUAL MEAN					345	1931
HIGHEST DAILY MEAN	9980	Jan 17	10600	Apr 22	74000	Jun 23 1972
LOWEST DAILY MEAN	66	(a)	107	(b)	19	(c)
ANNUAL SEVEN-DAY MINIMUM	72	Aug 4	118	Nov 2	19	Sep 7 1966
INSTANTANEOUS PEAK FLOW	12100	Jan 17	13200	Apr 22	81600	Jun 23 1972
INSTANTANEOUS PEAK STAGE	13.00	Jan 17	13.64	Apr 22	d35.90	Jun 23 1972
INSTANTANEOUS LOW FLOW	62	Aug 8	102	Oct 5	17	(f)
ANNUAL RUNOFF (CFSM)	.86		.87		1.13	
ANNUAL RUNOFF (INCHES)	11.65		11.79		15.32	
10 PERCENT EXCEEDS	1610		1320		1950	
50 PERCENT EXCEEDS	322		430		465	
90 PERCENT EXCEEDS	90		140		121	

a Aug. 7, 8.
b Oct. 4, 5.
c Sept. 7-13, 1966.
d From floodmark.
f Sept. 11 and 13, 1966.



01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°23'16", long 77°22'40", Frederick County, Hydrologic Unit 02070009, at Reich's Ford Bridge, 1.1 mi downstream from U.S. Highway 40, 1.2 mi downstream from gaging station, 2 mi southeast of Frederick, and 15.0 mi upstream from mouth.

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1960 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling. Missing record November 1 to January 17 when local observer resigned. Water-discharge records for Monocacy River at Jug bridge near Frederick (station 01643000) are used for computation of sediment loads. Prior to 1970, published as Monocacy River at Jug Bridge near Frederick (station 01643000).

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE (water years 1961-72, 1975, 1977, 1980-87, 1989): Maximum daily, 32.0°C, July 21, 1980; minimum daily, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATION: Maximum daily mean, 2,000 mg/L, July 10, 1970; minimum daily mean, 1 mg/L on many days in water years 1961-67, 1970, 1972, 1982, 1985, 1989.
SEDIMENT LOAD: Maximum daily, 134,000 tons, June 22, 1972; minimum daily, 0.25 ton, Oct. 14, 1988.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATION: Maximum daily mean, 1,020 mg/L, Dec. 3; minimum daily mean, 1 mg/L, Oct. 23-27, Nov. 2, 3.
SEDIMENT LOAD: Maximum daily, 16,700 tons, Dec. 3; minimum daily, 0.32 ton, Nov. 2, 3.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
DEC 1991								
03...	1700	6860	2410	44700	40	51	66	77
JUL 1992								
24...	1815	11100	294	8810	--	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC 1991							
03...	87	96	99	100	100	100	100
JUL 1992							
24...	91	94	98	99	100	100	100

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	18.0	17.0	5.0	5.0	---	11.0	---	---	---	---	---
2	23.0	15.0	---	5.0	4.0	---	---	23.0	18.0	---	---	26.0
3	---	15.0	10.0	9.0	5.0	---	---	22.0	23.0	---	---	26.0
4	---	15.0	8.0	10.0	3.0	---	10.0	---	19.0	---	20.0	25.0
5	17.0	13.0	---	10.0	---	---	13.0	20.0	---	---	---	---
6	17.0	---	---	5.0	4.0	---	8.0	---	---	---	25.0	23.0
7	15.0	15.0	11.0	---	3.0	5.0	12.0	15.0	---	---	28.0	23.0
8	---	10.0	14.0	5.0	4.0	---	17.0	20.0	---	---	20.0	23.0
9	---	12.0	---	5.0	5.0	---	13.0	18.0	---	---	27.0	---
10	---	10.0	10.0	---	2.0	---	11.0	---	23.0	---	---	---
11	16.0	10.0	10.0	4.0	5.0	10.0	17.0	18.0	---	---	25.0	---
12	16.0	8.0	---	8.0	4.0	---	16.0	---	23.0	---	26.0	---
13	17.0	10.0	10.0	8.0	---	---	---	20.0	24.0	---	25.0	---
14	---	12.0	10.0	10.0	8.0	10.0	---	---	25.0	---	25.0	---
15	---	---	5.0	7.0	---	10.0	15.0	---	---	---	---	23.0
16	20.0	---	---	---	5.0	---	17.0	20.0	---	---	23.0	24.0
17	19.0	---	---	5.0	5.0	---	10.0	---	25.0	---	25.0	20.0
18	18.0	---	5.0	6.0	5.0	---	15.0	20.0	---	---	26.0	19.0
19	17.0	---	---	---	5.0	---	16.0	23.0	23.0	---	---	20.0
20	15.0	15.0	---	3.0	5.0	---	13.0	17.0	20.0	---	28.0	20.0
21	15.0	15.0	7.0	3.0	---	8.0	16.0	---	20.0	---	25.0	20.0
22	17.0	15.0	10.0	5.0	---	8.0	10.0	---	18.0	---	---	15.0
23	---	13.0	7.0	5.0	10.0	5.0	18.0	25.0	25.0	---	27.0	---
24	16.0	14.0	8.0	5.0	6.0	---	18.0	17.0	23.0	---	28.0	---
25	15.0	---	3.0	2.0	---	9.0	16.0	15.0	23.0	---	25.0	---
26	20.0	14.0	10.0	4.0	---	10.0	---	18.0	---	---	---	---
27	20.0	15.0	7.0	---	---	9.0	15.0	20.0	---	---	30.0	---
28	15.0	---	7.0	---	---	10.0	15.0	17.0	---	---	---	20.0
29	17.0	16.0	5.0	5.0	---	10.0	---	23.0	---	---	26.0	20.0
30	15.0	15.0	5.0	8.0	---	---	---	21.0	---	---	---	---
31	---	---	5.0	3.0	---	11.0	---	21.0	---	---	---	---

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS/ DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4	1.3	3	.96	7	3.7	19	34	5	4.7	e10	21
2	5	1.6	1	.32	10	9.3	12	18	5	3.9	e10	18
3	e5	1.5	1	.32	1020	16700	12	17	4	3.4	e8	13
4	e5	1.4	2	.63	200	1480	13	21	3	2.5	e8	12
5	10	2.9	3	.96	50	148	24	72	4	3.1	e6	8.5
6	17	6.4	3	.95	19	35	14	34	4	3.0	e6	8.3
7	8	4.2	3	.95	8	12	11	19	4	2.8	125	2280
8	e6	3.9	5	1.6	5	6.4	6	9.0	6	4.3	163	2560
9	e5	2.2	4	1.3	3	3.6	9	12	6	4.2	70	376
10	e4	1.4	3	.99	56	340	8	12	7	3.8	40	156
11	6	2.1	5	1.7	56	256	6	8.8	8	4.4	96	1450
12	9	3.0	7	2.5	19	46	6	7.6	4	2.7	96	1030
13	6	2.1	5	1.9	12	23	6	6.9	4	2.3	e40	180
14	4	1.7	3	1.2	21	44	6	7.4	5	3.2	e25	88
15	3	1.2	13	5.2	e21	48	10	17	6	5.2	10	30
16	4	1.5	11	4.1	e15	25	13	19	52	184	e8	21
17	5	2.1	7	2.6	e10	13	9	7.8	32	110	e6	13
18	5	2.7	e6	2.7	7	8.4	8	7.7	18	45	e4	8.6
19	5	4.3	e5	2.2	e6	6.3	8	6.9	23	84	e10	26
20	4	2.6	4	1.7	e7	5.2	6	5.0	17	59	e18	62
21	3	1.5	2	.84	8	7.9	7	6.1	e16	42	33	130
22	25	.8	42	37	12	11	7	5.9	e15	31	12	41
23	19	.3	143	715	10	8.7	5	4.6	15	27	11	36
24	18	.3	38	100	6	5.6	6	7.0	15	26	12	41
25	16	.3	12	16	4	3.7	9	11	e20	47	13	36
26	15	.3	3	2.9	3	2.5	20	22	e50	246	20	72
27	15	.3	3	2.3	3	2.2	19	16	e40	235	504	15800
28	4	1.3	3	1.9	29	20	13	12	e20	66	129	1820
29	7	2.3	3	1.7	42	89	6	5.4	e15	39	34	210
30	10	3.2	10	5.2	38	201	7	6.1	---	---	23	110
31	8	2.5	---	---	24	63	8	7.7	---	---	19	85
TOTAL	---	63.58	---	917.62	---	19627.5	---	445.9	---	1294.5	---	26742.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21	82	10	21	45	225	e30	32	e24	30	e23	8.7
2	e16	52	26	50	30	70	e130	264	18	19	22	8.0
3	e11	31	26	46	25	44	105	153	42	39	11	4.0
4	7	17	20	33	26	39	e125	243	65	183	10	3.7
5	6	13	16	24	e40	93	e100	156	e43	67	10	3.8
6	7	14	11	17	e100	721	e75	82	e38	39	58	59
7	8	15	5	7.9	e50	181	e55	49	34	30	32	56
8	9	16	43	67	e40	100	30	23	14	11	42	60
9	7	12	32	93	e35	72	19	13	8	6.1	e30	48
10	8	13	17	48	27	48	12	7.6	9	6.5	e40	57
11	10	17	12	24	28	43	e12	7.2	11	8.0	e70	214
12	8	13	10	17	26	35	e12	6.6	13	11	e40	90
13	7	11	e20	30	19	23	14	7.3	28	21	e25	31
14	6	8.1	e25	36	17	19	18	9.0	17	12	e18	16
15	6	7.7	e25	38	e15	16	e30	15	10	6.8	14	11
16	5	6.2	16	28	e13	13	e20	12	9	6.9	11	7.4
17	13	16	e13	24	11	9.8	76	102	22	18	11	6.8
18	6	7.3	e15	26	14	12	64	98	16	12	13	7.5
19	12	17	16	25	39	45	27	24	12	10	13	7.0
20	3	3.9	e15	20	25	40	16	10	9	7.2	9	4.6
21	12	22	e13	15	25	41	14	7.6	12	8.2	7	3.4
22	421	3700	e11	12	24	25	25	14	12	7.3	6	3.5
23	94	1430	7	7.3	19	17	41	33	11	6.1	e15	12
24	40	237	10	10	16	13	55	59	18	9.4	e20	17
25	30	157	14	14	14	15	196	4750	14	6.9	e25	21
26	24	98	14	16	60	128	120	1240	8	3.8	e30	55
27	19	67	14	19	28	47	62	241	7	3.2	e60	170
28	17	50	15	19	22	26	40	123	e15	6.6	44	73
29	e15	38	12	12	18	16	e37	79	e35	16	24	30
30	e13	29	12	13	25	21	e33	53	e30	13	e18	17
31	---	---	108	656	---	---	e28	39	e25	11	---	---
TOTAL	---	16200.2	---	1468.2	---	2197.8	---	7952.3	---	635.0	---	1105.4

TOTAL LOAD FOR YEAR: 78650.40 TONS.

e Estimated

01643500 BENNETT CREEK AT PARK MILLS, MD

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, Hydrologic Unit 02070009, on left bank 75 ft downstream from highway bridge, 0.2 mi south of Park Mills, 1.8 mi upstream from mouth, and 3.7 mi southwest of Urbana.

DRAINAGE AREA.--62.8 mi^2.

PERIOD OF RECORD.--July 1948 to September 1958. Annual maximum, water years 1960-66. August 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (backwater from ice), 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0145	*1,160	*5.01	No peak greater than base discharge			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	10	19	33	24	45	80	53	68	26	67	9.2
2	8.4	10	71	30	23	42	73	49	51	19	27	9.4
3	8.0	10	165	29	22	39	66	46	42	19	23	17
4	7.8	9.7	59	43	22	36	62	41	37	24	23	16
5	7.4	9.8	33	75	21	34	58	41	66	18	19	13
6	20	9.9	27	47	20	35	53	47	66	25	17	39
7	10	10	24	37	21	186	51	39	47	19	17	28
8	8.6	10	21	33	21	108	49	66	39	16	16	20
9	8.6	10	24	35	20	76	46	110	35	15	17	25
10	8.6	12	96	37	e20	67	46	63	32	14	15	22
11	8.8	18	43	31	19	130	46	52	29	13	18	73
12	11	15	32	29	20	88	44	46	28	12	28	26
13	10	13	30	28	18	72	39	43	26	13	17	18
14	9.4	11	35	40	24	64	38	40	24	11	20	17
15	9.6	11	30	33	41	61	37	40	24	12	18	15
16	11	11	26	28	98	53	37	49	22	14	23	14
17	19	11	24	27	56	51	39	41	22	50	21	14
18	24	11	23	25	55	51	38	45	22	16	21	14
19	13	11	20	22	61	86	40	59	39	14	18	13
20	11	11	19	22	54	70	37	38	31	12	17	12
21	10	12	20	23	44	60	69	34	24	11	15	12
22	11	79	20	23	38	57	275	32	22	14	14	17
23	11	74	21	27	36	60	139	30	21	20	14	29
24	11	25	22	35	38	53	97	30	21	74	14	15
25	10	19	19	26	41	49	94	33	24	182	13	19
26	10	16	18	25	128	144	85	45	22	45	12	148
27	10	15	18	25	82	467	70	44	20	35	12	41
28	9.7	14	18	25	64	149	63	32	18	32	12	35
29	9.1	14	98	25	54	109	58	29	17	23	13	27
30	9.6	14	64	25	---	94	55	39	17	20	11	22
31	9.5	---	39	24	---	97	---	158	---	84	10	---
TOTAL	333.3	506.4	1178	967	1185	2733	1984	1514	956	902	582	779.6
MEAN	10.8	16.9	38.0	31.2	40.9	88.2	66.1	48.8	31.9	29.1	18.8	26.0
MAX	24	79	165	75	128	467	275	158	68	182	67	148
MIN	7.4	9.7	18	22	18	34	37	29	17	11	10	9.2
CFSM	.17	.27	.61	.50	.65	1.40	1.05	.78	.51	.46	.30	.41
IN.	.20	.30	.70	.57	.70	1.62	1.18	.90	.57	.53	.34	.46

e Estimated

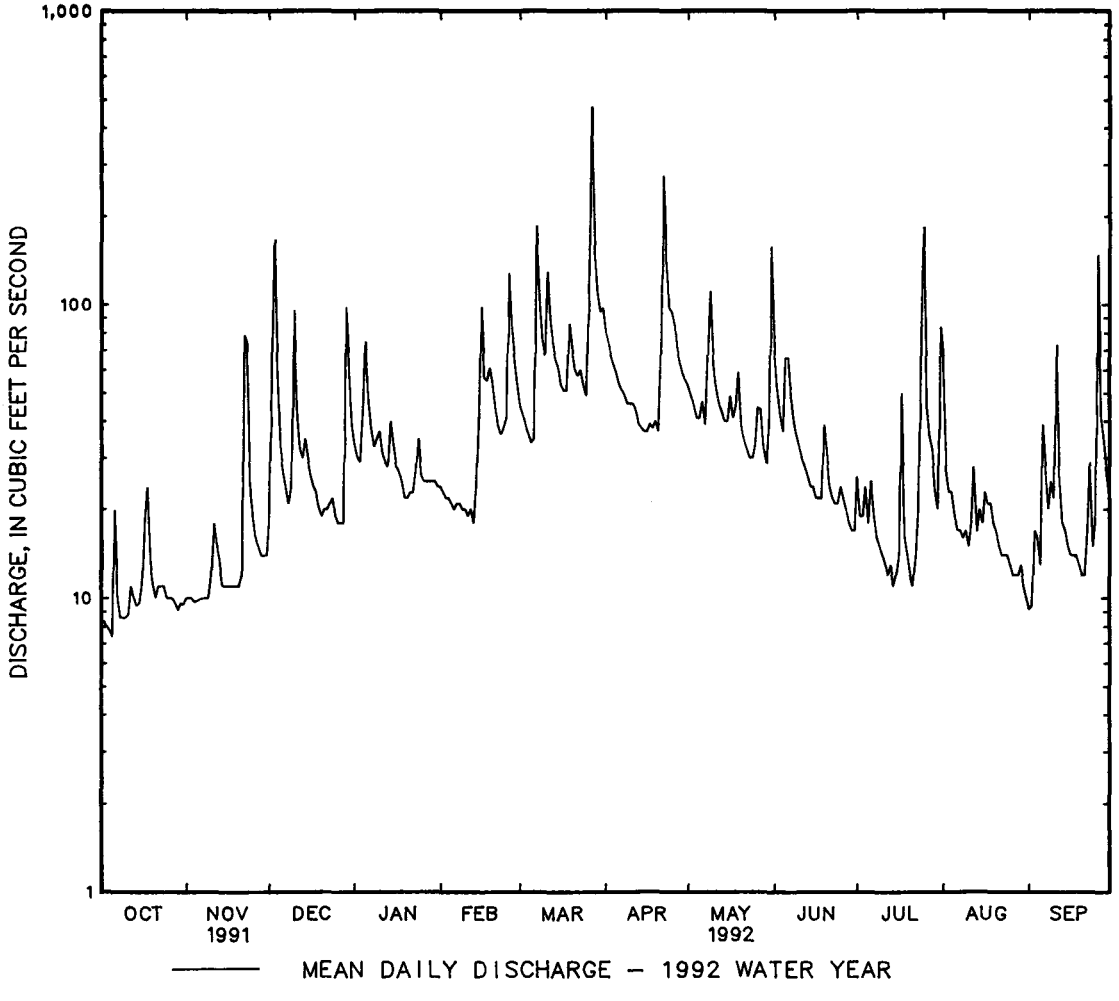
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

MEAN	38.1	44.9	71.6	83.2	99.0	105	102	87.4	66.8	43.0	34.6	39.4
MAX	245	119	180	237	229	195	274	302	498	178	148	211
(WY)	1980	1972	1949	1978	1979	1958	1983	1988	1972	1987	1955	1971
MIN	8.21	12.5	17.3	15.5	38.9	37.6	44.6	25.8	15.3	9.59	5.70	7.38
(WY)	1987	1982	1981	1981	1954	1981	1985	1969	1986	1986	1966	1986

01643500 BENNETT CREEK AT PARK MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1948 - 1992	
ANNUAL TOTAL	16268.9		13620.3			
ANNUAL MEAN	44.6		37.2		67.7	
HIGHEST ANNUAL MEAN					141	1972
LOWEST ANNUAL MEAN					32.0	1981
HIGHEST DAILY MEAN	493	Mar 23	467	Mar 27	5500	Jun 22 1972
LOWEST DAILY MEAN	4.1	Sep 2	7.4	Oct 5	.40	Sep 8 1966
ANNUAL SEVEN-DAY MINIMUM	5.3	Aug 29	9.3	Oct 8	.91	Sep 3 1966
INSTANTANEOUS PEAK FLOW	1310	Mar 23	1160	Mar 27	a32200	Jun 21 1972
INSTANTANEOUS PEAK STAGE	5.31	Mar 23	5.01	Mar 27	b22.10	Jun 21 1972
INSTANTANEOUS LOW FLOW	3.5	(c)	6.3	Oct 5	.30	Sep 8 1966
ANNUAL RUNOFF (CFSM)	.71		.59		1.08	
ANNUAL RUNOFF (INCHES)	9.64		8.07		14.65	
10 PERCENT EXCEEDS	95		71		126	
50 PERCENT EXCEEDS	24		25		42	
90 PERCENT EXCEEDS	7.4		11		14	

a From rating curve extended above 2,700 ft^3/s on basis of contracted-opening measurements at gage heights of 11.15, 14.33, and 22.1 ft.
b From floodmark.
c Sept 2, 3.



01645000 SENECA CREEK AT DAWSONVILLE, MD

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, Hydrologic Unit 02070008, on right bank 60 ft downstream from bridge on State Highway 28, 150 ft downstream from mouth of Great Seneca Creek, 0.5 mi east of Dawsonville, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--101 mi^2.

PERIOD OF RECORD.--September 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1232: 1930. WSP 1272: 1933. WSP 1432: 1934-35(M), 1941(M). WDR MD-DE-74-1: 1970(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.02 ft above National Geodetic Vertical Datum of 1929. Sept. 26 to Nov. 9, 1930, chain gage, and Nov. 10, 1930 to Apr. 6, 1934, water-stage recorder, at highway bridge 60 ft upstream at same datum.

REMARKS.--Records good except those for Oct. 9-19 (backwater from beaverdam) and Aug. 12-21 (missing record), 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.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0200	*1,750	*6.55	July 25	1230	1,320	5.62
Apr. 22	0245	1,450	5.94	Aug. 01	0015	1,380	5.76

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	27	54	71	53	78	116	100	124	51	377	27
2	30	29	228	64	53	72	105	96	99	40	119	27
3	32	28	491	64	48	68	99	68	78	39	89	32
4	35	28	132	184	47	65	95	60	74	49	89	34
5	34	29	72	286	51	63	92	60	163	38	85	29
6	70	28	58	119	45	66	88	77	235	43	52	94
7	47	29	51	91	45	230	88	61	122	38	40	76
8	39	29	47	79	45	139	86	110	88	33	38	49
9	e36	29	56	112	44	105	76	189	63	32	40	59
10	e35	39	363	74	39	95	75	119	58	31	306	43
11	e36	48	93	62	43	230	76	102	55	30	58	160
12	e40	37	68	57	44	137	77	82	54	29	e75	53
13	e34	32	63	56	45	104	71	63	51	35	e47	40
14	e32	31	80	71	54	90	69	59	49	30	e60	36
15	e30	30	67	75	125	86	64	88	47	39	e54	34
16	e32	30	57	60	239	80	57	131	45	57	e62	33
17	e120	29	53	52	114	77	59	74	42	58	e73	33
18	e100	29	50	55	124	91	64	67	42	38	e73	56
19	e42	30	48	48	122	157	60	101	58	32	e69	55
20	32	29	43	48	97	113	57	87	65	29	e47	54
21	30	30	46	49	86	96	169	80	47	28	e36	33
22	29	309	44	49	77	93	803	69	42	29	33	62
23	30	245	45	57	72	103	226	56	40	40	33	165
24	28	61	49	92	71	91	176	56	40	361	32	47
25	28	45	44	63	75	85	174	65	61	606	31	48
26	28	39	41	59	251	263	145	78	68	159	30	337
27	28	35	41	55	139	963	132	81	44	112	30	98
28	27	35	42	55	103	246	109	61	41	120	41	86
29	28	33	187	54	92	159	102	58	38	76	50	67
30	28	33	121	54	---	135	100	72	37	45	30	64
31	27	---	86	54	---	135	---	325	---	316	28	---
TOTAL	1196	1485	2920	2369	2443	4515	3710	2795	2070	2663	2227	2031
MEAN	38.6	49.5	94.2	76.4	84.2	146	124	90.2	69.0	85.9	71.8	67.7
MAX	120	309	491	286	251	963	803	325	235	606	377	337
MIN	27	27	41	48	39	63	57	56	37	28	28	27
CFSM	.38	.49	.93	.76	.83	1.44	1.22	.89	.68	.85	.71	.67
IN.	.44	.55	1.08	.87	.90	1.66	1.37	1.03	.76	.98	.82	.75

e Estimated

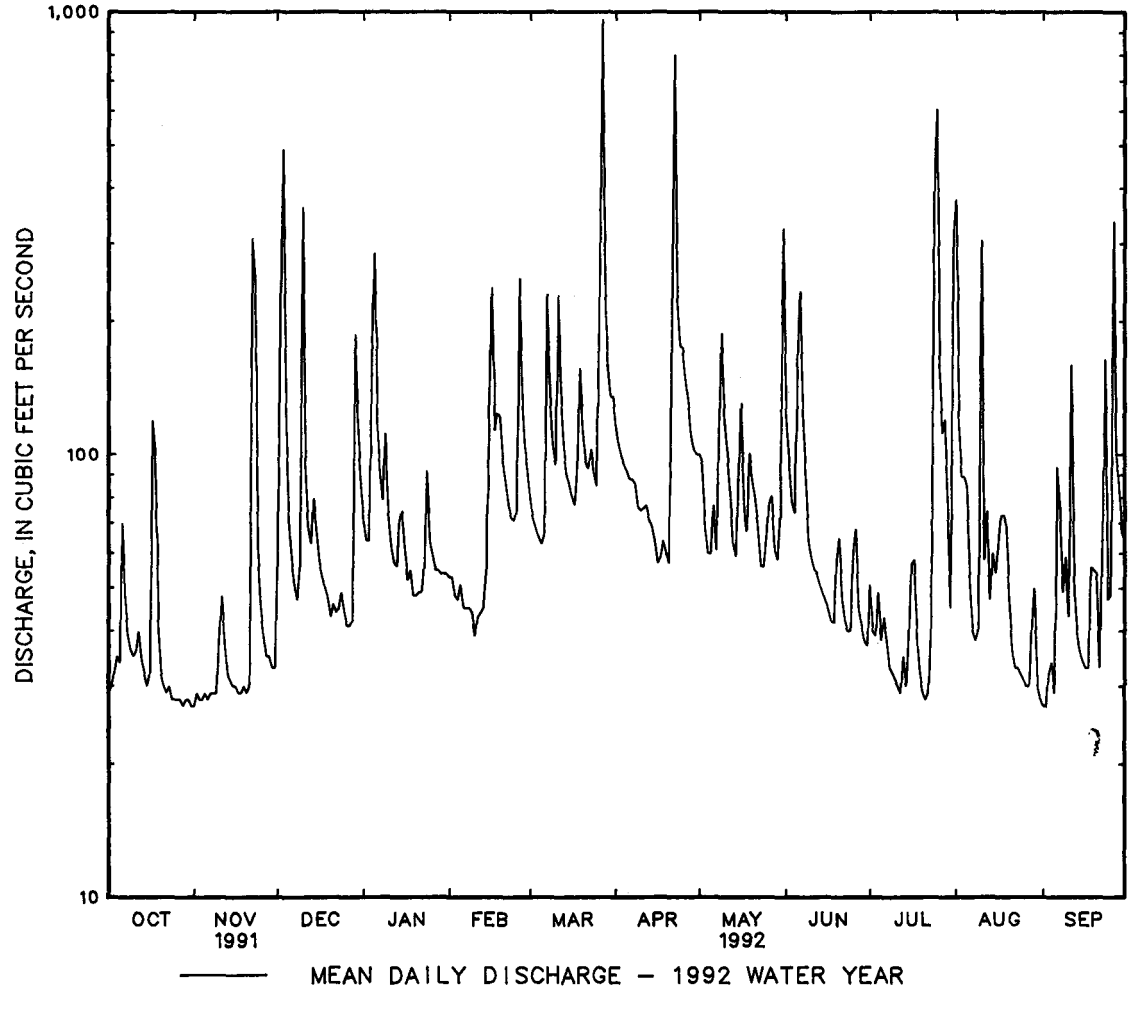
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1992, BY WATER YEAR (WY)

MEAN	66.2	77.9	102	122	145	150	143	126	102	75.4	65.2	75.0
MAX	479	238	287	402	484	296	397	510	747	273	248	566
(WY)	1980	1972	1973	1979	1979	1953	1983	1989	1972	1956	1971	1971
MIN	7.10	12.6	20.6	30.2	26.7	44.3	55.9	30.3	35.3	13.4	8.35	10.1
(WY)	1931	1932	1932	1966	1931	1931	1969	1931	1986	1955	1932	1931

01645000 SENECA CREEK AT DAWSONVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1931 - 1992	
ANNUAL TOTAL	33591		30424			
ANNUAL MEAN	92.0		83.1		104	
HIGHEST ANNUAL MEAN					251	1972
LOWEST ANNUAL MEAN					32.8	1931
HIGHEST DAILY MEAN	1770	Mar 23	963	Mar 27	9900	Jun 22 1972
LOWEST DAILY MEAN	20	(a)	27	(b)	1.8	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	22	Aug 28	28	Oct 26	2.3	Sep 6 1966
INSTANTANEOUS PEAK FLOW	3320	Mar 23	1750	Mar 27	c26100	Jun 22 1972
INSTANTANEOUS PEAK STAGE	8.13	Mar 23	6.55	Mar 27	d16.40	Jun 22 1972
INSTANTANEOUS LOW FLOW	19	(f)	25	(g)	1.7	(h)
ANNUAL RUNOFF (CFSM)	.91		.82		1.03	
ANNUAL RUNOFF (INCHES)	12.37		11.21		13.97	
10 PERCENT EXCEEDS	172		141		182	
50 PERCENT EXCEEDS	54		58		66	
90 PERCENT EXCEEDS	26		30		26	

a Sept. 1-3.
b. Oct. 28, 31, Nov. 1, Sept. 1,2.
c From rating curve extended above 3,000 ft^3/s on basis of contracted-opening and flow over-road measurement at gage height 12.17 ft at gage; and contracted-opening and flow-over-road measurement at gage height 16.32 ft at site 5.0 mi downstream, adjusted for flow from intervening area.
d From high-water mark in gage house.
f Sept. 1-4.
g Oct. 27, 29.
h Sept. 28, 29, 1930.



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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WDR MD-DE-75-1: 1973-74(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above National Geodetic Vertical Datum of 1929. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mi upstream on right bank at same datum.

REMARKS.--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. Gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 24	0130	*106,000	*9.07	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	798	1750	6600	3660	22700	16700	13500	10300	3470	13400	2380
2	968	791	1960	7510	3590	17700	14900	12100	8850	3950	7950	2610
3	930	842	3240	7230	3260	14900	13200	10900	7800	4410	6100	2430
4	905	787	8270	7580	3290	12500	12000	9900	6760	4940	5030	2190
5	823	805	9720	9490	3420	10400	10800	9350	6490	5460	5660	2050
6	1210	759	13700	10600	3240	9150	9880	8850	10600	7690	4940	2410
7	1040	810	10000	16500	3240	10800	9040	8290	28700	6020	4020	3920
8	1220	909	7150	17100	3110	22200	8300	8230	28200	4790	3450	8030
9	1520	762	5650	12900	2900	23400	7710	10600	21200	4220	3110	5970
10	1430	744	6320	10200	2860	20600	7090	14100	16100	3710	2850	5800
11	1180	746	6710	8390	2880	19500	6720	27700	13100	3280	2960	7100
12	1450	882	6200	7210	2740	23100	6460	27400	11000	3100	3650	7490
13	1100	969	5440	6340	2720	24400	6310	21700	9450	2880	3450	6710
14	1030	1070	5130	5700	2740	27200	6300	17400	8120	2960	3380	5230
15	966	1160	4680	5400	2820	22400	6190	15200	7140	2970	3530	4330
16	1070	1260	4370	5390	4060	18300	5710	15100	6280	3080	3190	3710
17	1570	1330	3890	5330	4320	15200	5430	16100	5710	3050	3070	3260
18	1860	1170	3490	4890	5080	13100	5280	19300	5150	3010	3110	2910
19	1550	1040	3150	4160	6060	12300	5230	17300	5110	2810	2990	2670
20	1280	928	2980	4280	7310	12000	5120	15400	5610	2370	2830	2500
21	1240	1010	2940	3460	7570	13600	5480	13500	5690	2340	2730	2310
22	1130	1670	2380	3470	7520	21000	31300	12300	5710	2200	2600	2280
23	925	2160	2430	3540	7220	21500	93000	10800	5750	2400	2350	3020
24	961	2950	2630	4330	6900	19200	86000	9460	5330	3410	2100	3170
25	949	3030	2490	4230	6580	16900	47700	8660	4990	7130	1950	3430
26	922	2530	2380	4100	8580	15700	34600	8100	5070	16500	1870	4600
27	917	2550	2330	3580	11000	23100	27900	8160	4950	12900	1710	3920
28	834	2170	2210	3670	27600	35700	22500	7810	4700	11100	1650	4850
29	870	2090	3330	3720	30300	28800	18400	7030	4320	10400	1650	4670
30	865	1820	4450	3660	---	22800	15400	6670	3700	11800	1670	4050
31	868	---	5960	3630	---	19300	---	8590	---	12100	1940	---
TOTAL	34593	40542	147330	204190	186570	589450	550650	399500	271880	170450	110890	120000
MEAN	1116	1351	4753	6587	6433	19010	18350	12890	9063	5498	3577	4000
MAX	1860	3030	13700	17100	30300	35700	93000	27700	28700	16500	13400	8030
MIN	823	744	1750	3460	2720	9150	5120	6670	3700	2200	1650	2050
(†)	627	604	594	606	580	579	551	567	595	661	616	603
MEAN≠	1743	1956	5347	7194	7014	19610	18910	13460	9656	6159	4191	4603
CFSM≠	.15	.17	.46	.62	.61	1.70	1.64	1.16	.84	.53	.36	.40
IN≠	.17	.19	.53	.72	.65	1.96	1.83	1.34	.93	.61	.42	.44

† Diversions, in cubic feet per second, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), Fairfax County, and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year). Records provided by U.S. Army Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, city of Fairfax, and Fairfax County Water Authority.
≠ Adjusted for diversion.

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1958, BY WATER YEAR (WY) (UNREGULATED)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6120	6496	9843	13570	16660	21060	19120	13610	7960	5135	5804	4419
MAX	44100	21040	30900	37190	36790	76510	36430	27780	19090	21040	28210	19940
(WY)	1943	1933	1951	1937	1939	1936	1933	1932	1951	1949	1955	1945
MIN	583	700	1536	2527	2982	6505	7202	3953	2867	1284	569	679
(WY)	1931	1931	1944	1956	1934	1931	1947	1930	1930	1930	1930	1930

SUMMARY STATISTICS	WATER YEARS 1930 - 1958	
ANNUAL MEAN	10920	
HIGHEST ANNUAL MEAN	16100	1949
LOWEST ANNUAL MEAN	5358	1954
HIGHEST DAILY MEAN	426000	Mar 19 1936
LOWEST DAILY MEAN	448	Aug 25 1930
ANNUAL SEVEN-DAY MINIMUM	499	Aug 21 1930
INSTANTANEOUS PEAK FLOW	484000	Mar 19 1936
INSTANTANEOUS PEAK STAGE	a28.10	Mar 19 1936
INSTANTANEOUS LOW FLOW	66	Sep 9 1966
ANNUAL RUNOFF (CFSM)	.94	
ANNUAL RUNOFF (INCHES)	12.84	
10 PERCENT EXCEEDS	23600	
50 PERCENT EXCEEDS	6440	
90 PERCENT EXCEEDS	1810	

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6241	7315	10710	12570	16750	22940	20190	15350	9423	4667	3676	3980
MAX	36790	42030	35690	35700	39460	45900	48260	40410	46630	17160	11350	25310
(WY)	1977	1986	1973	1991	1984	1962	1983	1989	1972	1972	1984	1975
MIN	908	1097	1038	1682	5703	7403	7058	3921	2216	695	538	791
(WY)	1964	1966	1966	1981	1963	1990	1969	1969	1969	1966	1966	1964

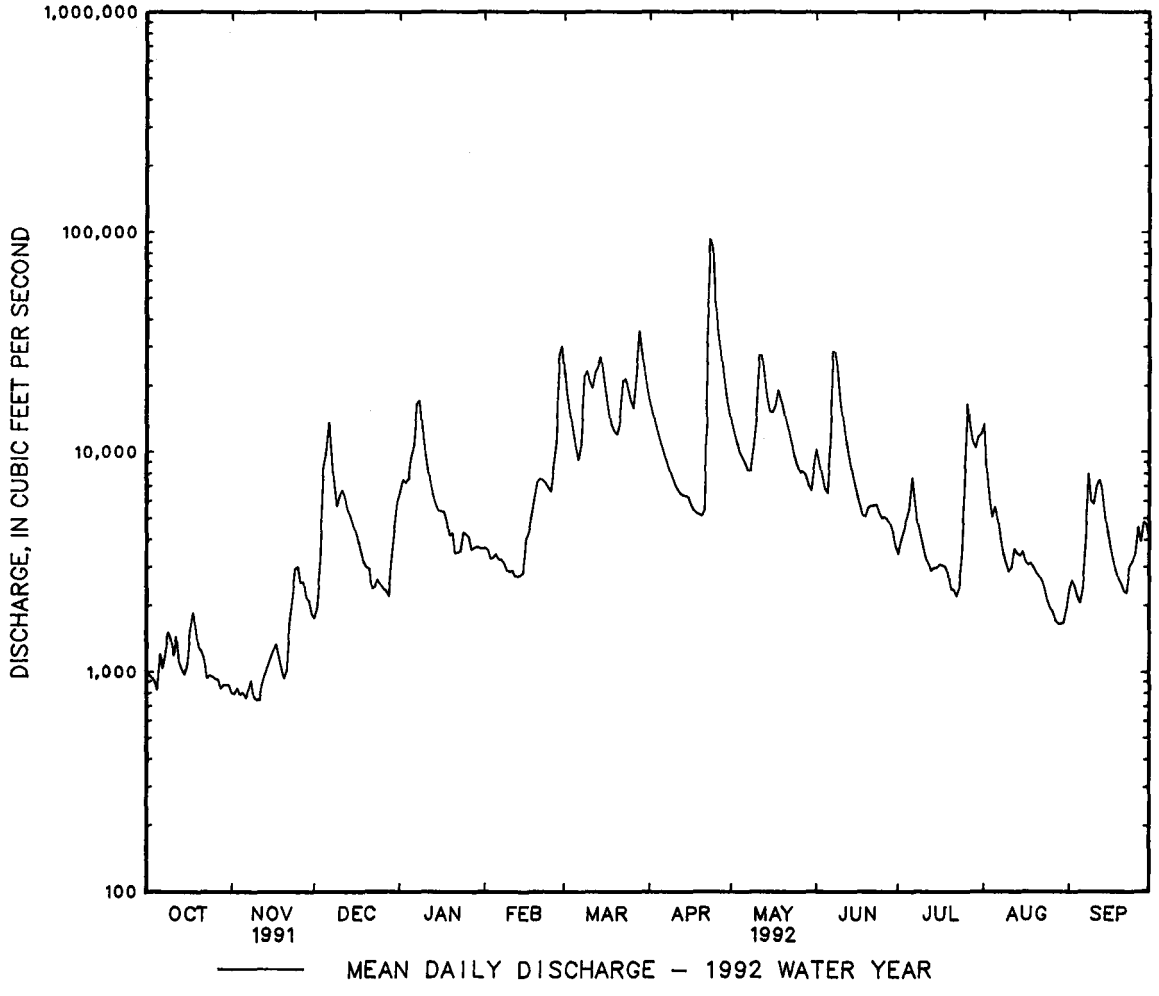
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1959 - 1992	
ANNUAL TOTAL	3384612		2826045			
ANNUAL MEAN	9273		7721		11120	
ANNUAL MEAN≠	9897		8332		11603	
HIGHEST ANNUAL MEAN					18580	1972
HIGHEST ANNUAL MEAN≠					19030	1972
LOWEST ANNUAL MEAN					4900	1969
LOWEST ANNUAL MEAN≠					5306	1969
HIGHEST DAILY MEAN	96600	Jan 18	93000	Apr 23	334000	Jun 24 1972
LOWEST DAILY MEAN	514	Sep 17	744	Nov 10	b121	Sep 9 1966
LOWEST DAILY MEAN≠	1280	Sep 16	1300	Nov 11	c601	Sep 10 1966
ANNUAL SEVEN-DAY MINIMUM	678	Sep 13	791	Nov 5	181	Sep 7 1966
INSTANTANEOUS PEAK FLOW	102000	Mar 25	106000	Apr 24	359000	Jun 24 1972
INSTANTANEOUS PEAK STAGE	8.94	Mar 25	9.07	Apr 24	22.03	Jun 24 1972
INSTANTANEOUS LOW FLOW	486	(d)	681	(f)	66	Sep 9 1966
ANNUAL RUNOFF (CFSM)	.80		.67		.96	
ANNUAL RUNOFF (CFSM)≠	.86		.72		.96	
ANNUAL RUNOFF (INCHES)	10.89		9.09		13.07	
ANNUAL RUNOFF (INCHES)≠	11.62		9.80		13.63	
10 PERCENT EXCEEDS	22600		17500		25100	
50 PERCENT EXCEEDS	3180		4940		6300	
90 PERCENT EXCEEDS	948		1120		1560	

a At previous site, 1 mi upstream at same datum.
≠ Adjusted for diversion.

b Minimum daily discharge observed at gaging station, does not include diversion of 489 ft^3/s.

c Includes diversion of 449 ft^3/s for municipal use.
d Sept. 16, 17.
f Nov. 6, 7, 9.

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued



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: Maximum, 32.4°C, July 23, 1991; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT PERIOD.--
SPECIFIC CONDUCTANCE: Maximum, 572 microsiemens, Feb. 16; minimum, 119 microsiemens, Jan. 4.
WATER TEMPERATURE: Maximum, 31.1°C, July 17; minimum, 0.2°C, Jan. 19-21.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	394	388	392	427	421	424	486	473	482	339	325	332
2	388	382	386	427	423	425	474	442	457	367	334	353
3	383	376	380	428	422	426	442	320	350	384	367	378
4	379	375	377	431	425	428	377	344	363	382	119	330
5	380	371	378	434	429	430	371	290	321	274	135	248
6	374	324	355	439	431	435	441	325	389	309	274	290
7	360	334	348	447	435	440	421	349	393	310	288	304
8	383	360	370	447	442	445	354	310	321	288	255	268
9	402	381	395	450	445	446	352	324	341	282	258	272
10	405	402	404	450	447	448	334	233	274	259	251	257
11	404	398	401	453	448	450	303	295	300	251	224	234
12	399	395	397	464	450	455	305	301	303	227	225	226
13	401	395	398	465	457	462	302	294	297	234	227	230
14	405	398	402	473	462	468	304	297	301	241	233	237
15	406	402	404	470	460	465	307	303	305	245	237	240
16	402	396	398	460	446	452	314	307	312	254	245	250
17	396	376	387	446	438	444	319	314	317	265	254	259
18	376	357	371	439	431	436	321	318	320	271	265	268
19	403	357	387	432	425	430	324	320	322	285	271	277
20	411	403	408	426	419	423	324	322	323	290	285	289
21	416	409	413	419	416	418	328	323	326	297	290	294
22	421	413	416	417	363	400	335	328	331	306	294	302
23	432	421	427	382	353	366	340	335	338	305	298	302
24	431	423	427	408	395	402	343	340	341	300	287	292
25	423	418	421	428	407	418	348	341	345	304	292	297
26	418	413	415	427	411	422	353	346	348	328	304	316
27	415	411	413	411	387	394	360	353	357	340	328	336
28	417	412	415	437	395	417	360	359	359	350	335	343
29	418	412	415	461	437	452	359	271	321	367	347	359
30	423	415	419	480	460	473	336	300	316	375	362	369
31	425	419	422	---	---	---	337	329	333	365	361	363
MONTH	432	324	398	480	353	433	486	233	339	384	119	294

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	363	358	361	248	227	236	231	220	226	239	231	235
2	362	354	359	227	223	225	239	231	235	249	239	244
3	356	350	354	224	222	223	246	238	243	257	249	253
4	354	345	351	234	223	227	249	246	248	265	257	261
5	351	345	348	267	232	238	254	249	252	270	265	266
6	354	345	351	264	242	247	259	254	256	274	266	268
7	360	351	356	281	242	253	263	258	261	277	270	274
8	351	341	347	279	227	256	266	262	264	279	227	273
9	347	339	344	276	228	250	269	265	267	266	218	254
10	348	343	345	286	252	262	272	269	271	271	256	262
11	346	340	344	279	233	250	275	271	274	287	263	281
12	342	338	340	291	248	263	279	275	277	263	223	236
13	348	340	344	283	252	265	284	279	282	229	213	220
14	382	348	364	296	247	267	288	284	286	215	212	213
15	404	379	390	287	242	258	292	288	291	213	181	206
16	572	383	459	263	234	250	296	292	294	218	190	207
17	388	363	376	259	223	235	300	296	297	228	218	223
18	375	358	364	230	226	227	302	294	301	235	228	231
19	360	340	346	233	227	229	303	295	301	234	224	228
20	357	343	351	236	228	232	309	303	305	229	226	227
21	355	350	353	248	236	242	313	308	311	237	227	232
22	354	351	352	248	248	253	308	138	223	245	236	240
23	351	331	340	250	242	245	220	203	211	244	239	241
24	342	332	339	243	232	236	203	186	190	245	240	243
25	340	309	325	234	232	233	187	184	186	241	234	237
26	309	263	284	238	159	227	194	187	190	246	236	240
27	283	267	275	227	147	203	203	195	198	250	243	246
28	293	273	282	229	216	221	213	203	208	256	250	253
29	285	248	262	228	207	219	223	213	217	262	256	258
30	---	---	---	215	207	211	232	223	228	265	257	263
31	---	---	---	220	215	218	---	---	---	257	178	227
MONTH	572	248	345	296	147	239	313	138	253	287	178	243

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	256	249	253	324	318	321	251	221	242	364	352	359
2	257	251	253	322	318	319	253	207	226	377	364	371
3	280	257	270	323	322	323	293	253	275	378	372	374
4	287	280	283	324	320	322	303	289	295	375	365	369
5	289	273	283	323	317	319	308	294	300	385	375	381
6	278	224	264	334	322	326	321	304	309	384	364	378
7	292	248	272	345	334	341	322	307	317	364	340	348
8	281	222	257	335	320	330	318	314	316	369	354	364
9	223	212	216	320	316	318	322	313	317	370	335	352
10	224	212	218	321	305	312	328	319	322	336	276	296
11	216	211	214	312	304	308	333	316	328	309	275	291
12	224	216	220	320	309	315	329	319	324	312	305	308
13	227	224	225	331	320	323	330	321	326	317	308	313
14	232	226	229	336	319	325	326	312	317	331	317	326
15	242	232	237	339	321	330	322	314	319	328	322	325
16	251	242	246	349	327	337	330	317	324	327	320	323
17	257	251	254	350	337	344	338	330	333	321	317	319
18	264	257	261	353	344	347	337	334	336	318	310	314
19	269	264	267	351	343	346	343	337	341	317	311	314
20	274	266	270	353	340	347	348	342	345	323	316	320
21	279	272	275	350	339	343	354	343	350	321	319	320
22	286	278	281	341	323	333	358	350	354	322	319	321
23	297	286	291	343	317	333	358	351	355	319	254	298
24	308	297	303	342	307	334	356	349	353	315	305	310
25	310	306	309	307	258	273	352	344	348	305	274	302
26	311	298	303	286	233	272	351	344	347	274	183	245
27	306	301	304	300	224	256	348	341	345	301	268	286
28	312	305	308	335	300	326	349	344	346	313	281	301
29	315	309	311	330	297	316	347	340	345	321	308	312
30	322	315	319	309	282	292	346	339	343	326	320	324
31	---	---	---	316	187	288	352	345	349	---	---	---
MONTH	322	211	267	353	187	320	358	207	324	385	183	325

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.9	19.1	19.9	14.9	14.0	14.5	9.7	8.4	9.0	3.9	3.2	3.5
2	21.7	20.0	20.7	14.7	14.2	14.5	10.3	9.7	10.1	3.9	3.5	3.7
3	22.2	20.9	21.4	14.2	13.1	13.6	10.2	9.8	9.9	5.1	3.8	4.3
4	22.7	21.2	21.9	13.1	11.0	12.2	9.9	7.8	9.0	8.2	5.1	6.1
5	23.0	21.9	22.5	11.0	10.1	10.4	7.8	5.2	6.2	7.9	6.6	7.0
6	22.9	20.1	21.4	10.1	9.2	9.8	5.4	5.0	5.2	6.6	5.8	6.3
7	20.1	18.5	19.0	9.3	8.2	8.8	5.8	5.0	5.4	5.8	5.2	5.4
8	18.8	17.5	18.2	8.5	7.4	7.9	6.6	5.4	5.9	5.4	4.9	5.2
9	17.9	16.7	17.3	7.4	6.7	7.0	7.4	6.2	6.7	5.6	5.3	5.4
10	17.4	16.2	16.7	6.7	6.5	6.6	8.9	7.4	8.3	5.9	5.3	5.6
11	16.9	16.4	16.7	6.9	6.6	6.7	7.9	7.0	7.4	5.8	5.1	5.4
12	17.3	16.1	16.7	6.9	6.5	6.7	7.6	7.0	7.3	5.8	4.7	5.1
13	17.0	16.2	16.5	6.8	6.5	6.7	7.9	7.3	7.5	6.0	5.0	5.5
14	16.4	15.4	16.0	7.2	6.8	6.9	8.8	7.9	8.2	7.5	5.9	6.7
15	16.6	15.6	16.1	8.5	7.2	7.7	8.3	6.9	7.4	6.3	5.1	5.5
16	16.5	15.9	16.2	9.5	8.1	8.7	6.9	4.6	5.2	5.1	2.4	3.3
17	15.9	14.4	15.1	9.9	9.1	9.5	4.6	3.8	4.1	2.7	1.2	1.7
18	14.6	13.5	14.2	9.7	8.8	9.3	4.1	3.3	3.5	1.7	.7	1.1
19	14.9	14.0	14.4	9.6	9.0	9.3	3.4	2.0	2.5	1.2	.2	.5
20	14.8	13.9	14.5	11.0	9.4	9.9	2.4	.8	1.3	.5	.2	.3
21	14.7	13.5	13.9	12.2	10.9	11.4	2.6	1.6	1.9	1.3	.2	.6
22	13.9	12.9	13.3	13.8	11.8	12.7	2.7	2.1	2.4	1.5	.5	.9
23	14.2	13.3	13.6	14.6	13.7	14.1	3.2	2.5	2.8	2.4	1.2	1.5
24	15.4	14.0	14.5	14.2	12.4	13.5	3.4	2.8	3.2	2.7	2.2	2.5
25	16.0	14.8	15.2	12.4	10.1	11.1	3.5	3.1	3.3	2.3	1.3	1.7
26	16.9	15.7	16.2	10.1	8.0	8.5	3.7	2.9	3.2	1.5	.7	1.0
27	17.7	16.6	17.0	8.1	6.1	6.9	3.5	3.2	3.4	1.5	.5	.8
28	17.7	17.1	17.4	6.4	5.9	6.1	3.6	2.9	3.2	2.2	.8	1.4
29	17.4	16.2	16.6	7.0	6.2	6.5	4.7	3.2	3.8	2.8	1.2	1.7
30	16.2	15.0	15.4	8.6	7.0	7.6	4.9	4.3	4.5	3.0	1.6	2.2
31	15.3	14.6	14.9	---	---	---	4.7	3.6	4.2	3.2	2.4	2.7
MONTH	23.0	12.9	16.9	14.9	5.9	9.5	10.3	.8	5.4	8.2	.2	3.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.2	2.8	3.0	7.1	5.7	6.4	10.2	9.4	9.8	16.2	14.7	15.5
2	2.9	1.6	2.2	7.9	6.3	7.1	10.0	8.5	9.1	18.0	15.9	16.9
3	2.9	1.6	2.2	8.2	7.8	8.0	8.7	7.2	8.1	19.5	18.0	18.7
4	3.4	2.2	2.7	8.1	7.8	7.9	8.8	8.0	8.3	19.1	17.4	18.3
5	3.5	2.6	3.1	8.4	7.8	8.0	9.7	8.3	8.8	17.8	16.6	17.4
6	3.8	2.5	3.0	8.5	8.0	8.2	10.6	8.8	9.5	17.7	16.0	16.7
7	3.9	2.5	3.1	9.4	8.0	8.6	11.8	9.6	10.8	16.5	15.0	16.0
8	3.8	3.1	3.3	9.9	8.9	9.4	14.1	10.8	12.2	15.0	13.4	14.3
9	3.5	2.6	2.9	11.1	9.1	9.9	13.4	12.3	12.8	14.5	13.3	14.0
10	3.1	1.7	2.3	11.3	10.6	10.9	14.8	12.6	13.6	15.9	14.2	14.8
11	2.8	1.7	2.2	11.3	8.9	10.5	16.3	13.9	15.0	17.0	15.3	16.2
12	3.4	2.6	3.0	8.9	7.7	8.1	17.0	15.2	16.0	17.3	15.1	16.3
13	3.3	1.7	2.3	8.1	6.6	7.4	16.3	14.3	15.1	18.9	16.2	17.3
14	3.2	2.1	2.6	7.3	6.4	6.9	16.3	13.8	14.9	19.9	18.0	18.9
15	3.7	3.1	3.3	6.8	6.0	6.3	15.8	14.5	15.1	20.1	18.9	19.7
16	6.0	3.7	5.0	6.2	4.9	5.6	14.5	14.1	14.3	19.4	19.1	19.2
17	6.0	4.6	5.3	6.3	5.0	5.6	16.4	13.9	15.1	19.1	18.4	18.8
18	5.5	5.0	5.3	6.6	5.9	6.2	16.3	15.2	15.9	20.0	18.8	19.4
19	6.8	5.2	5.8	6.0	5.5	5.7	15.3	14.4	14.7	20.1	19.5	19.8
20	7.0	6.0	6.4	5.9	5.2	5.5	15.4	14.0	14.6	20.0	18.6	19.4
21	6.6	5.6	6.0	6.3	5.6	5.8	15.9	14.6	15.2	20.3	18.5	19.5
22	7.3	5.4	6.2	6.4	5.7	5.9	16.6	15.8	16.2	21.0	19.8	20.4
23	7.5	6.3	6.8	5.8	4.9	5.4	16.5	15.9	16.1	22.1	20.8	21.3
24	7.4	7.1	7.3	6.8	4.9	5.8	16.5	15.9	16.2	23.0	21.2	22.1
25	7.3	6.9	7.0	7.4	5.8	6.5	16.5	15.7	16.0	21.2	19.2	20.3
26	7.2	6.5	6.9	8.3	7.2	7.4	15.8	14.9	15.2	19.2	17.2	18.1
27	7.1	6.4	6.6	8.9	7.3	8.1	15.3	14.5	15.0	18.2	16.7	17.4
28	7.4	6.5	6.9	8.5	7.5	8.1	15.3	14.1	14.8	19.2	17.3	18.1
29	7.2	6.6	6.9	8.9	7.2	8.1	15.7	14.0	14.9	20.2	18.1	19.1
30	---	---	---	9.5	8.2	8.8	15.7	15.0	15.3	18.9	18.2	18.7
31	---	---	---	10.2	9.0	9.6	---	---	---	18.8	17.2	18.1
MONTH	7.5	1.6	4.5	11.3	4.9	7.5	17.0	7.2	13.6	23.0	13.3	18.1

01646500 POTOMAC RIVER NEAR WASHINGTON, DC--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.8	18.1	18.5	28.1	26.1	---	25.8	24.6	25.1	25.5	24.2	25.0
2	19.4	18.3	18.8	---	---	---	25.7	24.2	24.9	25.3	24.3	24.8
3	21.2	19.0	20.0	---	---	---	26.6	24.5	25.5	25.1	24.4	24.8
4	21.1	20.1	20.6	---	---	---	27.3	25.4	26.3	25.8	24.6	25.1
5	20.6	20.0	20.2	---	---	---	27.0	25.2	26.1	25.9	25.2	25.6
6	22.1	19.7	21.0	---	---	---	26.9	24.9	25.8	25.7	24.2	24.9
7	22.2	21.1	21.6	---	---	---	27.0	24.5	25.9	24.2	23.6	23.9
8	22.3	20.6	21.3	---	---	---	26.3	24.9	25.7	25.0	23.4	24.2
9	21.8	21.1	21.4	---	---	---	27.4	25.3	26.3	26.2	23.9	25.0
10	22.4	21.0	21.8	---	---	---	28.5	25.9	27.1	26.8	24.9	25.8
11	22.9	21.6	22.3	---	---	---	29.1	27.3	28.2	26.1	24.8	25.5
12	23.8	22.7	23.2	---	---	---	29.0	26.7	28.1	24.9	23.2	24.3
13	24.7	23.3	23.8	---	---	---	28.0	26.1	27.0	24.3	22.9	23.4
14	25.9	23.4	24.5	---	---	---	26.1	24.8	25.2	23.9	22.1	23.0
15	26.4	24.0	25.1	---	---	---	24.8	23.1	23.7	23.9	21.7	22.9
16	26.0	24.7	25.3	---	---	---	23.1	22.3	22.5	24.4	22.0	23.2
17	25.9	24.2	24.9	31.1	---	---	22.6	22.0	22.3	24.9	22.7	23.9
18	25.2	23.6	24.5	30.5	29.0	29.7	24.3	22.3	23.2	25.5	23.5	24.6
19	24.8	23.6	24.2	30.2	28.3	29.4	25.7	23.3	24.5	25.2	24.4	24.8
20	24.7	23.3	23.9	30.9	28.4	29.5	26.1	24.2	25.3	24.6	23.6	24.1
21	24.0	22.6	23.3	30.2	29.0	29.6	26.0	24.0	25.2	24.0	23.2	23.5
22	23.2	21.3	22.2	29.4	27.7	28.3	25.5	24.4	25.1	25.0	23.4	24.1
23	23.1	20.9	22.1	27.9	27.2	27.6	26.4	24.8	25.4	24.5	22.4	23.6
24	23.9	21.7	22.8	27.5	25.8	26.6	26.8	24.9	25.7	23.2	20.9	21.9
25	24.5	22.2	23.3	25.8	23.9	24.4	27.1	25.9	26.3	21.2	18.1	19.6
26	25.3	22.8	24.1	24.1	22.8	23.7	27.9	26.7	27.2	18.7	16.5	17.8
27	26.3	23.8	25.0	24.1	22.5	23.2	28.8	27.6	28.0	19.2	18.1	18.6
28	26.9	24.1	25.4	25.1	23.9	24.4	28.4	27.2	28.0	19.5	18.8	19.1
29	27.3	24.4	25.9	25.8	24.6	25.1	27.2	26.2	26.7	19.7	18.6	19.2
30	28.0	25.1	26.7	26.4	25.4	25.9	26.3	24.8	25.7	19.2	17.5	18.2
31	---	---	---	26.8	24.6	26.2	25.8	24.8	25.2	---	---	---
MONTH	28.0	18.1	22.9	---	---	---	29.1	22.0	25.7	26.8	16.5	23.1

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC
(National stream-quality accounting network station)

LOCATION.--Lat 38°55'46", long 77°07'02", Arlington County, Va., Hydrologic Unit 02070010, under right downstream side of bridge on Virginia State Highway 123, and at river mile 115.9.

DRAINAGE AREA.--11,570 mi^2.

PERIOD OF RECORD.--Water years 1973 to current year. Prior to October 1977, published as "at Great Falls."

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1978 to September 1981.
pH: June 1978 to September 1981.
WATER TEMPERATURE: June 1978 to September 1981.
DISSOLVED OXYGEN: June 1978 to September 1981.
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981.

INSTRUMENTATION.--Water-quality monitor June 1978 to September 1981.

REMARKS--High flows are sampled from the George Mason Memorial Bridge (14th Street) located 6 mi downstream from Chain Bridge. Duplicate samples taken on some days for quality-assurance checks.

EXTREMES FOR PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE (water years 1979, 1981): Maximum, 598 microsiemens, Sept. 12, 1981; minimum, 116 microsiemens, Jan. 25, 1979.
pH (water years 1979, 1981): Maximum, 9.3 units, Mar. 29, 1981; minimum, 6.7 units, June 2, 1981.
WATER TEMPERATURE (water years 1979, 1981): Maximum, 31.0°C, July 23-24, 1978; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN (water years 1979, 1981): Maximum, 16.4 mg/L, on many days in 1979; minimum, 5.6 mg/L, June 2, 1981.
SEDIMENT CONCENTRATION: Maximun daily mean, 812 mg/L, Sept. 6, 1979; minimum daily mean, 1 mg/L on many 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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 1991											
29...	1100	1010	420	8.1	16.0	13.0	779	2.0	10.3	102	K14
JAN 1992											
14...	1100	6100	243	7.7	6.0	20.0	740	2.7	11.8	98	85
MAR											
03...	1100	15500	230	8.2	8.0	13.0	770	12	11.6	97	51
MAY											
13...	1100	22100	226	7.8	17.0	22.0	760	20	9.5	99	K130
JUN											
18...	1330	5620	265	7.4	25.0	24.0	--	--	8.5	--	--
JUL											
06...	1130	8100	332	8.2	16.0	26.0	761	--	7.7	78	150
AUG											
12...	1330	4000	325	8.5	29.5	27.0	--	--	--	--	--
SEP											
01...	1100	2300	375	8.2	24.0	25.0	768	4.3	7.9	93	210

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 1991											
29...	530	48	13	19	4.0	--	124	151	50	27	0.10
JAN 1992											
14...	51	29	5.5	5.8	2.1	--	67	82	27	11	0.20
MAR											
03...	32	27	5.3	5.4	2.5	--	55	67	33	9.8	<0.10
MAY											
13...	200	26	5.8	5.5	1.9	--	66	80	25	9.0	<0.10
JUN											
18...	--	33	7.6	6.8	1.7	81	--	--	26	11	<0.10
JUL											
06...	370	--	--	--	--	--	106	129	--	--	--
AUG											
12...	--	41	9.0	8.2	2.9	--	--	--	37	13	0.10
SEP											
01...	760	41	11	14	3.0	--	106	129	40	22	0.20

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

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 1991											
29...	0.30	235	240	0.950	<0.010	0.020	0.970	0.970	0.020	0.020	0.50
JAN 1992											
14...	6.1	134	135	1.69	0.020	0.010	1.60	1.70	0.010	0.020	0.30
MAR											
03...	6.0	142	130	1.69	0.020	0.010	1.80	1.70	0.110	0.100	0.50
MAY											
13...	6.0	128	124	1.08	0.020	0.020	1.10	1.10	0.060	0.070	0.40
JUN											
18...	--	--	135	--	--	--	--	--	--	--	--
JUL											
06...	--	--	--	1.68	0.020	0.020	1.70	1.70	0.050	0.040	0.40
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
01...	1.4	210	201	--	0.010	<0.010	0.920	0.920	0.040	0.040	0.30

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	BARIUM, DIS-SOLVED (UG/L AS BA)	COBALT, DIS-SOLVED (UG/L AS CO)	IRON, DIS-SOLVED (UG/L AS FE)	LITHIUM DIS-SOLVED (UG/L AS LI)
OCT 1991										
29...	1.5	0.020	0.020	0.020	0.018	30	42	<3	10	7
JAN 1992										
14...	1.9	0.050	0.040	0.030	0.030	--	--	--	--	--
MAR										
03...	2.3	0.120	0.080	0.040	0.030	30	27	<3	37	6
MAY										
13...	1.5	0.080	0.050	0.050	0.020	30	32	<3	43	<4
JUN										
18...	--	--	--	--	--	30	--	--	48	--
JUL										
06...	2.1	0.100	0.090	0.070	0.070	--	--	--	--	--
AUG										
12...	--	--	--	--	--	70	--	--	110	--
SEP										
01...	1.2	0.040	0.030	0.040	0.030	40	40	<3	14	5

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT 1991										
29...	7	--	<10	2	<1	<1.0	240	<6	3.6	170
JAN 1992										
14...	--	--	--	--	--	--	--	--	3.5	95
MAR										
03...	13	--	<10	1	<1	<1.0	110	<6	4.7	89
MAY										
13...	5	--	<10	1	<1	<1.0	120	<6	5.5	89
JUN										
18...	--	<0.10	--	--	--	--	--	--	--	110
JUL										
06...	--	--	--	--	--	--	--	--	3.8	--
AUG										
12...	--	<0.10	--	--	--	--	--	--	--	140
SEP										
01...	17	--	<10	1	<1	<1.0	220	<6	4.0	150

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 1991					
29...	1100	1010	4	11	77
JAN 1992					
14...	1100	6100	7	115	100
MAR					
03...	1100	15500	30	1260	93
MAY					
13...	1100	22100	48	2860	95
JUN					
18...	1330	5620	7	106	84
JUL					
06...	1130	8100	11	241	100
AUG					
12...	1330	4000	5	54	94
SEP					
01...	1100	2300	7	43	96

RADIOCHEMICAL ANALYSES

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)
MAR 1992										
03...	1100	15500	<0.6	0.7	1.7	1.1	0.04	1.0	1.4	0.08
SEP										
01...	1100	2300	<0.6	<0.6	4.0	<0.6	0.06	<0.6	3.0	0.30

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC

LOCATION.--Lat 38°58'21", long 77°02'25", District of Columbia, Hydrologic Unit 02070010, on left bank 125 ft downstream from Sherrill Drive Bridge in Rock Creek Park in Washington, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--62.2 mi^2.

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 1432: 1933(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 148.87 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow affected by two upstream reservoirs which control flow from about 25 mi^2, Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since February 1968. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 25	0600	*1,280	*5.95	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	85	33	28	35	52	39	116	49	133	14
2	11	16	195	29	27	33	45	37	78	49	67	11
3	12	13	251	35	27	32	41	36	55	40	42	50
4	19	12	125	319	27	31	38	33	44	34	32	22
5	18	12	70	209	27	31	36	39	159	21	24	15
6	161	13	47	104	27	36	35	68	180	45	20	161
7	14	13	34	72	27	118	35	41	64	18	18	83
8	14	13	28	55	27	53	34	147	47	16	16	35
9	12	12	90	64	27	46	34	123	40	15	16	29
10	12	31	254	45	26	64	34	66	34	15	14	35
11	13	28	78	36	26	144	35	51	30	13	143	106
12	19	18	52	33	26	63	35	40	30	12	60	30
13	12	19	47	31	29	51	33	36	29	12	51	21
14	11	15	65	70	48	46	33	34	28	12	58	17
15	10	14	36	43	124	43	30	242	27	17	83	21
16	46	13	31	34	127	41	30	121	27	14	52	18
17	183	13	27	30	54	40	33	59	25	12	28	12
18	65	13	26	29	110	51	56	69	26	11	28	11
19	26	13	23	30	63	110	74	68	31	11	23	11
20	18	12	23	28	48	46	37	40	38	9.6	19	10
21	14	12	22	28	39	37	106	34	25	34	15	9.9
22	13	286	22	28	35	42	445	30	22	18	14	87
23	12	108	27	82	33	48	129	28	20	29	13	110
24	11	53	32	69	38	34	152	29	21	144	12	28
25	11	33	22	35	43	32	84	58	49	507	12	181
26	12	25	21	38	218	263	67	62	33	119	12	281
27	12	20	21	33	65	357	53	46	24	106	11	90
28	11	18	27	30	48	114	46	33	21	62	49	59
29	11	16	191	29	39	90	41	32	20	42	41	37
30	12	16	78	28	---	75	39	133	49	26	19	26
31	11	---	42	28	---	81	---	411	---	271	16	---
TOTAL	818	893	2092	1757	1483	2287	1942	2285	1392	1783.6	1141	1620.9
MEAN	26.4	29.8	67.5	56.7	51.1	73.8	64.7	73.7	46.4	57.5	36.8	54.0
MAX	183	286	254	319	218	357	445	411	180	507	143	281
MIN	10	12	21	28	26	31	30	28	20	9.6	11	9.9
CFSM	.42	.48	1.08	.91	.82	1.19	1.04	1.19	.75	.93	.59	.87
IN.	.49	.53	1.25	1.05	.89	1.37	1.16	1.37	.83	1.07	.68	.97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1992, BY WATER YEAR (WY)

MEAN	40.7	50.1	60.2	70.1	82.5	87.2	83.9	73.9	59.8	49.3	47.3	44.6
MAX	196	165	184	201	210	198	215	232	456	192	174	348
(WY)	1980	1953	1973	1978	1979	1953	1973	1989	1972	1945	1955	1979
MIN	2.63	4.57	8.75	11.8	11.9	23.4	29.2	24.3	18.3	7.09	1.72	2.04
(WY)	1931	1932	1931	1931	1931	1931	1969	1955	1986	1930	1930	1930

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC--Continued

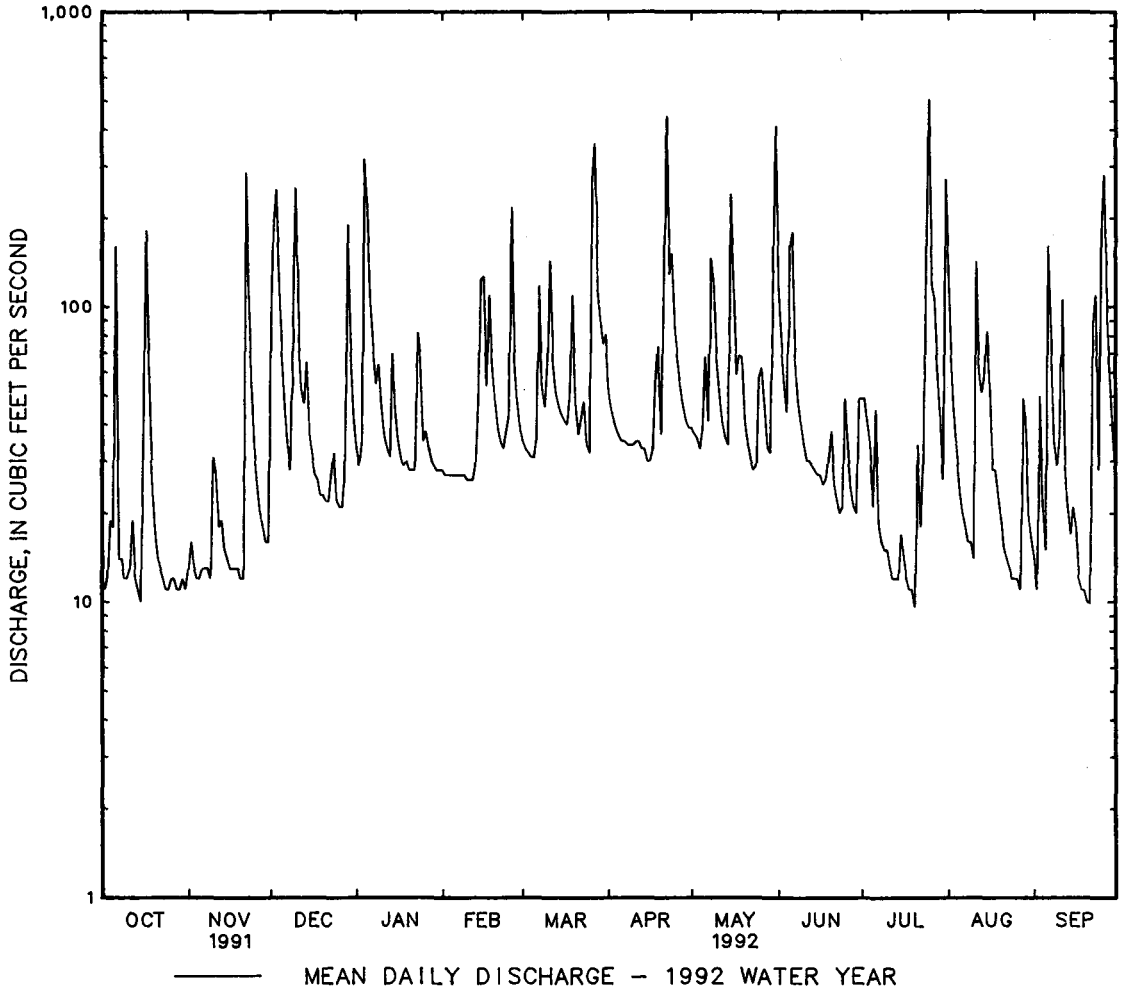
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1930 - 1992	
ANNUAL TOTAL	19682.9		19494.5			
ANNUAL MEAN	53.9		53.3		62.3	
HIGHEST ANNUAL MEAN					142	1972
LOWEST ANNUAL MEAN					16.1	1931
HIGHEST DAILY MEAN	983	Mar 23	507	Jul 25	5000	Jun 22 1972
LOWEST DAILY MEAN	5.3	Sep 2	9.6	Jul 20	.50	(a)
ANNUAL SEVEN-DAY MINIMUM	6.5	Aug 28	11	Oct 23	.50	Oct 1 1930
INSTANTANEOUS PEAK FLOW	1770	Mar 23	1280	Jul 25	b12500	Jun 22 1972
INSTANTANEOUS PEAK STAGE	7.29	Mar 23	5.95	Jul 25	c16.20	Jun 22 1972
INSTANTANEOUS LOW FLOW	5.0	Sep 2	8.6	(d)	.50	(a)
ANNUAL RUNOFF (CFSM)	.87		.86		1.00	
ANNUAL RUNOFF (INCHES)	11.77		11.66		13.62	
10 PERCENT EXCEEDS	121		118		119	
50 PERCENT EXCEEDS	32		33		37	
90 PERCENT EXCEEDS	9.9		12		12	

a Oct. 1-7, 1930.

b From rating curve extended above 5,640 ft^3/s on basis of contracted-opening measurements at gage heights of 13.19 ft and 16.2 ft.

c From floodmark.

d Oct. 15, July 20, 21.



01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Riverdale Road, 1.8 mi downstream from Indian Creek, and 1.8 mi upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (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.--Water-discharge records good except those for estimated daily discharges (manometer malfunction), which are fair. Some regulation at low flow by sand and gravel plants upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23 or 24, 1933, reached a stage of about 15.5 ft at datum 14.00 ft above mean sea level, from floodmarks, discharge, 10,500 ft^3/s, from rating curve extended above 3,000 ft^3/s on basis of velocity-area study.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 26	2300	3,050	6.10	July 25	0500	*5,350	*8.03
May 15	1915	2,180	5.23	July 31	1730	2,130	5.18

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	17	149	e50	e36	e40	62	48	94	258	133	14
2	13	18	302	e42	e35	e39	55	44	50	235	45	32
3	13	18	379	e50	e35	e37	49	39	41	55	33	87
4	12	17	159	e450	e35	e36	47	34	39	39	35	41
5	11	17	61	e300	e35	e36	44	35	287	24	29	24
6	217	18	43	e100	e35	e55	40	44	278	36	27	179
7	30	18	36	e60	e35	e190	40	35	74	21	25	83
8	19	18	33	e45	e36	e60	39	194	48	18	23	45
9	15	18	189	e55	e35	e45	37	132	39	17	24	43
10	14	26	455	e50	e34	e95	38	59	36	16	22	78
11	17	29	91	e44	e34	e220	40	46	31	14	70	92
12	22	21	54	e42	e34	e85	40	39	27	14	45	35
13	17	24	52	e40	e40	59	34	35	26	14	57	27
14	15	20	71	e80	e65	47	33	34	25	13	68	24
15	20	20	50	e55	e160	42	31	365	23	13	140	23
16	40	18	40	e40	e170	38	33	186	22	14	91	21
17	409	18	e40	e38	e75	38	37	65	21	12	51	20
18	121	18	e36	e40	e150	63	68	49	21	12	42	21
19	39	18	e33	e40	e85	164	78	38	25	11	33	19
20	24	18	e33	e37	e60	86	45	32	26	9.7	27	19
21	22	20	e32	e37	47	58	114	28	24	244	23	18
22	19	230	e32	e37	42	66	486	26	22	58	22	83
23	18	106	e38	e100	38	72	106	26	21	154	22	89
24	18	39	e44	e85	46	49	167	28	24	279	19	27
25	18	26	e32	e46	59	44	103	48	33	2100	19	281
26	20	22	e30	e50	498	666	231	62	24	174	19	304
27	20	20	e30	e45	125	910	139	48	21	92	31	87
28	18	21	e40	e40	73	154	77	33	17	64	25	62
29	16	19	e250	e38	61	89	59	28	15	41	24	43
30	17	21	e120	e36	---	72	52	184	13	32	16	31
31	17	---	e60	e36	---	77	---	577	---	322	15	---
TOTAL	1284	913	3014	2208	2213	3732	2424	2641	1447	4405.7	1255	1952
MEAN	41.4	30.4	97.2	71.2	76.3	120	80.8	85.2	48.2	142	40.5	65.1
MAX	409	230	455	450	498	910	486	577	287	2100	140	304
MIN	11	17	30	36	34	36	31	26	13	9.7	15	14
CFSM	.57	.42	1.34	.98	1.05	1.65	1.11	1.17	.66	1.95	.56	.89
IN.	.66	.47	1.54	1.13	1.13	1.91	1.24	1.35	.74	2.25	.64	1.00

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

MEAN	53.2	70.0	90.6	99.7	113	123	111	94.6	68.6	61.8	65.1	58.2
MAX	234	205	248	325	265	257	322	329	353	335	243	449
(WY)	1943	1973	1984	1979	1972	1953	1983	1989	1972	1945	1955	1975
MIN	9.37	15.9	19.8	25.6	39.3	37.0	32.4	23.9	20.3	9.14	7.94	8.32
(WY)	1942	1942	1966	1955	1947	1981	1985	1941	1965	1966	1962	1941

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD--Continued

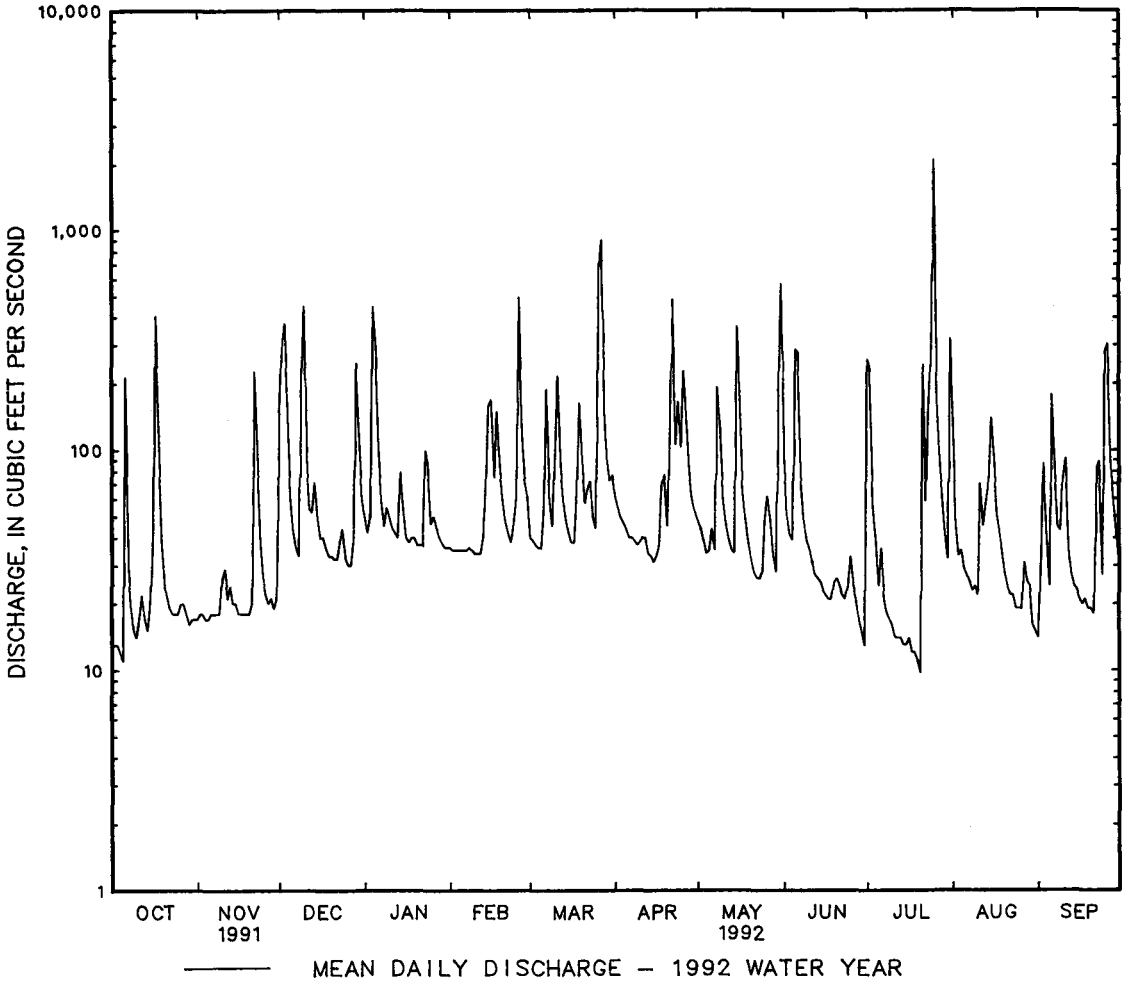
SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1938 - 1992	
ANNUAL TOTAL	24467.5		27488.7			
ANNUAL MEAN	67.0		75.1		84.0	
HIGHEST ANNUAL MEAN					150	1972
LOWEST ANNUAL MEAN					49.3	1981
HIGHEST DAILY MEAN	1660	Mar 23	2100	Jul 25	6830	Sep 26 1975
LOWEST DAILY MEAN	9.5	(a)	9.7	Jul 20	1.4	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	10	Sep 10	12	Jul 14	1.7	Sep 7 1966
INSTANTANEOUS PEAK FLOW	4380	Mar 23	5350	Jul 25	b12000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	7.27	Mar 23	8.03	Jul 25	12.93	Oct 16 1942
INSTANTANEOUS LOW FLOW	9.5	(c)	9.0	(d)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	.92		1.03		1.15	
ANNUAL RUNOFF (INCHES)	12.50		14.05		15.67	
10 PERCENT EXCEEDS	121		165		161	
50 PERCENT EXCEEDS	37		38		44	
90 PERCENT EXCEEDS	14		18		16	

a Sept. 12-16.

b From rating curve extended above 3,800 ft^3/s on basis of the average of contracted-opening and slope-area measurements at gage height 9.52 ft.

c June 14, Sept. 11-17.

d July 20, 21.



01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, October 1991 to September 1992.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 1992										
02...	1000	49	184	7.5	17.0	760	9.1	94	280	15

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JUN 1992										
02...	4.1	11	3.2	35	14	22	0.20	7.1	128	101

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN 1992										
02...	<0.010	0.710	0.040	0.40	0.050	0.020	<0.010	380	48	54

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Queens Chapel Road (State Highway 500), 0.8 mi downstream from Sligo Branch, 1.0 mi west of Hyattsville, and 1.6 mi upstream from confluence with Northeast Branch.

DRAINAGE AREA.--49.4 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to Oct. 22, 1938, nonrecording gage; Oct. 22, 1938 to Sept. 17, 1951, water-stage recorder; Sept. 17, 1951 to Aug. 29, 1952, nonrecording gage and crest-stage gage.

REMARKS.--Water-discharge records good except those for Oct. 21 to Nov. 8 (backwater) and Apr. 10-17, June 16-29, Aug. 5-10, 23-27 (variable control leakage), 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.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 21	1545	*4,980	*6.35	July 25	0415	1,990	4.55

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	e8.0	109	31	25	26	38	36	70	73	89	6.1
2	4.7	e9.0	180	29	23	25	33	34	42	45	22	37
3	4.6	e9.0	247	45	21	25	30	32	35	24	15	66
4	4.4	e8.0	93	249	21	24	30	28	35	25	23	21
5	4.0	e8.0	37	177	20	24	29	30	174	12	e14	10
6	121	e9.0	28	50	20	36	27	43	122	27	e13	116
7	14	e9.0	28	34	20	109	26	28	41	e12	e12	48
8	6.7	e9.0	26	29	22	38	26	142	34	e11	e12	22
9	4.7	11	122	41	20	29	25	103	34	e10	e12	29
10	6.0	18	229	33	18	59	e24	41	27	e9.0	e11	49
11	9.0	17	46	26	19	145	e25	34	25	e8.6	80	65
12	15	12	31	25	19	44	e25	32	23	e8.6	43	19
13	11	14	42	24	26	32	e23	31	21	e8.6	47	13
14	7.8	10	55	75	36	29	e23	29	19	e7.8	42	15
15	12	9.9	31	34	120	27	e21	233	18	e8.0	84	9.7
16	34	9.5	28	23	122	25	e21	127	e17	e8.6	57	10
17	206	9.5	24	22	39	25	e24	45	e17	e7.4	24	9.5
18	63	9.4	23	23	91	45	57	47	e16	e7.0	18	8.3
19	22	14	21	20	53	97	56	38	e21	e6.5	13	8.2
20	14	9.6	21	23	37	42	28	29	e20	e6.0	11	8.1
21	e11	11	22	24	30	31	102	26	e18	266	10	7.4
22	e10	182	22	26	28	41	359	24	e17	20	10	59
23	e9.0	82	37	75	27	41	84	21	e16	41	e9.4	86
24	e8.0	27	38	70	34	30	103	24	e16	143	e8.6	18
25	e8.0	20	25	30	38	30	68	41	29	583	e8.6	198
26	e9.0	15	24	32	242	316	110	49	e18	53	e8.6	186
27	e9.0	13	25	27	58	353	62	37	e14	51	e11	57
28	e8.0	13	41	27	39	68	43	23	e11	29	18	39
29	e8.0	15	207	27	31	43	39	20	e9.0	17	21	22
30	e9.0	19	74	26	---	40	37	153	13	13	8.8	15
31	e8.0	---	37	26	---	51	---	423	---	210	6.3	---
TOTAL	666.0	609.9	1973	1403	1299	1951	1598	2003	972.0	1751.1	762.3	1257.3
MEAN	21.5	20.3	63.6	45.3	44.8	62.9	53.3	64.6	32.4	56.5	24.6	41.9
MAX	206	182	247	249	242	353	359	423	174	583	89	198
MIN	4.0	8.0	21	20	18	24	21	20	9.0	6.0	6.3	6.1
CFSM	.43	.41	1.29	.92	.91	1.27	1.08	1.31	.66	1.14	.50	.85
IN.	.50	.46	1.49	1.06	.98	1.47	1.20	1.51	.73	1.32	.57	.95

e Estimated

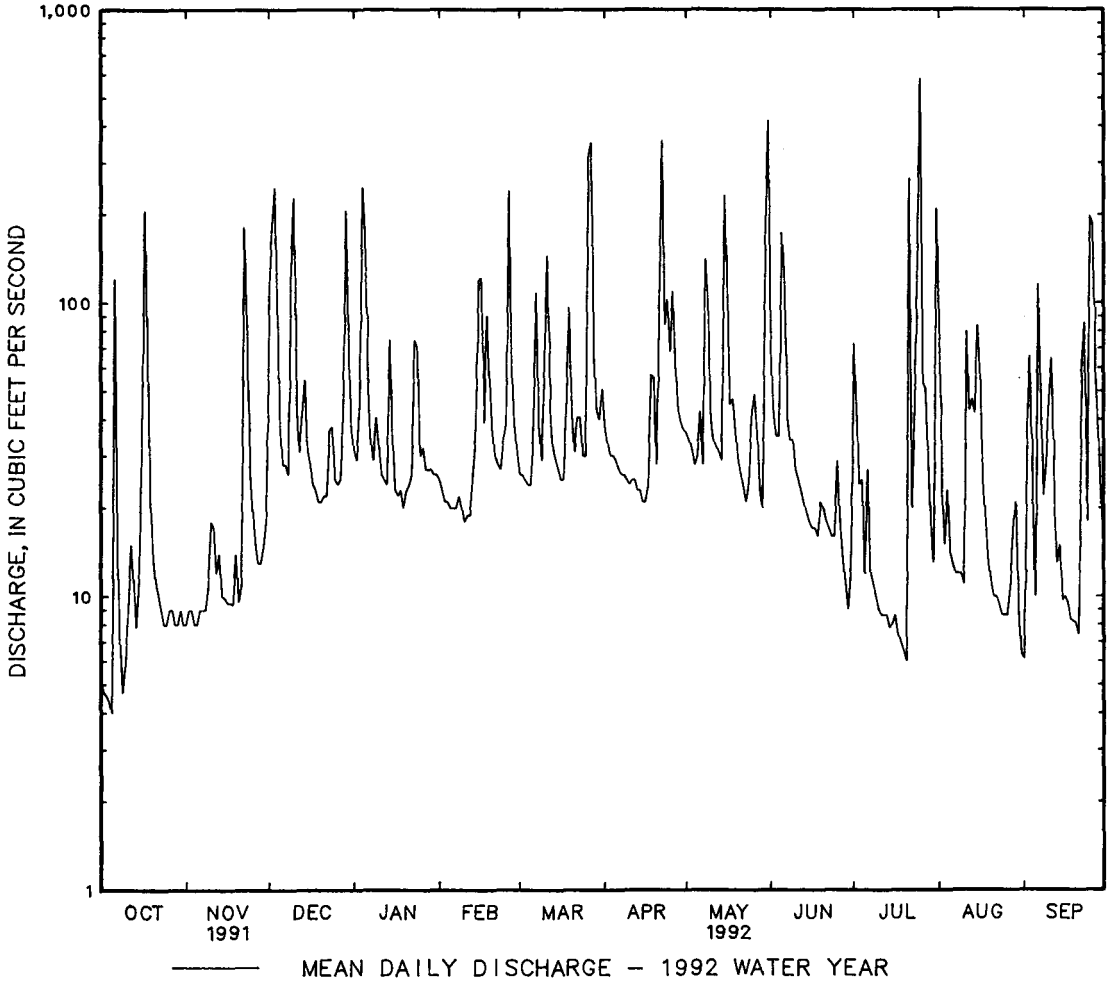
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

MEAN	28.5	38.5	48.0	52.2	62.8	66.9	61.4	55.0	42.3	34.7	37.7	37.1
MAX	129	109	136	173	183	156	167	198	237	159	193	327
(WY)	1980	1953	1984	1979	1979	1953	1952	1989	1972	1945	1955	1975
MIN	2.44	4.30	11.4	8.04	13.6	23.5	15.3	9.91	10.1	4.07	3.61	2.58
(WY)	1942	1942	1966	1955	1947	1981	1950	1941	1940	1944	1943	1941

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1938 - 1992	
ANNUAL TOTAL	14998.4		16245.6			
ANNUAL MEAN	a41.1		a44.4		a47.1	
HIGHEST ANNUAL MEAN					96.9	1979
LOWEST ANNUAL MEAN					20.8	1947
HIGHEST DAILY MEAN	960	Mar 23	583	Jul 25	5050	Sep 26 1975
LOWEST DAILY MEAN	2.3	(b)	4.0	(c)	.40	(d)
ANNUAL SEVEN-DAY MINIMUM	2.8	Sep 10	7.3	Jul 14	.60	Sep 7 1966
INSTANTANEOUS PEAK FLOW	4900	Jul 25	4980	Jul 21	f18000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	6.31	Jul 25	6.35	Jul 21	14.47	Jun 22 1972
INSTANTANEOUS LOW FLOW	2.2	(g)	3.4	Oct 5	.20	Sep 11 1966
ANNUAL RUNOFF (CFSM)	.83		.90		.95	
ANNUAL RUNOFF (INCHES)	11.29		12.23		12.95	
10 PERCENT EXCEEDS	78		102		89	
50 PERCENT EXCEEDS	25		26		23	
90 PERCENT EXCEEDS	6.3		8.7		6.5	

a Unadjusted.
b Sept. 14, 16.
c Oct. 5, 6.
d Sept. 8, 11, 1966.
f From rating curve extended above 4,000 ft^3/s on the basis of the average of slope-area and step-backwater measurements of peak flow.
g Sept. 14, 16, 17.



01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, October 1991 to September 1992.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 1992											
02...	1430	39	203	7.7	19.0	760	9.3	100	1300	190	20

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)
JUN 1992											
02...	5.1	9.0	3.8	49	16	19	0.20	11	112	118	0.920

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)
JUN 1992										
02...	0.020	0.940	0.030	0.40	0.050	0.020	<0.010	250	52	71

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD

LOCATION.--Lat 38°42'20", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on left bank 75 ft downstream from bridge on State Highway 223, at Piscataway, 0.4 mi upstream from Tinker Creek, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--39.5 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges (backwater from beaver dams) and (gage vandalized), 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 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0430	*564	*6.05	Sept. 6	2100	493	5.77

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.08	e.52	e1.8	e50	13	29	49	22	56	21	114	3.2
2	e.02	e.52	e15	e30	12	26	47	21	27	25	22	2.9
3	e.02	e.52	e80	e27	12	25	41	18	20	10	13	46
4	e.01	e.52	e100	e150	12	23	37	15	16	17	54	26
5	e.00	e.54	e35	e100	12	22	35	14	54	8.5	66	11
6	e.00	e.58	e30	e60	11	21	32	15	49	5.0	16	209
7	e.00	e.66	e28	e34	11	165	31	13	22	3.7	9.5	244
8	e.00	e.76	e25	27	11	87	30	37	16	3.2	7.3	56
9	e.00	e.90	e30	24	11	53	28	75	16	2.6	7.3	31
10	e.00	e1.1	e50	23	8.9	51	28	29	16	2.2	5.6	23
11	e.00	e1.4	e70	20	9.7	115	27	21	12	1.6	18	41
12	e.00	e1.5	e35	17	10	64	29	e19	9.3	1.1	32	21
13	e.00	e1.6	e27	19	10	46	27	e17	8.5	.73	16	15
14	e.00	e1.6	e22	24	13	37	24	e15	8.7	.51	30	13
15	e.00	e1.5	e19	24	21	34	24	e15	8.3	.92	93	11
16	e.00	e1.3	e17	16	62	30	24	e16	7.0	.87	88	11
17	e20	e1.1	e15	13	27	28	26	e19	5.9	.33	54	9.8
18	e40	e.90	e13	16	32	29	24	e19	4.4	.18	37	9.0
19	e15	e.80	e12	12	36	56	23	e16	5.8	.04	24	9.4
20	e5.5	e.76	e12	12	24	53	23	e12	10	.03	16	9.6
21	e3.0	e.74	e13	12	19	37	24	9.4	8.3	.02	13	8.3
22	e1.7	e1.5	e15	13	18	31	110	8.3	7.7	5.7	11	9.0
23	e1.2	e2.5	e18	17	16	32	47	7.2	4.4	4.9	10	14
24	e1.0	e4.6	e27	37	17	28	41	7.0	4.1	153	8.6	9.1
25	e.80	e2.5	e21	20	19	25	52	9.0	11	119	7.6	10
26	e.70	e2.0	e17	17	206	86	39	12	48	36	7.2	105
27	e.60	e1.5	e15	15	80	480	44	17	12	20	6.6	28
28	e.60	e1.4	e35	16	51	102	31	10	5.5	27	5.7	55
29	e.56	e1.2	e54	16	37	68	26	7.7	4.1	11	6.3	135
30	e.56	e1.1	e76	15	---	59	24	20	4.8	6.9	4.9	38
31	e.54	---	e66	14	---	59	---	198	---	75	3.8	---
TOTAL	91.89	38.12	993.8	890	821.6	2001	1047	733.6	481.8	563.03	807.4	1213.3
MEAN	2.96	1.27	32.1	28.7	28.3	64.5	34.9	23.7	16.1	18.2	26.0	40.4
MAX	40	4.6	100	150	206	480	110	198	56	153	114	244
MIN	.00	.52	1.8	12	8.9	21	23	7.0	4.1	.02	3.8	2.9
CFSM	.08	.03	.81	.73	.72	1.63	.88	.60	.41	.46	.66	1.02
IN.	.09	.04	.94	.84	.77	1.88	.99	.69	.45	.53	.76	1.14

e Estimated

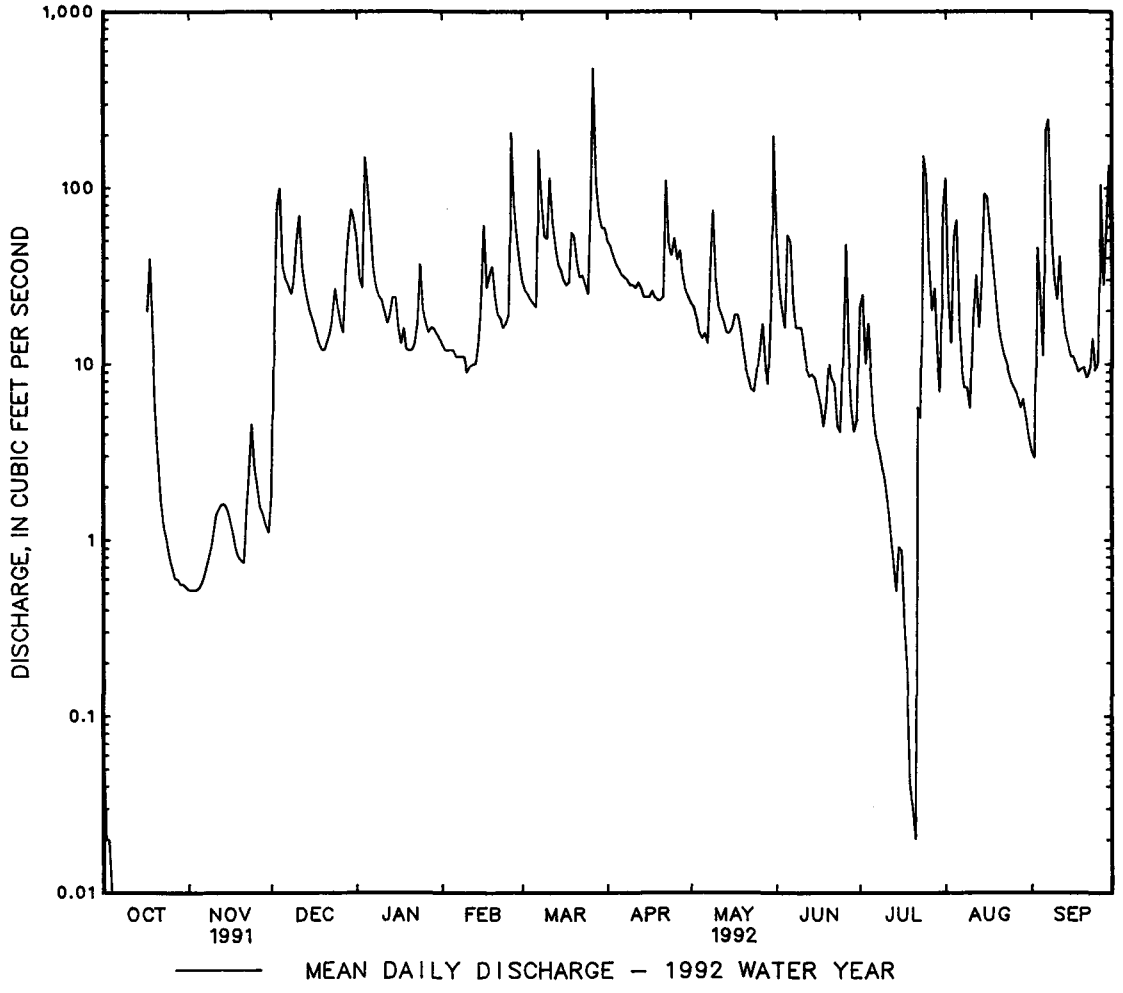
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

MEAN	29.1	32.3	51.9	61.1	68.3	70.5	64.9	49.8	32.9	19.6	21.6	29.7
MAX	177	95.8	153	217	188	131	218	189	173	92.7	88.8	256
(WY)	1980	1973	1973	1978	1972	1984	1983	1989	1972	1975	1971	1975
MIN	1.31	1.27	5.26	5.96	23.6	17.5	18.1	11.1	1.42	.14	.006	.000
(WY)	1987	1992	1966	1981	1977	1981	1985	1986	1986	1966	1966	1977

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1966 - 1992	
ANNUAL TOTAL	8544.31		9682.54			
ANNUAL MEAN	23.4		26.5		44.2	
HIGHEST ANNUAL MEAN					85.9	1972
LOWEST ANNUAL MEAN					13.4	1981
HIGHEST DAILY MEAN	501	Jan 12	480	Mar 27	4500	Sep 6 1979
LOWEST DAILY MEAN	.00	(a)	.00	(b)	.00	(c)
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 22	.00	Oct 5	.00	many days
INSTANTANEOUS PEAK FLOW	583	Jan 12	564	Mar 27	d8540	Sep 6 1979
INSTANTANEOUS PEAK STAGE	6.12	Jan 12	6.05	Mar 27	11.21	Sep 6 1979
INSTANTANEOUS LOW FLOW	.00	(f)	e.00	(g)	.00	(h)
ANNUAL RUNOFF (CFSM)	.59		.67		1.12	
ANNUAL RUNOFF (INCHES)	8.05		9.12		15.20	
10 PERCENT EXCEEDS	56		56		85	
50 PERCENT EXCEEDS	11		16		24	
90 PERCENT EXCEEDS	.00		.74		1.5	

a July 24, Aug. 22 to Sept. 23, Oct. 5-16.
b Oct. 5-16.
c Many days in 1966, 1970, 1977, 1980-83, 1985-89, 1991-1992.
d From rating curve extended above 1,700 ft^3/s on basis of contracted-opening measurement of peak flow at bridge 100 ft upstream.
f July 23-25, Aug. 21 to Sept. 23, Oct. 5-16.
e Estimated.
h At times in 1966, 1970, 1977, 1980-83, 1985-89, 1991-1992.



01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD

LOCATION.--Lat 38°29'26", long 76°55'37", Charles County, Hydrologic Unit 02070011, on left-center downstream side of bridge on Maryland Route 6, 1.0 miles southeast of Newtown, and 1.7 miles downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 34.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for Oct. 1 to Jan. 13 (backwater from beaver dams), which are poor, and Jan. 18, 19, (frozen float), 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 7	0130	*1250	*4.23	No other peak greater than base discharge.			

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.9	e3.7	e7.8	e72	32	68	105	41	169	15	124	8.5
2	e1.9	e3.7	e50	e46	27	55	92	38	69	73	122	9.0
3	1.5	e3.7	e140	e40	25	51	81	33	40	43	40	11
4	1.1	e3.7	e187	e72	24	47	73	25	29	43	26	16
5	.87	e3.7	e140	e235	25	45	67	22	52	41	23	17
6	.84	e3.8	e70	e208	23	44	61	21	113	22	18	429
7	e.80	e4.0	e45	e122	23	183	57	22	65	14	13	1120
8	e.80	e4.3	e35	e80	24	377	57	44	37	9.7	9.9	519
9	e.80	e5.0	e40	e64	26	250	55	143	31	8.0	8.8	138
10	e.80	e6.0	e72	e56	22	133	59	106	35	6.0	8.0	70
11	e.80	e8.0	e100	e50	22	216	68	58	27	4.3	11	80
12	e.80	e9.0	e70	e45	23	235	61	41	18	39	63	66
13	e.88	e9.0	e55	e43	22	149	51	33	13	55	55	40
14	e.88	e8.2	e43	41	27	101	45	28	11	32	70	31
15	e.88	e7.8	e36	39	43	83	44	28	10	14	144	25
16	e1.1	e7.2	e31	33	95	69	43	36	9.4	12	271	22
17	e12	e6.8	e28	28	84	62	46	42	7.4	7.9	238	21
18	e62	e6.6	e26	e24	59	61	48	37	6.0	5.3	148	19
19	e50	e6.0	e24	e22	69	92	46	39	5.1	3.8	88	21
20	e28	e5.7	e22	22	60	124	44	27	5.2	2.6	52	30
21	e20	e5.4	e23	25	45	96	45	19	4.5	1.7	34	25
22	e12	e7.2	e25	28	38	72	139	17	4.3	1.5	26	23
23	e8.9	e14	e30	34	35	70	145	14	3.8	1.8	21	41
24	e6.8	e22	e40	70	38	63	76	17	11	33	18	29
25	e5.4	e17	e48	68	47	54	64	22	101	415	15	21
26	e4.5	e10	e35	46	171	91	64	22	107	361	14	49
27	e4.2	e8.5	e27	42	271	479	83	29	56	108	12	69
28	e3.9	e7.5	e41	40	174	547	69	25	25	206	12	97
29	e3.8	e6.8	e72	37	97	237	53	18	13	140	13	470
30	e3.8	e6.3	e110	34	---	135	45	27	8.7	40	12	280
31	e3.8	---	e97	34	---	119	---	162	---	26	9.9	---
TOTAL	245.75	220.6	1769.8	1800	1671	4408	1986	1236	1086.4	1784.6	1719.6	3796.5
MEAN	7.93	7.35	57.1	58.1	57.6	142	66.2	39.9	36.2	57.6	55.5	127
MAX	62	22	187	235	271	547	145	162	169	415	271	1120
MIN	.80	3.7	7.8	22	22	44	43	14	3.8	1.5	8.0	8.5
CFSM	.10	.09	.71	.73	.72	1.78	.83	.50	.45	.72	.69	1.58
IN.	.11	.10	.82	.84	.78	2.05	.92	.58	.51	.83	.80	1.77

e Estimated

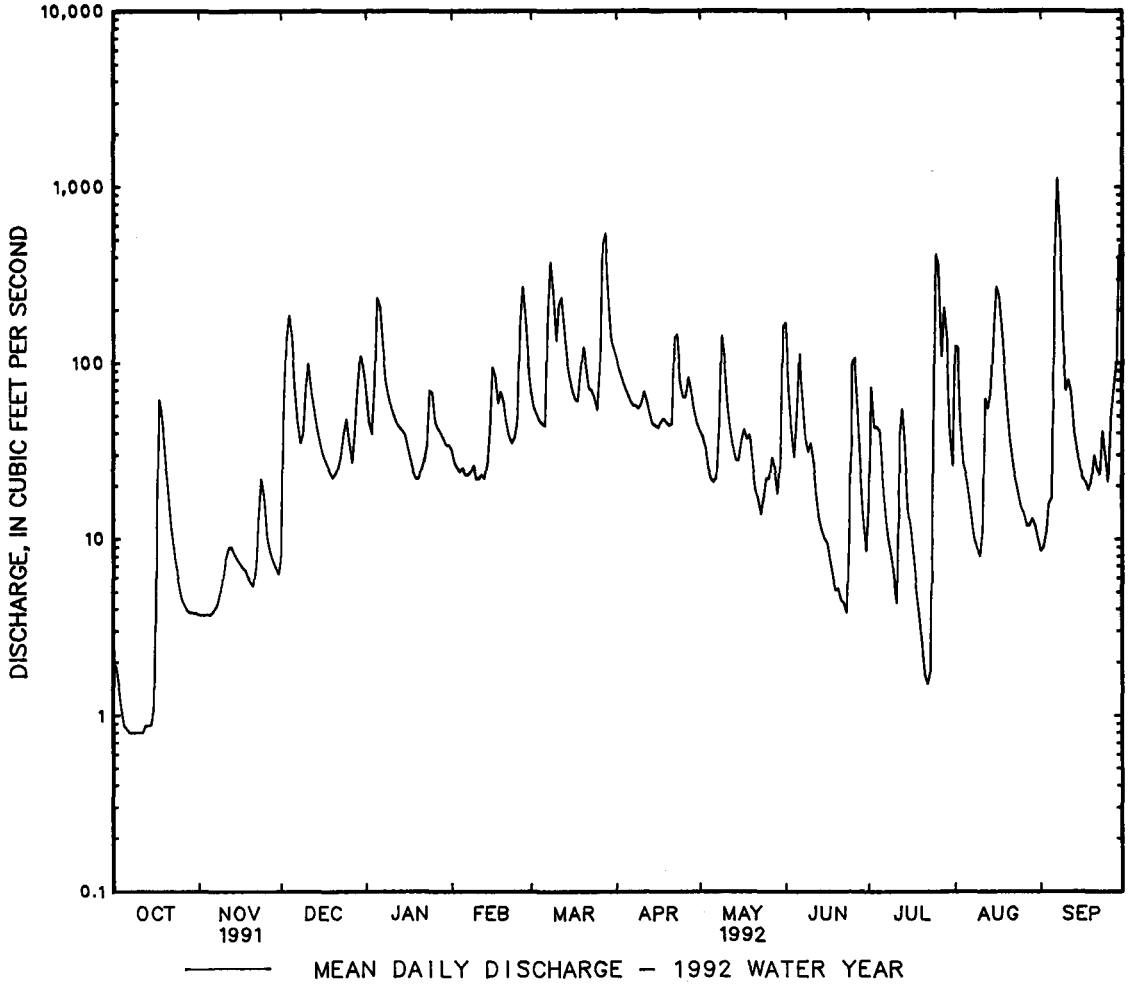
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1992, BY WATER YEAR (WY)

MEAN	41.7	71.0	105	121	128	137	125	118	72.5	32.0	29.2	35.8
MAX	163	139	226	248	187	265	260	334	311	93.5	113	127
(WY)	1990	1986	1984	1990	1985	1984	1984	1989	1989	1989	1990	1992
MIN	7.93	7.35	41.9	49.1	57.6	57.0	30.5	25.5	2.07	4.47	.68	1.94
(WY)	1992	1992	1985	1985	1992	1985	1985	1986	1986	1987	1987	1991

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1983 - 1992	
ANNUAL TOTAL	17195.35		21724.25			
ANNUAL MEAN	47.1		59.4		85.1	
HIGHEST ANNUAL MEAN					137	1990
LOWEST ANNUAL MEAN					45.1	1985
HIGHEST DAILY MEAN	717	Jan 13	1120	Sep 7	1400	Mar 30 1984
LOWEST DAILY MEAN	.00	(a)	.80	Oct 7	.00	many days
ANNUAL SEVEN-DAY MINIMUM	.03	Sep 15	.81	Oct 6	.00	many days
INSTANTANEOUS PEAK FLOW	825	Jan 13	1250	Sep 7	1740	Mar 29 1984
INSTANTANEOUS PEAK STAGE	3.88	Jan 13	4.23	Sep 7	4.71	Mar 29 1984
INSTANTANEOUS LOW FLOW	.00	(a)	.73	Oct 6	.00	(b)
ANNUAL RUNOFF (CFSM)	.59		.74		1.07	
ANNUAL RUNOFF (INCHES)	8.01		10.11		14.47	
10 PERCENT EXCEEDS	111		136		185	
50 PERCENT EXCEEDS	20		34		47	
90 PERCENT EXCEEDS	.57		4.3		1.8	

a Sept. 18-20.
b No flow for several days in 1983, 1985-89, 1991.



01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD

LOCATION.--Lat 38°20'00", long 76°43'31", St. Marys County, Hydrologic Unit 02070011, on left bank 60 ft downstream from bridge on State Highway 242, 0.5 mi north of Clements, 2.3 mi upstream from mouth, and 5.7 mi northwest of Leonardtown.

DRAINAGE AREA.--18.5 mi^2.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily discharges (manometer malfunction), which are fair.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 4	1245	257	3.75	Sept. 6	1600	*2,900	*6.21
Mar. 7	1700	335	4.27				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	2.2	7.8	11	7.8	13	18	9.8	23	2.6	13	2.8
2	.96	2.5	19	9.8	6.8	12	17	9.5	10	2.9	7.3	2.3
3	1.2	2.4	90	9.9	6.7	12	15	8.1	7.3	2.6	3.0	3.7
4	1.5	2.5	150	59	6.8	12	15	6.9	6.1	5.9	2.4	8.3
5	1.3	2.5	25	59	7.1	11	14	6.2	28	8.6	2.0	8.5
6	1.2	2.5	13	25	6.7	11	13	6.3	27	3.4	1.9	913
7	1.2	2.5	11	16	6.8	207	13	6.3	11	2.6	1.7	260
8	.94	2.6	9.2	13	6.9	124	13	22	7.4	2.0	1.5	47
9	.86	2.8	8.8	12	7.1	36	12	30	6.6	1.8	1.3	23
10	.79	3.1	32	13	5.8	40	14	14	7.6	1.5	1.4	16
11	.71	4.1	20	11	6.3	74	13	10	6.1	1.2	2.2	22
12	.87	3.9	12	9.6	6.8	32	13	8.1	4.6	1.0	9.2	14
13	.87	3.8	10	9.3	6.4	23	12	7.4	3.8	.89	8.7	10
14	.76	3.6	10	11	7.9	19	11	6.8	3.3	.68	17	8.2
15	.80	3.4	10	9.0	15	18	11	12	3.0	.65	e58	7.5
16	.87	3.5	8.5	8.3	30	16	12	17	2.6	1.0	e77	7.2
17	41	3.3	7.4	7.0	15	16	13	11	2.5	1.0	e53	6.8
18	49	3.2	7.1	7.7	13	16	12	9.0	2.0	.72	28	6.4
19	13	3.2	6.3	6.7	15	29	12	7.1	2.2	.51	14	6.3
20	5.4	3.3	5.3	6.3	13	29	12	5.5	3.3	.32	8.8	6.3
21	3.7	3.7	6.0	7.1	9.9	20	12	4.6	2.4	.39	6.2	6.3
22	3.1	4.6	6.3	7.7	8.9	18	27	4.3	2.1	2.9	5.0	6.4
23	2.6	7.7	6.7	11	8.9	18	18	4.0	2.1	4.0	4.5	7.8
24	2.6	7.1	12	16	15	16	13	3.7	3.8	76	4.0	5.9
25	2.3	5.1	9.5	11	18	15	11	4.3	34	e110	3.6	6.4
26	2.5	3.9	7.2	8.8	72	47	15	5.4	36	29	3.3	16
27	2.4	3.4	6.6	8.0	46	145	21	7.1	13	11	2.9	15
28	2.4	3.2	6.4	8.3	23	42	14	6.3	5.5	17	3.7	10
29	2.1	3.2	34	8.2	17	26	11	4.7	3.7	6.2	5.6	19
30	2.1	3.3	28	8.1	---	22	10	12	2.8	3.5	5.0	14
31	2.1	---	14	8.1	---	20	---	56	---	4.1	3.6	---
TOTAL	152.13	106.1	599.1	415.9	415.6	1139	417	325.4	272.8	305.96	358.8	1486.1
MEAN	4.91	3.54	19.3	13.4	14.3	36.7	13.9	10.5	9.09	9.87	11.6	49.5
MAX	49	7.7	150	59	72	207	27	56	36	110	77	913
MIN	.71	2.2	5.3	6.3	5.8	11	10	3.7	2.0	.32	1.3	2.3
CFSM	.27	.19	1.04	.73	.77	1.99	.75	.57	.49	.53	.63	2.68
IN.	.31	.21	1.20	.84	.84	2.29	.84	.65	.55	.62	.72	2.99

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1992, BY WATER YEAR (WY)

MEAN	10.4	15.0	20.9	26.1	28.1	29.7	25.6	22.7	17.1	12.2	11.9	12.7
MAX	46.8	45.3	40.3	77.4	85.7	58.5	54.7	57.9	116	56.4	45.0	75.2
(WY)	1980	1980	1973	1978	1979	1984	1983	1978	1972	1975	1985	1979
MIN	.73	3.23	5.01	5.30	11.9	10.1	9.05	4.39	1.32	.50	.036	.000
(WY)	1989	1982	1989	1981	1991	1981	1985	1991	1988	1988	1988	1988

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1969 - 1992	
ANNUAL TOTAL	3706.98		5993.89			
ANNUAL MEAN	10.2		16.4		19.3	
HIGHEST ANNUAL MEAN					34.5	1972
LOWEST ANNUAL MEAN					9.19	1981
HIGHEST DAILY MEAN	200	Jan 12	913	Sep 6	1580	Jun 22 1972
LOWEST DAILY MEAN	.00	(a)	.32	Jul 20	.00	many days
ANNUAL SEVEN-DAY MINIMUM	.03	Sep 16	.66	Jul 15	.00	Aug 31 1980
INSTANTANEOUS PEAK FLOW	303	Jan 12	2900	Sep 6	b4500	Sep 6 1979
INSTANTANEOUS PEAK STAGE	4.08	Jan 12	6.21	Sep 6	c6.96	Sep 6 1979
INSTANTANEOUS LOW FLOW	.00	(d)	.20	(f)	.00	(g)
ANNUAL RUNOFF (CFSM)	.55		.89		1.04	
ANNUAL RUNOFF (INCHES)	7.45		12.05		14.19	
10 PERCENT EXCEEDS	20		28		36	
50 PERCENT EXCEEDS	5.7		7.7		11	
90 PERCENT EXCEEDS	.53		2.0		1.3	

a July 24, Sept. 18-21.

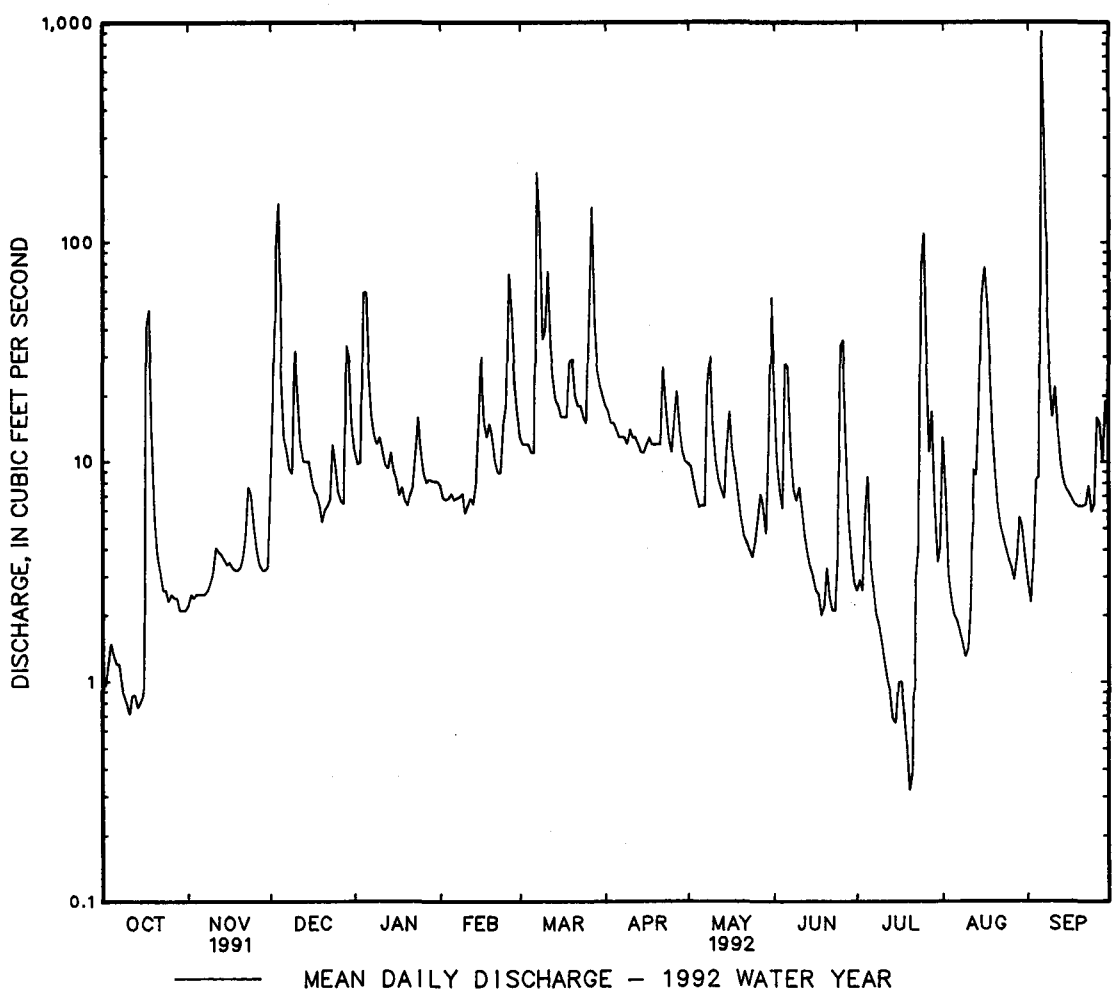
b From rating curve extended above 480 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.

c Backwater from tide; maximum gage height unaffected by backwater, 6.55 ft, June 22, 1972.

d July 24, 25, Sept. 17-22.

f July 20, 21.

g No flow at times in 1977, 1980, 1981, 1983, 1985-89, 1991.



01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1991 to September 1992.

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
JUN 1992											
01...	1300	20	90	6.9	16.0	760	9.0	91	8.8	2.0	4.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
JUN 1992											
01...	1.3	21	9.4	7.0	0.10	9.2	84	56	<0.010	0.160	0.040

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	HARD-NESS TOTAL (MG/L AS CACO3)	ALA-CHLOR, WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L)
JUN 1992											
01...	0.50	0.070	0.040	<0.010	590	120	30	0.01	0.09	<0.02	<0.01

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L)	BUTYL-ATE, WATER, DISS, REC (UG/L)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L)	CHLOR-PYRIFOS DIS-SOLVED (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L)	P,P' DDE DISSOLV (UG/L)	DI-AZINON, DIS-SOLVED (UG/L)	DIAZ-INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT	DICAMBA (MED-IBEN) (BAN-VEL D) TOTAL (UG/L)
JUN 1992											
01...	<0.00	<0.00	<0.01	<0.00	<0.00	<0.01	<0.01	<0.01	<0.00	150	<0.01

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	DI-ELDRIN DIS-SOLVED (UG/L)	2,6-DI-ETHYL ANALINE WAT FLT 0.7 U GF, REC (UG/L)	DIMETH-OATE WATER FLTRD 0.7 U GG, REC (UG/L)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L)	FONOFOS WATER DISS REC (UG/L)	ALPHA BHC DIS-SOLVED (UG/L)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT	LINDANE DIS-SOLVED (UG/L)
JUN 1992 01...	<0.02	<0.00	<0.02	<0.05	<0.00	<0.01	<0.00	<0.00	<0.00	88	<0.01

DATE	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L)	MALA-THION, DIS-SOLVED (UG/L)	METHO-MYL TOTAL (UG/L)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PARA-THION, DIS-SOLVED (UG/L)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L)
JUN 1992 01...	<0.01	<0.01	<0.5	<0.00	0.02	<0.01	<0.00	<0.01	<0.00	<0.00	<0.04

DATE	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L)	PICLO-RAM (TOR-DON) (AMDON) TOTAL (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PROP-CHLOR, WATER, DISS, REC (UG/L)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L)	PROPHAM TOTAL (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L)
JUN 1992 01...	<0.01	<0.02	<0.01	0.01	<0.01	<0.00	<0.00	<0.01	<0.5	0.02	<0.01

DATE	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SEVIN, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 1992 01...	<0.01	<0.01	<0.05	93	<0.00	0.00	<0.01	0.09	<0.01	<0.5	<0.01

01661500 ST. MARYS RIVER AT GREAT MILLS, MD

LOCATION.--Lat 38°14'36", long 76°30'13", St. Marys County, Hydrologic Unit 02070011, on left bank at downstream side of bridge on State Highway 471 in Great Mills, 0.3 mi downstream from Western Branch, and 12.0 mi upstream from mouth.

DRAINAGE AREA.--24.0 mi^2.

PERIOD OF RECORD.--June 1946 to current year.

REVISED RECORDS.--WSP 1702: 1946, 1948-49, 1955, 1957-58. WDR MD-DE-83-1: 1981-82(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation by reservoir on Western Branch of St. Marys River, 2.0 mi upstream since 1975, total capacity, 3,200 acre feet. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 27	0300	469	4.73	Aug. 16	1830	494	4.91
July 24	2130	907	7.47	Sept. 6	1900	*2,050	*9.95
July 27	1900	478	4.79				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.4	8.3	16	5.3	10	26	13	20	4.2	15	6.4
2	3.9	4.2	18	13	6.4	9.2	23	11	13	4.6	9.6	8.9
3	5.3	3.9	47	12	5.8	8.0	18	9.2	10	3.7	7.5	6.9
4	5.6	4.2	61	68	5.1	8.9	16	7.8	8.1	4.7	15	5.6
5	4.5	3.5	25	58	4.7	8.4	15	7.2	81	4.3	13	8.8
6	4.3	3.3	15	35	4.6	7.5	14	7.3	42	3.8	8.6	667
7	3.6	3.1	12	26	5.4	203	13	7.0	21	3.3	8.8	767
8	2.6	2.9	9.7	20	5.2	88	15	55	15	2.8	6.5	285
9	2.5	3.0	8.8	16	4.7	33	13	41	14	2.7	4.7	214
10	2.9	3.9	25	8.2	4.6	32	14	23	11	2.4	4.5	202
11	2.4	5.5	16	7.1	4.8	88	13	16	7.8	2.2	8.2	199
12	3.1	5.0	14	6.5	5.9	33	12	13	7.0	2.1	16	179
13	3.5	4.6	11	6.5	5.3	20	11	10	6.2	2.2	19	78
14	3.0	4.6	10	6.8	5.6	15	9.7	9.4	5.2	2.2	49	46
15	2.7	4.4	9.1	6.6	12	13	9.1	10	4.5	2.0	255	31
16	2.9	4.4	44	6.4	41	10	11	14	3.6	1.8	385	21
17	86	4.5	136	5.7	14	11	11	13	3.0	1.8	267	18
18	49	4.5	127	5.9	13	12	11	11	2.6	1.8	186	15
19	19	4.6	111	5.4	14	17	10	8.8	3.4	1.6	87	13
20	12	4.6	93	5.1	12	17	9.8	7.1	6.9	1.4	47	12
21	8.5	4.7	77	5.5	8.0	13	9.9	6.2	7.9	9.5	31	13
22	6.7	5.9	62	5.5	6.6	12	16	5.7	7.0	41	22	11
23	6.3	7.6	48	7.8	6.5	13	14	4.9	4.8	11	17	9.5
24	5.6	6.3	35	12	16	12	12	4.6	10	289	14	7.9
25	5.4	5.3	25	7.1	15	11	12	5.5	22	283	11	14
26	4.9	4.7	17	6.5	120	84	39	7.9	20	54	9.7	32
27	4.7	4.6	13	5.9	57	266	32	9.3	12	148	8.5	17
28	4.3	4.6	11	6.0	24	104	21	7.2	7.2	137	8.9	14
29	4.6	4.6	43	5.7	16	57	16	6.0	5.4	40	12	15
30	4.0	4.5	29	5.6	---	40	14	12	4.4	23	8.6	11
31	4.2	---	18	5.5	---	34	---	42	---	16	7.2	---
TOTAL	282.5	135.9	1178.9	407.3	448.5	1290.0	460.5	405.1	386.0	1107.1	1562.3	2928.0
MEAN	9.11	4.53	38.0	13.1	15.5	41.6	15.3	13.1	12.9	35.7	50.4	97.6
MAX	86	7.6	136	68	120	266	39	55	81	289	385	767
MIN	2.4	2.9	8.3	5.1	4.6	7.5	9.1	4.6	2.6	1.4	4.5	5.6
CFSM	.38	.19	1.58	.55	.64	1.73	.64	.54	.54	1.49	2.10	4.07
IN.	.44	.21	1.83	.63	.70	2.00	.71	.63	.60	1.72	2.42	4.54

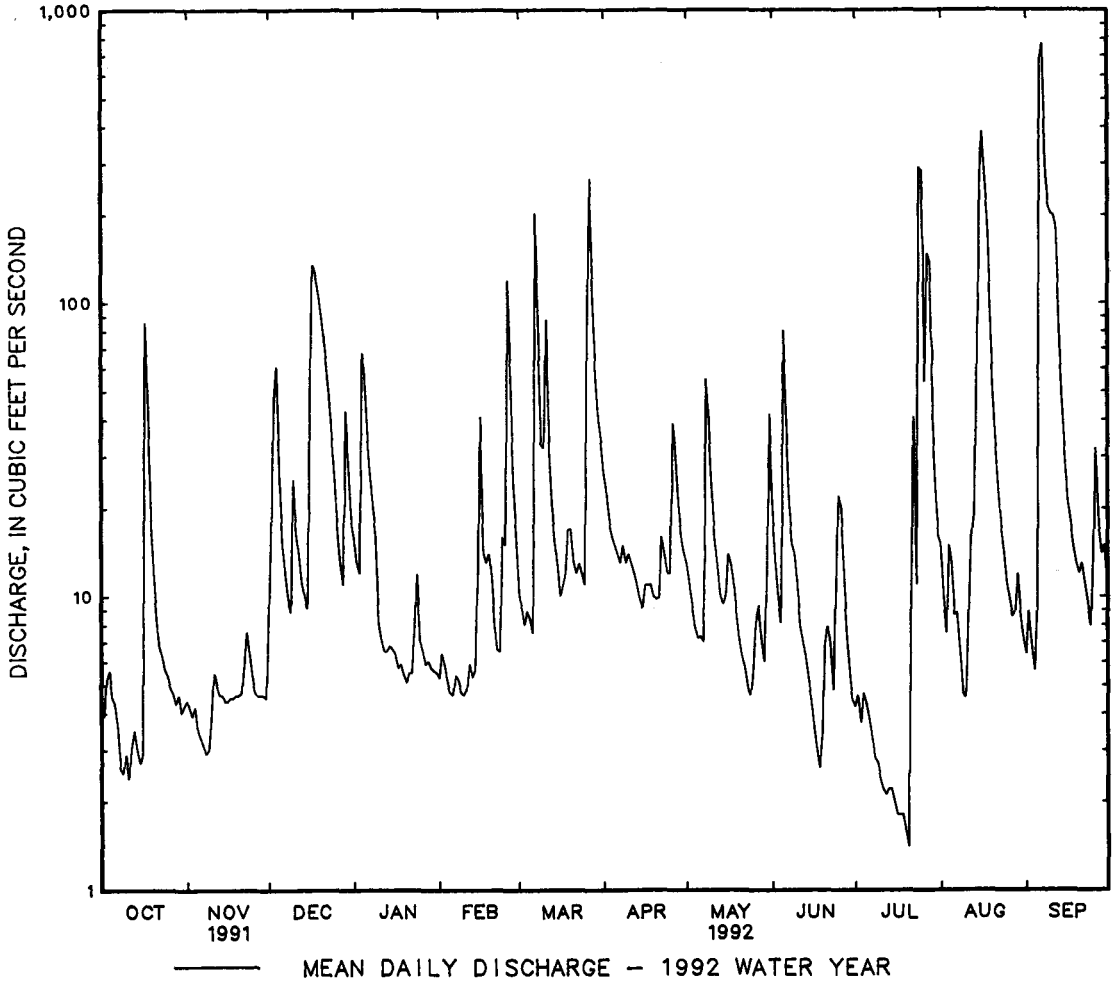
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

MEAN	11.7	18.5	28.1	33.4	34.6	41.4	32.5	25.9	15.5	13.7	18.1	13.8
MAX	39.9	84.4	68.7	125	114	121	95.9	97.4	68.4	63.7	118	112
(WY)	1980	1957	1949	1978	1979	1984	1983	1990	1972	1960	1955	1979
MIN	2.58	4.29	5.27	6.45	9.31	8.52	6.82	5.36	2.68	1.48	1.46	2.02
(WY)	1969	1982	1966	1955	1968	1981	1985	1985	1986	1985	1966	1988

01661500 ST. MARYS RIVER AT GREAT MILLS, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1946 - 1992	
ANNUAL TOTAL	6116.4		10592.1			
ANNUAL MEAN	16.8		28.9		23.9	
HIGHEST ANNUAL MEAN					49.1	1958
LOWEST ANNUAL MEAN					11.1	1966
HIGHEST DAILY MEAN	359	Jan 12	767	Sep 7	2260	Aug 13 1955
LOWEST DAILY MEAN	1.2	Jul 24	1.4	Jul 20	.30	Sep 7 1966
ANNUAL SEVEN-DAY MINIMUM	1.4	Jul 18	1.8	Jul 14	.39	Sep 3 1966
INSTANTANEOUS PEAK FLOW	664	Jan 12	2050	Sep 6	a7950	Aug 20 1969
INSTANTANEOUS PEAK STAGE	6.15	Jan 12	9.95	Sep 6	13.34	Aug 20 1969
INSTANTANEOUS LOW FLOW	1.0	(b)	1.3	Jul 20	.20	Sep 7 1966
ANNUAL RUNOFF (CFSM)	.70		1.21		.99	
ANNUAL RUNOFF (INCHES)	9.48		16.42		13.52	
10 PERCENT EXCEEDS	31		57		47	
50 PERCENT EXCEEDS	8.1		9.9		12	
90 PERCENT EXCEEDS	2.6		3.9		3.2	

a From rating curve extended above 1,500 ft^3/s on basis of contracted-opening measurement at gage height 12.08 ft.
b July 24, 25.



03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, Hydrologic Unit 05020006, on left bank 200 ft downstream from Baltimore and Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1.2 mi northwest of Oakland, and 1.5 mi upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 mi^2.

PERIOD OF RECORD.--August 1941 to current year.

REVISED RECORDS.--WSP 1113: 1947(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,353.61 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Town of Oakland diverted an average of 0.4 ft^3/s for water supply. The diversion is returned upstream from station as sewage. 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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	1100	2,400	5.68	July 27	1930	*3,090	*6.35
July 11	0815	2,260	5.54				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	15	41	308	185	656	576	214	120	28	255	36
2	6.4	15	225	259	162	520	512	180	106	40	181	31
3	5.8	14	1360	240	165	409	419	237	83	38	147	33
4	5.8	15	641	279	174	334	361	204	74	76	140	34
5	6.0	16	319	267	315	278	337	184	155	39	127	29
6	7.8	16	230	236	251	237	298	166	367	94	95	27
7	11	16	189	206	229	249	271	143	236	76	78	27
8	14	16	177	181	211	376	246	141	539	45	71	29
9	11	14	216	215	178	405	224	258	703	997	101	48
10	10	16	818	265	197	379	208	340	364	700	79	49
11	12	23	429	229	152	1100	212	284	251	1760	81	131
12	14	28	283	200	138	829	190	248	192	934	304	62
13	18	28	397	211	129	609	165	220	156	510	148	43
14	28	22	739	383	260	471	153	214	126	325	160	37
15	33	19	558	411	474	386	149	183	124	281	102	33
16	84	23	371	e290	1510	314	134	176	136	578	85	29
17	36	24	275	e210	1020	296	131	144	94	308	72	27
18	21	25	225	e170	914	422	165	160	79	242	70	24
19	16	22	167	e175	1060	1400	138	158	83	182	59	28
20	13	18	139	e180	1040	1260	127	123	85	139	56	34
21	14	21	145	211	719	793	176	103	68	115	46	27
22	15	216	133	164	621	611	451	89	59	101	39	29
23	13	338	332	252	541	568	321	80	49	97	36	38
24	12	145	838	905	630	455	278	75	50	440	34	33
25	12	88	466	565	722	468	261	82	81	510	30	25
26	11	60	315	412	1940	636	270	73	66	385	28	25
27	11	43	248	386	1270	968	340	65	51	2030	33	27
28	13	40	214	299	808	797	288	58	38	1820	63	33
29	12	41	547	231	961	607	250	51	34	787	159	28
30	15	35	538	229	---	510	225	97	30	454	67	23
31	15	---	394	199	---	664	---	119	---	312	46	---
TOTAL	503.3	1412	11969	8768	16976	18007	7876	4869	4599	14443	2992	1079
MEAN	16.2	47.1	386	283	585	581	263	157	153	466	96.5	36.0
MAX	84	338	1360	905	1940	1400	576	340	703	2030	304	131
MIN	5.8	14	41	164	129	237	127	51	30	28	28	23
CFSM	.12	.35	2.88	2.11	4.37	4.33	1.96	1.17	1.14	3.48	.72	.27
IN.	.14	.39	3.32	2.43	4.71	5.00	2.19	1.35	1.28	4.01	.83	.30

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

MEAN	118	239	407	421	490	587	450	325	207	162	129	81.0
MAX	608	1152	1027	861	1100	1477	879	676	730	629	586	533
(WY)	1955	1986	1973	1952	1986	1963	1973	1956	1981	1978	1956	1945
MIN	4.45	7.08	62.2	63.2	127	168	121	76.0	24.0	10.3	10.5	5.99
(WY)	1954	1954	1944	1977	1978	1990	1946	1982	1965	1953	1944	1953

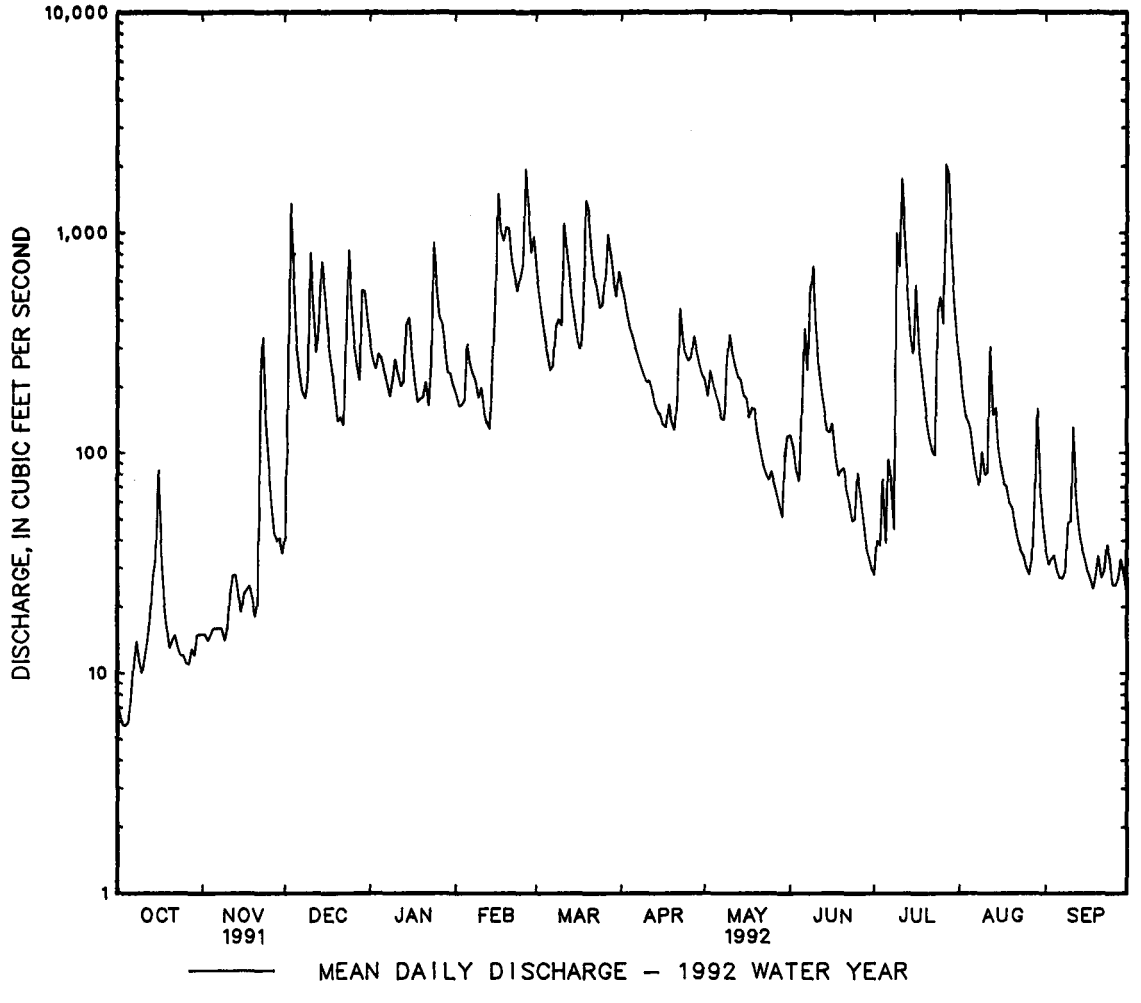
03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1942 - 1992	
ANNUAL TOTAL	85992.6		93493.3			
ANNUAL MEAN	236		255		301	
HIGHEST ANNUAL MEAN					390	1980
LOWEST ANNUAL MEAN					193	1947
HIGHEST DAILY MEAN	1840	Jan 17	2030	Jul 27	8570	Nov 5 1985
LOWEST DAILY MEAN	5.8	(a)	5.8	(a)	2.5	Oct 4 1953
ANNUAL SEVEN-DAY MINIMUM	6.6	Sep 29	7.2	Oct 1	2.7	Oct 2 1953
INSTANTANEOUS PEAK FLOW	2390	Jan 17	3090	Jul 27	b11800	Oct 16 1954
INSTANTANEOUS PEAK STAGE	5.67	Jan 17	6.35	Jul 27	12.16	Oct 16 1954
INSTANTANEOUS LOW FLOW	4.8	(c)	4.8	(c)	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.76		1.91		2.24	
ANNUAL RUNOFF (INCHES)	23.87		25.95		30.48	
10 PERCENT EXCEEDS	655		624		713	
50 PERCENT EXCEEDS	50		163		164	
90 PERCENT EXCEEDS	8.8		18		24	

a Oct. 3, 4.

b From rating curve extended above 7,000 ft^3/s.

c Oct. 3, 5.



03076000 DEEP CREEK RESERVOIR NEAR OAKLAND, MD

LOCATION.--Lat 39°30'34", long 79°23'28", Garrett County, Hydrologic Unit 05020006, on Deep Creek at dam, 1.8 mi upstream from mouth and 7.0 mi north of Oakland.

DRAINAGE AREA.--64.7 mi^2.

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385.

GAGE.--Water-stage recorder at right end of spillway. Datum of gage is at mean sea level, unadjusted.

REMARKS.--Reservoir is formed by an earthfill dam completed January 1925, with storage beginning at that time. Usable capacity, 92,975 acre-ft between elevations 2,425 ft, top of intake to outlet tunnel, and 2,462 ft, crest of spillway. Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power.

COOPERATION.--Elevations and capacity table furnished by Pennsylvania Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,800 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, 88,100 acre-ft, May 11, elevation, 2,460.7 ft; minimum, 71,100 acre-ft, Jan. 20, elevation, 2,456.0 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTBER 1991 TO SEPTEMBER 1992

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2457.1	75000	
Oct. 31	2456.5	72900	-2100
Nov. 30	2456.5	72900	0
Dec. 31	2456.7	73600	+700
CAL YR 1991			-300
Jan. 31	2456.2	71800	-1800
Feb. 29	2457.0	74700	+2900
Mar. 31	2459.6	84100	+9400
Apr. 30	2460.4	87000	+2900
May 31	2460.4	87000	0
June 30	2460.4	87000	0
July 31	2460.4	87000	0
Aug. 31	2459.7	84400	-2600
Sept. 30	2457.7	77100	-7300
WTR YR 1992			+2100

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi upstream from Bear Creek.

DRAINAGE AREA.--295 mi^2.

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. Annual maximum, water years 1905, 1923-31, 1940, published in WSP 1675. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi downstream at datum 16.24 ft and 16.29 ft lower, respectively.

REMARKS.--No estimated daily discharges. Records good. Low and medium flow regulated since July 1925 by Deep Creek Reservoir, 12 mi upstream from station (see station 03076000). U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

PEAK DISCHARGE FOR CURRENT YEAR.--Peak discharge 4,930 ft^3/s, July 27, gage height, 5.67 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	74	81	497	320	1090	1090	442	260	68	521	224
2	29	35	144	597	320	959	969	395	217	66	339	185
3	25	34	1850	688	351	755	800	454	177	140	320	220
4	69	30	1170	435	335	616	636	462	153	151	316	256
5	32	38	687	415	470	518	593	472	288	103	315	161
6	31	30	519	546	436	461	674	386	599	147	251	79
7	29	33	320	521	392	401	645	345	418	158	212	141
8	29	31	294	494	328	547	607	364	424	104	152	187
9	29	30	448	531	282	683	571	464	924	471	170	345
10	122	36	1140	626	344	751	554	575	547	1120	220	260
11	84	44	830	390	344	1590	446	630	413	1620	271	359
12	38	48	601	320	327	1470	392	557	342	1130	504	188
13	36	50	658	478	341	1150	404	515	248	640	374	115
14	35	49	1050	731	420	763	439	500	215	581	382	260
15	48	59	891	876	509	635	347	449	231	590	212	223
16	93	72	733	724	1970	579	326	331	203	592	179	237
17	107	76	574	637	1580	530	319	288	175	470	200	203
18	111	68	455	455	1370	681	319	363	145	318	228	236
19	49	64	376	359	1710	1900	302	460	181	257	272	80
20	40	43	439	365	2130	2120	321	317	149	315	218	76
21	97	47	268	376	1640	1330	343	375	136	188	220	162
22	44	234	240	370	1050	1040	706	270	154	192	103	253
23	33	613	344	448	942	988	589	173	104	143	90	222
24	33	299	1230	1340	1480	792	553	164	106	354	128	218
25	32	180	742	841	1650	767	478	220	128	735	162	237
26	38	129	508	634	3410	973	487	196	184	407	235	72
27	32	98	405	551	2790	1550	750	191	131	3200	142	73
28	31	91	348	515	2030	1340	711	175	94	3460	220	200
29	30	94	692	437	1490	1050	563	160	133	1370	437	197
30	73	92	960	421	---	936	511	158	74	788	214	140
31	46	---	763	410	---	1190	---	237	---	561	238	---
TOTAL	1557	2821	19760	17028	30761	30155	16445	11088	7553	20439	7845	5809
MEAN	50.2	94.0	637	549	1061	973	548	358	252	659	253	194
MAX	122	613	1850	1340	3410	2120	1090	630	924	3460	521	359
MIN	25	30	81	320	282	401	302	158	74	66	90	72
(†)	-34.2	0	+11.4	-29.3	+50.4	+153	+48.8	0	0	0	-42.3	-123
MEAN≠	16.1	94.0	648	520	1110	1126	597	358	252	659	211	71.0
CFSM≠	0.05	0.32	2.20	1.76	3.77	3.82	2.02	1.21	0.85	2.23	0.72	0.24
IN≠	0.06	0.36	2.54	2.03	4.07	4.40	2.25	1.40	0.95	2.57	0.83	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1992, BY WATER YEAR (WY)

MEAN	287	498	852	868	987	1199	942	685	488	371	293	231
MAX	1103	2190	2147	1664	2277	2644	2231	1564	1823	1335	1319	920
(WY)	1955	1986	1903	1952	1903	1963	1901	1967	1903	1990	1956	1945
MIN	50.2	55.7	145	140	337	285	342	176	84.2	64.6	51.0	49.8
(WY)	1992	1905	1944	1981	1954	1990	1946	1982	1969	1991	1991	1991

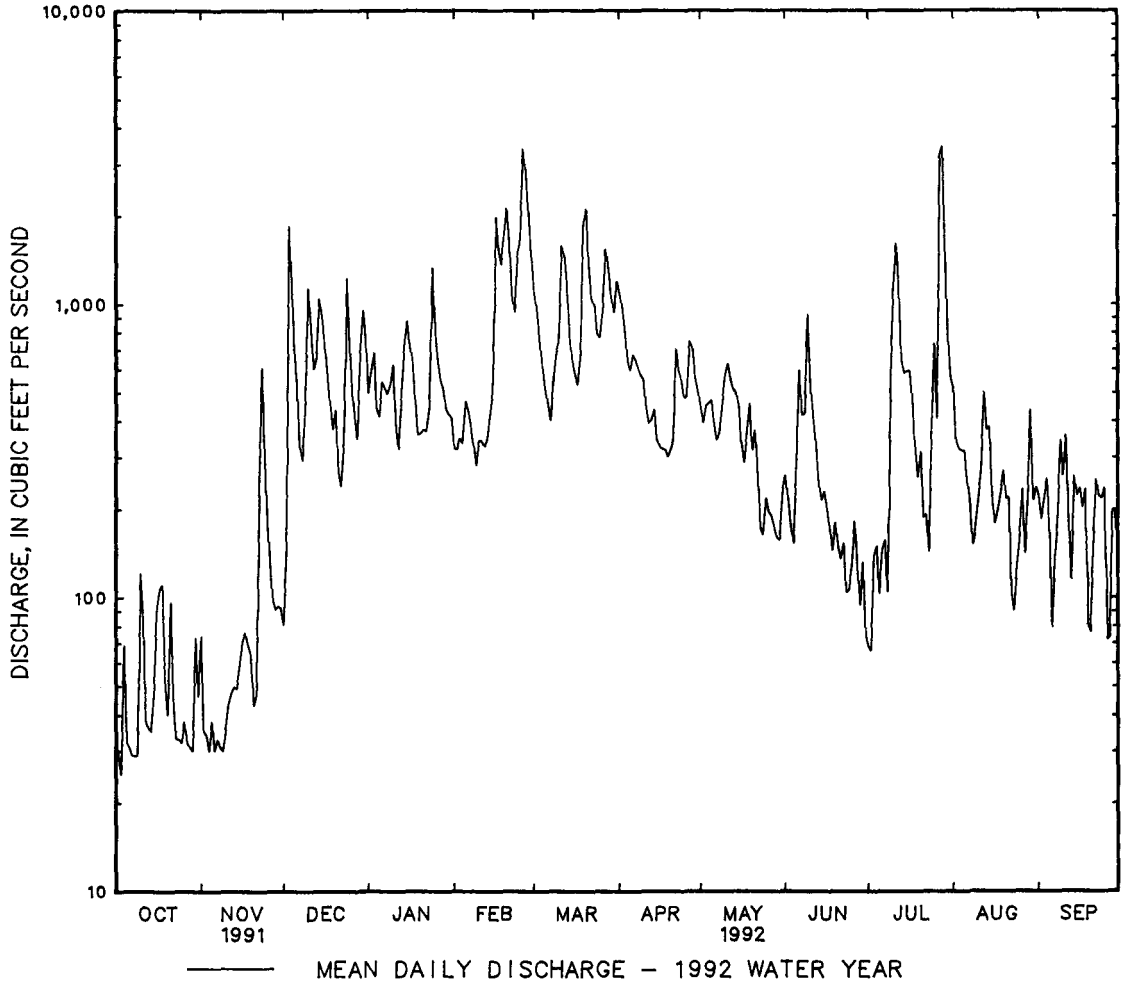
† Change in contents in Deep Creek Reservoir, equivalent in cubic feet per second, provided by Pennsylvania Electric Co.
≠ Adjusted for change in reservoir contents.

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1898 - 1992	
ANNUAL TOTAL	171003		171261			
ANNUAL MEAN	469		468		638	
ANNUAL MEAN≠	469		471		642	
HIGHEST ANNUAL MEAN					1052	1903
LOWEST ANNUAL MEAN					375	1954
HIGHEST DAILY MEAN	3350	Apr 14	3460	Jul 28	10000	Aug 6 1956
LOWEST DAILY MEAN	25	Oct 3	25	Oct 3	8.2	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	32	Nov 3	32	Nov 3	29	Sep 21 1972
INSTANTANEOUS PEAK FLOW	3850	Jan 17	4930	Jul 27	a15600	Mar 29 1924
INSTANTANEOUS PEAK STAGE	5.16	Jan 17	5.67	Jul 27	b4.20	Mar 29 1924
INSTANTANEOUS LOW FLOW	25	(c)	25	Oct 1	UNKNOWN	
ANNUAL RUNOFF (CFSM)≠	1.59		1.60		2.18	
ANNUAL RUNOFF (INCHES)≠	21.54		21.72		29.55	
10 PERCENT EXCEEDS	1250		1050		1410	
50 PERCENT EXCEEDS	160		341		408	
90 PERCENT EXCEEDS	33		49		105	

≠ Adjusted for change in reservoir contents since October 1940.

a From rating curve extended above 5,800 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks, site and datum then in use or 10.2 ft, present site and datum.
c Oct. 1, 3.



03076600 BEAR CREEK AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'22", long 79°23'41", Garrett County, Hydrologic Unit 05020006, on right bank 0.2 mi downstream from bridge on Accident-Friendsville Road, 0.6 mi downstream from South Branch Bear Creek, 0.8 mi southeast of Friendsville, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--48.9 mi^2.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,551.34 ft above National Geodetic Vertical Datum of 1929.

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 660 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	0615	*546	*3.60	No peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	3.0	8.1	83	58	201	270	79	34	14	46	20
2	2.5	3.0	33	73	52	168	239	70	29	21	37	17
3	2.5	3.0	178	67	53	138	189	82	24	19	31	16
4	2.4	3.0	90	64	52	112	160	66	25	16	39	16
5	2.5	2.7	53	59	76	93	139	65	60	15	32	14
6	4.9	2.9	45	54	76	81	114	61	80	37	24	13
7	3.9	2.8	39	50	69	83	105	53	60	19	21	12
8	3.1	2.7	41	46	66	97	96	60	57	15	19	13
9	2.9	2.7	58	49	57	104	89	112	52	21	30	14
10	2.9	4.3	159	49	e53	117	83	137	44	37	22	18
11	2.8	17	94	47	e51	294	92	137	38	100	59	18
12	3.3	9.0	67	44	49	265	79	122	35	56	53	13
13	3.6	6.9	69	46	46	311	70	104	31	43	39	11
14	3.4	5.8	84	79	57	177	67	88	29	39	33	9.9
15	11	5.5	78	e87	103	142	64	74	27	39	28	8.7
16	14	6.2	62	e83	333	116	61	65	23	34	26	8.8
17	6.3	7.4	54	e77	282	99	63	56	21	27	23	8.5
18	4.9	5.8	44	84	261	117	58	54	20	23	21	8.0
19	4.0	5.2	e39	e94	295	303	53	48	21	20	19	13
20	3.6	4.9	e49	e135	315	318	49	43	21	18	18	9.4
21	3.3	5.8	39	e122	248	260	58	38	19	18	15	9.1
22	3.2	92	31	58	198	216	82	35	17	17	14	10
23	3.2	62	58	121	177	181	66	33	15	17	13	13
24	3.3	30	115	270	182	145	69	35	19	30	12	8.7
25	5.2	12	87	195	181	150	75	34	23	24	11	8.0
26	4.1	11	69	132	479	248	92	31	22	24	10	9.2
27	3.5	14	57	96	377	405	110	29	20	232	15	10
28	3.4	11	53	84	280	357	110	26	15	187	66	9.9
29	3.3	9.6	112	73	260	282	97	24	13	98	49	8.1
30	3.0	8.2	128	66	---	249	89	34	13	67	32	7.0
31	3.0	---	101	65	---	278	---	37	---	53	24	---
TOTAL	125.6	359.4	2194.1	2652	4786	6107	2988	1932	907	1380	881	354.3
MEAN	4.05	12.0	70.8	85.5	165	197	99.6	62.3	30.2	44.5	28.4	11.8
MAX	14	92	178	270	479	405	270	137	80	232	66	20
MIN	2.4	2.7	8.1	44	46	81	49	24	13	14	10	7.0
CFSM	.08	.24	1.45	1.75	3.37	4.03	2.04	1.27	.62	.91	.58	.24
IN.	.10	.27	1.67	2.02	3.64	4.65	2.27	1.47	.69	1.05	.67	.27

e Estimated

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

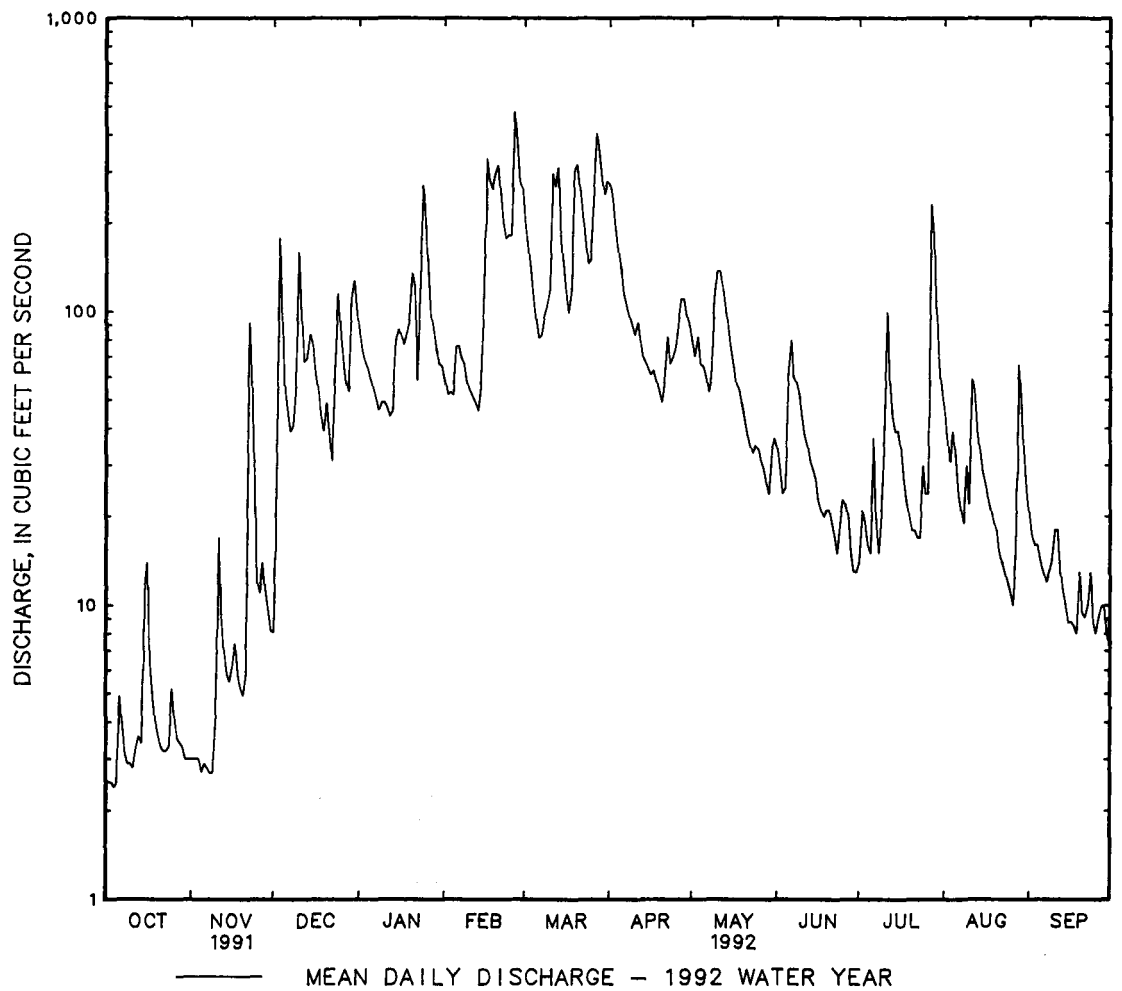
MEAN	37.4	72.0	122	108	153	182	153	102	53.7	53.9	31.4	31.2
MAX	187	341	293	248	387	347	293	215	153	274	117	256
(WY)	1980	1986	1991	1975	1986	1967	1984	1989	1981	1990	1980	1971
MIN	4.05	12.0	23.2	19.1	48.0	45.5	66.0	23.5	10.6	6.35	4.32	2.98
(WY)	1992	1992	1966	1977	1978	1990	1968	1982	1991	1965	1966	1991

03076600 BEAR CREEK AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1965 - 1992	
ANNUAL TOTAL	27587.3		24666.4			
ANNUAL MEAN	75.6		67.4		91.3	
HIGHEST ANNUAL MEAN					122	1978
LOWEST ANNUAL MEAN					53.4	1966
HIGHEST DAILY MEAN	798	Apr 14	479	Feb 26	3100	Sep 14 1971
LOWEST DAILY MEAN	2.3	Sep 10	2.4	Oct 4	1.6	(a)
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 29	2.8	Nov 3	2.0	Sep 7 1966
INSTANTANEOUS PEAK FLOW	1030	Apr 14	546	Feb 26	b4650	Sep 14 1971
INSTANTANEOUS PEAK STAGE	4.37	Apr 14	3.60	Feb 26	c9.60	Sep 14 1971
INSTANTANEOUS LOW FLOW	2.2	(d)	2.2	Oct 4	1.5	Sep 12 1966
ANNUAL RUNOFF (CFSM)	1.55		1.38		1.87	
ANNUAL RUNOFF (INCHES)	20.99		18.76		25.37	
10 PERCENT EXCEEDS	217		177		223	
50 PERCENT EXCEEDS	20		44		50	
90 PERCENT EXCEEDS	3.0		4.9		8.7	

a Sept. 12, 13, 1966.

b From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmarks.
d Sept. 10, 11, Oct. 4.



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 northeast of Grantsville.

DRAINAGE AREA.--62.5 mi^2.

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft above National Geodetic Vertical Datum of 1929.

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 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 26	0915	*1,130	*3.90	No other peak greater than base discharge.			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.7	14	102	e65	241	339	104	72	13	24	16
2	1.1	1.8	53	e80	e62	202	286	91	57	14	20	14
3	1.1	1.9	341	75	e64	169	244	126	42	16	17	13
4	1.1	1.8	136	102	e68	144	213	94	38	19	19	13
5	1.5	1.8	65	123	e80	124	193	85	85	15	21	12
6	2.1	1.8	45	92	e100	109	176	80	93	23	17	15
7	2.9	2.1	39	74	e84	130	162	68	62	20	13	15
8	2.6	2.1	50	62	e60	198	150	87	55	14	12	16
9	2.1	2.0	57	70	e74	208	131	266	57	16	41	22
10	2.1	4.9	166	79	e58	174	121	222	41	16	26	19
11	2.5	29	84	68	e52	481	130	157	35	95	23	34
12	2.6	17	56	59	e48	293	125	128	32	39	39	22
13	1.8	12	69	67	e90	217	101	111	29	30	24	16
14	1.7	11	101	141	e130	177	90	97	26	24	19	13
15	6.1	10	73	135	e200	159	83	86	25	26	17	12
16	9.8	13	53	93	357	139	77	82	22	26	16	11
17	4.9	14	48	87	213	162	72	72	21	21	15	9.9
18	3.1	11	42	84	211	247	70	67	20	16	15	9.2
19	2.0	9.5	45	80	311	323	71	60	21	13	14	12
20	2.0	8.5	38	e70	344	289	68	52	22	11	13	11
21	1.8	10	47	e65	235	216	133	44	21	11	11	11
22	1.8	160	42	e60	240	186	304	40	19	10	9.7	14
23	1.9	129	76	111	268	184	161	37	17	11	9.0	16
24	1.7	41	e130	255	376	165	141	39	20	23	8.3	13
25	1.6	26	e80	139	356	164	177	43	26	28	8.0	11
26	1.9	24	e70	108	816	267	194	36	27	19	7.3	11
27	1.9	17	e88	102	436	459	182	34	20	121	12	15
28	1.6	17	e92	e90	299	387	146	32	17	118	89	15
29	1.6	15	252	e80	349	287	123	30	14	42	96	12
30	1.7	14	201	e74	---	254	113	57	13	29	33	10
31	1.7	---	120	69	---	379	---	82	---	24	21	---
TOTAL	73.4	609.9	2773	2896	6046	7134	4576	2609	1049	903	709.3	433.1
MEAN	2.37	20.3	89.5	93.4	208	230	153	84.2	35.0	29.1	22.9	14.4
MAX	9.8	160	341	255	816	481	339	266	93	121	96	34
MIN	1.1	1.7	14	59	48	109	68	30	13	10	7.3	9.2
CFSM	.04	.33	1.43	1.49	3.34	3.68	2.44	1.35	.56	.47	.37	.23
IN.	.04	.36	1.65	1.72	3.60	4.25	2.72	1.55	.62	.54	.42	.26

e Estimated

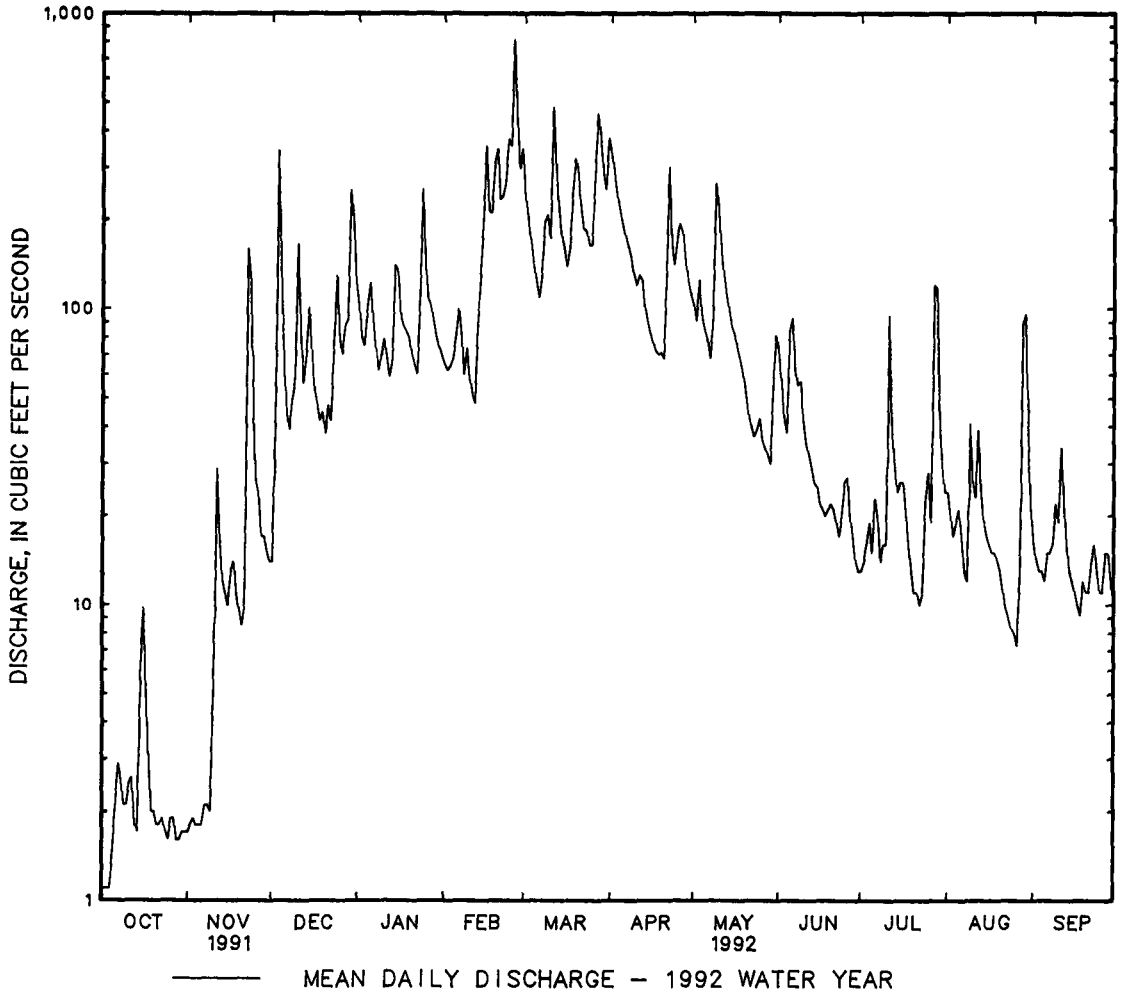
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1992, BY WATER YEAR (WY)

MEAN	48.0	85.8	148	156	196	258	209	135	72.4	49.0	36.5	30.8
MAX	288	449	341	333	414	582	468	287	200	169	202	236
(WY)	1955	1986	1973	1952	1956	1963	1970	1968	1951	1990	1956	1971
MIN	1.65	3.38	14.5	26.4	60.3	57.0	77.1	40.1	10.0	4.30	2.87	1.58
(WY)	1954	1954	1954	1977	1964	1990	1968	1976	1965	1965	1991	1991

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		WATER YEARS 1947 - 1992	
ANNUAL TOTAL	33270.41		29811.7			
ANNUAL MEAN	91.2		81.5		118	
HIGHEST ANNUAL MEAN					158	1971
LOWEST ANNUAL MEAN					64.2	1954
HIGHEST DAILY MEAN	835	Apr 14	816	Feb 26	2630	Oct 15 1954
LOWEST DAILY MEAN	.93	Sep 3	1.1	(a)	b.00	Aug 31 1962
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 25	1.6	Oct 1	.89	Aug 27 1962
INSTANTANEOUS PEAK FLOW	1100	Jan 16	1130	Feb 26	c8400	Oct 15 1954
INSTANTANEOUS PEAK STAGE	3.96	Jan 16	3.90	Feb 26	10.70	Oct 15 1954
INSTANTANEOUS LOW FLOW	.82	Sep 4	.95	Oct 5	b.00	(d)
ANNUAL RUNOFF (CFSM)	1.46		1.30		1.89	
ANNUAL RUNOFF (INCHES)	19.80		17.74		25.71	
10 PERCENT EXCEEDS	247		213		278	
50 PERCENT EXCEEDS	28		44		65	
90 PERCENT EXCEEDS	1.5		3.0		8.1	

a Oct. 1-4.
b Result of regulation from unknown source.
c From rating curve extended above 1,600 ft^3/s on basis of contracted-opening measurement at gage height 8.13 ft.
d Aug. 31 and Sept. 1, 1962.



As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations and the second is a table of annual maximum stage for tidal crest-stage stations.

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 1992 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
POTOMAC RIVER BASIN								
North Branch Potomac River at Kitzmiller, Md. (01595500)	Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi downstream from bridge on State Highway 38 in Kitzmiller. Drainage area is 225 mi^2.	1950-85≠, 1986-92	7-24-92	7.70	5,500	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≠, 1986-92	7-27-92	6.37	3,300	7-03-78	13.37	27,100
North Branch Potomac River at Pinto, Md. (01600000)	Lat 39°26'44", long 79°06'39", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland railroad bridge at Pinto, 2.8 mi downstream from Mill Run. Drainage area is 596 mi^2.	1939-85≠, 1986-92	2-26-92	6.33	4,220	10-16-54	23.23	37,000

≠ Operated as a continuous-record station.
a From floodmark

Tidal crest-stage partial-record stations

The following table contains annual maximum stages for tidal crest-stage stations. The informaton is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above National Geodetic Vertical Datum of 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 1992

Station No.	Station Name	Location	Period of Record	Annual Maximum Date	Annual Maximum Elevation, in feet NGVD
		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.	1985-92	01-04-92	5.35
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	01-04-92	5.73
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.	1985-92	10-31-91	4.45
01484680	Massey Ditch at Massey Landing, De.	Lat 38°37'31", long 75°06'00", Sussex County, Hydrologic Unit 02060010, just south of Rehoboth Bay at south shore of Roman T Pond, and on Massey Ditch at a boat dock at Massey Landing.	1992	10-31-91	4.44
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	10-31-91	5.21
		NANTICOKE RIVER BASIN			
01487200	Nanticoke River at Seaford, De.	Lat 38°38'25", long 75°36'37", Sussex County, Hydrologic Unit 02060008, on right bank attached to bulkhead at the City of Seaford Diesel Electric Power Plant, 300 ft downstream from Alternate U.S. Highway 13.	1992	11-01-91	3.65
01488110	Nanticoke River at Sharptown, Md.	Lat 38°32'38", long 75°43'13", Wicomico County, Hydrologic Unit 02060008, on left bank at upstream side of fishing pier (remains of old State Highway 313 bridge), at Sharptown.	1992	11-01-91	3.56

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 1991 TO SEPTEMBER 1992

MURDERKILL RIVER BASIN

01484050 - PRATT BRANCH NEAR FELTON, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991												
23...	1130	1.5	171	6.1	13.5	18.5	770	9.2	87	12	5.8	7.9

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991											
23...	2.4	13	16	18	15	<0.10	0.030	20	112	0.010	<0.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991											
23...	5.10	5.10	0.050	0.040	<0.20	0.020	<0.010	0.020	<10	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991											
23...	99	<0.5	10	<1.0	<5	<3	<10	67	<10	<4	29

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
23...	<0.1	<10	<10	<1	<1.0	180	<6	12	54	1.8	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991											
23...	<0.05	<0.05	0.10	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

INDIAN RIVER BASIN

01484550 - PEPPER CREEK AT DAGSBORO, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991 22...	1200	11	213	6.2	12.0	20.5	775	9.9	90	15	5.5	10

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991 22...	7.7	23	28	31	27	0.20	0.050	12	145	4.68	0.020	0.020

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 22...	4.60	4.70	0.200	0.240	5.3	9.9	0.050	0.010	<0.010	310	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 22...	92	0.5	20	<1.0	<5	<3	<10	800	<10	<4	64

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 22...	<0.1	<10	<10	<1	<1.0	61	<6	34	60	12	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 22...	<0.05	<0.05	<0.05	<0.20	<0.05	2.4	<0.05	<0.05	0.10	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN

01484980 - POCOMOKE RIVER AT CAREYTOWN, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991 22...	1420	42	141	6.0	13.0	23.0	770	4.9	46	10	3.6	8.0

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991 22...	5.2	16	20	17	15	0.20	0.030	20	105	3.28	0.020	0.020

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 22...	3.30	3.30	0.090	0.120	0.90	4.2	0.060	0.030	<0.010	240	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 22...	95	0.6	10	<1.0	<5	4	<10	370	<10	<4	110

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 22...	<0.1	<10	<10	<1	<1.0	78	<6	42	40	10	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 22...	<0.05	<0.05	<0.05	<0.20	<0.10	0.15	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN--Continued

01484985 - GREEN RUN NEAR CAREYTOWN, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1991 22...	1540	12	184	6.0	13.0	23.0	770	14	4.6	9.0	7.0	5

DATE	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 22...	6	21	18	0.20	0.030	19	118	4.79	0.020	0.010	4.80

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 22...	4.80	0.020	0.050	0.70	5.5	0.040	0.020	0.010	70	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 22...	94	<0.5	20	<1.0	<5	<3	<10	490	<10	<4	39

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 22...	<0.1	<10	<10	<1	<1.0	89	<6	17	54	7.2	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 22...	<0.05	<0.05	<0.05	<0.20	<0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN--Continued

01484989 - DAVIS DITCH NEAR CAREYTOWN, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
OCT 1991									
18...	1130	0.40	338	5.9	15.0	18.5	767	3.8	38
NOV									
15...	1600	0.08	256	6.5	13.5	19.5	--	5.5	--

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALA-CHLOR, WATER, DISS, REC, (UG/L)	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)
OCT 1991									
18...	6.26	0.040	6.30	0.280	1.4	0.030	<0.05	<0.05	<0.05
NOV									
15...	4.86	0.040	4.90	0.040	0.90	<0.010	0.07	<0.05	<0.05

DATE	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991									
18...	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05
NOV									
15...	<0.05	<0.20	<0.05	0.10	<0.05	<0.05	0.13	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN--Continued

01484990 - DAVIS DITCH AT CAREYTOWN, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991												
17...	1030	4.8	158	6.1	12.0	9.0	755	8.4	78	8.8	3.2	4.2
18...	0930	2.1	228	5.8	12.0	--	767	--	--	--	--	--
22...	1700	--	209	5.8	15.5	20.0	--	--	--	--	--	--
NOV												
15...	0830	0.33	187	6.0	9.5	12.5	768	6.1	53	--	--	--
DEC												
11...	0900	1.4	210	6.2	5.5	2.5	771	10.1	80	--	--	--
JAN 1992												
08...	0930	0.93	216	5.9	4.0	3.0	770	13.9	104	--	--	--
FEB												
05...	1100	0.25	177	6.8	5.0	--	760	10.8	85	--	--	--
MAR												
04...	1020	0.73	202	5.7	7.5	8.5	770	11.7	97	--	--	--
APR												
01...	0930	0.80	195	6.1	10.0	12.5	757	14.8	131	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991												
17...	13	24	29	23	16	0.20	0.030	8.9	100	1.48	0.030	0.020
18...	--	--	--	--	--	--	--	--	--	3.97	--	0.030
22...	--	--	--	--	--	--	--	--	--	3.38	0.020	0.020
NOV												
15...	--	--	--	--	--	--	--	--	--	--	--	<0.010
DEC												
11...	--	--	--	--	--	--	--	--	--	5.07	--	0.030
JAN 1992												
08...	--	--	--	--	--	--	--	--	--	6.18	--	0.020
FEB												
05...	--	--	--	--	--	--	--	--	--	3.59	--	0.010
MAR												
04...	--	--	--	--	--	--	--	--	--	6.08	--	0.020
APR												
01...	--	--	--	--	--	--	--	--	--	5.79	--	0.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)
OCT 1991												
17...	1.40	1.50	0.210	0.230	0.70	--	2.1	0.210	0.130	0.080	70	<1
18...	--	4.00	--	0.120	--	1.1	--	--	--	0.040	--	--
22...	3.40	3.40	0.030	0.050	0.60	--	4.0	<0.010	<0.010	<0.010	--	--
NOV												
15...	--	2.30	--	0.100	--	0.60	--	--	--	<0.010	--	--
DEC												
11...	--	5.10	--	0.090	--	0.80	--	--	--	0.020	--	--
JAN 1992												
08...	--	6.20	--	0.070	--	0.80	--	--	--	<0.010	--	--
FEB												
05...	--	3.60	--	0.100	--	0.40	--	--	--	0.020	--	--
MAR												
04...	--	6.10	--	0.080	--	0.60	--	--	--	<0.010	--	--
APR												
01...	--	5.80	--	0.100	--	0.80	--	--	--	<0.010	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN--Continued

01484990 - DAVIS DITCH AT CAREYTOWN, MD--Continued

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)
OCT 1991											
17...	<1	44	<0.5	<10	<1.0	<5	<3	<10	520	<10	<4
18...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
NOV											
15...	--	--	--	--	--	--	--	--	--	--	--
DEC											
11...	--	--	--	--	--	--	--	--	--	--	--
JAN 1992											
08...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
MAR											
04...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
17...	50	<10	<10	<1	<1.0	43	<6	34	35	11	<0.05
18...	--	--	--	--	--	--	--	--	--	--	<0.05
22...	--	--	--	--	--	--	--	--	--	--	<0.05
NOV											
15...	--	--	--	--	--	--	--	--	--	--	<0.05
DEC											
11...	--	--	--	--	--	--	--	--	--	--	<0.05
JAN 1992											
08...	--	--	--	--	--	--	--	--	--	--	<0.05
FEB											
05...	--	--	--	--	--	--	--	--	--	--	<0.05
MAR											
04...	--	--	--	--	--	--	--	--	--	--	<0.05
APR											
01...	--	--	--	--	--	--	--	--	--	--	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991											
17...	<0.05	0.07	0.07	<0.20	<0.05	0.20	<0.05	<0.05	<0.05	<0.05	<0.05
18...	<0.05	0.05	0.06	<0.20	<0.10	0.11	<0.05	<0.05	0.05	0.05	<0.05
22...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
NOV											
15...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DEC											
11...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 1992											
08...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05
FEB											
05...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAR											
04...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
APR											
01...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

POCOMOKE RIVER BASIN--Continued

382549075204102 - TILE DRAIN SOUTH AT DAVIS DITCH AT CAREYTOWN, MD

DATE	TIME	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALACHLOR, WATER, DISS, REC, (UG/L)	AMETRYN WATER, DISS, REC, (UG/L)	ATRAZINE, WATER, DISS, REC (UG/L)
OCT 1991 17...	1230	<0.010	0.630	<0.010	1.3	0.860	<0.05	<0.05	<0.05

DATE	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L)	CYANAZINE, WATER, DISS, REC (UG/L)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L)	METOLACHLOR WATER DISSOLV (UG/L)	METRIBUZIN SENCOR WATER DISSOLV (UG/L)	PROMETRYN, WATER, DISS, REC (UG/L)	PROMETON, WATER, DISS, REC (UG/L)	SIMAZINE, WATER, DISS, REC (UG/L)	PROPAZINE WATER DISS REC (UG/L)
OCT 1991 17...	<0.05	<0.20	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05

382549075204103 - TILE DRAIN NORTH AT DAVIS DITCH AT CAREYTOWN, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
OCT 1991 18...	0940	240	5.8	12.5	767	6.0	56	<0.010	2.90	0.050	1.0	0.070

DATE	ALACHLOR, WATER, DISS, REC, (UG/L)	AMETRYN WATER, DISS, REC, (UG/L)	ATRAZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L)	CYANAZINE, WATER, DISS, REC (UG/L)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L)	METOLACHLOR WATER DISSOLV (UG/L)	METRIBUZIN SENCOR WATER DISSOLV (UG/L)	PROMETRYN, WATER, DISS, REC (UG/L)	PROMETON, WATER, DISS, REC (UG/L)	SIMAZINE, WATER, DISS, REC (UG/L)	PROPAZINE WATER DISS REC (UG/L)
OCT 1991 18...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	0.98	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

WICOMICO RIVER BASIN

01486495 - BEAVERDAM CREEK AT MT HERMON, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1991 23...	0930	5.3	130	6.3	12.5	14.5	770	8.4	2.8	8.5	4.0	10

DATE	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 23...	12	9.0	13	<0.10	0.040	18	86	3.59	0.030	0.010	3.70

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 23...	3.60	0.020	0.040	0.50	4.2	0.020	0.020	0.010	150	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 23...	110	0.6	20	<1.0	<5	<3	<10	190	<10	<4	23

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	110	<6	13	33	8.9	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

NANTICOKE RIVER BASIN

01489995 - CHICAMACOMICO RIVER NEAR HAWKEYE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
OCT 1991 23...	1200	4.5	79	5.8	14.0	21.0	770	3.3	1.4	7.1	2.5

DATE	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 23...	6	7	4.5	12	<0.10	0.020	15	57	<0.010	<0.010	1.70

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT 1991 23...	1.70	<0.010	0.020	<0.20	<0.010	<0.010	<0.010	30	<1	<1	82

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)
OCT 1991 23...	0.6	<10	<1.0	<5	<3	<10	260	<10	<4	24	<0.1

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)	AMETRYN WATER, DISS, REC, (UG/L)
OCT 1991 23...	<10	<10	<1	<1.0	41	<6	13	14	2.3	<0.05	<0.05

DATE	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHOPTANK RIVER BASIN

01490600 - MEREDITH BRANCH NEAR SANDTOWN, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991 23...	0900	2.8	137	5.8	12.0	12.5	771	9.2	84	9.1	3.6	7.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991 23...	2.9	11	13	21	14	<0.10	0.020	21	95	0.010	<0.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 23...	1.90	1.90	0.090	0.080	<0.20	0.010	<0.010	<0.010	<10	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 23...	93	<0.5	<10	<1.0	<5	<3	<10	97	<10	5	49

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	130	<6	19	38	1.9	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	0.08	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHOPTANK RIVER BASIN--Continued

01491010 - SANGSTON PRONG NEAR WHITELEYSBURG, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991 23...	1000	0.68	144	6.1	13.5	15.5	770	8.0	76	10	3.3	8.9

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1991 23...	2.5	15	18	9.9	14	0.10	0.020	25	102	<0.010	<0.010

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 23...	4.40	4.30	0.020	0.020	<0.20	<0.010	<0.010	0.010	<10	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 23...	160	0.6	<10	<1.0	<5	8	<10	22	<10	4	16

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	190	<6	30	39	1.5	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHOPTANK RIVER BASIN--Continued

01491800 - KNOTT MILLPOND NEAR HILLSBORO, MD

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1991 23...	1530	5.5	145	6.8	15.0	23.0	770	8.9	5.8	5.5	3.7	14

DATE	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 23...	17	3.8	15	<0.10	0.020	14	93	6.09	0.020	0.010	6.90

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ANTIMONY, DISSOLVED (UG/L AS SB)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 1991 23...	6.10	<0.010	0.020	0.30	7.2	0.020	0.010	<0.010	<10	<1	<1

DATE	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 1991 23...	240	0.6	<10	<1.0	<5	<3	<10	28	<10	<4	10

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	HARDNESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	ALACHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	130	<6	8	46	1.9	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRAZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L)	CYANAZINE, WATER, DISS, REC (UG/L)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L)	METOLACHLOR WATER DISSOLV (UG/L)	METRIBUZIN SENCOR WATER DISSOLV (UG/L)	PROMETRYN, WATER, DISS, REC (UG/L)	PROMETON, WATER, DISS, REC (UG/L)	SIMAZINE, WATER, DISS, REC (UG/L)	PROPAZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	0.21	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHOPTANK RIVER BASIN--Continued

01492080 - CABIN CREEK AT CABIN CREEK, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1991 23...	1350	5.6	129	6.4	15.5	25.5	770	7.5	4.6	5.1	4.3	419

DATE	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 23...	20	2.4	9.8	<0.10	0.020	11	78	5.19	0.020	0.010	5.20

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991 23...	5.20	<0.010	0.030	0.30	5.5	<0.010	<0.010	<0.010	20	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991 23...	360	<0.5	<10	<1.0	<5	<3	<10	120	<10	<4	24

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 23...	<0.1	<10	<10	<1	<1.0	120	<6	6	38	3.1	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991 23...	<0.05	<0.05	0.05	<0.20	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN

01492960 - CYPRESS BRANCH NEAR VAN DYKE, DE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
DEC 1991									
10...	0930	0.81	89	6.2	8.0	10.0	765	7.4	63
JAN 1992									
07...	1000	0.05	125	5.9	3.5	7.0	762	5.2	39
FEB									
04...	1000	0.02	109	5.9	2.5	4.5	758	5.5	40
MAR									
03...	1000	0.08	92	5.6	6.5	7.5	766	9.8	79
30...	1100	0.14	83	6.5	9.5	12.0	761	12.5	110

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALA-CHLOR, WATER, DISS, REC, (UG/L)	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)
DEC 1991									
10...	--	<0.010	0.130	0.030	0.90	0.260	<0.05	<0.05	0.09
JAN 1992									
07...	0.510	0.010	0.520	0.050	0.40	0.070	<0.05	0.05	<0.05
FEB									
04...	--	<0.010	1.20	0.020	0.30	0.030	<0.05	<0.05	<0.05
MAR									
03...	--	<0.010	0.990	0.020	0.30	<0.010	<0.05	<0.05	<0.05
30...	--	<0.010	1.30	0.050	0.40	0.030	<0.05	<0.05	0.06

DATE	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
DEC 1991									
10...	0.08	<0.20	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 1992									
07...	<0.05	<0.20	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
FEB									
04...	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAR									
03...	0.06	<0.20	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
30...	0.07	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

01492971 - CYPRESS BRANCH NEAR MILLINGTON, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991												
02...	0730	--	271	5.7	16.5	18.0	765	5.5	56	--	--	--
02...	1230	--	273	5.4	18.0	26.0	767	8.6	91	--	--	--
22...	1500	0.00	241	5.5	17.5	20.0	761	9.6	101	23	10	8.0

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991												
02...	--	2	2	--	--	--	--	--	--	<0.010	<0.010	0.096
02...	--	2	2	--	--	--	--	--	--	<0.010	<0.010	0.080
22...	6.4	5	6	110	9.9	<0.10	<0.010	25	198	<0.010	<0.010	0.210

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC DIS-SOLVED (UG/L AS AS)
OCT 1991											
02...	0.110	0.040	0.020	0.60	0.70	0.220	0.010	<0.010	--	--	--
02...	0.080	0.030	0.010	0.70	0.78	0.140	0.010	<0.010	--	--	--
22...	0.190	0.070	0.060	1.0	1.2	0.170	0.030	0.010	20	<1	<1

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
22...	150	0.5	20	<1.0	<5	10	<10	65	<10	4	950

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.1	<10	<10	<1	<1.0	180	<6	63	99	4.9	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

01493110 - CHESTER RIVER TRIBUTARY AT CHESTERVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
OCT 1991												
15...	1000	0.51	175	6.1	13.0	16.0	761	5.7	54	15	6.0	4.5
17...	1140	--	56	6.9	9.0	9.5	--	--	--	--	--	--
NOV												
14...	0930	1.3	223	6.2	7.5	12.0	767	9.8	81	--	--	--
DEC												
09...	1100	0.51	171	6.3	12.0	21.0	763	8.1	75	--	--	--
JAN 1992												
06...	1100	0.54	174	5.5	9.0	6.5	760	11.8	102	--	--	--
FEB												
03...	1000	0.46	176	6.7	5.0	4.5	764	16.5	129	--	--	--
MAR												
02...	1100	0.55	171	5.9	9.0	21.0	767	13.5	117	--	--	--
30...	0930	0.77	175	6.3	10.0	13.5	761	12.8	113	--	--	--
MAY												
08...	1500	--	90	5.7	11.0	--	--	--	--	--	--	--

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)
OCT 1991												
15...	4.5	--	13	11	6.3	14	0.10	0.030	11	110	--	0.010
17...	--	--	--	--	--	--	--	--	--	--	0.720	--
NOV												
14...	--	--	--	--	--	--	--	--	--	--	9.58	--
DEC												
09...	--	--	--	--	--	--	--	--	--	--	9.38	--
JAN 1992												
06...	--	--	--	--	--	--	--	--	--	--	9.59	--
FEB												
03...	--	--	--	--	--	--	--	--	--	--	9.99	--
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
08...	--	11	--	--	--	--	--	--	--	--	2.78	--

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)
OCT 1991												
15...	<0.010	9.50	9.60	0.020	<0.010	<0.20	--	0.060	0.020	<0.010	10	<1
17...	0.010	--	0.730	--	0.070	--	0.90	--	--	0.520	--	--
NOV												
14...	0.020	--	9.60	--	0.050	--	0.60	--	--	0.180	--	--
DEC												
09...	0.020	--	9.40	--	0.020	--	<0.20	--	--	0.010	--	--
JAN 1992												
06...	0.010	--	9.60	--	0.010	--	<0.20	--	--	<0.010	--	--
FEB												
03...	0.010	--	10.0	--	<0.010	--	<0.20	--	--	<0.010	--	--
MAR												
02...	<0.010	--	10.0	--	0.020	--	<0.20	--	--	<0.010	--	--
30...	<0.010	--	10.0	--	0.040	--	<0.20	--	--	<0.010	--	--
MAY												
08...	0.020	--	2.80	--	0.280	--	0.90	--	--	0.100	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

01493110 - CHESTER RIVER TRIBUTARY AT CHESTERVILLE, MD--Continued

DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 1991												
15...	<1	150	0.7	<10	<1.0	<5	<3	<10	24	<10	<4	39
17...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
14...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
09...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 1992												
06...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
03...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
15...	<0.1	<10	<10	<1	<1.0	89	<6	17	62	5.2	0.19
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	--	--	--	--	--	--	--	--	--	--	0.11
DEC											
09...	--	--	--	--	--	--	--	--	--	--	0.20
JAN 1992											
06...	--	--	--	--	--	--	--	--	--	--	0.21
FEB											
03...	--	--	--	--	--	--	--	--	--	--	0.24
MAR											
02...	--	--	--	--	--	--	--	--	--	--	0.16
30...	--	--	--	--	--	--	--	--	--	--	0.35
MAY											
08...	--	--	--	--	--	--	--	--	--	--	--

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991											
15...	<0.05	0.06	0.14	<0.20	<0.05	0.14	<0.05	<0.05	<0.05	0.09	<0.05
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	<0.05	0.06	0.24	<0.20	0.35	0.28	<0.05	<0.05	<0.05	0.44	<0.05
DEC											
09...	<0.05	<0.05	0.09	<0.20	0.14	0.09	<0.05	<0.05	<0.05	0.06	<0.05
JAN 1992											
06...	<0.05	<0.05	0.10	<0.20	0.15	0.10	<0.05	<0.05	<0.05	0.06	<0.05
FEB											
03...	<0.05	<0.05	0.11	<0.20	0.15	0.09	<0.05	<0.05	<0.05	0.05	<0.05
MAR											
02...	<0.05	<0.05	0.09	<0.20	0.11	0.08	<0.05	<0.05	<0.05	0.07	<0.05
30...	<0.05	<0.05	0.12	<0.20	0.17	0.53	<0.05	<0.05	<0.05	0.09	<0.05
MAY											
08...	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

01493112 - CHESTER RIVER TRIBUTARY NEAR CRUMPTON, MD

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
OCT 1991												
02...	0630	--	154	6.7	15.0	15.0	765	7.3	72	--	--	--
02...	1130	--	143	6.2	16.5	27.5	767	9.9	101	--	--	--
17...	1600	--	154	6.6	10.5	9.0	--	--	--	--	--	--
22...	1330	4.6	143	6.2	13.5	19.5	761	10.6	101	14	5.3	6.4

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)
OCT 1991												
02...	--	24	29	--	--	--	--	--	--	5.97	0.030	0.030
02...	--	22	27	--	--	--	--	--	--	5.97	0.030	0.030
17...	--	--	--	--	--	--	--	--	--	3.36	--	0.040
22...	3.2	19	23	8.1	17	0.20	0.020	15	102	4.79	0.010	0.010

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ANTIMONY, DISSOLVED (UG/L AS SB)
OCT 1991												
02...	6.00	6.00	0.110	0.090	0.40	--	6.4	0.150	0.030	0.020	--	--
02...	5.90	6.00	0.090	0.080	0.30	--	6.2	0.060	0.020	0.020	--	--
17...	--	3.40	--	1.40	--	2.8	--	--	--	0.230	--	--
22...	5.00	4.80	0.030	0.030	0.60	--	5.6	0.020	<0.010	<0.010	<10	<1

DATE	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 1991												
02...	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
22...	<1	78	0.5	<10	<1.0	<5	<3	<10	86	<10	<4	71

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

01493112 - CHESTER RIVER TRIBUTARY NEAR CRUMPTON, MD--Continued

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	HARD-NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALA-CHLOR, WATER, DISS, REC, (UG/L)
OCT 1991											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.1	<10	<10	<1	<1.0	77	<6	17	57	2.3	<0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRA-ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L)	CYANA-ZINE, WATER, DISS, REC (UG/L)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L)	METO-LACHLOR WATER DISSOLV (UG/L)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L)	PRO-METRYN, WATER, DISS, REC (UG/L)	PRO-METON, WATER, DISS, REC (UG/L)	SI-MAZINE, WATER, DISS, REC (UG/L)	PROP-AZINE WATER DISS REC (UG/L)
OCT 1991											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
22...	<0.05	<0.05	0.09	<0.20	<0.05	0.10	<0.05	<0.05	<0.05	0.18	<0.05

01493490 - MORGAN CREEK AT BLACKS, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1991							
11...	1030	222	7.1	16.5	18.5	5.3	62

DATE	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 1991							
11...	76	0.020	<0.050	0.100	0.80	<0.010	10

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

0149349040 - GOOSE POND AT BLACKS, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DISSOLVED (MG/L)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3
JUN 1992 09...	1330	170	10.3	29.0	26.0	14.6	32

DATE	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
JUN 1992 09...	39	0.043	0.010	0.053	0.020	4.1	0.440

0149349050 - MORGAN CREEK NEAR BLACKS, MD

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DISSOLVED (MG/L)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3
JUN 1992 09...	1630	19	301	6.7	19.0	25.5	5.5	60

DATE	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
JUN 1992 09...	73	5.50	0.100	5.60	0.490	0.80	0.030

01493492 - NAU POND NEAR BLACKS, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DISSOLVED (MG/L)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3
JUN 1992 09...	0930	348	9.2	25.0	24.5	7.4	68

DATE	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
JUN 1992 09...	83	0.010	<0.050	0.030	3.9	0.480

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

0149349210 - MORGAN CREEK TRIBUTARY NEAR BLACKS, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER WH IT FIELD MG/L AS HCO3
APR 1992 03...	1300	208	6.3	10.5	9.5	17	21

0149349295 - MORGAN CREEK NEAR HARMONY CORNER, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER WH IT FIELD MG/L AS HCO3
JUN 1992 08...	1700	153	7.0	21.0	24.5	33	40

DATE	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
JUN 1992 08...	1.99	0.110	2.10	0.160	0.80	0.030

01493493 - MORGAN CREEK AT HARMONY CORNER, MD

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	BICARBONATE WATER WH IT FIELD MG/L AS HCO3
SEP 1992 10...	1300	0.07	103	6.3	20.5	6.5	15

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
SEP 1992 10...	<0.010	2.40	0.090	<0.20	<0.010	2.8

391819075580301 - PRECIPITATION NEAR MORGAN CREEK

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
OCT 1991 17...	1130	15	4.5	9.5	<0.010	0.110	0.180	0.20	0.020

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

CHESTER RIVER BASIN--Continued

391820075580101 - RUNOFF, WHEAT FIELD NEAR MORGAN CREEK

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
OCT 1991											
17...	1230	193	6.9	9.5	9.5	0.470	0.030	0.500	0.120	2.3	3.10

391820075580501 - RUNOFF, COW PASTURE NEAR MORGAN CREEK

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)
OCT 1991											
17...	1300	195	7.0	10.0	9.5	1.08	0.020	1.10	0.110	1.4	1.30

01493495 - MORGAN CREEK NEAR LOCUST GROVE, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)
OCT 1991							
10...	1745	--	--	--	--	--	2.37
17...	1105	130	6.6	10.0	9.5	--	1.08
MAR 1992							
06...	1100	154	6.4	9.0	10.0	31	2.58
MAY							
08...	1400	117	6.0	10.5	--	32	1.17

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 1991						
10...	0.030	2.40	0.020	0.30	<0.010	2.8
17...	0.020	1.10	0.100	0.60	0.04	11
MAR 1992						
06...	0.020	2.60	0.05	0.20	<0.010	--
MAY						
08...	0.030	1.20	0.290	0.90	0.020	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

BOHEMIA RIVER BASIN

01495935 - LITTLE BOHEMIA CREEK NEAR WARWICK, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
OCT 1991 22...	1100	167	6.0	10.0	19.0	761	7.0	62	15	3.5	4.8	3.4

DATE	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICARBONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1991 22...	23	28	2.9	11	0.10	0.020	11	91	5.69	0.010	0.010	5.80

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ANTIMONY, DISSOLVED (UG/L AS SB)	ARSENIC DISSOLVED (UG/L AS AS)
OCT 1991 22...	5.70	0.050	0.040	0.50	6.3	0.040	0.020	<0.010	20	<1	<1

DATE	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	BORON, DISSOLVED (UG/L AS B)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 1991 22...	93	<0.5	<10	<1.0	<5	<3	<10	140	<10	<4	65

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	HARDNESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	ALACHLOR, WATER, DISS, REC, (UG/L)
OCT 1991 22...	<0.1	<10	<10	<1	<1.0	67	<6	16	52	1.4	0.05

DATE	AMETRYN WATER, DISS, REC, (UG/L)	ATRAZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L)	CYANAZINE, WATER, DISS, REC (UG/L)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L)	METOLACHLOR WATER DISSOLV (UG/L)	METRIBUZIN SENCOR WATER DISSOLV (UG/L)	PROMETRYN, WATER, DISS, REC (UG/L)	PROMETON, WATER, DISS, REC (UG/L)	SIMAZINE, WATER, DISS, REC (UG/L)	PROPAZINE WATER DISS REC (UG/L)
OCT 1991 22...	<0.05	<0.05	0.14	<0.20	<0.10	0.06	<0.05	<0.05	<0.05	0.17	<0.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

SEVERN RIVER BASIN

385706076263101 - MOUTH OF THE SEVERN RIVER AT BUOY NUMBER 4

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	BROMIDE DISSOLVED (MG/L AS BR)
OCT 1991 30...	1115	25300	7.7	15.5	16.0	6400	24

SOUTH RIVER BASIN

385602076304601 - HARNESS CREEK NEAR ANNAPOLIS, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	BROMIDE DISSOLVED (MG/L AS BR)
OCT 1991 30...	1010	23800	7.7	15.0	15.0	6300	29

385409076285001 - MOUTH OF THE SOUTH RIVER AT BUOY NUMBER 4

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)	BROMIDE DISSOLVED (MG/L AS BR)
OCT 1991 30...	1045	23800	7.9	15.0	17.0	6200	24

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN

01591510 - PATUXENT RIVER TRIBUTARY NEAR DAYTON, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TEMPER-ATURE AIR (DEG C)	TUR-BID-ITY (NTU)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 1990									
31...	0830	0.01	221	6.1	8.0	9.0	3.0	21	11
NOV									
10-10	0427	0.08	--	--	--	--	--	--	--
NOV									
10-10	1005	0.30	--	--	--	--	--	--	--
27...	1200	0.01	212	6.4	11.0	13.0	1.6	17	--
DEC									
26...	1345	0.02	219	5.9	5.0	5.0	5.4	17	11
JAN 1991									
29...	1100	0.03	223	5.8	7.0	8.0	19	125	10
FEB									
26...	1200	0.02	--	6.1	7.0	4.0	2.8	125	11
MAR									
26...	1400	0.03	209	6.3	12.0	13.0	5.2	15	13
MAY									
06...	0900	0.02	206	6.3	13.0	19.0	8.6	20	11
29...	0845	0.01	214	6.5	5.5	24.0	4.0	19	12
JUN									
20...	0800	0.01	218	6.4	16.0	18.5	1.9	21	17
JUL									
22...	1030	--	211	6.7	22.0	27.0	2.3	36	13

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT 1990								
31...	<1	7.39	0.012	7.40	0.008	0.15	<0.10	7.6
NOV								
10-10	--	--	--	--	--	--	--	--
NOV								
10-10	--	--	--	--	--	--	--	--
27...	1	7.89	0.011	7.90	0.012	0.25	0.20	8.1
DEC								
26...	2	8.19	0.010	8.20	0.028	0.35	0.20	8.5
JAN 1991								
29...	20	8.79	0.007	8.80	0.020	0.90	0.20	9.7
FEB								
26...	2	9.09	0.006	9.10	0.024	0.25	0.15	9.3
MAR								
26...	5	7.99	0.006	8.00	--	0.10	0.10	8.1
MAY								
06...	6	7.90	--	7.90	--	--	--	--
29...	4	8.26	0.035	8.30	0.064	0.45	0.15	8.7
JUN								
20...	6	8.37	0.033	8.40	0.036	0.80	0.40	9.2
JUL								
22...	3	4.80	--	4.80	0.042	0.80	0.70	5.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01591510 - PATUXENT RIVER TRIBUTARY NEAR DAYTON, MD--Continued

DATE	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHEO-PHYTIN PHYTO-PLANK-TON, ACID M. (UG/L)	CHLORO-PHYLL A PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL B PHYTO-PLANK-TON, UNCORR. (UG/L)	CHLORO-PHYLL C PHYTO-PLANK-TON, UNCORR. (UG/L)
OCT 1990									
31...	0.030	0.020	0.010	1.8	1.9	--	--	--	--
NOV									
10-10	--	--	--	--	--	--	--	--	--
NOV									
10-10	--	--	--	--	--	--	--	--	--
27...	0.020	0.020	<0.001	3.6	3.0	--	--	--	--
DEC									
26...	0.100	0.040	0.010	1	1	--	--	--	--
JAN 1991									
29...	0.130	0.020	0.006	2.6	6.0	0.179	6.93	0.153	1.09
FEB									
26...	0.020	<0.010	0.008	2.0	2.2	0.015	2.40	0.302	1.44
MAR									
26...	<0.010	<0.010	0.005	1.0	1.1	0.149	1.03	--	--
MAY									
06...	0.060	0.010	0.024	1.9	1.8	0.853	2.90	0.361	1.03
29...	0.050	0.010	0.010	1.3	1.2	--	--	--	--
JUN									
20...	0.060	0.020	0.020	1.3	1.3	--	--	--	--
JUL									
22...	0.120	0.060	0.012	2.6	2.7	0.015	1.38	0.019	0.119

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990						
31...	0830	--	--	0.01	1	<0.01
NOV						
10-10	0427	901110	0816	0.08	67	0.01
NOV						
10-10	1005	901110	1732	0.30	8410	6.8
27...	1200	--	--	0.01	3	<0.01
DEC						
26...	1345	--	--	0.02	2	<0.01
JAN 1991						
29...	1100	--	--	0.03	26	<0.01
FEB						
26...	1200	--	--	0.02	10	<0.01
MAR						
26...	1400	--	--	0.03	3	<0.01
MAY						
06...	0900	--	--	0.02	21	<0.01
29...	0845	--	--	0.01	3	<0.01
JUN						
20...	0800	--	--	0.01	1	<0.01
JUL						
22...	1030	--	--	--	4	<0.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01593655 - AGRICULTURAL RUNOFF SITE NEAR CLARKSVILLE, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TUR-BID-ITY (NTU)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT 1990									
18-18	1626	1.3	1900	2.1	2300	2.08	0.018	2.10	0.168
OCT									
18-18	1634	0.25	1300	2.6	960	2.17	0.025	2.20	0.132
OCT									
23-23	0908	0.18	870	4.1	650	0.985	0.015	1.00	0.052
OCT									
23-23	1142	0.23	520	4.9	430	0.886	0.014	0.900	0.032
OCT									
23-23	1208	1.4	1700	3.2	1550	0.728	0.012	0.740	0.040
OCT									
23-23	1223	2.0	910	3.0	750	0.707	0.013	0.720	0.040
OCT									
23-23	1316	0.10	340	4.1	340	0.785	0.015	0.800	0.060
NOV									
10-10	0528	0.20	--	--	--	--	--	--	--
NOV									
10-10	1010	2.1	--	--	--	--	--	--	--
NOV									
10-10	1125	0.47	--	--	--	--	--	--	--
DEC									
23...	1810	0.68	--	--	--	--	--	--	--
DEC									
23-23	1818	0.40	--	--	--	--	--	--	--
23...	1902	0.07	--	--	--	--	--	--	--
23...	2352	0.07	--	--	--	--	--	--	--
DEC									
30-30	0909	0.25	--	--	--	--	--	--	--
DEC									
30-30	1030	0.44	--	--	--	--	--	--	--
DEC									
30-30	2104	1.3	--	--	--	--	--	--	--
DEC									
30-30	2112	0.81	--	--	--	--	--	--	--
JAN 1991									
11-11	2043	1.1	--	1.8	26	--	--	--	--
JAN									
11-11	2130	0.89	--	1.8	16	--	--	--	--
12...	1503	0.11	--	--	--	--	--	--	--
MAR									
23-23	0948	0.20	1200	--	1000	--	--	--	--
MAR									
23-23	1153	0.38	640	--	190	--	--	--	--
MAR									
23-23	1246	0.17	320	--	320	--	--	--	--
AUG									
20...	0933	3.6	--	--	--	--	--	--	--
20...	0934	3.8	--	--	--	--	--	--	--
20...	0936	3.3	--	--	--	--	--	--	--
20...	0938	2.5	--	--	--	--	--	--	--
20...	0940	2.2	--	--	--	--	--	--	--
20...	0943	1.2	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01593655 - AGRICULTURAL RUNOFF SITE NEAR CLARKSVILLE, MD--Continued

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 1990								
18-18	12	2.0	14	4.90	0.900	0.800	70	19
OCT								
18-18	7.3	2.3	9.5	3.70	1.20	1.10	60	19
OCT								
23-23	2.6	0.50	3.6	3.00	1.10	1.00	33	15
OCT								
23-23	1.8	0.60	2.8	2.20	1.10	1.00	29	15
OCT								
23-23	4.1	0.30	4.8	4.20	1.00	0.900	30	9.6
OCT								
23-23	2.5	0.35	3.2	3.00	1.00	0.900	22	9.8
OCT								
23-23	2.5	0.70	3.3	2.30	1.30	1.20	24	15
NOV								
10-10	--	--	--	--	--	--	--	--
NOV								
10-10	--	--	--	--	--	--	--	--
NOV								
10-10	--	--	--	--	--	--	--	--
DEC								
23...	--	--	--	--	--	--	--	--
DEC								
23-23	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
DEC								
30-30	--	--	--	--	--	--	--	--
DEC								
30-30	--	--	--	--	--	--	--	--
DEC								
30-30	--	--	--	--	--	--	--	--
DEC								
30-30	--	--	--	--	--	--	--	--
JAN 1991								
11-11	--	--	--	--	--	--	4.8	4.6
JAN								
11-11	--	--	--	--	--	--	4.9	5.9
12...	--	--	--	--	--	--	--	--
MAR								
23-23	5.8	--	--	2.40	--	--	31	--
MAR								
23-23	2.6	--	--	1.40	--	--	19	--
MAR								
23-23	2.0	--	--	1.00	--	--	17	--
AUG								
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01593655 - AGRICULTURAL RUNOFF SITE NEAR CLARKSVILLE, MD--Continued

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990						
18-18	1626	901018	1631	1.3	4370	15
OCT						
23-23	0908	901023	0945	0.18	850	0.41
OCT						
23-23	1208	901023	1221	1.4	2140	8.2
OCT						
23-23	1223	901023	1238	2.0	998	5.4
NOV						
10-10	0528	901110	1008	0.20	160	0.09
NOV						
10-10	1010	901110	1026	2.1	427	2.4
NOV						
10-10	1125	901110	1215	0.47	94	0.12
DEC						
23...	1810	--	--	0.68	975	1.8
DEC						
23-23	1818	901223	1830	0.40	568	0.61
23...	1902	--	--	0.07	176	0.03
23...	2352	--	--	0.07	154	0.03
DEC						
30-30	0909	901230	1013	0.25	42	0.03
DEC						
30-30	1030	901230	1127	0.44	77	0.09
DEC						
30-30	2104	901230	2108	1.3	1170	4.0
DEC						
30-30	2112	901230	2135	0.81	729	1.6
JAN 1991						
11-11	2043	910111	2125	1.1	24	0.07
JAN						
11-11	2130	910111	2158	0.89	19	0.05
12...	1503	--	--	0.11	42	0.01
MAR						
23-23	0948	910323	1140	0.20	1240	0.67
MAR						
23-23	1153	910323	1232	0.38	548	0.56
MAR						
23-23	1246	910323	1421	0.17	255	0.12
AUG						
20...	0933	--	--	3.6	2380	23
20...	0934	--	--	3.8	2000	20
20...	0936	--	--	3.3	1470	13
20...	0938	--	--	2.5	1240	8.4
20...	0940	--	--	2.2	1410	8.4
20...	0943	--	--	1.2	809	2.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01594705 - AGRICULTURAL RUNOFF SITE AT BARSTOW, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TUR-BID-ITY (NTU)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 1990							
23...	0914	0.30	2200	1.2	1510	0.489	0.021
23...	0923	0.10	1500	1.2	710	0.400	0.040

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1990									
23...	0.510	0.204	10	0.16	11	7.30	0.010	1.00	50
23...	0.440	0.176	2.9	--	3.3	4.80	--	1.30	39

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 1990				
23...	0914	0.30	2610	2.1
23...	0923	0.10	1350	0.36

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01594780 - AGRICULTURAL RUNOFF SITE NEAR ST. LEONARD, MD

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	TUR-BID-ITY (NTU)	SILICA, DIS-SOLVED (MG/L AS SIO2)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
JAN 1991										
09-09	0148	0.17	290	--	296	--	--	--	--	2.6
11...	1428	0.07	--	1.8	90	--	--	--	--	--
JAN										
11-11	1520	0.09	--	1.6	80	--	--	--	--	--
JAN										
11-11	1629	0.16	--	1.4	116	--	--	--	--	--
JAN										
11-11	1711	0.18	--	1.3	118	--	--	--	--	--
JAN										
11-11	1839	0.36	--	1.1	182	--	--	--	--	--
JAN										
11-11	1900	0.71	--	0.86	455	--	--	--	--	--
JAN										
11-11	1914	0.87	--	0.75	335	--	--	--	--	--
MAR										
18...	0918	0.06	210	--	132	--	--	--	--	2.2
29...	1603	0.12	--	--	--	--	--	--	--	--
29...	1638	0.08	--	--	--	--	--	--	--	--
29...	1741	0.04	--	--	--	--	--	--	--	--
29...	1928	0.03	--	--	--	--	--	--	--	--
JUN										
01-01	1539	--	--	--	--	--	--	--	--	--
JUN										
01-01	1541	--	--	--	--	--	--	--	--	--
JUN										
01-01	1543	--	--	--	--	--	--	--	--	--
JUN										
01-01	1545	--	--	--	--	--	--	--	--	--
JUN										
01-01	1547	--	--	--	--	--	--	--	--	--
JUN										
01-01	1549	--	--	--	--	--	--	--	--	--
JUL										
02...	0331	1.1	1300	0.64	2510	1.13	0.066	1.20	0.396	7.3
02...	0440	0.06	720	0.86	1040	1.23	0.067	1.30	0.368	4.6
AUG										
09...	1859	0.99	--	--	--	--	--	--	--	--
AUG										
09-09	1901	0.91	--	--	--	--	--	--	--	--
AUG										
09-09	1911	0.34	--	--	--	--	--	--	--	--
AUG										
09-09	2003	0.29	--	--	--	--	--	--	--	--
AUG										
09-09	2015	1.2	--	--	--	--	--	--	--	--
AUG										
09-09	2020	0.23	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01594780 - AGRICULTURAL RUNOFF SITE NEAR ST. LEONARD, MD--Continued

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
JAN 1991						
09-09	--	0.700	--	--	6.7	--
11...	--	--	--	--	16	12
JAN						
11-11	--	--	--	--	15	12
JAN						
11-11	--	--	--	--	13	12
JAN						
11-11	--	--	--	--	11	10
JAN						
11-11	--	--	--	--	9.7	8.7
JAN						
11-11	--	--	--	--	--	6.9
JAN						
11-11	--	--	--	--	12	7.4
MAR						
18...	--	--	--	--	16	--
29...	--	--	--	--	--	--
29...	--	--	--	--	--	--
29...	--	--	--	--	--	--
29...	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUN						
01-01	--	--	--	--	--	--
JUL						
02...	8.5	2.60	--	0.096	18	--
02...	6.0	1.40	--	0.158	17	--
AUG						
09...	--	--	--	--	--	--
AUG						
09-09	--	--	--	--	--	--
AUG						
09-09	--	--	--	--	--	--
AUG						
09-09	--	--	--	--	--	--
AUG						
09-09	--	--	--	--	--	--
AUG						
09-09	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

PATUXENT RIVER BASIN--Continued

01594780 - AGRICULTURAL RUNOFF SITE NEAR ST. LEONARD, MD--Continued

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	ENDING DATE	ENDING TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JAN 1991						
09-09	0148	910109	0311	0.17	278	0.13
MAR						
18...	0918	--	--	0.06	227	0.04
29...	1603	--	--	0.12	173	0.06
29...	1638	--	--	0.08	128	0.03
29...	1741	--	--	0.04	95	0.01
29...	1928	--	--	0.03	79	0.01
JUN						
01-01	1539	910601	1540	--	19500	--
JUN						
01-01	1541	910601	1542	--	18800	--
JUN						
01-01	1543	910601	1544	--	14600	--
JUN						
01-01	1545	910601	1546	--	10800	--
JUN						
01-01	1547	910601	1548	--	7560	--
JUN						
01-01	1549	910601	1550	--	6170	--
JUL						
02...	0331	--	--	1.1	3070	9.4
02...	0440	--	--	0.06	1070	0.17
AUG						
09...	1859	--	--	0.99	236	0.63
AUG						
09-09	1901	910809	1907	0.91	129	0.32
AUG						
09-09	1911	910809	1936	0.34	74	0.07
AUG						
09-09	2003	910809	2012	0.29	82	0.06
AUG						
09-09	2015	910809	2017	1.2	81	0.27
AUG						
09-09	2020	910809	2122	0.23	48	0.03

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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