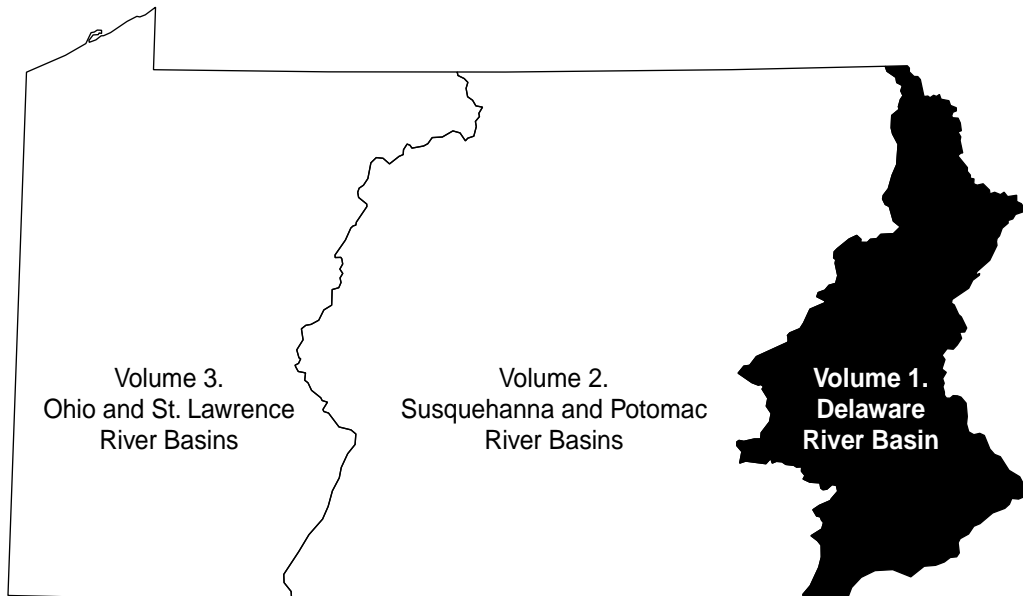


Water Resources Data Pennsylvania Water Year 2002

Volume 1. Delaware River Basin

By R.R. Durlin and W.P. Schaffstall

Water-Data Report PA-02-1



Prepared in cooperation with the Pennsylvania Department of Environmental Protection, the Philadelphia District of the U.S. Army Corps of Engineers, the Chester County Water Resources Authority, and with other State, municipal, and Federal agencies.



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2003

PREFACE

This volume of the annual hydrologic data report of Pennsylvania 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 Pennsylvania are contained in 3 volumes.

- Volume 1. Delaware River Basin
- Volume 2. Susquehanna and Potomac River Basins
- Volume 3. Ohio and St. Lawrence River Basins

Volume 1 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of William H. Werkheiser, District Chief, Pennsylvania District; Robert A. Hainly, Assistant District Chief for Hydrologic Surveillance and Data Management; Randall R. Durlin, Chief of the Hydrologic Surveillance Program, New Cumberland District Office, and William P. Schaffstall, Chief, Williamsport Project Office. It is the product of a team effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized these 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 these data:

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13. ABSTRACT <i>(Maximum 200 words)</i> Water resources data for the 2002 water year for Pennsylvania consist of records of discharge and water quality of streams; contents and elevations of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, Volume 1 contains (1) discharge records for 80 continuous-record streamflow-gaging stations, 8 partial-record stations, 19 special-study and miscellaneous streamflow sites, and 39 low-flow miscellaneous streamflow sites; (2) elevation and contents records for 13 lakes and reservoirs; (3) water-quality records for 38 gaging stations and 14 ungaged streamsites; (4) water-quality records for 47 special-study stations; (5) water-level records for 63 network observation wells; and (6) water-quality analyses of ground water from 55 ground-water wells. Site locations are shown in figures 6-14. Additional water data collected at various sites not involved in the systematic data-collection program are also presented. These data together with the data in Volumes 2 and 3, represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Pennsylvania.			
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after station name designate type of data: (d) discharge, (c) chemical, (sc) specific conductance, (pH), (t) water temperature, (do) dissolved oxygen, (%) dissolved oxygen, % saturation, (b) biological, (turb) turbidity, (e) elevation, gage heights, or contents.]

NORTH ATLANTIC SLOPE BASINS

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DELAWARE RIVER BASIN		
West Branch Delaware River at Hancock, N.Y. (t)	01427000	48
Delaware River at Callicoon, N.Y. (d,c,t)	01427510	50
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LACKAWAXEN RIVER BASIN		
West Branch Lackawaxen River near Aldenville (d,t)	01428750	60
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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Marsh Creek near Downingtown (d)	01480685	362
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<hr/>		
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GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after local well number designate type of data: (l) water level, (c) chemical.]

GROUND-WATER RECORDS

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BERKS COUNTY	
Well 402615075530501 Local number BE 623 (l)	456
BUCKS COUNTY	
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Well 395201075363001 Local number CH 6516 (l)	469
Well 400247075532401 Local number CH 6517 (l)	469
Well 394903075581901 Local number CH 6518 (l)	470
Well 395634075442601 Local number CH 6519 (l)	470

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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The following continuous-record surface-water discharge stations (listed by downstream order) have been discontinued. Daily streamflow records were collected and published for the period of record shown for each station. Discontinued stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back of the title page of this report.

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
DELAWARE RIVER BASIN			
North Branch Calkins Creek near Damascus	01427650	7.02	1965-73
Lackawanna River at West Hawley	01430500	206	1922-37
Middle Creek near Hawley	01431000	78.4	1945-59
Stevens Creek near Sterling	01431620	0.68	1992-94
Ariel Creek near Ledgedale	01431673	15.6	1992-94
Unnamed tributary to Purdy Creek near Lakeville	01431683	0.34	1992-94
Purdy Creek at Lakeville	01431685	8.18	1992-94
Shohola Creek near Shohola	01432500	83.6	1920-28
Delaware River below Tocks Island Damsite, near Delaware Water Gap	01440200	3,850	1964-96
McMichaels Creek at Stroudsburg	01441000	65.3	1912-37
Pocono Creek near Stroudsburg	01441500	41.0	1912-19
Lehigh River at Tannery	01446500	322	1919-58
Martins Creek near East Bangor	01446600	10.4	1962-77
Dilldown Creek near Long Pond	01448500	2.39	1949-96
Wild Creek at Hatchery	01449500	16.8	1941-78
Pohopoco Creek near Parryville	01450000	109	1941-69
Little Lehigh Creek near East Texas	01451420	51.2	1987-94
East Branch Monocacy Creek near Bath	01452300	5.35	1963-68
Saucon Creek at Lanark	01453500	12.1	1948-53
South Branch Saucon Creek at Friedensville	01454000	10.3	1948-53
Saucon Creek at Friedensville	01454500	26.6	1948-53
Cooks Creek at Durham Furnace	01457790	29.4	1991-93
Tinicum Creek near Ottsville	01458900	14.7	1991-93
Tohickon Creek at Point Pleasant	01460000	107	1884-98, 1901-12
Paunacussing Creek at Carversville	01460800	6.49	1991-93
Pine Run at Chalfont	01464710	11.6	1990-92

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS—Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Cooks Run at New Britain	01464741	3.08	1985-89
Neshaminy Creek near Rushland	01464750	91.0	1987-92
Little Neshaminy Cr. at Walton Road near Jacksonville	01464984	40.1	1986-92
Neshaminy Creek at Rushland	01465000	134	1885-1912, 32-33
Mill Creek near Wycombe	01465050	14.0	1990-93
Poquessing Creek at Trevoise Road, Philadelphia	01465780	13.2	1965-70
Walton Run at Philadelphia	01465785	2.17	1965-77
Byberry Creek at Chalfont Road, Philadelphia	01465790	5.34	1966-77
Byberry Creek at Grant Avenue, Philadelphia	01465795	7.13	1965-70
Pennypack Creek at Pine Road, Philadelphia	01467042	37.9	1965-80
Pennypack Creek below Verree Road, Philadelphia	01467045	42.8	1965-70
Wooden Bridge Run at Philadelphia	01467050	3.35	1966-80
Tacony Creek near Jenkintown	01467083	5.25	1973-78
Rock Creek above Curtis Arboretum near Philadelphia	01467084	1.15	1972-78
Jenkintown Creek at Elkins Park	01467085	1.17	1974-78
Tacony Creek above Adams Avenue, Philadelphia	01467086	16.7	1966-86
Frankford Creek at Torresdale Avenue, Philadelphia	01467089	33.8	1967-80
Schuylkill River at Pottsville	01467500	53.4	1944-69
Little Schuylkill River at Drehersville	01470000	122	1948-50, 1964-65
Maiden Creek tributary at Lenhartsville	01470720	7.46	1966-79
Maiden Creek at Virginville	01470756	159	1973-94
Pickering Creek near Chester Springs	01472174	5.98	1967-82
Perkiomen Creek near Frederick	01472500	152	1885-1912
Skippack Creek near Collegeville	01473120	53.7	1966-94
Schuylkill River at Norristown	01473500	1,760	1928-32
Wissahickon Creek at Bells Mill Road, Philadelphia	01473950	53.6	1966-70, 1974-81
Wissahickon Creek at Livezey Lane, Philadelphia	01473980	59.2	1967-70
Schuylkill River above Passayunk Ave. at Philadelphia	01474505	1,900	1979-93
Darby Creek at Waterloo Mills near Devon	01475300	5.1	1972-97
Darby Creek near Darby	01475510	37.4	1964-90

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS—Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Cobbs Creek at US Highway No. 1 at Philadelphia	01475530	4.78	1965-80
Cobbs Creek below Indian Creek near Upper Darby	01475540	10.6	1965-73
Naylor Creek at West Chester Pike near Philadelphia	01475545	1.10	1974-78
Cobbs Creek at Darby	01475550	22.0	1964-90
Crum Creek at Woodlyn	01476000	33.3	1932-37
Ridley Creek at Moylan	01476500	31.9	1932-54
Marsh Creek near Lyndell	01480680	17.8	1961-69
East Branch Brandywine Creek at Downingtown	01480800	81.6	1958-68
Valley Creek at Ravine Road near Downingtown	01480887	14.5	1990-97

The following continuous-record water-quality stations (listed by downstream order) have been discontinued. Daily records were collected and published for the period shown for each constituent. Discontinued stations with less than 3 years of record, or stations with data collection less than daily, have not been included. If a station had one constituent with 3 or more years of record, all constituents having daily values will be listed for that station regardless of the length of record. Information regarding these stations may be obtained from the District Office at the address given on the back of the title page of this report.

The following abbreviations are used in this table: --- (not determined); SC (specific conductance); pH; Temp (water temperature); DO (dissolved oxygen); Sed (sediment concentration and discharge); Biol (biological).

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
DELAWARE RIVER BASIN				
Delaware Bay at Ship John Shoal Light, N.J.	01412350	---	SC, Temp	1968-86
Delaware River at Lordville, N.Y.	01427207	1,590	Temp	1968-71, 1973-96
Delaware River at Narrowsburg, N.Y.	01427740	2,023	SC, pH	1948-51
Delaware River at Port Jervis, N.Y.	01434000	3,070	Temp	1957-60, 1973-94
Delaware River at Montague, N.J.	01438500	3,480	Temp SC, pH	1956-57 1956-73
Delaware River at Dingmans Ferry	01439000	3,542	Temp, SC, pH	1950-53
Delaware River near East Stroudsburg	01440090	3,830	SC, DO, Temp pH	1966-78 1972-78
Delaware River at Dunnfield, N.J.	01442750	4,120	Sed	1964-75
Delaware River at Easton	01446700	4,636	SC, DO, Temp, pH	1967-77
Delaware River at Belvidere, N.J.	01448000	4,535	Temp SC	1944-47, 1962-63 1962-63
Lehigh River at Walnutport	01451000	889	Sed	1948-53
Jordan Creek near Schnecksville	01451800	53.0	Sed	1967-69
Jordan Creek at Allentown	01452000	75.8	Sed	1967-69
Lehigh River at Bethlehem	01453000	1,279	SC, pH	1906-07, 1956-72
Delaware River at Burlington-Bristol Bridge	01464600	7,163	Temp DO SC, pH	1954-75, 1979-80 1961-75, 1978-80 1967-75, 1978-80
Neshaminy Creek near Langhorne	01465500	210	Sed	1956-58, 1965-69
Poquessing Creek at Trevoise Road, Philadelphia	01465770	5.08	Sed	1965-69

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Poquessing Creek above Byberry Creek, Philadelphia	01465780	13.2	Sed	1965-70
Walton Run at Philadelphia	01465785	2.17	Sed	1965-68
Byberry Creek at Chalfont Road, Philadelphia	01465790	5.34	Sed	1966-68, 1970
Byberry Creek at Grant Avenue, Philadelphia	01465795	7.13	Sed	1965-70
Poquessing Creek at Grant Avenue, Philadelphia	01465798	21.4	Sed	1965-70
Delaware River at Torresdale Intake, Philadelphia	01467030	7,781	Temp DO SC pH	1956-57, 1960-81 1961-81 1963-81 1968-81
Pennypack Creek at Pine Road, Philadelphia	01467042	37.9	Sed	1965-69
Pennypack Creek below Verree Road, Philadelphia	01467045	42.8	Sed	1965-69
Wooden Bridge Run at Philadelphia	01467049	3.35	Sed	1965-70
Delaware River at Palmyra, N.J.	01467060	7,850	Sed	1962-64
Tacony Creek at County Line, Philadelphia	01467084	16.2	Sed	1966-69
Frankford Creek at Torresdale Avenue, Philadelphia	01467088	33.8	Sed	1966-70
Delaware River at Lehigh Avenue, Philadelphia	01467100	7,935	SC, DO, Temp, pH	1949-68
Delaware River at Wharton Street, Philadelphia	01467300	7,998	Temp, SC, pH, DO	1949-68
Delaware River at League Island, Philadelphia	01467400	8,072	SC, DO, Temp, pH	1949-68
Schuylkill River at Port Carbon	01467470	27.1	SC, pH, Sed	1949-51, 1963
Schuylkill River at Pottsville	01467500	53.4	SC, pH Sed	1948-51, 1963-66 1963-66
West Branch Schuylkill River at Cressona	01467950	52.5	Sed	1963-66
Schuylkill River at Landingville	01468500	133	SC, pH, Temp Sed	1947-53 1947-53, 1963-65
Schuylkill River at Auburn	01469000	160	Sed, SC, pH	1947-51, 1963-65
Little Schuylkill River at South Tamaqua	01469700	65.7	SC, pH Sed	1948-51, 1963 1950-53, 1963
Little Schuylkill River at Drehersville	01470000	122	SC, pH, Temp, Sed	1947-51, 1963-65

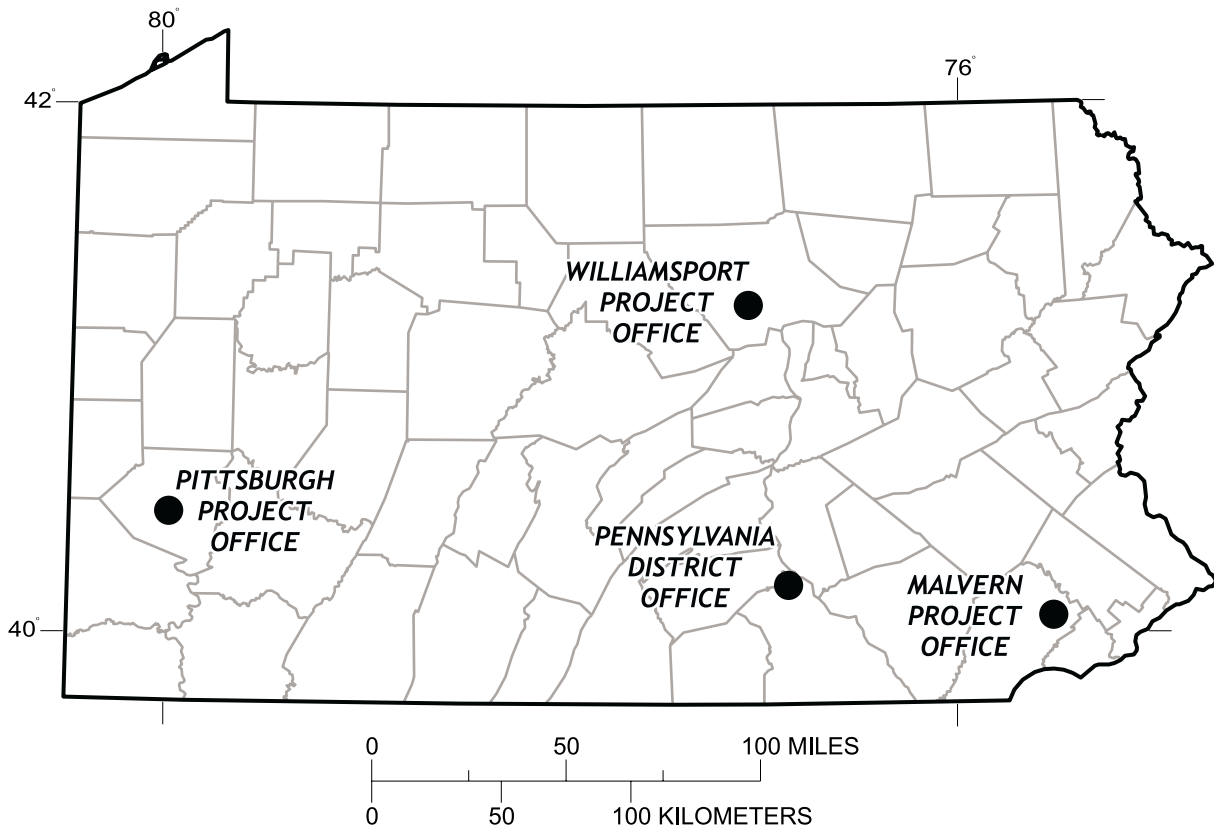
DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Schuylkill River at Berne	01470500	355	Temp SC, pH Sed	1948-53, 1957-81 1963-81 1947-81
Maiden Creek tributary at Lenhartsville	01470720	7.46	Sed	1963-65
Maiden Creek near East Berkley	01470760	192	Sed	1963-65
Tulpehocken Creek near Reading	01471000	211	Sed	1963-65
Schuylkill River at Pottstown	01472000	1,147	Temp Sed, pH SC	1944-51, 1956, 1963-66 1948-51, 1963-66 1948-51, 1963-66, 1985-89
Pigeon Creek near Bucktown	01472054	4.20	Biol	1970-83
Pigeon Creek at Porters Mill	01472065	6.97	Biol	1970-83
Stony Run at Spring City	01472110	4.07	Biol	1970-83
Schuylkill River at Black Rock Dam at Mont Clare	01472119	---	SC, DO	1986-90
French Creek at Trythall	01472126	5.06	Biol	1971-83
French Creek near Knauertown	01472129	11.7	Biol	1970-83
Pickering Creek near Chester Springs	01472174	5.98	Sed	1967-69
Perkiomen Creek at Graterford	01473000	279	SC, pH, Temp Sed	1946-51, 1948-53 1963-66
Schuylkill River at Norristown Dam at Bridgeport	01473499	---	SC, DO	1985-90
Schuylkill River at Plymouth Dam	01473675	---	SC, DO	1985-90
Schuylkill River at Flat Rock Dam at West Manayunk	01473780	---	SC, DO	1985-90
Schuylkill River at Manayunk	01473800	893	SC, pH Sed Temp	1947-70 1947-86 1956-70
Wissahickon Creek at Fort Washington	01473900	40.8	Sed	1963-69
Wissahickon Creek at Bells Mill Road, Philadelphia	01473950	53.6	Sed	1966-69
Wissahickon Creek at Livezey Lane, Philadelphia	01473980	59.2	Sed	1966-69
Wissahickon Creek at mouth, Philadelphia	01474000	64.0	Sed	1966-69
Darby Creek near Darby	01475510	37.4	Sed	1965-69

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Cobbs Creek at US Highway 1 near Philadelphia	01475530	4.78	Sed	1965-70
Cobbs Creek below Indian Creek near Upper Darby	01475540	9.65	Sed	1965-69
Cobbs Creek at Darby	01475550	22.0	Sed	1965-69
Crum Creek near Paoli	01475830	6.16	Biol	1970-83
Delaware River at Eddystone	01476200	10,190	SC, DO, Temp, pH	1949-68
Delaware River at Marcus Hook	01477200	10,370	SC, DO, Temp, pH	1949-77
West Branch Brandywine Creek near Honey Brook	01480300	18.7	Sed	1965-66, 1968
East Branch Brandywine Creek near Struble Dam	01480647	4.36	Biol	1972-82
Marsh Creek near Lyndell	01480680	17.8	Temp Sed	1965-66 1965-66, 1968
Marsh Creek near Downingtown	01480695	20.3	Temp	1973-87
Brandywine Creek at Chadds Ford	01481000	287	Sed	1963-70
Delaware River at Delaware Memorial Bridge, Del.	01482100	11,030	Temp DO SC pH	1956-81 1962-81 1963-81 1968-81

PENNSYLVANIA DISTRICT OFFICE LOCATIONS AND ADDRESSES



Pennsylvania District Office:
U.S. Geological Survey
Water Resources Division
Yellow Breeches Office Center
215 Limekiln Road
New Cumberland, PA 17070
(717) 730-6900
FAX (717) 730-6997

Williamsport Project Office:
U.S. Geological Survey
Water Resources Division
439 Hepburn Street
Williamsport, PA 17701
(570) 323-7127
FAX (570) 323-2137

Pittsburgh Project Office:
U.S. Geological Survey
Water Resources Division
1000 Church Hill Road
Pittsburgh, PA 15205
(412) 490-3800
FAX (412) 490-3828

Malvern Project Office:
U.S. Geological Survey
Water Resources Division
Great Valley Corporate Center
111 Great Valley Parkway
Malvern, PA 19355
(610) 647-9008
FAX (610) 647-4594

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, municipal, and Federal agencies, collects a large amount of data pertaining to the water resources of Pennsylvania 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, these data are published annually in this report series entitled "Water Resources Data - Pennsylvania, Volumes 1, 2, and 3." Volume 1 contains data for the Delaware River Basin; Volume 2, the Susquehanna and Potomac River Basins; and Volume 3, the Ohio and St. Lawrence River Basins.

This report, Volume 1, contains: (1) discharge records for 80 continuous-record streamflow-gaging stations, 8 partial-record stations, 19 special study and miscellaneous streamflow sites, and 39 low-flow miscellaneous streamflow sites; (2) elevation and contents records for 13 lakes and reservoirs; (3) water-quality records for 38 gaging stations and 14 ungaged streamsites; (4) water-quality records for 47 special-study stations; (5) water-level records for 63 network observation wells; and (6) water-quality analyses of ground water from 55 ground-water wells. Additional water data collected at various sites not involved in the systematic data-collection program may also be presented.

Publications similar to this report are published annually by the Geological Survey for all States. For the purpose of archiving, these official 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 PA-02-1." These water data reports, beginning with the 1971 water year, are for sale as paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

The annual series of Water Data Reports for Pennsylvania began with the 1961 water-year report and contained only data relating to quantities of surface water. With the 1964 water year, a companion report (part 2) was introduced that contained only data relating to water quality. Beginning with the 1975 water year the report was changed to its present format of three volumes (by river basin), with each volume containing data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to the introduction of this series and for several years concurrent with it, water-resources data for Pennsylvania 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," which was released in numbered parts as determined by natural drainage basins. For the 1961-70 water years, these data were published in two 5-year reports. Data prior to 1961 are included in two reports: "Compilation of Records of Surface Waters of the United States through 1950," and "Compilation of Records of Surface Waters of the United States, October 1950 to September 1960." Data for Pennsylvania are published in Parts 1, 3, and 4. Data on chemical quality, temperature, and suspended sediment for the 1941-70 water years were published annually under the title "Quality of Surface Waters of the United States," and ground-water levels for the 1935-74 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from the U.S. Geological Survey, Information Services, Box 25286, Denver, CO 80225.

Information for ordering specific reports may be obtained from the Pennsylvania District Office at the address given on the back of the title page or by phoning the Scientific and Technical Products Section, at (717) 730-6940. Information on the availability of unpublished data or statistical analyses may be obtained from the District Information Specialist by telephone at (717) 730-6916 or by FAX at (717) 730-6997.

COOPERATION

The U.S. Geological Survey (USGS) and organizations of the Commonwealth of Pennsylvania have had cooperative agreements for the systematic collection of surface-water records during the periods 1919-21 and 1931 to date, water-quality records from 1944 to date, and ground-water records from 1925 to date. Organizations that supplied data are acknowledged in station manuscripts. Organizations that assisted in collecting data for this report through cooperative agreements with the USGS are listed below.

The Commonwealth of Pennsylvania, Department of Environmental Protection, David E. Hess, Secretary through the following:
Office of Water Management, Christine Martin, Deputy Secretary;
Bureau of Water Supply and Wastewater Management, Frederick Marrocco, Director;
Bureau of Watershed Management, Stuart I. Gansell, Director;
Bureau of Waterways Engineering, Michael Conway, Director
Bucks County Commissioners, Charles H. Martin, Chairman;
Chester County Health Department, David Jackson, Executive Director;
Chester County Water Resources Authority, Janet L. Bowers, Executive Director;
City of Allentown, William L. Heydt, Mayor;
City of Bethlehem, Donald T. Cunningham, Jr., Mayor;
City of Philadelphia, Water Department, Kumar Kishinchand, Water Commissioner;
Delaware County Solid Waste Authority, Joseph W. Vasturia, Chief Executive Officer;

COOPERATION--Continued

Delaware River Basin Commission, Carol R. Collier, Executive Director;
Hazelton City Authority, Water Department, Randy J. Cahalan, Operation Manager;
Monroe County Conservation District, Craig Todd, District Manager;
North Penn Water Authority, Anthony J. Bellitto, Jr., Executive Director;
North Wales Water Authority, Peter. S. Lukens, Executive Director.

Federal Energy Regulatory Commission Licensee:
PPL Electric Utilities Corporation.

The following Federal agency assisted in the data-collection program by providing funds or services: Corps of Engineers, U.S. Army, Philadelphia District.

The following organizations aided in collecting records: Palmer Water Company, Philadelphia Suburban Water Company, Borough of Tamaqua, Womelsdorf-Robeson Joint Water Authority, Forest Park Water Company, and the City of Coatesville.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The Delaware River Basin extends from the river's east and west branch headwaters in the New York Catskill Mountains southward about 400 miles to the Atlantic Ocean. In addition to Pennsylvania, the Delaware River drains parts of the states of New York, New Jersey, Delaware, and Maryland. Of the nearly 13,500-mi² (square mile) drainage basin, 6,420 mi² (50 percent of the basin's total area) are within the Commonwealth of Pennsylvania.

Precipitation and Streamflow

Precipitation and streamflow for the 2002 water year were well below average for the year. Data from 35 selected National Oceanic and Atmospheric Administration climatological sites, located within 3 climatological regions in the Delaware River basin in Pennsylvania, indicate the annual total precipitation for the Delaware River basin in Pennsylvania averaged 34.0 inches. This average is about 73 percent of the 1971-2000 basinwide average of 46.7 inches.

Monthly precipitation at two index stations in the Delaware River basin were used as indicator sites within the basin. The 2002 water year monthly precipitation was compared with the 1971-2000 mean monthly precipitation recorded at Pleasant Mount and Allentown, Pennsylvania (fig. 1). The precipitation data are from the National Oceanic and Atmospheric Administration (Northeast Region Climate Center) and National Weather Service records. The basin received below normal precipitation for October, November, December, January, February, July and August. The greatest deficit basinwide, with an average of 3.3 inches below normal, occurred in July. The remainder of the months received above normal to normal precipitation within the basin. The greatest surplus basinwide, an average of 0.6 inches above normal, occurred in May.

Streamflow varied seasonably throughout the basin and generally reflected the precipitation patterns within the basin unless the stream was regulated. Following a pattern defined by the below normal precipitation that fell in the basin during the 2002 water year, the mean annual streamflow for unregulated Delaware River basin streams during the 2002 water year was below normal. (Normal annual streamflows are defined as streamflows between the 25th and 75th percentiles as compared to the annual mean streamflows for 1971-2000.) Using the 39 available unregulated sites with greater than 15 years of record as indicators of streamflow trends, new record low annual mean streamflows were recorded at 17 of these sites during the water year.

Two U.S. Geological Survey streamflow-gaging stations within the basin were selected as indicators of basinwide streamflow conditions. Figure 2 compares the 2002 water year monthly and annual mean streamflows with the median of the monthly and annual mean streamflows for 1971 through 2000 at the indicator sites. The 2002 water year annual mean streamflow of the Bush Kill at Shoemakers in the upper Delaware River basin was 64 percent of the 1971-2000 median of the mean annual streamflows. The mean annual streamflow of the Schuylkill River at Pottstown in the lower Delaware River basin was 47 percent of the 1971-2000 median of the mean annual streamflows.

Monthly streamflows were below the median of monthly mean streamflows in the Bush Kill for the entire water year, except May and June (fig. 2). Monthly streamflows were below the median of monthly mean streamflows in the Schuylkill River at Pottstown for the entire water year, with the exception of May (fig. 2). No new extremes were recorded at the indicator stations.

During the period from October to February average basinwide departure from normal precipitation totaled 8.7 inches. Although precipitation totals were slightly above average in March through June, the downward trend continued. At the end of the 12-month period ending in September, the precipitation deficit basinwide was at 11.6 inches. The Governor of Pennsylvania announced a drought watch in 45 counties on Aug. 24, 2001, three of which were located in the Delaware River Basin. On December 5, 2001, early into the 2002 water year, the drought declaration was expanded to include 62 of Pennsylvania's 67 counties. Of these 62 counties, 31 were under a drought warning and 31 were under a drought watch. At this point all of the counties within the Delaware River Basin within Pennsylvania, were now included in the drought declaration. The drought situation worsened over the summer and by September 5, 2002, nine of the counties within the Delaware River Basin were designated as part of the drought emergency area.

As a direct result of the ongoing drought conditions, the Christina River Basin in the lower Delaware River Basin showed the greatest affects of the lack of precipitation. Of the seven streamflow sites within the basin with more than 28 years of record, all had new record low annual mean streamflows. The 2002 annual mean streamflow at these sites averaged only 36 percent of the mean annual streamflows for the period of record. This compares to the basinwide 2002 annual mean streamflow average of 52 percent.

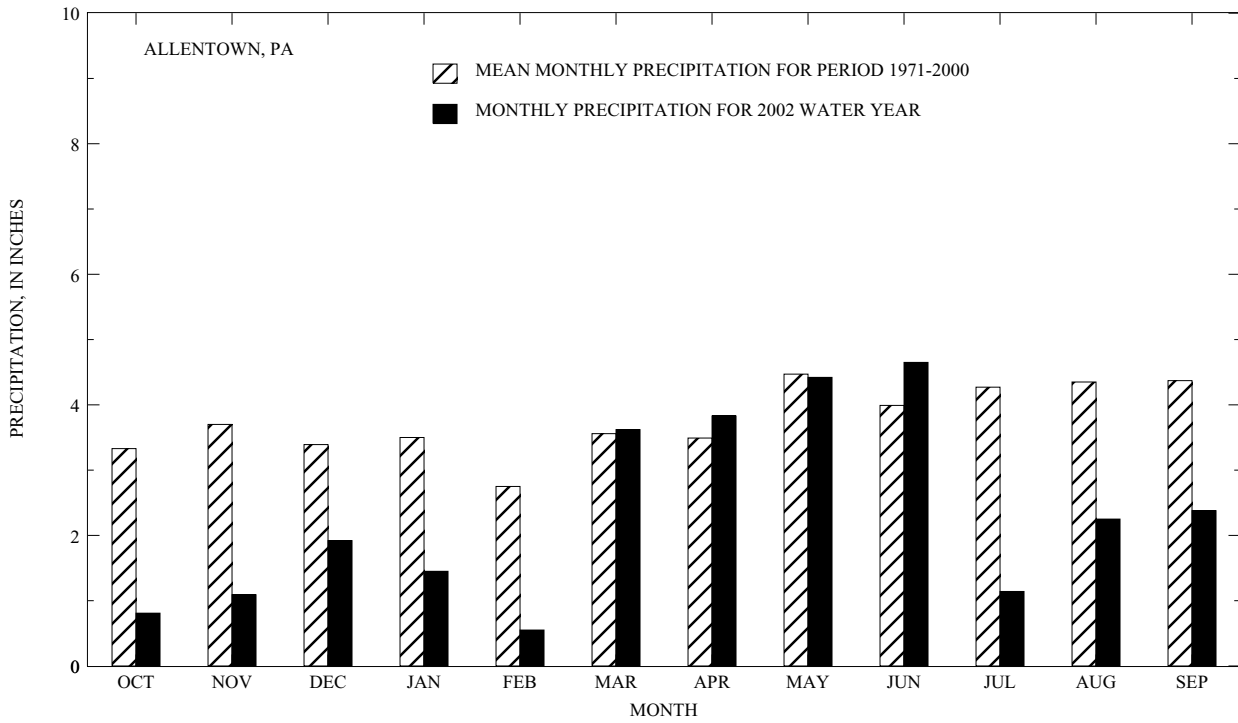
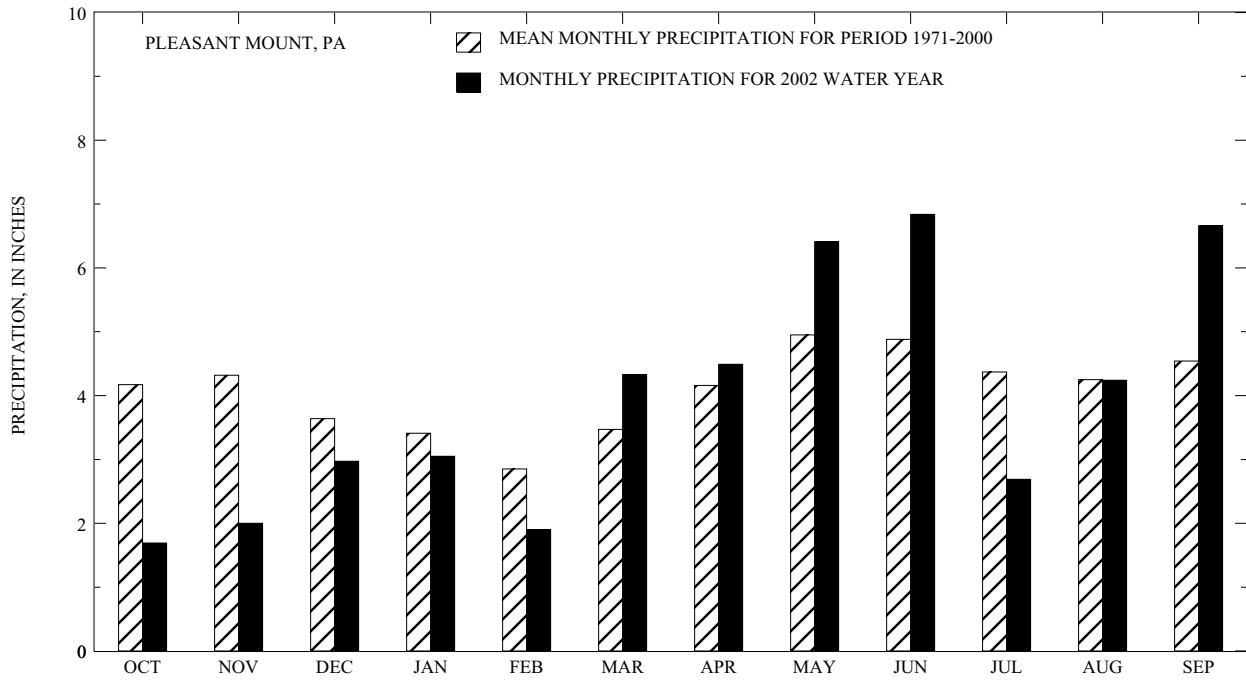


Figure 1.--Comparison of monthly precipitation in the Delaware River Basin at Pleasant Mount and Allentown, Pa. during the 2002 water year with mean monthly precipitation for the period 1971 through 2000.

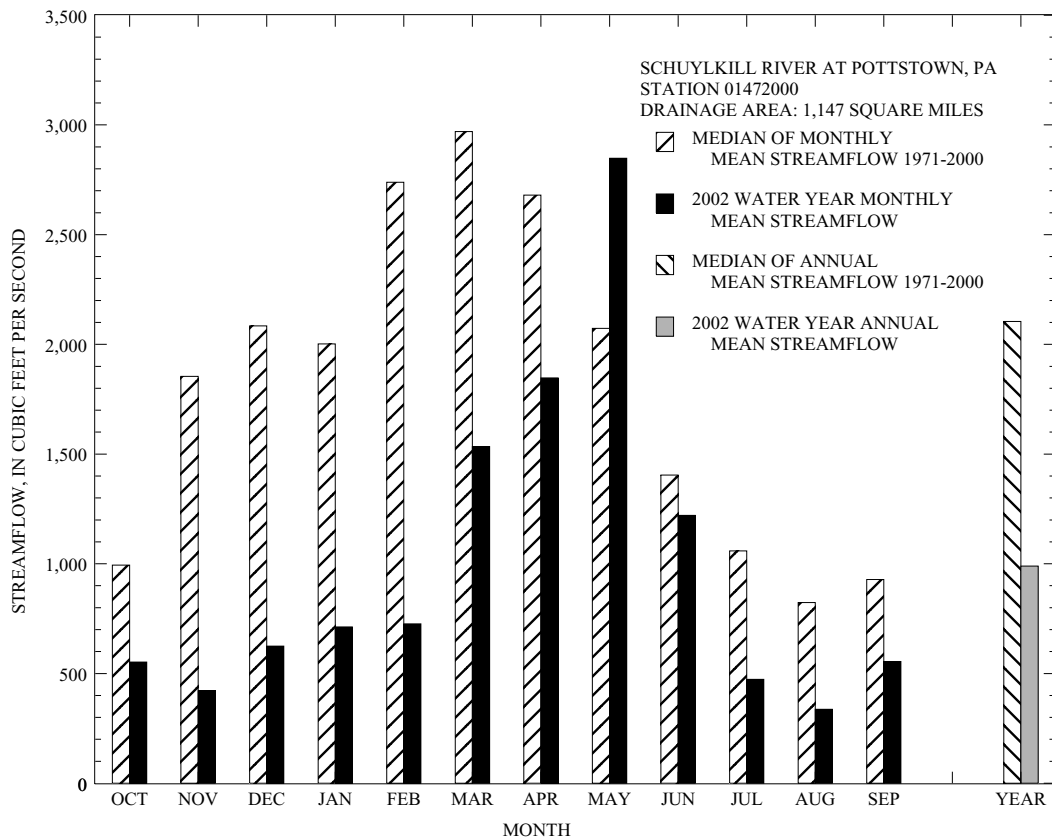
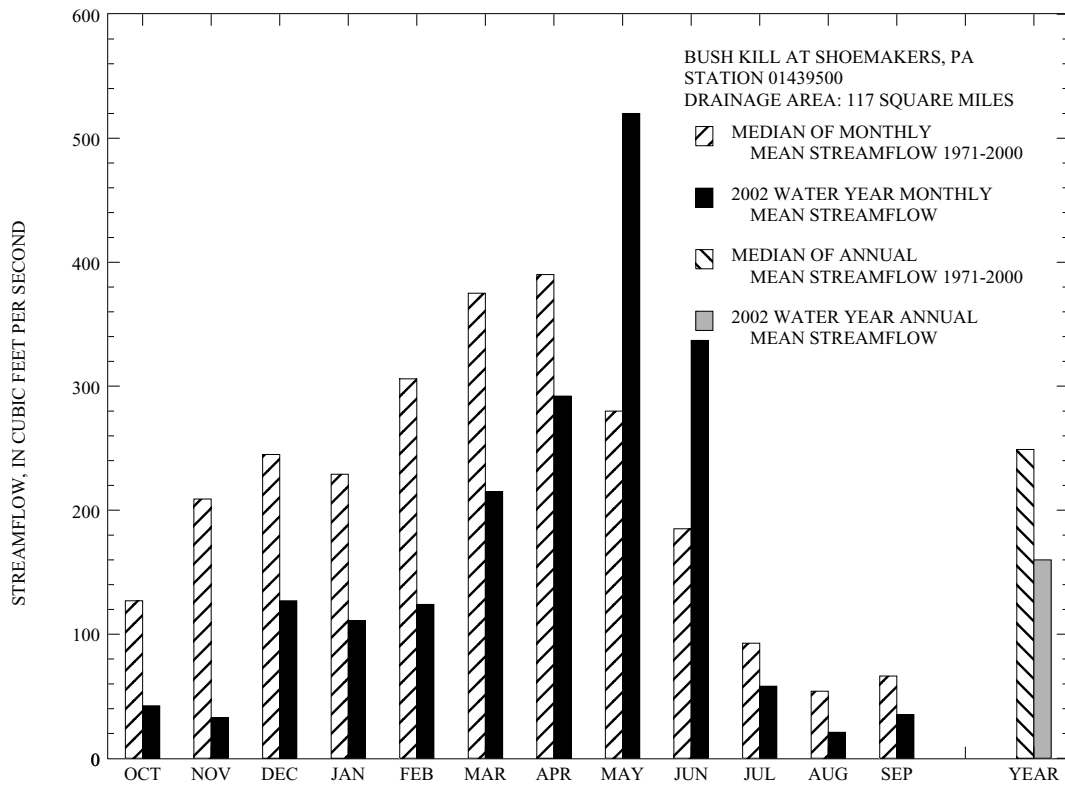


Figure 2.--Comparison of streamflow at two long-term streamflow-gaging stations during the 2002 water year with the median monthly and annual mean streamflow for the period 1971 through 2000.

Reservoirs

Total combined capacity of the major reservoirs in the Delaware River basin within Pennsylvania is 659,390 acre-feet. Total combined drainage areas into these reservoirs is about 1,130 square miles or 18 percent of the total drainage area in the Delaware River Basin. Combined storage in 13 major reservoirs in the Delaware River basin within Pennsylvania decreased slightly from 222,280 acre-feet (33.7 percent of total combined capacity) on September 30, 2001 to 220,240 acre-feet (33.4 percent of total combined capacity) on September 30, 2002. This slight decrease in water storage in the basin for the year is a reflection of the ongoing drought conditions. The decrease would have been greater, had it not been for the additional water that was stored in the Francis E. Walter Reservoir in northern Carbon County by the U. S. Army Corps of Engineers in coordination with the Delaware River Basin Commission. Additional water was stored beginning in February to be used as needed to augment flows downstream in the Lehigh and Delaware River during the drought. By the end of the water year, an additional 19,610 acre-feet of water was in storage in F. E. Walter Reservoir as compared to the end of the 2001 water year.

Water Quality

As part of an ongoing program, the USGS maintains a network of continuous-record water-quality monitoring sites along the Delaware River and its tributaries. Water temperature, dissolved oxygen, pH, and specific conductance are monitored at most sites from April through November. A primary concern to water-resource managers of the Lower Delaware River Basin is the upstream migration of saline water from the Delaware Bay. The salinity and dissolved-solid content in the water are indirectly measured by specific conductance.

Water quality of the Delaware Estuary was monitored between Trenton, New Jersey, and Reedy Island Jetty, Delaware. Streamflow is a vital factor that influences the water quality of the estuary. Increased streamflow usually results in improved water quality by limiting salt-water intrusion and diluting the concentration of dissolved minerals, both of which contribute to a lower specific conductance and chloride level. Increased freshwater streamflow also aids in maintaining lower water temperature during warm weather and in supporting higher dissolved-oxygen levels.

In general, streamflow for the Delaware River was below normal for the 2002 water year. The annual mean streamflow as recorded at the Delaware River at Trenton, NJ, (station number 01463500), was only 61 percent of the period of record mean annual streamflow. The highest sustained streamflows occurred in mid-May. The highest momentary streamflow (peak) occurred on May 15. (For more streamflow information refer to pages 171-191). Winter and summer months had the lowest sustained flows during the year. As a reflection of these streamflows, the monthly mean specific conductance at the U.S. Geological Survey water-quality monitoring station on the Delaware River at Reedy Island Jetty, Delaware, was highest in September and lowest in May.

Figure 3 compares the 2002 water year monthly mean specific conductance with the mean monthly values for the entire period of continuous record from 1965 through 2001. The mean monthly values of specific conductance were higher than the mean for the period of record in October through April and July through September. Lower streamflows allowed the migration of saline water, (commonly known as "The Salt Line") to advance to River Mile 86--a location about 18 miles upstream of the Delaware Memorial Bridge, by late November 2001. Low streamflows in the summer allowed the salt line to advance to River Mile 89 by September 26, 2002. This is the furthestmost upstream location for the 2002 water year. For perspective, the most upstream point of the Salt Line ever recorded (River Mile 102) occurred during the drought of the mid 1960's (Delaware River Basin Commission, 2001). Specific conductance data, along with other water-quality data from the Delaware River at Reedy Island Jetty, Delaware, can be found on pages 392-398.

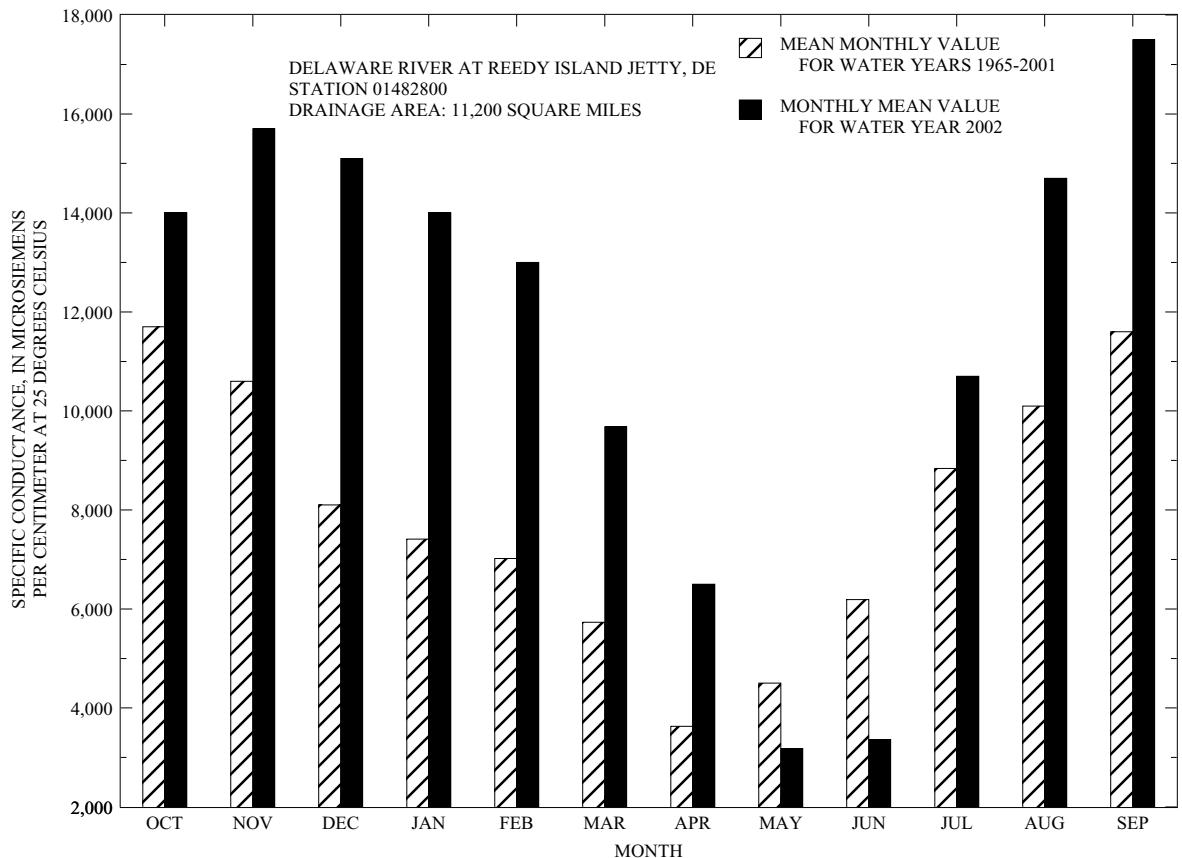


Figure 3.--Monthly mean specific conductance measured in the Delaware River at Reedy Island Jetty, Delaware for the 2002 water year and the mean monthly specific conductance for the period 1965 through 2001.

Ground Water

With some lag time, seasonal ground-water levels during the year generally reflect seasonal precipitation variations. A comparison of the monthly precipitation variation received in the Delaware River basin in the 2002 water year (fig. 1) and recorded ground-water levels shows that this scenario was the case for this year. Ground-water levels by the end of September 2001 were generally normal to slightly below normal within the basin (Durlin and Schaffstall, 2002). During the fall season, water levels in 10 of 15 observation wells were below or much below normal. A comparison between seasonal ground-water levels for the 2002 water year and long-term seasonal ground-water levels is shown in figure 4.

During the winter season, as a result of the below-normal precipitation, ground-water levels continued to drop. By the end of the winter season, 11 of the 15 wells were below or much below normal. Although the water-level data show a slight recovery in the spring season, by the end of the spring season, 7 of the 15 wells remained at below or much below levels. As the precipitation deficits continued into the summer months, the ground-water levels continued to show the effects. By the end of the summer season, ground-water levels had fallen slightly and ground-water levels in 8 of the 15 wells were below to much below normal by the end of the water year. Two of the observation wells, Montgomery County (MG225) and Philadelphia County (PH12) remained normal or above normal for the entire year. This is most likely due to a reduction in nearby pumping. Four of the observation wells, Berks County (BE623), Lebanon County (LB372), Lehigh County (LE644) and Chester County (CH10) were much below normal the entire year. New record lows were recorded at Berks County (BE623), Bucks County (BK1020), Chester County (CH10), Delaware County (DE723), and Lebanon County (LB372) wells.

References

Delaware River Basin Commission, 2002, Delaware River Basin Selected Flow and Storage Data, accessed June 11, 2003, at URL [<http://www.state.nj.us/drbc/data.htm>].

Durlin, R. R., and Schaffstall, W. P., 2002, Water Resources Data, Pennsylvania, water year 2001: U.S. Geological Survey Water-Data Report PA-01-1, 529 p.

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Pennsylvania Department of Environmental Protection, 2002, Drought News Room, accessed June 11, 2003, at URL [<http://www.dep.state.pa.us/dep/subject/hotopics/drought/drought.htm>].

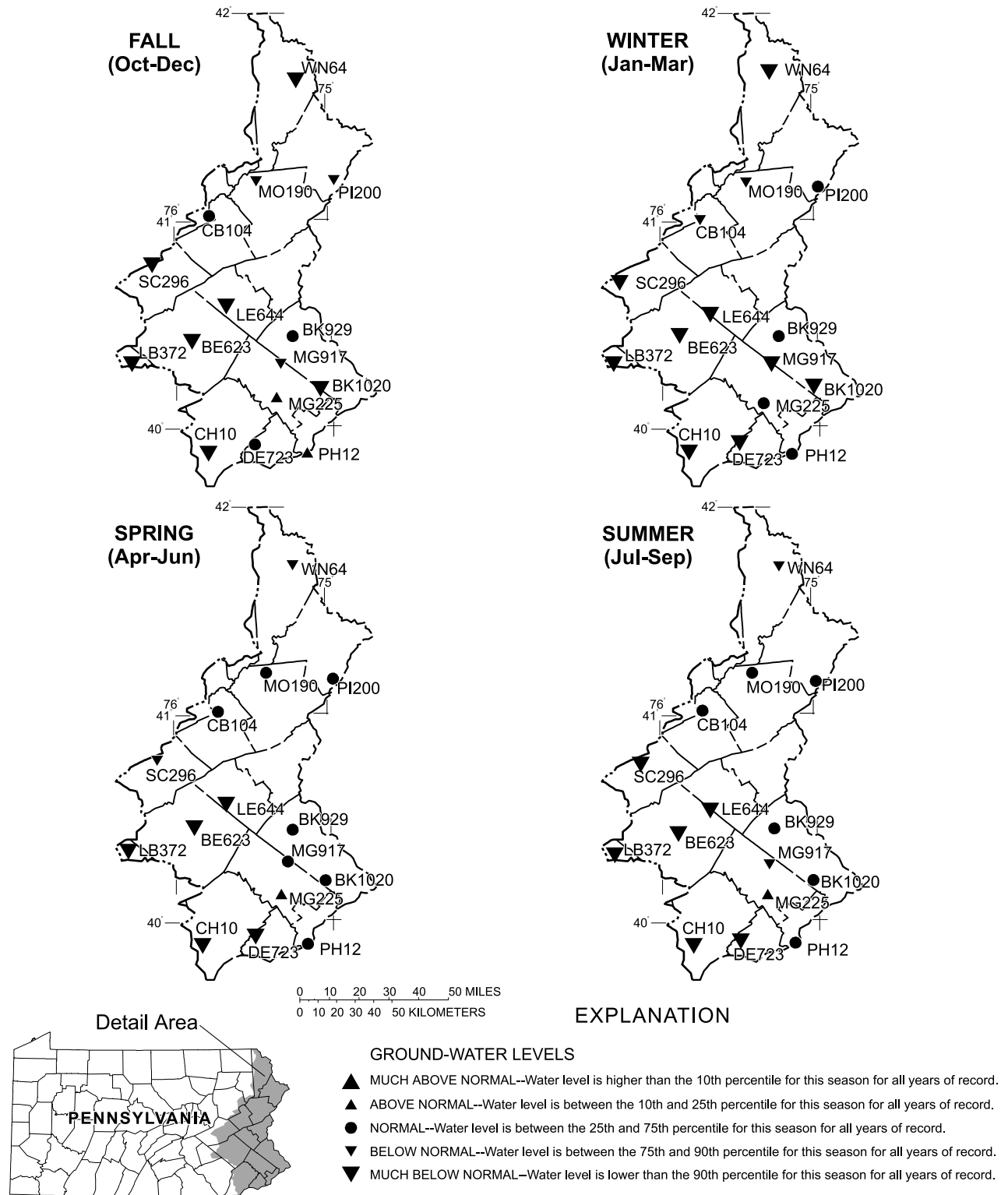


Figure 4.--Relation between 2002 seasonal mean ground-water levels and long-term mean ground-water levels [Seasonal percentile values were determined by ranking the average monthly water levels for each month in the season from highest to lowest for all years of record and averaging the ranks for the three months. A water level that is higher than the seasonal 10th percentile value would be expected to occur only once in a ten-year period. Conversely, a water level that is lower than the seasonal 90th percentile value also would be expected to occur only once during a ten-year period.]

SPECIAL NETWORKS AND PROGRAMS

The **Hydrologic Bench-Mark Network** is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the streamflow representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. At 10 of these sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the affects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program can be found at <http://water.usgs.gov/hbn/>.

The **National Stream-Quality Accounting Network** (NASQAN) monitors the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations were operated in the Mississippi, Columbia, Colorado, and Rio Grande. From 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program can be found at [<http://water.usgs.gov/nasqan/>].

The **National Atmospheric Deposition Program/National Trends Network** (NADP/NTN) provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 225 precipitation chemistry monitoring sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as all data from the individual sites, can be found at [<http://bqs.usgs.gov/acidrain/>].

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, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 59 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program can be found at [<http://water.usgs.gov/nawqa/>].

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 2002 water year that began October 1, 2001, and ended September 30, 2002. 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 and ecological data for streamflow stations, ground-water-level data, and water-quality data for ground-water wells. The location of these stations and wells are shown in figures 6-14. The following sections of the introductory text are presented to provide users with a more detailed explanation of how these hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report, whether a streamsite or a well, 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 Pennsylvania, for some miscellaneous surface-water sites where only random water-quality samples or discharge 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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream-order system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned in downstream order. In assigning station numbers, no distinction is made between partial-record and continuous-record 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. A station number can be from 8 to 15 digits in length and normally appears to the left of the station name. For example, an 8-digit number for a station such as 01570500, includes a 2-digit part number "01" plus a 6-digit downstream-order number "570500." The part number designates major river basins; for example, part "01" is the North Atlantic Slope Basin.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote the degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid (fig. 5).

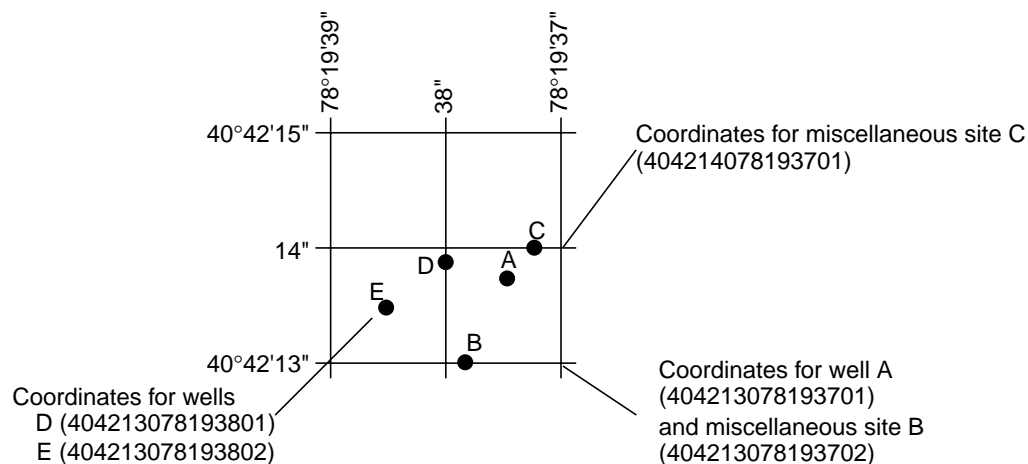


Figure 5.--System for numbering wells and miscellaneous sites (latitude and longitude).

A local well number is also assigned to the wells and consists of a 2-letter abbreviation of the county in which the well is located and a sequential number assigned at the time the well was scheduled.

Records of Stage and Water Discharge

Records of stage and water discharge may be continuous or partial. Continuous records of discharge are those obtained using a continuous stage-recording device through which either instantaneous water discharges may be computed for any time, or mean discharges may be computed for any period of time, during the period of record. Because daily mean discharges or end-of-day contents for reservoirs commonly are published for such stations, they are referred to as "*daily stations*" or "*continuous-record 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-record stations*," or "*Low-flow partial-record stations*." 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 continuous-record and partial-record stations for which data are given in this report are shown in figures 6-14.

Data Collection and Computation

Those data obtained at a continuous-record gaging station on a stream consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with solid-state electronic data loggers, or with data collection platforms (DCPs) that electronically record and transmit the data via satellite to ground receiving stations. 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 U.S. Geological Survey Techniques of Water-Resources Investigations (TWRIs), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

Daily mean discharges are computed by applying each recorded stage value (gage height) 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 relation 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 to compute discharge.

When computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relation between 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 relation changes because of deposition of sediment in the lake or reservoir, periodic surveys may be necessary to redefine the relation. Even when this is done, the contents computed may increase in error as the time elapsed since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relation much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height data are collected or when the recorded gage height is so imprecise or incorrect that it cannot be used to compute daily mean discharge or end-of-day 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

The records published for each continuous-record surface-water discharge station (gaging station) consist of four parts; (1) the manuscript or station description; (2) the data table of daily mean discharge values for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period; and (4) a summary statistics table for a designated period 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

For each continuous-record station, 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 comments, as appropriate, 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, listed 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 its streamflow can reasonably be considered equivalent to the streamflow 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 sea level (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--This paragraph is used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. 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 DISCHARGES FOR CURRENT YEAR.--Peaks given here are similar to those found in the summary statistics table, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge (see Definition of Terms) 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 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 those data for a discontinued station were obtained by computer retrieval, these data would be current and accurate because published revisions of data are always accompanied by revisions of those data in computer storage.

Beginning with the 1991 annual State Data report, headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, and EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the PEAK DISCHARGES FOR CURRENT YEAR paragraph, 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 presentations of lake contents. In order to present all the data collected on the Delaware River, data collected by the U.S. Geological Survey offices in New Jersey, New York and Delaware have been included in this report. These data are presented as published by each state, although the format differs slightly from that published in this volume.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean 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."). Figures for cubic feet per second per square mile and runoff in inches may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations both monthly and 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 daily values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____-____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

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

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

The summary statistics data, as appropriate, are provided with each continuous record of discharge. The following comments 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 may be affected by reservoir storage or diversion. The monthly adjusting figures for known regulation or diversions may be shown 1) at the bottom of the daily values table, or 2) in the appropriate lake or reservoir table.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the annual total discharge may be affected by reservoir storage or diversion. The monthly adjusting figures for known regulation or diversions may be shown 1) at the bottom of the daily values table, or 2) in the appropriate lake or reservoir table.

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 table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

MAXIMUM PEAK FLOW.--The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.--The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Runoff figures may be omitted if there is extensive regulation or diversion. Data reports may use any of the following units of measurements in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal 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 (IN) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

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

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

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Beginning with the 1987 annual State data report, estimated daily discharge values published in the water-discharge tables are identified by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated".

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 thousandth of a cubic foot per second for sites where the streamflow is often less than .01 ft³/s (cubic foot per second); to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s for other sites where the streamflow is rarely less than .01 ft³/s; to the nearest tenth from 1.0 to 10 ft³/s; to whole numbers from 10 to 1,000 ft³/s; and to 3 significant figures when greater than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperature, discharge measurements, gage-height records, and rating tables is on file in the District's offices. Most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District Information Specialist (telephone (717) 730-6916).

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. Specifically, a continuing record station is a specified site which meets one or all conditions listed: (1) When chemical samples are collected daily or monthly for 10 or more months during the water year. (2) When water temperature records include observations taken one or more times daily. (3) When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year. 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. Location of stations for which records on the quality of surface water appear in this report are shown in figures 6-14.

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

During the collection of water-quality data, assurance that the data obtained represent the in-situ quality of the water is a major concern. Certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are collected. To assure that measurements made in the laboratory also represent the in-situ water quality, carefully prescribed procedures need to be followed when collecting the samples, when treating the samples to prevent changes in quality pending analysis, and when shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. A1, A3, and A4; Book 9, Chap. A1-A9. These references are listed in the PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. These methods are consistent with ASTM standards and generally follow ISO standards. Also, detailed information on collecting, treating, and shipping samples may be obtained from the U.S. Geological Survey District Office.

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 collected for the National Water Quality Assessment Program (see Definition of Terms) are obtained from several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors that 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 published records consist of daily maximum, minimum, mean, and/or median values for each constituent measured and are determined from data that are recorded at 15-, 30-, or 60-minute intervals with solid-state electronic data loggers, or with Data Collection Platforms (DCPs). More detailed records (measured at a frequency greater than daily) may be obtained from the U.S. Geological Survey District Office at the address given on the back of the title page of this report or from [<http://waterdata.usgs.gov/pa/nwis/>].

Water Temperature

Water temperatures are measured at most of the water-quality stations. At stations where recording instruments are used, maximum, minimum, and mean temperatures for each day are published and recorded data are available from the District Office or from [<http://waterdata.usgs.gov/pa/nwis/>]. In addition, water temperatures are measured at the time of discharge measurements for most water-discharge stations and are on file in the District's offices. For stations where water temperature is measured manually once or twice daily, it is usually measured at about the same time each day. Large streams have a small diurnal temperature change; temperatures in 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 heated waste-water discharges.

Sediment

Suspended-sediment concentrations are determined from samples collected by hand or by pump samplers. Hand samples utilize the appropriate sampler (dependent on stream depth and velocity) and are collected using the depth-integrating method at single or multiple verticals in the cross section. Samples collected by pump samplers use an intake set to a fixed location in the cross section. The intake is located at a site that best represents the entire cross section on the basis of simultaneous samples collected at various stages by the pumping sampler and by hand. During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, every 15 minutes). 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, mean concentration, and the constant 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

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

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. The remaining samples are analyzed in the Geological Survey laboratory in Denver, Colorado. If other laboratories are used, they are identified in the "Remarks" or "Cooperation" paragraph of each water-quality station manuscript. Methods used to analyze sediment samples and to compute sediment records are described in the TWRI Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards. Methods used by other laboratories are approved by the U.S. Geological Survey, Water Resources Division.

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 constituents currently measured daily. Tables of chemical, physical, biological, radiochemical, and other data, 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 streamflow-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 constituents measured daily or continuously and those measured less often than daily. For those measured daily or continuously, periods of record are given for the constituents individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature recorder, 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 constituents measured daily or more frequently. None are given for constituents measured 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 in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb [<http://waterdata.usgs.gov/nwis/>]. 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 NWIS or NWISWeb to insure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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.

Accuracy of the Records

The accuracy of water-quality records at continuous-record water-quality stations depends primarily on (1) hydrologic environment; (2) seasonal conditions; (3) operating accuracy of the equipment; (4) fouling of the probes; (5) calibration drift in the equipment; and (6) maintenance frequency.

Beginning with the 2000 water year, an additional statement describing the accuracy attributed to the records is included under the "REMARKS" heading. After the record has been evaluated for reporting continuous data (table 1), one of the four accuracy classifications is applied to each measured physical property on a scale ranging from poor to excellent. Table 2 shows the criteria used in rating continuous water-quality records.

In addition, beginning with the 2000 water year, the presentation of daily mean pH values has been discontinued and replaced by median pH values. (Wagner, R.J., Matraw, H.C., Ritz, G.F., and Smith, B.A., 2000, Guidelines and standard procedures for continuous water-quality monitors—site selection, field operation, calibration, record computation, and reporting: U.S. Geological Survey Water-Resources Investigations Report 00-4252, 53 p.).

Table 1.--Maximum allowable limits for continuous water-quality monitoring sensors.

Measured physical property	Maximum allowable limits for water-quality sensor values
Temperature	± 2.0°C
Specific conductance	± 30 percent
Dissolved oxygen	The greater of ± 2.0 mg/L or 20 percent
pH	± 2 pH units
Turbidity	± 30 percent

Table 2.--Rating continuous water-quality records.

Measured physical property	Ratings			
	Excellent	Good	Fair	Poor
Water temperature	≤ ± 0.2°C	>± 0.2 to 0.5°C	>± 0.5 to 0.8°C	>± 0.8°C
Specific conductance	≤ ± 3%	>± 3 to 10%	>± 10 to 15%	>± 15%
Dissolved oxygen	≤ ± 0.3 mg/L	>± 0.3 to 0.5 mg/L	>± 0.5 to 0.8 mg/L	>± 0.8 mg/L
pH	≤ ± 0.2 unit	>± 0.2 to 0.5 unit	>± 0.5 to 0.8 unit	>± 0.8 unit
Turbidity	≤ ± 5%	>± 5 to 10%	>± 10 to 15%	>± 15%

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E,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.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Dissolved Trace-Element Concentrations

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

Change in National Trends Network Procedures

NOTE.--Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP Program Office, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820-7459 (217-333-7873).

Water-Quality-Control Data

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

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

Ambient blank--a blank solution that is put in the same type of sample container used for an environmental sample, kept with the set of sample bottles before sample collection, and opened at the site and exposed to the ambient conditions.

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

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

Source-solution blank--A blank solution that is poured directly from a bottle of blank water into the sample container.

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

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

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

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

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

Canister blank--a blank solution that is taken directly from a stainless steel canister just before the VOC sampler is submerged to obtain a field sample.

REFERENCE SAMPLES.--Reference material samples are solutions or materials having a known composition that is certified by a laboratory. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

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

Sequential samples--a type of replicate sample in which environmental samples are collected one after the other, typically within a short time.

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

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

Records of Ground-Water Levels

Ground-water level data from an observation well network and from ground-water projects are published herein. Locations of observation wells in the basic network are shown in figures 6 and 7. Ground-water data are grouped by counties, arranged in alphabetical order, and are listed on pages xi and xii. Those with an (l) following the well number have water-level data published in the report. Miscellaneous or short-term ground-water data collection projects are published following the basic network data.

Data Collection and Computation

Water levels are measured in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

The prime identification number for a given well is the 15-digit number that appears above the station description. The secondary identification number is the local well number, an alphanumeric number, derived from the county location of the well.

Water-level records are obtained from direct measurements with a steel tape, from the graph, with solid-state electronic data loggers, or with Data Collection Platforms (DCPs). The water-level measurements in this report are given in feet with reference to land-surface datum (l_{sd}). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for each day.

Water levels are reported to as many significant figures as can be justified by the local conditions. Accordingly, most measurements are reported to a hundredth of a foot, but some may be given to a tenth of a foot.

Data Presentation

Each well record consists of three parts; (1) the station description, (2) the data table of water levels observed during the current water year, and (3) a graph of the water levels for the last 3 years. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments that follow clarify information presented under the various headings of the station description.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds), the hydrologic-unit number, the distance and direction from a geographic point of reference, and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method, allowing the user to better evaluate the reported water-levels by knowing whether they are based on hourly, daily, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision relative to the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "*to current year*" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest values of one daily water-level statistic (maximum, mean, or instantaneous) reported in the data tables for the period of published record with respect to land-surface datum, (or occasionally sea level), and the dates of their occurrence. For example, if the daily maximum depth below land surface is reported in the table of water levels, this paragraph would reflect the highest and lowest of these daily maximum values for the period of record. Depending on the statistic reported in the table of water levels, extremes would be determined from daily maximum, mean, or instantaneous values.

Data table of water levels

A table of water levels follows the station description for each well. These tables usually report water-level data as maximum depth (in feet) above or below land-surface datum, but may report daily mean or instantaneous values depending upon the method used to obtain the record and how the record was published in the past. If water-level record is obtained from electronic data loggers, or DCPs, in addition to data published in the table of water levels, the daily maximum, minimum, and mean water-levels are stored in computer files and available from the District Office as noted in the REMARKS paragraph for that well. Recorded data are available at the District Office or from [<http://waterdata.usgs.gov/pa/nwis/>]. The extremes of the water-levels reported in the table for the water year and their dates of occurrence are shown on a line below the table. Missing records are indicated by dashes in place of the water level. A hydrograph showing the last three years of water levels follows each water-level table.

Records of Ground-Water Quality

Records of ground-water quality are obtained at wells and springs included in ground-water projects. Records of ground-water quality in this report may involve a variety of types of data and measurement frequencies. Those wells with a (c) following the well number in the list of ground-water wells on pages xi and xii, have water-quality data published in the report. Miscellaneous or short-term ground-water data collection projects are published following the basic network data.

Data Collection and Computation

The records of ground-water quality in this report are usually obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses may be presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality basinwide. Such a view can be attained only by considering records for a particular year in context with similar records obtained in previous years.

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey TWRI publications referred to in the "*On-site Measurements and Sample Collection*" and the "*Laboratory Measurements*" sections in this data report. In addition, the TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and method of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. All samples were obtained by trained personnel. Any wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

Ground-water-quality data, if collected, are published with ground-water-level data at stations where level data are collected. Any data collected at partial-record stations and miscellaneous sites follow the information for continuous ground-water record stations. Data for each section are listed alphabetically by county, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO USGS WATER 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. The Geological Survey provides near real-time stream stage, discharge, groundwater level, and stream water-quality data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed at [<http://waterdata.usgs.gov/pa/nwis/>].

Water-quality and ground-water data also are available through the WWW at [<http://waterdata.usgs.gov/pa/nwis/>]. In addition, data can be provided in various machine-readable formats on compact disc or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

For most streamgages, "*real-time*" streamflow conditions are available on the World Wide Web (WWW) Pennsylvania District Home Page at [<http://pa.water.usgs.gov/>]. Daily streamflow values for the period of record, annual peak stream discharges, and streamflow conditions for surrounding states may be obtained at [<http://waterdata.usgs.gov/nwis/>].

A wide variety of additional information, such as ordering U.S. Geological Survey maps and publications, is available at the U.S. Geological Survey Home Page at [<http://www.usgs.gov/>].

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”)

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

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. (See also “Biomass” and “Dry weight”)

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.)

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate sim-

plifies the community structure by standardizing the substrate from which each sample is collected. 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. (See also “Substrate”)

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. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also “Biomass” and “Dry mass”)

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas 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.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also “Peak flow”)

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also “Bedload,” “Dry weight,” “Sediment,” and “Suspended-sediment discharge”)

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also “Bedload” and “Sediment”)

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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

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

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Cells/volume refers to the number of cells of any organism that 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 volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } \frac{4}{3} \pi r^3 \quad \text{cone } \frac{1}{3} \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159....

From cell volume, total algal biomass expressed as biovolume ($\mu\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

***Clostridium perfringens* (*C. perfringens*)** is a spore-forming bacterium that is common in the feces of human and other warm-blooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinat ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 saltwater.

Cubic foot per second (CFS, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft³/s)/d]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, (ft³/s)/mi²] 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. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

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. (See also "Phytoplankton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It 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, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, 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. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli (*E. coli*) are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) concentration value is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

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

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are 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. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that 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. (See also "Bacteria")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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. (See also "Phytoplankton")

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

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

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA web site: <http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \text{sum} \frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA web site: <http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

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

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

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

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

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

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, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

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

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

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

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

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88> (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

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 (m²), 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.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) 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, as 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	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, 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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of

decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or percent of total 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, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

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

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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 commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

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 (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines 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 with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. The oxygen method defines 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. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological con-

ditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (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. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be

presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment 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 affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

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. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MIL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See "Gage height")

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

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.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) 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 defined operationally as 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 suspended water-sediment sample that is retained on a 0.45-micrometer 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 directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

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 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

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

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

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

Kingdom:	Animal
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions 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 resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (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, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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 at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that 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 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term

needs to be qualified, such as “total sediment discharge,” “total chloride discharge,” and so on.

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

Total length (fish) is the straight-line distance from the anterior point of a fish specimen’s snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also “Organism count/volume”)

Total recoverable is the amount of a given constituent in a whole-water sample after a 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 for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also “Bedload,” “Bedload discharge,” “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Total sediment load or total load is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also “Sediment,” “Suspended-sediment load,” and “Total load”)

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be

defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See “Water-table aquifer”)

Vertical datum (See “Datum”)

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

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS 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, 2002, is called the “2002 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.

Wet mass is the mass of living matter plus contained water. (See also “Biomass” and “Dry mass”)

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also “Dry weight”)

WSP is used as an acronym for “Water-Supply Paper” in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplank-

ton 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. (See also “Plankton”)

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The USGS publishes a series of manuals titled the "Techniques of Water-Resources Investigations" that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals 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. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

Manuals in the Techniques of Water-Resources Investigations series, which are listed below, are available online at <http://water.usgs.gov/pubs/twri/>. Printed copies are available for sale from the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (an authorized agent of the Superintendent of Documents, Government Printing Office). Please telephone "1-888-ASK-USGS" for current prices, and refer to the title, book number, section number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Other products can be viewed online at <http://www.usgs.gov/sales.html>, or ordered by telephone or by FAX to (303)236-4693. Order forms for FAX requests are available online at <http://mac.usgs.gov/isb/pubs/forms/>. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

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- 1-D1. *Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS-TWRI book 1, chap. D1. 1975. 65 p.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS-TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

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- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS-TWRI book 2, chap. D1. 1974. 116 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS-TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS-TWRI book 2, chap. E1. 1971. 126 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS-TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

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

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Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS-TWRI book 3, chap. A1. 1967. 30 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS-TWRI book 3, chap. A2. 1967. 12 p.
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- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS-TWRI book 3, chap. A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS-TWRI book 3, chap. A6. 1968. 13 p.

- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI book 3, chap. A8. 1969. 65 p.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS-TWRI book 3, chap. A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS-TWRI book 3, chap. A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS-TWRI book 3, chap. A12. 1986. 34 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS-TWRI book 3, chap. A13. 1983. 53 p.
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- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS-TWRI book 3, chap. A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS-TWRI book 3, chap. A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS-TWRI book 3, chap. A17. 1985. 38 p.
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- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS-TWRI book 3, chap. A19. 1990. 31 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS-TWRI book 3, chap. A20. 1993. 38 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS-TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS-TWRI book 3, chap. B1. 1971. 26 p.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS-TWRI book 3, chap. B2. 1976. 172 p.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS-TWRI book 3, chap. B3. 1980. 106 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS-TWRI book 3, chap. B4. 1990. 232 p.
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- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS-TWRI book 3, chap. B7. 1992. 190 p.
- 3-B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS-TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS-TWRI book 3, chap. C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS-TWRI book 3, chap. C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS-TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation**Section A. Statistical Analysis**

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS-TWRI book 4, chap. A1. 1968. 39 p.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS-TWRI book 4, chap. A2. 1968. 15 p.
- 4-A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS-TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

Section B. Surface Water

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS-TWRI book 4, chap. B1. 1972. 18 p.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS-TWRI book 4, chap. B2. 1973. 20 p.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS-TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS-TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis**Section A. Water Analysis**

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS-TWRI book 5, chap. A1. 1989. 545 p.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS-TWRI book 5, chap. A2. 1971. 31 p.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS-TWRI book 5, chap. A3. 1987. 80 p.
- 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, chap. A4. 1989. 363 p.
- 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, chap. A5. 1977. 95 p.
- 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, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS-TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques**Section A. Ground Water**

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS-TWRI book 6, chap. A1. 1988. 586 p.
- 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, chap. A2. 1991. 68 p.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS-TWRI book 6, chap. A3. 1993. 136 p.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS-TWRI book 6, chap. A4. 1992. 108 p.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS-TWRI book 6, chap. A5. 1993. 243 p.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS-TWRI book 6, chap. A6. 1996. 125 p.
- 6-A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS-TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations**Section C. Computer Programs**

- 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, chap. C1. 1976. 116 p.
- 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, chap. C2. 1978. 90 p.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS-TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation**Section A. Instruments for Measurement of Water Level**

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS-TWRI book 8, chap. A1. 1968. 23 p.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS-TWRI book 8, chap. A2. 1983. 57 p.

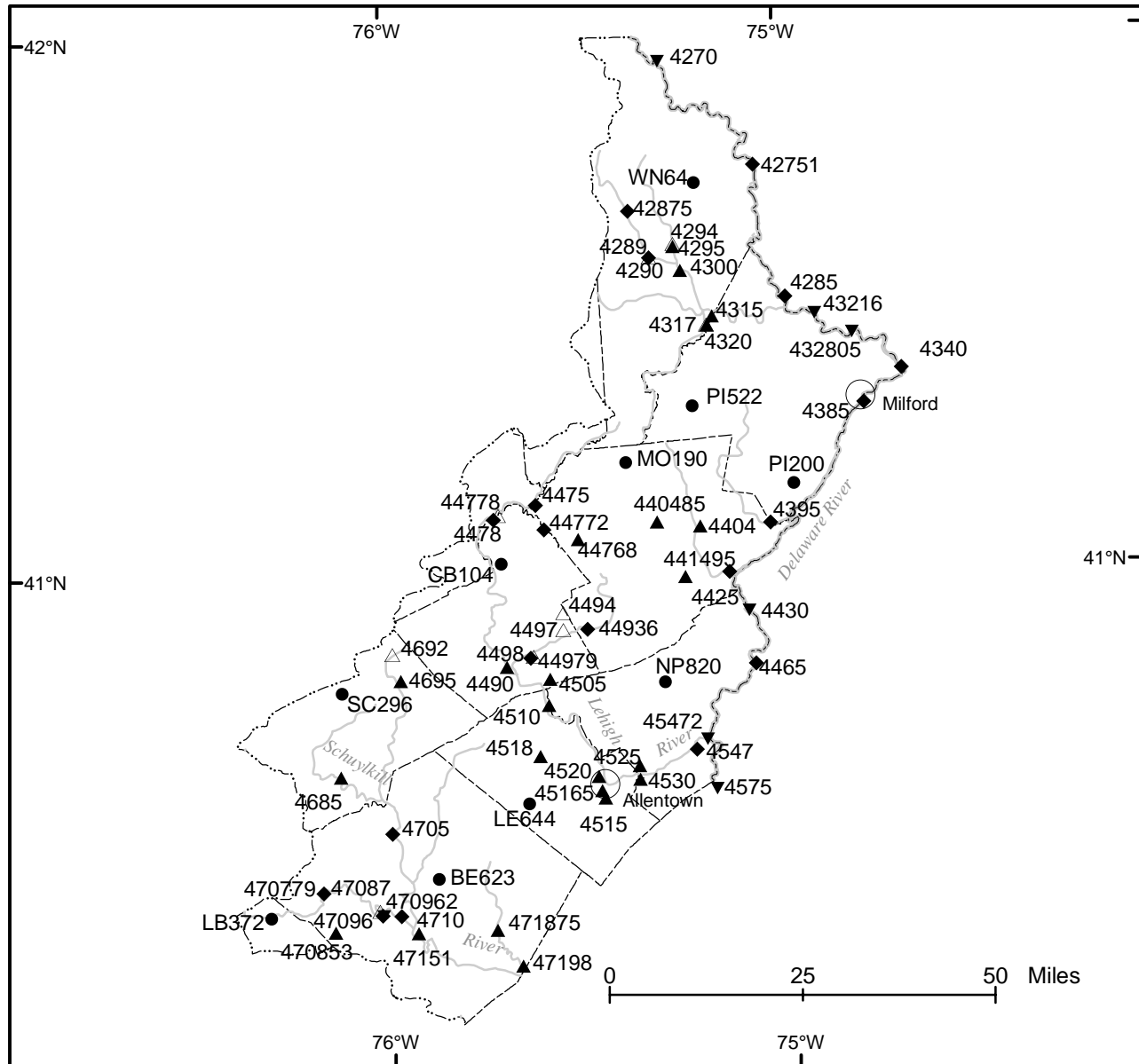
Section B. Instruments for Measurement of Discharge

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

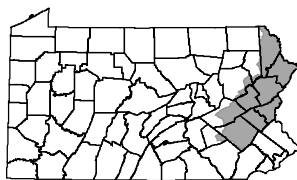
Book 9. Handbooks for Water-Resources Investigations**Section A. National Field Manual for the Collection of Water-Quality Data**

- 9-A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A1. 1998. 47 p.
- 9-A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A2. 1998. 94 p.
- 9-A3. *National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A3. 1998. 75 p.
- 9-A4. *National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS-TWRI book 9, chap. A4. 1999. 156 p.

- 9–A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.
- 9–A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
- 9–A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9–A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
- 9–A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.



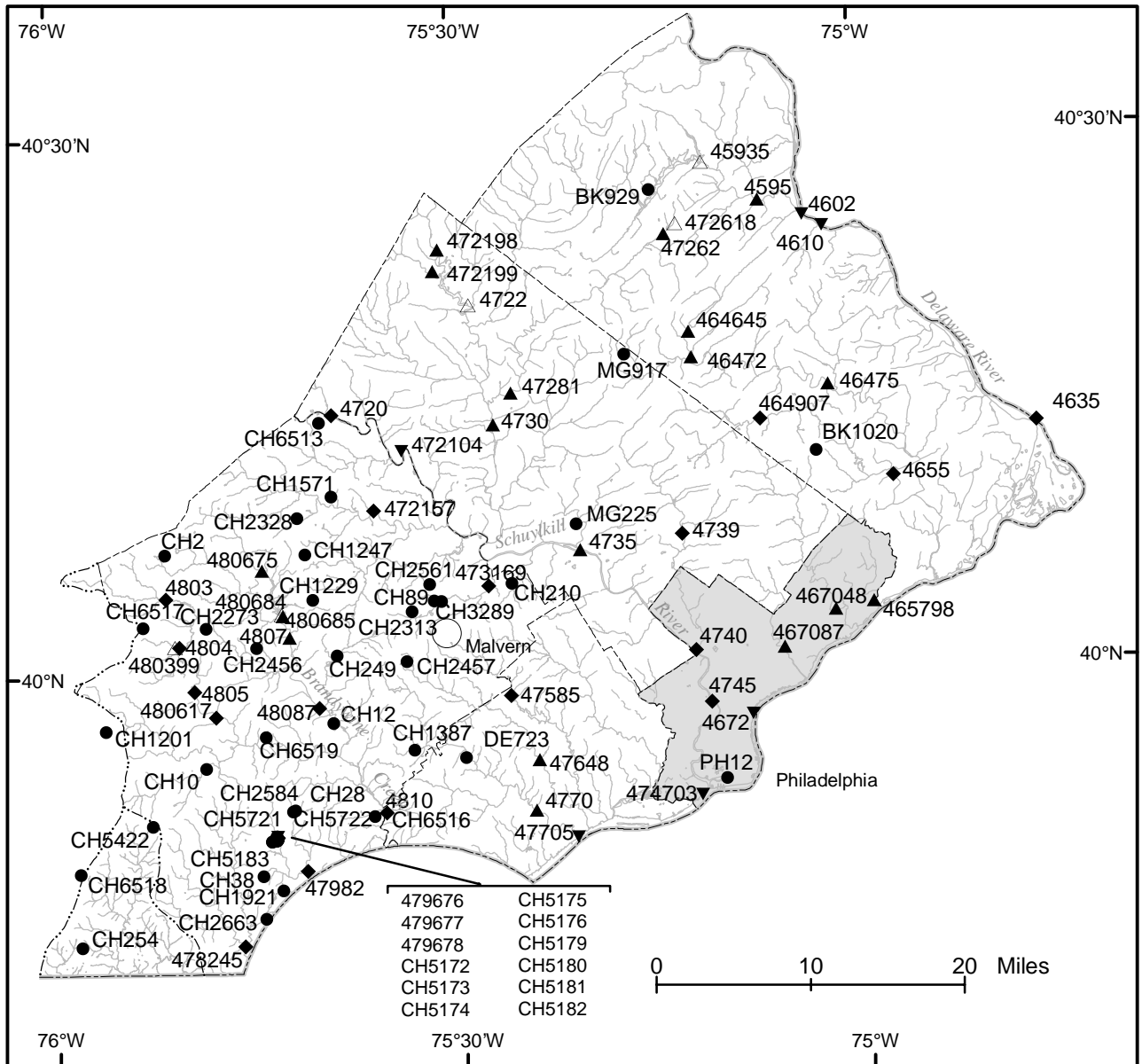
EXPLANATION



- ▲ Streamflow station
- △ Lake
- ◆ Streamflow and water-quality station
- ▼ Water-quality station
- Observation well

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 01470500 is shown as 4705, and station number 01471875 is shown as 471875).

Figure 6.--Location of continuous-record data-collection stations in the upper Delaware River Basin.



EXPLANATION

- ▲ Streamflow station
- △ Lake
- ◆ Streamflow and water-quality station
- ▼ Water-quality station
- Observation well

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 01474000 is shown as 4740, and station number 01467048 is shown as 467048).

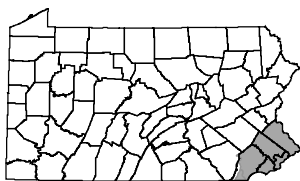
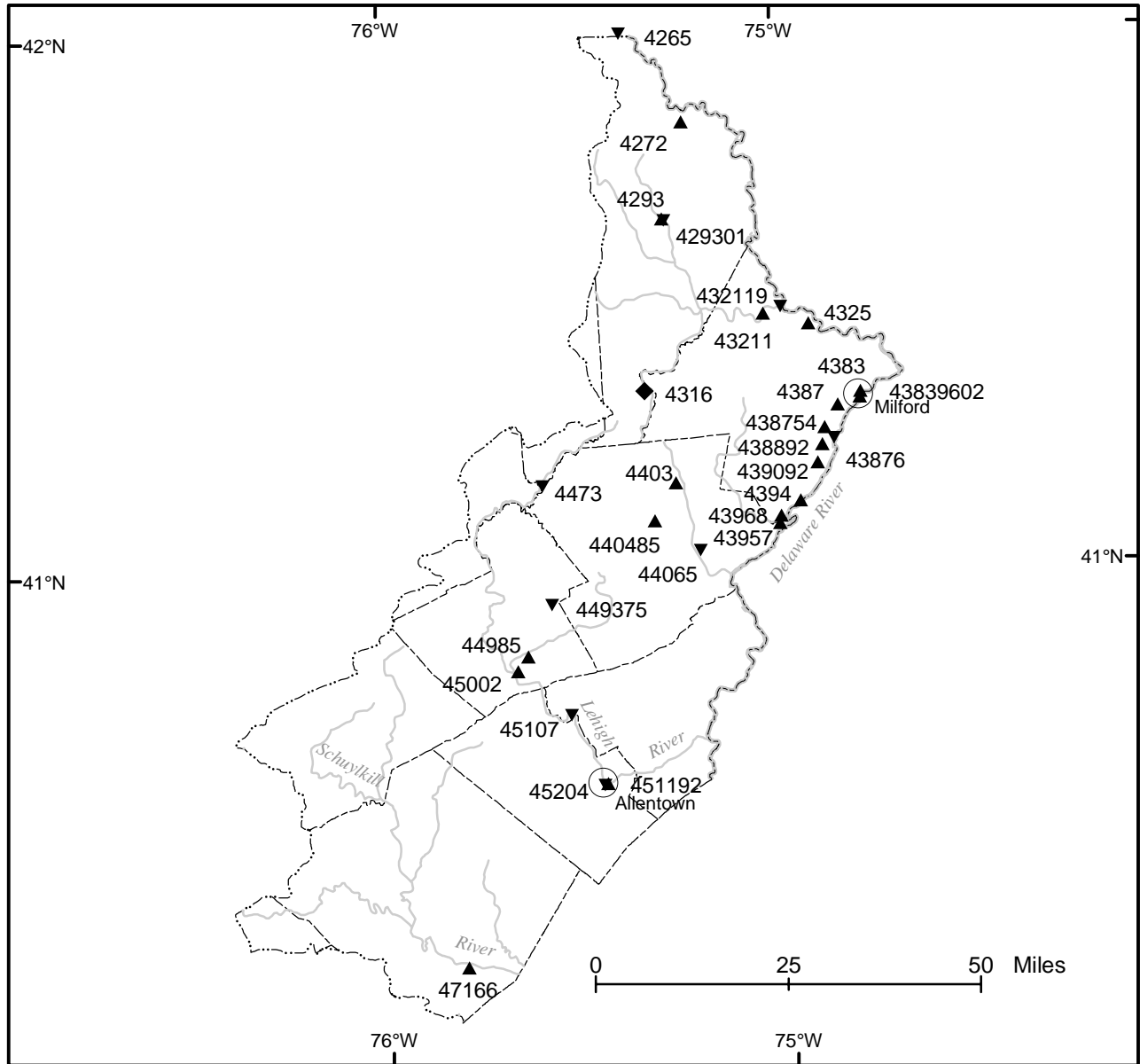


Figure 7.--Location of continuous-record data-collection stations in the lower Delaware River Basin.



EXPLANATION

TYPE

- ▲ Streamflow station
- ◆ Streamflow and water-quality station
- ▼ Water-quality station

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 01438300 is shown as 4383, and station number 01451192 is shown as 451192).

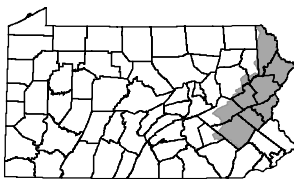
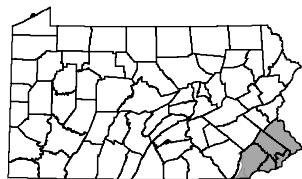
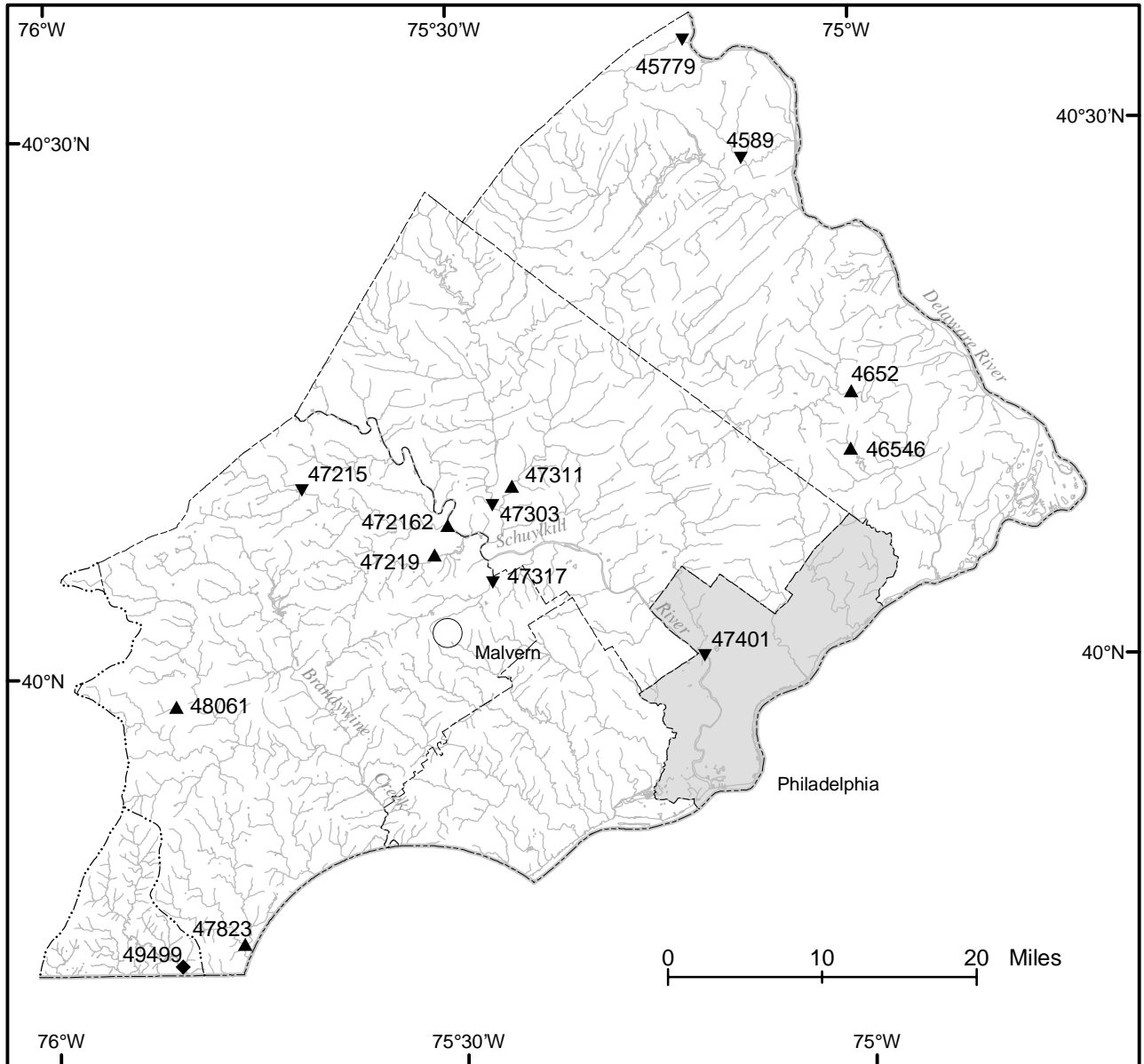


Figure 8.--Location of partial-record data-collection stations in the upper Delaware River Basin.



EXPLANATION

- ▲ Streamflow station
- ◆ Streamflow and water-quality station
- ▼ Water-quality station

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 01465460 is shown as 46546).

Figure 9.--Location of partial-record data-collection stations in the lower Delaware River Basin.

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

NOTES--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter($\mu\text{G/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{G/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols took place during the 1995 water year.

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

--In March 1989 a bias was discovered in the turbidimetric method for sulfate analysis for those samples analyzed by the U.S. Geological Survey National Water-Quality Laboratory indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989.

--**Methylene blue active substance (MBAS)** determinations made from January 1, 1970, through August 29, 1993, at the National Water Quality Laboratory in Denver (Analyzing Agency Code 80020) are positively biased. These data can be corrected on the basis of the following equation, if concentrations of dissolved nitrate plus nitrite, as nitrogen, and dissolved chloride, determined concurrently with the MBAS data are applied:

$$\text{MBASCOR} = \text{M} - 0.0088\text{N} - 0.00019\text{C}$$

where:

- MBASCOR = corrected MBAS concentration, in mg/L;
- M = reported MBAS concentration, in mg/L;
- N = dissolved nitrate plus nitrite, as nitrogen, in mg/L; and
- C = dissolved chloride concentration, in mg/L.

The detection limit of the new method is 0.02 mg/L, whereas the detection limit for the old method was 0.01 mg/L. A detection limit of 0.02 mg/L should be used with corrected MBAS data from January 1, 1970, through August 29, 1993.

Remark Codes--The following remark codes may appear with the data tables in this report:

PRINTED OUTPUT

REMARK

E,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.
M	Presence of material verified but not quantified.
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).
ND	Material specifically analyzed for but not detected.
V	Analyte was detected in both the environmental sample and the associated blanks.

EXPLANATION OF CODES USED TO DEFINE SAMPLE COLLECTION PROCEDURES (partial listing)

(71999) SAMPLE PURPOSE CODES:

(84164) SAMPLER TYPE: (partial list)

- 10--Routine
- 15--NAWQA
- 20--NASQAN
- 30--Benchmark

- 110--Sewage sampler
- 3011--US D-77
- 3035--DH-76 Trace metal sampler with teflon gasket and nozzle

(82398) SAMPLE METHOD CODES:

- 10--Equal width increment
- 20--Equal discharge increment
- 30--Single vertical
- 40--Multiple verticals
- 50--Point sample
- 70--Grab sample
- 120--Velocity integrated
- 8010--Other

- 3039--D-77 Trace metal
- 3040--D-77 Trace metal modified teflon bag sampler
- 3045--DH-81 with Teflon cap and nozzle
- 8010--Other (other than a defined sampler type)

SPECIAL NOTES, REMARK CODES AND SELECTED CONSTITUENT DEFINITIONS--Continued**Explanation of selected abbreviations used in constituent definitions in water-quality tables:**

AC-FT	acre-feet
BOT MAT	bottom material (Unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.)
COLS/100 ML	colonies per 100 milliliters
DIS	dissolved
FET	fixed end-point titration
FLD	field (Measurement determined at field site.)
F/S	feet per second
G/M	gallons per minute
G/SQM; MG/M2	grams or milligrams per square meter
IT	incremental titration
KF AGAR	nutrient medium for growth of fecal streptococcal bacteria
µG/L	micrograms per liter
µS/CM	microsiemens per centimeter
MG/L	milligrams per liter
MG/M2	milligrams per square meter
MM OF HG	millimeters of mercury
NONCARB	noncarbonate
NTU	nephelometric turbidity unit
PCI/L	picocuries per liter
REC	recoverable
TOT	total
T/DAY	tons per day
WH IT	whole water, incremental titration (Alkalinity, bicarbonate, and carbonate as determined by incremental titration of unfiltered water at the field site.)
2 SIGMA	Counting statistic that represents error in the reported radon, uranium, or tritium value caused by variations in sample counting, background radiation, volume of sample, and decay since sample was collected.
0.7µ GF	0.7 micron glass-fiber filter (Water filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size.)

(00027) AGENCY COLLECTING SAMPLE CODES: (partial listing)

1028 --U.S. Geological Survey

(00028) AGENCY ANALYZING SAMPLE CODES: (partial listing)

1028 --U.S. Geological Survey
80020 --U.S. Geological Survey, National Water-Quality Laboratory, Denver, Colorado
9813 --Pennsylvania Department of Environmental Protection
83613 --District Water-Quality Laboratory, Troy, New York

MEDIUM CODES: (partial listing)

9-- Surface water.
R-- Quality-control sample. Surface water.
Q-- Quality-control sample. Artificial.

**SURFACE-WATER RECORDS
NORTH ATLANTIC SLOPE BASINS
DELAWARE RIVER BASIN**

01427000 WEST BRANCH DELAWARE RIVER AT HANCOCK, NY

LOCATION.--Lat 41°57'08", long 75°17'31", Delaware County, Hydrologic Unit 02040101, at bridge at end of Pennsylvania State Highway 191 in Hancock, and 1.3 mi upstream from confluence with East Branch Delaware Riverr.

DRAINAGE AREA.--650 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1996 to current year.

INSTRUMENTATION.--Water-temperature satellite telemeter provides 15-minute-interval readings.

REMARKS.--Water temperature is affected by release of water from upstream reservoir.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 24.5°C, Sept. 18, 1997, June 13, 2001; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 23.0°C, June 21; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	11.5	13.5	12.0	9.5	11.0	10.0	8.0	9.0	0.0	0.0	0.0
2	16.0	12.5	14.5	12.5	10.0	11.5	9.0	6.0	7.5	0.0	0.0	0.0
3	17.0	13.0	15.0	13.0	11.5	12.5	7.5	5.0	6.0	0.0	0.0	0.0
4	17.5	13.5	15.5	12.5	10.0	11.5	6.5	3.5	5.0	0.0	0.0	0.0
5	17.0	14.5	15.5	11.0	8.5	9.5	8.5	6.0	7.0	0.0	0.0	0.0
6	16.0	14.5	15.0	9.5	8.0	8.5	8.5	6.5	7.5	0.5	0.0	0.0
7	14.5	12.5	13.5	9.0	7.5	8.5	8.5	5.0	7.0	0.0	0.0	0.0
8	14.5	12.0	13.5	9.0	7.5	8.0	5.0	2.0	3.5	0.0	0.0	0.0
9	15.5	12.5	14.0	9.5	7.0	8.0	4.0	2.0	3.0	0.0	0.0	0.0
10	16.5	13.0	15.0	8.5	6.0	7.0	4.5	2.5	3.5	0.0	0.0	0.0
11	17.0	13.5	15.5	7.5	5.5	7.0	5.5	2.5	3.5	0.0	0.0	0.0
12	16.5	14.0	15.5	6.0	4.5	5.5	5.5	2.5	4.0	0.5	0.0	0.0
13	17.0	15.0	16.0	7.0	4.0	5.5	5.5	4.0	4.5	0.5	0.0	0.0
14	16.0	14.5	15.5	7.5	5.0	6.0	6.0	5.0	5.5	0.5	0.0	0.0
15	16.5	14.5	15.5	9.5	7.5	8.5	6.0	3.5	5.0	1.0	0.5	0.5
16	15.5	13.0	14.5	10.0	8.0	9.0	4.5	2.5	3.5	1.0	0.0	0.5
17	14.5	12.5	13.5	8.0	6.5	7.5	4.0	3.5	3.5	1.5	0.0	0.5
18	14.5	12.0	13.0	7.5	5.0	6.5	4.5	4.0	4.0	0.5	0.0	0.0
19	14.0	11.5	13.0	8.0	6.0	7.0	5.0	4.0	4.5	0.0	0.0	0.0
20	15.0	13.0	14.0	8.0	5.5	7.0	4.5	3.5	4.0	0.0	0.0	0.0
21	15.5	12.0	14.0	6.0	4.0	5.5	3.5	2.5	3.0	0.0	0.0	0.0
22	14.5	13.0	14.0	6.5	4.5	5.5	3.0	2.0	2.5	0.0	0.0	0.0
23	14.5	12.5	13.5	6.5	4.5	5.5	3.0	1.0	2.0	0.5	0.0	0.0
24	15.5	14.0	14.5	8.5	6.5	7.0	4.0	2.0	3.0	0.0	0.0	0.0
25	15.5	13.0	14.0	11.0	8.5	10.0	2.0	1.0	1.5	0.5	0.0	0.0
26	13.0	11.5	12.0	9.0	8.0	8.5	1.5	0.0	0.5	1.0	0.0	0.0
27	12.5	11.0	11.5	8.0	6.5	7.5	0.0	0.0	0.0	1.0	0.0	0.5
28	12.0	10.5	11.0	9.5	7.5	8.5	0.0	0.0	0.0	1.0	0.0	0.5
29	13.0	10.0	11.5	8.5	7.5	8.0	0.0	0.0	0.0	1.0	0.5	1.0
30	12.5	10.5	11.5	9.5	7.5	8.5	0.5	0.0	0.0	2.5	1.0	1.5
31	10.5	9.0	9.5	---	---	---	0.0	0.0	0.0	2.0	2.0	2.0
MONTH	17.5	9.0	13.8	13.0	4.0	8.0	10.0	0.0	3.7	2.5	0.0	0.2

DELAWARE RIVER BASIN

01427000 WEST BRANCH DELAWARE RIVER AT HANCOCK, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.5	2.0	2.0	3.5	0.0	1.0	7.5	5.5	7.0	11.5	6.0	8.5
2	2.0	0.5	1.0	2.5	0.0	1.5	6.5	4.0	5.5	9.5	8.0	8.5
3	2.0	0.0	1.0	6.5	2.5	4.5	6.0	5.0	6.0	10.0	7.5	8.5
4	2.5	0.5	1.5	3.5	0.0	2.0	6.5	3.5	5.0	13.0	6.0	9.5
5	1.0	0.0	0.5	1.5	0.0	0.5	5.0	2.5	3.5	14.5	7.5	11.0
6	2.0	0.0	0.5	5.5	0.5	2.5	5.5	2.0	3.5	15.0	9.0	12.0
7	3.0	0.0	1.5	5.5	1.0	3.0	7.0	1.0	4.0	15.0	11.5	13.5
8	4.5	1.5	2.5	8.0	2.0	4.5	6.0	4.0	5.0	16.0	11.5	13.5
9	5.0	1.5	3.0	9.0	5.0	7.0	9.5	5.5	7.5	13.0	10.0	11.0
10	3.5	1.5	2.5	8.5	1.5	5.0	12.0	7.0	9.0	16.0	10.0	12.5
11	3.0	0.0	1.5	5.5	0.0	2.0	12.5	6.0	9.0	15.5	9.0	12.0
12	2.0	0.0	1.0	4.0	0.5	2.0	13.0	6.5	9.5	12.0	10.0	10.5
13	2.5	0.0	1.0	3.5	2.0	3.0	12.0	10.0	10.5	10.0	9.5	10.0
14	1.0	0.0	0.5	9.0	3.0	5.5	16.0	9.5	12.5	10.5	9.0	9.5
15	2.0	0.0	1.0	7.5	4.5	6.0	16.5	11.0	14.0	12.5	8.0	10.0
16	4.0	1.5	2.5	6.5	3.5	5.5	18.0	12.0	15.0	13.5	8.5	11.5
17	4.5	1.5	2.5	5.5	1.5	3.5	19.0	13.0	16.0	14.5	11.5	12.5
18	3.0	0.0	1.0	3.5	2.5	2.5	20.0	14.0	17.0	11.5	8.5	9.5
19	3.5	0.0	1.5	4.0	2.5	3.0	19.0	14.0	16.0	10.0	7.0	8.5
20	4.5	2.0	3.0	3.0	1.0	2.0	15.0	11.0	13.0	10.0	6.5	8.5
21	5.5	3.5	4.5	7.0	2.0	3.5	12.0	9.0	10.0	10.5	6.5	8.5
22	4.0	2.5	3.5	3.5	0.0	1.5	9.0	6.5	8.0	13.5	6.5	10.0
23	4.5	1.5	2.5	5.5	0.0	2.5	9.5	5.5	7.5	16.0	8.5	12.0
24	5.0	0.0	2.0	6.0	1.5	4.0	13.5	5.0	9.0	15.5	10.5	13.0
25	5.0	1.0	3.0	5.5	2.5	3.5	9.0	6.0	7.5	17.0	10.0	13.5
26	7.0	2.0	4.0	2.5	1.5	2.0	10.5	5.0	7.5	15.5	12.5	14.0
27	5.0	1.5	3.5	3.0	1.5	2.0	12.5	4.5	8.5	17.5	12.5	15.0
28	3.5	0.0	1.5	6.0	1.5	4.0	9.0	7.5	8.0	15.5	13.5	14.0
29	---	---	---	7.5	3.0	5.0	8.0	6.0	7.5	17.0	13.5	15.0
30	---	---	---	9.0	5.5	7.0	8.0	5.5	6.5	19.0	14.5	16.5
31	---	---	---	9.0	5.5	7.5	---	---	---	19.0	15.5	16.5
MONTH	7.0	0.0	2.0	9.0	0.0	3.5	20.0	1.0	8.9	19.0	6.0	11.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.5	14.5	16.5	21.0	17.5	19.5	18.5	13.5	16.0	16.5	13.0	14.5
2	17.5	14.0	16.0	20.5	17.0	19.0	16.5	13.0	14.5	17.0	14.0	15.5
3	17.5	12.0	15.0	20.5	14.5	18.0	16.0	10.0	13.0	19.0	14.0	17.0
4	16.5	13.0	15.0	20.0	15.0	18.0	16.0	10.0	13.0	19.0	16.0	18.0
5	18.5	13.5	16.0	19.5	17.0	18.0	14.5	11.0	13.0	17.5	14.0	16.0
6	17.0	14.5	15.5	17.0	13.0	15.0	15.0	11.0	13.0	17.0	13.0	15.0
7	17.0	13.5	15.5	19.5	14.0	17.0	14.5	10.0	12.5	17.5	12.5	15.5
8	17.5	14.0	15.5	19.5	14.0	17.0	14.5	10.0	12.5	19.0	13.5	16.0
9	19.5	14.5	16.5	18.0	15.0	16.0	15.0	9.5	12.5	20.0	15.0	17.5
10	20.5	15.5	18.0	20.5	14.5	17.5	15.5	9.5	12.5	19.5	16.0	18.0
11	21.5	16.0	18.5	21.5	15.0	18.0	15.5	9.5	12.5	18.5	14.5	16.0
12	20.5	18.0	19.0	19.0	15.5	17.5	15.0	10.0	13.0	17.0	12.5	15.0
13	19.0	16.5	17.5	16.5	12.5	15.0	16.0	10.5	13.5	18.0	13.0	15.5
14	17.0	14.5	15.5	18.5	13.0	16.0	15.0	10.5	13.0	18.0	14.0	16.5
15	14.5	14.0	14.5	20.5	16.0	18.5	14.5	11.0	13.0	18.0	16.5	17.5
16	16.5	14.0	15.5	22.0	17.0	19.0	15.5	11.0	13.0	18.5	17.0	18.0
17	18.0	14.0	16.0	20.5	14.5	18.0	15.5	11.0	13.5	19.5	16.0	17.5
18	19.0	14.0	16.5	21.0	16.0	18.5	15.5	11.5	13.5	18.5	15.5	17.0
19	21.0	15.5	18.0	19.0	13.0	16.0	15.5	11.5	13.5	18.0	16.0	17.0
20	22.0	16.0	19.0	16.5	10.0	13.0	15.0	11.5	13.5	19.5	17.0	18.5
21	23.0	17.5	20.0	15.5	10.5	13.5	16.0	11.0	13.5	19.5	17.0	18.5
22	21.5	18.0	20.0	19.5	13.5	16.5	15.5	11.5	13.5	19.5	17.5	18.5
23	21.0	17.5	19.0	18.0	14.0	16.0	16.5	12.5	14.5	18.5	16.5	17.5
24	22.5	18.0	20.5	16.0	10.5	13.5	15.5	12.5	13.5	18.5	15.0	16.5
25	22.5	18.5	20.5	18.5	15.0	16.5	18.0	12.0	15.0	17.0	15.0	16.0
26	22.5	19.0	21.0	16.0	11.5	13.0	18.0	15.5	16.5	16.5	15.0	15.5
27	22.5	19.0	20.5	13.5	10.0	11.5	16.5	13.0	15.0	15.0	14.5	14.5
28	20.5	18.0	19.0	15.0	10.5	12.5	16.5	13.5	15.5	16.5	14.5	15.5
29	22.5	16.0	19.5	18.0	13.5	15.5	15.5	13.0	14.0	17.5	13.0	15.0
30	22.5	18.0	20.5	19.0	14.5	16.5	17.0	13.5	15.0	18.0	14.0	16.0
31	---	---	---	18.0	13.5	16.0	17.5	13.0	15.5	---	---	---
MONTH	23.0	12.0	17.7	22.0	10.0	16.3	18.5	9.5	13.7	20.0	12.5	16.5

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°45'24", long 75°03'28", Wayne County, Pennsylvania, Hydrologic Unit 02040101, on right bank, 0.5 mi downstream from Callicoon Creek, 0.5 mi downstream from Interstate Bridge 7, and 0.8 mi southeast of Callicoon. Water-quality sampling site at discharge station.

DRAINAGE AREA.--1,820 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR NY-82-1: Drainage area. WDR NY-86-1: 1975-84 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 734.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir. Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during period of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite and telephone gage-height and temperature telemeter at station. Information on the above reservoirs can be found in the annual Water-Data Report NY-02-1.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,600 ft³/s, Jan. 19, 1996, gage-height, 16.31 ft; minimum discharge, 306 ft³/s, Sept. 24, 25, 1997; minimum gage height, 2.20 ft, Sept. 13, 1977, Aug. 23, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,400 ft³/s, June 7, gage height, 6.21 ft; minimum recorded, 488 ft³/s, Sept. 22, but may have been less during period of ice effect, gage height, 2.61 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	1370	1400	e800	4510	1280	4680	4440	5840	1110	871	1140
2	1180	1360	1820	e740	5020	1170	4020	4410	3980	1140	899	818
3	1140	1320	1200	e700	3730	1400	3320	4860	2870	1160	1270	822
4	1170	1240	995	e680	3090	1910	3020	3760	2250	1120	1230	871
5	1320	1300	874	e680	e2500	1600	2540	3100	2370	957	1230	983
6	1370	1290	797	e700	2230	1450	2250	2640	4590	965	1130	981
7	1350	1240	759	e740	2130	1400	1990	2320	12400	828	1150	1270
8	1340	1140	865	e740	1710	1320	1780	2100	8180	862	1140	1200
9	1400	1220	779	e760	1570	1250	1680	1970	5240	867	1180	827
10	1500	1220	720	e760	1490	1400	1650	2040	3770	818	1280	763
11	1460	1170	858	e760	6140	1680	1580	1770	2910	753	1290	797
12	1460	1160	688	e760	5490	1450	1380	1690	2420	650	1290	864
13	1400	1150	668	e740	4080	1410	1300	4810	2370	900	1280	901
14	1340	1140	841	e700	e2900	1390	1630	10200	2330	897	1310	992
15	1510	1180	1370	e680	e2600	1390	3120	7580	3210	707	1320	836
16	1490	1200	1490	e640	2290	1450	3410	5190	3990	673	1390	613
17	1570	1190	1320	e600	2100	1590	2760	4020	3390	734	1380	565
18	1460	1200	3240	e560	1830	1460	2410	5750	2630	742	1310	658
19	1440	1160	4130	e540	1600	1420	2120	6840	2430	758	1280	621
20	1430	1200	3010	e520	1480	1480	1930	4860	1980	1060	1280	609
21	1450	1220	2470	e620	1680	1710	1770	3920	1720	1080	1310	867
22	1470	1230	2030	e720	2070	1970	1620	3260	1600	892	1260	554
23	1450	1230	1710	e760	1890	1750	1540	2710	1500	841	1190	1220
24	1520	1230	1630	e800	1640	1660	1390	2310	1630	1040	1250	1060
25	1650	1140	1670	e900	1500	1680	1350	2010	1490	841	1320	741
26	1550	1380	1440	e1300	1430	1930	1760	1750	1360	811	688	813
27	1470	1280	1230	e1600	1460	8420	1650	1580	1770	1220	866	788
28	1520	1030	e1100	e1500	1440	7140	2350	3340	1500	1120	876	1780
29	1500	982	e1000	e2400	---	5580	6630	4630	1280	817	979	1590
30	1500	991	e920	e3300	---	5220	5540	2960	1090	858	838	958
31	1330	---	e840	e5200	---	5150	---	3140	---	852	1030	---
TOTAL	43820	36163	43864	32900	71600	71110	74170	115960	94090	28073	36117	27502
MEAN	1414	1205	1415	1061	2557	2294	2472	3741	3136	905.6	1165	916.7
MAX	1650	1380	4130	5200	6140	8420	6630	10200	12400	1220	1390	1780
MIN	1080	982	668	520	1430	1170	1300	1580	1090	650	688	554

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2002, BY WATER YEAR (WY)

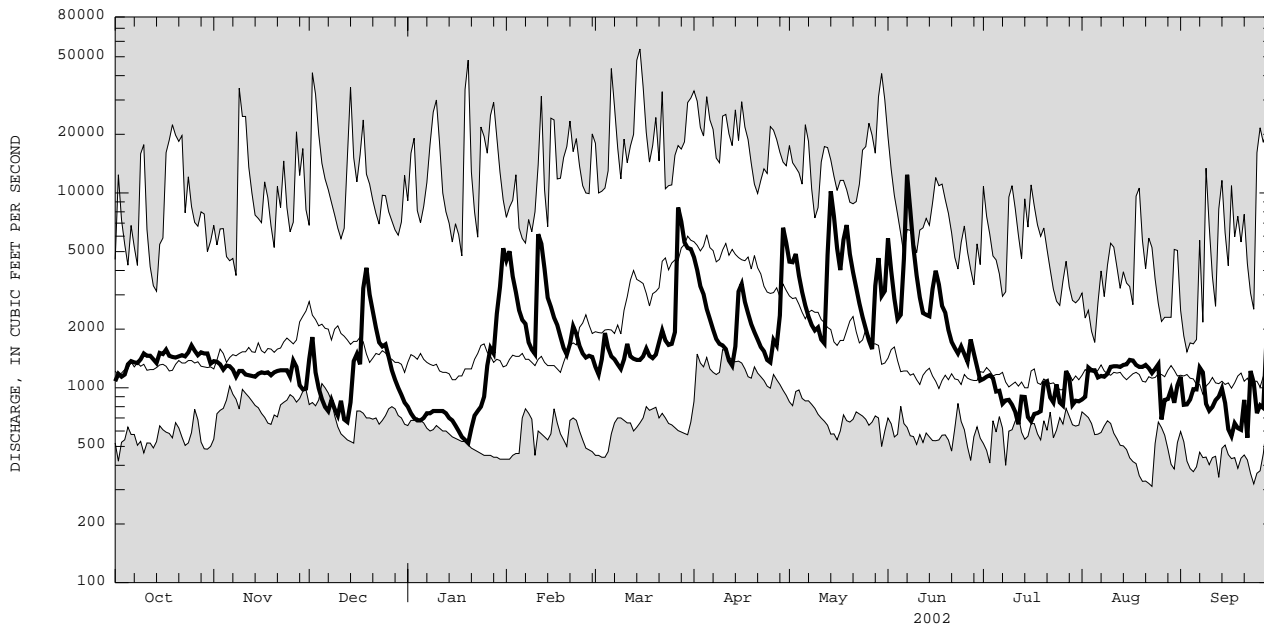
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	1972	2528	2622	2428	2643	4506	5654	3500	1822	1363	1285	1383																
MAX	6545	6561	11130	7594	7993	11080	14500	7866	4048	3571	2710	3716																
(WY)	1978	1997	1997	1978	1976	1977	1993	1984	2000	1996	1994	1977																
MIN	701	1130	1035	587	611	1177	1496	935	734	777	560	839																
(WY)	1992	1979	1999	1977	1980	1981	1985	1985	1985	1981	1985	1994																

e Estimated.

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	706739		675369			
ANNUAL MEAN	1936		1850		2636	
HIGHEST ANNUAL MEAN					3972 1978	
LOWEST ANNUAL MEAN					1434 1985	
HIGHEST DAILY MEAN	24800	Apr 10	12400	Jun 7	54800	Mar 15 1986
LOWEST DAILY MEAN	453	Sep 24	520	Jan 20	312	Aug 23 1985
ANNUAL SEVEN-DAY MINIMUM	703	May 10	594	Jan 15	354	Aug 17 1985
10 PERCENT EXCEEDS	3070		3830		5990	
50 PERCENT EXCEEDS	1220		1380		1400	
90 PERCENT EXCEEDS	835		760		794	



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1975 to current year.

INSTRUMENTATION.--Water-temperature satellite telemeter provides 15-minute-interval readings. Prior to May 1989, water-temperature recorder provided one-hour-interval readings.

REMARKS.--Water temperature is affected by release of water from upstream reservoir. Other data for the Water-Quality Network can be found on pages 410-425.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, (water years 1976-2002), 30.5°C, July 12, 1987; minimum, 0.0°C on many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.0°C, July 3, 4; minimum, 0.0°C on many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)
APR 2002 23...	1200	9813	1530	40	11.5	7.6	62	9.1	19	5.60	5.7	1.15	1.2
JUN 06...	1245	9813	4070	40	9.3	7.3	64	17.7	18	5.61	5.4	1.12	1.1
AUG 06...	1145	9813	993	40	10.3	8.8	83	21.0	26	7.50	7.3	1.82	1.8

Date	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)
APR 2002 23...	.0	12	6.9	14	<2	<.020	.18	<.040	.28	<.01	.011	1.0	<4
JUN 06...	1.8	12	6.6	62	4	<.020	.16	<.040	.37	.04	.018	.6	<4
AUG 06...	.0	16	7.4	58	<2	<.020	.36	<.040	.46	<.01	<.010	.7	<4

Date	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
APR 2002 23...	<4	<20	50	<1.0	<1.0	8.5	10	<4.0	<4.0	<5.0	<5.0
JUN 06...	<4	40	260	<1.0	<1.0	20	60	<4.0	<4.0	<5.0	<5.0
AUG 06...	<4	<20	140	<1.0	<1.0	10	30	<4.0	<4.0	<5.0	<5.0

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.0	12.5	14.0	9.5	7.5	8.5	10.0	8.5	9.0	0.0	0.0	0.0
2	17.0	13.0	15.0	11.0	8.0	9.5	9.0	7.5	8.5	0.0	0.0	0.0
3	18.0	14.0	16.0	12.0	10.5	11.5	7.5	6.5	7.0	0.0	0.0	0.0
4	18.5	15.5	17.0	12.0	10.5	11.0	6.5	5.0	6.0	0.0	0.0	0.0
5	18.5	16.0	17.5	10.5	8.5	9.5	7.0	6.0	6.5	0.0	0.0	0.0
6	17.0	14.5	16.0	8.5	7.0	7.5	7.5	6.0	7.0	0.0	0.0	0.0
7	14.5	11.5	13.0	8.0	6.0	7.0	7.5	6.0	7.0	0.0	0.0	0.0
8	12.0	10.0	11.0	7.5	6.0	6.5	6.0	3.5	5.0	0.0	0.0	0.0
9	12.5	9.0	11.0	7.0	5.5	6.5	4.0	3.0	3.5	0.0	0.0	0.0
10	14.5	10.5	12.5	6.5	4.5	5.5	3.5	2.5	3.0	0.0	0.0	0.0
11	15.5	12.0	13.5	6.0	4.5	5.5	3.5	2.5	3.0	0.0	0.0	0.0
12	16.5	13.5	15.0	4.5	3.5	4.0	4.0	2.5	3.0	0.0	0.0	0.0
13	18.0	15.0	16.5	4.5	2.5	3.5	4.5	3.5	4.0	0.0	0.0	0.0
14	17.0	16.0	16.5	5.0	2.5	4.0	5.0	4.0	4.5	0.0	0.0	0.0
15	16.0	14.5	15.5	7.0	4.5	5.5	5.0	3.5	4.5	0.0	0.0	0.0
16	15.0	13.0	14.0	8.5	6.5	7.5	3.5	2.5	3.0	0.0	0.0	0.0
17	14.0	11.5	13.0	7.5	6.0	7.0	3.5	3.0	3.0	0.0	0.0	0.0
18	11.5	10.0	11.0	7.0	5.0	6.0	3.5	3.0	3.5	0.0	0.0	0.0
19	11.5	9.0	10.5	6.5	5.0	6.0	4.5	3.5	4.0	0.0	0.0	0.0
20	12.5	10.5	11.5	6.5	5.0	6.0	4.0	3.5	3.5	0.0	0.0	0.0
21	14.0	11.0	12.5	5.5	4.0	4.5	3.5	2.0	3.0	0.0	0.0	0.0
22	14.0	13.0	13.5	5.0	3.5	4.5	2.0	1.0	1.5	0.0	0.0	0.0
23	14.0	12.5	13.5	4.5	3.0	4.0	1.5	0.5	1.0	0.0	0.0	0.0
24	16.0	13.5	14.5	6.5	4.5	5.5	2.5	1.5	2.0	0.0	0.0	0.0
25	15.5	13.5	15.0	9.0	6.5	8.5	1.5	0.5	1.0	0.0	0.0	0.0
26	13.5	11.0	12.5	10.0	9.0	9.0	1.0	0.0	0.5	0.0	0.0	0.0
27	11.0	9.0	10.0	9.0	8.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0
28	9.5	8.0	9.0	9.5	8.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0
29	10.0	7.0	8.5	9.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
30	10.5	8.5	9.5	9.0	8.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0
31	9.0	8.0	8.5	---	---	---	0.5	0.0	0.0	0.0	0.0	0.0
MONTH	18.5	7.0	13.1	12.0	2.5	6.9	10.0	0.0	3.5	0.0	0.0	0.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.5	0.0	1.0	3.5	0.5	2.0	9.0	7.0	8.0	10.5	7.0	8.5
2	1.5	0.5	1.0	2.5	0.5	1.5	7.0	6.0	6.5	9.5	9.0	9.5
3	1.0	0.0	0.5	5.0	2.5	3.5	7.0	5.5	6.5	10.0	8.5	9.0
4	1.5	0.0	1.0	4.0	2.0	3.0	7.0	5.0	5.5	11.5	8.0	9.5
5	0.5	0.0	0.0	2.5	0.5	1.5	5.5	3.5	4.5	14.0	9.5	12.0
6	0.5	0.0	0.0	4.0	0.0	2.0	5.5	3.0	4.0	16.0	11.5	13.5
7	1.5	0.0	0.5	5.0	1.5	3.0	7.0	2.0	4.5	16.5	13.5	15.0
8	3.0	0.5	1.5	7.0	2.5	4.5	7.0	4.5	5.5	18.0	14.0	15.5
9	4.0	1.5	2.5	8.5	5.5	7.0	9.0	6.0	7.5	15.5	13.0	14.0
10	3.0	2.0	2.5	8.5	4.0	6.5	12.0	7.5	9.5	16.0	12.0	14.0
11	2.5	1.0	2.0	5.0	2.5	3.5	13.5	8.5	10.5	17.0	12.0	14.5
12	1.0	0.0	0.5	3.5	2.0	2.5	12.0	9.0	10.5	14.5	12.0	13.0
13	1.5	0.0	1.0	3.5	2.5	3.0	12.5	11.0	11.5	12.0	10.5	11.0
14	1.0	0.0	0.0	7.5	3.0	5.0	16.0	11.0	13.5	10.5	9.5	10.0
15	1.0	0.0	0.0	9.0	5.0	7.0	17.0	13.5	15.0	11.5	9.0	10.0
16	2.5	0.5	1.5	8.0	6.0	7.5	18.5	15.0	16.5	13.0	10.5	12.0
17	3.5	2.0	2.5	6.5	4.5	5.5	20.0	16.0	17.5	15.0	12.5	13.5
18	3.0	1.0	2.0	5.0	3.5	4.0	21.5	17.5	19.0	13.5	10.0	12.0
19	3.0	0.0	1.5	4.5	3.0	3.5	21.0	17.5	19.5	10.0	9.0	9.5
20	3.5	2.0	2.5	3.5	2.0	2.5	19.0	15.0	17.0	10.0	8.0	9.0
21	5.5	3.5	4.5	6.0	2.0	3.5	15.0	12.5	14.0	10.5	8.5	9.0
22	5.0	4.0	4.5	3.5	1.0	2.0	12.5	9.0	10.5	13.0	8.0	10.5
23	5.0	3.0	4.0	4.5	0.5	2.5	10.0	7.5	8.5	16.0	10.5	13.0
24	4.5	1.5	3.0	6.0	2.0	4.0	13.0	6.5	9.5	16.5	13.0	14.5
25	5.0	2.0	3.5	5.5	4.0	4.5	10.5	8.0	9.0	18.5	13.5	16.0
26	6.5	2.5	4.5	4.0	2.5	3.5	10.5	7.0	8.5	17.5	15.0	16.0
27	5.5	3.5	5.0	2.5	2.0	2.5	12.0	6.5	9.5	19.0	15.0	17.0
28	3.5	1.5	2.5	4.5	2.0	3.5	10.5	8.5	9.0	18.0	15.5	17.0
29	---	---	---	6.5	4.0	5.0	9.0	7.5	8.5	16.0	14.0	15.0
30	---	---	---	9.0	6.0	7.5	7.5	6.5	7.0	18.5	15.0	16.5
31	---	---	---	9.0	7.5	8.5	---	---	---	18.5	17.0	17.5
MONTH	6.5	0.0	2.0	9.0	0.0	4.0	21.5	2.0	10.2	19.0	7.0	12.8

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.0	16.5	17.0	27.5	23.0	25.5	27.5	23.5	25.5	20.5	18.5	19.0
2	18.5	16.5	17.5	29.0	24.0	26.5	27.0	23.5	25.5	21.0	17.5	19.0
3	18.5	15.5	17.0	30.0	25.5	28.0	26.5	23.5	25.0	23.5	18.5	21.0
4	18.0	15.5	17.0	30.0	25.5	27.5	25.5	21.0	23.0	24.0	20.5	22.5
5	19.5	16.0	17.5	27.5	24.0	25.5	24.0	21.5	23.0	22.5	20.0	21.5
6	18.0	16.0	17.5	24.5	21.5	23.0	22.5	20.0	21.5	22.5	17.5	20.0
7	16.0	15.0	15.5	24.5	19.5	22.5	21.5	18.0	20.0	21.5	17.5	19.5
8	16.5	15.0	15.5	26.5	20.5	23.5	21.0	17.0	19.5	22.0	17.0	19.5
9	18.0	15.5	17.0	25.0	22.5	24.0	22.5	17.0	19.5	23.5	18.0	20.5
10	20.5	17.0	19.0	25.5	22.0	24.0	22.5	17.5	20.0	24.5	20.0	22.5
11	22.5	18.5	20.5	24.0	20.0	22.5	23.0	18.0	20.5	23.5	18.5	20.5
12	22.0	20.0	21.0	25.0	19.5	22.5	23.5	19.0	21.0	19.5	16.0	18.0
13	20.5	19.0	20.0	26.0	20.5	23.5	24.0	19.5	22.0	20.0	15.5	18.0
14	19.0	16.5	17.5	24.5	21.5	23.0	22.5	20.0	21.5	20.5	16.5	18.5
15	16.5	15.0	15.5	25.5	21.5	23.5	23.0	20.0	21.5	20.0	18.5	19.5
16	16.5	14.5	15.5	26.0	22.5	24.5	22.0	20.0	21.0	21.0	19.0	20.0
17	18.5	15.5	17.0	27.5	21.5	24.5	23.5	20.0	21.5	21.0	18.0	20.0
18	20.5	16.0	18.0	28.0	24.0	26.5	23.5	20.0	22.0	21.5	17.5	20.0
19	22.0	17.0	19.5	27.0	24.5	26.0	23.0	19.5	21.5	21.0	18.5	20.0
20	24.0	18.5	21.0	27.5	23.5	25.5	22.0	20.0	21.0	22.5	19.5	21.0
21	25.0	20.0	22.0	25.0	21.5	23.0	22.5	18.0	20.5	22.5	20.5	21.5
22	25.0	20.5	23.0	26.5	21.5	24.0	21.0	17.5	19.5	22.0	21.0	21.5
23	25.0	22.0	23.0	25.5	23.0	24.5	22.5	19.0	20.5	21.5	19.0	20.5
24	26.0	21.5	24.0	25.5	22.0	24.0	21.0	18.0	19.5	20.5	16.5	18.5
25	26.5	22.0	24.5	24.0	21.0	22.5	21.0	17.0	19.0	19.5	16.0	18.0
26	27.0	23.0	25.0	23.0	20.5	21.5	22.0	17.0	19.5	18.5	16.5	17.5
27	26.0	22.5	24.0	22.0	20.0	21.0	23.5	19.0	21.5	16.5	15.5	16.0
28	25.5	22.5	24.0	20.5	19.0	20.0	22.5	20.0	21.0	17.5	15.5	16.0
29	26.0	21.0	23.5	24.5	19.5	21.5	20.5	18.5	19.0	17.5	14.5	16.0
30	27.0	21.5	24.0	26.0	22.0	24.0	21.0	17.5	19.0	17.5	15.0	16.0
31	---	---	---	27.5	22.5	25.0	21.5	17.5	19.5	---	---	---
MONTH	27.0	14.5	19.8	30.0	19.0	24.0	27.5	17.0	21.1	24.5	14.5	19.4

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY

LOCATION.--Lat 41°30'32", long 74°59'10", Sullivan County, Hydrologic Unit 02040101, on left bank, 1.6 mi upstream from Lackawaxen River, and 4.6 mi northwest of Barryville. Water-quality sampling site at discharge station.

DRAINAGE AREA.--2,020 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 600.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir. Part of flow of these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite gage-height and temperature telemeter and National Weather Service telephone gage-height telemeter at station. Information on the above reservoirs can be found in the annual Water-Data Report NY-02-1.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s, Aug. 19, 1955, gage height, 26.40 ft, from floodmarks in gage house, from rating curve extended above 55,000 ft³/s, on basis of slope-area measurement at gage height 23.19 ft; minimum discharge, 122 ft³/s, Sept. 5, 1953, gage height, 1.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,200 ft³/s, June 7, gage height, 8.07 ft; minimum, 519 ft³/s, Sept. 23, gage height, 2.13 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1440	1340	e900	5250	1530	5560	5790	6270	1200	867	1190
2	1260	1460	2020	e860	5730	1380	4970	5610	5140	1230	854	988
3	1250	1440	1490	e820	4590	1480	4130	6150	3750	1230	1100	806
4	1270	1360	1190	e800	3770	2070	3750	4940	2920	1250	1290	894
5	1330	1370	1040	e780	3100	2020	3210	4070	2920	1160	1220	980
6	1480	1370	954	e760	2590	1680	2790	3480	4640	963	1170	978
7	1460	1360	884	736	2400	1630	2470	3030	13700	995	1110	1210
8	1430	1300	926	735	2050	1550	2200	2740	10000	852	1120	1310
9	1460	1250	973	857	1890	1470	2060	2520	6580	918	1130	996
10	1550	1290	873	945	1740	1560	2000	2580	4880	936	1250	789
11	1590	1300	892	883	4960	1890	1960	2360	3830	831	1300	807
12	1560	1230	907	882	6690	1760	1730	2160	3150	714	1300	826
13	1540	1240	774	860	4900	1660	1590	5680	3000	771	1290	885
14	1420	1230	845	829	3580	1630	1950	12500	3180	941	1320	968
15	1570	1250	1310	770	2990	1630	3340	9520	4570	833	1350	938
16	1570	1270	1660	742	2740	1640	4250	6720	5670	696	1420	934
17	1680	1280	1500	704	2470	1850	3460	5240	4710	671	1480	635
18	1580	1280	2520	716	2220	1790	2990	6620	3670	756	1410	609
19	1520	1260	4850	686	1920	1690	2620	8570	3350	765	1360	665
20	1520	1270	3630	660	1740	1740	2370	6240	2720	924	1370	606
21	1540	1290	2880	648	1790	2050	2200	5090	2290	1190	1370	746
22	1560	1330	2370	780	2280	2530	2010	4280	2100	993	1360	725
23	1560	1290	1980	816	2270	2300	1900	3620	1930	857	1270	841
24	1560	1320	1790	773	1960	2100	1740	3080	1910	908	1280	1270
25	1730	1270	1840	851	1760	2110	1650	2660	1890	1080	1480	851
26	1690	1360	1680	1530	1660	2190	2160	2350	1600	711	1020	767
27	1550	1530	1350	1830	1650	9220	2200	2160	1960	1060	703	889
28	1610	1190	1160	1750	1670	9280	3060	3820	1840	1190	954	2070
29	1570	1120	1160	1800	---	6900	8000	6990	1560	934	994	2060
30	1620	1080	1050	2180	---	6070	7180	4370	1270	846	1060	1240
31	1470	---	e960	5640	---	6040	---	3800	---	818	878	---
TOTAL	46700	39030	48798	34523	82360	84440	91500	148740	117000	29223	37080	29473
MEAN	1506	1301	1574	1114	2941	2724	3050	4798	3900	942.7	1196	982.4
MAX	1730	1530	4850	5640	6690	9280	8000	12500	13700	1250	1480	2070
MIN	1200	1080	774	648	1650	1380	1590	2160	1270	671	703	606

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2002, BY WATER YEAR (WY)

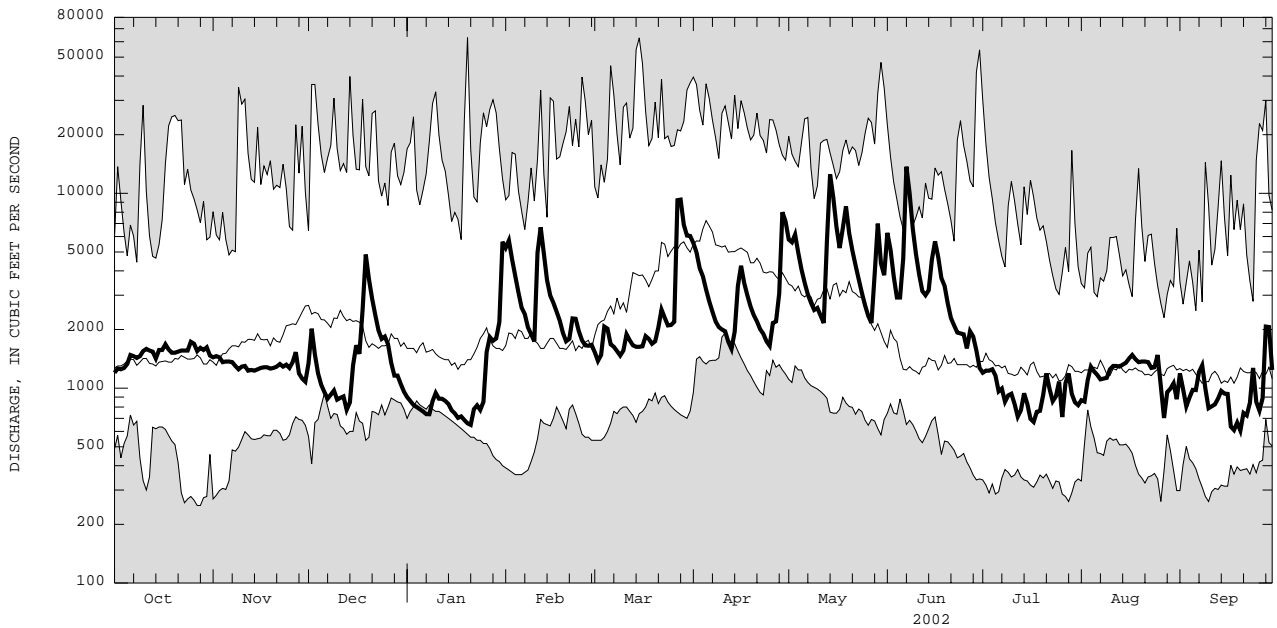
MEAN	1991	2688	3063	2723	2955	5089	6461	4073	2346	1617	1387	1474
MAX	7404	7448	11940	8335	9389	12050	16500	8615	6701	4087	3033	4186
(WY)	1978	1997	1997	1978	1976	1977	1993	1984	1972	1996	1994	1987
MIN	527	610	1114	687	712	1399	1878	1161	673	328	465	448
(WY)	1964	1965	1999	1977	1980	1981	1985	1965	1965	1965	1965	1965

e Estimated.

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1964 - 2002	
ANNUAL TOTAL	810351		788867			
ANNUAL MEAN	2220		2161		2986	
HIGHEST ANNUAL MEAN					4650 1973	
LOWEST ANNUAL MEAN					1297 1965	
HIGHEST DAILY MEAN	25800	Apr 10	13700	Jun 7	63000	Jan 20 1996
LOWEST DAILY MEAN	744	May 15	606	Sep 20	250	Oct 27 1963
ANNUAL SEVEN-DAY MINIMUM	872	May 11	690	Sep 17	264	Oct 23 1963
10 PERCENT EXCEEDS	3770		4860		6630	
50 PERCENT EXCEEDS	1380		1530		1610	
90 PERCENT EXCEEDS	986		824		866	



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

CHEMICAL DATA: 1971-73 (a).

NUTRIENT DATA: 1971 (a).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to current year (no winter record for water years 1969-76).

INSTRUMENTATION.--Water-temperature recorder provides 15-minute-interval readings. Prior to October 1995, water-temperature recorder provided one-hour-interval readings. Prior to October 1975, water-temperature recorder provided continuous readings.

REMARKS.--Interruption of record was due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-75, 1980-81, 1983, 1985-96, 1999-2001), 32.5°C, July 9, 10, 1993; minimum (water years 1968, 1977-2002), 0.0°C, on many days during winters, each year except water years 1980-82.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 32.0°C, July 4; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.5	13.5	15.0	10.5	8.0	9.0	10.5	8.5	9.5	0.5	0.0	0.0
2	18.0	14.0	16.0	10.5	8.5	9.5	9.0	8.0	8.5	0.5	0.0	0.0
3	19.0	15.0	17.0	12.5	10.0	11.0	9.0	7.0	7.5	1.0	0.0	0.0
4	20.0	16.0	18.0	13.0	10.5	11.5	8.0	6.0	7.0	0.5	0.0	0.0
5	20.0	16.5	18.5	11.0	9.0	10.0	8.5	6.5	7.5	0.5	0.0	0.0
6	18.0	16.0	17.5	10.0	8.0	8.5	9.5	6.5	7.5	0.5	0.0	0.0
7	16.0	13.0	14.5	9.0	7.0	8.0	9.0	6.5	7.5	0.0	0.0	0.0
8	14.0	11.0	12.5	8.5	6.5	7.5	6.5	4.0	5.5	0.0	0.0	0.0
9	13.0	10.0	11.5	8.0	6.0	7.0	5.0	4.0	4.5	0.0	0.0	0.0
10	14.0	10.0	12.0	8.0	5.5	6.5	4.5	3.0	3.5	0.0	0.0	0.0
11	15.5	11.5	13.5	6.5	5.0	5.5	5.0	3.0	4.0	0.5	0.0	0.0
12	16.5	13.5	15.0	5.5	3.5	4.5	4.0	2.5	3.5	0.5	0.0	0.0
13	18.0	15.0	16.5	6.0	3.0	4.5	4.5	3.5	4.0	0.5	0.0	0.0
14	17.0	16.0	16.5	6.0	3.0	4.5	5.0	4.0	4.5	0.5	0.0	0.0
15	17.5	15.5	16.5	7.0	4.5	5.5	5.0	3.5	4.0	0.5	0.0	0.0
16	16.0	14.5	15.0	8.5	5.5	6.5	4.0	3.0	3.5	0.5	0.0	0.0
17	14.5	11.5	13.5	8.5	6.0	7.0	3.5	3.0	3.0	0.5	0.0	0.0
18	13.0	10.5	11.5	8.5	5.5	6.5	3.5	3.0	3.5	0.5	0.0	0.0
19	12.0	9.5	11.0	8.0	6.0	7.0	4.0	3.0	3.5	0.0	0.0	0.0
20	12.5	10.0	11.0	7.5	5.5	6.5	4.0	3.0	3.5	0.0	0.0	0.0
21	13.5	10.5	12.0	7.0	4.5	5.5	3.5	2.5	3.0	0.0	0.0	0.0
22	14.0	12.0	13.0	6.0	3.5	5.0	3.0	1.5	2.0	0.0	0.0	0.0
23	14.0	13.0	13.5	6.0	3.5	5.0	2.0	1.0	1.5	0.0	0.0	0.0
24	16.5	14.0	15.0	6.0	4.5	5.0	2.5	1.5	2.0	0.0	0.0	0.0
25	16.5	14.0	15.0	8.0	6.0	7.0	2.0	1.0	1.5	1.0	0.0	0.0
26	14.0	11.5	13.5	9.5	7.5	8.5	1.5	0.0	0.5	0.5	0.0	0.0
27	11.5	9.5	11.0	9.0	8.0	8.5	0.5	0.0	0.0	0.5	0.0	0.0
28	10.5	8.5	9.5	10.0	8.5	9.0	0.5	0.0	0.0	0.5	0.0	0.0
29	10.0	7.0	---	9.0	8.5	9.0	0.0	0.0	0.0	0.5	0.0	0.0
30	10.5	8.0	9.0	9.5	8.5	9.0	0.0	0.0	0.0	0.5	0.0	0.0
31	8.5	8.0	8.5	---	---	---	0.5	0.0	0.0	0.0	0.0	0.0
MONTH	20.0	7.0	---	13.0	3.0	7.3	10.5	0.0	3.7	1.0	0.0	0.0

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.5	0.0	0.5	5.0	2.0	3.5	9.5	8.5	9.0	10.0	7.5	9.0
2	1.0	0.0	0.5	3.5	1.5	2.5	8.5	7.5	8.0	10.0	10.0	10.0
3	1.0	0.0	0.5	6.0	3.0	4.5	8.0	7.0	7.5	10.5	9.5	10.0
4	1.0	0.0	0.5	4.5	2.5	3.5	8.0	6.0	7.0	11.5	9.0	10.0
5	1.0	0.0	0.0	3.5	1.5	2.5	6.5	5.0	6.0	13.5	10.5	12.0
6	1.5	0.0	0.5	4.5	1.0	2.5	6.5	4.5	5.0	15.0	12.5	14.0
7	1.5	0.0	0.5	5.0	1.5	3.5	7.0	4.0	5.5	16.5	14.5	15.5
8	2.5	0.0	1.0	7.0	2.5	5.0	7.5	5.0	6.5	17.5	15.5	16.5
9	4.0	1.0	2.5	8.0	5.5	6.5	9.5	6.5	8.0	16.0	14.0	15.0
10	3.5	2.0	2.5	8.5	5.5	7.0	12.5	8.5	10.5	16.5	13.5	15.0
11	3.0	1.5	2.5	6.0	4.0	5.0	13.5	9.5	11.5	17.0	13.5	15.0
12	1.5	0.5	1.0	4.0	3.5	---	12.5	10.0	11.5	14.5	13.5	14.0
13	1.5	0.5	1.0	3.5	3.0	3.0	13.5	11.5	12.5	13.5	11.0	12.5
14	1.5	0.0	0.5	7.5	3.0	5.0	15.0	12.0	14.0	11.0	10.5	10.5
15	1.0	0.0	0.5	9.5	5.0	7.0	17.0	14.5	15.5	11.5	9.5	10.5
16	2.5	0.5	1.5	8.5	7.0	8.0	18.5	16.0	17.5	13.5	10.5	12.0
17	3.5	1.5	2.5	8.0	6.0	6.5	20.0	17.5	18.5	14.5	13.0	14.0
18	3.5	1.5	2.0	6.0	4.5	5.0	21.5	19.0	20.0	14.0	11.5	13.0
19	3.5	1.0	2.5	5.0	4.0	4.5	21.5	19.5	20.0	11.5	10.0	10.5
20	3.5	2.0	3.0	4.0	3.5	4.0	19.5	17.0	19.0	10.0	9.0	9.5
21	5.5	3.0	4.0	6.0	3.0	4.5	17.0	13.5	15.5	10.5	9.0	9.5
22	5.5	4.0	4.5	4.5	2.5	3.5	13.5	11.0	12.5	12.0	9.5	10.5
23	5.5	3.5	4.5	5.0	2.0	3.0	11.0	9.0	10.5	14.5	11.5	13.0
24	5.5	3.0	4.0	6.0	2.5	4.5	13.5	8.0	10.5	16.5	13.5	15.0
25	5.5	3.0	4.0	6.0	4.5	5.0	10.5	9.5	10.0	18.0	14.5	16.0
26	6.5	3.0	5.0	4.5	4.0	4.0	11.0	8.0	9.5	18.0	16.0	17.0
27	6.0	4.0	5.0	4.0	3.0	3.5	12.5	8.5	10.5	18.5	16.5	17.5
28	5.0	2.5	3.5	4.5	2.5	3.5	10.5	9.5	10.0	19.0	16.5	17.5
29	---	---	---	6.5	4.0	5.5	9.5	8.5	9.0	16.5	15.5	16.0
30	---	---	---	8.5	6.5	7.5	8.5	7.5	8.0	18.0	15.5	17.0
31	---	---	---	---	8.5	---	---	---	---	19.5	17.5	18.5
MONTH	6.5	0.0	2.2	---	1.0	---	21.5	4.0	11.3	19.5	7.5	13.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.0	18.0	18.5	28.0	24.0	26.0	30.0	24.5	27.0	20.5	19.0	19.5
2	18.5	17.0	18.0	29.0	24.5	27.0	30.5	25.5	27.5	21.0	18.5	19.5
3	18.5	17.0	17.5	31.5	26.5	28.5	30.5	25.5	28.0	24.5	19.0	22.0
4	19.0	17.0	18.0	32.0	27.5	---	29.5	25.0	27.0	27.0	21.5	24.0
5	20.5	17.0	18.5	29.5	25.0	27.5	28.0	25.0	26.0	25.0	21.0	22.5
6	19.0	17.5	18.5	26.5	23.0	24.5	26.0	22.0	24.0	25.0	19.5	22.0
7	17.5	15.5	16.5	27.0	21.5	24.0	23.5	20.5	22.0	24.0	19.5	21.5
8	17.0	15.5	16.0	28.0	22.0	25.0	24.0	19.5	22.0	24.5	19.5	21.5
9	18.5	16.0	17.0	27.0	23.5	25.0	25.0	19.0	22.0	25.5	19.5	22.5
10	20.0	17.5	19.0	28.5	23.5	25.5	25.5	20.0	22.5	26.0	21.0	23.5
11	22.0	19.5	21.0	27.0	21.5	24.0	26.0	20.5	23.5	23.5	19.5	22.0
12	22.0	21.0	21.5	27.0	21.0	24.0	26.0	21.5	24.0	22.5	17.5	20.0
13	21.0	19.5	20.5	26.5	22.0	24.0	27.5	22.5	24.5	23.0	17.0	19.5
14	19.5	17.0	18.5	26.0	22.5	24.0	27.5	23.0	25.0	22.5	17.5	20.0
15	17.0	16.0	16.5	28.0	23.0	25.0	26.5	22.5	24.5	21.0	20.0	20.5
16	17.0	15.0	16.0	---	24.0	---	26.0	23.0	24.5	22.5	20.0	21.0
17	18.0	16.0	17.0	---	---	---	26.0	23.0	24.5	23.5	19.0	21.0
18	20.0	17.0	18.5	---	---	---	26.5	23.0	24.5	22.5	19.0	20.5
19	21.0	18.5	19.5	---	---	---	26.5	22.5	24.5	22.5	19.5	21.0
20	23.0	19.5	21.0	---	---	---	25.5	22.5	24.0	23.5	20.0	22.0
21	24.0	20.5	22.5	---	---	---	26.0	21.0	23.5	23.5	21.5	22.5
22	25.5	21.5	23.5	---	---	---	23.5	21.0	22.5	24.0	22.0	22.5
23	26.0	23.0	24.5	30.0	25.0	26.5	24.5	21.0	22.5	23.0	20.0	21.5
24	26.0	23.0	24.5	30.0	24.0	26.5	22.5	20.5	21.0	22.5	18.5	20.5
25	27.0	23.5	25.0	28.5	24.0	25.5	23.0	19.5	21.0	21.0	17.5	19.0
26	27.0	24.0	25.5	24.5	22.0	23.5	24.5	19.5	22.0	18.5	17.0	18.0
27	27.0	24.5	25.5	25.0	21.5	23.0	24.5	20.5	22.5	17.0	16.5	17.0
28	26.0	24.0	25.0	25.5	22.5	23.5	24.0	21.0	22.0	17.5	16.0	17.0
29	27.0	22.5	24.5	29.5	23.0	25.5	21.5	19.5	20.0	18.0	15.5	16.5
30	28.0	23.0	25.5	29.5	24.5	26.5	22.5	19.0	20.0	19.5	15.5	17.0
31	---	---	---	---	23.5	---	23.5	19.0	21.0	---	---	---
MONTH	28.0	15.0	20.4	---	---	---	30.5	19.0	23.5	27.0	15.5	20.6

LACKAWAXEN RIVER BASIN

01428750 WEST BRANCH LACKAWAXEN RIVER NEAR ALDENVILLE, PA

LOCATION.--Lat 41°40'28", long 75°22'35", Wayne County, Hydrologic Unit 02040104, on right bank at steel bridge on State Highway 247, 0.3 mi downstream from Johnson Creek, and 2.0 mi northwest of Aldenville.

DRAINAGE AREA.--40.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional discharge measurements and annual maximums, water years 1975-86. October 1986 to current year. Published as station number 01427950, 1975-88.

GAGE.--Water-stage recorder. Datum of gage is 1,244.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 28	2230	1,030	4.94	May 13	1530	*1,390	*5.46

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	13	33	e19	225	e28	163	157	46	19	8.1	8.9
2	e11	12	20	e20	e200	e30	122	273	34	19	10	8.9
3	e10	17	16	e19	e110	75	109	210	27	17	11	8.4
4	e9.5	20	15	e17	e80	57	97	141	24	16	8.4	15
5	e9.2	18	14	e16	e66	e50	79	112	49	15	10	10
6	e9.0	17	13	e15	e64	e44	72	92	182	14	10	8.7
7	e9.0	11	11	e15	e56	40	61	82	324	14	9.5	8.2
8	e8.5	11	12	e18	52	38	56	70	124	13	8.6	7.9
9	e8.2	13	14	e16	48	37	55	86	74	15	8.0	7.6
10	e8.0	12	13	e15	86	56	59	83	64	16	7.7	7.5
11	e7.7	11	12	e15	497	e40	49	62	51	13	7.5	7.4
12	7.7	9.0	13	e16	e160	39	43	133	47	11	7.7	7.6
13	7.6	9.1	16	e15	e110	42	48	699	45	10	7.8	7.3
14	7.7	9.2	37	e14	e110	49	81	638	131	10	7.8	7.6
15	12	8.9	53	e14	e90	45	231	361	278	9.7	8.0	8.3
16	9.6	8.4	31	e16	77	73	123	213	313	9.1	8.3	10
17	14	8.0	51	e15	72	57	94	165	158	8.4	8.1	9.3
18	12	7.7	186	e14	e52	51	77	428	104	8.4	7.8	8.0
19	12	7.5	92	e13	e50	50	65	282	81	8.9	8.0	7.6
20	15	8.9	63	e13	53	56	58	180	61	9.2	7.9	7.6
21	17	8.5	50	e14	72	76	52	138	49	8.6	7.3	7.2
22	16	8.0	40	e18	67	86	49	111	41	8.3	7.5	25
23	16	7.6	e36	e17	52	e72	46	89	56	13	8.4	28
24	22	7.4	e38	e26	e46	73	42	75	40	21	17	15
25	17	12	e36	e60	43	89	51	63	38	12	15	10
26	14	28	e36	e58	43	183	60	55	36	10	10	9.5
27	16	16	e30	e56	45	556	44	47	31	9.7	8.9	101
28	15	12	e26	72	40	272	483	47	31	9.6	8.2	163
29	16	13	e22	107	---	224	543	55	25	9.3	12	49
30	14	18	e20	e190	---	217	257	46	21	8.7	11	37
31	16	---	e19	195	---	173	---	43	---	8.4	9.2	---
TOTAL	378.7	362.2	1068	1128	2666	2978	3369	5236	2585	374.3	284.7	616.5
MEAN	12.22	12.07	34.45	36.39	95.21	96.06	112.3	168.9	86.17	12.07	9.184	20.55
MAX	22	28	186	195	497	556	543	699	324	21	17	163
MIN	7.6	7.4	11	13	40	28	42	43	21	8.3	7.3	7.2
CFSM	0.30	0.30	0.85	0.90	2.35	2.37	2.77	4.16	2.12	0.30	0.23	0.51
IN.	0.35	0.33	0.98	1.03	2.44	2.73	3.09	4.80	2.37	0.34	0.26	0.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

MEAN	49.54	91.30	91.85	84.33	88.63	132.1	162.8	98.55	52.84	24.46	26.97	30.41
MAX	116	199	232	228	192	193	419	258	200	63.0	155	156
(WY)	1991	1987	1997	1996	1990	1998	1993	1989	1989	1989	1994	1987
MIN	6.46	12.0	15.5	21.9	30.0	87.0	58.7	34.6	13.7	6.92	5.89	7.41
(WY)	1992	1999	1999	1989	1993	1989	1988	2001	1999	1999	1999	1991

e Estimated.

LACKAWAXEN RIVER BASIN

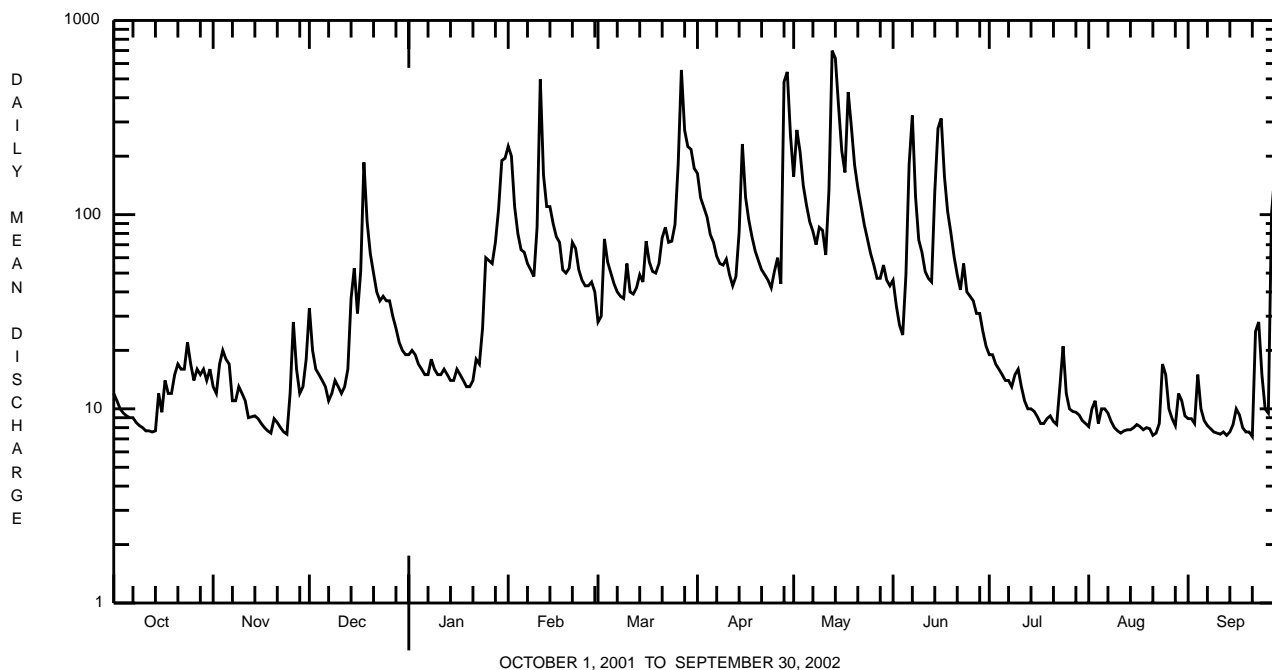
01428750 WEST BRANCH LACKAWAXEN RIVER NEAR ALDENVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	18492.5		21046.4			
ANNUAL MEAN	50.7		57.7		77.7	
HIGHEST ANNUAL MEAN					106	1994
LOWEST ANNUAL MEAN					48.0	1999
HIGHEST DAILY MEAN	825	Apr 10	699	May 13	e 1600	Jan 19 1996
LOWEST DAILY MEAN	5.9	Sep 9,12,13	7.2	Sep 21	e 4.0	Aug 6 1999
ANNUAL SEVEN-DAY MINIMUM	6.1	Sep 7	7.6	Sep 8	a 4.4	Jul 31 1999
MAXIMUM PEAK FLOW			1390	May 13	b 4340	Jan 19 1996
MAXIMUM PEAK STAGE			5.46	May 13	8.00	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.25		1.42		1.91	
ANNUAL RUNOFF (INCHES)	16.94		19.28		25.99	
10 PERCENT EXCEEDS	92		139		175	
50 PERCENT EXCEEDS	20		21		41	
90 PERCENT EXCEEDS	7.4		8.2		9.6	

a Computed using estimated daily discharges.

b From rating curve extended above 2,000 ft³/s.

e Estimated.



LACKAWAXEN RIVER BASIN

01428750 WEST BRANCH LACKAWAXEN RIVER NEAR ALDENVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1988 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.5°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 26.0°C, Aug. 1, 2; minimum, 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	9.5	11.5	9.0	5.0	7.0	9.5	7.0	8.5	0.0	0.0	0.0
2	15.0	10.0	12.0	11.0	7.0	9.0	7.5	5.0	6.5	0.0	0.0	0.0
3	16.0	10.5	13.5	12.0	9.5	10.5	6.0	3.5	4.5	0.0	0.0	0.0
4	16.5	12.0	14.0	11.0	8.5	9.5	6.5	3.0	4.5	0.0	0.0	0.0
5	16.0	11.5	14.0	8.5	6.0	7.0	8.5	6.0	7.0	0.0	0.0	0.0
6	13.5	10.5	13.0	7.5	5.0	6.0	9.0	7.0	8.0	0.0	0.0	0.0
7	10.5	7.5	9.0	8.5	4.5	6.5	9.0	5.0	7.5	0.0	0.0	0.0
8	9.5	6.0	7.5	8.0	4.0	6.0	5.0	1.0	3.5	0.0	0.0	0.0
9	9.5	4.5	7.0	7.0	4.0	6.0	3.5	1.0	2.5	0.0	0.0	0.0
10	12.0	7.0	9.5	6.5	3.0	4.5	3.0	0.5	1.5	0.0	0.0	0.0
11	13.0	7.0	10.0	5.5	3.0	4.5	4.0	1.5	2.5	0.0	0.0	0.0
12	13.5	9.0	11.5	4.5	1.5	3.0	3.0	0.0	1.5	0.0	0.0	0.0
13	15.5	11.0	13.0	4.5	0.5	2.5	4.0	3.0	3.5	0.0	0.0	0.0
14	14.5	13.0	13.5	5.5	1.5	3.5	5.0	4.0	4.5	0.0	0.0	0.0
15	14.0	10.5	12.5	8.5	5.0	6.5	5.0	2.5	4.0	0.5	0.0	0.0
16	11.5	8.0	10.0	9.5	6.5	7.5	3.0	1.5	2.5	0.5	0.0	0.0
17	11.0	7.5	9.5	7.0	4.0	5.5	3.0	2.5	2.5	1.0	0.0	0.5
18	9.5	6.0	7.5	6.5	2.5	4.5	3.5	3.0	3.5	0.5	0.0	0.0
19	9.5	5.0	7.0	7.5	3.5	5.5	4.5	3.0	3.5	0.0	0.0	0.0
20	11.0	7.5	9.0	6.5	3.0	5.0	3.5	2.0	2.5	0.0	0.0	0.0
21	12.0	7.0	9.5	4.5	1.5	3.0	2.0	1.0	1.5	0.0	0.0	0.0
22	11.5	10.0	11.0	5.0	2.0	3.5	1.5	0.0	1.0	0.0	0.0	0.0
23	12.0	9.0	10.5	4.5	1.5	3.0	1.5	0.0	0.5	0.0	0.0	0.0
24	15.0	11.5	13.0	7.0	3.5	5.5	2.5	1.0	2.0	0.5	0.0	0.5
25	13.5	10.5	12.0	9.5	7.0	8.5	1.5	0.0	0.5	0.5	0.0	0.5
26	10.5	7.5	9.0	8.0	6.5	7.5	0.0	0.0	0.0	1.5	0.0	0.5
27	8.5	6.5	7.5	7.0	5.0	6.0	0.0	0.0	0.0	1.5	0.0	1.0
28	7.5	4.5	6.0	9.0	7.0	8.0	0.0	0.0	0.0	2.5	0.5	1.0
29	7.5	3.0	5.5	8.0	7.0	7.5	0.0	0.0	0.0	2.5	0.5	1.5
30	8.5	5.0	6.5	9.0	7.0	8.0	0.0	0.0	0.0	2.0	1.5	1.5
31	6.0	5.0	5.5	---	---	---	0.0	0.0	0.0	1.5	1.5	1.5
MONTH	16.5	3.0	10.0	12.0	0.5	6.0	9.5	0.0	2.9	2.5	0.0	0.3

LACKAWAXEN RIVER BASIN

01429000 WEST BRANCH LACKAWAXEN RIVER AT PROMPTON, PA

LOCATION.--Lat 41°35'14", long 75°19'38", Wayne County, Hydrologic Unit 02040103, on left bank 500 ft downstream from Prompton Reservoir, 1,500 ft upstream from bridge on U.S. Highway 6 at Prompton, and 2,000 ft upstream from Van Auken Creek.

DRAINAGE AREA.--59.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1944 to current year. Prior to October 1952, published as Lackawaxen River at Prompton.

REVISED RECORDS.--WSP 1432: 1948-49. WDR PA-71-1: 1970(M).

GAGE.--Water-stage recorder. Datum of gage is 1,083.78 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1960 by Prompton Reservoir (station 01428900) 500 ft upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1942 reached a stage of 16.7 ft, from floodmark, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	21	35	202	59	223	362	70	40	13	15
2	13	16	22	34	241	56	191	326	65	37	12	15
3	13	16	22	32	194	63	160	333	55	36	12	14
4	11	16	22	30	156	74	143	259	49	35	12	16
5	11	18	21	29	119	68	123	204	48	34	11	16
6	11	18	21	28	99	64	107	165	81	33	12	16
7	10	18	21	28	89	62	95	137	265	31	11	15
8	9.6	17	20	27	83	59	86	117	245	29	11	14
9	8.9	16	20	26	78	56	83	110	174	27	10	13
10	8.8	16	20	26	74	61	83	113	125	27	9.3	12
11	8.3	15	19	27	266	61	77	102	96	26	8.9	13
12	7.9	14	19	27	281	58	71	107	80	25	8.6	12
13	7.9	14	19	26	217	57	68	378	74	23	8.2	11
14	7.9	13	20	26	154	58	78	886	85	21	7.9	10
15	9.1	13	24	26	128	60	148	602	196	21	8.0	11
16	9.5	13	26	26	113	65	172	399	313	19	8.2	16
17	10	12	28	26	104	73	145	291	271	17	8.4	16
18	10	12	41	25	93	70	118	353	203	16	8.2	15
19	10	11	73	24	84	67	99	422	160	15	7.9	14
20	10	11	79	24	80	68	88	321	122	15	9.8	13
21	11	11	73	25	81	75	81	247	97	14	9.5	13
22	11	11	64	25	84	91	75	194	82	13	9.1	14
23	12	11	56	25	81	88	71	159	79	12	9.5	20
24	14	11	53	26	73	86	67	132	74	13	12	22
25	16	11	53	31	68	92	65	111	67	13	15	22
26	16	15	48	37	67	103	74	97	61	13	16	21
27	16	17	43	42	67	383	72	87	55	13	15	29
28	16	17	41	53	64	392	197	79	51	14	13	56
29	16	17	39	76	---	316	596	80	48	15	15	70
30	16	18	38	143	---	282	455	77	43	14	16	64
31	16	---	36	217	---	253	---	71	---	13	15	---
TOTAL	361.9	434	1102	1252	3440	3420	4111	7321	3434	674	342.5	608
MEAN	11.67	14.47	35.55	40.39	122.9	110.3	137.0	236.2	114.5	21.74	11.05	20.27
MAX	16	18	79	217	281	392	596	886	313	40	16	70
MIN	7.9	11	19	24	64	56	65	71	43	12	7.9	10

LACKAWAXEN RIVER BASIN

01429000 WEST BRANCH LACKAWAXEN RIVER AT PROMPTON, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.16	94.65	115.2	100.9	123.6	209.2	228.5	132.9	72.99	38.74	29.69	38.53
MAX	307	362	309	312	369	620	556	329	260	133	127	221
(WY)	1978	1973	1997	1979	1981	1977	1993	1989	1973	1984	1994	1987
MIN	7.15	7.65	17.3	19.1	19.0	60.4	86.5	45.8	17.5	9.66	6.82	6.67
(WY)	1965	1965	1999	1981	1980	1981	1988	1965	1962	1999	1999	1964

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1961 - 2002

ANNUAL TOTAL	24605.6	26500.4	
ANNUAL MEAN	67.4	72.6	103
HIGHEST ANNUAL MEAN			176
LOWEST ANNUAL MEAN			49.7
HIGHEST DAILY MEAN	1030	Apr 10	886
LOWEST DAILY MEAN	6.1	Sep 18,19	7.9
ANNUAL SEVEN-DAY MINIMUM	6.4	Sep 14	8.1
MAXIMUM PEAK FLOW			966
MAXIMUM PEAK STAGE			3.59
INSTANTANEOUS LOW FLOW			1.8
10 PERCENT EXCEEDS	140	194	239
50 PERCENT EXCEEDS	33	31	55
90 PERCENT EXCEEDS	7.8	11	14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.2	113	136	130	125	221	264	139	63.6	54.3	45.8	47.0
MAX	376	213	243	245	230	409	539	301	155	190	304	153
(WY)	1956	1946	1951	1952	1951	1945	1958	1947	1960	1947	1955	1960
MIN	15.2	23.7	28.8	36.2	46.4	104	57.4	38.6	16.4	10.3	1.33	11.6
(WY)	1958	1958	1947	1948	1958	1960	1946	1951	1959	1955	1960	1957

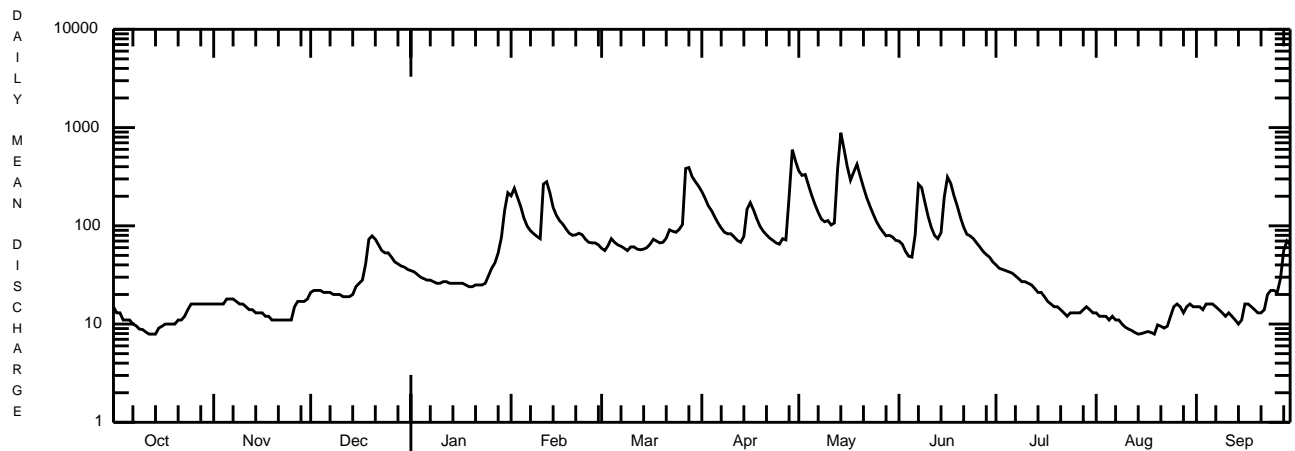
SUMMARY STATISTICS WATER YEARS 1945 - 1960

ANNUAL MEAN	117
HIGHEST ANNUAL MEAN	152
LOWEST ANNUAL MEAN	78.1
HIGHEST DAILY MEAN	2440
LOWEST DAILY MEAN	.00
ANNUAL SEVEN DAY MINIMUM	.00
MAXIMUM PEAK FLOW	b5860
MAXIMUM PEAK STAGE	9.24
INSTANTANEOUS LOW FLOW	c.00
ANNUAL RUNOFF (CFSM)	1.95
ANNUAL RUNOFF (INCHES)	26.56
10 PERCENT EXCEEDS	257
50 PERCENT EXCEEDS	62
90 PERCENT EXCEEDS	15

a Also Aug. 14, 19.

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

c No flow July 26 to Aug. 25, 1960, result of construction work upstream.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LACKAWAXEN RIVER BASIN

01429000 WEST BRANCH LACKAWAXEN RIVER AT PROMPTON, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1987.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1987 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.5°C, Sept. 10, 1989; minimum, 0.0°C, several days during March and April 1994 and January 1996.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.5°C, Aug. 6; minimum, 2.0°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.5	16.5	17.0	11.0	10.0	10.0	8.0	7.5	7.5	3.5	3.0	3.5
2	17.5	16.5	17.0	10.0	9.5	10.0	8.0	7.5	7.5	3.5	3.5	3.5
3	17.0	16.0	16.5	11.0	9.5	10.0	7.5	7.0	7.5	3.5	3.5	3.5
4	17.0	15.5	16.0	11.0	10.5	10.5	7.0	7.0	7.0	3.5	3.5	3.5
5	16.5	15.5	16.0	10.5	9.5	10.0	7.5	7.0	7.0	4.0	3.5	3.5
6	16.0	15.5	15.5	9.5	9.0	9.5	8.0	7.0	7.5	4.0	3.0	3.5
7	15.5	14.5	15.5	9.5	9.0	9.0	8.0	7.5	7.5	3.5	3.5	3.5
8	15.0	14.0	14.5	9.0	8.5	9.0	7.5	6.5	7.0	4.0	3.5	3.5
9	15.0	13.5	14.0	9.0	8.0	8.5	7.0	6.5	6.5	4.0	3.5	3.5
10	14.5	13.0	13.5	8.5	8.0	8.0	6.5	6.0	6.0	4.0	3.5	3.5
11	15.0	13.5	13.5	8.0	7.5	7.5	6.5	6.0	6.0	4.0	3.5	3.5
12	14.5	13.5	13.5	7.5	6.5	7.0	6.0	5.5	6.0	4.0	3.5	4.0
13	15.0	13.5	14.0	7.5	6.5	6.5	6.0	5.5	5.5	4.0	3.5	4.0
14	14.0	13.5	13.5	7.0	6.5	6.5	6.0	5.5	6.0	4.0	3.5	4.0
15	15.0	13.5	14.0	7.0	6.5	6.5	6.0	5.0	5.5	4.0	4.0	4.0
16	15.0	14.0	14.0	7.5	6.5	7.0	5.0	5.0	5.0	4.0	4.0	4.0
17	14.0	13.0	13.5	7.5	6.5	7.0	5.0	5.0	5.0	4.0	3.5	4.0
18	13.5	12.5	13.0	7.5	6.5	6.5	5.0	4.5	4.5	4.0	3.5	4.0
19	13.0	12.0	12.5	7.5	6.5	6.5	4.5	4.5	4.5	4.0	3.5	3.5
20	12.5	12.0	12.5	7.0	6.0	6.5	4.5	4.0	4.0	4.0	3.5	3.5
21	13.5	12.0	12.5	7.0	6.0	6.0	4.0	3.0	3.5	3.5	3.5	3.5
22	13.0	12.5	12.5	6.5	5.5	6.0	3.0	3.0	3.0	4.0	3.5	3.5
23	12.5	12.0	12.5	7.0	6.0	6.0	3.0	3.0	3.0	4.0	3.5	3.5
24	13.0	12.0	12.5	6.5	6.0	6.5	3.0	2.5	3.0	4.0	3.5	3.5
25	13.0	12.0	12.5	7.0	6.5	6.5	2.5	2.5	2.5	3.5	3.5	3.5
26	12.5	12.0	12.5	7.0	6.5	7.0	3.0	2.5	2.5	3.5	3.0	3.5
27	12.0	11.5	11.5	7.0	7.0	7.0	3.0	2.5	3.0	4.0	3.5	3.5
28	11.5	10.5	11.0	7.5	7.0	7.0	3.0	3.0	3.0	4.0	3.5	3.5
29	11.0	10.0	10.5	7.5	7.0	7.0	3.0	3.0	3.0	4.0	3.5	4.0
30	11.5	10.5	10.5	7.5	7.0	7.5	3.0	3.0	3.0	4.0	3.5	3.5
31	10.5	10.5	10.5	---	---	---	3.5	3.0	3.0	3.5	3.0	3.0
MONTH	17.5	10.0	13.5	11.0	5.5	7.6	8.0	2.5	5.0	4.0	3.0	3.6

LACKAWAXEN RIVER BASIN

01429500 DYBERRY CREEK NEAR HONSDALE, PA

LOCATION.--Lat 41°36'26", long 75°16'03", Wayne County, Hydrologic Unit 02040103, on right bank 180 ft upstream from unnamed tributary, 1,700 ft downstream from General Edgar Jadwin Reservoir, 2.1 mi north of Honesdale, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--64.6 mi².

PERIOD OF RECORD.--October 1943 to current year. Published as "*at Dyberry*" October 1943 to September 1959 and as "*near Dyberry*" October 1959 to September 1961.

REVISED RECORDS.--WSP 1382: 1947(M), 1950(M), 1951-53.

GAGE.--Water-stage recorder. Datum of gage is 970.70 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1957, nonrecording gage at site 1.9 mi upstream at datum 13.70 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since October 1959 by General Edgar Jadwin Reservoir (station 01429400) 1,700 ft upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1942 reached a stage of 15.86 ft, from floodmarks, site and datum then in use, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.8	36	21	209	e51	183	306	84	40	9.1	9.9
2	9.8	8.5	31	20	266	e48	155	369	68	35	8.9	9.1
3	9.4	8.3	25	19	e150	71	141	363	57	33	9.1	8.6
4	9.3	8.2	20	20	132	e70	132	226	51	30	9.1	15
5	8.0	8.4	17	20	e100	e52	116	193	81	27	10	13
6	7.0	8.3	15	19	e100	e52	106	156	180	25	12	11
7	6.7	8.6	14	e19	88	51	97	137	597	23	9.7	11
8	6.7	8.4	13	29	81	49	106	127	302	22	8.4	12
9	6.4	8.4	16	28	78	47	92	136	186	23	7.7	11
10	6.8	8.8	17	27	80	62	92	138	132	26	7.3	11
11	7.7	8.5	16	27	498	54	77	111	103	22	7.0	10
12	9.0	8.2	16	27	259	48	69	140	103	19	6.7	8.1
13	10	8.1	17	26	e160	49	69	562	87	18	6.4	7.5
14	8.9	8.2	27	25	e130	50	113	1070	147	18	6.2	7.4
15	11	8.1	58	25	e120	46	233	573	381	17	6.5	7.2
16	14	7.9	42	25	109	62	176	300	458	16	6.2	15
17	14	7.8	40	24	104	66	132	226	261	15	7.9	16
18	15	8.0	149	e20	e85	59	111	428	174	14	7.4	11
19	12	7.8	104	e17	e79	60	98	470	149	13	6.8	9.1
20	11	8.3	71	25	78	69	90	274	120	13	8.7	8.0
21	9.4	8.4	57	25	93	96	84	215	98	13	6.9	7.3
22	9.1	8.5	46	25	96	e120	79	181	84	12	6.6	7.7
23	10	8.2	e38	26	82	e94	78	152	83	12	7.5	15
24	12	8.2	46	30	71	98	69	136	71	16	13	15
25	13	9.4	44	e42	66	116	77	125	67	15	19	11
26	12	22	e30	e58	64	146	116	139	61	13	12	9.8
27	11	20	e27	e60	65	809	86	116	56	12	9.0	71
28	9.7	16	e27	e66	60	462	403	108	58	12	7.5	252
29	9.3	15	e26	93	---	281	825	124	49	12	14	69
30	8.8	17	e23	199	---	230	407	99	46	11	18	38
31	8.8	---	e20	211	---	188	---	84	---	10	12	---
TOTAL	306.8	298.3	1128	1298	3503	3756	4612	7784	4394	587	286.6	706.7
MEAN	9.897	9.943	36.39	41.87	125.1	121.2	153.7	251.1	146.5	18.94	9.245	23.56
MAX	15	22	149	211	498	809	825	1070	597	40	19	252
MIN	6.4	7.8	13	17	60	46	69	84	46	10	6.2	7.2

e Estimated.

LACKAWAXEN RIVER BASIN

01429500 DYBERRY CREEK NEAR HONESDALE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	57.50	108.5	123.5	112.4	141.6	230.7	240.8	142.2	77.91	42.09	29.62	40.61
MAX	292	413	388	402	466	552	572	397	291	170	145	281
(WY)	1977	1973	1997	1996	1981	1977	1993	1989	1972	1973	1994	1987
MIN	4.17	5.48	17.4	20.8	20.2	73.0	83.6	43.3	12.0	3.23	5.21	2.26
(WY)	1965	1965	1999	1981	1980	1981	1985	1965	1962	1962	1999	1980

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1960 - 2002

ANNUAL TOTAL		25668.8		28660.4								
ANNUAL MEAN		70.3		78.5								
HIGHEST ANNUAL MEAN									112			
LOWEST ANNUAL MEAN									186			1973
HIGHEST DAILY MEAN				925	Apr 10		1070	May 14	2460	Jan 20		1996
LOWEST DAILY MEAN				5.2	Aug 26		6.2	Aug 14, 16	1.2	Jul 29		1970
ANNUAL SEVEN-DAY MINIMUM				5.6	Aug 21		6.6	Aug 10	1.8	Oct 5		1980
MAXIMUM PEAK FLOW							1160	May 14	2600	Jan 20		1996
MAXIMUM PEAK STAGE							5.29	May 14	7.32	Jan 20		1996
INSTANTANEOUS LOW FLOW									a0.00	Oct 2		1968
10 PERCENT EXCEEDS				142			184		248			
50 PERCENT EXCEEDS				30			27		56			
90 PERCENT EXCEEDS				7.3			8.2		10			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1959, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	53.7	110	128	119	109	236	262	145	55.8	68.9	45.7	30.5
MAX	348	263	255	248	227	539	628	345	127	293	339	90.8
(WY)	1956	1946	1953	1952	1951	1945	1958	1947	1946	1952	1955	1952
MIN	10.2	18.8	20.4	29.0	47.4	91.8	59.9	44.4	19.2	8.16	5.82	5.30
(WY)	1948	1947	1947	1944	1958	1949	1946	1955	1959	1955	1953	1953

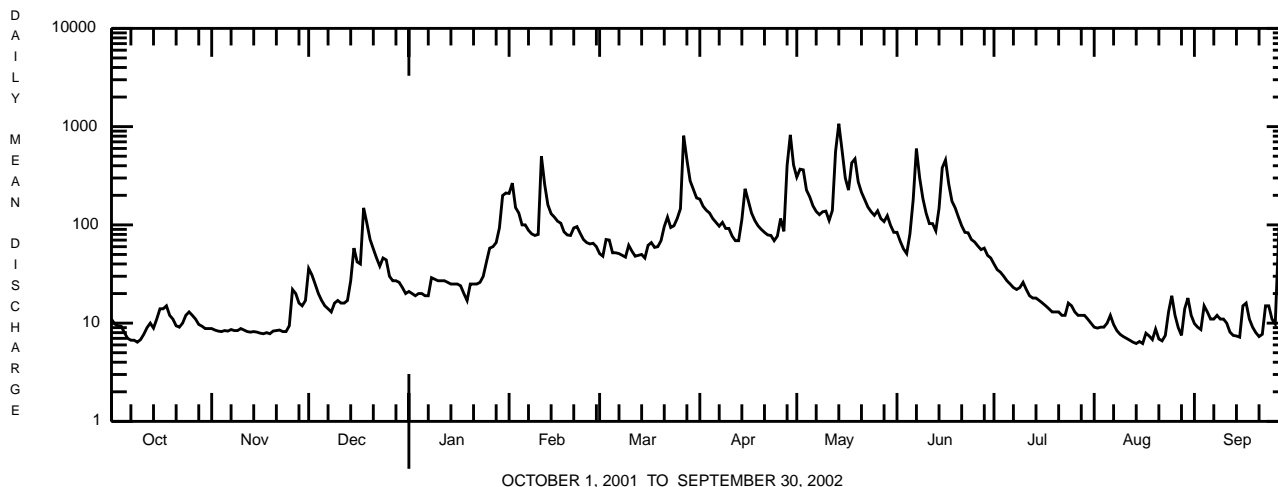
SUMMARY STATISTICS WATER YEARS 1944 - 1959

ANNUAL MEAN	114											
HIGHEST ANNUAL MEAN	170					1952						
LOWEST ANNUAL MEAN	77.2					1957						
HIGHEST DAILY MEAN	5880				Jul 10	1952						
LOWEST DAILY MEAN	2.0				Oct 5	1953						
ANNUAL SEVEN DAY MINIMUM	2.3				Sep 29	1953						
MAXIMUM PEAK FLOW	b15500				Jul 10	1952						
MAXIMUM PEAK STAGE	c14.60				Jul 10	1952						
ANNUAL RUNOFF (CFSM)	1.76											
ANNUAL RUNOFF (INCHES)	23.91											
10 PERCENT EXCEEDS	252											
50 PERCENT EXCEEDS	54											
90 PERCENT EXCEEDS	9.4											

a Result of shutoff at General Jadwin Reservoir.

b From rating curve extended above 2,500 ft³/s on basis of slope-area measurement at gage height 13.78 ft.

c Site and datum then in use.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LACKAWAXEN RIVER BASIN

01430000 LACKAWAXEN RIVER NEAR HONESDALE, PA

LOCATION.--Lat 41°33'43", long 75°14'54", Wayne County, Hydrologic Unit 02040103, on right bank at Lemnitzer Bridge (Brown Street), on U.S. Highway 6, and 1.2 mi downstream from Dyberry Creek and Honesdale.

DRAINAGE AREA.--164 mi².

PERIOD OF RECORD.--October 1948 to September 1969, October 1985 to current year. Occasional discharge measurements and annual maximums, water years 1974-85.

REVISED RECORDS.--WDR PA 90-1: 1989. WDR PA 94-1: 1989(M).

GAGE.--Water-stage recorder. Datum of gage is 946.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated since 1960 by Prompton Reservoir (station 01428900) and at high flow since 1959 by General Edgar Jadwin Reservoir (station 01429400). Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 1942 reached a stage of 24.5 ft, from data furnished by Corps of Engineers, discharge about 34,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	26	74	e64	513	124	506	949	237	129	34	30
2	29	26	63	e61	640	115	438	981	198	118	33	30
3	28	25	52	e59	452	148	381	966	164	112	32	29
4	26	26	47	e57	369	172	351	650	142	104	30	36
5	25	27	42	55	290	e130	305	520	167	98	30	35
6	22	27	39	e60	257	128	276	426	338	92	30	31
7	20	27	36	e73	228	122	248	366	1120	87	27	30
8	19	26	35	e80	210	116	243	323	737	82	24	30
9	19	25	41	64	196	112	221	336	489	87	23	30
10	18	24	45	62	189	137	228	340	363	90	21	29
11	19	24	42	63	834	125	197	288	291	79	21	26
12	21	22	41	63	668	115	173	359	265	73	21	22
13	24	22	43	62	488	114	168	1440	246	69	21	20
14	26	21	59	59	348	116	251	2720	397	65	21	20
15	27	21	106	57	309	114	451	1660	942	64	23	22
16	30	20	89	56	283	138	434	957	1190	61	23	46
17	31	19	93	54	269	159	345	689	784	57	24	32
18	29	19	253	e52	235	147	291	1120	560	55	25	27
19	26	19	255	e56	203	144	257	1240	513	53	24	24
20	24	19	206	e80	192	162	229	800	410	53	32	23
21	23	19	172	e67	211	224	211	609	331	50	27	21
22	23	19	140	56	226	310	193	496	280	48	28	21
23	25	19	119	55	199	262	187	416	275	47	28	31
24	29	18	119	63	171	253	165	360	249	51	39	35
25	32	24	118	100	156	271	177	317	221	53	45	30
26	30	41	e95	e120	146	362	249	312	199	49	35	28
27	28	41	e90	e130	147	1770	205	285	184	47	32	124
28	27	34	e85	e140	139	1210	907	265	177	46	28	392
29	26	34	e78	225	---	781	2040	290	155	47	43	166
30	26	43	e74	409	---	641	1230	255	143	42	43	121
31	25	---	e68	537	---	543	---	233	---	39	34	---
TOTAL	789	757	2819	3139	8568	9265	11557	20968	11767	2147	901	1541
MEAN	25.45	25.23	90.94	101.3	306.0	298.9	385.2	676.4	392.2	69.26	29.06	51.37
MAX	32	43	255	537	834	1770	2040	2720	1190	129	45	392
MIN	18	18	35	52	139	112	165	233	142	39	21	20

e Estimated.

LACKAWAXEN RIVER BASIN

01430000 LACKAWAXEN RIVER NEAR HONSDALE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1969, 1986 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	135.7	275.6	285.1	268.1	288.8	552.6	557.8	347.2	194.3	90.73	77.81	100.6
MAX (WY)	344	650	925	884	716	1133	1464	985	544	255	364	656
MIN (WY)	1990	1987	1997	1996	1990	1986	1993	1989	1989	1996	1994	1987
MIN (WY)	14.5	16.5	39.1	73.5	106	261	240	123	43.9	20.3	17.2	12.3
(WY)	1965	1965	1999	1961	1963	1965	1988	2001	1962	1965	1964	1964

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1960 - 1969 1986 - 2002

ANNUAL TOTAL	64200	74218		
ANNUAL MEAN	176	203	264	
HIGHEST ANNUAL MEAN			400	1960
LOWEST ANNUAL MEAN			130	1965
HIGHEST DAILY MEAN	e2200	Apr 10	2720	May 14
LOWEST DAILY MEAN	a16	Aug 22	18	Oct 10b
ANNUAL SEVEN-DAY MINIMUM	16	Aug 21	19	Nov 18
MAXIMUM PEAK FLOW			2980	May 14
MAXIMUM PEAK STAGE			5.68	May 14
INSTANTANEOUS LOW FLOW				6.2
10 PERCENT EXCEEDS	358	492	588	
50 PERCENT EXCEEDS	78	87	144	
90 PERCENT EXCEEDS	19	23	28	

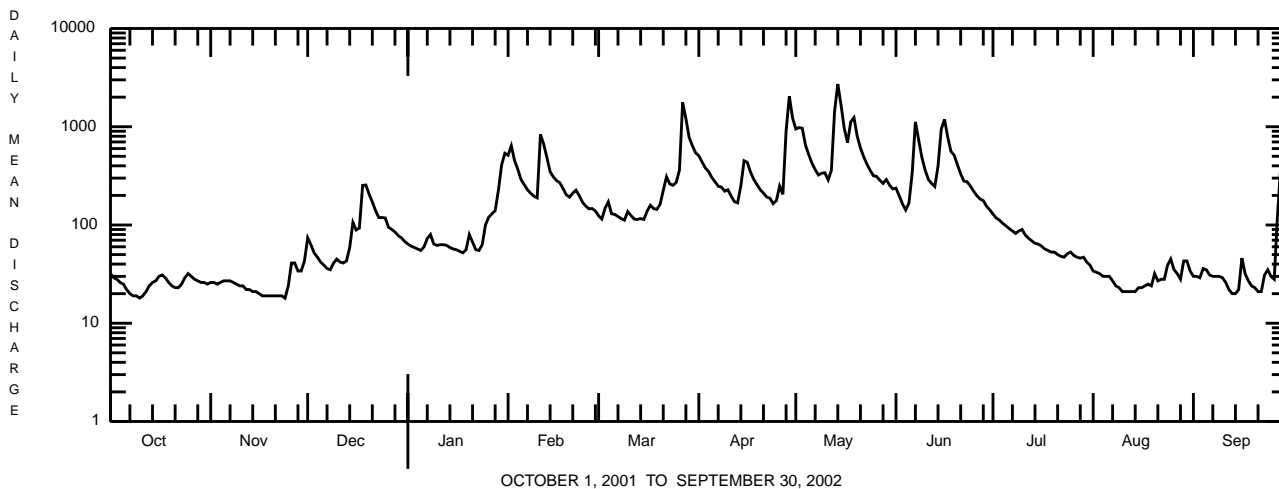
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1959, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	281	412	377	364	538	746	322	126	112	125	83.1
MAX (WY)	955	520	649	669	664	788	1458	592	304	425	865	189
MIN (WY)	1956	1956	1951	1962	1951	1951	1958	1952	1956	1952	1955	1952
MIN (WY)	37.9	80.6	154	130	127	291	379	108	47.8	26.2	20.6	26.2
(WY)	1949	1958	1956	1956	1958	1949	1955	1951	1959	1955	1953	1957

SUMMARY STATISTICS WATER YEARS 1949 - 1959

ANNUAL MEAN	302
HIGHEST ANNUAL MEAN	428
LOWEST ANNUAL MEAN	209
HIGHEST DAILY MEAN	8920
LOWEST DAILY MEAN	12
ANNUAL SEVEN DAY MINIMUM	12
MAXIMUM PEAK FLOW	c18600
MAXIMUM PEAK STAGE	15.52
ANNUAL RUNOFF (CFSM)	1.84
ANNUAL RUNOFF (INCHES)	25.06
10 PERCENT EXCEEDS	695
50 PERCENT EXCEEDS	152
90 PERCENT EXCEEDS	32

- a Also Aug. 23, 25-27, Sept. 18, 19.
- b Also Nov. 24
- c From rating curve extended above 11,000 ft³/s.
- e Estimated.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LACKAWAXEN RIVER BASIN

01431500 LACKAWAXEN RIVER AT HAWLEY, PA

LOCATION.--Lat 41°28'34", long 75°10'21", Wayne County, Hydrologic Unit 02040103, on left bank at bridge on Church Street in Hawley, 700 ft upstream from Wallenpaupack Creek, and 3,000 ft downstream from Middle Creek.

DRAINAGE AREA.--290 mi².

PERIOD OF RECORD.--July 1908 to September 1917, August 1938 to current year. Monthly discharge only for some periods, published in WSP 1302. October 1917 to December 1919, gage heights and discharge measurements only, in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 1951: 1938-41. WSP 1302: 1909-17. WSP 1432: 1942. WSP 1502: 1956.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 869.00 ft above National Geodetic Vertical Datum of 1929. Prior to 1938, nonrecording gage at same site and datum, and Aug 20, 1955, to Feb. 13, 1956, nonrecording gage at site 1,000 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Regulation since 1960 by Prompton Reservoir (station 01428900) 14.9 mi upstream, and at high flow since 1959 by General Edgar Jadwin Reservoir (station 01429400) 13.0 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1936 reached a stage of 19.1 ft at present site, 13.9 ft at former site, from floodmarks, discharge, 27,600 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	33	118	e92	666	176	773	1500	553	190	52	50
2	48	36	120	e89	889	166	682	1460	440	174	51	44
3	44	35	97	e87	636	202	592	1560	355	e160	50	41
4	39	35	85	e86	513	244	544	1060	303	e150	47	43
5	37	40	75	e85	392	199	472	837	295	e140	47	51
6	35	45	69	e85	348	188	424	686	498	e130	50	43
7	33	43	64	96	306	178	379	595	1850	e120	48	38
8	31	44	62	112	284	168	359	524	1300	e110	43	37
9	29	41	73	117	268	162	336	544	834	112	39	35
10	28	38	75	114	255	199	366	561	632	132	36	33
11	28	43	73	116	860	197	336	463	531	114	34	31
12	32	43	72	117	889	175	292	550	454	101	33	28
13	40	35	75	113	648	169	276	2720	470	94	31	24
14	39	35	90	105	457	170	387	4890	721	88	30	23
15	40	33	146	103	400	168	635	2890	1660	88	34	25
16	41	33	143	100	360	188	668	1630	2100	83	36	93
17	46	31	135	96	339	231	522	1150	1370	79	31	64
18	46	27	315	92	302	220	434	1900	964	75	32	47
19	40	26	355	76	266	215	377	2190	905	73	31	37
20	36	27	284	e100	255	244	360	1360	716	76	38	34
21	33	27	242	e96	263	335	337	1020	565	72	40	31
22	31	26	201	e93	284	509	302	836	463	68	33	32
23	33	26	174	e90	260	418	292	702	425	67	40	34
24	42	25	170	110	230	386	260	599	382	70	61	45
25	44	28	e160	173	209	393	264	517	328	73	77	42
26	42	50	e150	e200	197	466	371	495	288	68	68	39
27	37	60	e140	e210	201	2730	318	475	258	65	52	133
28	36	53	e130	e220	196	2060	1190	576	346	66	43	659
29	35	50	e110	309	---	1260	3350	782	262	65	92	327
30	34	61	e100	502	---	994	2020	570	216	69	94	212
31	33	---	e95	726	---	830	---	484	---	62	66	---
TOTAL	1166	1129	4198	4710	11173	14240	17918	36126	20484	3034	1459	2375
MEAN	37.6	37.6	135	152	399	459	597	1165	683	97.9	47.1	79.2
MAX	54	61	355	726	889	2730	3350	4890	2100	190	94	659
MIN	28	25	62	76	196	162	260	463	216	62	30	23

e Estimated.

LACKAWAXEN RIVER BASIN

01431500 LACKAWAXEN RIVER AT HAWLEY, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	239	434	534	492	570	993	1007	620	360	177	128	178
MAX (WY)	1056	1643	1671	1915	1434	2651	2392	1826	1475	680	522	1368
MIN (WY)	1977	1973	1997	1996	1976	1977	1994	1989	1972	1984	1994	1987
MIN (WY)	20.8	25.7	62.6	92.0	133	280	348	196	63.6	29.7	26.1	20.5
(WY)	1965	1965	1999	1981	1980	1981	1988	1962	1965	1965	1999	1964

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1960 - 2002
ANNUAL TOTAL	110168	118012	
ANNUAL MEAN	302	323	477
HIGHEST ANNUAL MEAN			761 1973
LOWEST ANNUAL MEAN			204 1965
HIGHEST DAILY MEAN	3740	Mar 31	4890 May 14 11600 Mar 15 1986
LOWEST DAILY MEAN	25	Aug 23 ^a	23 Sep 14 14 Aug 12, 13 1999
ANNUAL SEVEN-DAY MINIMUM	26	Nov 18	26 Nov 18 15 Aug 7 1999
MAXIMUM PEAK FLOW			5520 May 14 16400 Jun 29 1973
MAXIMUM PEAK STAGE			8.19 May 14 13.00 Jun 29 1973
10 PERCENT EXCEEDS	692		745 1110
50 PERCENT EXCEEDS	132		120 246
90 PERCENT EXCEEDS	31		33 53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909-17, 1939-59, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	239	388	482	527	555	1019	1117	629	296	236	209	156
MAX (WY)	1773	1116	1166	1235	1279	2985	2644	1531	680	1246	2485	601
MIN (WY)	1956	1956	1951	1913	1909	1945	1940	1942	1916	1947	1955	1945
MIN (WY)	25.4	28.6	89.0	116	180	353	280	166	79.7	38.2	32.1	24.6
(WY)	1910	1910	1909	1944	1940	1915	1946	1941	1959	1955	1957	1909

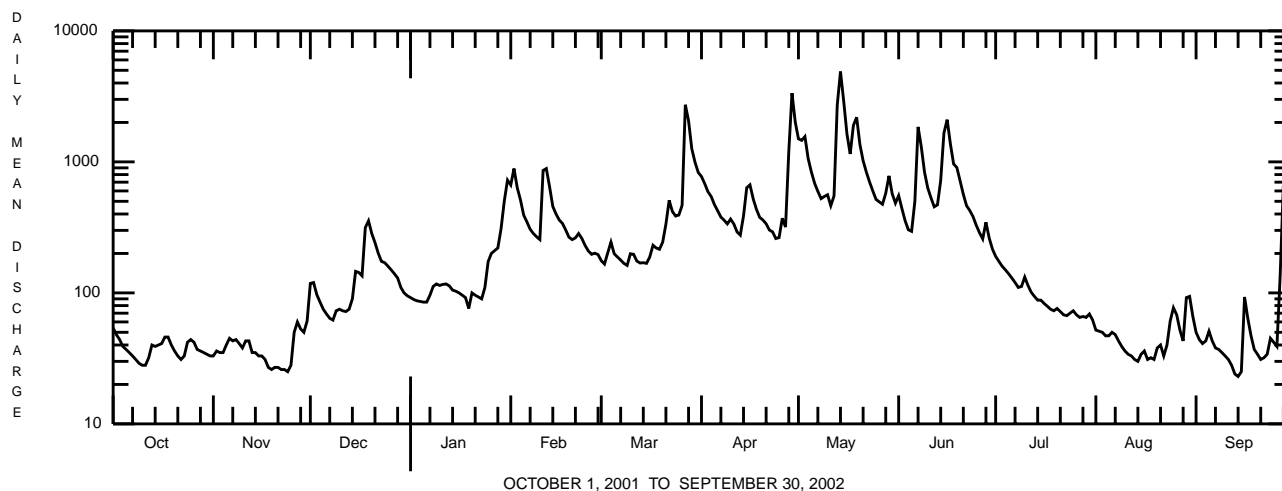
SUMMARY STATISTICS WATER YEARS 1909 - 1917
1939 - 1959

ANNUAL MEAN	487	
HIGHEST ANNUAL MEAN	748	1952
LOWEST ANNUAL MEAN	316	1917
HIGHEST DAILY MEAN	28100	May 23 1942
LOWEST DAILY MEAN	8.0	Sep 8 1909
ANNUAL SEVEN DAY MINIMUM	12	Sep 4 1909
MAXIMUM PEAK FLOW	b51900	Aug 19 1955
MAXIMUM PEAK STAGE	c24.80	Aug 19 1955
ANNUAL RUNOFF (CFSM)	1.68	
ANNUAL RUNOFF (INCHES)	22.83	
10 PERCENT EXCEEDS	1110	
50 PERCENT EXCEEDS	242	
90 PERCENT EXCEEDS	49	

^a Also Aug. 26, 27, Nov. 24.

^b From rating curve extended above 12,000 ft³/s on basis of slope-area measurement at gage height 20.1 ft.

^c From floodmark.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LACKAWAXEN RIVER BASIN

01432000 WALLENPAUPACK CREEK AT WILSONVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	272.5	245.6	346.8	439.8	439.1	406.9	460.2	350.8	377.2	339.9	300.9	329.9
MAX	750	1012	1242	1070	1112	1125	1500	1849	1573	965	995	1018
(WY)	1956	1956	1997	1978	1978	1998	1958	1996	1972	1928	1969	1987
MIN	1.32	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1996	2001	1926	1926	1926	1926	1926	1926	1958	1956	1956	1956

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1926 - 2002

ANNUAL TOTAL	74466	86294	
ANNUAL MEAN	204	236	359
HIGHEST ANNUAL MEAN			638
LOWEST ANNUAL MEAN			86.9
HIGHEST DAILY MEAN	1720	Apr 12,13	1720
LOWEST DAILY MEAN	0	Jan 1b	0
ANNUAL SEVEN-DAY MINIMUM	0	May 5	0
10 PERCENT EXCEEDS	544	633	915
50 PERCENT EXCEEDS	126	0	239
90 PERCENT EXCEEDS	0	0	0

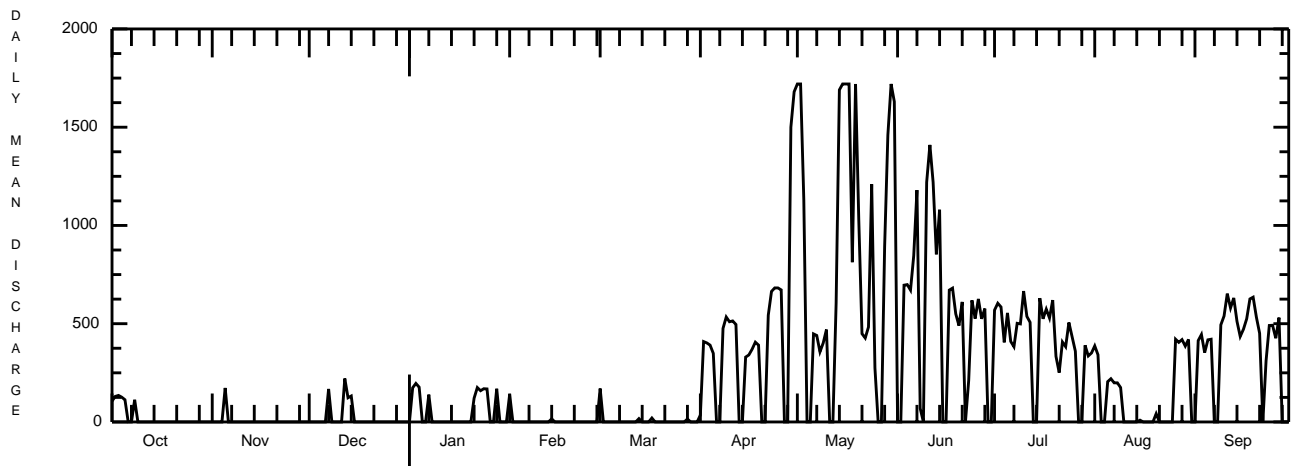
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1925, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	235	271	384	490	426	868	831	468	307	206	143	144
MAX	542	627	1043	1219	1031	1656	1677	682	838	575	532	366
(WY)	1913	1920	1921	1911	1915	1920	1916	1924	1917	1916	1915	1915
MIN	28.0	32.0	69.5	104	156	344	396	283	115	57.0	49.0	35.0
(WY)	1910	1910	1923	1918	1920	1924	1925	1922	1921	1912	1910	1910

SUMMARY STATISTICS WATER YEARS 1910 - 1925

MEAN	397
HIGHEST MEAN	527
LOWEST MEAN	279
HIGHEST DAILY MEAN	4840
LOWEST DAILY MEAN	8.0
SEVEN-DAY MINIMUM	10
10 PERCENT EXCEEDS	910
50 PERCENT EXCEEDS	240
90 PERCENT EXCEEDS	60

a Also May 2, 15-17, 19, 30.
 b Many days each year.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LACKAWAXEN RIVER BASIN

LAKES AND RESERVOIRS IN LACKAWAXEN RIVER BASIN

01428900 PROMPTON RESERVOIR.--Lat 41°35'18", long 75°19'39", Wayne County, Hydrologic Unit 02040103, at dam on West Branch Lackawaxen River, 0.3 mi north of Prompton, 0.4 mi upstream from highway bridge, and 0.5 mi upstream from Van Auken Creek. DRAINAGE AREA, 59.6 mi². PERIOD OF RECORD, December 1960 to current year. GAGE, data collection platform (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated bedrock spillway at elevation 1,205.00 ft. Storage began July 1960. Capacity at elevation 1,205.00 ft is 51,700 acre-ft. Ordinary minimum (conservation) pool is 1,125.00 ft, capacity, 3,420 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,170 acre-ft, June 29, 1973, elevation, 1,138.40 ft; minimum (after first filling), 2,500 acre-ft, June 5, 1991, elevation, 1,121.46 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,490 acre-ft, Apr. 29, elevation, 1,128.53 ft; minimum contents, 2,930 acre-ft, Aug. 12-20, elevation, 1,122.96 ft.

01429400 GENERAL EDGAR JADWIN RESERVOIR.--Lat 41°36'44", long 75°15'55", Wayne County, Hydrologic Unit 02040103, at dam on Dyberry Creek, 0.4 mi upstream from unnamed tributary, 2.4 mi north of Honesdale, and 2.9 mi upstream from mouth. DRAINAGE AREA, 64.5 mi². PERIOD OF RECORD, October 1959 to current year. GAGE, data collection platform (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 1,053.00 ft. Storage began October 1959. Capacity at elevation of 1,053.00 ft is 24,500 acre-ft. Reservoir is used for flood control. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel. Since Oct. 1, 1996, pool elevations below 990 ft NGVD are not recorded.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,520 acre-ft, June 19, 1973, elevation, 1,017.40 ft; minimum contents, no storage many times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 867 acre-ft, May 14, elevation, 992.67 ft; minimum contents, no storage many times.

01431700 LAKE WALLENPAUPACK.--Lat 41°27'35", long 75°11'10", Wayne County, Hydrologic Unit 02040103, at dam on Wallenpaupack Creek at Wilsonville, 1.2 mi south of Hawley, and 1.5 mi upstream from mouth. DRAINAGE AREA, 228 mi². PERIOD OF RECORD, January 1926 to current year. GAGE, vertical staff. Datum of gage is sea level (levels by Pennsylvania Power and Light Co.).

REMARKS.--Lake formed by concrete gravity-type and earthfill dam, with concrete spillway in two sections at elevation 1,176.00 ft. Spillway equipped with 14 ft high roller gate on each section. Storage began Nov. 3, 1925; water in reservoir first reached minimum pool elevation January 1926. Total capacity at elevation 1,190.00 ft (top of gates), is 209,300 acre-ft, of which 108,900 acre-ft, above elevation 1,170.00 ft (minimum pool), is controlled storage. Prior to 1984, minimum pool elevation was 1,160.00 ft. Reservoir is used for generation of hydroelectric power. Figures given herein represent usable contents. Records prior to 1984 included additional usable contents of 48,900 acre-ft.

COOPERATION.--Records provided by Pennsylvania Power and Light Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 129,300 acre-ft, Aug. 19-21, 1955, elevation, 1,193.45 ft; minimum (after first filling), 12,280 acre-ft (old minimum pool), Mar. 28, 1958, elevation, 1,162.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 94,680 acre-ft, June 10, elevation, 1,187.7 ft; minimum contents, 32,050 acre-ft, Sept. 28-30, elevation 1,176.5 ft.

LACKAWAXEN RIVER BASIN

Lakes and Reservoirs in Lackawaxen River Basin--Continued

MONTH-END ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS. WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01428900 Prompton Reservoir</u>				<u>01429400 General Edgar Jadwin Reservoir</u>		
Sept. 30	1,123.35	3,040	---	--	0	---
Oct. 31	1,123.25	3,010	-0.5	--	0	0
Nov. 30	1,123.42	3,060	+0.8	--	0	0
Dec. 31	1,124.38	3,330	+4.4	--	0	0
CAL YR 2001	--	--	-0.3	--	--	0
Jan. 31	1,126.00	3,780	+7.3	--	0	0
Feb. 29	1,124.94	3,480	-5.4	--	0	0
Mar. 31	1,126.34	3,880	+6.5	--	0	0
Apr. 30	1,127.34	4,160	+4.7	--	0	0
May 31	1,125.11	3,530	-10.2	--	0	0
June 30	1,124.76	3,430	-1.7	--	0	0
July 31	1,123.19	2,990	-7.2	--	0	0
Aug. 31	1,123.22	3,000	+0.2	--	0	0
Sept. 30	1,124.98	3,490	+8.2	--	0	0
WTR YR 2002	--	--	+0.6	--	--	0
<u>01431700 Lake Wallenpaupack</u>						
Sept. 30	1,179.3	47,710	---			
Oct. 31	1,179.1	46,370	-21.8			
Nov. 30	1,179.6	49,780	+57.3			
Dec. 31	1,180.6	55,440	+92.1			
CAL YR 2001	--	--	+8.8			
Jan. 31	1,181.0	57,340	+30.9			
Feb. 29	1,182.4	64,520	+129			
Mar. 31	1,185.7	83,810	+314			
Apr. 30	1,186.9	90,170	+107			
May 31	1,186.9	90,170	0			
June 30	1,186.1	85,880	-72.1			
July 31	1,182.0	62,390	-382			
Aug. 31	1,180.7	55,910	-105			
Sept. 30	1,176.5	32,050	-401			
WTR YR 2002	--	--	-21.6			

DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, NY

LOCATION.--Lat 41°28'31", long 74°54'46", Pike County, Pa., Hydrologic Unit 02040104, at Shohola-Barryville Bridge at Barryville, just upstream from Halfway Brook, and 1,000 ft upstream from Shohola Creek.

DRAINAGE AREA.--2,659 mi².

PERIOD OF RECORD.--Water years 1958, 1968 to current year.
CHEMICAL DATA: 1958 (d), 1969 (a), 1973 (b), 1974 (d), 1975 (b).
NUTRIENT DATA: 1973 (b), 1974 (d), 1975 (b).
BIOLOGICAL DATA:
 Bacteria.--1973 (b), 1974 (d), 1975 (b).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1967 to September 1973, March 1975 to current year.

INSTRUMENTATION.--Water-temperature recorder provides 15-minute-interval readings. From March 1975 to February 1994, water-temperature recorder provided one-hour-interval readings. Prior to September 1973, water-temperature recorder provided continuous recordings.

REMARKS.--Unpublished records of daily temperatures for May to September 1964-66 are available in files of the Geological Survey. Temperature probe may be influenced by solar radiation during periods of low flow.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-73, 1976-78, 1980-82, 1986-88, 1990-2002), 32.0°C, July 20, 21, 1980; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 30.0°C, July 4; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	13.5	14.5	10.0	7.5	9.0	10.0	9.0	9.5	1.0	0.0	0.0
2	16.0	14.0	15.0	11.0	9.0	10.0	9.0	8.0	8.5	1.0	0.0	0.0
3	17.5	15.0	16.0	11.5	10.0	11.0	8.5	6.5	7.5	0.5	0.0	0.0
4	18.5	16.0	17.5	12.0	10.0	11.0	7.5	6.0	6.5	0.5	0.0	0.0
5	19.0	16.5	18.0	11.0	9.0	10.0	8.5	6.5	7.5	0.5	0.0	0.0
6	18.0	16.0	17.0	9.0	7.5	8.5	8.5	6.5	7.5	0.5	0.0	0.0
7	16.5	13.0	14.5	8.5	7.0	8.0	8.5	6.5	7.5	0.5	0.0	0.0
8	13.0	11.0	12.0	8.0	7.0	7.5	6.5	3.5	5.0	1.0	0.0	0.0
9	12.0	10.0	11.0	8.0	6.0	7.0	5.5	3.0	4.0	0.5	0.0	0.0
10	12.5	10.0	11.5	7.0	5.5	6.0	4.5	2.5	3.5	0.5	0.0	0.0
11	14.0	11.0	12.5	6.5	4.5	6.0	5.0	2.5	3.5	0.5	0.0	0.0
12	15.5	13.0	14.5	5.5	3.5	4.5	4.5	2.5	3.5	0.5	0.0	0.0
13	17.5	14.5	16.0	4.5	3.0	4.0	5.5	3.0	4.5	1.0	0.0	0.0
14	17.0	16.0	16.5	5.0	3.0	4.0	5.5	4.0	5.0	0.5	0.0	0.0
15	16.5	15.5	16.0	6.5	4.5	5.5	5.5	3.5	4.5	1.0	0.0	0.0
16	16.0	14.0	15.0	8.0	5.5	6.5	4.0	2.5	3.0	1.0	0.0	0.0
17	15.0	11.5	13.5	7.0	5.5	6.5	3.5	2.5	3.0	1.0	0.0	0.0
18	12.0	10.5	11.5	6.5	5.0	6.0	4.0	3.0	3.5	0.5	0.0	0.0
19	11.5	9.5	10.5	7.5	5.5	6.5	4.5	3.0	3.5	1.0	0.0	0.0
20	12.0	10.0	11.0	7.0	5.0	6.5	4.0	3.0	3.5	1.5	0.0	0.5
21	12.5	10.0	11.5	5.5	4.0	5.0	3.5	2.0	3.0	1.0	0.0	0.5
22	13.5	12.0	13.0	5.0	3.5	4.5	2.5	1.0	2.0	1.0	0.0	0.0
23	14.0	12.5	13.5	5.0	3.5	4.5	2.0	0.0	1.0	1.0	0.0	0.0
24	16.0	13.5	14.5	6.0	4.5	5.0	2.0	1.0	1.5	0.5	0.0	0.0
25	15.5	14.5	15.0	8.5	5.5	7.0	2.0	0.5	1.0	1.0	0.0	0.0
26	14.5	12.0	13.0	9.0	7.5	8.5	1.5	0.0	0.5	0.5	0.0	0.0
27	12.0	10.0	11.0	9.0	7.5	8.5	0.5	0.0	0.0	0.5	0.0	0.0
28	10.0	8.0	9.0	9.5	8.0	9.0	0.5	0.0	0.0	0.5	0.0	0.0
29	9.5	7.0	8.0	9.5	8.0	9.0	0.5	0.0	0.0	0.5	0.0	0.0
30	9.0	8.0	8.5	10.0	8.5	9.0	0.5	0.0	0.0	0.5	0.0	0.0
31	9.0	7.5	8.0	---	---	---	1.0	0.0	0.0	1.0	0.0	0.5
MONTH	19.0	7.0	13.2	12.0	3.0	7.1	10.0	0.0	3.7	1.5	0.0	0.0

DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.0	0.0	0.5	3.5	1.5	2.5	9.5	8.0	9.0	11.0	7.5	9.0
2	1.5	0.0	0.5	3.5	1.5	2.5	8.5	7.0	7.5	10.5	9.5	10.0
3	1.0	0.0	0.0	5.5	3.0	4.5	8.5	6.0	7.5	11.0	9.0	10.0
4	1.5	0.0	0.5	5.0	2.5	3.5	8.0	5.5	6.5	12.0	8.5	10.0
5	0.5	0.0	0.0	3.0	1.0	2.0	6.5	4.5	5.5	14.0	10.5	12.0
6	1.0	0.0	0.0	3.5	1.0	2.5	6.0	3.5	5.0	15.0	12.0	13.5
7	1.0	0.0	0.5	4.5	2.0	3.5	7.0	3.0	5.0	16.5	13.5	15.0
8	2.0	0.0	1.0	6.0	3.0	4.5	7.0	5.0	6.0	17.0	14.0	15.5
9	3.0	1.0	2.0	8.0	5.5	6.5	9.5	5.5	7.5	15.5	13.0	14.5
10	3.5	1.5	2.5	8.0	5.0	6.5	11.5	7.5	9.5	16.0	12.5	14.0
11	3.5	1.0	3.0	5.0	3.0	4.0	11.5	7.5	10.0	16.5	12.5	14.5
12	2.0	0.0	1.0	4.0	2.5	3.5	11.0	8.5	10.0	15.5	13.0	14.0
13	1.5	0.5	1.0	3.5	2.5	3.0	13.0	10.0	11.5	13.5	11.0	12.0
14	1.0	0.0	0.5	6.0	3.0	4.5	15.0	12.0	13.5	11.5	10.5	11.0
15	1.0	0.0	0.5	8.5	5.0	7.0	17.0	14.0	15.5	12.5	10.0	11.0
16	3.0	0.5	1.5	8.5	7.0	8.0	18.5	14.5	16.0	14.0	10.5	12.0
17	3.5	1.5	2.5	7.5	5.5	6.5	20.0	15.5	17.5	14.5	12.5	13.5
18	3.0	0.5	2.0	6.5	4.0	5.0	21.5	17.0	19.0	13.5	11.0	12.5
19	3.0	0.0	2.0	5.0	4.0	4.5	20.5	17.5	19.0	11.5	10.0	11.0
20	4.0	1.5	3.0	4.5	3.0	3.5	19.0	17.0	18.0	11.0	9.5	10.0
21	5.5	3.5	4.5	6.0	2.5	4.0	17.0	13.5	15.0	11.0	9.0	10.0
22	5.5	4.0	5.0	5.0	2.0	3.0	14.0	10.0	12.0	13.0	9.0	11.0
23	5.0	3.0	4.5	4.0	1.0	2.5	10.5	8.0	9.5	15.5	10.5	13.0
24	4.5	2.0	3.5	6.0	2.0	4.0	12.5	7.0	9.5	16.0	12.5	14.5
25	5.0	2.5	4.0	5.5	4.0	5.0	11.5	8.5	9.5	17.5	13.5	15.5
26	6.0	3.0	4.5	4.5	3.0	3.5	10.5	8.0	9.5	18.0	15.0	16.5
27	5.5	4.0	5.0	3.5	2.5	3.0	11.5	7.5	10.0	18.5	16.0	17.5
28	4.0	2.0	3.0	5.0	2.0	3.5	11.5	9.5	10.0	19.0	16.0	17.5
29	---	---	---	7.0	3.5	5.0	9.5	8.5	9.0	16.5	15.0	15.5
30	---	---	---	8.5	6.0	7.0	9.0	8.0	8.5	17.5	14.5	16.0
31	---	---	---	9.5	7.5	8.5	---	---	---	18.5	15.5	17.0
MONTH	6.0	0.0	2.1	9.5	1.0	4.4	21.5	3.0	10.7	19.0	7.5	13.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	17.0	18.0	26.5	24.5	25.5	29.0	23.0	26.0	20.5	19.0	19.5
2	19.5	17.5	18.5	26.5	22.5	25.0	29.0	23.5	26.5	20.5	18.5	19.5
3	18.5	16.5	17.5	28.0	24.0	26.0	29.5	23.5	26.5	25.0	18.5	21.0
4	18.0	16.0	17.0	30.0	24.5	27.5	29.0	26.0	27.5	25.0	20.5	23.0
5	20.0	16.0	18.0	27.5	24.0	26.0	27.5	25.5	26.5	23.5	20.5	22.0
6	19.5	17.0	18.5	24.5	21.0	23.0	26.5	23.0	24.5	23.0	19.0	21.0
7	17.0	15.5	16.0	25.0	20.5	23.0	23.5	20.5	22.0	22.5	19.0	21.0
8	18.0	15.5	16.5	26.5	20.5	23.5	23.5	20.0	21.5	23.0	20.0	21.5
9	19.0	16.0	17.5	25.5	21.5	23.0	24.0	19.5	22.0	24.5	20.0	22.0
10	20.0	18.0	19.0	26.0	21.5	23.5	24.5	20.5	22.5	25.0	20.5	22.5
11	21.5	17.5	19.0	24.5	19.5	22.0	25.0	21.5	23.5	23.0	19.5	21.0
12	21.0	18.5	20.0	26.0	19.0	22.5	25.5	22.5	24.0	21.0	17.0	19.0
13	20.0	18.5	19.0	26.5	19.5	23.0	26.5	23.0	25.0	20.5	17.0	19.0
14	18.5	16.5	17.5	26.0	22.5	24.0	27.0	23.5	25.5	21.5	18.0	19.5
15	16.5	15.5	16.0	26.5	22.5	24.0	27.0	24.0	25.5	21.5	20.0	20.5
16	18.0	15.0	16.5	26.0	21.5	23.5	26.0	23.5	25.0	21.5	19.5	20.5
17	18.5	16.0	17.0	26.5	20.5	23.5	26.0	23.5	25.0	23.0	18.5	20.5
18	19.5	16.5	18.0	27.5	21.5	25.0	26.5	23.5	25.0	22.0	18.5	20.0
19	20.5	17.0	19.0	27.5	23.0	25.0	26.0	23.5	25.0	21.5	18.5	20.0
20	22.0	18.0	20.0	28.5	21.5	25.0	25.0	23.5	24.5	24.0	19.0	21.0
21	23.0	19.0	21.0	27.5	23.5	25.5	25.0	22.0	23.5	24.0	20.5	22.0
22	24.5	20.0	22.5	29.0	23.5	26.0	23.5	21.5	22.5	24.0	20.5	22.5
23	25.5	22.5	24.0	28.0	24.0	25.5	24.0	22.0	23.0	23.0	18.5	20.5
24	25.5	22.5	24.0	27.0	22.0	24.5	23.0	20.5	21.5	21.0	18.5	19.5
25	25.5	22.0	24.0	26.5	22.5	24.5	23.0	20.0	21.5	20.5	18.0	19.0
26	25.0	22.5	24.0	23.5	21.0	22.5	23.0	20.0	21.5	19.0	17.0	18.0
27	26.0	22.5	24.5	23.0	20.0	22.0	26.5	20.0	23.0	17.5	16.5	17.0
28	25.0	22.5	24.0	24.0	22.0	23.0	23.0	20.5	21.5	17.5	16.5	17.0
29	25.5	21.0	23.5	27.5	23.0	25.0	21.5	19.0	20.0	17.0	15.0	16.0
30	26.5	23.5	25.0	27.5	22.5	25.0	21.0	18.5	19.5	17.5	15.5	16.5
31	---	---	---	28.5	22.0	25.5	23.5	18.5	20.5	---	---	---
MONTH	26.5	15.0	19.8	30.0	19.0	24.3	29.5	18.5	23.6	25.0	15.0	20.1

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, NY

LOCATION.--Lat 41°26'20", long 74°49'11", Pike County, Pa., Hydrologic Unit 02040104, at interstate bridge at Pond Eddy, 450 ft downstream from Mill Brook, and 4.5 mi upstream from Mongaup River.

DRAINAGE AREA.--2,820 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1973 to current year.

INSTRUMENTATION.--Water-temperature recorder provides 15-minute-interval readings. Prior to August 1994, water-temperature recorder provided one-hour-interval readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1976, 1978, 1980-81, 1983-84, 1986, 1989-90, 1992-2002) 31.5°C, July 5, 1999; minimum (water years 1974, 1977-78, 1980, 1983-2002), 0.0°C on many days during winter periods, except 1978, 1980, 1985.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.0°C, Aug. 4; minimum, 0.0°C on many days during winter period.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	14.0	15.0	9.5	7.5	8.5	10.5	9.5	9.5	0.5	0.0	0.0
2	17.5	14.0	15.5	10.5	9.0	10.0	9.5	8.0	8.5	0.5	0.0	0.0
3	18.0	15.5	16.0	12.0	10.5	11.0	8.0	7.0	7.5	0.5	0.0	0.0
4	19.5	16.5	17.5	11.5	10.5	11.0	7.5	6.5	7.0	0.5	0.0	0.0
5	19.5	17.0	18.0	11.0	9.0	10.0	8.0	6.5	7.0	0.5	0.0	0.0
6	18.0	16.5	17.5	9.0	8.0	8.5	8.0	7.0	7.5	0.5	0.0	0.0
7	16.5	13.5	15.0	9.0	7.5	8.0	8.5	7.5	8.0	0.5	0.0	0.0
8	13.5	12.0	12.5	8.5	7.5	7.5	7.5	5.0	6.5	0.5	0.0	0.0
9	12.5	10.5	11.5	8.0	6.5	7.5	5.0	4.0	4.5	0.5	0.0	0.0
10	13.0	10.5	11.5	7.5	6.0	6.5	4.5	3.5	4.0	0.5	0.0	0.0
11	14.5	11.5	12.5	6.5	5.5	6.0	4.5	3.5	4.0	0.0	0.0	0.0
12	15.5	13.0	14.0	5.5	4.0	4.5	4.0	3.0	3.5	0.5	0.0	0.0
13	17.0	15.0	15.5	5.0	3.5	4.0	4.5	3.5	4.0	0.5	0.0	0.0
14	17.0	16.0	16.5	5.0	3.5	4.0	5.5	4.5	5.0	0.5	0.0	0.0
15	17.0	15.5	16.5	6.5	4.5	5.5	5.5	4.0	5.0	0.5	0.0	0.0
16	16.0	14.5	15.0	7.5	5.5	6.5	4.0	3.0	3.5	0.5	0.0	0.0
17	14.5	12.5	14.0	7.0	6.0	6.5	3.5	3.0	3.0	0.5	0.0	0.0
18	12.5	11.0	11.5	7.0	5.5	6.0	4.0	3.0	3.5	0.5	0.0	0.0
19	12.0	10.5	11.0	7.5	6.0	6.5	4.0	3.5	3.5	0.5	0.0	0.5
20	12.0	10.5	11.0	7.0	6.0	6.5	4.0	3.5	3.5	0.5	0.0	0.5
21	12.5	10.5	11.5	6.0	5.0	5.5	3.5	2.5	3.0	0.5	0.0	0.5
22	13.5	12.0	12.5	5.5	4.0	4.5	2.5	1.5	2.0	0.5	0.0	0.0
23	14.0	13.0	13.0	5.5	4.0	4.5	2.0	1.5	1.5	0.0	0.0	0.0
24	16.0	13.5	14.5	6.0	4.5	5.0	2.5	1.5	2.0	0.0	0.0	0.0
25	16.0	14.5	15.0	7.5	5.5	6.5	1.5	1.0	1.5	0.5	0.0	0.0
26	14.5	12.0	13.5	8.5	7.5	8.0	1.0	0.0	1.0	0.5	0.0	0.0
27	12.0	10.0	11.0	8.5	8.0	8.0	0.5	0.0	0.0	0.0	0.0	0.0
28	10.0	8.5	9.5	9.5	8.0	8.5	0.5	0.0	0.0	0.0	0.0	0.0
29	9.5	8.0	8.5	9.0	8.5	8.5	0.5	0.0	0.0	0.0	0.0	0.0
30	9.5	8.0	8.5	9.5	8.5	9.0	0.5	0.0	0.0	0.0	0.0	0.0
31	8.5	8.0	8.0	---	---	---	0.5	0.0	0.0	0.0	0.0	0.0
MONTH	19.5	8.0	13.3	12.0	3.5	7.1	10.5	0.0	3.9	0.5	0.0	0.0

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, NY--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.5	0.0	0.0	4.0	2.5	3.0	9.5	8.5	9.0	10.5	8.0	9.0
2	0.5	0.0	0.5	3.0	2.0	2.5	8.5	7.5	8.0	10.0	9.5	10.0
3	0.5	0.0	0.0	5.5	3.0	4.0	8.0	7.0	7.5	10.5	9.5	10.0
4	0.5	0.0	0.5	5.0	3.0	4.0	7.5	6.0	6.5	11.5	9.0	10.0
5	0.5	0.0	0.0	3.0	1.5	2.5	6.5	5.0	6.0	13.5	10.5	12.0
6	0.5	0.0	0.0	3.5	2.0	2.5	5.5	4.0	5.0	15.0	12.0	13.5
7	0.5	0.0	0.5	4.0	2.5	3.5	6.0	3.5	5.0	16.5	14.0	15.0
8	1.5	0.5	1.0	6.0	3.5	4.5	6.5	5.5	6.0	16.5	14.5	16.0
9	2.5	1.0	1.5	7.0	5.0	6.0	9.0	6.5	7.5	16.5	14.0	15.0
10	3.0	2.0	2.5	7.5	5.5	7.0	11.0	8.5	9.5	16.0	13.0	14.5
11	3.0	2.0	3.0	5.5	4.0	4.5	11.5	9.0	10.5	15.5	13.5	14.5
12	2.0	1.0	1.0	4.0	3.5	4.0	11.0	9.5	10.5	15.5	13.5	14.5
13	1.5	0.5	1.0	3.5	3.0	3.5	12.0	10.5	11.5	13.5	11.5	12.5
14	1.0	0.0	0.5	6.0	3.0	4.5	14.5	12.0	13.0	11.5	11.0	11.0
15	1.0	0.0	0.5	8.0	5.5	6.5	16.5	14.5	15.5	12.0	10.0	11.0
16	2.0	0.5	1.5	8.5	7.5	8.0	18.0	15.0	16.5	13.5	11.0	12.0
17	3.0	2.0	2.5	7.5	6.0	6.5	19.5	16.0	18.0	14.5	13.0	13.5
18	2.5	1.5	2.0	6.0	4.5	5.5	20.5	17.5	19.0	14.0	12.0	13.0
19	2.5	1.5	2.0	5.0	4.5	4.5	20.5	18.0	19.0	12.0	10.5	11.0
20	3.0	2.5	3.0	4.5	3.5	4.0	20.0	17.5	18.0	10.5	9.5	10.0
21	5.0	3.0	4.0	5.5	3.0	4.5	17.5	14.0	15.5	10.5	9.5	10.0
22	5.0	4.5	5.0	5.0	3.0	3.5	14.0	11.5	13.0	12.5	9.5	11.0
23	5.0	4.0	4.5	3.5	2.0	3.0	11.5	9.5	10.5	14.5	11.0	12.5
24	4.5	3.0	4.0	5.0	3.0	4.0	11.0	8.5	10.0	16.0	13.0	14.5
25	4.5	3.5	4.0	5.0	4.5	5.0	11.0	9.0	10.0	17.0	14.0	15.5
26	5.5	4.0	4.5	4.5	3.5	4.0	10.0	8.5	9.5	17.5	16.0	16.5
27	5.5	4.0	5.0	3.5	3.0	3.5	11.0	8.5	10.0	18.5	17.0	17.5
28	4.0	2.5	3.5	4.5	2.5	3.5	11.0	10.0	10.5	19.0	17.0	18.0
29	---	---	---	6.0	4.0	5.0	10.0	8.5	9.5	17.0	16.0	16.5
30	---	---	---	8.0	6.0	7.0	8.5	8.0	8.5	18.0	15.5	16.5
31	---	---	---	9.0	8.0	8.5	---	---	---	18.5	16.5	17.5
MONTH	5.5	0.0	2.1	9.0	1.5	4.6	20.5	3.5	10.9	19.0	8.0	13.4
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.0	17.5	18.5	27.0	24.5	25.5	28.5	25.0	26.0	21.0	19.5	20.0
2	19.0	18.0	18.5	26.0	24.0	25.5	28.5	25.5	26.5	20.0	19.0	19.5
3	19.0	17.0	18.0	27.5	25.0	26.0	29.5	25.5	27.0	23.5	19.5	21.0
4	18.5	16.5	17.5	28.5	26.0	27.0	30.0	26.0	27.5	25.0	21.5	22.5
5	20.0	17.0	18.5	28.0	25.0	26.5	28.5	26.5	27.5	24.5	22.0	22.5
6	20.0	18.0	19.0	25.5	22.5	23.5	27.5	24.5	25.5	24.0	20.5	21.5
7	18.0	16.5	17.0	24.5	21.5	23.0	24.5	22.0	23.0	23.5	20.0	21.5
8	17.5	15.5	16.5	26.5	22.0	24.0	24.0	20.5	22.0	24.5	20.5	22.0
9	19.0	16.5	17.5	24.5	23.0	23.5	25.0	20.5	22.5	25.0	20.5	22.5
10	20.5	18.0	19.0	25.5	22.5	23.5	25.5	21.5	23.0	25.5	22.0	23.0
11	21.5	18.5	20.0	24.5	21.0	22.5	26.5	22.0	24.0	23.0	20.5	22.0
12	21.5	20.0	20.5	25.5	20.5	22.5	27.0	23.0	24.5	21.5	18.0	19.5
13	21.0	19.5	20.0	25.0	21.5	23.0	27.5	24.0	25.5	21.5	18.0	19.0
14	19.5	17.5	18.0	25.0	21.5	23.0	27.5	24.5	26.0	21.5	18.5	20.0
15	17.5	16.0	16.5	26.5	22.5	24.5	28.0	25.0	26.0	21.0	20.5	20.5
16	17.5	16.0	16.5	26.5	23.0	24.5	26.5	25.0	25.5	22.0	20.5	21.0
17	18.0	16.5	17.5	27.0	22.5	24.0	27.5	24.5	25.5	23.5	19.5	21.0
18	19.5	17.0	18.0	27.0	24.0	25.0	27.5	24.5	26.0	22.5	19.5	20.5
19	21.0	18.0	19.5	26.0	24.5	25.5	27.5	24.5	25.5	21.5	19.5	20.0
20	22.0	19.0	20.5	27.0	24.0	25.0	26.5	24.5	25.0	23.0	19.5	21.0
21	22.5	20.0	21.5	26.5	24.5	25.5	26.0	23.0	24.5	23.0	21.0	22.0
22	23.5	21.0	22.5	28.0	25.0	26.0	24.0	22.5	23.5	24.0	22.0	22.5
23	25.5	23.5	24.5	27.5	25.0	26.5	25.5	23.0	24.0	23.0	20.5	21.5
24	25.5	23.5	24.5	27.0	24.5	25.5	24.0	21.5	22.5	21.5	19.5	20.5
25	25.0	23.0	24.0	25.5	23.5	24.5	23.5	20.5	21.5	20.5	18.5	19.5
26	24.5	23.0	24.0	24.0	22.0	23.0	23.5	21.0	22.0	19.0	18.0	18.5
27	25.0	22.5	23.5	23.0	21.5	22.0	25.0	21.0	22.5	18.0	17.0	17.0
28	24.5	23.0	24.0	24.0	22.0	22.5	23.0	21.5	22.0	18.0	17.0	17.5
29	24.0	22.0	23.0	27.5	23.0	25.0	21.5	19.5	20.5	17.0	16.0	16.5
30	26.5	23.5	24.5	27.5	25.0	26.0	21.0	19.0	20.0	18.0	16.5	17.0
31	---	---	---	28.5	24.0	26.0	22.0	19.5	20.5	---	---	---
MONTH	26.5	15.5	20.1	28.5	20.5	24.5	30.0	19.0	24.1	25.5	16.0	20.4

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°22'14", long 74°41'52", Pike County, PA, Hydrologic Unit 02040104, on right bank 250 ft downstream from bridge (on U.S. Highways 6 and 209) between Port Jervis, N.Y. and Matamoras, PA, 1.2 mi upstream from Neversink River, and 6.5 mi downstream from Mongaup River.

DRAINAGE AREA.--3,070 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1904 to current year.

REVISED RECORDS.--WSP 1031: 1905-36. WDR NY-71-1: 1970. WDR NY-82-1: Drainage area. WDR NY-86-1: 1979-80.

GAGE.--Water-stage recorder. Datum of gage is 415.35 ft above National Geodetic Vertical Datum of 1929. October 1904 to August 13, 1928, non-recording gage at bridge 250 ft upstream at present datum; operated by U.S. Weather Service prior to June 20, 1914.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lake Wallenpaupack (station 01431700) and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir. Information on the above lakes and reservoirs can be found in the annual Water-Data Report NY-02-1. Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite and telephone gage-height telemeters and National Weather Service telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to current degree of regulation, 233,000 ft³/s, Aug. 19, 1955, gage height, 23.91 ft, from floodmarks in gage house, from rating curve extended above 89,000 ft³/s, on basis of slope-area measurement of peak flow; maximum discharge since current degree of regulation, 134,000 ft³/s, Jan. 20, 1996, gage height, 18.37 ft; maximum gage height, 26.6 ft, Feb. 12, 1981 (ice jam), from floodmarks; minimum observed discharge, 175 ft³/s, Sept. 23, 1908, gage height, 0.6 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--The U.S. Weather Bureau reported a discharge of 205,000 ft³/s, Oct. 10, 1903, gage height, 23.1 ft, from rating curve extended above 70,000 ft³/s, by velocity-area studies; maximum gage height, 25.5 ft, Mar. 8, 1904 (ice jam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,400 ft³/s, May 14, gage height, 7.68 ft; minimum, 560 ft³/s, Jan. 20, gage height, 1.53 ft, result of freezeup.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1530	1390	1120	6400	2000	7710	11000	7710	2350	1520	1330
2	1540	1660	2040	1100	6580	1670	7420	10100	7240	3000	1570	1390
3	1730	1570	1950	1340	5900	1800	5860	11000	5570	2920	1540	1500
4	1700	1510	1460	1330	4640	2320	5610	7870	4930	2370	1580	1530
5	1700	1600	1260	1350	4050	2610	5010	6420	4510	2440	1510	1490
6	1780	1530	1160	1120	3310	2110	4060	5750	6100	2100	1730	1660
7	1640	1480	1230	1000	2890	2010	3260	5020	19000	1900	1570	1670
8	1770	1470	1110	e980	2540	1900	3520	4610	16100	1800	1540	1520
9	1650	1430	1160	1040	2290	1790	3510	4430	9930	2010	1530	1420
10	1670	1410	1060	1010	2110	1890	3490	4430	8070	2090	1570	1600
11	1750	1420	985	1110	3840	2180	3290	3840	7350	1960	1530	1590
12	1710	1380	1100	1060	8530	2240	3210	3340	6160	1770	1500	1590
13	1790	1350	1180	1020	6040	2030	2470	8140	5740	1610	1560	1670
14	1630	1400	1140	1050	4500	2000	2380	23900	5750	1370	1570	1690
15	1680	1340	1370	1010	3530	2030	4110	18200	8030	1480	1540	1800
16	1780	1420	1840	919	3310	1960	6080	12700	9290	1700	1680	1990
17	1790	1390	1810	885	2940	2140	5400	9800	8450	1670	1700	1580
18	1790	1370	2200	872	2690	2270	4790	10600	6980	1830	1670	1500
19	1710	1360	5430	764	2350	2110	4310	16000	6190	1600	1600	1700
20	1700	1350	4410	666	2120	2240	3500	11600	5390	1700	1640	1470
21	1660	1370	3530	802	2120	2580	3040	8870	4740	1810	1630	1380
22	1690	1390	2840	987	2450	3270	2940	7250	3830	1690	1730	1570
23	1710	1380	2360	e980	2660	3250	3260	6150	3150	1700	1530	790
24	1690	1390	2100	e940	2350	2850	3090	5880	3530	1760	1590	1980
25	1810	1420	2060	e1100	2110	2900	3130	5200	3620	1940	1650	1650
26	1910	1420	2100	1450	2040	3130	3750	3860	3840	1640	1620	1560
27	1750	1660	1640	1980	1940	12200	3810	3650	3850	1560	1410	1700
28	1770	1480	1550	1980	1960	13700	4210	4280	3720	1570	1500	3110
29	1720	1340	1320	2240	---	10000	13600	12100	3140	1540	1750	2970
30	1720	1230	1440	2420	---	8500	13400	8980	2190	1660	1850	2050
31	1680	---	1200	5610	---	8210	---	7160	---	1500	1590	---
TOTAL	53090	43050	57425	41235	98190	111890	143220	262130	194100	58040	49500	50450
MEAN	1713	1435	1852	1330	3507	3609	4774	8456	6470	1872	1597	1682
MAX	1910	1660	5430	5610	8530	13700	13600	23900	19000	3000	1850	3110
MIN	1470	1230	985	666	1940	1670	2380	3340	2190	1370	1410	790

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2002, BY WATER YEAR (WY)

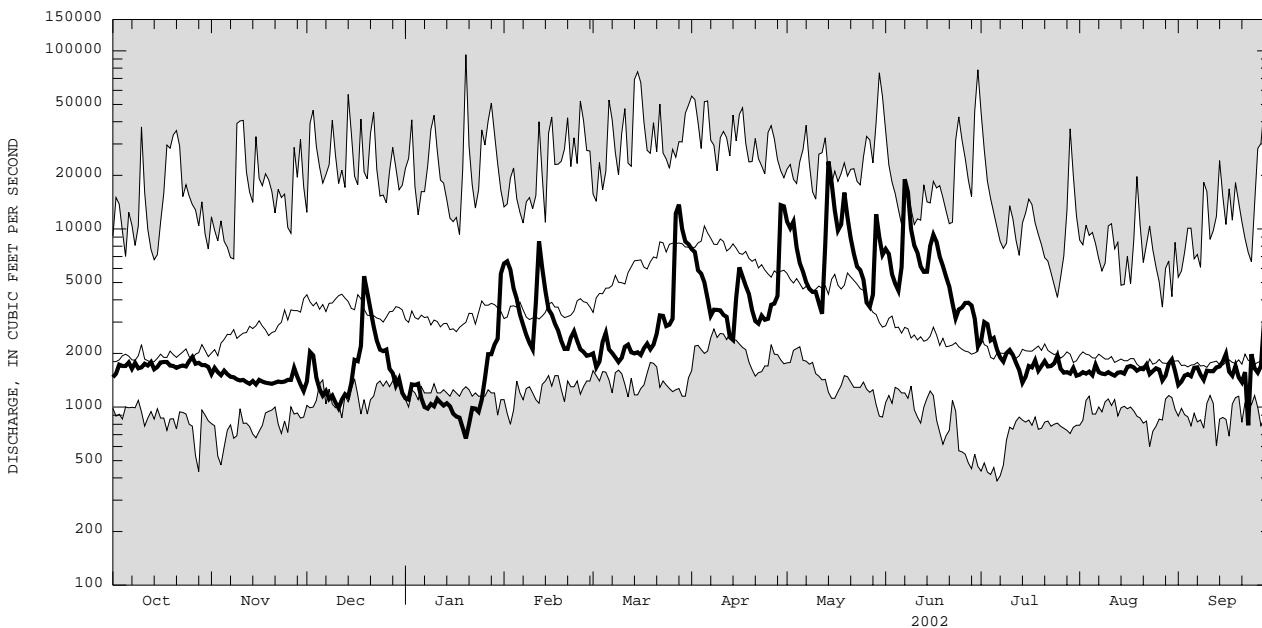
MEAN	2932	3985	5065	4707	5071	7925	9402	6135	3949	2672	2213	2381
MAX	10440	10310	17280	12980	13730	17520	23650	12670	12650	6680	4513	7928
(WY)	1978	1973	1997	1996	1976	1977	1993	1984	1972	1973	1969	1987
MIN	1001	884	1475	1216	1601	2583	2954	1890	993	699	963	1144
(WY)	1965	1965	1999	1981	1980	1981	1985	1995	1965	1965	1965	1965

e Estimated.

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1964 - 2002	
ANNUAL TOTAL	1225225		1162320			
ANNUAL MEAN	3357		3184		4698	
HIGHEST ANNUAL MEAN					7216	
LOWEST ANNUAL MEAN					2028	
HIGHEST DAILY MEAN	32600	Apr 10	23900	May 14	95200	Jan 20 1996
LOWEST DAILY MEAN	985	Dec 11	666	Jan 20	385	Jul 6 1965
ANNUAL SEVEN-DAY MINIMUM	1100	Dec 8	842	Jan 16	432	Jul 1 1965
10 PERCENT EXCEEDS	5880		7190		10200	
50 PERCENT EXCEEDS	1920		1830		2800	
90 PERCENT EXCEEDS	1410		1330		1500	



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
 SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-60, 1964 to January 1994, June 1997, 1999 to August 2001, April 2002 to current year.
CHEMICAL DATA: 1958-59 (e), 1964-65 (c), 1966 (a), 1967-68 (c), 1969-76 (d), 1987 (b), 1988-89 (c), 1990-91 (b), 1992, 1997 (a), 1999-2001 (d).
MINOR ELEMENTS DATA: 1970, 1972-73 (a), 1974-76 (c), 1987 (b), 1988-89 (c), 1990-91 (b), 1992 (a).
PESTICIDE DATA: 1974 (a), 1987 (b), 1988-89 (c), 1990 (b), 1997 (a), 1999 (c), 2000-01 (d).
ORGANIC DATA: OC--1974 (b), 1975, 1999-2001 (d).
NUTRIENT DATA: 1968 (a), 1969-76 (d), 1987 (b), 1988-89 (c), 1990 (b), 1999-2001 (d).
BIOLOGICAL DATA:
 Bacteria--1973-76 (d).
 Phytoplankton--1974 (b), 1975-76 (c).
 Periphyton--1976 (a).
SEDIMENT DATA: 1959, 1976 (c), 1988 (b), 1989 (c), 1990-91 (b), 1992 (a), 1999-2001 (d).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January to September 1973
WATER TEMPERATURE: February 1957 to September 1960, January to September 1973, June 1974 to January 1994, October 1998 to August 2001.
SUSPENDED-SEDIMENT DISCHARGE: February 1957 to September 1960, March 1970 to June 1976.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum (water years 1957-59, 1973-81, 1983-84, 1988-93, 1999-2000), 30.5°C, July 5, 1999; minimum (water years 1958-60, 1973, 1975-93, 1999, 2001), 0.0°C on many days during winter periods, except 1984.
SUSPENDED-SEDIMENT CONCENTRATION: (water years 1957-60, 1970-76): Maximum daily mean, 760 mg/L, June 29, 1973; minimum daily mean, less than 1 mg/L on many days.
SUSPENDED-SEDIMENT DISCHARGE: (water years 1957-60, 1970-76): Maximum daily, 187,000 tons, June 29, 1973; minimum daily, 1 ton, Aug. 29, 1957.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002													
04...	0930	9813	5050	40	12.5	7.2	69	6.9	19	5.8	1.2	11	7.6
JUN													
05...	0930	9813	3990	40	9.3	7.3	75	17.9	20	5.9	1.2	12	7.4
AUG													
07...	0900	9813	1550	40	8.3	7.7	98	22.9	26	7.5	1.8	17	7.7

Date	RESIDUE AT 105 DEG. C, DIS-SUS-PENDED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS, ORTHO (MG/L AS P) (70507)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002													
04...	210	2	<.020	.22	<.040	.48	<.01	.020	2.3	<10	100	<1.0	30
JUN													
05...	50	<2	<.020	.08	<.040	.23	<.01	.020	2.9	<10	270	<1.0	40
AUG													
07...	<2	<2	<.020	.22	<.040	.36	.01	.010	2.7	<10	100	<1.0	50

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002		
04...	<50	<10
JUN		
05...	<50	<10
AUG		
07...	<50	<10

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ

LOCATION.--Lat 41°18'33", long 74°47'44", Pike County, PA, Hydrologic Unit 02040104, on right bank 1,500 ft upstream from toll bridge (on U.S. Route 206) between Montague, NJ and Milford, PA, 0.8 mi downstream from Sawkill Creek, and at river mile 246.3.

DRAINAGE AREA.--3,480 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1936 to September 1939 (gage heights only, published as "*at Milford, PA*"). October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR-NJ-81-2: 1980.

GAGE.--Water-stage recorder. Datum of gage is 369.93 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 9, 1940, nonrecording gage on upstream side of left span of subsequently dismantled bridge at present site at datum 70 ft lower.

REMARKS.--Records good. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack (station 01431700), Cliff Lake, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, and Neversink Reservoirs. Information on the above lakes and reservoirs can be found in the annual Water-Data Report NJ-02-1. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	1690	1520	1460	6800	2250	8570	12100	8150	2460	1740	1360
2	1650	1750	2090	1380	6670	2080	8150	10900	8260	3240	1820	1540
3	1820	1790	2290	1650	6350	2190	6820	12200	6190	3250	1770	1670
4	1760	1690	1710	1630	5000	2750	6240	9330	5510	2750	1750	1650
5	1760	1640	1470	1510	4360	3110	5810	7450	4980	2520	1720	1610
6	1930	1790	1350	1370	3750	2610	4890	6490	6520	2420	1900	1790
7	1730	1630	1260	1340	3320	2430	4100	5820	18400	2100	1800	1740
8	1700	1620	1430	1440	2950	2310	3820	5240	18800	1960	1720	1620
9	1860	1530	1320	1150	2680	2180	4030	5020	11700	2080	1670	1600
10	1730	1630	1270	1400	2490	2290	4060	5010	9260	2210	1680	1750
11	1820	1550	1180	1430	3340	2520	3940	4590	8590	2260	1640	1680
12	1800	1520	1240	1410	8320	2680	3790	3950	7010	1940	1630	1730
13	1870	1530	1400	1360	6450	2410	3290	6960	6430	1800	1680	1760
14	1740	1490	1260	1240	4960	2380	2810	23800	6330	1440	1740	1830
15	1730	1530	1580	1370	3950	2340	4250	20500	8790	1510	1740	1940
16	1850	1510	2010	1180	3710	2380	6480	14700	10000	1950	1830	2230
17	1870	1560	2110	1120	3310	2470	6050	11300	9320	1800	1930	2090
18	1880	1510	2240	1010	3070	2670	5420	11500	7770	1950	1840	1680
19	1770	1500	5160	1070	2740	2530	4960	17300	6710	1830	1730	1810
20	1740	1480	4750	951	2490	2600	4310	13500	5960	1940	1770	1730
21	1710	1500	3810	943	2470	3070	3680	10400	5220	1960	1770	1540
22	1720	1510	3270	1080	2710	3720	3390	8650	4500	1930	1820	1680
23	1750	1530	2720	1340	3000	3870	3790	7340	3680	1960	1700	1030
24	1750	1520	2460	1340	2710	3410	3600	6740	3780	2010	1670	1770
25	1860	1580	2370	1390	2440	3370	3500	6400	4060	2200	1720	2000
26	1980	1590	2360	1650	2330	3490	4230	4750	4000	1990	1810	1700
27	1890	1780	2000	2210	2320	8860	4540	4540	4320	1710	1590	1870
28	1830	1720	1930	2250	2280	14200	4350	4600	4130	1770	1490	3380
29	1840	1450	1920	2490	---	11200	12200	12100	3720	1810	1870	3700
30	1820	1470	1930	2740	---	9520	14200	10500	2650	1950	2120	2630
31	1830	---	1900	5260	---	9060	---	8020	---	1780	1920	---
TOTAL	55610	47590	65310	49164	106970	122950	159270	291700	214740	64480	54580	56110
MEAN	1794	1586	2107	1586	3820	3966	5309	9410	7158	2080	1761	1870
MAX	1980	1790	5160	5260	8320	14200	14200	23800	18800	3250	2120	3700
MIN	1620	1450	1180	943	2280	2080	2810	3950	2650	1440	1490	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

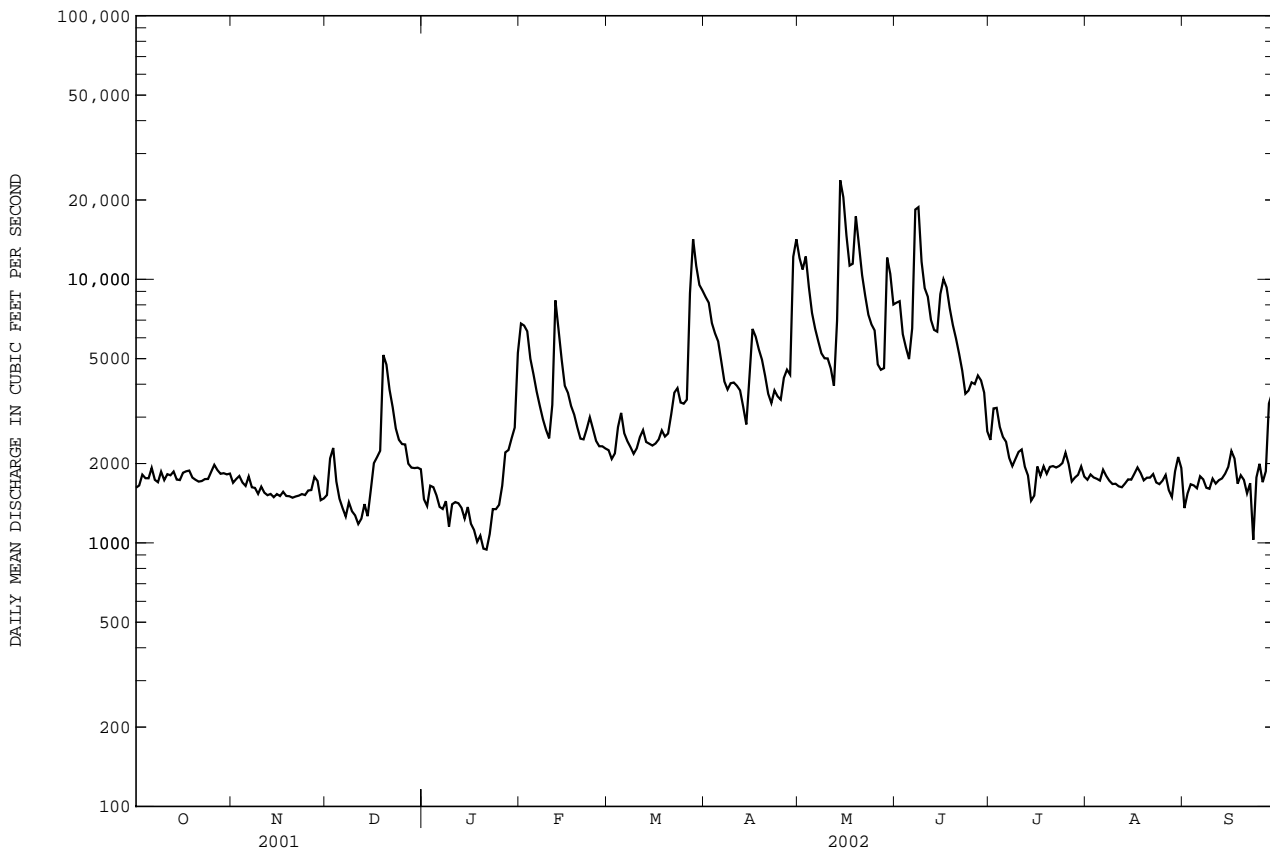
MEAN	3277	4989	6088	5758	5921	9863	11800	7388	4473	3040	2577	2636
MAX	15690	11760	18830	15600	15120	24480	31560	16090	15200	11220	14230	9167
(WY)	1956	1952	1997	1996	1976	1945	1940	1943	1972	1945	1955	1960
MIN	807	995	1665	1318	1748	3191	3322	2215	1214	864	715	892
(WY)	1942	1965	1999	1981	1980	1981	1985	1965	1965	1954	1954	1941

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	1379530		1288474		5646	
ANNUAL MEAN	3780		3530		8621	
HIGHEST ANNUAL MEAN					2309	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	35800	Apr 11	23800	May 14	187000	Aug 19 1955
LOWEST DAILY MEAN	1180	Dec 11	943	Jan 21	412	Aug 23 1954
ANNUAL SEVEN-DAY MINIMUM	1290	Dec 6	1050	Jan 16	565	Jul 1 1965
MAXIMUM PEAK FLOW			26300	May 14	^a 250000	Aug 19 1955
MAXIMUM PEAK STAGE			11.91	May 14	35.15	Aug 19 1955
INSTANTANEOUS LOW FLOW			776	Jan 21	382	Aug 24 1954
10 PERCENT EXCEEDS	6630		7870		12000	
50 PERCENT EXCEEDS	2200		2080		3400	
90 PERCENT EXCEEDS	1590		1470		1600	

^a From rating curve extended above 90,000 ft³/s on basis of flood-routing study.



DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-73, 1976-78, July 1991 to current year.

COOPERATION.--Field data and samples for laboratory analyses were provided by the New Jersey Department of Environmental Protection. Determination of dissolved ammonia, total ammonia, dissolved nitrite, dissolved orthophosphate, biochemical oxygen demand, total suspended solids, fecal coliform, E. coli, and enterococcus bacteria was performed by the New Jersey Department of Health and Senior Services, Public Health and Environmental Laboratories, Environmental and Chemical Laboratory Services. Determination of chlorophyll a was performed by the New Jersey Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

COOPERATIVE NETWORK SITE DESCRIPTOR.-- Delaware River Main Stem, New Jersey Department of Environmental Protection Watershed Management Area 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS) /CM (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS) /CM (61726)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (MS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	
DATE		CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB AS CACO3 (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L AS N) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA+ORGANIC DIS. (MG/L AS N) (00623)
DATE		NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, SUSP WAT FLT (MG/L AS N) (00602)	NITRO-GEN, PAR TICULATE (MG/L AS N) (49570)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, ORGANIC, DIS-SOLVED TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC, DIS-SOLVED TOTAL (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
NOV 15...	1030	1470	.6	.042	.032	758	100	12.4	7.4	96	16.0	6.0	26	
FEB 20...	1030	2480	1.0	.050	.039	753	98	13.1	7.2	89	6.0	3.0	22	
JUN 19...	1030	6630	2.8	.127	.097	760	89	8.3	7.3	81	26.0	18.5	20	
AUG 07...	1100	2170	1.7	.061	.046	754	105	8.8	7.4	102	20.0	23.5	27	
NOV 15...	7.67	1.70	.85	6.52	20	11.5	<.1	.9	6.9	56	49	<.030	.13	
FEB 20...	6.65	1.37	.69	6.12	12	10.9	<.1	2.4	8.2	52	45	<.030	.12	
JUN 19...	6.13	1.20	.63	6.21	14	9.70	<.1	2.4	6.8	40	42	<.030	.18	
AUG 07...	7.87	1.77	.85	7.69	19	12.6	<.1	1.2	7.5	71	51	<.030	.18	
NOV 15...	.030	.24	<.003	.36	.05	E.003	--	.006	.4	<.1	2.0	.4	<1.0	
FEB 20...	<.030	.24	.004	.35	<.02	.006	<.020	.008	.3	<.1	1.8	.3	<1.0	
JUN 19...	.040	.10	<.003	.28	.04	.013	<.020	.026	.5	<.1	3.6	.5	<1.0	
AUG 07...	<.030	.16	<.003	.35	.06	.016	<.020	.023	.5	<.1	2.5	.5	<1.0	

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLORO- PHYLL A FLUORO- METRIC METHOD CORR. (µG/L) (32209)	BORON, DIS- SOLVED (µG/L) AS B) (01020)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEE (MG/L) (00530)
NOV 15...	--	E10	2
FEB 20...	--	E7	2
JUN 19...	1.80	E9	<1
AUG 07...	1.00	E9	1

WATER-COLUMN BACTERIA ANALYSES
Samples collected synoptically during the summer months

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)
MAY 08...	1025	<20	<100	20	JUN 05...	1037	40	<10	<100
15...	1030	110	100	110					
22...	1015	20	<100	<10					
29...	1020	1300	500	890					

BUSH KILL BASIN

01439500 BUSH KILL AT SHOEMAKERS, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°05'17", long 75°02'17", Monroe County, Hydrologic Unit 02040104, on right bank 30 ft downstream from bridge on township route 523, 0.1 mi downstream from Saw Creek, 0.7 mi northwest of Shoemakers, and 2.0 mi southwest of Bushkill.

DRAINAGE AREA.--117 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1908 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1928, published as Bushkill Creek near Shoemakers; October 1928 to September 1952, published as Bushkill Creek at Shoemakers.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1202: 1921, 1932(M), 1933, 1935-36, 1938(M), 1939-40, 1942, 1945, 1946(M), 1948(M). WSP 1302: 1909-15, 1920(M), 1922-29. WDR PA-89-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 421.13 ft above National Geodetic Vertical Datum of 1929. Sept. 19, 1908, to Aug. 12, 1938, nonrecording gage, and Aug. 13, 1938, to June 20, 1956, water-stage recorder at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 29	0015	*1,210	*3.51	June 7	0645	1,180	3.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	31	128	e140	146	101	352	494	546	113	30	26
2	81	32	120	e140	170	98	318	516	433	106	e40	23
3	72	32	114	e130	151	224	296	513	360	95	e50	21
4	65	32	108	e130	144	236	288	439	314	83	e40	19
5	55	29	100	130	127	191	259	398	284	74	e32	21
6	49	28	94	121	e130	168	236	359	371	64	28	21
7	47	27	92	133	118	156	215	333	1070	60	24	20
8	42	26	87	127	116	148	200	305	752	55	21	16
9	38	26	109	122	115	141	192	298	579	51	19	11
10	34	25	108	117	116	177	201	316	477	52	18	10
11	35	26	99	126	156	173	193	296	394	45	17	9.0
12	33	24	99	124	146	163	177	326	334	40	15	8.6
13	31	24	102	107	133	154	172	622	298	38	14	8.2
14	30	24	118	96	e110	146	188	938	381	36	13	8.0
15	51	24	143	86	119	142	405	802	486	35	13	12
16	63	25	132	85	118	144	371	656	424	35	12	88
17	50	25	131	81	115	140	327	557	348	29	12	97
18	43	24	184	79	115	146	287	837	288	27	11	59
19	38	23	198	e80	112	146	277	846	246	28	10	43
20	34	25	181	e100	115	193	314	687	215	70	13	34
21	32	25	160	e96	122	259	295	592	183	65	12	29
22	31	25	145	e90	119	280	288	520	157	47	12	27
23	30	23	134	81	116	248	277	458	141	46	13	26
24	29	24	146	84	112	227	252	401	126	130	15	24
25	28	33	138	113	110	213	253	352	117	93	17	21
26	28	85	125	112	109	220	299	318	125	63	18	20
27	28	71	117	111	111	472	266	291	218	54	15	45
28	29	56	136	113	108	445	427	415	183	47	13	124
29	30	51	135	118	---	400	608	1010	148	45	24	105
30	30	58	e130	126	---	368	518	678	123	41	43	80
31	30	---	e120	134	---	341	---	546	---	35	35	---
TOTAL	1312	983	3933	3432	3479	6660	8751	16119	10121	1802	649	1055.8
MEAN	42.32	32.77	126.9	110.7	124.2	214.8	291.7	520.0	337.4	58.13	20.94	35.19
MAX	96	85	198	140	170	472	608	1010	1070	130	50	124
MIN	28	23	87	79	108	98	172	291	117	27	10	8.0
CFSM	0.36	0.28	1.08	0.95	1.06	1.84	2.49	4.44	2.88	0.50	0.18	0.30
IN.	0.42	0.31	1.25	1.09	1.11	2.12	2.78	5.13	3.22	0.57	0.21	0.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 2002, BY WATER YEAR (WY)

MEAN	121.6	207.9	262.1	257.5	272.1	431.3	429.8	304.7	194.5	127.6	96.47	91.98
MAX	773	643	841	807	706	1119	1002	773	919	747	864	569
(WY)	1956	1933	1997	1979	1909	1936	1993	1989	1972	1945	1955	1933
MIN	7.74	13.6	21.7	44.2	39.7	156	141	90.7	32.8	13.4	8.33	4.39
(WY)	1965	1965	1999	1981	1934	1981	1985	1941	1962	1999	1964	1964

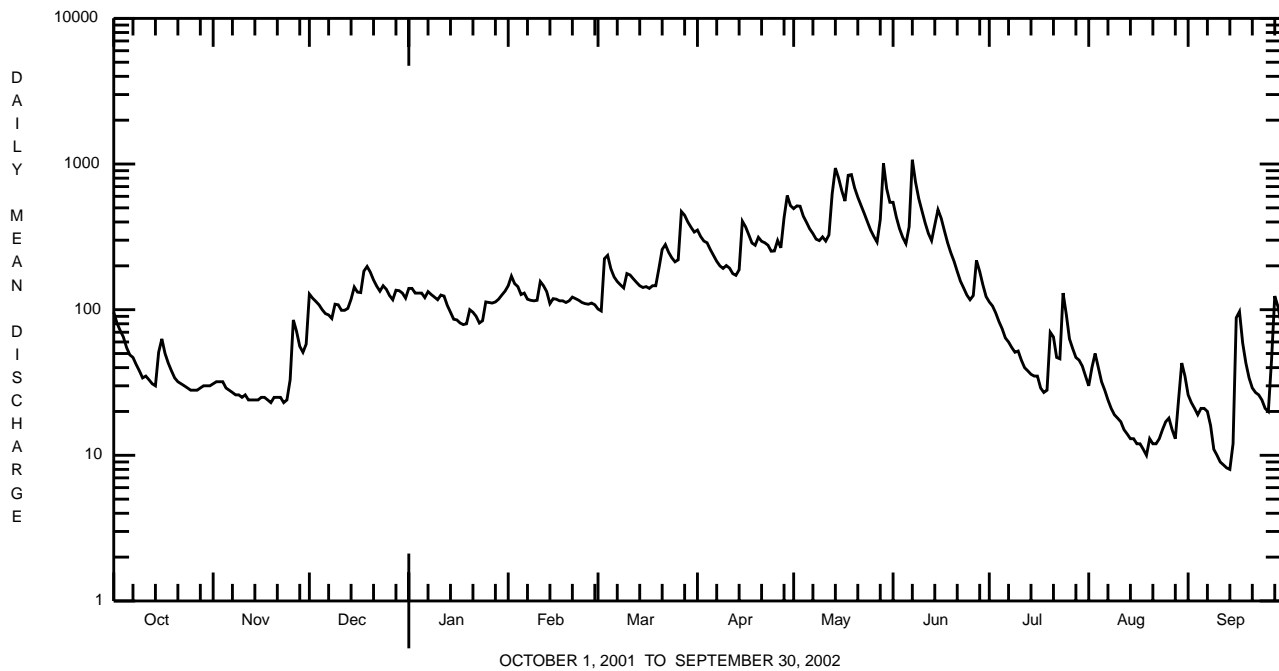
e Estimated.

BUSH KILL BASIN

01439500 BUSH KILL AT SHOEMAKERS, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1909 - 2002	
ANNUAL TOTAL	56468		58296.8		233	
ANNUAL MEAN	155		160		419	
HIGHEST ANNUAL MEAN					95.4	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	999	Mar 31	1070	Jun 7	11800	Aug 19 1955
LOWEST DAILY MEAN	10	Sep 10	8.0	Sep 14	2.6	Sep 25 1964
ANNUAL SEVEN-DAY MINIMUM	13	Sep 6	9.5	Sep 9	2.7	Sep 21 1964
MAXIMUM PEAK FLOW			1210	May 29	a 23400	Aug 19 1955
MAXIMUM PEAK STAGE			3.51	May 29	b 13.95	Aug 19 1955
INSTANTANEOUS LOW FLOW					2.6	Sep 25 1964
ANNUAL RUNOFF (CFSM)	1.32		1.37		1.99	
ANNUAL RUNOFF (INCHES)	17.95		18.54		27.04	
10 PERCENT EXCEEDS	359		396		518	
50 PERCENT EXCEEDS	120		112		160	
90 PERCENT EXCEEDS	23		22		26	

a From rating curve extended above 2,600 ft³/s on basis of slope-area measurement of peak flow.
b From floodmark.



BUSH KILL BASIN

01439500 BUSH KILL AT SHOEMAKERS, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)
APR 2002 02...	1150	9813	317	30	12.3	6.9	37	8.2	13	3.31	3.2	1.08	1.1
JUN 03...	1330	9813	355	30	9.7	6.8	36	17.7	13	3.34	3.5	1.01	1.1
AUG 06...	1120	9813	28	30	9.0	7.5	57	22.5	17	4.38	4.4	1.33	1.3

Date	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-ORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-ORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)
APR 2002 02...	5	7.2	20	<2	<.020	<.04	<.040	.24	.01	.018	2.7	<4	<4
JUN 03...	7	6.3	52	6	<.020	<.04	<.040	.12	.02	.020	1.4	<4	<4
AUG 06...	11	6.3	44	4	<.020	.28	<.040	.46	.03	.058	.5	<4	<4

Date	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 02...	40	150	<1.0	<1.0	10	<4.0	<4.0	<5.0	<5.0
JUN 03...	90	200	<1.0	<1.0	40	<4.0	<4.0	5.0	7.0
AUG 06...	60	70	<1.0	<1.0	10	<4.0	<4.0	<5.0	<5.0

BRODHEAD CREEK BASIN

01440400 BRODHEAD CREEK NEAR ANALOMINK, PA

LOCATION.--Lat 41°05'05", long 75°12'54", Monroe County, Hydrologic Unit 02040104, on left bank, along State Highway 447, 1.5 mi upstream from Paradise Creek, 1.6 mi southeast of Henryville, and 2.3 mi north of Analomink.

DRAINAGE AREA.--65.9 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 586.50 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1957, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 28	1945	*1,720	*5.27	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e36	19	163	e54	98	54	234	280	368	62	21	16
2	e32	19	117	e52	115	52	197	307	261	57	21	18
3	29	19	93	e50	96	191	183	286	210	52	35	16
4	27	19	80	47	90	158	177	232	180	e47	24	15
5	24	19	71	47	e80	124	155	205	162	e44	22	13
6	24	19	66	47	77	111	143	185	216	41	21	12
7	24	20	63	54	76	105	132	171	672	39	19	12
8	22	19	59	50	74	98	123	157	392	36	18	11
9	21	18	73	48	71	95	119	158	297	35	17	10
10	21	18	69	48	70	150	121	193	239	34	16	10
11	20	17	64	52	129	128	109	156	201	31	16	10
12	20	17	63	54	100	112	101	219	173	30	15	9.9
13	20	17	67	51	89	108	102	461	159	29	14	9.9
14	20	17	83	48	80	105	118	655	241	29	13	9.8
15	43	17	109	46	77	99	258	435	281	29	13	19
16	37	17	92	46	76	100	201	333	236	27	13	127
17	33	16	91	45	76	92	175	279	183	25	e12	52
18	30	17	133	43	71	97	153	561	151	25	e12	33
19	28	17	125	41	67	99	142	466	134	25	e12	26
20	26	17	111	44	66	130	154	357	126	e24	12	22
21	24	18	105	43	76	176	147	303	111	e23	12	19
22	22	17	91	42	72	193	140	258	99	23	12	20
23	22	17	85	41	67	156	132	223	89	42	13	19
24	22	17	93	47	62	144	117	198	82	61	15	17
25	21	27	85	63	59	143	127	173	76	37	17	16
26	21	63	77	58	58	156	151	157	91	30	14	16
27	21	45	74	58	61	473	124	146	122	28	13	40
28	20	38	66	62	58	336	315	506	104	28	12	104
29	20	37	63	70	---	283	401	790	80	e26	25	56
30	20	62	59	80	---	252	306	427	68	e25	26	43
31	19	---	e58	85	---	220	---	344	---	22	18	---
TOTAL	769	699	2648	1616	2191	4740	5057	9621	5804	1066	523	801.6
MEAN	24.81	23.30	85.42	52.13	78.25	152.9	168.6	310.4	193.5	34.39	16.87	26.72
MAX	43	63	163	85	129	473	401	790	672	62	35	127
MIN	19	16	58	41	58	52	101	146	68	22	12	9.8
CFSM	0.38	0.35	1.30	0.79	1.19	2.32	2.56	4.71	2.94	0.52	0.26	0.41
IN.	0.43	0.39	1.49	0.91	1.24	2.68	2.85	5.43	3.28	0.60	0.30	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2002, BY WATER YEAR (WY)

	70.15	122.0	168.2	151.6	159.2	246.9	250.3	180.7	107.3	57.97	40.75	52.53
MEAN	70.15	122.0	168.2	151.6	159.2	246.9	250.3	180.7	107.3	57.97	40.75	52.53
MAX	237	336	508	559	371	537	596	440	474	380	159	464
(WY)	1977	1973	1997	1996	1981	1977	1983	1989	1972	1969	1973	1987
MIN	8.36	10.2	19.8	15.1	41.8	92.7	84.0	62.3	23.2	10.6	7.91	7.56
(WY)	1964	1965	1999	1981	1980	1989	1985	1962	1962	1999	1999	1964

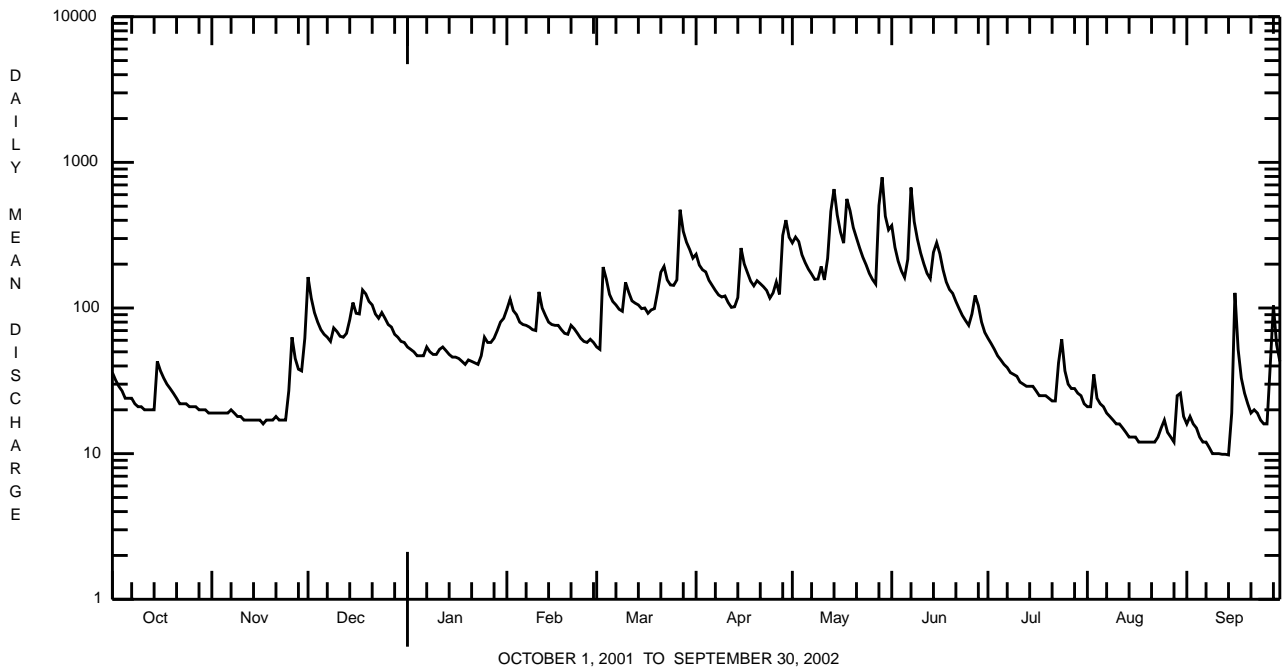
e Estimated.

BRODHEAD CREEK BASIN

01440400 BRODHEAD CREEK NEAR ANALOMINK, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1958 - 2002	
ANNUAL TOTAL	32993		35535.6			
ANNUAL MEAN	90.4		97.4		134	
HIGHEST ANNUAL MEAN					213	1973
LOWEST ANNUAL MEAN					59.6	1965
HIGHEST DAILY MEAN	774	Mar 30	790	May 29	6070	Jul 28 1969
LOWEST DAILY MEAN	10	Sep 18,19	9.8	Sep 14	5.1	Aug 13 1999
ANNUAL SEVEN-DAY MINIMUM	12	Sep 13	10	Sep 8	5.5	Aug 7 1999
MAXIMUM PEAK FLOW			1720	May 28	a12900	Jul 28 1969
MAXIMUM PEAK STAGE			5.27	May 28	11.82	Jul 28 1969
INSTANTANEOUS LOW FLOW					4.9	Aug 7 1999 ^b
ANNUAL RUNOFF (CFSM)	1.37		1.48		2.03	
ANNUAL RUNOFF (INCHES)	18.62		20.06		27.58	
10 PERCENT EXCEEDS	211		227		290	
50 PERCENT EXCEEDS	63		61		84	
90 PERCENT EXCEEDS	17		17		16	

a From rating curve extended above 1,400 ft³/s on basis of slope-area measurement of peak flow.
 b Also Aug. 8, 12, 13, Sept. 5, 1999.



PARADISE CREEK BASIN

01440485 SWIFTWATER CREEK AT SWIFTWATER, PA

LOCATION.--Lat 41°05'38", long 75°19'21", Monroe County, Hydrologic Unit 02040104, on left bank at Aventis Pasteur Laboratories complex, at Discovery Drive in Swiftwater, Pocono Township, and 3.0 mi above mouth.

DRAINAGE AREA.--6.59 mi².

PERIOD OF RECORD.--April 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,114.73 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 18, 2001, nonrecording gage at site 500 ft downstream (datum undetermined).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Sept. 16	0345	*109	*1.59	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	5.4	28	e8.4	12	8.4	24	23	23	11	6.5	5.5
2	5.5	5.4	15	8.0	13	8.8	21	27	21	11	6.3	5.3
3	5.3	5.5	12	8.0	e12	28	21	25	19	10	6.3	4.9
4	5.3	5.0	11	7.9	e11	18	20	23	18	9.8	6.1	4.8
5	5.1	5.1	9.6	7.6	e11	17	19	21	18	9.5	6.3	4.5
6	5.5	5.0	9.2	e7.8	10	16	18	20	31	9.4	6.3	4.5
7	5.3	5.1	9.0	e8.0	10	15	17	19	62	9.4	6.0	4.5
8	5.1	5.0	8.8	7.6	9.8	14	17	18	33	9.0	6.0	4.4
9	5.1	5.1	9.6	7.6	9.6	14	17	18	27	8.9	5.7	4.2
10	5.2	5.2	8.9	7.8	11	19	17	18	25	8.7	5.6	4.2
11	5.1	4.8	8.7	8.1	17	16	16	17	23	8.4	5.5	4.2
12	5.1	4.8	8.6	7.7	13	15	15	20	21	8.2	5.4	4.3
13	5.1	4.8	9.4	7.6	11	14	14	25	20	8.1	5.2	4.2
14	5.6	4.9	12	7.2	10	14	15	31	25	8.1	5.1	4.2
15	8.9	4.9	13	7.2	10	13	26	24	26	8.0	5.1	7.8
16	6.1	5.0	11	7.2	10	13	19	23	22	7.7	5.2	35
17	6.3	4.9	11	7.2	10	13	18	21	19	7.4	5.2	10
18	5.8	4.7	15	6.9	9.7	13	17	40	18	7.5	4.9	8.6
19	5.7	4.7	15	e6.8	9.5	13	17	32	17	7.5	4.8	7.9
20	5.7	5.1	13	e6.8	e9.6	16	17	27	17	7.5	4.9	7.3
21	5.6	4.9	12	6.8	10	19	17	25	16	7.2	4.7	7.0
22	5.6	5.0	11	6.8	9.6	19	17	23	16	7.0	4.9	6.9
23	5.7	5.0	11	7.0	9.3	17	16	22	14	11	5.3	6.7
24	5.7	4.9	12	7.8	9.0	17	14	21	14	9.5	6.0	6.3
25	5.7	9.7	11	9.4	8.9	17	15	19	13	7.4	5.2	6.2
26	5.7	9.7	10	8.1	9.0	22	15	19	17	7.1	4.9	6.5
27	5.8	6.6	9.7	8.0	9.1	44	13	18	19	7.1	4.8	14
28	5.7	6.2	9.5	8.2	8.8	30	29	31	14	7.1	4.7	19
29	5.8	6.5	9.3	8.8	---	26	28	42	13	7.0	9.6	8.7
30	e5.6	18	9.0	9.8	---	25	24	27	12	7.0	5.6	7.4
31	e5.6	---	e8.8	10	---	23	---	24	---	6.6	5.1	---
TOTAL	175.0	176.9	351.1	242.1	292.9	557.2	553	743	633	259.1	173.2	229.0
MEAN	5.65	5.90	11.3	7.81	10.5	18.0	18.4	24.0	21.1	8.36	5.59	7.63
MAX	8.9	18	28	10	17	44	29	42	62	11	9.6	35
MIN	5.1	4.7	8.6	6.8	8.8	8.4	13	17	12	6.6	4.7	4.2
CFSM	0.86	0.89	1.72	1.19	1.59	2.73	2.80	3.64	3.20	1.27	0.85	1.16
IN.	0.99	1.00	1.98	1.37	1.65	3.15	3.12	4.19	3.57	1.46	0.98	1.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2002, BY WATER YEAR (WY)

MEAN	5.65	5.90	11.3	7.81	10.5	18.0	18.4	18.5	18.1	8.43	6.21	7.64
MAX	5.65	5.90	11.3	7.81	10.5	18.0	18.4	24.0	21.1	8.50	6.84	7.65
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2001	2001	2001
MIN	5.65	5.90	11.3	7.81	10.5	18.0	18.4	13.1	15.2	8.36	5.59	7.63
(WY)	2002	2002	2002	2002	2002	2002	2002	2001	2001	2002	2002	2002

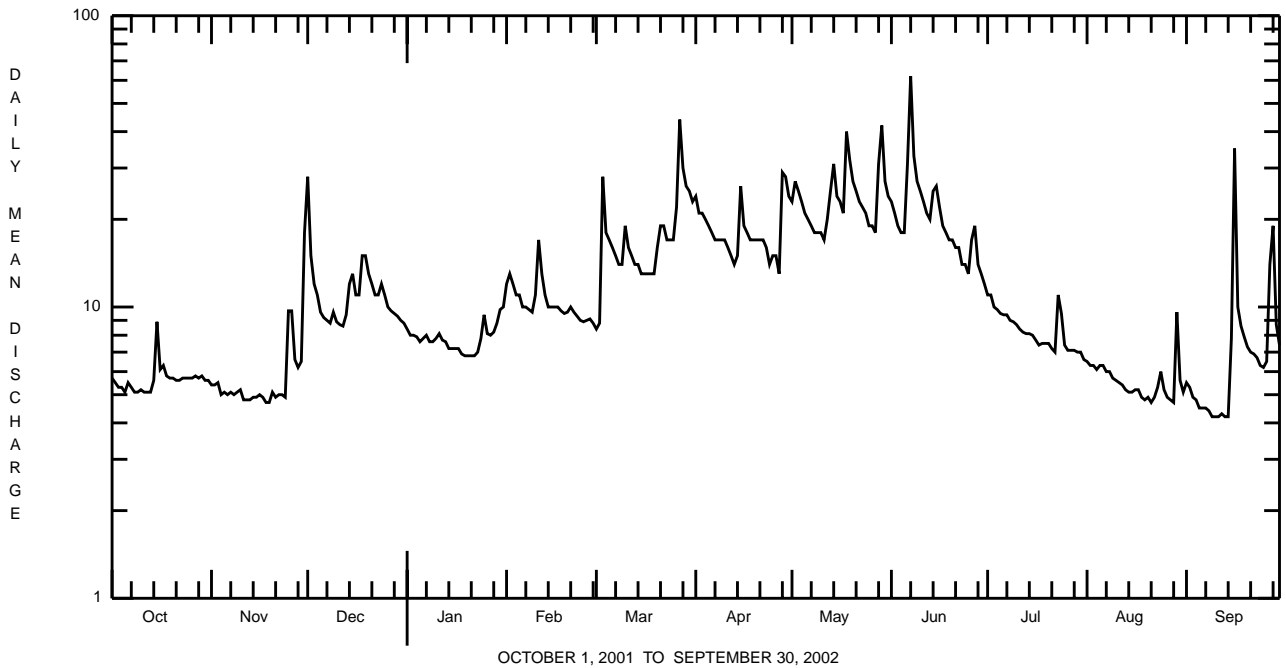
e Estimated.

PARADISE CREEK BASIN

01440485 SWIFTWATER CREEK AT SWIFTWATER, PA--Continued

SUMMARY STATISTICS	FOR 2002 WATER YEAR			WATER YEARS 2001 - 2002		
ANNUAL TOTAL	4385.5			12.0		
ANNUAL MEAN	12.0			12.0		
HIGHEST ANNUAL MEAN				2002		
LOWEST ANNUAL MEAN				2002		
HIGHEST DAILY MEAN	62	Jun	7	62	Jun	7 2002
LOWEST DAILY MEAN	4.2	Sep	9 ^a	4.2	Sep	9 2002 ^a
ANNUAL SEVEN-DAY MINIMUM	4.2	Sep	8	4.2	Sep	8 2002
MAXIMUM PEAK FLOW	109	Sep	16	109	Sep	16 2002
MAXIMUM PEAK STAGE	1.59	Sep	16	1.59	Sep	16 2002
ANNUAL RUNOFF (CFSM)	1.82			1.82		
ANNUAL RUNOFF (INCHES)	24.76			24.77		
10 PERCENT EXCEEDS	23			23		
50 PERCENT EXCEEDS	9.4			9.4		
90 PERCENT EXCEEDS	5.1			5.1		

^a Also Sept. 10, 11, 13, 14.



McMICHAEL CREEK BASIN

01441495 POCONO CREEK ABOVE WIGWAM RUN NEAR STROUDSBURG, PA

LOCATION.--Lat 40°59'27", long 75°15'20", Monroe County, Hydrologic Unit 02040104, on right bank at bridge on SR2005, 150 ft upstream from Wigwam Run, 4.0 mi upstream from mouth, and 4.0 mi west of Stroudsburg, Pa.

DRAINAGE AREA.--38.9 mi².

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 574.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Sept. 16	0700	*186	*9.56	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e36	11	13
2	---	---	---	---	---	---	---	---	---	e33	10	14
3	---	---	---	---	---	---	---	---	---	e30	9.7	12
4	---	---	---	---	---	---	---	---	---	27	9.8	11
5	---	---	---	---	---	---	---	---	---	25	10	9.5
6	---	---	---	---	---	---	---	---	---	24	13	8.8
7	---	---	---	---	---	---	---	---	---	22	11	8.4
8	---	---	---	---	---	---	---	---	---	20	9.5	8.0
9	---	---	---	---	---	---	---	---	---	19	9.0	7.7
10	---	---	---	---	---	---	---	---	---	19	8.6	7.4
11	---	---	---	---	---	---	---	---	---	18	8.2	6.8
12	---	---	---	---	---	---	---	---	---	17	7.8	6.6
13	---	---	---	---	---	---	---	---	---	17	7.6	6.9
14	---	---	---	---	---	---	---	---	---	16	7.2	6.9
15	---	---	---	---	---	---	---	---	---	17	6.6	14
16	---	---	---	---	---	---	---	---	---	15	7.1	81
17	---	---	---	---	---	---	---	---	---	14	8.8	29
18	---	---	---	---	---	---	---	---	---	13	7.8	18
19	---	---	---	---	---	---	---	---	---	14	6.9	15
20	---	---	---	---	---	---	---	---	---	14	9.7	13
21	---	---	---	---	---	---	---	---	55	13	8.1	12
22	---	---	---	---	---	---	---	---	49	13	7.3	12
23	---	---	---	---	---	---	---	---	45	17	9.3	12
24	---	---	---	---	---	---	---	---	42	25	11	11
25	---	---	---	---	---	---	---	---	39	17	12	10
26	---	---	---	---	---	---	---	---	51	16	9.4	10
27	---	---	---	---	---	---	---	---	91	15	8.5	43
28	---	---	---	---	---	---	---	---	58	15	7.9	77
29	---	---	---	---	---	---	---	---	44	14	25	32
30	---	---	---	---	---	---	---	---	38	12	19	23
31	---	---	---	---	---	---	---	---	---	11	13	---
TOTAL	---	---	---	---	---	---	---	---	---	578	309.8	539.0
MEAN	---	---	---	---	---	---	---	---	---	18.6	9.99	18.0
MAX	---	---	---	---	---	---	---	---	---	36	25	81
MIN	---	---	---	---	---	---	---	---	---	11	6.6	6.6

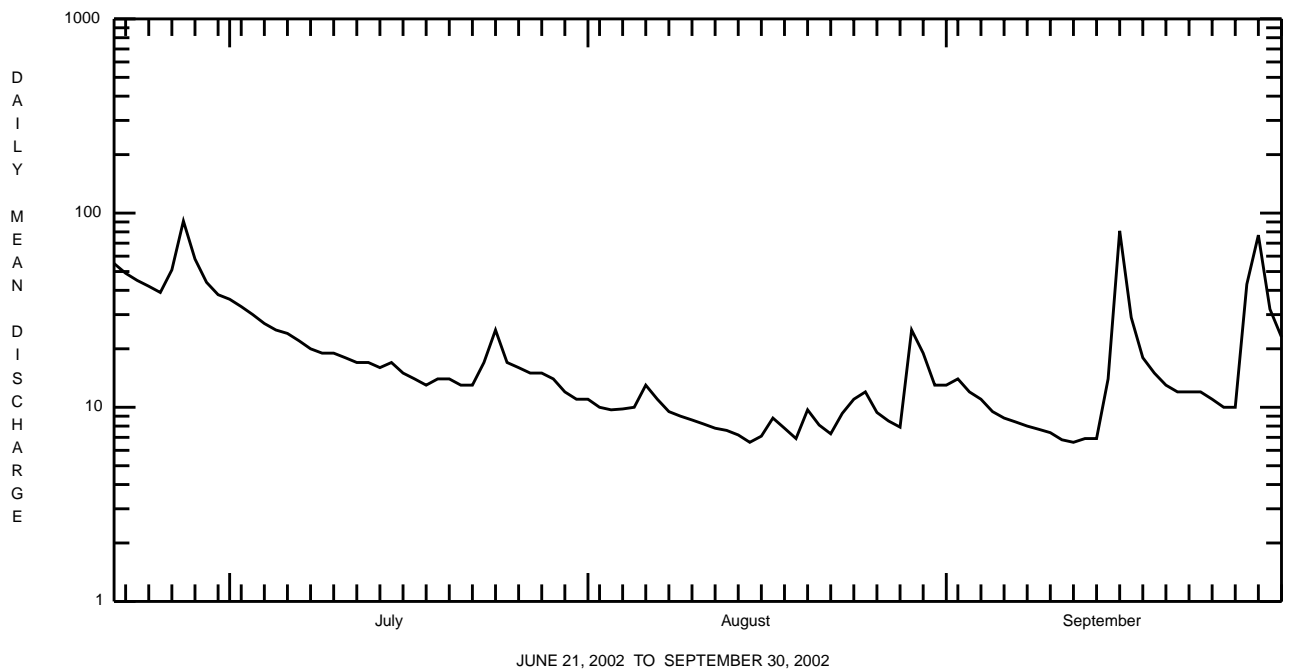
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	---	---	---	---	18.6	9.99	18.0
MAX	---	---	---	---	---	---	---	---	---	18.6	9.99	18.0
(WY)	---	---	---	---	---	---	---	---	---	2002	2002	2002
MIN	---	---	---	---	---	---	---	---	---	18.6	9.99	18.0
(WY)	---	---	---	---	---	---	---	---	---	2002	2002	2002

e Estimated.

McMICHAEL CREEK BASIN

01441495 POCONO CREEK ABOVE WIGWAM RUN NEAR STROUDSBURG, PA--Continued



BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°59'55", long 75°08'35", Monroe County, Hydrologic Unit 02040104, on left bank at end of township route 646 at Minisink Hills, 500 ft upstream from Marshall Creek, 0.8 mi upstream from mouth, and 3.0 mi southeast of East Stroudsburg.

DRAINAGE AREA.--259 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1232: 1951(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 301.84 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1955, water-stage recorder, and Aug. 23 to Nov. 24, 1955, nonrecording gage at site about 1,300 ft upstream at datum 2.19 ft higher. Nov. 25, 1955, to July 24, 1956, nonrecording gage at site 40 ft upstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 29	0015	*4,060	*5.76	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	101	501	e180	353	217	767	1050	816	234	86	86
2	196	102	340	e180	409	214	648	1360	636	218	92	95
3	178	102	268	e170	341	748	604	1220	533	204	95	87
4	e170	102	233	e180	325	577	592	961	471	191	90	78
5	e150	106	215	191	294	456	522	851	447	180	85	69
6	e150	106	203	192	e280	418	487	759	644	168	89	65
7	e140	103	200	217	286	404	454	695	2710	160	80	62
8	e140	98	197	202	283	378	432	635	1270	150	75	61
9	129	96	280	196	273	364	e410	629	917	146	72	59
10	126	95	267	199	268	485	e440	646	741	144	68	57
11	122	94	239	219	411	424	e400	551	631	136	65	54
12	120	92	233	235	346	383	e380	614	555	128	63	49
13	119	91	231	224	311	369	e380	1180	526	124	61	48
14	116	90	269	209	e270	365	e420	1890	788	121	58	49
15	212	91	342	207	e260	345	e1400	1230	940	123	56	73
16	178	90	294	209	274	344	e900	963	741	115	57	353
17	158	88	288	201	275	324	773	834	594	107	59	203
18	145	87	425	e190	259	370	670	2040	502	104	58	127
19	133	86	414	e180	246	399	614	1590	451	109	55	101
20	130	91	360	e180	249	551	601	1210	421	110	88	90
21	123	89	334	193	300	731	570	1030	384	103	69	83
22	119	87	302	191	278	697	538	888	349	99	60	82
23	117	88	288	188	257	589	508	775	321	115	65	81
24	115	90	339	213	241	551	455	690	298	222	74	76
25	112	123	304	274	233	528	467	613	281	141	98	70
26	107	269	278	252	231	530	543	564	280	119	77	68
27	105	184	259	243	247	1560	453	526	438	110	69	181
28	104	155	244	247	231	1050	1200	957	366	110	64	367
29	104	148	239	263	---	880	1700	2270	288	111	124	209
30	103	173	e210	286	---	795	1150	1090	253	102	140	153
31	100	---	e180	306	---	707	---	818	---	93	95	---
TOTAL	4237	3317	8776	6617	8031	16753	19478	31129	18592	4297	2387	3236
MEAN	136.7	110.6	283.1	213.5	286.8	540.4	649.3	1004	619.7	138.6	77.00	107.9
MAX	216	269	501	306	411	1560	1700	2270	2710	234	140	367
MIN	100	86	180	170	231	214	380	526	253	93	55	48
CFSM	0.53	0.43	1.09	0.82	1.11	2.09	2.51	3.88	2.39	0.54	0.30	0.42
IN.	0.61	0.48	1.26	0.95	1.15	2.41	2.80	4.47	2.67	0.62	0.34	0.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2002, BY WATER YEAR (WY)

MEAN	307.5	531.9	719.1	618.8	662.3	975.7	982.2	703.3	421.9	252.1	235.8	233.9
MAX	1560	1634	2321	2051	1498	2108	2293	1619	1876	923	2505	1649
(WY)	1956	1973	1997	1996	1951	1977	1983	1989	1972	1969	1955	1987
MIN	54.4	68.1	83.4	50.6	196	387	312	268	119	58.1	46.4	40.8
(WY)	1964	1965	1981	1981	1980	1985	1985	1962	1962	1999	1957	1964

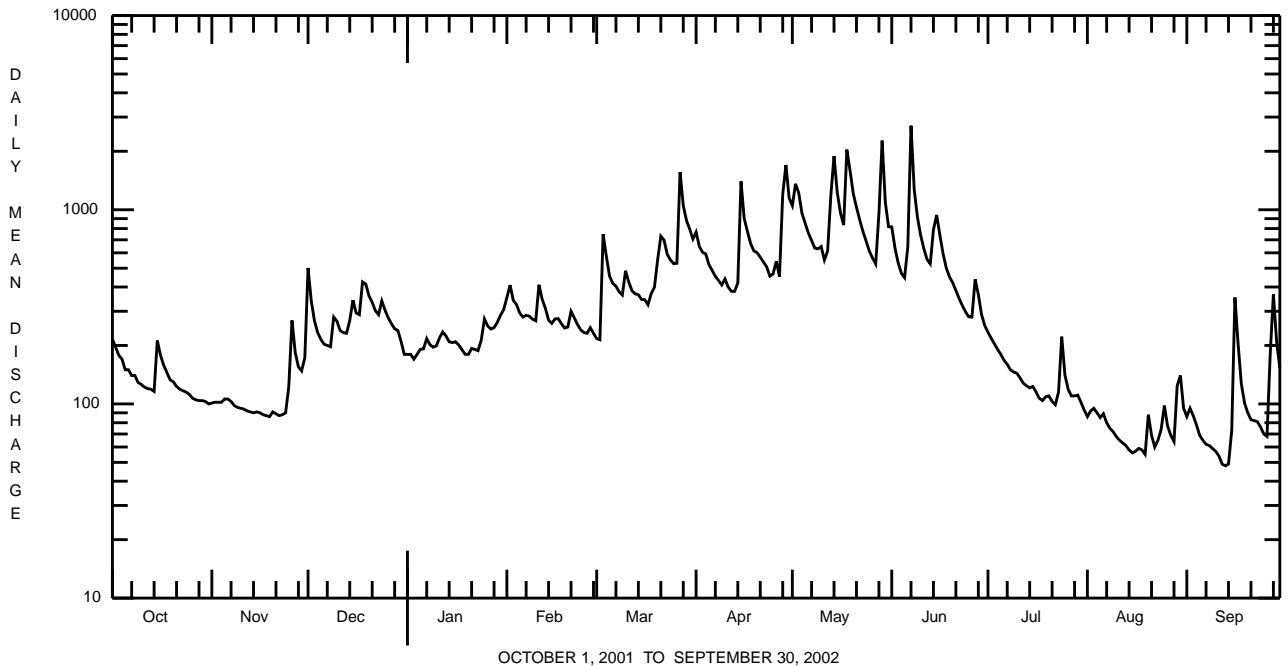
e Estimated.

BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1951 - 2002	
ANNUAL TOTAL	133823		126850			
ANNUAL MEAN	367		348		553	
HIGHEST ANNUAL MEAN					957	1952
LOWEST ANNUAL MEAN					238	1965
HIGHEST DAILY MEAN	2760	Mar 30	2710	Jun 7	30500	Aug 19 1955
LOWEST DAILY MEAN	69	Sep 9,19	48	Sep 13	30	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	a 78	Sep 3	54	Sep 8	33	Sep 6 1964
MAXIMUM PEAK FLOW			4060	May 29	b 68800	Aug 19 1955
MAXIMUM PEAK STAGE			5.76	May 29	c 27.00	Aug 19 1955
INSTANTANEOUS LOW FLOW					29	Sep 27 1964
ANNUAL RUNOFF (CFSM)	1.42		1.34		2.14	
ANNUAL RUNOFF (INCHES)	19.22		18.22		29.01	
10 PERCENT EXCEEDS	838		769		1190	
50 PERCENT EXCEEDS	250		231		344	
90 PERCENT EXCEEDS	91		82		92	

- a** Computed using estimated daily discharges.
- b** From rating curve extended above 10,100 ft³/s on basis of slope-area measurement of peak flow.
- c** From floodmark, at site about 1,300 ft upstream at datum 2.19 ft higher.



BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 02...	1345	9813	649	40	12.6	7.7	120	8.7	36	10.8	2.1	17	10.8
JUN 03...	1140	9813	541	40	10.6	7.4	115	15.7	35	10.8	1.9	18	10.1
AUG 05...	1500	9813	86	40	8.4	8.4	201	24.8	55	17.5	2.6	34	13.9

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002 02...	76	<2	.070	.41	<.040	.69	.04	.040	1.9	<10	100	<1.0	20
JUN 03...	100	6	<.020	.31	<.040	.94	.02	.040	2.2	<10	130	<1.0	20
AUG 05...	230	8	<.020	.57	<.040	.77	.11	.170	2.0	<10	160	1.6	50

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 02...	<50	<10
JUN 03...	<50	<10
AUG 05...	<50	<10

DELAWARE RIVER BASIN

01443000 DELAWARE RIVER AT PORTLAND, PA

LOCATION.--Lat 40°55'26", long 75°05'46", Northampton County, Hydrologic Unit 02040105, at walkbridge connecting Portland, PA and Columbia, NJ, and 0.5 mi upstream from Paulins Kill.

DRAINAGE AREA.--4,165 mi².

PERIOD OF RECORD.--Water years 1976 to current year.

REMARKS.--Total nitrogen (00600) equals the sum of dissolved ammonia plus organic nitrogen (00623), dissolved nitrite plus nitrate nitrogen (00631), and total particulate nitrogen (49570).

COOPERATION.--Determination of dissolved ammonia, total ammonia, dissolved nitrite, dissolved orthophosphate, biochemical oxygen demand, total suspended solids, fecal coliform, *E. coli*, and enterococcus bacteria was performed by the New Jersey Department of Health and Senior Services, Public Health and Environmental Laboratories, Environmental and Chemical Laboratory Services. Determination of chlorophyll a was performed by the New Jersey Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

COOPERATIVE NETWORK SITE DESCRIPTOR.--Delaware River Main Stem, New Jersey Department of Environmental Protection Watershed Management Area 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS) (61726)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD ANCE) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL AS (MG/L) (00900)
NOV 15...	1130	1540	.4	.039	.030	757	109	13.5	7.8	110	20.5	6.0	32
FEB 06...	1250	4440	2.2	.066	.050	764	102	14.8	--	92	9.5	.5	23
MAY 29...	0930	16400	18	.118	.090	760	99	9.4	7.7	89	22.0	17.5	23
AUG 05...	1030	1860	.8	.063	.047	747	100	7.6	8.6	116	31.0	28.5	32

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA+ ORGANIC DIS-SOLVED (MG/L AS N) (00623)
NOV 15...	9.51	1.98	.86	7.29	25	12.7	<.1	.8	8.5	60	57	.040	.12
FEB 06...	7.07	1.40	.72	7.20	12	12.6	<.1	3.4	8.6	56	50	<.030	.12
MAY 29...	7.01	1.43	.62	6.40	15	10.6	<.1	2.2	8.3	49	46	<.030	.20
AUG 05...	9.44	1.95	.82	8.36	22	13.3	<.1	1.3	8.4	62	58	<.030	.21

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, PAR-TICULATE SUSP (MG/L AS N) (49570)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, ORGANIC TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTI-CULATE TOTAL (MG/L AS C) (00689)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
NOV 15...	.040	.17	<.003	.29	.04	.008	--	.011	.3	<.1	1.8	.3	2.4
FEB 06...	<.030	.41	.002	.53	<.02	.008	<.020	.015	.5	<.1	2.3	.5	<1.0
MAY 29...	<.030	.12	<.003	.31	.44	<.05	<.020	.06	1.8	<.1	3.4	1.8	<1.0
AUG 05...	<.030	.12	<.003	.33	.06	.025	<.020	.031	.4	<.1	2.4	.4	<1.0

DELAWARE RIVER BASIN

01443000 DELAWARE RIVER AT PORTLAND, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLORO- PHYLL A FLUORO- METRIC METHOD CORR. ($\mu\text{G/L}$) (32209)	BORON, DIS- SOLVED ($\mu\text{G/L}$) AS B) (01020)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)
NOV 15...	--	E10	3
FEB 06...	--	E8	3
MAY 29...	5.30	E8	26
AUG 05...	1.60	20	1

WATER-COLUMN BACTERIA ANALYSES
Samples collected synoptically during the summer months

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)
JUL					AUG				
10...	0935	80	<100	20	07...	0930	40	<100	140
17...	0950	<20	<100	30					
24...	0925	<20	<100	400					
31...	0930	40	<100	50					

DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°49'36", long 75°05'02", Warren County, Hydrologic Unit 02040105, on left bank at Belvidere, 800 ft downstream from Pequest River, and at river mile 197.7.

DRAINAGE AREA.--4,535 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1922 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 951: 1940-41, Drainage area. WSP 1432: 1923, 1924(M).

GAGE.--Water-stage recorder. Datum of gage 226.43 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1929, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by lakes Wallenpaupack (station 01431700) and Cliff, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, and Neversink Reservoirs and smaller reservoirs. Diversions from Pepacton, Cannonsville, and Neversink Reservoirs. Satellite telemetry and National Weather Service gage-height telemetry at station. Information on the above lakes and reservoirs can be found in the annual Water-Data Report NJ-02-1.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 10, 1903, reached a stage of 28.6 ft, from floodmark, discharge, 220,000 ft³/s, from rating curve extended above 170,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1940	2070	2210	1700	7810	2870	11200	17300	11100	3640	2040	2330
2	2120	1920	2320	1590	7820	2870	10500	15800	11600	3720	2000	1820
3	2120	2030	2870	1490	8250	3330	9760	16600	9320	4200	2140	1950
4	2240	2010	2720	1740	6840	3940	8370	14800	8040	3960	2080	2030
5	2170	1940	2200	1820	5710	4270	8030	11500	7030	3470	2070	1970
6	2170	1950	1950	1860	4910	4180	7030	9980	7580	3310	2000	1910
7	2260	1960	1820	1880	4530	3630	6060	8980	19000	3010	2150	2060
8	2070	1850	1810	1600	4110	3450	5240	8010	28800	2780	2050	2030
9	2100	1840	2040	1650	3680	3260	5390	7460	18600	2620	1980	1900
10	2100	1780	2030	1540	3440	3300	5500	7260	13800	2770	1930	1870
11	2050	1810	1870	1790	3490	3450	5390	7060	12100	2820	1940	1980
12	2140	1770	1780	1900	7300	3670	5190	6200	10400	2680	1910	1900
13	2110	1730	1780	1880	8760	3600	4880	7820	9180	2420	1910	1940
14	2180	1720	2010	1780	6850	3390	4210	24200	8980	2280	1960	1970
15	2210	1720	2100	1730	5390	3300	6340	29900	11400	1950	2000	2150
16	2210	1720	2410	1790	4710	3320	8750	21500	12600	2020	2000	2690
17	2270	1730	2830	1660	4430	3240	9160	16200	13000	2290	2110	3020
18	2250	1740	3110	1600	4020	3570	8030	16400	11200	2200	2160	2480
19	2240	1700	4080	1440	3720	3740	7250	22300	9380	2390	2090	2170
20	2140	1720	6650	1240	3360	3840	6970	20900	8530	2410	2090	2150
21	2100	1700	5420	1230	3270	4930	6000	15900	7440	2450	2080	2020
22	2070	1710	4640	1240	3280	5220	5540	13300	6610	2420	2050	1850
23	2080	1730	3940	1470	3580	5760	5450	11200	5570	2360	2150	2000
24	2110	1750	3600	1820	3650	5380	5410	9810	5030	2880	2070	1370
25	2100	1830	3350	2030	3300	4930	5140	9300	5160	2720	2130	2060
26	2180	2200	3220	2150	3070	4990	5560	7700	5140	2670	2130	2170
27	2290	2120	3090	2430	3020	7310	6250	6720	5910	2350	2150	2250
28	2160	2240	2350	2940	2910	19000	6950	6440	5960	2110	1940	2890
29	2130	2090	2110	3000	---	15900	13500	13900	5400	2150	2060	4420
30	2100	1890	1940	3370	---	12900	20500	16200	4590	2130	2530	3920
31	2080	---	1630	3770	---	11600	---	12200	---	2210	2610	---
TOTAL	66490	55970	85880	59130	135210	168140	223550	412840	298450	83390	64510	67270
MEAN	2145	1866	2770	1907	4829	5424	7452	13320	9948	2690	2081	2242
MAX	2290	2240	6650	3770	8760	19000	20500	29900	28800	4200	2610	4420
MIN	1940	1700	1630	1230	2910	2870	4210	6200	4590	1950	1910	1370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2002, BY WATER YEAR (WY)

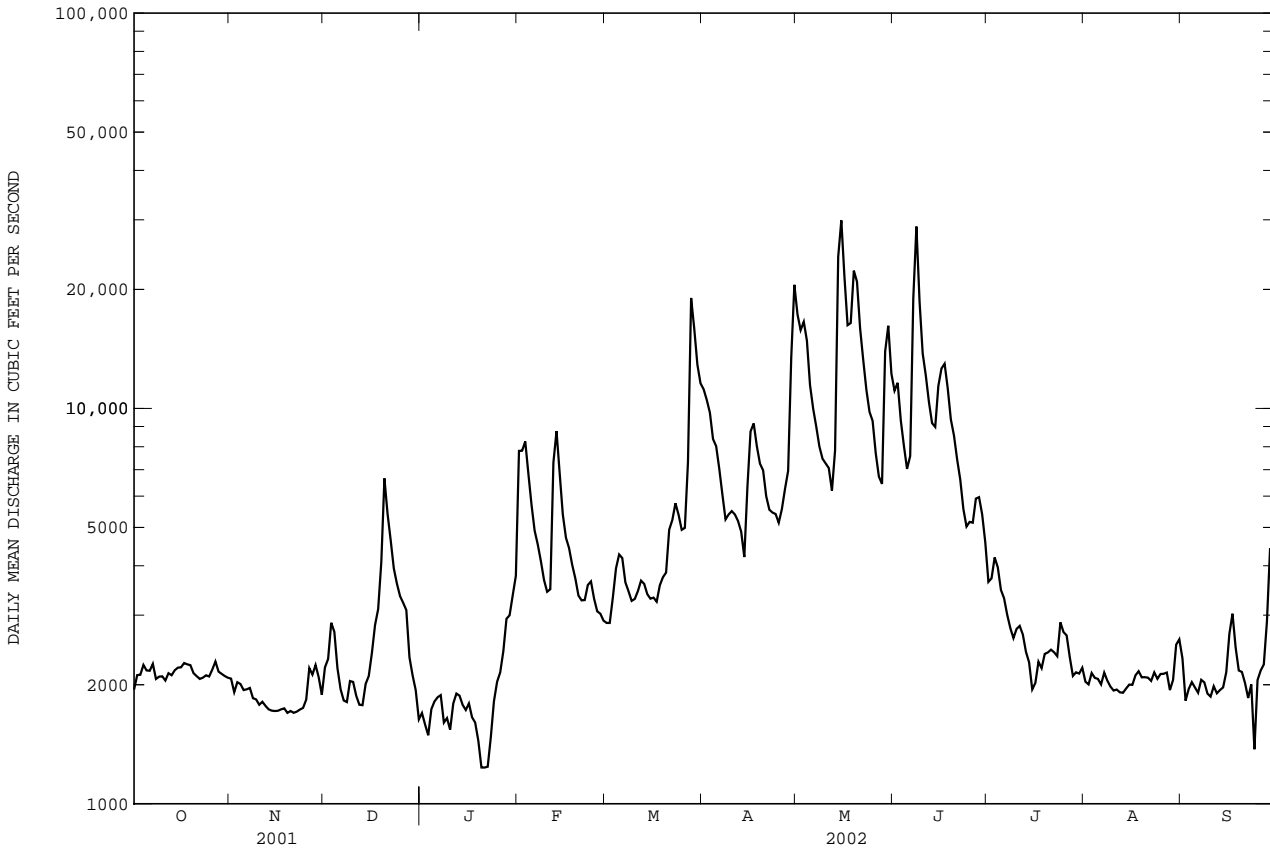
MEAN	4567	7042	8351	7949	8303	13860	15740	9910	6033	4294	3614	3738
MAX	19570	21140	27730	21020	19930	42520	40720	21470	22280	16840	19260	13940
(WY)	1956	1928	1997	1996	1976	1936	1940	1989	1972	1928	1955	1938
MIN	1055	1226	1481	1683	2452	5243	4512	3261	1590	1017	881	1199
(WY)	1942	1965	1923	1981	1980	1981	1985	1965	1965	1965	1954	1941

DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1923 - 2002	
ANNUAL TOTAL	1918750		1720830		7776	
ANNUAL MEAN	5257		4715		14130	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					2990	
HIGHEST DAILY MEAN	46200	Apr 11	29900	May 15	184000	Aug 19 1955
LOWEST DAILY MEAN	1630	Dec 31	1230	Jan 21	610	Aug 25 1954
ANNUAL SEVEN-DAY MINIMUM	1720	Nov 16	1410	Jan 17	782	Aug 14 1954
MAXIMUM PEAK FLOW			34100	May 14	a 273000	Aug 19 1955
MAXIMUM PEAK STAGE			10.45	May 14	b 30.21	Aug 19 1955
INSTANTANEOUS LOW FLOW			1070	Jan 20	609	Sep 28 1943
10 PERCENT EXCEEDS	9690		10700		16500	
50 PERCENT EXCEEDS	3180		2720		4960	
90 PERCENT EXCEEDS	1960		1800		1950	

a From rating curve extended above 170,000 ft³/s on basis of flood-routing study.
b From high-water mark in gage house.



DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 25...	1300	9813	4870	40	10.8	7.7	123	12.7	36	10.4	2.5	24	10.1
JUN 20...	1240	9813	8840	40	10.1	7.8	106	20.8	32	9.3	2.1	22	8.0
AUG 19...	1050	9813	2120	40	8.5	8.5	132	32.2	38	10.9	2.6	26	9.8

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
APR 2002 25...	60	34	<.020	.17	<.040	.44	.01	.030	3.1	<10	140	<1.0	30
JUN 20...	76	12	<.020	.17	<.040	.36	.02	.030	4.0	<10	250	<1.0	40
AUG 19...	410	2	.040	.14	<.040	.40	.03	.024	2.7	<10	50	<1.0	30

Date	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
APR 2002 25...	<50	<10
JUN 20...	<50	<10
AUG 19...	<50	<10

LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°07'49", long 75°37'33", Monroe County, Hydrologic Unit 02040106, on left bank 75 ft upstream from bridge on State Highway 115, at Stoddartsville, 1.9 mi upstream from Tobyhanna Creek, and 4.0 mi southwest of Thornhurst.

DRAINAGE AREA.--91.7 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1382: 1947, 1951.

GAGE.--Water-stage recorder. Datum of gage is 1,463.81 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1946, nonrecording gage at site 350 ft downstream at datum 2.14 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 22, 1942, reached a stage of 12.03 ft, from floodmark, present site and datum, discharge, 15,700 ft³/s.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 28	2245	*5,440	*8.34	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	21	122	93	175	84	272	434	457	122	25	24
2	28	20	102	86	203	81	244	440	367	126	25	27
3	26	21	86	82	164	153	228	424	298	113	28	24
4	24	20	76	79	e130	154	235	340	263	92	27	20
5	23	21	68	72	e120	127	208	295	243	68	31	18
6	24	21	65	67	e120	116	191	268	305	66	61	16
7	25	21	61	96	117	113	177	254	820	62	32	15
8	21	19	56	100	114	107	167	239	576	58	26	15
9	20	19	62	89	109	105	164	250	424	57	24	15
10	19	20	62	81	108	219	181	260	345	64	22	14
11	44	23	58	80	185	187	168	221	283	76	20	13
12	67	21	59	77	158	159	157	298	253	70	20	12
13	67	19	65	68	135	148	163	757	254	69	19	12
14	58	19	82	64	123	143	255	934	274	67	19	13
15	63	18	95	62	117	134	368	654	322	67	18	23
16	57	18	84	57	111	141	339	478	317	59	18	78
17	56	18	81	55	111	138	272	400	272	40	20	41
18	48	18	121	52	106	133	233	800	226	37	19	28
19	45	19	126	43	102	132	215	748	202	36	17	23
20	42	21	109	65	100	148	252	530	190	38	24	21
21	38	22	99	60	116	194	225	435	176	37	42	19
22	36	21	88	57	114	210	217	370	155	36	35	20
23	36	20	85	54	105	182	214	321	140	42	26	25
24	40	19	90	65	98	174	191	289	129	55	24	22
25	38	35	85	e97	94	168	198	262	120	46	24	18
26	33	98	77	91	91	181	228	250	155	37	21	19
27	29	67	81	88	94	583	203	235	155	33	18	79
28	26	56	82	90	89	411	425	1020	198	33	17	173
29	25	56	77	98	---	320	614	2020	168	34	27	104
30	23	67	68	141	---	278	482	769	133	31	39	72
31	22	---	76	170	---	252	---	537	---	27	27	---
TOTAL	1136	858	2548	2479	3409	5675	7486	15532	8220	1798	795	1003
MEAN	36.65	28.60	82.19	79.97	121.8	183.1	249.5	501.0	274.0	58.00	25.65	33.43
MAX	67	98	126	170	203	583	614	2020	820	126	61	173
MIN	19	18	56	43	89	81	157	221	120	27	17	12
CFSM	0.40	0.31	0.90	0.87	1.33	2.00	2.72	5.46	2.99	0.63	0.28	0.36
IN.	0.46	0.35	1.03	1.01	1.38	2.30	3.04	6.30	3.33	0.73	0.32	0.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2002, BY WATER YEAR (WY)

MEAN	116.4	177.5	211.2	194.5	197.7	303.0	353.8	254.1	159.3	106.6	88.31	84.42
MAX	613	439	561	665	709	577	867	604	655	528	1101	511
(WY)	1956	1973	1974	1996	1981	1977	1993	1989	1972	1947	1955	1987
MIN	14.1	17.1	35.5	18.3	62.2	131	135	92.9	43.0	19.8	14.2	9.18
(WY)	1964	1965	1981	1981	1980	1989	1995	1995	1962	1965	1964	1964

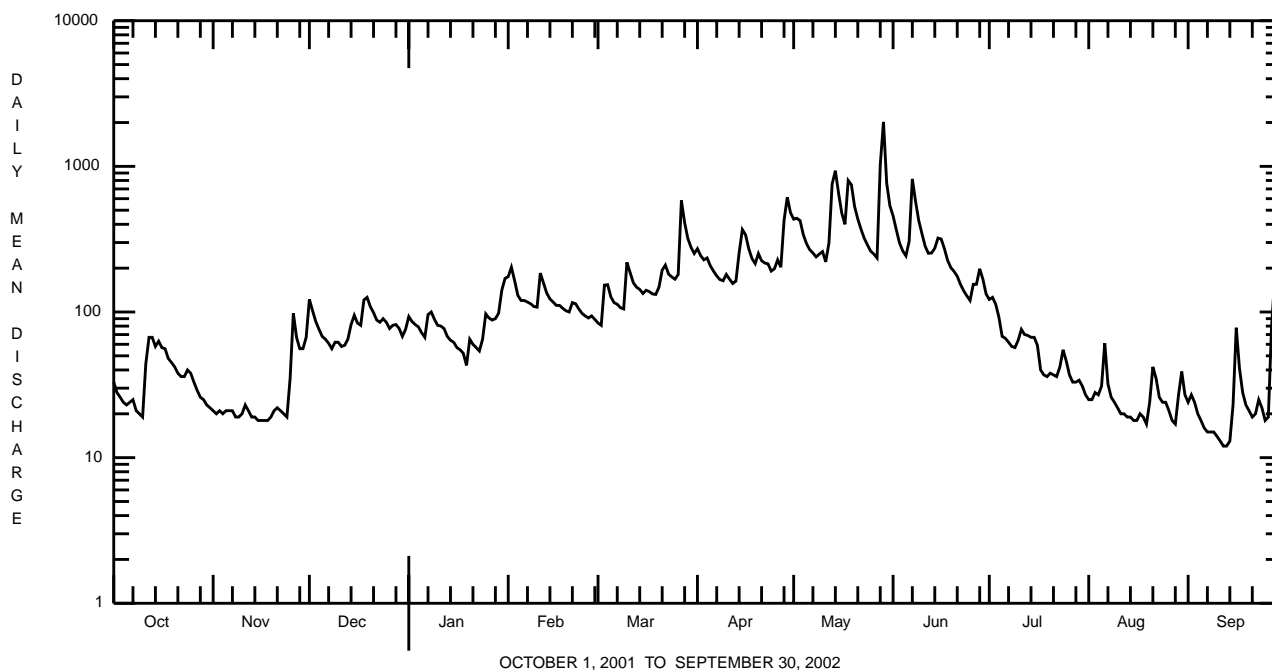
e Estimated.

LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1944 - 2002	
ANNUAL TOTAL	41203		50939			
ANNUAL MEAN	113		140		187	
HIGHEST ANNUAL MEAN					268	1973
LOWEST ANNUAL MEAN					86.2	1965
HIGHEST DAILY MEAN	674	Apr 10	2020	May 29	18900	Aug 19 1955
LOWEST DAILY MEAN	18	Nov 15-18	12	Sep 12,13	7.0	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	18	Nov 13	13	Sep 8	7.4	Sep 21 1964
MAXIMUM PEAK FLOW			a5440	May 28	a31900	Aug 19 1955
MAXIMUM PEAK STAGE			8.34	May 28	b16.37	Aug 19 1955
INSTANTANEOUS LOW FLOW					7.0	Sep 26 1964
ANNUAL RUNOFF (CFSM)	1.23		1.52		2.04	
ANNUAL RUNOFF (INCHES)	16.71		20.66		27.72	
10 PERCENT EXCEEDS	238		301		386	
50 PERCENT EXCEEDS	79		82		126	
90 PERCENT EXCEEDS	23		20		32	

a From rating curve extended above 1,700 ft³/s on basis of slope-area measurement of peak flow.
 b From floodmark.



LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1926 to 1982; April 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1981 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good. Interruptions in the record were due to malfunctions of the recording instrument. Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 30.0°C, Aug. 2; minimum, 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)
APR 2002													
01...	1200	9813	279	30	11.6	6.3	61	9.5	16	4.59	4.7	1.00	1.0
JUN													
04...	1330	9813	263	30	9.8	6.4	54	16.3	15	4.38	4.5	.88	.9
AUG													
08...	0940	9813	26	30	9.5	7.1	89	15.4	23	6.86	6.9	1.39	1.4

Date	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB AS CAC03) (00417)	SULFATE DIS-SOLVED AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)
APR 2002													
01...	18	5	7.0	60	<2	<.020	.15	<.040	.45	.01	.014	.9	<4
JUN													
04...	18	5	6.0	80	4	<.020	.11	<.040	.34	.01	.014	1.4	<4
AUG													
08...	7.0	12	6.3	72	4	<.020	.16	<.040	.37	<.01	<.010	1.8	<4

Date	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002											
01...	<4	60	180	<1.0	<1.0	50	90	<4.0	<4.0	10	10
JUN											
04...	<4	120	260	<1.0	<1.0	60	70	<4.0	<4.0	10	10
AUG											
08...	<4	50	50	<1.0	<1.0	30	40	<4.0	<4.0	<5.0	<5.0

LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	10.0	11.5	9.5	4.5	7.0	11.0	8.0	10.0	0.0	0.0	0.0
2	16.0	9.0	12.0	11.5	7.0	9.5	8.0	5.5	7.0	0.0	0.0	0.0
3	17.0	10.5	13.5	12.5	9.0	11.0	6.0	4.0	5.0	0.0	0.0	0.0
4	17.5	11.5	14.5	11.0	7.5	9.0	6.0	3.5	5.0	0.5	0.0	0.0
5	17.5	11.5	14.5	8.5	5.5	7.0	9.0	5.5	7.0	0.5	0.0	0.0
6	15.0	12.0	14.0	7.5	5.0	6.0	9.0	7.0	8.0	0.5	0.0	0.0
7	12.0	8.5	10.0	8.0	4.0	6.0	9.0	6.0	8.0	0.0	0.0	0.0
8	11.0	6.0	8.5	8.0	4.0	6.5	6.0	2.5	4.5	0.0	0.0	0.0
9	10.5	4.5	7.5	7.5	4.5	6.5	4.0	2.5	3.0	0.5	0.0	0.0
10	12.5	5.5	8.5	6.5	3.0	4.5	3.5	1.0	2.5	0.5	0.0	0.5
11	13.5	7.5	10.0	5.5	2.5	4.5	4.5	2.5	3.0	0.5	0.5	0.5
12	14.5	10.0	12.0	3.5	0.5	2.0	3.0	1.0	2.5	0.5	0.0	0.5
13	16.0	12.0	14.0	4.0	0.0	2.0	5.5	3.0	4.5	0.5	0.0	0.5
14	15.0	14.0	14.5	5.0	0.5	2.5	7.0	5.5	6.0	0.5	0.0	0.5
15	15.5	12.0	14.0	7.5	3.5	5.0	7.0	3.0	5.0	0.5	0.0	0.5
16	14.0	9.5	11.5	8.5	4.5	6.5	3.5	2.0	2.5	0.5	0.0	0.5
17	11.5	8.5	10.5	7.0	4.0	5.5	4.0	3.0	3.0	0.5	0.0	0.5
18	10.5	6.5	8.0	6.5	2.5	4.5	4.5	3.5	4.0	0.5	0.0	0.0
19	10.0	5.5	7.5	7.0	3.5	5.0	4.5	3.0	3.5	0.0	0.0	0.0
20	12.0	7.5	9.5	6.0	3.0	5.0	3.5	2.5	3.0	0.0	0.0	0.0
21	12.5	7.0	9.5	4.0	1.5	3.0	2.5	0.5	2.0	0.0	0.0	0.0
22	12.0	9.5	10.5	4.0	1.0	2.5	---	---	---	0.5	0.0	0.0
23	13.0	10.0	11.5	4.5	1.0	3.0	---	---	---	0.5	0.0	0.5
24	16.5	12.5	14.0	7.5	3.5	5.5	2.5	1.0	2.0	1.0	0.5	0.5
25	15.0	11.0	13.5	10.0	7.5	9.0	---	---	---	0.5	0.0	0.5
26	11.0	7.0	9.5	9.5	7.0	8.5	---	---	---	1.0	0.0	0.5
27	7.5	6.0	7.0	7.5	5.5	6.5	---	---	---	1.5	0.0	0.5
28	7.5	4.5	5.5	9.5	7.0	8.5	---	---	---	2.0	0.0	1.0
29	7.5	2.5	5.0	8.5	8.5	8.5	---	---	---	3.0	0.5	1.5
30	8.5	4.5	6.0	11.0	8.5	10.0	---	---	---	3.5	2.0	3.0
31	6.0	4.5	5.5	---	---	---	0.0	0.0	0.0	3.0	2.0	2.5
MONTH	17.5	2.5	10.4	12.5	0.0	6.0	11.0	0.0	4.4	3.5	0.0	0.5
	FEBRUARY			MARCH			APRIL			MAY		
1	3.5	2.0	2.5	4.0	0.0	1.5	10.5	8.0	9.0	12.0	7.0	9.5
2	2.0	0.0	1.0	3.5	0.5	2.0	9.5	6.0	7.5	11.5	9.5	10.5
3	1.0	0.0	0.5	7.0	3.0	5.0	9.5	7.0	8.5	11.0	9.5	10.5
4	1.5	0.0	0.5	4.5	0.5	2.5	9.0	5.0	6.5	13.0	7.5	10.5
5	0.5	0.0	0.0	2.0	0.5	1.0	6.5	4.5	5.5	15.0	9.5	12.5
6	1.5	0.0	0.5	4.0	0.5	2.0	6.5	3.5	4.5	15.0	11.0	13.5
7	2.5	0.5	1.0	5.5	2.0	3.5	8.0	2.5	5.0	16.0	13.5	14.5
8	3.5	0.0	1.5	8.0	3.0	5.0	8.5	5.5	6.5	17.0	13.5	15.0
9	4.0	1.5	2.5	9.0	6.0	7.5	11.0	7.5	9.0	15.5	12.0	13.0
10	4.0	2.5	3.0	9.0	3.0	6.0	13.5	9.0	11.0	16.5	11.5	14.0
11	4.0	0.5	2.5	3.5	1.0	2.0	13.0	8.0	10.5	16.5	11.5	14.0
12	1.5	0.0	1.0	3.5	2.0	2.5	10.5	8.5	9.5	14.0	11.5	12.5
13	2.5	0.0	1.0	4.0	2.5	3.0	12.0	10.0	11.0	12.0	11.5	12.0
14	1.5	0.0	0.5	9.0	4.0	6.0	15.0	10.5	12.5	12.0	10.5	11.5
15	2.5	0.0	1.0	10.5	6.5	8.0	16.5	13.0	14.5	13.0	9.5	11.5
16	4.5	1.0	2.5	9.5	6.0	8.5	18.5	14.0	16.0	14.5	10.0	12.5
17	3.5	1.5	2.5	6.0	3.5	4.5	20.0	15.0	17.5	16.0	13.0	14.5
18	3.0	0.0	1.5	3.5	3.0	3.5	21.0	16.5	18.5	14.5	10.5	12.0
19	3.5	0.0	1.5	5.0	3.0	4.0	21.0	16.5	18.5	13.0	9.0	11.0
20	5.0	2.5	3.5	4.0	2.5	3.0	18.5	14.0	16.0	11.5	9.5	10.5
21	6.5	4.5	5.5	7.5	2.5	4.5	14.0	10.5	12.0	11.5	8.5	10.0
22	5.0	3.5	4.0	4.5	1.0	2.0	10.5	9.0	10.0	13.5	8.5	11.0
23	5.0	2.0	3.5	4.5	0.5	2.0	11.5	7.5	9.0	15.5	10.0	13.0
24	5.0	0.5	2.5	5.5	2.0	4.0	13.0	7.0	9.5	16.5	12.0	14.5
25	5.5	1.5	3.5	5.0	3.5	4.0	10.5	7.5	9.0	17.5	13.5	15.5
26	7.0	3.0	4.5	3.5	2.5	3.0	11.0	6.5	8.5	17.0	14.5	15.5
27	5.5	2.0	4.0	4.0	3.0	3.5	12.5	7.0	9.5	18.5	15.0	17.0
28	3.5	0.5	2.0	6.0	2.0	4.0	11.0	9.5	10.0	19.0	14.5	16.5
29	---	---	---	8.0	4.0	6.0	10.0	8.5	9.5	16.5	14.0	15.0
30	---	---	---	10.0	7.0	8.5	9.0	7.5	8.5	19.0	15.0	17.0
31	---	---	---	10.5	7.5	9.0	---	---	---	19.0	16.5	18.0
MONTH	7.0	0.0	2.1	10.5	0.0	4.2	21.0	2.5	10.4	19.0	7.0	13.2

LEHIGH RIVER BASIN

01447680 TUNKHANNOCK CREEK NEAR LONG POND, PA

LOCATION.--Lat 41°03'55", long 75°31'19", Monroe County, Hydrologic Unit 02040106, on left bank 0.6 mi downstream from unnamed tributary, 0.9 mi downstream from bridge on SR 4002, 3.0 mi west of Long Pond, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--20.0 mi² (revised). At site used prior to July 7, 1966, 16.8 mi².

PERIOD OF RECORD.--March 1965 to current year.

REVISED RECORDS.--WDR PA-90-1: 1990 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,804.83 ft above National Geodetic Vertical Datum of 1929. Prior to July 7, 1966, nonrecording gage at site 0.8 mi upstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion upstream to Wild Creek Basin since October 1969. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by the city of Bethlehem.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	8.0	70	e19	40	23	59	49	46	28	12	16
2	13	7.9	56	e17	e36	23	60	52	38	25	11	15
3	11	7.4	38	e15	e34	63	48	53	36	24	10	14
4	10	7.4	29	16	30	80	49	45	34	23	10	13
5	9.7	6.6	23	16	24	e50	46	36	32	20	11	12
6	9.5	6.3	20	15	24	40	40	34	55	20	11	11
7	9.2	8.0	19	15	23	35	40	31	175	20	14	11
8	9.2	9.1	20	17	23	33	36	32	172	19	14	9.7
9	9.6	6.7	20	19	23	33	36	34	125	19	12	8.9
10	9.1	8.0	21	19	25	43	42	33	72	19	11	8.1
11	8.4	6.4	20	19	e36	50	e46	32	49	19	9.8	6.8
12	7.8	7.0	22	21	e44	40	e38	35	46	19	9.4	6.6
13	7.9	7.2	23	20	42	34	e36	54	69	18	9.0	6.7
14	8.5	7.0	27	e17	e34	32	e46	75	75	17	8.6	6.3
15	12	6.8	27	19	e24	32	83	81	95	17	8.1	8.9
16	19	6.4	28	18	26	30	e100	65	86	16	7.7	76
17	17	6.9	25	17	23	34	e48	49	65	16	8.2	103
18	15	6.8	27	e16	22	32	35	91	49	16	8.6	86
19	14	6.7	34	15	e24	31	31	123	42	18	8.4	54
20	12	6.1	25	16	25	34	e29	99	44	18	7.9	28
21	11	7.6	21	16	27	e36	e29	69	40	17	8.1	18
22	9.8	7.3	20	15	32	e48	e29	56	36	15	8.6	15
23	9.5	7.3	22	15	28	e50	e29	50	36	17	9.0	13
24	9.0	7.2	22	19	25	43	e30	45	32	25	9.5	13
25	8.3	16	e20	27	24	40	29	44	31	25	9.9	12
26	8.1	41	e18	27	23	43	32	41	31	19	10	11
27	7.7	35	e15	e24	23	105	30	40	36	16	10	21
28	7.7	24	16	24	23	116	54	40	49	15	9.7	60
29	8.4	20	15	28	---	91	87	69	41	14	11	71
30	7.8	28	e14	38	---	67	66	84	32	13	17	56
31	8.1	---	e16	50	---	60	---	62	---	13	19	---
TOTAL	321.3	336.1	773	629	787	1471	1363	1703	1769	580	323.5	791.0
MEAN	10.4	11.2	24.9	20.3	28.1	47.5	45.4	54.9	59.0	18.7	10.4	26.4
MAX	19	41	70	50	44	116	100	123	175	28	19	103
MIN	7.7	6.1	14	15	22	23	29	31	31	13	7.7	6.3
(†)	3.0	0.9	6.9	0.5	0.0	0.0	5.8	6.9	0.0	0.0	0.0	0.0

† Diversion to Wild Creek Basin, equivalent in cubic feet per second.

e Estimated.

LEHIGH RIVER BASIN

01447680 TUNKHANNOCK CREEK NEAR LONG POND, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.0	42.9	51.7	46.5	45.0	64.6	80.0	58.6	43.1	27.9	20.4	26.3
MAX (WY)	93.2	90.1	161	137	89.3	148	209	115	116	89.5	63.6	142
MIN (WY)	1978	1971	1997	1996	1996	1977	1993	1990	1972	1984	1990	1987
MIN (WY)	7.13	9.39	7.07	3.85	13.2	21.1	20.5	20.5	10.5	4.19	2.52	4.59
(WY)	2001	1981	1981	1981	1980	1989	1985	1999	1999	1999	1999	1995

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1970 - 2002

ANNUAL TOTAL	7732.4	10846.9	45.0
ANNUAL MEAN	21.2	29.7	22.2
HIGHEST ANNUAL MEAN			65.9
LOWEST ANNUAL MEAN			22.2
HIGHEST DAILY MEAN	114	Apr 11	175
LOWEST DAILY MEAN	6.1	Nov 20	6.1
ANNUAL SEVEN-DAY MINIMUM	6.7	Nov 14	6.7
MAXIMUM PEAK FLOW			191
MAXIMUM PEAK STAGE			3.07
10 PERCENT EXCEEDS	39	60	91
50 PERCENT EXCEEDS	18	23	32
90 PERCENT EXCEEDS	7.8	8.1	10

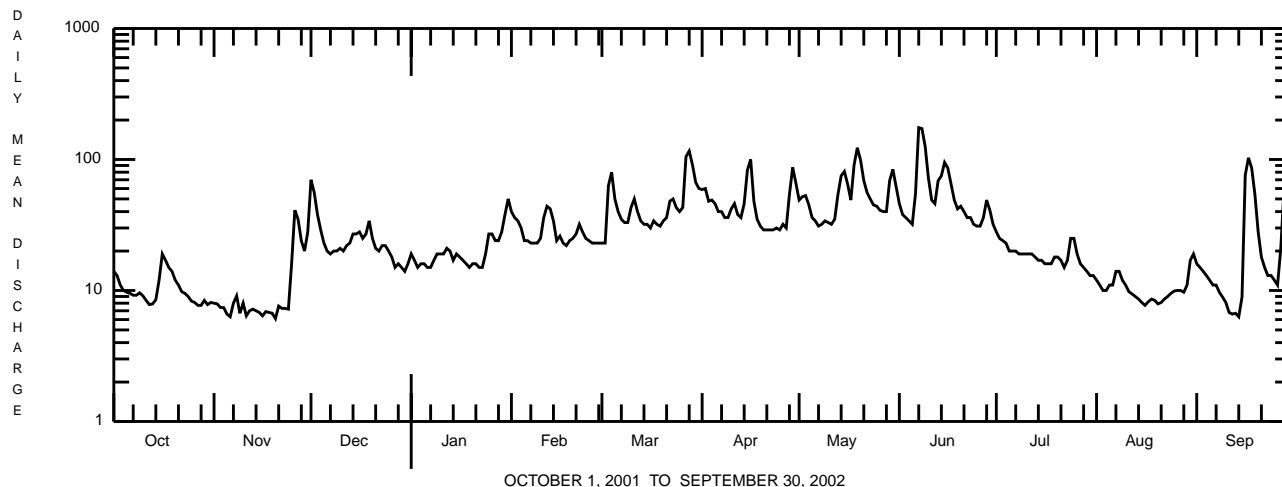
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1969, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.5	29.2	37.5	25.7	23.3	55.7	42.6	38.3	38.8	26.6	27.7	16.0
MAX (WY)	36.3	35.8	63.0	33.0	27.8	64.7	53.3	49.0	83.3	77.1	80.8	26.6
MIN (WY)	1966	1969	1969	1969	1968	1966	1967	1968	1969	1969	1969	1969
MIN (WY)	12.5	22.9	21.0	17.1	21.1	42.2	29.4	20.8	10.4	7.17	8.46	8.86
(WY)	1969	1966	1966	1966	1967	1969	1966	1965	1965	1965	1966	1966

SUMMARY STATISTICS WATER YEARS 1965 - 1969

ANNUAL TOTAL ANNUAL MEAN	33.8
HIGHEST ANNUAL MEAN	47.0
LOWEST ANNUAL MEAN	24.7
HIGHEST DAILY MEAN	448
LOWEST DAILY MEAN	4.0
ANNUAL SEVEN DAY MINIMUM	4.7
MAXIMUM PEAK FLOW	480
MAXIMUM PEAK STAGE	4.34
INSTANTANEOUS LOW FLOW	3.0
ANNUAL RUNOFF (CFSM)	1.88
ANNUAL RUNOFF (INCHES)	25.53
10 PERCENT EXCEEDS	60
50 PERCENT EXCEEDS	24
90 PERCENT EXCEEDS	8.6

a Computed using estimated daily discharges.



LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°05'05", long 75°36'21", Carbon County, Hydrologic Unit 02040106, on left bank 50 ft downstream from bridge on State Highway 940, 500 ft downstream from Shingle Mill Run, and 1.5 mi southwest of Blakeslee.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,511.23 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 16, 1962, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Power generation at Pocono Lake about 5.0 mi upstream since 1985 and minor diversion from Tunkhannock Creek Basin into Wild Creek Basin. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 19.41 ft, from floodmark, discharge, 35,300 ft³/s, by slope-area measurement.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 7	1400	*1,120	*5.10	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	53	345	e180	242	122	346	441	326	208	75	85
2	77	53	327	e160	256	122	334	438	294	168	73	77
3	74	53	238	133	212	366	309	433	229	141	74	67
4	73	53	188	84	181	419	302	355	188	121	73	61
5	71	54	163	70	141	321	280	300	180	112	79	53
6	74	51	127	61	138	253	239	256	294	100	86	46
7	72	53	110	107	135	197	216	232	1000	94	76	42
8	71	51	121	118	131	181	208	217	845	93	76	39
9	69	48	119	113	129	187	207	236	563	96	73	37
10	69	47	113	114	137	317	248	278	381	115	72	35
11	69	48	108	117	299	308	225	257	238	84	70	33
12	63	48	113	116	286	258	e220	284	293	83	38	27
13	54	47	123	116	225	208	e240	558	318	81	35	27
14	54	48	157	113	164	192	e400	877	369	81	33	28
15	69	48	183	88	149	184	e600	685	468	80	33	62
16	68	47	153	64	146	207	532	492	439	78	33	452
17	71	44	151	64	137	213	388	384	360	74	32	411
18	66	44	223	62	130	213	305	752	287	83	33	261
19	63	44	233	e80	131	209	244	868	258	66	32	164
20	59	46	179	e100	129	195	237	619	235	63	36	99
21	57	45	155	111	144	259	224	468	199	61	28	79
22	56	45	128	109	161	291	213	369	172	58	27	74
23	55	45	122	108	145	274	212	349	160	136	30	72
24	56	45	134	117	136	245	193	306	148	303	41	69
25	55	89	121	134	129	234	206	272	135	220	47	67
26	53	121	105	127	126	267	231	252	321	123	44	67
27	53	150	e120	124	131	623	204	239	662	99	42	135
28	53	182	115	126	128	601	413	251	555	96	42	e220
29	54	126	84	132	---	465	643	410	383	85	70	e180
30	54	195	78	210	---	377	528	447	264	92	100	e140
31	53	---	e160	251	---	330	---	370	---	78	97	---
TOTAL	1966	2023	4796	3609	4598	8638	9147	12695	10564	3372	1700	3209
MEAN	63.42	67.43	154.7	116.4	164.2	278.6	304.9	409.5	352.1	108.8	54.84	107.0
MAX	81	195	345	251	299	623	643	877	1000	303	100	452
MIN	53	44	78	61	126	122	193	217	135	58	27	27
CFSM	0.54	0.57	1.31	0.99	1.39	2.36	2.58	3.47	2.98	0.92	0.46	0.91
IN.	0.62	0.64	1.51	1.14	1.45	2.72	2.88	4.00	3.33	1.06	0.54	1.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2002, BY WATER YEAR (WY)

MEAN	185.7	258.2	290.2	271.5	272.0	410.0	465.7	325.0	225.1	148.0	115.4	157.1
MAX	598	644	827	1019	768	948	1247	784	777	481	372	785
(WY)	1977	1973	1997	1996	1981	1977	1993	1989	1972	1969	1969	1987
MIN	31.2	48.1	58.0	40.6	100	172	162	134	64.1	30.3	34.3	28.0
(WY)	1964	1965	1981	1981	1980	1989	1985	1999	1999	1999	1964	1964

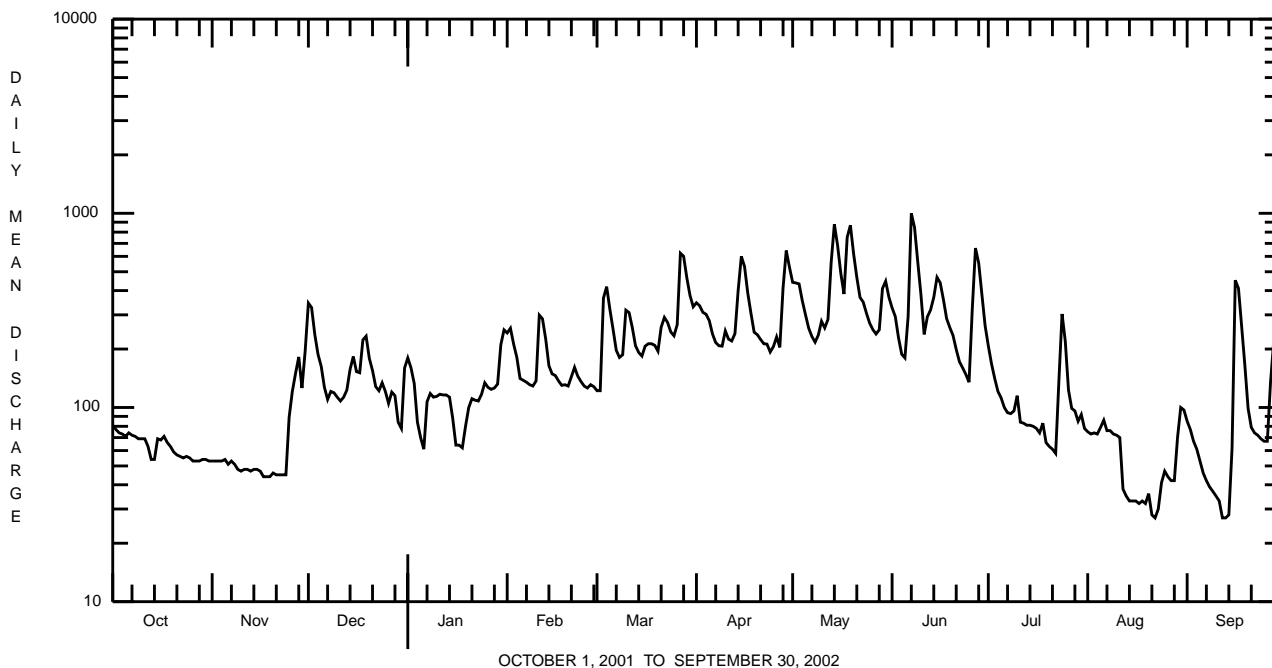
e Estimated.

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1962 - 2002	
ANNUAL TOTAL	55034		66317			
ANNUAL MEAN	151		182		260	
HIGHEST ANNUAL MEAN					399	1973
LOWEST ANNUAL MEAN					129	1965
HIGHEST DAILY MEAN	765	Mar 31	1000	Jun 7	5540	Apr 6 1984
LOWEST DAILY MEAN	44	Sep 19 ^a	27	Aug 22 ^b	21	Aug 12 1999 ^c
ANNUAL SEVEN-DAY MINIMUM	45	Nov 17	31	Aug 17	23	Sep 21 1964
MAXIMUM PEAK FLOW			1120	Jun 7	9190	Sep 27 1985
MAXIMUM PEAK STAGE			5.10	Jun 7	12.33	Sep 27 1985
INSTANTANEOUS LOW FLOW					16	Aug 8 1991
ANNUAL RUNOFF (CFSM)	1.28		1.54		2.20	
ANNUAL RUNOFF (INCHES)	17.35		20.91		29.94	
10 PERCENT EXCEEDS	303		379		524	
50 PERCENT EXCEEDS	116		129		175	
90 PERCENT EXCEEDS	49		47		57	

^a Also Nov. 17-19.
^b Also Sept. 12, 13.
^c Also Sept. 3, 4, 1999.



LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1930 to 1982, 2002 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1980 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good. Interruptions in the record were due to malfunctions of the recording instrument. Other data for the Water-Quality Network can be found on pages 410-425.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.5°C, July 5, 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.0°C, Aug. 2-4; minimum, 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)
APR 2002	02...	9813	329	40	12.3	6.5	82	5.9	17	4.83	4.8	1.11	1.1
JUN	04...	9813	182	40	9.5	6.7	73	18.0	13	3.76	3.8	.94	1.0
AUG	08...	9813	77	40	8.9	7.0	80	16.7	17	4.59	4.8	1.17	1.2

Date	Time	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE AT 105 DEG. C, SUS-PENDEDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)
APR 2002	02...	5	5.9	62	<2	<.020	.21	<.040	.47	.01	.014	1.9	<4	
JUN	04...	17	4.6	72	6	<.020	.12	<.040	.36	.01	.011	1.2	<4	
AUG	08...	19	4.3	48	10	<.020	.14	<.040	.81	<.01	.011	1.7	<4	

Date	Time	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002	02...	<4	80	190	<1.0	<1.0	30	40	<4.0	<4.0	20	20
JUN	04...	<4	100	210	<1.0	<1.0	20	50	<4.0	<4.0	8.3	10
AUG	08...	<4	160	300	<1.0	<1.0	20	50	<4.0	<4.0	<5.0	<5.0

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	11.0	12.5	9.5	6.5	8.0	10.5	8.0	9.5	0.0	0.0	0.0
2	14.5	10.5	12.5	11.5	8.5	10.0	8.0	7.0	7.5	0.0	0.0	0.0
3	16.0	11.5	14.0	11.5	9.5	10.5	7.0	5.5	6.5	0.5	0.0	0.0
4	16.0	12.5	14.5	9.5	7.5	8.5	7.5	5.5	6.5	0.5	0.0	0.0
5	16.0	12.5	14.5	8.5	6.0	7.0	9.0	7.0	8.0	0.5	0.0	0.5
6	15.0	12.5	14.0	6.5	5.5	6.0	9.5	8.0	8.5	1.0	0.0	0.5
7	12.5	9.5	10.5	8.0	5.0	6.5	9.0	6.5	8.5	1.0	0.0	0.5
8	10.5	8.0	9.5	8.0	6.0	7.0	6.5	4.0	5.5	2.0	0.5	1.0
9	10.5	6.5	8.5	8.0	5.5	6.5	6.5	4.5	5.0	2.5	1.0	1.5
10	12.0	8.0	10.0	6.0	4.0	5.0	4.5	3.0	4.0	3.0	2.0	2.5
11	13.5	9.0	11.0	5.5	4.0	5.0	5.5	4.5	5.0	3.0	2.5	2.5
12	13.5	10.0	12.0	4.5	2.5	3.5	5.0	3.0	4.0	3.0	2.0	2.5
13	15.0	12.0	13.5	4.5	2.0	3.5	6.5	5.0	6.0	2.5	1.5	2.5
14	14.5	13.0	13.5	5.5	2.5	4.0	7.5	6.5	7.0	3.0	1.5	2.0
15	14.0	11.5	13.0	8.0	5.0	6.5	7.5	4.0	6.0	3.0	2.5	2.5
16	11.5	8.5	10.5	8.5	6.5	7.5	5.5	3.0	4.0	2.5	1.5	2.0
17	10.5	8.5	10.0	7.5	5.5	6.0	5.5	4.0	4.5	2.5	1.5	2.0
18	9.0	7.0	8.0	6.0	4.0	5.0	6.5	4.0	5.5	2.0	0.5	1.0
19	9.5	6.5	8.0	6.5	4.0	5.5	6.0	4.0	4.5	0.5	0.0	0.0
20	11.0	8.5	9.5	6.5	4.5	6.0	6.0	3.0	4.0	1.5	0.0	0.0
21	11.5	7.5	9.5	4.5	3.0	3.5	4.5	2.0	3.0	2.0	1.0	1.5
22	12.0	10.0	11.0	4.5	2.5	3.5	3.5	1.5	2.0	2.5	1.5	2.0
23	13.0	10.5	11.5	5.0	3.0	4.0	3.5	1.0	2.5	3.5	1.5	2.5
24	15.0	12.0	13.5	8.0	5.0	6.5	4.0	2.0	3.0	4.0	3.0	3.5
25	14.0	11.0	13.0	10.0	8.0	9.0	2.5	0.5	1.5	3.0	2.0	2.5
26	11.0	7.5	9.0	8.5	7.0	8.0	1.0	0.5	0.5	3.0	1.5	2.0
27	7.5	6.5	7.0	8.0	5.5	6.5	0.5	0.0	0.5	3.5	1.5	2.5
28	7.5	5.5	6.5	8.5	7.0	8.0	1.5	0.0	0.5	4.0	2.0	3.0
29	7.5	4.0	6.0	8.5	8.0	8.0	1.5	0.0	0.5	5.0	2.5	3.5
30	8.0	6.0	7.0	10.5	8.5	9.5	0.0	0.0	0.0	5.0	3.5	4.5
31	7.0	6.0	6.5	---	---	---	0.0	0.0	0.0	4.0	3.0	3.0
MONTH	16.0	4.0	10.6	11.5	2.0	6.5	10.5	0.0	4.3	5.0	0.0	1.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	4.5	3.0	3.5	4.0	0.5	2.0	8.5	6.5	7.5	12.5	8.5	10.0
2	3.0	1.0	2.0	4.0	1.0	2.5	8.5	6.0	7.0	11.5	10.0	10.5
3	3.5	1.0	1.5	5.5	3.5	4.5	9.5	6.5	8.0	11.5	9.5	10.5
4	3.0	0.5	1.5	3.5	1.5	2.5	8.5	5.5	7.0	13.0	8.5	10.5
5	2.5	0.0	0.5	2.5	1.0	1.5	9.0	5.0	6.5	14.5	9.5	11.5
6	2.5	1.0	1.5	4.5	1.0	2.5	7.0	4.5	5.5	15.0	10.5	12.5
7	4.0	2.0	2.5	5.5	2.5	4.0	8.5	3.5	5.5	15.0	12.0	13.5
8	4.0	2.0	3.0	7.0	3.0	4.5	9.0	6.0	7.0	15.5	12.0	13.5
9	4.5	2.5	3.0	7.5	5.0	6.5	10.5	8.0	9.0	14.0	12.0	13.0
10	5.0	3.0	4.0	8.0	2.5	4.5	12.0	8.5	10.0	16.0	12.0	13.5
11	5.0	1.5	3.0	3.5	1.5	2.5	12.5	7.5	9.5	15.5	11.5	13.0
12	3.0	1.5	2.0	4.5	2.5	3.5	---	---	---	13.0	12.0	12.0
13	3.0	1.0	2.5	4.5	3.0	4.0	---	---	---	13.5	12.0	13.0
14	2.5	0.0	1.0	7.5	4.5	5.5	---	---	---	13.5	12.0	12.5
15	3.5	1.5	2.5	9.0	5.5	7.0	---	---	---	13.0	11.0	12.0
16	5.0	3.0	3.5	8.0	4.5	7.0	---	---	---	14.5	11.0	13.0
17	4.0	2.0	3.0	5.0	3.5	4.5	18.5	14.5	16.0	15.5	13.0	14.0
18	3.0	1.0	2.0	4.0	3.5	4.0	19.0	15.0	16.5	13.5	11.0	12.0
19	4.0	0.5	2.5	5.0	4.0	4.5	19.5	15.0	17.0	13.5	11.0	12.0
20	5.5	3.5	4.5	4.5	2.5	3.5	16.0	14.0	15.0	12.5	11.0	11.5
21	6.5	5.0	5.5	7.0	3.0	4.5	14.0	11.5	12.0	12.5	10.0	11.0
22	5.0	4.0	4.5	3.5	1.5	2.5	11.5	9.5	11.0	14.5	9.5	11.5
23	4.5	2.5	3.5	5.0	1.5	3.0	12.5	8.5	10.0	15.5	10.5	13.0
24	5.0	1.5	3.0	5.5	2.5	4.0	14.0	8.0	10.5	16.0	11.5	13.5
25	5.5	2.5	4.0	4.5	3.5	4.0	10.5	9.0	9.5	16.0	12.0	14.0
26	6.5	3.5	5.0	4.0	3.0	3.5	11.5	8.0	9.5	16.5	13.5	14.5
27	5.0	2.0	3.5	4.0	3.5	3.5	13.0	8.0	10.0	17.5	14.0	15.5
28	3.0	0.5	2.0	5.5	2.5	4.0	11.0	9.5	10.5	18.0	15.0	16.0
29	---	---	---	7.0	4.0	5.5	11.0	10.0	10.5	18.0	15.0	16.5
30	---	---	---	8.5	6.0	7.0	10.0	9.0	9.5	19.5	16.5	18.0
31	---	---	---	9.0	6.5	7.5	---	---	---	19.0	17.0	18.0
MONTH	6.5	0.0	2.9	9.0	0.5	4.2	19.5	3.5	10.0	19.5	8.5	13.1

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA

LOCATION.--Lat 41°06'17", long 75°43'57", Luzerne County, Hydrologic Unit 02040106, on right bank 0.7 mi downstream from Francis E. Walter Reservoir, 2.0 mi upstream from Fawn Run, and 4.0 mi northeast of White Haven.

DRAINAGE AREA.--290 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1962 published as "*below Bear Creek Reservoir*", October 1962 to September 1971 published as "*below Francis E. Walter Reservoir*."

GAGE.--Water-stage recorder. Datum of gage is 1,212.95 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1961 by Francis E. Walter Reservoir (station 01447780) 0.7 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1955 reached a discharge of 54,200 ft³/s based on slope-area measurement at site 4.9 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	78	468	173	575	170	288	1500	810	539	239	185
2	122	78	597	215	191	170	173	1290	810	406	336	144
3	109	78	542	241	200	171	175	1110	645	368	503	144
4	109	78	370	215	194	173	176	1000	541	368	503	119
5	264	94	297	196	246	173	416	1000	541	275	336	102
6	280	106	266	196	274	175	616	661	505	221	239	146
7	72	106	235	196	167	176	616	450	1470	221	239	193
8	72	106	225	196	175	176	461	452	787	185	239	193
9	72	89	224	196	176	176	378	535	793	142	326	206
10	91	78	224	225	177	180	528	623	1840	152	497	224
11	104	78	213	251	181	340	510	623	2080	150	494	224
12	104	78	206	251	183	535	449	623	1080	189	323	224
13	104	78	206	251	185	561	450	1280	708	247	282	224
14	119	78	233	251	186	503	449	3160	692	247	329	224
15	142	78	251	251	187	434	980	3270	611	223	308	225
16	150	78	254	215	189	410	1410	1740	981	210	352	193
17	150	78	322	196	191	410	999	1070	981	210	485	170
18	150	78	402	180	193	510	768	1000	933	226	484	170
19	126	78	595	148	193	507	667	2290	745	348	245	170
20	206	78	588	128	193	467	455	2650	593	516	100	384
21	102	78	435	130	188	473	455	1370	641	516	100	464
22	102	78	353	170	183	479	603	1000	793	343	100	173
23	102	78	350	219	183	479	689	757	793	247	100	173
24	102	78	348	274	183	479	541	585	541	247	100	130
25	103	79	348	333	171	288	449	557	315	247	100	100
26	103	204	269	353	168	190	623	559	255	339	100	100
27	103	303	193	350	170	195	720	561	678	516	100	142
28	102	332	171	313	170	196	722	1500	742	516	100	170
29	102	278	173	293	---	295	1730	7830	645	338	100	170
30	102	223	173	400	---	501	1870	4430	645	241	147	226
31	87	---	173	664	---	503	---	1130	---	239	243	---
TOTAL	3802	3402	9704	7670	5672	10495	19366	46606	24194	9232	8149	5712
MEAN	123	113	313	247	203	339	646	1503	806	298	263	190
MAX	280	332	597	664	575	561	1870	7830	2080	539	503	464
MIN	72	78	171	128	167	170	173	450	255	142	100	100

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	434	626	690	639	647	1006	1116	775	525	342	256	322
MAX (WY)	1435	1488	2079	2596	1542	2018	3198	1968	1359	1165	1153	1784
MIN (WY)	1978	1986	1997	1996	1981	1977	1993	1989	1972	1973	1969	1987
MIN (WY)	68.5	68.1	142	131	197	326	341	311	135	66.1	55.9	43.2
(WY)	1964	1965	1999	1981	1980	1981	1966	2001	1962	1999	1999	1964

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1961 - 2002

ANNUAL TOTAL		128477		154004								
ANNUAL MEAN		352		422					614			
HIGHEST ANNUAL MEAN									954			1996
LOWEST ANNUAL MEAN									289			1965
HIGHEST DAILY MEAN				2300	Apr 11		7830	May 29	11000	Jan 29		1996
LOWEST DAILY MEAN				72	Aug 7 ^a		72	Oct 7-9	22	Jul 20		1965 ^c
ANNUAL SEVEN-DAY MINIMUM				72	Aug 28		78	Nov 10 ^b	33	Jul 19		1965
MAXIMUM PEAK FLOW							8240	May 29	11700	Apr 13		1993
MAXIMUM PEAK STAGE							7.82	May 29	8.86	Apr 13		1993
INSTANTANEOUS LOW FLOW									d1.3	Nov 14		1961
10 PERCENT EXCEEDS			723				789		1310			
50 PERCENT EXCEEDS			237				241		405			
90 PERCENT EXCEEDS			78				100		107			

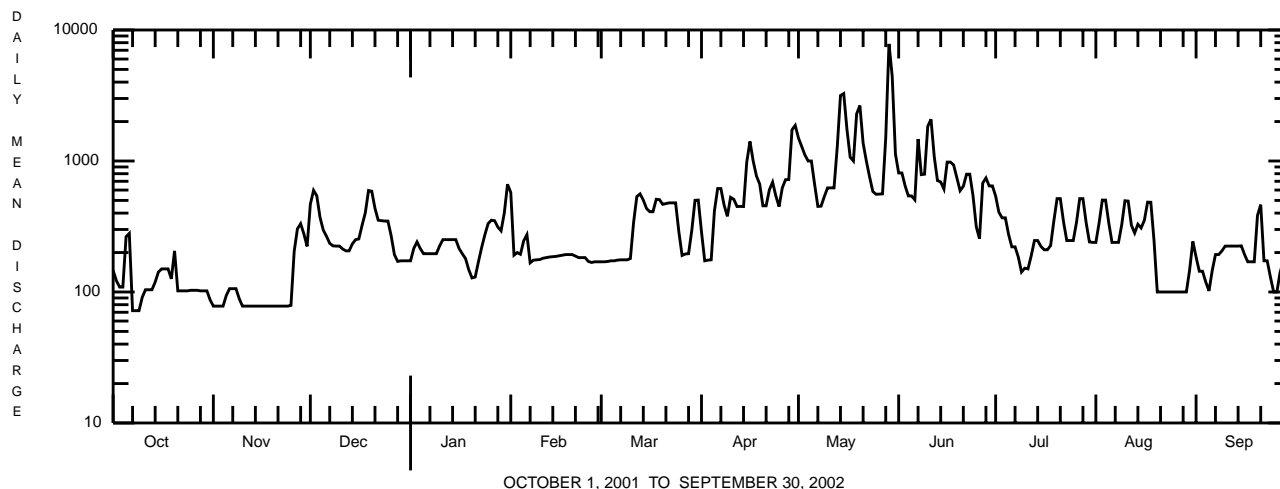
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	378	571	1002	692	678	790	1886	909	425	245	190	371
MAX (WY)	502	854	1504	778	1039	926	2536	1134	521	339	270	744
MIN (WY)	1960	1960	1958	1960	1960	1958	1958	1958	1960	1960	1960	1960
MIN (WY)	173	347	371	549	467	610	1262	520	310	195	129	135
(WY)	1958	1958	1959	1959	1959	1960	1959	1959	1959	1959	1959	1959

SUMMARY STATISTICS WATER YEARS 1958 - 1960

ANNUAL TOTAL ANNUAL MEAN	676	
HIGHEST ANNUAL MEAN	807	1960
LOWEST ANNUAL MEAN	478	1959
HIGHEST DAILY MEAN	10700	Dec 21 1957
LOWEST DAILY MEAN	50	Oct 4 1957
ANNUAL SEVEN DAY MINIMUM	63	Oct 1 1957
MAXIMUM PEAK FLOW	f13800	Dec 21 1957
MAXIMUM PEAK STAGE	9.85	Dec 21 1957
ANNUAL RUNOFF (CFSM)	2.33	
ANNUAL RUNOFF (INCHES)	31.69	
10 PERCENT EXCEEDS	1390	
50 PERCENT EXCEEDS	440	
90 PERCENT EXCEEDS	141	

- a Also Aug. 8, 28-31, Sept. 1-3, Oct. 7-9.
- b First occurrence.
- c Also July 22, 23, 1965.
- d Result of shutoff at reservoir.
- f From rating curve extended above 6,100 ft³/s.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1982.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1988 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.5°C, July 21, 1988; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.0°C, Aug. 19; minimum, 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	13.0	13.5	9.5	7.5	8.0	9.5	8.0	8.5	1.0	0.5	0.5
2	15.0	13.0	13.5	9.0	7.5	8.5	9.5	8.5	9.0	1.0	0.5	0.5
3	15.0	13.0	13.5	10.0	8.0	8.5	8.5	7.0	8.0	1.0	0.5	0.5
4	15.0	13.0	14.0	10.0	8.0	8.5	7.5	6.0	7.0	0.5	0.5	0.5
5	15.5	13.5	14.5	9.5	8.5	9.0	7.0	6.5	7.0	1.0	0.5	0.5
6	16.5	13.5	15.0	10.0	8.0	9.0	7.5	7.0	7.0	1.0	0.0	0.5
7	14.5	12.5	13.5	9.0	8.0	8.5	8.0	7.5	7.5	0.5	0.5	0.5
8	13.5	10.5	12.0	9.0	7.5	8.0	7.5	7.0	7.5	1.0	0.5	0.5
9	12.5	10.0	11.0	9.0	7.5	8.0	7.0	6.0	6.5	0.5	0.5	0.5
10	12.0	10.0	10.5	9.0	7.5	8.0	6.0	4.5	5.5	1.0	0.5	0.5
11	12.5	10.5	11.0	8.5	7.0	7.5	6.0	5.0	5.5	0.5	0.5	0.5
12	12.5	11.0	11.5	7.5	6.0	6.5	5.5	4.5	5.0	1.0	0.5	0.5
13	13.5	11.5	12.0	7.0	5.5	6.0	4.5	4.5	4.5	0.5	0.5	0.5
14	13.0	12.0	12.5	6.5	5.0	5.5	5.0	4.5	4.5	0.5	0.5	0.5
15	14.0	12.5	13.0	6.5	5.0	5.5	5.0	4.5	5.0	0.5	0.5	0.5
16	14.0	12.5	13.0	7.0	5.5	6.0	5.5	5.0	5.0	0.5	0.5	0.5
17	13.0	12.0	12.5	7.0	5.5	6.0	5.0	4.5	4.5	1.0	0.5	0.5
18	12.0	10.5	11.5	7.0	5.5	6.0	4.5	4.5	4.5	1.0	0.0	0.5
19	11.5	9.5	10.5	7.0	6.0	6.0	4.5	4.0	4.5	0.5	0.0	0.5
20	12.0	9.5	10.5	7.0	6.0	6.5	4.5	4.0	4.0	1.0	0.5	0.5
21	11.5	9.5	10.5	7.0	5.5	6.0	4.0	3.5	4.0	0.5	0.5	0.5
22	11.5	10.0	10.5	6.5	5.0	5.5	3.5	2.5	3.0	1.0	0.0	0.5
23	11.5	10.5	11.0	6.5	5.0	5.5	2.5	2.5	2.5	1.0	0.5	0.5
24	12.5	11.0	11.5	6.0	5.5	5.5	2.5	2.5	2.5	0.5	0.5	0.5
25	12.5	11.5	11.5	6.0	5.5	6.0	2.5	2.0	2.5	1.0	0.5	1.0
26	12.0	11.0	11.5	6.5	6.0	6.5	2.5	2.0	2.0	1.5	1.0	1.0
27	11.5	9.5	10.5	7.0	6.5	6.5	2.5	2.0	2.0	1.5	1.0	1.0
28	10.0	8.5	9.5	8.0	7.0	7.5	2.5	1.5	2.0	2.0	1.0	1.5
29	9.5	7.5	8.5	7.5	7.5	7.5	2.0	1.5	1.5	2.0	1.5	1.5
30	9.5	7.5	8.5	8.0	7.5	8.0	1.5	1.0	1.0	2.5	1.5	2.0
31	8.5	7.5	8.0	---	---	---	1.5	0.5	1.0	3.0	2.5	2.5
MONTH	16.5	7.5	11.6	10.0	5.0	7.0	9.5	0.5	4.7	3.0	0.0	0.7

LEHIGH RIVER BASIN

01449000 LEHIGH RIVER AT LEHIGHTON, PA

LOCATION.--Lat 40°49'45", long 75°42'20", Carbon County, Hydrologic Unit 02040106, on left bank 190 ft downstream from highway bridge at Lehigh, and 0.3 mi upstream from Mahoning Creek.

DRAINAGE AREA.--591 mi².

PERIOD OF RECORD.--October 1945 to September 1948 (monthly discharge only, published in WSP 1302). October 1982 to current year. Gage height records beginning 1935 are contained in reports of the U.S. Weather Bureau. Miscellaneous measurements, water years 1977-78, 1980-81, and annual maximum, 1982.

REVISED RECORDS.--WDR PA-99-1: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 444.26 ft above National Geodetic Vertical Datum of 1929. Prior to August 1970, at same site at datum 2.0 ft higher. Prior to December 1982, nonrecording gage at highway bridge 190 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Francis E. Walter Reservoir (station 01447780) since February 1961. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	465	260	975	e440	1290	469	1490	2780	1660	991	394	406
2	443	251	1120	e470	849	463	1040	2780	1540	802	390	356
3	393	250	1030	e500	676	869	970	2570	1410	686	609	280
4	377	247	903	e480	671	771	931	2180	1150	666	670	263
5	362	254	706	e460	e620	649	908	2080	1120	642	672	228
6	676	273	683	e460	e620	620	1280	1860	1260	482	438	212
7	386	279	632	e460	620	615	1260	1360	2950	468	386	257
8	307	284	604	e460	595	604	1180	1290	1880	462	378	288
9	293	275	700	e460	580	599	966	1350	1670	405	372	287
10	290	251	681	e480	578	931	1060	1540	2130	378	576	324
11	311	237	632	580	795	804	1160	1400	2740	371	646	344
12	316	236	596	589	703	1080	979	1430	2260	359	624	342
13	314	237	598	564	650	1140	985	2070	1330	426	370	341
14	314	235	622	549	616	1120	1150	4230	1630	459	445	341
15	456	235	714	537	610	989	1980	4720	1370	459	458	413
16	426	242	669	529	610	928	2580	3300	1740	412	424	1010
17	436	242	671	467	607	903	2240	2220	1670	400	573	504
18	410	232	960	458	591	971	1690	3190	1570	399	624	367
19	381	232	1150	e400	574	1110	1630	3380	1420	425	611	338
20	388	242	1150	e380	570	1130	1290	4530	1340	672	263	327
21	363	243	1070	e380	594	1360	1200	3060	1110	720	216	790
22	304	233	832	390	576	1330	1230	2230	1280	694	212	397
23	303	230	810	434	551	1260	1390	1990	1260	464	222	351
24	304	231	839	509	524	1230	1280	1600	1150	581	238	331
25	300	292	809	653	515	1140	1070	1450	821	461	275	270
26	299	659	765	688	494	883	1160	1370	650	433	232	255
27	294	637	630	674	506	1960	1310	1320	1000	650	221	539
28	286	602	e550	678	490	1510	1780	1340	1400	718	214	976
29	282	621	e520	648	---	1340	2790	7280	1110	690	231	558
30	284	556	e480	762	---	1520	3290	6140	1040	420	246	438
31	278	---	e440	1060	---	1470	---	2430	---	404	292	---
TOTAL	11041	9298	23541	16599	17675	31768	43269	80470	44661	16599	12522	12133
MEAN	356.2	309.9	759.4	535.5	631.2	1025	1442	2596	1489	535.5	403.9	404.4
MAX	676	659	1150	1060	1290	1960	3290	7280	2950	991	672	1010
MIN	278	230	440	380	490	463	908	1290	650	359	212	212
CFSM	0.60	0.52	1.28	0.91	1.07	1.73	2.44	4.39	2.52	0.91	0.68	0.68
IN.	0.69	0.59	1.48	1.04	1.11	2.00	2.72	5.07	2.81	1.04	0.79	0.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2002, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	775.4	1221	1530	1269	1317	1881	2349	1735	1108	729.8	511.9	677.8								
MAX	2017	2366	4120	4151	2470	3164	6010	4038	1965	1955	1073	3767								
(WY)	1991	1986	1997	1996	1984	1986	1993	1989	1989	1984	1990	1987								
MIN	238	286	267	532	566	926	895	657	325	152	154	181								
(WY)	1983	1999	1999	1989	1987	1989	1995	1999	1999	1999	1999	1995								

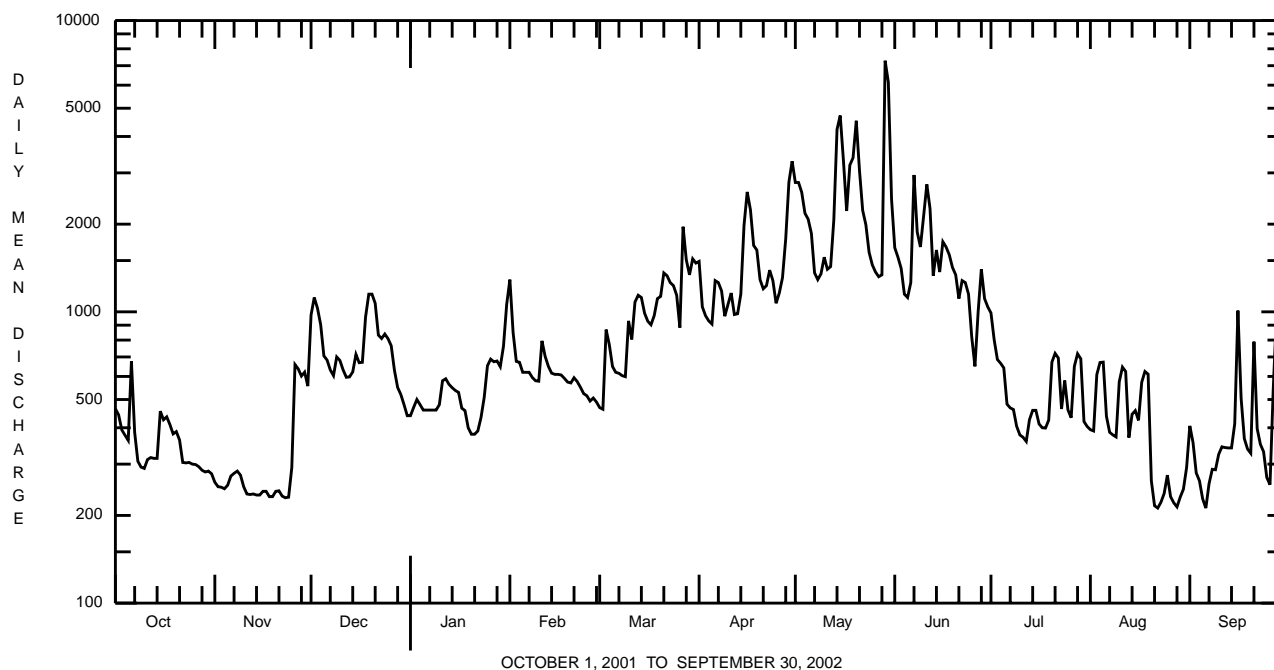
e Estimated.

LEHIGH RIVER BASIN

01449000 LEHIGH RIVER AT LEHIGHTON, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	288852		319576			
ANNUAL MEAN	791		876		1257	
HIGHEST ANNUAL MEAN					1743	
LOWEST ANNUAL MEAN					758	
HIGHEST DAILY MEAN	3260	Apr 11	7280	May 29	15100	Apr 16 1983
LOWEST DAILY MEAN	230	Nov 23	212	Aug 22, Sep 6	104	Aug 30 1999
ANNUAL SEVEN-DAY MINIMUM	235	Nov 18	231	Aug 22	120	Aug 6 1999
MAXIMUM PEAK FLOW			8280	May 29	^a 22900	Jan 27 1996
MAXIMUM PEAK STAGE			7.13	May 29	12.55	Jan 27 1996
ANNUAL RUNOFF (CFSM)	1.34		1.48		2.13	
ANNUAL RUNOFF (INCHES)	18.18		20.12		28.91	
10 PERCENT EXCEEDS	1540		1660		2580	
50 PERCENT EXCEEDS	621		615		861	
90 PERCENT EXCEEDS	282		272		281	

^a From rating curve extended above 16,000 ft³/s.



LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA

LOCATION.--Lat 40°53'51", long 75°30'10", Monroe County, Hydrologic Unit 02040106, on right bank 20 ft downstream from bridge on U.S. Highway 209 at Kresgeville, 0.2 mi downstream from Middle Creek, and 13 mi upstream from mouth.

DRAINAGE AREA.--49.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 659.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 7	0215	*356	*4.84	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	31	56	e36	56	41	121	204	105	52	25	24
2	45	30	40	36	56	41	102	249	95	50	25	28
3	42	30	35	35	51	102	99	249	89	48	24	23
4	40	30	33	35	50	71	93	216	86	47	24	21
5	39	32	32	35	49	64	86	194	84	46	24	19
6	40	31	31	35	49	63	84	172	120	44	25	19
7	38	30	32	40	49	63	79	158	273	44	23	18
8	36	30	32	35	48	62	77	144	141	43	23	18
9	34	29	54	35	47	61	76	148	122	42	22	17
10	35	29	44	35	48	74	88	136	112	42	21	16
11	34	29	39	40	65	64	77	117	105	39	21	16
12	33	28	37	41	52	62	74	133	102	38	20	17
13	33	28	39	39	50	61	74	163	99	36	20	17
14	32	28	43	36	46	60	79	200	126	36	19	17
15	48	28	47	36	47	58	263	157	120	36	19	26
16	37	28	41	36	48	59	189	147	102	34	19	67
17	36	26	42	35	48	56	160	139	92	33	20	30
18	34	25	63	34	46	69	142	284	87	32	19	24
19	32	25	54	32	45	70	132	255	84	32	18	23
20	32	26	51	34	46	96	124	221	78	33	24	22
21	32	25	50	33	52	116	114	199	74	31	21	21
22	32	25	48	32	47	101	109	176	71	30	e20	21
23	32	25	48	32	45	98	102	159	69	32	e20	24
24	32	25	57	37	44	96	94	146	66	41	26	21
25	32	37	49	46	44	90	98	133	65	33	31	20
26	32	47	47	43	44	98	95	125	62	32	21	21
27	32	31	45	42	46	176	85	117	61	31	19	63
28	31	27	43	42	43	128	206	135	64	32	18	78
29	30	25	43	43	---	124	273	189	57	31	43	43
30	31	42	39	45	---	118	218	121	53	28	31	35
31	31	---	e38	47	---	111	---	109	---	26	23	---
TOTAL	1095	882	1352	1162	1361	2553	3613	5295	2864	1154	708	809
MEAN	35.3	29.4	43.6	37.5	48.6	82.4	120	171	95.5	37.2	22.8	27.0
MAX	48	47	63	47	65	176	273	284	273	52	43	78
MIN	30	25	31	32	43	41	74	109	53	26	18	16
CFSM	0.71	0.59	0.87	0.75	0.97	1.65	2.41	3.42	1.91	0.75	0.46	0.54
IN.	0.82	0.66	1.01	0.87	1.01	1.90	2.69	3.95	2.14	0.86	0.53	0.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

MEAN	62.6	90.3	124	113	116	157	158	126	94.0	64.2	49.8	52.4
MAX	181	203	354	323	191	330	369	270	248	165	193	264
(WY)	1977	1973	1997	1979	1998	1977	1983	1989	1972	1969	1969	1987
MIN	18.9	24.7	18.1	13.9	45.0	60.2	47.9	56.9	35.9	18.2	14.0	15.5
(WY)	1981	1981	1999	1981	1980	1985	1985	1995	1999	1999	1999	1980

e Estimated.

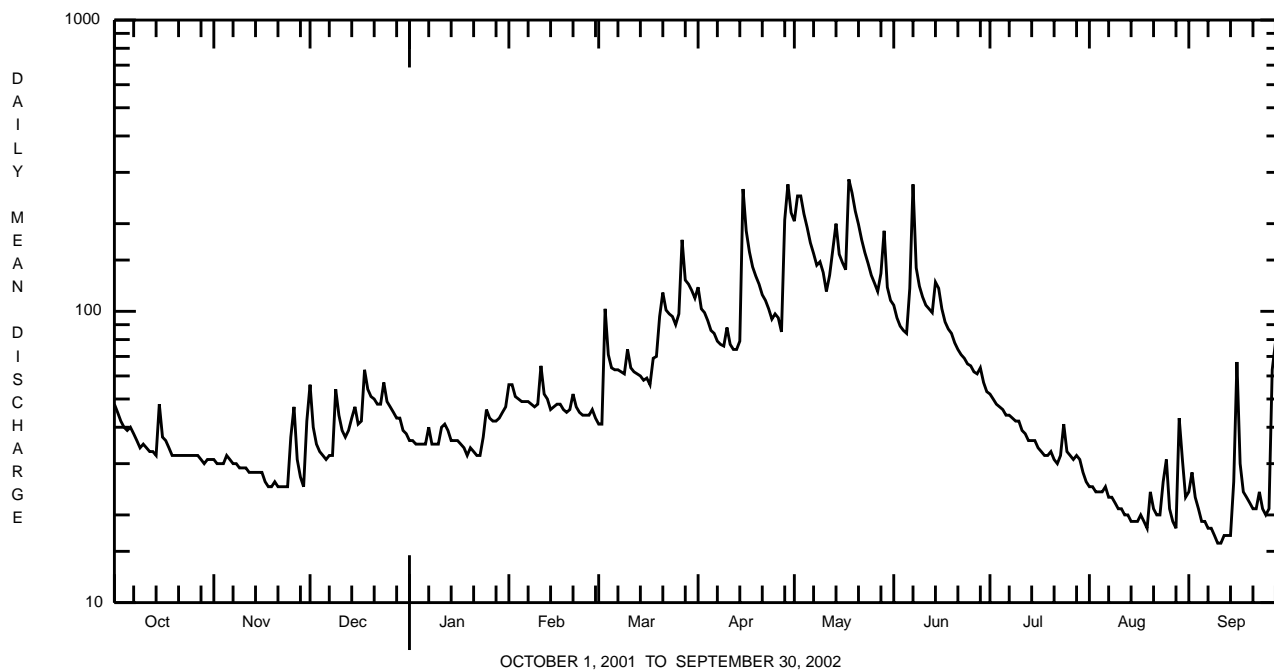
LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	22904		22848			
ANNUAL MEAN	62.8		62.6		100	
HIGHEST ANNUAL MEAN					149	1978
LOWEST ANNUAL MEAN					46.5	1985
HIGHEST DAILY MEAN	282	Mar 30	284	May 18	1550	Apr 16 1983
LOWEST DAILY MEAN	17	Sep 8 ^a	16	Sep 10,11	9.9	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	18	Sep 7	17	Sep 8	11	Aug 2 1999
MAXIMUM PEAK FLOW			356	Jun 7	b 2080	Jul 29 1969
MAXIMUM PEAK STAGE			4.84	Jun 7	9.21	Jul 29 1969
ANNUAL RUNOFF (CFSM)	1.26		1.25		2.01	
ANNUAL RUNOFF (INCHES)	17.07		17.03		27.35	
10 PERCENT EXCEEDS	129		132		198	
50 PERCENT EXCEEDS	48		43		72	
90 PERCENT EXCEEDS	25		23		27	

a Also, Sept. 9, 13, 18, 19.

b From rating curve extended above 800 ft³/s.



LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1969 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform since water year 1986.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.5°C, July 25, 1970; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.0°C, July 23, Aug. 4; minimum, 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.5	11.0	12.0	9.0	6.5	8.0	11.5	9.5	11.0	0.5	0.0	0.0
2	13.5	11.5	12.5	11.5	8.5	10.0	9.5	7.0	8.0	0.5	0.0	0.5
3	14.5	12.5	13.5	13.0	11.0	12.0	7.0	5.5	6.0	0.5	0.0	0.5
4	15.0	13.5	14.5	11.0	9.0	10.0	7.0	5.0	6.0	1.0	0.5	0.5
5	14.5	13.0	14.0	9.5	7.0	8.0	9.5	7.0	8.0	1.5	0.5	1.0
6	14.5	12.5	14.0	8.0	6.5	7.0	9.5	8.0	9.0	1.5	0.0	1.0
7	12.5	9.5	11.0	9.0	6.5	7.5	9.5	8.0	9.0	1.5	0.0	0.5
8	9.5	8.0	9.0	9.0	7.0	8.0	8.0	4.5	6.0	1.5	0.5	1.0
9	9.0	7.0	8.0	8.5	7.0	8.0	5.5	4.5	5.0	2.0	1.0	1.5
10	10.0	7.5	9.0	7.5	6.0	6.5	5.0	3.5	4.0	3.0	1.5	2.5
11	11.5	9.0	10.5	6.5	5.0	6.0	6.0	4.5	5.0	3.5	3.0	3.0
12	13.0	11.0	12.0	5.5	4.0	4.5	5.0	3.5	4.5	4.0	3.0	3.5
13	14.5	12.5	13.5	5.0	3.0	4.0	7.0	5.0	6.0	3.5	3.0	3.0
14	15.0	14.0	14.5	5.5	3.5	4.5	8.0	7.0	7.5	3.5	2.0	3.0
15	14.5	12.5	14.0	8.0	5.0	6.5	8.0	5.0	7.0	4.0	3.0	3.5
16	12.5	10.5	11.5	9.5	7.0	8.0	5.0	3.5	4.5	4.0	3.0	3.5
17	11.5	10.0	11.0	8.5	6.5	7.5	6.0	5.0	5.5	3.5	2.5	3.0
18	10.0	8.0	9.0	7.0	5.0	6.0	7.0	6.0	6.5	3.0	1.5	2.0
19	9.5	7.5	8.5	7.0	6.0	6.5	6.5	5.5	6.0	1.5	0.0	0.5
20	11.0	8.5	9.5	7.0	5.5	6.5	5.5	4.5	5.0	1.0	0.0	0.5
21	11.5	9.0	10.5	5.5	3.5	4.5	4.5	3.5	4.0	1.5	0.5	1.0
22	12.5	11.0	12.0	5.0	3.5	4.0	3.5	2.5	3.0	3.0	1.5	2.0
23	13.0	11.5	12.5	5.5	4.0	4.5	4.0	2.0	3.0	3.5	1.5	2.5
24	15.5	13.0	14.0	8.5	5.0	6.5	5.0	3.5	4.5	4.5	3.5	4.0
25	14.5	12.5	13.5	11.0	8.5	10.0	3.5	2.0	2.5	4.5	3.0	4.0
26	12.5	9.0	11.0	10.0	8.5	9.5	2.5	1.0	2.0	4.0	2.0	3.0
27	9.0	8.0	8.5	8.5	7.0	8.0	1.0	0.5	1.0	4.5	2.0	3.0
28	8.0	6.5	7.5	10.0	8.0	9.0	1.5	0.5	1.0	4.5	2.5	3.5
29	8.0	5.5	6.5	10.0	9.5	9.5	1.5	0.5	1.0	6.0	3.5	4.5
30	9.0	7.0	8.0	11.5	9.5	10.0	1.0	0.0	0.5	7.0	5.5	6.5
31	8.0	7.0	7.5	---	---	---	0.5	0.0	0.0	6.5	4.5	5.0
MONTH	15.5	5.5	11.1	13.0	3.0	7.3	11.5	0.0	4.9	7.0	0.0	2.4

LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA

LOCATION.--Lat 40°50'44", long 75°38'46", Carbon County, Hydrologic Unit 02040106, on right bank 0.1 mi upstream from Sawmill Run, 0.4 mi downstream from Beltzville Dam, 1.3 mi upstream from Bull Run, and 2.3 mi northeast of Parryville.

DRAINAGE AREA.--96.4 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 492.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated entire period of record by Wild Creek Reservoir (station 01449700) and Penn Forest Reservoir (station 01449400), 7.3 mi and 10.0 mi upstream respectively, and Beltzville Lake (station 01449790), reservoir for city of Bethlehem. Diversion upstream from Tunkhannock Creek to Wild Creek Basin since October 1969. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	28	22	61	89	61	211	446	170	72	38	38
2	43	22	22	61	81	61	245	480	170	55	38	38
3	37	22	22	61	81	64	164	473	169	51	38	38
4	38	22	22	61	88	139	120	428	125	51	38	38
5	38	22	22	61	92	160	120	428	98	51	38	38
6	38	22	22	61	92	140	120	354	127	51	38	38
7	38	22	22	61	92	90	120	311	407	51	38	38
8	38	22	22	61	80	61	120	311	510	51	38	38
9	38	22	22	61	73	61	120	311	507	51	38	38
10	38	22	22	61	73	61	154	251	246	51	38	38
11	38	22	22	61	73	80	146	218	98	42	38	38
12	38	22	22	61	73	122	113	219	98	36	38	38
13	38	48	22	61	73	140	104	278	98	36	38	38
14	38	94	22	50	73	114	104	387	98	36	38	38
15	64	120	22	43	73	88	405	375	98	36	38	38
16	82	120	22	43	73	81	435	262	98	36	38	38
17	83	120	22	43	73	81	247	219	181	36	38	38
18	54	120	23	43	73	107	187	219	228	36	38	36
19	38	89	23	43	73	120	187	219	180	38	38	36
20	38	53	47	43	73	122	187	509	153	38	38	36
21	38	44	61	43	73	138	187	596	120	38	38	36
22	38	70	61	43	73	150	187	433	89	38	38	36
23	38	70	61	43	73	150	134	433	89	38	38	36
24	38	70	61	43	73	150	100	312	90	38	e38	36
25	38	70	61	54	65	178	100	219	92	38	e38	36
26	38	47	61	61	61	196	160	219	92	38	e38	36
27	38	22	61	61	61	270	195	219	92	38	38	36
28	38	22	61	61	61	236	199	219	92	38	38	36
29	38	22	61	61	---	164	358	277	92	38	38	36
30	38	22	61	61	---	146	448	311	92	38	38	36
31	38	---	61	82	---	147	---	226	---	38	38	---
TOTAL	1339	1493	1138	1714	2111	3878	5677	10162	4799	1323	1178	1114
MEAN	43.19	49.77	36.71	55.29	75.39	125.1	189.2	327.8	160.0	42.68	38.00	37.13
MAX	83	120	61	82	92	270	448	596	510	72	38	38
MIN	37	22	22	43	61	61	100	218	89	36	38	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002				
MEAN	105.5	127.6	193.8	175.4	188.7	256.4	267.9	212.4	146.0	108.6	84.03	88.50																											
MAX	405	302	675	527	459	576	754	538	358	321	491	529																											
(WY)	1983	1971	1997	1979	1976	1977	1993	1990	1972	1975	1969	1987																											
MIN	12.7	19.2	14.4	33.3	17.0	16.2	32.5	25.2	46.7	32.4	18.0	29.2																											
(WY)	1996	1992	1992	1981	1981	1981	1981	1971	1999	1985	1985	1970																											

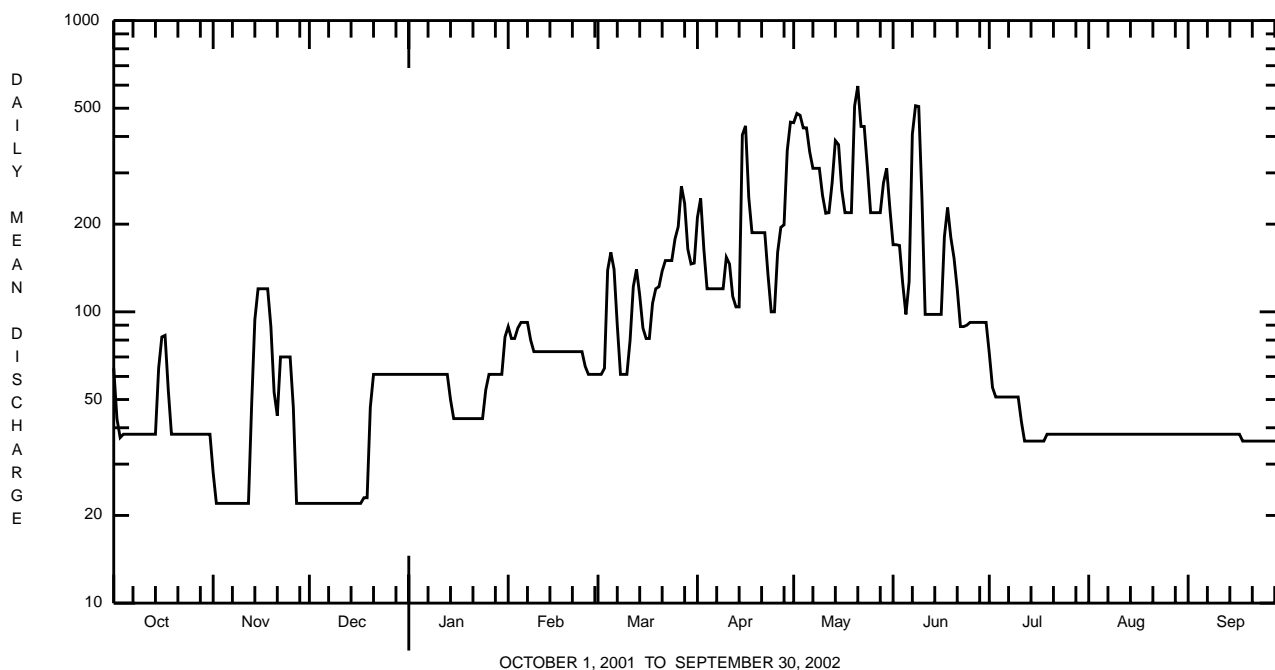
e Estimated.

LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR			FOR 2002 WATER YEAR			WATER YEARS 1968 - 2002	
ANNUAL TOTAL	35184			35926				
ANNUAL MEAN	96.4			98.4			163	
HIGHEST ANNUAL MEAN							251	
LOWEST ANNUAL MEAN							60.2	
HIGHEST DAILY MEAN	523	Apr	3	596	May	21	1470	Apr 15 1993
LOWEST DAILY MEAN	22	Nov	2-12 ^a	22	Nov	2-12 ^a	9.5	Oct 12 1993
ANNUAL SEVEN-DAY MINIMUM	22	Nov	2 ^b	22	Nov	2 ^b	11	Oct 7 1993
MAXIMUM PEAK FLOW							1740	
MAXIMUM PEAK STAGE							5.64	
10 PERCENT EXCEEDS	232			219			360	
50 PERCENT EXCEEDS	64			61			102	
90 PERCENT EXCEEDS	34			36			36	

a Also Nov. 27-Dec. 17.
b First occurrence.



LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1969 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform since water year 1986.

REMARKS.--Water temperature records rated good. Interruptions in the record were due to equipment failure.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.5°C, several days during July and August 1970; minimum, 0.0°C, Dec. 9, 1969, Jan. 15, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 18.0°C, Aug. 31; minimum, 2.5°C, Jan. 19.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	13.0	13.5	13.0	11.5	12.0	10.5	9.0	9.5	5.5	5.0	5.0
2	14.5	13.0	13.5	13.5	11.5	12.0	10.0	9.0	9.5	5.0	5.0	5.0
3	14.5	13.0	13.5	13.5	11.5	12.0	10.0	9.0	9.5	5.0	4.5	5.0
4	14.5	13.0	13.5	13.0	11.0	11.5	10.5	9.0	9.5	5.0	4.5	4.5
5	14.5	13.0	13.5	12.0	10.5	11.0	10.5	9.5	10.0	5.0	4.5	4.5
6	13.5	12.5	13.0	12.5	10.5	11.5	10.5	9.0	9.5	5.0	3.0	4.5
7	13.5	12.0	12.5	13.0	10.5	11.5	10.0	9.0	9.5	4.5	4.0	4.5
8	13.5	12.0	12.5	12.5	11.0	11.5	9.5	8.5	9.0	4.5	4.0	4.0
9	13.5	12.0	12.5	12.0	10.5	11.0	9.5	8.5	9.0	4.5	4.0	4.0
10	13.5	12.0	12.5	12.0	10.5	11.0	9.5	8.5	8.5	4.5	4.0	4.0
11	13.5	12.0	12.5	12.0	10.0	11.0	9.5	8.5	9.0	4.5	4.0	4.0
12	14.0	12.5	13.0	11.5	10.0	10.5	9.0	8.5	8.5	4.5	4.0	4.0
13	14.0	12.5	13.0	11.5	10.0	10.5	9.0	8.5	9.0	4.0	4.0	4.0
14	13.5	12.5	13.0	11.0	10.5	11.0	9.5	9.0	9.0	4.5	3.5	4.0
15	13.5	12.0	13.0	11.0	10.5	11.0	9.0	8.0	8.5	4.5	3.5	4.0
16	13.5	12.5	13.0	11.0	10.5	10.5	9.0	7.5	8.0	4.0	3.5	4.0
17	13.0	12.0	12.5	11.0	10.5	10.5	8.5	8.0	8.5	4.5	3.5	4.0
18	13.0	11.5	12.5	10.5	10.5	10.5	8.5	8.0	8.5	4.0	3.5	3.5
19	13.0	11.5	12.0	11.0	10.5	10.5	8.5	7.5	8.0	3.5	2.5	3.0
20	13.0	12.0	12.5	10.5	9.0	10.0	8.0	7.5	8.0	4.0	3.0	3.0
21	13.0	12.0	12.0	10.5	9.0	9.5	8.0	7.5	8.0	3.5	3.0	3.5
22	13.0	12.0	12.5	10.5	9.5	10.0	8.0	7.5	7.5	4.0	3.0	3.5
23	13.0	12.0	12.5	10.5	9.5	10.0	7.5	7.5	7.5	3.5	3.0	3.5
24	13.5	12.0	12.5	10.5	10.0	10.0	7.5	7.0	7.5	3.5	3.5	3.5
25	13.0	11.5	12.5	10.5	10.0	10.0	7.0	7.0	7.0	3.5	3.0	3.5
26	12.0	11.5	12.0	10.5	9.5	10.0	7.0	6.5	7.0	4.0	3.0	3.5
27	12.5	11.5	12.0	10.5	9.5	10.0	7.0	6.5	6.5	4.0	3.0	3.5
28	13.0	11.5	12.0	11.0	9.5	10.0	7.0	6.0	6.5	4.0	3.0	3.5
29	12.5	11.5	12.0	10.0	10.0	10.0	6.5	6.0	6.0	4.0	3.5	3.5
30	13.0	11.5	12.0	10.5	10.0	10.5	6.0	5.5	5.5	4.0	3.5	3.5
31	12.0	11.5	12.0	---	---	---	5.5	5.0	5.5	3.5	3.5	3.5
MONTH	14.5	11.5	12.6	13.5	9.0	10.7	10.5	5.0	8.2	5.5	2.5	3.9

LEHIGH RIVER BASIN

01450500 AQUASHICOLA CREEK AT PALMERTON, PA

LOCATION.--Lat 40°48'22", long 75°35'54", Carbon County, Hydrologic Unit 02040106, on right bank 1,200 ft upstream from bridge on Sixth Street in Palmerton, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--76.7 mi².

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1051: 1940-45 (monthly net diversion), Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 389.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional diversion from Pohopoco Creek into Aquashicola Creek upstream of station. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by Palmer Water Company.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 15	1415	*826	*2.84	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	26	61	e47	92	44	161	361	157	57	24	31
2	65	29	49	e43	92	49	138	414	129	55	26	40
3	59	29	42	e41	85	118	131	423	117	52	31	31
4	55	29	41	39	90	102	121	361	110	50	26	27
5	51	29	40	39	e80	94	111	307	107	48	27	25
6	50	28	39	38	79	96	104	267	130	45	27	23
7	48	27	41	52	78	96	97	245	371	44	24	23
8	43	28	41	43	78	90	94	219	266	43	24	22
9	39	27	77	41	74	87	93	213	216	42	23	22
10	41	26	64	43	70	100	96	193	184	42	23	22
11	39	e27	63	48	83	85	85	167	161	37	22	21
12	35	e26	57	51	67	81	81	164	149	38	22	20
13	35	e26	61	49	67	81	82	188	139	38	21	20
14	35	e27	64	46	56	79	89	235	148	38	21	20
15	71	e26	65	47	59	77	661	199	145	38	20	32
16	50	e28	56	50	63	77	540	185	131	37	21	55
17	45	e27	60	48	61	71	371	175	116	35	21	34
18	40	e30	82	45	55	91	285	347	104	32	25	27
19	38	e29	78	40	54	95	250	371	98	34	21	26
20	37	e31	79	45	57	143	225	308	90	36	20	25
21	36	e25	74	44	68	256	192	264	84	34	21	24
22	34	e23	65	47	60	237	175	234	80	33	20	24
23	33	21	66	46	57	202	158	207	75	29	22	24
24	33	23	77	57	53	174	140	188	72	34	28	23
25	33	33	64	75	51	153	137	169	68	32	38	22
26	31	57	59	70	53	148	136	155	67	30	27	24
27	30	36	52	69	57	226	122	143	67	30	24	92
28	30	33	51	71	47	193	247	150	79	30	22	121
29	30	32	50	74	---	188	578	218	64	31	43	67
30	30	46	e47	80	---	174	463	159	60	28	40	51
31	29	---	e47	83	---	158	---	145	---	27	29	---
TOTAL	1297	884	1812	1611	1886	3865	6163	7374	3784	1179	783	1018
MEAN	41.84	29.47	58.45	51.97	67.36	124.7	205.4	237.9	126.1	38.03	25.26	33.93
MAX	72	57	82	83	92	256	661	423	371	57	43	121
MIN	29	21	39	38	47	44	81	143	60	27	20	20
(†)	-1.1	-0.5	-0.6	-0.7	-0.8	-1.0	-1.9	-2.4	-1.1	-0.8	-0.6	-0.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	
MEAN	94.73	141.9	180.7	166.4	171.7	244.4	235.1	178.2	114.2	98.37	83.57	86.20																
MAX	331	379	583	558	325	534	625	480	412	638	468	417																
(WY)	1956	1973	1997	1996	1971	1977	1983	1989	1972	1945	1942	1987																
MIN	17.2	21.6	30.2	19.4	38.4	86.5	74.7	55.9	38.8	19.8	13.7	15.2																
(WY)	1964	1965	1999	1981	1940	1985	1985	1941	1955	1955	1964	1964																

† Figures of net diversion, equivalent in cubic feet per second. Includes water diverted from Pohopoco Creek to Aquashicola Creek.
e Estimated.

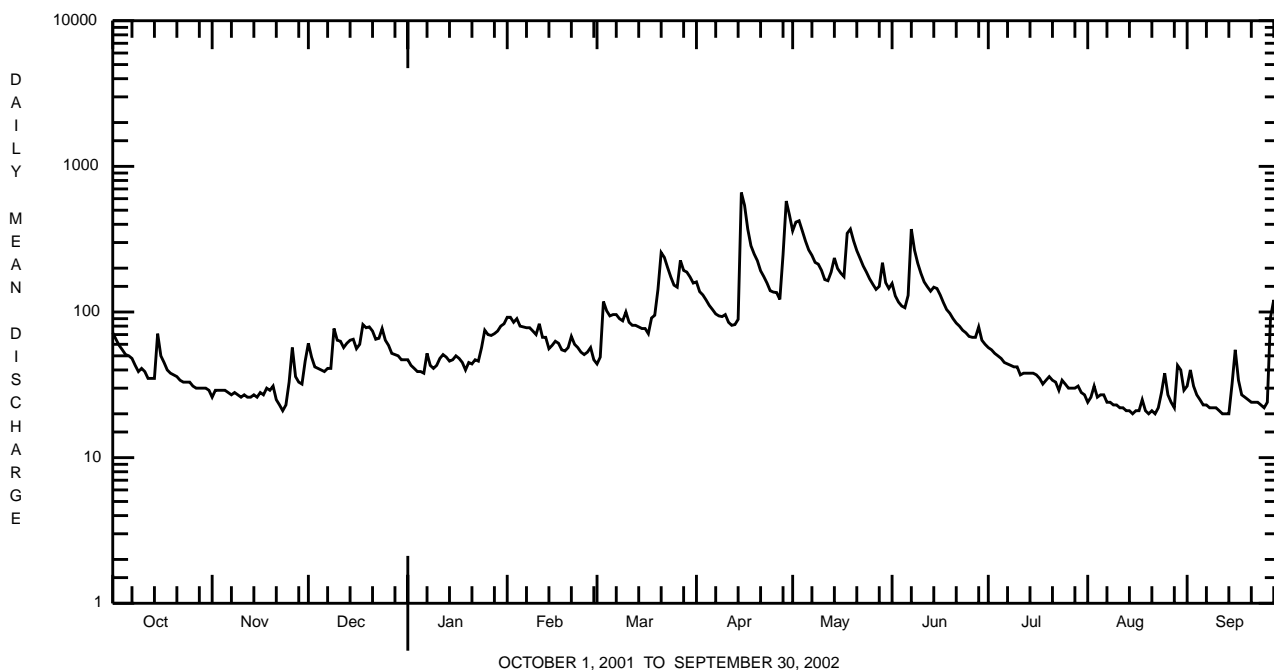
LEHIGH RIVER BASIN

01450500 AQUASHICOLA CREEK AT PALMERTON, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	31807		31656			
ANNUAL MEAN	87.1		86.7		150	
HIGHEST ANNUAL MEAN					242	1952
LOWEST ANNUAL MEAN					69.2	1965
HIGHEST DAILY MEAN	434	Mar 31	661	Apr 15	4680	Jul 10 1945
LOWEST DAILY MEAN	19	Sep 18	20	Aug 15 ^a	9.1	Sep 15 1964
ANNUAL SEVEN-DAY MINIMUM	21	Sep 7	21	Sep 8	10	Sep 10 1964
MAXIMUM PEAK FLOW			826	Apr 15	^b 11700	Jul 10 1945
MAXIMUM PEAK STAGE			2.84	Apr 15	13.63	Jul 10 1945
INSTANTANEOUS LOW FLOW					2.6	Sep 12 1957
10 PERCENT EXCEEDS	174		192		300	
50 PERCENT EXCEEDS	64		54		98	
90 PERCENT EXCEEDS	27		24		34	

^a Also Aug. 20, 22, Sept. 12-14.

^b From rating curve extended above 2,300 ft³/s on basis of contracted-opening measurement of peak flow.



LEHIGH RIVER BASIN

01451000 LEHIGH RIVER AT WALNUTPORT, PA

LOCATION.--Lat 40°45'25", long 75°36'12", Northampton County, Hydrologic Unit 02040106, on left bank 0.3 mi upstream from bridge on SR 4022 at Walnutport, and 0.4 mi upstream from Trout Creek.

DRAINAGE AREA.--889 mi².

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 350.27 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 20.6 ft, May 23, 1942, from floodmarks, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	381	1070	e680	1580	673	2250	4090	2130	1160	490	532
2	629	358	1220	e680	1240	665	1630	4290	1860	982	483	552
3	570	360	1130	e680	1000	1310	1480	4130	1720	860	646	418
4	548	356	1020	e680	999	1220	1370	3550	1420	828	743	383
5	528	358	830	e680	e980	1100	1280	3330	1350	800	755	343
6	766	368	799	e680	e1000	1030	1580	3020	1560	651	569	310
7	613	379	757	e680	946	992	1570	2280	4030	620	478	336
8	465	381	726	e680	887	927	1520	2080	3050	611	467	389
9	449	375	937	e680	854	908	1320	2230	2630	567	461	388
10	443	358	889	e680	834	1260	1400	2350	2630	535	602	408
11	455	335	830	775	1080	1130	1510	1950	3160	515	717	436
12	463	334	776	815	992	1350	1300	1920	2840	492	710	433
13	456	340	776	778	918	1470	1290	2700	1630	533	489	433
14	449	383	805	738	866	1460	1450	4840	1970	580	506	433
15	696	420	918	720	863	1290	3840	5430	1790	582	536	523
16	648	426	858	720	868	1210	4240	4120	2080	540	516	1130
17	635	427	845	671	866	1170	3500	2970	2050	520	612	691
18	592	420	1190	648	838	1300	2660	4390	1990	517	698	493
19	529	405	1360	593	810	1520	2480	4440	1810	539	690	449
20	488	381	1380	e610	807	1780	2020	5750	1620	730	431	436
21	551	345	1340	e580	852	2430	1760	4460	1370	815	313	783
22	443	372	1070	586	825	2260	1710	3340	1430	810	301	582
23	440	368	1030	608	787	1980	1830	3080	1430	572	307	458
24	438	369	1090	719	753	1830	1650	2490	1370	694	353	444
25	433	447	1040	957	735	1720	1440	2040	1050	575	424	392
26	421	868	1000	988	711	1450	1520	1880	908	540	348	363
27	416	731	e860	961	725	3080	1690	1770	1100	695	321	812
28	410	695	e800	961	700	2520	2550	1760	1630	807	311	1420
29	405	709	e750	927	---	2110	4370	7080	1300	806	355	855
30	405	692	e730	996	---	2180	4750	6920	1210	543	379	662
31	398	---	e720	1280	---	2070	---	3170	---	498	373	---
TOTAL	15858	13141	29546	23431	25316	47395	62960	107850	56118	20517	15384	16287
MEAN	511.5	438.0	953.1	755.8	904.1	1529	2099	3479	1871	661.8	496.3	542.9
MAX	766	868	1380	1280	1580	3080	4750	7080	4030	1160	755	1420
MIN	398	334	720	580	700	665	1280	1760	908	492	301	310
CFSM	0.58	0.49	1.07	0.85	1.02	1.72	2.36	3.91	2.10	0.74	0.56	0.61
IN.	0.66	0.55	1.24	0.98	1.06	1.98	2.63	4.51	2.35	0.86	0.64	0.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2002, BY WATER YEAR (WY)

MEAN	1139	1771	2254	2012	2097	2956	3176	2351	1487	1066	860.3	916.0
MAX	4857	3990	6352	6136	4464	6302	8455	6389	5413	4465	5264	5812
(WY)	1956	1973	1997	1979	1951	1977	1993	1989	1972	1947	1955	1987
MIN	194	251	370	223	790	1335	1156	908	477	241	226	179
(WY)	1964	1965	1981	1981	1980	1981	1985	1995	1999	1965	1964	1964

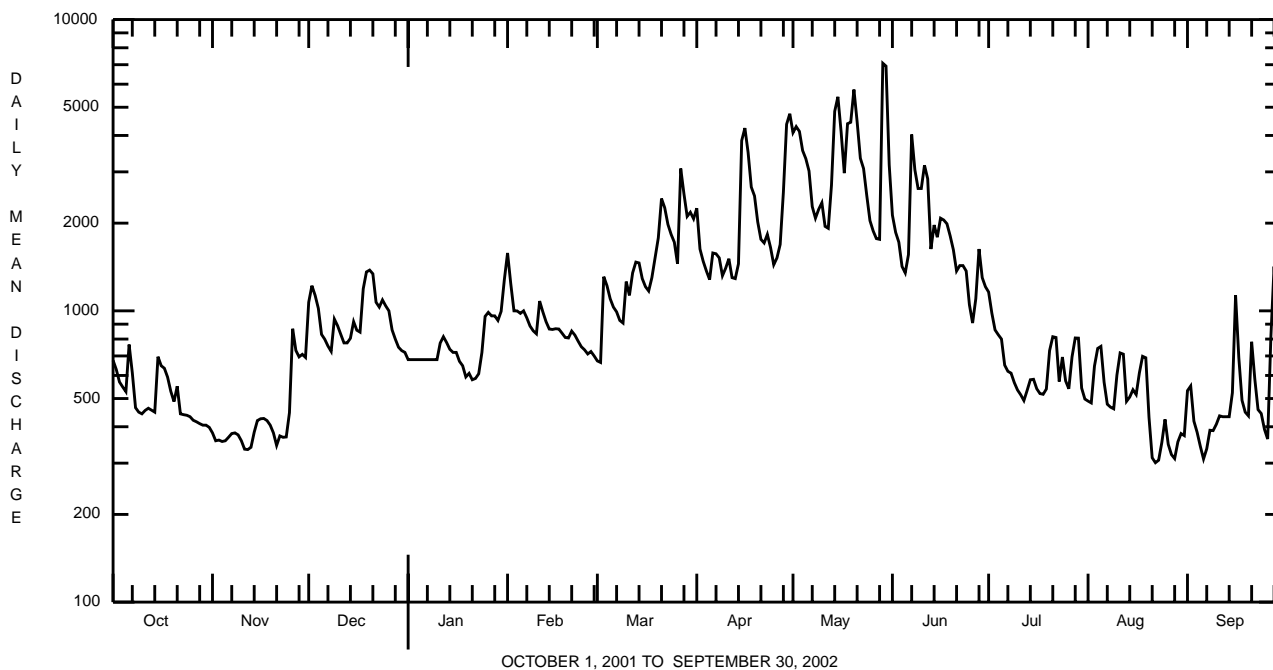
e Estimated.

LEHIGH RIVER BASIN

01451000 LEHIGH RIVER AT WALNUTPORT, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1947 - 2002	
ANNUAL TOTAL	409051		433803			
ANNUAL MEAN	1121		1189		1839	
HIGHEST ANNUAL MEAN					2892	1952
LOWEST ANNUAL MEAN					859	1965
HIGHEST DAILY MEAN	4650	Mar 31	7080	May 29	62400	Aug 19 1955
LOWEST DAILY MEAN	329	Sep 13	301	Aug 22	134	Sep 18 1964
ANNUAL SEVEN-DAY MINIMUM	357	Sep 8	338	Aug 22	143	Sep 16 1964
MAXIMUM PEAK FLOW			8500	May 29	77800	Aug 19 1955
MAXIMUM PEAK STAGE			5.74	May 29	17.68	Aug 19 1955
INSTANTANEOUS LOW FLOW					a57	Jul 27 1965
ANNUAL RUNOFF (CFSM)	1.26		1.34		2.07	
ANNUAL RUNOFF (INCHES)	17.12		18.15		28.10	
10 PERCENT EXCEEDS	2470		2480		3810	
50 PERCENT EXCEEDS	830		807		1270	
90 PERCENT EXCEEDS	403		391		409	

a Result of upstream shutoff.



LEHIGH RIVER BASIN

01451500 LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA

LOCATION.--Lat 40°34'56", long 75°29'00", Lehigh County, Hydrologic Unit 02040106, on right bank at downstream side of bridge on Lehigh Parkway in Allentown, 0.8 mi upstream from Cedar Creek, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--80.8 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to October 1946, published as "at Allentown".

REVISED RECORDS.--WDR PA 73-1: 1946(M), 1951(P), 1955(M), 1956(M), 1958(M), 1962(M), 1963(M), 1965(M), 1969(M), 1971(M).
WDR PA-87-1: 1946 to 1986(P).

GAGE.--Water-stage recorder, crest-stage gage, and masonry control. Datum of gage is 253.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional regulation at low flow by fish hatchery upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2000	*1,610	*4.77	June 27	2300	1,280	4.41

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	44	45	36	45	33	49	65	64	69	40	70
2	58	44	43	36	49	34	46	113	60	65	45	63
3	57	44	41	36	44	71	45	95	57	63	43	43
4	56	43	40	36	43	52	45	65	56	60	39	39
5	56	43	40	36	40	41	44	59	55	58	40	37
6	57	43	39	36	39	37	43	55	93	55	49	36
7	56	43	40	37	40	35	42	54	192	54	39	35
8	54	43	43	38	39	34	42	53	82	54	37	34
9	53	43	59	37	38	34	42	63	67	55	36	33
10	52	43	47	37	37	37	45	61	63	55	36	33
11	51	43	43	42	39	37	44	53	60	53	35	31
12	51	43	41	47	38	36	43	60	112	52	34	31
13	50	43	41	44	36	36	43	365	140	51	34	31
14	48	43	44	41	36	37	46	324	91	51	33	31
15	60	42	47	40	36	35	e98	122	87	50	33	35
16	50	42	43	40	36	34	61	89	73	50	33	43
17	50	42	41	39	36	34	49	79	67	48	32	35
18	48	42	57	38	36	42	45	221	64	47	32	34
19	47	41	51	38	36	45	44	149	149	59	31	32
20	48	42	45	37	36	88	44	97	84	69	36	32
21	46	42	42	37	36	85	42	87	68	50	33	32
22	44	41	40	37	36	53	45	82	63	48	32	31
23	44	41	40	37	34	46	44	78	60	54	32	30
24	44	41	46	50	34	43	42	75	59	56	33	29
25	44	61	42	59	34	41	42	71	58	47	35	29
26	44	68	40	47	34	43	44	70	61	45	33	31
27	43	49	39	42	34	e82	42	70	230	44	32	117
28	43	45	38	41	34	56	92	68	251	44	32	58
29	43	44	38	39	---	49	136	67	92	44	52	41
30	43	44	37	39	---	47	70	65	74	42	40	37
31	43	---	36	41	---	45	---	64	---	41	35	---
TOTAL	1541	1332	1328	1240	1055	1422	1559	3039	2732	1633	1126	1193
MEAN	49.7	44.4	42.8	40.0	37.7	45.9	52.0	98.0	91.1	52.7	36.3	39.8
MAX	60	68	59	59	49	88	136	365	251	69	52	117
MIN	43	41	36	36	34	33	42	53	55	41	31	29
CFSM	0.62	0.55	0.53	0.50	0.47	0.57	0.64	1.21	1.13	0.65	0.45	0.49
IN.	0.71	0.61	0.61	0.57	0.49	0.65	0.72	1.40	1.26	0.75	0.52	0.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2002, BY WATER YEAR (WY)

MEAN	67.9	75.6	97.0	106	118	135	142	120	101	85.5	76.1	71.1
MAX	195	177	371	385	325	355	331	315	381	366	192	213
(WY)	1997	1976	1997	1979	1979	1994	1983	1984	1972	1984	1971	1987
MIN	27.3	28.1	25.7	26.6	37.7	43.1	37.1	35.8	29.2	26.5	26.5	28.9
(WY)	1964	1966	1966	1966	2002	1965	1966	1965	1965	1965	1965	1965

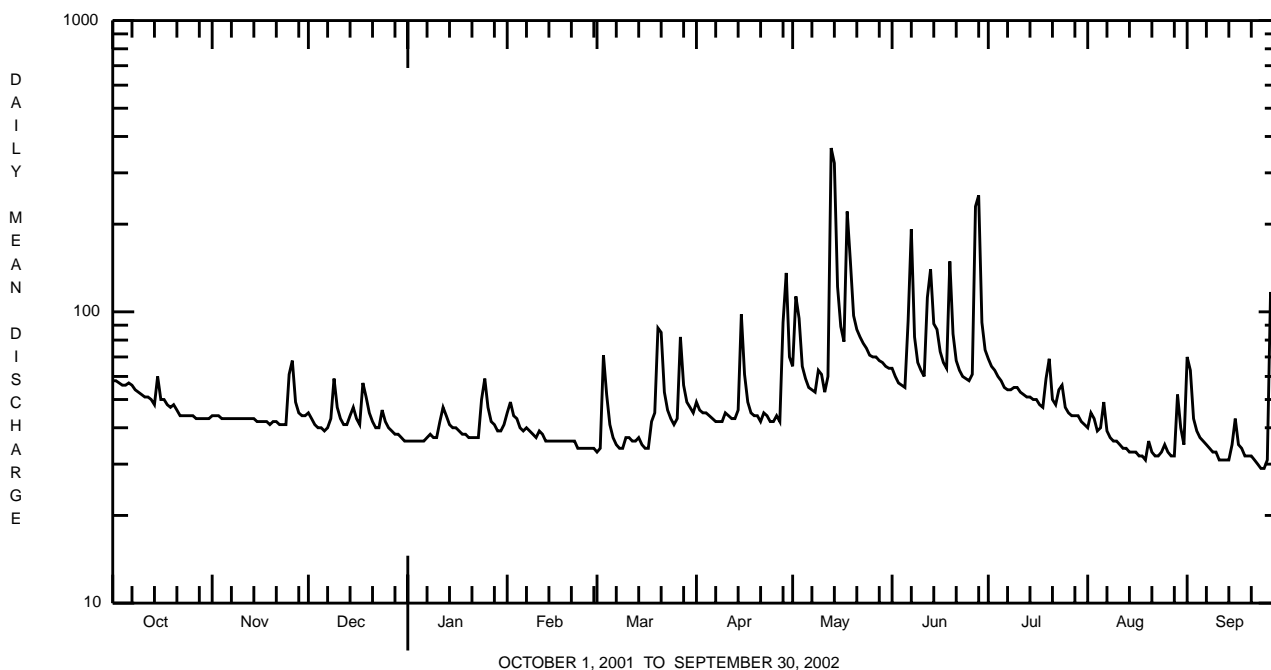
e Estimated.

LEHIGH RIVER BASIN

01451500 LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1946 - 2002	
ANNUAL TOTAL	31569		19200			
ANNUAL MEAN	86.5		52.6		99.5	
HIGHEST ANNUAL MEAN					203	1984
LOWEST ANNUAL MEAN					33.8	1966
HIGHEST DAILY MEAN	1010	Jun 23	365	May 13	4050	Jul 7 1984
LOWEST DAILY MEAN	36	Dec 31	29	Sep 24,25	23	Dec 20 1965
ANNUAL SEVEN-DAY MINIMUM	39	Dec 25	31	Sep 20	23	Dec 18 1965
MAXIMUM PEAK FLOW			a1610	May 13	a11800	Jun 22 1972
MAXIMUM PEAK STAGE			4.77	May 13	11.80	Jun 22 1972
INSTANTANEOUS LOW FLOW			29	Sep 13b	17	Feb 4 1965
ANNUAL RUNOFF (CFSM)	1.07		0.65		1.23	
ANNUAL RUNOFF (INCHES)	14.53		8.84		16.73	
10 PERCENT EXCEEDS	127		71		170	
50 PERCENT EXCEEDS	81		43		78	
90 PERCENT EXCEEDS	43		34		40	

a From rating curve extended above 820 ft³/s on basis of slope-area measurements at 8.34 ft and at peak flow.
 b Also Sept. 14, 22-26.



LEHIGH RIVER BASIN

01451650 LITTLE LEHIGH CREEK AT TENTH STREET BRIDGE AT ALLENTOWN, PA

LOCATION.--Lat 40°35'47", long 75°28'28", Lehigh County, Hydrologic Unit 02040106, on left bank at bridge on Tenth Street, and 0.9 mi upstream from confluence with Jordan Creek in Allentown, Pa.

DRAINAGE AREA.--98.2 mi².

PERIOD OF RECORD.--October 1986 to current year.

REVISED RECORDS.--WRD PA-98-1: 1997(M).

GAGE.--Water-stage recorder. Crest-stage gage and concrete control. Datum of gage is 245.63 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversion upstream for municipal water supply by city of Allentown. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by city of Allentown.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2130	*1,210	*4.50	June 28	0015	1,110	4.37

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	55	61	38	59	43	67	78	87	91	50	113
2	64	53	47	40	60	45	60	202	67	90	59	105
3	70	52	46	45	55	124	59	147	59	84	64	58
4	70	52	47	41	54	72	56	90	61	81	54	44
5	56	52	47	43	45	44	57	81	65	86	50	48
6	65	61	47	43	45	44	59	79	119	85	65	57
7	63	61	48	49	45	44	48	77	312	76	53	58
8	57	48	56	44	50	45	48	72	117	74	49	44
9	59	50	95	45	45	45	50	95	81	74	57	42
10	67	52	66	45	43	50	62	88	78	77	49	43
11	62	54	47	54	48	45	58	78	75	77	43	42
12	50	54	47	59	44	42	45	81	158	78	43	47
13	53	57	48	54	43	51	50	370	194	68	43	47
14	53	56	66	50	44	47	59	467	145	66	43	31
15	77	53	67	49	43	35	156	165	115	67	43	48
16	60	60	48	49	44	38	79	109	86	69	43	62
17	67	62	49	48	44	41	56	97	80	68	41	52
18	64	49	79	49	41	66	48	348	81	57	50	49
19	52	49	65	46	41	62	52	212	211	87	48	34
20	54	53	63	49	42	157	53	137	122	104	39	36
21	54	62	60	47	43	138	47	109	87	62	50	37
22	53	68	47	46	42	75	61	105	70	54	56	37
23	55	55	46	45	42	58	56	108	74	71	39	42
24	54	46	62	68	42	57	53	108	78	77	48	39
25	54	89	64	82	43	56	63	104	71	65	51	38
26	58	93	58	61	43	65	63	83	78	74	44	52
27	58	52	46	51	45	115	46	76	280	59	43	222
28	50	51	44	51	43	69	158	83	368	54	41	95
29	52	51	53	48	---	61	205	81	131	60	96	73
30	52	61	56	47	---	57	101	82	93	54	66	59
31	53	---	44	49	---	58	---	71	---	51	55	---
TOTAL	1820	1711	1719	1535	1278	1949	2075	4083	3643	2240	1575	1754
MEAN	58.7	57.0	55.5	49.5	45.6	62.9	69.2	132	121	72.3	50.8	58.5
MAX	77	93	95	82	60	157	205	467	368	104	96	222
MIN	50	46	44	38	41	35	45	71	59	51	39	31
(†)	10.3	9.9	9.5	18.0	16.7	10.3	9.9	8.5	10.4	11.4	12.1	10.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

	85.0	96.1	123	127	124	170	168	146	117	102	85.4	101
MEAN	85.0	96.1	123	127	124	170	168	146	117	102	85.4	101
MAX	210	192	435	292	219	415	355	236	184	174	147	368
(WY)	1997	1997	1997	1996	1996	1994	1994	1989	1989	1994	1994	1987
MIN	48.5	57.0	52.0	49.5	45.6	62.9	64.4	66.7	64.8	41.0	41.5	46.7
(WY)	1993	2002	1999	2002	2002	2002	1992	1992	1999	1999	1999	1995

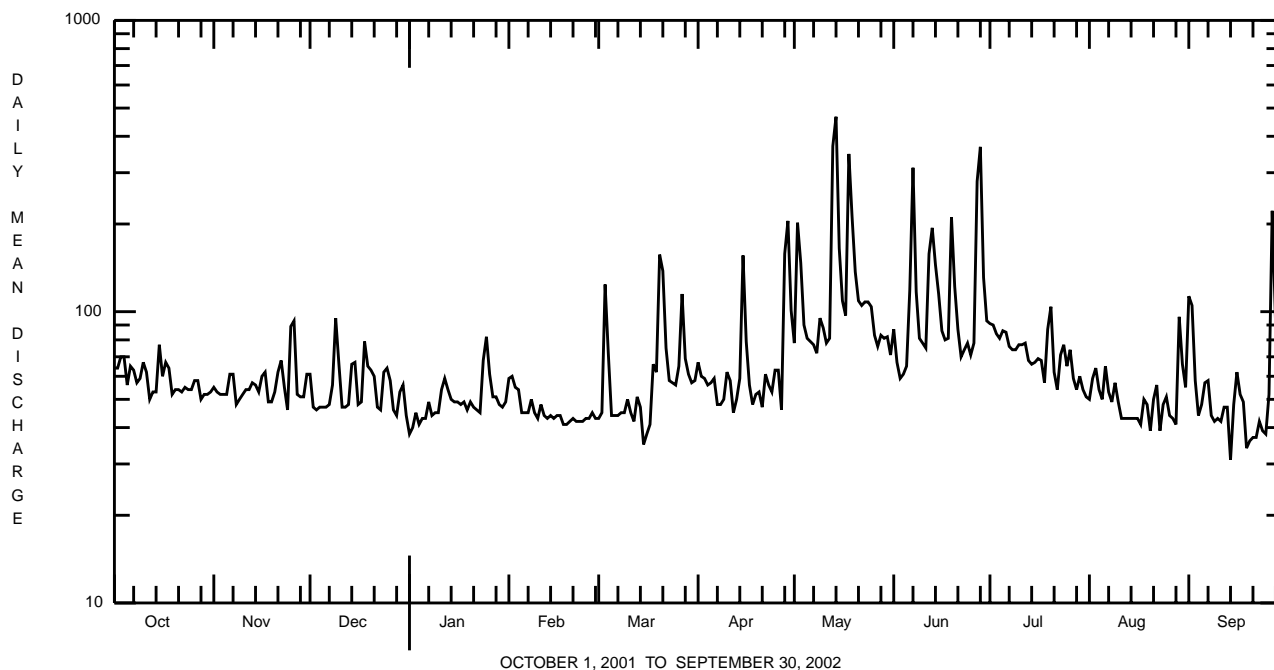
† Diversion for municipal supply of city of Allentown, equivalent in cubic feet per second.

LEHIGH RIVER BASIN

01451650 LITTLE LEHIGH CREEK AT TENTH STREET BRIDGE AT ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	38847		25382		120	
ANNUAL MEAN	106		69.5		192	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					64.6	
HIGHEST DAILY MEAN	949	Jun 23	467	May 14	5200	Sep 9 1987
LOWEST DAILY MEAN	44	Dec 28	31	Sep 14	23	Aug 1 1999
ANNUAL SEVEN-DAY MINIMUM	48	Dec 2	38	Sep 19	30	Aug 1 1999
MAXIMUM PEAK FLOW			1210	May 13	a7370	Sep 9 1987
MAXIMUM PEAK STAGE			4.50	May 13	9.47	Sep 9 1987
10 PERCENT EXCEEDS	159		104		199	
50 PERCENT EXCEEDS	95		56		94	
90 PERCENT EXCEEDS	53		43		52	

a From rating curve extended above 1,870 ft³/s on the basis of slope-area measurement at gage height 8.06 ft.



LEHIGH RIVER BASIN

01451800 JORDAN CREEK NEAR SCHNECKSVILLE, PA

LOCATION.--Lat 40°39'42", long 75°37'38", Lehigh County, Hydrologic Unit 02040106, on left bank 54 ft downstream from wooden covered bridge at Trexler-Lehigh County Game Preserve, 1.0 mi downstream from Mill Creek, and 1.1 mi southwest of Schnecksville.

DRAINAGE AREA.--53.0 mi².

PERIOD OF RECORD.--February 1966 to current year.

REVISED RECORDS.--WDR PA-90-1: 1989.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 381.16 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 2, 1973, nonrecording gage at bridge 54 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 15	0530	*720	*4.68	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	11	42	e14	87	22	119	196	38	35	4.2	17
2	28	12	22	e13	83	21	92	350	33	32	3.8	26
3	25	12	17	e13	69	e95	86	343	29	30	4.7	9.1
4	23	12	16	e11	e66	61	78	258	27	25	4.4	6.5
5	21	11	15	e11	e62	e48	63	198	27	22	4.9	5.1
6	21	10	15	e10	e61	49	58	156	52	20	4.2	4.3
7	21	10	16	e11	53	48	53	130	155	19	3.3	3.7
8	17	10	18	e12	50	44	50	109	61	18	2.9	3.4
9	16	10	57	e16	45	42	49	142	52	17	2.7	3.2
10	16	9.8	32	e19	42	61	59	110	47	17	2.6	2.9
11	16	9.5	28	e23	48	44	45	80	42	14	2.4	2.5
12	16	9.4	26	e31	39	41	41	78	66	12	2.2	e2.1
13	16	9.4	26	e37	37	42	42	112	69	12	2.0	e1.9
14	15	9.4	32	e35	e29	41	50	177	80	12	1.9	1.8
15	40	9.4	52	e31	e28	37	404	128	81	14	1.7	6.8
16	22	9.4	35	e27	32	37	255	112	73	11	1.7	17
17	23	9.5	35	e24	31	34	193	100	59	9.1	1.8	7.7
18	18	9.4	85	e22	e26	74	153	284	57	8.6	1.8	5.2
19	15	9.4	66	e20	e24	87	148	240	120	8.2	1.5	4.4
20	15	11	61	e18	27	202	138	197	81	7.8	2.3	4.3
21	14	11	54	e19	44	337	106	158	65	7.3	2.2	4.1
22	14	9.7	48	e23	31	255	106	129	56	7.1	1.8	5.1
23	14	9.4	44	e27	27	189	87	108	50	6.9	1.7	4.7
24	14	9.2	55	e70	25	149	71	94	45	13	4.1	4.0
25	13	17	42	e123	24	121	75	78	41	8.4	9.4	3.5
26	12	43	e32	102	24	119	72	69	37	6.9	5.2	4.0
27	12	18	e27	92	27	226	56	61	60	6.9	3.4	66
28	11	15	e23	82	23	155	202	54	95	7.6	2.8	50
29	11	14	e20	75	---	144	301	50	47	7.1	5.7	24
30	11	21	e17	71	---	130	238	44	39	5.8	6.3	18
31	11	---	e15	66	---	114	---	40	---	4.8	4.5	---
TOTAL	551	370.9	1073	1148	1164	3069	3490	4385	1784	425.5	104.1	318.3
MEAN	17.8	12.4	34.6	37.0	41.6	99.0	116	141	59.5	13.7	3.36	10.6
MAX	40	43	85	123	87	337	404	350	155	35	9.4	66
MIN	11	9.2	15	10	23	21	41	40	27	4.8	1.5	1.8
CFSM	0.34	0.23	0.65	0.70	0.78	1.87	2.19	2.67	1.12	0.26	0.06	0.20
IN.	0.39	0.26	0.75	0.81	0.82	2.15	2.45	3.08	1.25	0.30	0.07	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

MEAN	59.2	91.4	125	119	125	161	129	96.4	66.1	39.3	32.0	45.5
MAX	220	270	397	404	295	479	391	353	346	126	110	343
(WY)	1997	1971	1997	1979	1971	1994	1983	1989	1972	1984	1990	1987
MIN	8.37	12.4	12.0	6.85	35.2	41.3	31.0	31.5	9.18	1.68	3.36	3.69
(WY)	1973	2002	1999	1981	1980	1985	1985	1995	1966	1966	2002	1980

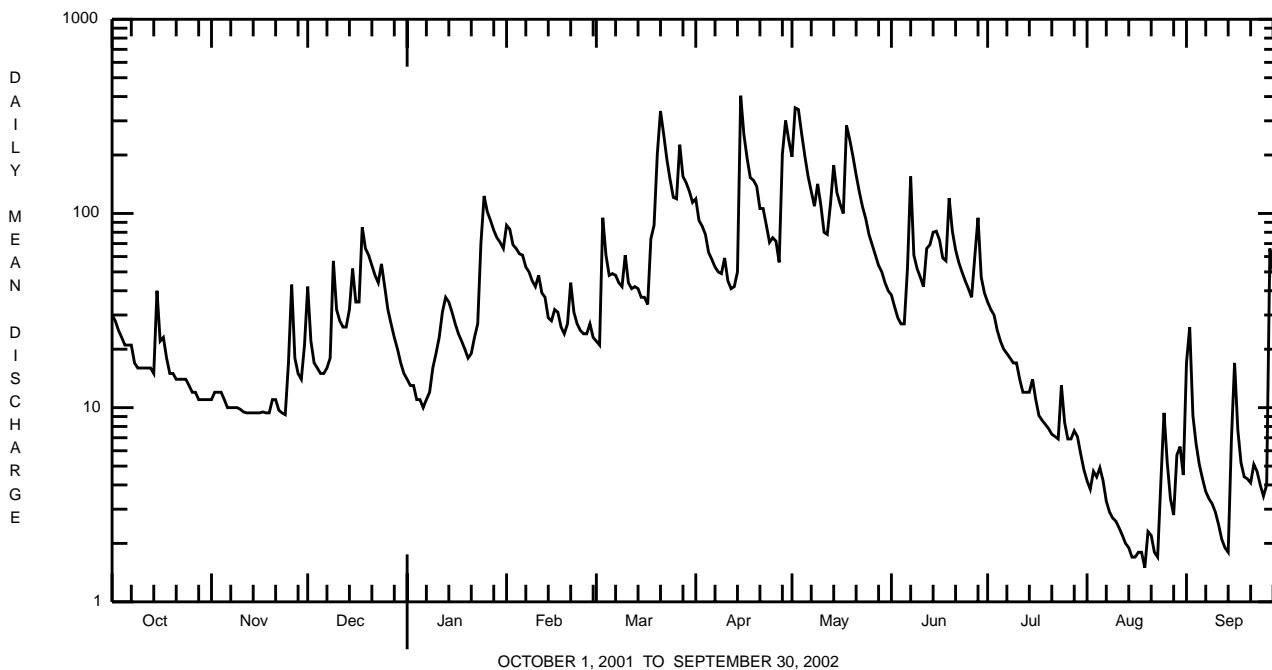
e Estimated.

LEHIGH RIVER BASIN

01451800 JORDAN CREEK NEAR SCHNECKSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	22726.4		17882.8		91.2	
ANNUAL MEAN	62.3		49.0		148	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					43.9	
HIGHEST DAILY MEAN	703	Jun 23	404	Apr 15	2800	Sep 9 1987
LOWEST DAILY MEAN	5.2	Sep 8,9	1.5	Aug 19	0.54	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	5.9	Sep 7	1.8	Aug 13	0.63	Aug 2 1999
MAXIMUM PEAK FLOW			720	Apr 15	a 7100	Jun 22 1972
MAXIMUM PEAK STAGE			4.68	Apr 15	b 12.32	Jun 22 1972
INSTANTANEOUS LOW FLOW			1.4	Aug 19,20	0.48	Aug 6 1999
ANNUAL RUNOFF (CFSM)	1.17		0.92		1.72	
ANNUAL RUNOFF (INCHES)	15.95		12.55		23.38	
10 PERCENT EXCEEDS	144		120		201	
50 PERCENT EXCEEDS	34		27		47	
90 PERCENT EXCEEDS	9.4		4.3		10	

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



LEHIGH RIVER BASIN

01452000 JORDAN CREEK AT ALLENTOWN, PA

LOCATION.--Lat 40°37'23", long 75°28'58", Lehigh County, Hydrologic Unit 02040106, on right bank 200 ft upstream from bridge on State Highway 145, 0.5 mi northwest of city limits of Allentown, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--75.8 mi².

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

REVISED RECORDS.--WDR PA-76-1: 1970(M), 1971.

GAGE.--Water-stage recorder, crest-stage gage and rubble masonry control. Crest raised 1 ft in August 1958 and further modified filling in square notches on sides and notching center of dam at 17:1 slope in August 1974. Datum of gage is 259.82 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation datum).

REMARKS.--No estimated daily discharges. Records fair. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1942, reached a stage of approximately 7.1 ft, from floodmarks 650 ft downstream.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 15	1000	*707	*4.36	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	8.7	29	17	83	20	138	228	46	41	8.6	9.5
2	26	8.3	22	16	103	21	108	368	39	36	11	6.0
3	23	8.3	15	16	79	86	96	425	36	33	8.8	6.1
4	21	7.7	13	17	78	77	93	308	33	27	8.0	7.3
5	19	8.0	12	16	62	52	76	229	32	22	8.0	7.3
6	17	8.2	11	16	66	55	70	185	54	19	8.4	7.2
7	16	8.5	11	16	70	51	62	156	184	17	8.0	6.5
8	16	8.5	15	20	60	47	58	131	81	17	8.5	6.0
9	14	8.9	38	22	53	42	56	146	62	17	8.3	6.8
10	13	8.5	38	21	46	58	67	139	56	15	8.2	7.4
11	13	8.5	26	24	52	51	53	96	49	15	7.6	7.3
12	13	8.9	23	36	45	43	46	87	53	12	7.1	7.3
13	12	8.4	22	36	43	41	44	123	99	11	8.7	7.7
14	11	8.2	26	32	30	44	53	212	76	9.8	7.8	6.8
15	23	8.0	43	32	30	38	349	160	103	9.6	8.0	10
16	29	8.1	34	34	42	35	264	138	81	12	8.9	7.2
17	17	8.1	31	35	32	33	201	122	70	11	8.6	6.9
18	17	7.8	64	33	28	53	163	308	63	11	7.6	7.0
19	15	7.9	72	20	26	98	139	293	114	11	7.9	6.8
20	13	8.6	60	21	29	151	156	242	99	10	9.7	6.9
21	11	7.9	54	33	38	432	111	196	75	9.3	8.1	6.9
22	9.9	7.8	45	30	38	315	108	163	63	9.4	6.7	6.0
23	11	7.6	40	27	28	225	99	136	55	13	7.0	5.9
24	11	7.8	49	40	24	178	79	117	50	11	9.6	6.8
25	10	13	44	136	23	144	76	98	46	11	7.0	7.2
26	9.7	29	34	110	23	126	84	84	41	10	6.6	9.9
27	11	21	21	96	26	249	62	78	51	9.6	6.7	20
28	9.1	13	26	87	24	175	162	72	127	9.2	6.8	37
29	8.9	11	30	79	---	163	326	65	61	8.7	15	16
30	9.2	11	21	75	---	148	261	57	46	8.9	7.0	7.2
31	9.3	---	17	72	---	130	---	52	---	8.6	5.8	---
TOTAL	467.1	295.2	986	1265	1281	3381	3660	5214	2045	465.1	254.0	266.9
MEAN	15.1	9.84	31.8	40.8	45.8	109	122	168	68.2	15.0	8.19	8.90
MAX	29	29	72	136	103	432	349	425	184	41	15	37
MIN	8.9	7.6	11	16	23	20	44	52	32	8.6	5.8	5.9
CFSM	0.20	0.13	0.42	0.54	0.60	1.44	1.61	2.22	0.90	0.20	0.11	0.12
IN.	0.23	0.14	0.48	0.62	0.63	1.66	1.80	2.56	1.00	0.23	0.12	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2002, BY WATER YEAR (WY)

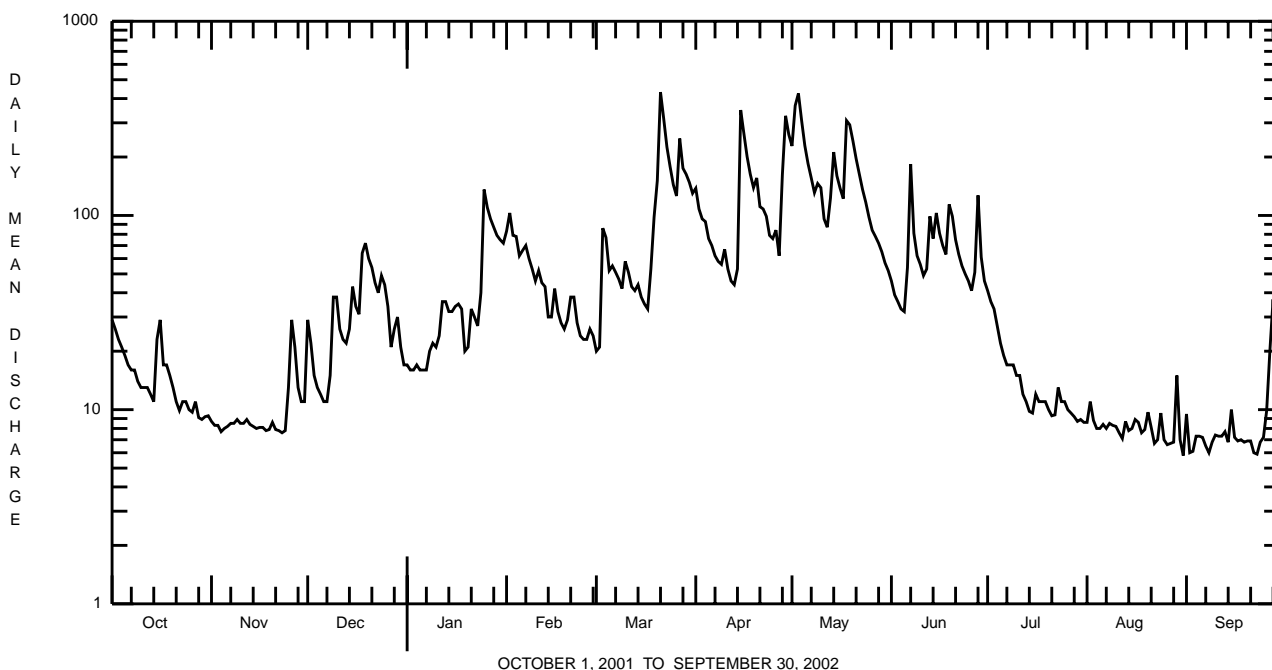
MEAN	65.6	107	147	148	161	210	170	120	77.9	52.6	50.6	61.1
MAX	309	321	520	570	354	791	551	438	517	255	326	449
(WY)	1997	1971	1997	1996	1951	1994	1983	1989	1972	1945	1955	1987
MIN	3.93	8.62	14.0	8.45	34.3	55.0	38.0	22.3	5.89	1.21	1.81	2.83
(WY)	1964	1965	1999	1981	1980	1985	1985	1965	1965	1966	1966	1964

LEHIGH RIVER BASIN

01452000 JORDAN CREEK AT ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1945 - 2002	
ANNUAL TOTAL	28015.9		19580.3		114	
ANNUAL MEAN	76.8		53.6		203	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					44.9	
HIGHEST DAILY MEAN	1290	Jun 23	432	Mar 21	6650	Sep 9 1987
LOWEST DAILY MEAN	7.6	Nov 23	5.8	Aug 31	0.00	Jul 7 1966
ANNUAL SEVEN-DAY MINIMUM	7.9	Nov 18	6.6	Sep 18	0.06	Jul 9 1966
MAXIMUM PEAK FLOW			707	Apr 15	a16200	Jun 23 1972
MAXIMUM PEAK STAGE			4.36	Apr 15	b11.61	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.01		0.71		1.50	
ANNUAL RUNOFF (INCHES)	13.75		9.61		20.43	
10 PERCENT EXCEEDS	178		138		248	
50 PERCENT EXCEEDS	41		27		60	
90 PERCENT EXCEEDS	9.5		7.7		11	

a From rating curve extended above 6,100 ft³/s on basis of slope-area measurement of peak flow.
 b From floodmark.



LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA

LOCATION.--Lat 40°38'28", long 75°22'47", Northampton County, Hydrologic Unit 02040106, on right bank 40 ft downstream from highway bridge at entrance to Monocacy Park at Bethlehem, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--44.5 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 17, 1969. Datum of gage is 247.24 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 15, 1962, nonrecording gage at site 40 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Some regulation at low flow since April 1954 by mill upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1945, reached a stage of 9.74 ft, from floodmarks, discharge, about 5,200 ft³/s, by slope-area measurement.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 6	2315	*226	*3.22	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	20	17	15	16	12	25	41	25	33	18	24
2	23	20	16	15	18	12	20	75	22	30	18	18
3	23	20	16	14	16	26	20	65	21	28	17	17
4	22	20	16	14	16	17	20	55	20	27	17	16
5	22	20	16	14	15	16	21	48	19	26	17	16
6	23	21	16	15	15	16	20	40	42	25	17	16
7	24	20	17	15	15	15	20	34	97	24	17	16
8	24	20	18	14	14	15	19	32	46	24	17	15
9	23	20	21	14	14	15	18	39	40	23	17	15
10	24	20	17	14	13	16	19	37	35	23	17	15
11	24	19	17	16	13	15	18	29	31	21	16	15
12	23	19	17	16	13	15	18	31	63	19	16	14
13	23	20	17	15	13	16	18	47	45	19	16	14
14	23	20	18	15	13	16	18	63	46	19	16	14
15	27	20	18	15	13	16	42	49	45	19	16	23
16	24	20	17	14	13	15	24	43	39	18	16	23
17	23	20	17	14	13	15	22	39	34	18	16	16
18	22	20	21	14	13	20	21	95	34	18	15	16
19	22	19	19	14	13	19	21	69	37	21	15	15
20	21	19	18	14	13	29	21	61	32	20	16	15
21	20	18	17	14	13	33	20	52	29	18	16	15
22	20	18	17	13	13	26	20	46	28	18	15	14
23	20	18	17	14	13	25	19	40	27	19	15	14
24	20	18	19	16	13	23	18	36	26	19	17	14
25	20	22	18	17	12	21	20	32	25	18	17	14
26	20	19	17	16	12	22	20	29	26	18	15	15
27	20	17	16	16	12	34	18	27	35	18	15	31
28	20	17	15	15	12	23	42	30	76	18	15	18
29	19	17	15	15	---	24	56	36	44	18	26	17
30	20	17	15	15	---	24	44	26	37	18	17	16
31	20	---	15	15	---	23	---	24	---	18	16	---
TOTAL	682	578	530	457	382	614	702	1370	1126	655	514	501
MEAN	22.0	19.3	17.1	14.7	13.6	19.8	23.4	44.2	37.5	21.1	16.6	16.7
MAX	27	22	21	17	18	34	56	95	97	33	26	31
MIN	19	17	15	13	12	12	18	24	19	18	15	14
CFSM	0.49	0.43	0.38	0.33	0.31	0.45	0.53	0.99	0.84	0.47	0.37	0.38
IN.	0.57	0.48	0.44	0.38	0.32	0.51	0.59	1.15	0.94	0.55	0.43	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

	38.5	44.7	54.2	57.5	63.8	74.1	73.5	58.5	50.6	43.7	39.8	38.5
MEAN	101	110	191	201	163	216	181	129	142	141	88.2	106
(WY)	1997	1973	1997	1979	1979	1994	1994	1984	1972	1984	1984	1987
MIN	8.90	10.0	6.88	7.14	13.6	19.8	18.6	16.2	15.0	11.6	10.6	9.51
(WY)	1966	1966	1966	1966	2002	2002	1966	1965	1965	1966	1965	1965

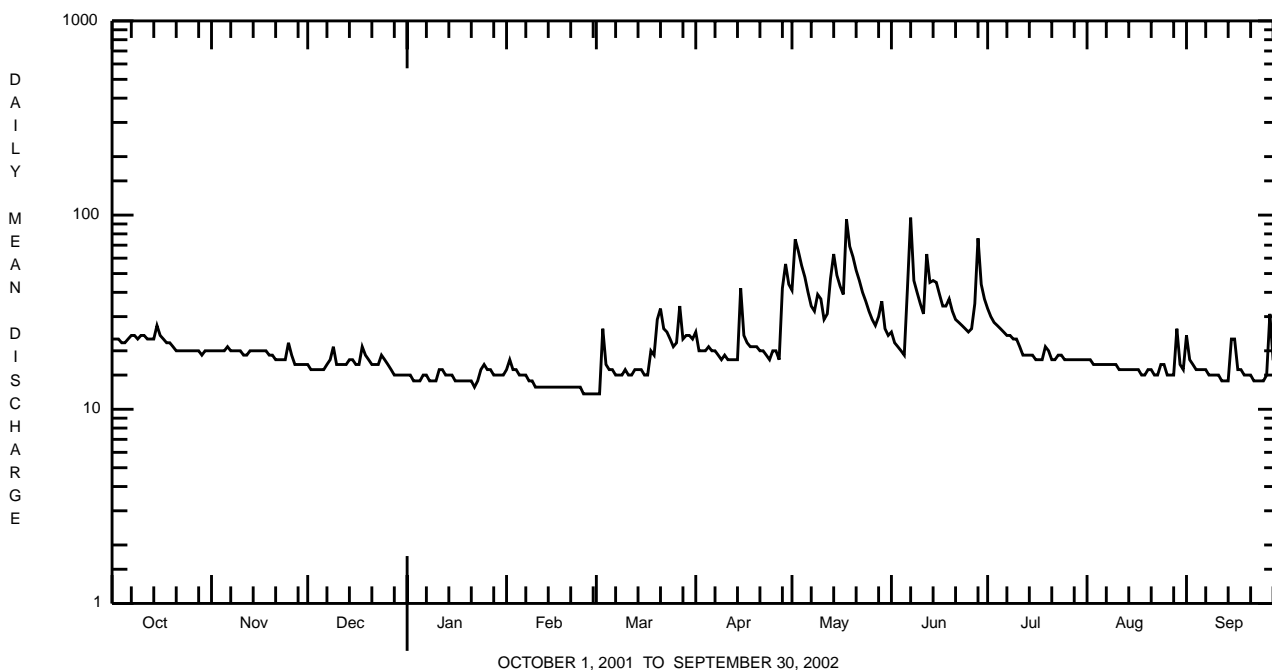
LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	14047		8111			
ANNUAL MEAN	38.5		22.2		53.0	
HIGHEST ANNUAL MEAN					89.7	1984
LOWEST ANNUAL MEAN					15.5	1966
HIGHEST DAILY MEAN	132	Mar 30	97	Jun 7	1200	Jan 26 1978
LOWEST DAILY MEAN	15	Dec 28-31	12	Feb 25 ^a	5.2	Jan 1 1966
ANNUAL SEVEN-DAY MINIMUM	16	Dec 25	12	Feb 24	5.9	Dec 27 1965
MAXIMUM PEAK FLOW			226	Jun 6	^b 3490	Jan 25 1979
MAXIMUM PEAK STAGE			3.22	Jun 6	8.19	Jan 25 1979
INSTANTANEOUS LOW FLOW			11	Feb 28	3.0	Jan 9 1966
ANNUAL RUNOFF (CFSM)	0.86		0.50		1.19	
ANNUAL RUNOFF (INCHES)	11.74		6.78		16.19	
10 PERCENT EXCEEDS	67		36		96	
50 PERCENT EXCEEDS	32		18		41	
90 PERCENT EXCEEDS	19		14		20	

^a Also Feb. 26-28, Mar. 1, 2.

^b From rating curve extended above 440 ft³/s on basis of slope-area measurement at gage height 5.47 and at peak flow.



LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA

LOCATION.--Lat 40°36'55", long 75°22'45", Lehigh County, Hydrologic Unit 02040106, on left bank 110 ft upstream from bridge on New Street at Bethlehem, and 1,800 ft upstream from Monocacy Creek. Records include flow of Monocacy Creek.

DRAINAGE AREA.--1,279 mi² (includes that of Monocacy Creek). At site used prior to Oct. 1, 1928, 1,229 mi².

PERIOD OF RECORD.--October 1902 to January 1905, May 1909 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at South Bethlehem" prior to October 1913.

REVISED RECORDS.--WSP 261: 1903-5. WSP 321: 1910-11. WSP 1051: Drainage area. WSP 1141: 1929-34(M). WSP 1302: 1914(M), 1916(M), 1918, 1921, 1927-28. WSP 1432: 1903, 1919(M), 1920-21, 1929, 1933.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 210.94 ft above National Geodetic Vertical Datum of 1929. Prior to October 1928, nonrecording gage at New Street bridge 120 ft downstream at same datum. Oct. 1, 1928, to Sept. 30, 1962, water-stage recorder at site 4,250 ft downstream at datum 2.49 ft lower. Oct. 1, 1963, to Dec. 14, 1975, water-stage recorder at site 40 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 28, 1902 reached a stage of 24.9 ft, from floodmark, present site and datum, discharge, about 88,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	643	1270	860	1930	912	2660	4670	2570	1610	737	808
2	1050	604	1450	873	1840	905	2250	5350	2300	1440	761	937
3	976	599	1400	895	1380	1660	2020	5230	2170	1280	809	702
4	912	591	1290	943	1340	1730	1850	4210	1890	1190	985	612
5	858	587	1120	958	1270	1470	1710	3800	1740	1150	986	576
6	973	593	1030	925	1310	1350	1910	3510	2060	1050	929	526
7	1140	616	1020	916	1340	1320	1970	2840	4260	945	736	507
8	784	605	1010	955	1200	1230	1920	2620	3850	932	702	563
9	740	603	1270	944	1150	1200	1730	2800	2900	907	695	583
10	732	593	1240	948	1110	1460	1780	2890	2680	857	716	584
11	731	564	1100	1010	1290	1540	1890	2510	3350	826	928	630
12	741	555	1040	1110	1340	1540	1680	2420	3400	798	932	630
13	733	550	1020	1070	1210	1760	1600	3220	2420	778	817	636
14	725	583	1090	1020	1130	1780	1780	5460	2450	867	685	623
15	1010	639	1210	983	1100	1600	4590	6060	2520	872	752	730
16	1080	662	1150	981	1130	1510	4930	4770	2420	847	751	1250
17	994	677	1110	953	1120	1470	4070	3310	2460	798	742	1140
18	970	655	1470	910	1080	1640	3100	5410	2460	785	910	767
19	847	651	1720	864	1050	1950	2900	5300	2630	831	911	671
20	805	630	1710	805	1050	2330	2680	6450	2280	957	835	646
21	851	594	1680	871	1110	3380	2330	5170	1940	1090	539	766
22	729	589	1440	843	1100	2970	2250	3730	1860	1070	511	992
23	719	593	1330	836	1040	2640	2340	3450	1890	1010	488	668
24	704	579	1420	986	998	2440	2150	2960	1850	962	582	662
25	699	732	1370	1370	975	2280	1950	2570	1550	888	671	622
26	681	1120	1290	1400	962	2040	1980	2400	1390	818	597	586
27	686	1010	1140	1330	978	3450	2090	2310	1800	850	530	1250
28	665	950	1030	1310	953	3050	3000	2230	2600	1060	506	1780
29	653	938	1020	1280	---	2670	5230	6220	1910	1070	758	1290
30	650	928	921	1290	---	2590	5560	8230	1680	914	631	954
31	648	---	877	1530	---	2530	---	3640	---	757	579	---
TOTAL	25626	20233	38238	31969	33486	60397	77900	125740	71280	30209	22711	23691
MEAN	827	674	1233	1031	1196	1948	2597	4056	2376	974	733	790
MAX	1140	1120	1720	1530	1930	3450	5560	8230	4260	1610	986	1780
MIN	648	550	877	805	953	905	1600	2230	1390	757	488	507
CFSM	0.65	0.53	0.96	0.81	0.94	1.52	2.03	3.17	1.86	0.76	0.57	0.62
IN.	0.75	0.59	1.11	0.93	0.97	1.76	2.27	3.66	2.07	0.88	0.66	0.69

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1566	2286	2869	2662	2764	3835	3896	3063	2077	1601	1313	1355
MAX (WY)	5778	5294	9067	7898	5820	7708	10180	7041	7272	6362	6192	6907
MIN (WY)	1956	1952	1997	1979	1951	1977	1993	1989	1972	1945	1955	1987
MIN (WY)	406	474	514	286	1132	1632	1428	1053	681	366	405	334
(WY)	1964	1965	1981	1981	1980	1981	1985	1941	1965	1965	1964	1964

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1941 - 2002

ANNUAL TOTAL		656580		561480								
ANNUAL MEAN		1799		1538						2438		
HIGHEST ANNUAL MEAN										3973		1952
LOWEST ANNUAL MEAN										1165		1965
HIGHEST DAILY MEAN				6720	Mar 31		8230	May 30		70400	Aug 19	1955
LOWEST DAILY MEAN				550	Nov 13		488	Aug 23		210	Jan 31	1981
ANNUAL SEVEN-DAY MINIMUM				579	Nov 8		555	Aug 22		216	Jan 26	1981
MAXIMUM PEAK FLOW							9170	May 29		^a 92000	May 23	1942
MAXIMUM PEAK STAGE							5.31	May 29		^b 25.90	May 23	1942
ANNUAL RUNOFF (CFSM)				1.41			1.20			1.91		
ANNUAL RUNOFF (INCHES)				19.10			16.33			25.90		
10 PERCENT EXCEEDS				3680			2920			4820		
50 PERCENT EXCEEDS				1380			1090			1760		
90 PERCENT EXCEEDS				684			630			685		

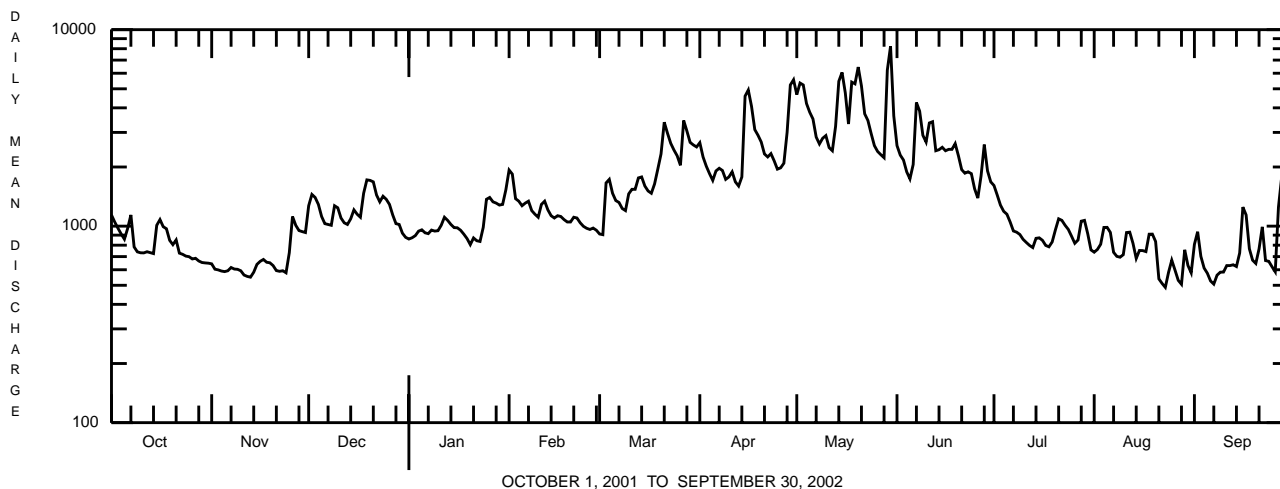
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-1904, 1909-1940, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1532	1827	2184	2346	2430	4134	3815	2280	1753	1530	1239	1214
MAX (WY)	4808	5660	5287	5287	5913	11920	7547	3681	4255	5182	4599	6407
MIN (WY)	1903	1927	1939	1915	1915	1936	1940	1924	1928	1935	1933	1933
MIN (WY)	308	370	470	677	668	1887	1499	1020	832	572	428	374
(WY)	1911	1910	1931	1925	1934	1911	1915	1926	1921	1912	1910	1932

SUMMARY STATISTICS WATER YEARS 1903 - 1904 1909 - 1940

ANNUAL MEAN	2189	
HIGHEST ANNUAL MEAN	3600	1928
LOWEST ANNUAL MEAN	1262	1931
HIGHEST DAILY MEAN	47900	Aug 24 1933
LOWEST DAILY MEAN	160	Oct 15 1910
ANNUAL SEVEN-DAY MINIMUM	260	Oct 13 1910
MAXIMUM PEAK FLOW	64800	Aug 24 1933
MAXIMUM PEAK STAGE	18.70	Aug 24 1933
INSTANTANEOUS LOW FLOW	160	Oct 15 1910
ANNUAL RUNOFF (CFSM)	1.71	
ANNUAL RUNOFF (INCHES)	23.25	
10 PERCENT EXCEEDS	4420	
50 PERCENT EXCEEDS	1500	
90 PERCENT EXCEEDS	548	

- a From rating curve extended above 58,000 ft³/s on basis of slope-area measurement at gage height, 20.02 ft at present site and datum.
- b From floodmark, present site and datum.



LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°40'09", long 75°14'12", Northampton County, Hydrologic Unit 02040106, on right bank 140 ft upstream from highway bridge in Hugh Moore Parkway at Glendon, 2.3 mi upstream from mouth, and 2.0 mi southwest of Easton.

DRAINAGE AREA.--1,359 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR PA-72-1: 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 164.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Francis E. Walter Reservoir (station 01447780), Penn Forest Reservoir (station 01449400), Wild Creek Reservoir (station 01449700), and since February 1971, by Beltzville Lake (station 01449790) about 60 mi upstream. Flows above 10,000 ft³/s may be affected by backwater from the Delaware River. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	662	1330	969	2030	1010	2880	5000	2780	1680	711	772
2	1070	622	1580	982	2070	998	2500	5650	2420	1520	723	987
3	1050	598	1550	1000	1530	1760	2210	5670	2260	1340	787	704
4	961	595	1450	1050	1470	1940	2020	4590	2000	1220	950	591
5	912	590	1290	1080	1400	1610	1840	4120	1830	1180	957	548
6	968	599	1160	1050	1410	1470	2020	3790	2060	1090	943	500
7	1240	620	1140	1030	1490	1440	2090	3080	4690	962	721	477
8	883	609	1130	1070	1310	1340	1990	2770	4270	944	669	508
9	830	611	1420	1060	1260	1300	1810	2920	3110	923	657	542
10	805	599	1400	1060	1210	1480	1830	3120	2860	874	655	535
11	772	582	1230	1130	1360	1700	1920	2660	3500	829	876	567
12	765	568	1170	1230	1480	1620	1790	2530	3690	803	893	572
13	774	559	1140	1200	1320	1870	1720	3710	2800	758	819	584
14	767	581	1210	1140	1240	1910	1870	6280	2570	813	637	574
15	1010	640	1320	1110	1200	1740	4650	6480	2750	831	703	671
16	1120	660	1290	1100	1220	1630	5230	5230	2520	813	709	1150
17	998	683	1220	1080	1210	1570	4390	3670	2590	754	680	1210
18	974	660	1580	1020	1190	1760	3310	5810	2590	740	852	742
19	847	655	1880	996	1150	2100	2990	5880	2880	809	869	631
20	801	647	1880	913	1140	2530	2800	6680	2440	930	848	604
21	829	613	1840	991	1190	3790	2370	5600	2060	1080	e589	646
22	721	597	1620	956	1200	3310	2280	4150	1910	1050	e551	1000
23	683	619	1470	942	1140	2900	2360	3770	1960	1010	e533	667
24	715	602	1580	1100	1100	2670	2180	3270	1910	955	e615	613
25	704	751	1520	1480	1070	2490	2000	2770	1640	893	658	566
26	685	1240	1420	1540	1060	2220	2010	2560	1450	802	e619	525
27	689	1160	1290	1470	1070	3700	2100	2440	2080	800	e562	1340
28	673	1080	1150	1440	1050	3420	3060	2370	3400	1030	472	1780
29	662	1060	1140	1410	---	2940	5510	5750	2100	1050	809	1370
30	659	1050	1030	1400	---	2800	5770	8670	1780	938	623	949
31	658	---	984	1630	---	2760	---	4090	---	739	568	---
TOTAL	26385	21112	42414	35629	36570	65778	81500	135080	76900	30160	22258	22925
MEAN	851.1	703.7	1368	1149	1306	2122	2717	4357	2563	972.9	718.0	764.2
MAX	1240	1240	1880	1630	2070	3790	5770	8670	4690	1680	957	1780
MIN	658	559	984	913	1050	998	1720	2370	1450	739	472	477
CFSM	0.63	0.52	1.01	0.85	0.96	1.56	2.00	3.21	1.89	0.72	0.53	0.56
IN.	0.72	0.58	1.16	0.98	1.00	1.80	2.23	3.70	2.10	0.83	0.61	0.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

MEAN	1920	2605	3354	3036	3200	4258	4407	3418	2532	1811	1458	1633
MAX	5272	5438	9593	8414	5385	8344	10810	8542	7607	4641	4179	7920
(WY)	1977	1971	1997	1996	1976	1977	1993	1989	1972	1984	1969	1987
MIN	771	704	633	405	1278	1805	1639	1502	906	630	607	660
(WY)	1981	2002	1981	1981	1980	1981	1985	1995	1999	1999	1999	1983

e Estimated.

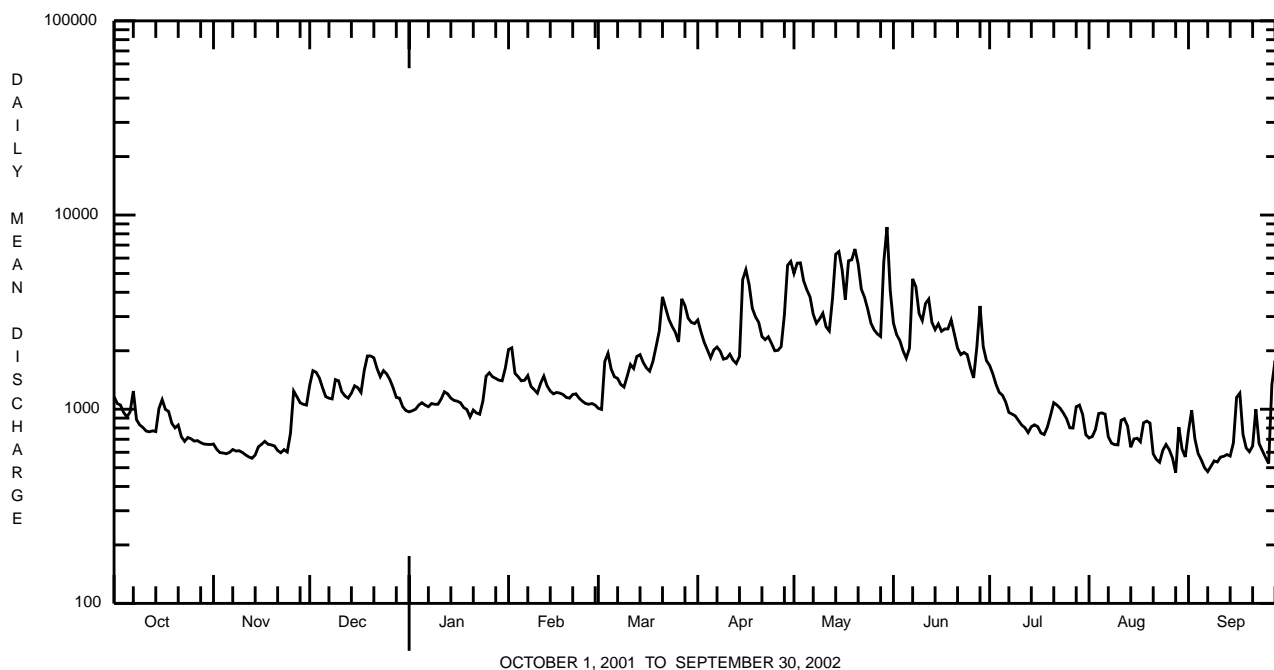
LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA--Continued

SUMMARY STATISTICS	FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	596711			
ANNUAL MEAN	1635		2800	
HIGHEST ANNUAL MEAN			3997	1984
LOWEST ANNUAL MEAN			1594	1985
HIGHEST DAILY MEAN	8670	May 30	44300	Jun 23 1972
LOWEST DAILY MEAN	472	Aug 28	330	Jan 31 1981 ^a
ANNUAL SEVEN-DAY MINIMUM	525	Sep 5	349	Jan 26 1981
MAXIMUM PEAK FLOW	9200	May 30	^b 60600	Jun 23 1972
MAXIMUM PEAK STAGE	11.98	May 30	24.86	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.20		2.06	
ANNUAL RUNOFF (INCHES)	16.33		27.99	
10 PERCENT EXCEEDS	3180		5500	
50 PERCENT EXCEEDS	1170		2040	
90 PERCENT EXCEEDS	617		852	

^a Also Feb. 1, 1981.

^b From rating curve extended above 36,000 ft³/s.



LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L) AS (00900)	CALCIUM RECOV-ERABLE (MG/L) AS CA (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L) AS MG (00927)	ANC WATER UNFLTRD FET LAB (MG/L) AS CACO3 (00417)	FLUO-RIDE, TOTAL (MG/L) AS F (00951)
APR 2002 25...	1020	9813	1870	40	11.4	7.6	190	11.0	58	14.3	5.4	34	<.2
JUN 20...	1000	9813	2320	40	10.0	7.7	199	18.5	73	19.2	6.1	40	<.2
AUG 19...	0850	9813	852	40	8.1	7.9	279	26.5	99	23.3	9.9	60	<.2

Date	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA (MG/L) AS N (00610)	NITRO-GEN, NITRATE (MG/L) AS N (00620)	NITRO-GEN, NITRITE (MG/L) AS N (00615)	NITRO-GEN, TOTAL (MG/L) AS N (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L) AS P (70507)	PHOS-PHORUS TOTAL (MG/L) AS P (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L) AS CU (01042)	CYANIDE AMEN-ABLE TO CHLOR-INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV-ERABLE (µG/L) AS FE (01045)
APR 2002 25...	19.2	130	24	.120	1.36	<.040	1.7	.08	.100	2.5	<10	<1.00	180
JUN 20...	19.7	150	16	.050	1.55	<.040	1.8	.08	.120	3.8	<10	<1.00	590
AUG 19...	26.4	128	14	.040	1.70	<.040	2.0	.19	.240	3.6	<10	<1.00	220

Date	LEAD, TOTAL RECOV-ERABLE (µG/L) AS PB (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L) AS MN (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L) AS NI (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L) AS ZN (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002 25...	<1.0	70	<50	50	<5
JUN 20...	1.7	60	<50	40	<5
AUG 19...	<1.0	60	<50	30	<5

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA

LOCATION.--Lat 40°41'12", long 75°12'32", Northampton County, Hydrologic Unit 02040106, on left bank, near bridge on U.S. Highway 611 in Easton.

DRAINAGE AREA.--1,364 mi².

PERIOD OF RECORD.--October 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: November 1972 to current year.

WATER TEMPERATURE: October 1961 to current year.

DISSOLVED OXYGEN: June 1966 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1961. Probes interfaced with a data collection platform since the 1986 water year.

REMARKS.--Specific conductance record rated good, except for period, Aug. 6 to Aug. 13, which is poor. pH and water temperature records rated good. Dissolved oxygen record rated fair, except for periods, May 28 to June 9, and Sept. 24 to Sept. 30, which are poor. Beginning with the 1978 water year, no data were recorded during the months of October through March. Other interruptions in the record were due to malfunctions of the pump or recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 581 microsiemens, Aug. 19, 1963; minimum, 70 microsiemens, Nov. 14, 1970.

pH: Maximum, 8.7, July 18, 19, 1991; minimum, 6.0, Mar. 16, 1978.

WATER TEMPERATURE: Maximum, 30.5°C, July 29, 1970, July 21, 1980; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 15.7 mg/L, Apr. 14, 1986; minimum, 0.0 mg/L, Aug. 4, 1966.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	178	171	175	151	143	147
2	---	---	---	---	---	---	180	174	176	161	146	153
3	---	---	---	---	---	---	199	180	194	161	148	154
4	---	---	---	---	---	---	209	197	205	163	157	160
5	---	---	---	---	---	---	213	207	211	165	160	162
6	---	---	---	---	---	---	220	210	216	164	160	162
7	---	---	---	---	---	---	210	187	198	182	163	172
8	---	---	---	---	---	---	191	184	188	191	182	188
9	---	---	---	---	---	---	195	184	190	193	187	191
10	---	---	---	---	---	---	212	193	204	193	180	187
11	---	---	---	---	---	---	211	201	207	186	181	183
12	---	---	---	---	---	---	201	196	198	190	184	187
13	---	---	---	---	---	---	214	198	207	190	166	183
14	---	---	---	---	---	---	215	204	209	171	152	162
15	---	---	---	---	---	---	204	158	184	152	135	141
16	---	---	---	---	---	---	158	142	147	149	139	143
17	---	---	---	---	---	---	154	146	150	168	149	159
18	---	---	---	---	---	---	169	152	160	171	161	166
19	---	---	---	---	---	---	175	169	171	161	140	146
20	---	---	---	---	---	---	192	171	176	155	132	143
21	---	---	---	---	---	---	188	178	184	142	133	138
22	---	---	---	---	---	---	189	181	186	163	142	154
23	---	---	---	---	---	---	193	181	188	166	163	164
24	---	---	---	---	---	---	191	181	186	178	166	171
25	---	---	---	---	---	---	196	187	193	192	178	185
26	---	---	---	---	---	---	211	196	207	196	188	192
27	---	---	---	---	---	---	208	191	202	194	188	191
28	---	---	---	180	164	170	191	177	184	195	182	191
29	---	---	---	185	180	183	180	151	163	203	116	172
30	---	---	---	186	179	183	154	138	145	116	110	114
31	---	---	---	185	171	178	---	---	---	148	115	132
MONTH	---	---	---	---	---	---	220	138	187	203	110	164

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	173	148	162	240	231	236	328	280	306	376	359	365
2	186	173	183	245	231	237	345	319	333	379	332	360
3	187	179	183	261	242	248	355	309	340	332	284	309
4	191	179	185	283	261	269	---	---	---	306	282	291
5	209	191	201	283	273	279	---	---	---	350	306	325
6	217	189	212	284	276	280	226	161	182	376	350	362
7	202	165	184	294	283	285	199	175	191	382	376	380
8	165	137	147	307	294	302	237	199	217	395	382	389
9	169	152	164	312	304	308	279	237	259	406	395	403
10	172	166	170	323	312	318	307	279	294	403	380	389
11	177	152	165	336	319	328	324	307	315	381	373	376
12	157	150	154	341	328	335	316	276	299	383	379	381
13	191	157	175	351	337	345	279	267	273	382	364	372
14	202	191	198	351	347	350	280	269	276	364	358	362
15	200	189	195	351	324	341	325	280	300	366	343	357
16	205	190	198	332	324	327	326	319	323	350	312	335
17	199	184	191	339	326	333	332	316	322	312	235	268
18	192	184	187	346	332	341	330	313	324	243	229	233
19	199	185	191	352	328	344	314	275	296	290	243	269
20	201	196	199	351	332	344	279	264	272	---	---	---
21	212	200	206	356	315	334	282	268	277	---	---	---
22	225	211	220	315	277	291	313	282	295	---	---	---
23	223	209	218	278	261	270	363	312	336	---	---	---
24	213	208	211	284	271	274	401	363	387	---	---	---
25	224	208	216	309	284	300	408	400	405	334	303	315
26	248	222	235	302	290	295	406	368	378	342	334	337
27	253	210	247	319	302	313	374	355	361	357	328	342
28	246	200	211	330	316	324	366	355	357	328	254	288
29	218	212	215	316	275	290	402	366	385	254	231	237
30	234	217	227	279	262	268	398	362	375	255	234	239
31	---	---	---	280	267	275	362	350	355	---	---	---
MONTH	253	137	195	356	231	303	408	161	311	406	229	331

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.1	7.0	7.1	7.4	7.2	7.3	7.5	7.3	7.4	7.7	7.3	7.5
2	7.3	7.1	7.2	7.4	7.3	7.3	7.5	7.3	7.4	7.6	7.4	7.5
3	7.3	7.2	7.3	7.3	7.3	7.3	7.6	7.3	7.4	7.6	7.5	7.5
4	7.3	7.3	7.3	7.3	7.3	7.3	---	---	---	7.6	7.4	7.5
5	7.4	7.3	7.3	7.4	7.3	7.3	---	---	---	7.6	7.4	7.5
6	7.4	7.2	7.3	7.5	7.4	7.4	7.5	7.3	7.4	7.6	7.4	7.5
7	7.3	7.1	7.3	7.5	7.4	7.4	7.5	7.3	7.3	7.7	7.5	7.6
8	7.3	7.2	7.2	7.6	7.4	7.5	7.5	7.3	7.4	7.8	7.5	7.6
9	7.3	7.2	7.2	7.6	7.4	7.6	7.5	7.4	7.4	7.8	7.6	7.6
10	7.2	7.1	7.1	7.6	7.4	7.5	7.5	7.4	7.4	7.9	7.6	7.7
11	7.2	7.0	7.1	7.6	7.4	7.5	7.5	7.4	7.4	7.8	7.6	7.7
12	7.1	7.1	7.1	7.6	7.4	7.5	7.5	7.4	7.4	7.9	7.6	7.7
13	7.2	7.0	7.1	7.6	7.4	7.5	7.6	7.3	7.5	8.0	7.5	7.7
14	7.4	7.2	7.4	7.7	7.5	7.6	7.5	7.3	7.4	8.0	7.6	7.7
15	7.4	7.4	7.4	7.6	7.4	7.6	7.6	7.3	7.4	7.9	7.3	7.5
16	7.5	7.2	7.4	7.8	7.4	7.6	7.6	7.4	7.5	7.4	7.3	7.4
17	7.3	7.2	7.2	7.8	7.5	7.6	7.6	7.4	7.4	7.3	7.3	7.3
18	7.5	7.2	7.3	7.7	7.5	7.6	7.6	7.4	7.4	7.4	7.2	7.2
19	7.4	7.3	7.3	7.7	7.4	7.5	7.6	7.4	7.5	7.5	7.2	7.3
20	7.4	7.3	7.4	7.5	7.3	7.4	7.5	7.3	7.4	---	---	---
21	7.4	7.3	7.4	7.5	7.3	7.4	7.4	7.2	7.3	---	---	---
22	7.4	7.3	7.4	7.5	7.3	7.4	7.5	7.3	7.3	---	---	---
23	7.4	7.3	7.4	7.5	7.3	7.4	7.5	7.3	7.3	---	---	---
24	7.4	7.3	7.3	7.4	7.3	7.3	7.5	7.3	7.4	---	---	---
25	7.3	7.2	7.3	7.5	7.2	7.3	7.5	7.4	7.5	7.7	7.4	7.5
26	7.3	7.2	7.3	7.5	7.3	7.4	7.6	7.4	7.4	7.7	7.4	7.5
27	7.3	7.2	7.3	7.5	7.4	7.4	7.6	7.5	7.5	7.6	7.3	7.4
28	7.3	7.1	7.1	7.5	7.4	7.4	7.7	7.5	7.6	7.4	7.3	7.4
29	7.2	7.1	7.2	7.4	7.3	7.4	7.7	7.3	7.6	7.3	7.3	7.3
30	7.2	7.2	7.2	7.5	7.2	7.4	7.6	7.5	7.6	7.4	7.3	7.3
31	---	---	---	7.5	7.3	7.4	7.7	7.5	7.6	---	---	---
MAX	7.5	7.4	7.4	7.8	7.5	7.6	7.7	7.5	7.6	8.0	7.6	7.7
MIN	7.1	7.0	7.1	7.3	7.2	7.3	7.4	7.2	7.3	7.3	7.2	7.2

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	12.0	11.0	11.5	12.0	10.5	11.0
2	---	---	---	---	---	---	11.5	10.5	11.0	12.5	11.5	12.5
3	---	---	---	---	---	---	11.5	11.0	11.0	12.5	11.5	12.0
4	---	---	---	---	---	---	11.0	10.0	10.5	13.0	12.0	12.5
5	---	---	---	---	---	---	10.0	9.0	9.5	14.5	12.5	13.5
6	---	---	---	---	---	---	9.0	8.5	9.0	15.5	14.0	14.5
7	---	---	---	---	---	---	8.5	7.5	8.0	16.5	14.5	15.5
8	---	---	---	---	---	---	9.0	8.0	8.5	17.5	16.0	16.5
9	---	---	---	---	---	---	11.0	9.0	10.5	17.5	15.0	16.0
10	---	---	---	---	---	---	13.0	11.0	12.0	15.5	14.0	15.0
11	---	---	---	---	---	---	14.0	13.0	13.5	16.5	14.5	15.5
12	---	---	---	---	---	---	13.5	12.5	13.0	16.5	15.5	16.0
13	---	---	---	---	---	---	13.0	12.5	12.5	15.5	13.5	14.5
14	---	---	---	---	---	---	14.0	12.5	13.5	13.5	13.0	13.5
15	---	---	---	---	---	---	16.0	14.0	15.5	13.5	12.5	13.0
16	---	---	---	---	---	---	16.5	15.5	16.0	15.0	13.5	14.0
17	---	---	---	---	---	---	17.0	15.0	16.0	16.5	15.0	15.5
18	---	---	---	---	---	---	17.5	16.0	17.0	16.0	13.5	15.0
19	---	---	---	---	---	---	18.5	17.0	18.0	13.5	12.5	13.0
20	---	---	---	---	---	---	18.0	16.5	17.5	13.0	12.5	12.5
21	---	---	---	---	---	---	16.5	13.5	15.0	12.5	12.0	12.5
22	---	---	---	---	---	---	13.5	11.5	12.5	13.5	12.0	12.5
23	---	---	---	---	---	---	12.0	11.0	11.5	15.0	13.0	14.0
24	---	---	---	---	---	---	12.5	11.0	11.5	16.5	14.5	15.5
25	---	---	---	---	---	---	12.5	11.5	12.0	17.5	16.0	17.0
26	---	---	---	---	---	---	12.0	11.0	11.5	17.5	16.5	17.0
27	---	---	---	---	---	---	13.0	11.5	12.0	18.0	17.0	17.5
28	---	---	---	8.0	6.5	7.0	13.0	12.5	12.5	19.0	18.0	18.5
29	---	---	---	9.5	7.5	8.5	12.5	11.5	12.0	19.0	17.0	18.5
30	---	---	---	11.5	9.5	10.5	11.5	10.5	11.0	17.0	16.0	16.5
31	---	---	---	11.5	11.0	11.5	---	---	---	19.0	17.0	18.0
MONTH	---	---	---	---	---	---	18.5	7.5	12.5	19.0	10.5	14.8

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.0	18.5	19.5	24.0	23.5	23.5	28.0	26.0	27.0	21.0	20.0	20.0
2	20.5	19.5	20.0	25.0	24.0	24.5	28.0	26.5	27.0	20.0	19.0	19.5
3	20.5	19.5	20.0	26.5	24.5	25.5	28.5	26.5	27.5	21.5	19.0	20.0
4	20.0	19.0	19.0	27.5	26.0	26.5	---	---	---	22.5	20.5	21.5
5	19.5	18.5	19.0	27.5	26.5	27.0	---	---	---	23.0	22.0	22.5
6	20.0	19.0	19.5	26.5	25.0	26.0	27.5	26.0	26.5	23.0	22.0	22.5
7	19.0	18.0	18.5	25.0	24.0	24.5	26.0	24.5	25.0	23.5	22.0	22.5
8	18.5	17.5	18.0	25.0	23.0	24.0	25.0	23.5	24.0	23.5	22.0	22.5
9	19.0	17.5	18.5	25.5	23.5	24.5	24.5	23.0	23.5	23.5	22.0	22.5
10	20.5	19.0	19.5	26.0	24.0	25.0	25.0	23.0	24.0	24.5	22.5	23.0
11	21.5	19.5	20.5	25.5	23.5	24.5	25.5	23.5	24.5	24.0	23.0	23.5
12	21.0	20.5	21.0	25.0	23.0	24.0	26.5	24.0	25.5	23.0	22.0	22.5
13	21.0	20.0	20.5	24.5	23.0	23.5	27.5	25.0	26.0	22.5	21.0	21.5
14	20.0	18.0	19.0	24.0	23.0	23.5	27.5	25.5	26.5	22.0	21.0	21.5
15	18.0	17.0	17.0	24.5	22.5	23.5	27.5	26.5	27.0	22.0	21.5	22.0
16	18.0	16.5	17.5	25.0	23.5	24.0	28.0	26.5	27.5	23.0	22.0	22.5
17	19.5	17.5	18.5	26.0	23.5	24.5	28.0	27.0	27.5	23.0	22.0	22.5
18	20.0	18.5	19.0	26.0	24.5	25.5	28.0	26.5	27.5	22.5	21.5	22.0
19	20.0	18.5	19.5	26.0	25.0	25.5	28.0	27.0	27.5	24.0	21.0	22.0
20	20.5	19.0	20.0	26.5	25.0	26.0	27.5	26.5	27.0	---	---	---
21	21.5	20.0	21.0	26.5	25.5	26.0	27.0	25.5	26.0	---	---	---
22	22.5	21.5	22.0	27.0	25.0	26.0	27.0	25.5	26.0	---	---	---
23	23.5	22.5	23.0	27.5	25.5	26.5	26.0	25.5	25.5	---	---	---
24	24.0	23.0	23.5	27.0	26.0	26.0	26.0	24.5	25.0	---	---	---
25	24.5	23.5	24.0	26.5	25.0	25.5	24.5	24.0	24.0	21.5	20.0	20.5
26	25.0	24.0	24.5	26.0	24.0	24.5	24.5	23.5	24.0	20.5	19.0	19.5
27	25.5	24.5	25.0	24.5	23.0	23.5	24.5	23.5	24.0	19.0	17.5	18.0
28	24.5	23.5	23.5	24.0	22.5	23.0	24.5	23.0	23.5	18.0	17.0	17.5
29	23.5	23.0	23.5	25.5	23.0	24.5	23.0	21.0	22.0	18.0	17.5	17.5
30	24.0	23.0	23.5	27.0	25.0	26.0	21.0	20.5	20.5	18.5	17.5	18.0
31	---	---	---	27.5	25.5	26.5	21.0	20.0	20.5	---	---	---
MONTH	25.5	16.5	20.6	27.5	22.5	25.0	28.5	20.0	25.2	24.5	17.0	21.1

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	10.5	10.1	10.4	11.2	10.8	11.1
2	---	---	---	---	---	---	10.7	10.4	10.6	10.8	10.1	10.5
3	---	---	---	---	---	---	10.6	10.4	10.5	10.7	10.4	10.6
4	---	---	---	---	---	---	11.1	10.4	10.8	10.9	10.6	10.8
5	---	---	---	---	---	---	11.4	10.8	11.2	10.8	10.2	10.5
6	---	---	---	---	---	---	11.9	11.2	11.6	10.4	10.1	10.3
7	---	---	---	---	---	---	12.4	11.7	12.0	10.3	9.7	10
8	---	---	---	---	---	---	12.0	11.5	11.8	9.8	9.4	9.7
9	---	---	---	---	---	---	11.5	10.6	11.2	9.8	9.2	9.5
10	---	---	---	---	---	---	10.9	10.3	10.6	10.5	9.8	10.2
11	---	---	---	---	---	---	10.8	10.1	10.4	10.3	9.9	10.2
12	---	---	---	---	---	---	10.8	9.9	10.3	9.9	9.6	9.7
13	---	---	---	---	---	---	10.9	10.1	10.4	10.2	9.5	9.8
14	---	---	---	---	---	---	10.8	10.0	10.4	10.3	9.7	10.0
15	---	---	---	---	---	---	10.0	8.7	9.2	10.4	10.0	10.2
16	---	---	---	---	---	---	9.2	8.7	8.9	10.1	9.3	9.8
17	---	---	---	---	---	---	9.3	8.6	9.1	9.3	8.0	8.8
18	---	---	---	---	---	---	9.0	8.3	8.7	10.1	8.5	9.3
19	---	---	---	---	---	---	8.7	8.2	8.5	11.1	9.9	10.7
20	---	---	---	---	---	---	8.6	8.0	8.3	11.4	10.8	11.2
21	---	---	---	---	---	---	9.5	8.6	9.0	11.0	10.6	10.9
22	---	---	---	---	---	---	10.6	9.5	10.0	11.1	10.5	10.9
23	---	---	---	---	---	---	11.2	10.0	10.7	10.7	10.3	10.5
24	---	---	---	---	---	---	11.0	10.4	10.8	10.3	9.7	10.0
25	---	---	---	---	---	---	10.4	10.0	10.2	9.7	8.9	9.5
26	---	---	---	---	---	---	11.1	10.2	10.7	9.6	8.8	9.2
27	---	---	---	---	---	---	11.3	10.7	11.0	9.4	8.7	9.0
28	---	---	---	11.9	11.6	11.8	10.7	10.0	10.2	9.5	8.4	8.8
29	---	---	---	11.7	11.0	11.4	10.8	10.2	10.5	9.5	7.1	8.3
30	---	---	---	11.1	10.6	10.9	11.2	10.8	11.0	9.8	6.9	8.7
31	---	---	---	10.6	10.3	10.4	---	---	---	8.4	7.4	7.8
MONTH	---	---	---	---	---	---	12.4	8.0	10.3	11.4	6.9	9.9

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.5	6.9	7.9	8.5	8.1	8.3	8.3	6.7	7.4	9.4	7.6	8.4
2	8.5	7.8	8.2	8.2	7.5	7.9	8.2	6.6	7.2	9.3	8.2	8.7
3	9.0	8.1	8.7	8.2	7.2	7.7	8.6	6.2	7.1	9.2	8.2	8.6
4	9.4	8.6	9.1	7.9	6.9	7.4	---	---	---	8.9	7.5	8.2
5	9.5	8.8	9.3	8.1	6.7	7.4	---	---	---	8.8	7.2	7.9
6	9.2	8.0	8.8	8.8	7.0	8.0	8.7	6.7	7.6	8.9	7.2	7.8
7	8.9	7.2	8.5	9.7	7.6	8.6	8.8	7.3	7.9	9.1	7.3	8.0
8	8.9	8.0	8.5	10.0	8.3	9.1	9.0	7.4	8.1	9.1	7.6	8.2
9	9.0	7.8	8.5	9.7	8.2	8.9	9.1	7.6	8.3	9.4	7.6	8.3
10	---	---	---	9.3	7.8	8.5	9.0	7.2	8.2	9.1	7.6	8.3
11	---	---	---	9.7	7.2	8.5	8.9	6.4	8.1	9.0	7.2	8.1
12	---	---	---	9.9	7.6	8.7	9.1	7.5	8.2	9.5	7.3	8.1
13	---	---	---	10.1	7.9	8.9	9.3	7.7	8.4	9.7	7.7	8.6
14	---	---	---	9.9	8.2	8.9	8.8	7.3	7.9	9.7	7.9	8.7
15	---	---	---	9.9	8.2	9.0	8.8	6.8	7.8	9.6	7.2	8.2
16	---	---	---	9.5	7.9	8.7	8.8	6.9	7.8	8.6	7.6	8.1
17	---	---	---	9.4	7.7	8.4	8.4	6.8	7.5	8.8	7.7	8.2
18	---	---	---	9.4	7.1	8.2	8.4	6.7	7.5	9.2	7.7	8.3
19	9.4	9.0	9.2	9.2	7.2	7.9	8.5	6.7	7.5	9.0	7.7	8.3
20	9.7	9.1	9.3	8.4	6.7	7.4	8.0	6.7	7.4	---	---	---
21	9.5	8.9	9.2	8.0	6.7	7.3	8.0	6.4	7.0	---	---	---
22	9.1	8.7	8.9	8.5	6.7	7.7	8.5	6.6	7.3	---	---	---
23	9.0	8.4	8.7	8.3	6.9	7.4	8.2	6.4	7.2	---	---	---
24	8.8	8.2	8.4	7.9	6.5	7.0	8.3	6.2	7.1	---	---	---
25	8.6	7.8	8.2	8.9	5.8	7.4	8.7	6.9	7.6	10.4	8.8	9.5
26	8.3	7.3	7.7	8.8	6.9	7.8	9.0	7.1	7.8	10.4	8.6	9.2
27	8.6	7.6	8.0	9.0	7.5	8.2	9.3	7.9	8.3	9.9	9.0	9.4
28	8.6	7.6	7.8	8.8	7.9	8.3	9.5	7.8	8.6	10.0	9.1	9.4
29	8.4	7.9	8.1	8.9	7.5	8.2	9.5	7.7	8.5	10.0	8.9	9.6
30	8.8	7.9	8.3	8.3	7.4	7.8	9.3	8.1	8.5	10.2	8.8	9.4
31	---	---	---	8.3	6.8	7.5	9.5	8.2	8.8	---	---	---
MONTH	11.3	5.4	8.6	10.1	5.8	8.1	9.5	6.2	7.8	10.4	7.2	8.5

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	SAM- PLING DEPTH (FEET) (00003)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
SEP							
04...	1243	0	--	--	--	--	0
04...	1244	6	8.7	7.8	278	20.1	20
04...	1245	1	8.6	7.8	278	20.7	20
04...	1252	6	8.6	7.8	278	20.1	45
04...	1253	1	8.7	7.7	279	20.3	45
04...	1257	6	8.6	7.7	281	20.2	70
04...	1258	1	8.6	7.7	282	20.6	70
04...	1301	6	8.6	7.7	281	20.2	90
04...	1302	1	8.6	7.7	282	20.4	90
04...	1306	15	8.6	7.7	282	20.2	115
04...	1307	11	8.7	7.7	284	20.5	115
04...	1308	6	8.7	7.7	285	20.6	115
04...	1309	1	8.7	7.7	286	21.1	115
04...	1310	15	8.6	7.7	282	20.1	140
04...	1311	11	8.6	7.7	282	20.1	140
04...	1312	6	8.6	7.7	284	20.4	140
04...	1313	1	8.7	7.7	287	21.4	140
04...	1316	6	8.6	7.7	284	20.4	165
04...	1317	1	8.7	7.7	288	21.2	165
04...	1324	6	8.7	7.8	285	20.6	190
04...	1325	1	8.8	7.7	288	21.2	190
04...	1334	11	8.6	7.7	283	20.2	220
04...	1335	6	8.8	7.7	288	21.1	220
04...	1336	1	8.8	7.7	288	21.1	220
04...	1342	6	8.8	7.8	286	20.7	245
04...	1343	1	8.9	7.7	289	21.3	245
04...	1347	6	8.9	7.8	289	21.2	270
04...	1348	1	8.9	7.8	290	21.5	270

LEHIGH RIVER BASIN

LAKES AND RESERVOIRS IN LEHIGH RIVER BASIN

- 01447780 FRANCIS E. WALTER RESERVOIR** (formerly published as Bear Creek Reservoir)--Lat 41°06'45", long 75°43'15", Luzerne County, Hydrologic Unit 02040106, at dam on Lehigh River, 2,200 ft downstream from Bear Creek, and 5.0 mi northeast of White Haven. DRAINAGE AREA, 289 mi². PERIOD OF RECORD, February 1961 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).
 REMARKS.--Reservoir formed by an earthfill embankment covered with a rock shell, with concrete spillway at elevation 1,450.0 ft. Storage began Feb. 17, 1961; reservoir first reached conservation pool in June 1961. Total capacity (elevation 1,450.0 ft) is 110,700 acre-ft of which 108,700 acre-ft is controlled storage above elevation 1,300.0 ft. (conservation pool). Dead storage is 2,000 acre-ft. Flow regulated by three gates and low-flow by-pass system. Reservoir is used for flood control and recreation. Satellite telemetry at station.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,100 acre-ft, Sept. 28, 1985, elevation, 1,417.08 ft; minimum contents (after establishment of conservation pool), 980 acre-ft, July 6, 1982, elevation, 1,287.70 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,750 acre-ft, May 29, elevation, 1,399.27 ft; minimum contents, 1,660 acre-ft, Dec. 26, Jan. 19, elevation, 1,298.22 ft.
- 01449400 PENN FOREST RESERVOIR**--Lat 40°55'45", long 75°33'45", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 0.7 mi upstream from hatchery, 2.6 mi upstream from Wild Creek Dam, 4.4 mi upstream from mouth, and 10.0 mi northeast of Palmerton. DRAINAGE AREA, 16.5 mi². PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by city of Bethlehem).
 REMARKS.--Reservoir formed by a roller-compacted concrete dam with ungated concrete spillway at elevation 1,000.60 ft (capacity, 18,510 acre-ft). Storage began October 1958. Reservoir is used for municipal water supply. Regulation by valves on pipe through dam. Figures given herein represent total contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin.
 COOPERATION.--Records provided by city of Bethlehem.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,800 acre-ft, Apr. 16, 1983, elevation, 1,001.69 ft; minimum contents, 0 acre-ft, many days during 1996, 1997, 1998, and 1999 water years, elevation, 890.60 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,730 acre-ft, Apr. 29, elevation, 1,001.03 ft; minimum contents, 15,420 acre-ft, Mar. 2, elevation, 993.21 ft.
- 01449700 WILD CREEK RESERVOIR**--Lat 40°53'50", long 75°33'50", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 1.6 mi upstream from mouth, 2.4 mi south of hatchery, and 7.5 mi northeast of Palmerton. DRAINAGE AREA, 22.2 mi². PERIOD OF RECORD, January 1941 to current year. GAGE, nonrecording gage. Datum of gage is sea level (levels by city of Bethlehem).
 REMARKS.--Reservoir formed by earthfill dam with concrete ungated spillway at elevation 820.00 ft. Storage began January 27, 1941; reservoir first reached minimum contents pool elevation in February 1941. Total capacity at elevation 820.00 ft is 12,500 acre-ft of which 12,000 acre-ft is controlled storage. Reservoir is used for municipal water supply. Regulation by valves on pipe through dam. Figures given herein represent usable contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin.
 COOPERATION.--Records provided by city of Bethlehem.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,880 acre-ft, May 23, 1942, elevation, 822.93 ft; minimum contents (after first filling), 2,680 acre-ft, Nov. 15, 1966, elevation, 774.10 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,160 acre-ft, May 14, elevation, 820.52 ft; minimum contents, 11,330 acre-ft, Oct. 8, elevation 817.30 ft.
- 01449790 BELTZVILLE LAKE**--Lat 40°50'56", long 75°38'19", Carbon County, Hydrologic Unit 02040106, at dam on Pohopoco Creek, 0.4 mi upstream from gaging station on Pohopoco Creek, 0.6 mi upstream from Sawmill Run, and 2.3 mi northeast of Parryville. DRAINAGE AREA, 96.3 mi². PERIOD OF RECORD, February 1971 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).
 REMARKS.--Lake formed by an earth and rockfill dam with ungated, partially lined spillway at an elevation of 651.00 ft. Storage began Feb. 8, 1971. Capacity at elevation 651.00 ft is 68,300 acre-ft. Ordinary minimum contents (conservation) pool elevation is 628.00 ft, capacity, 41,250 acre-ft. Dead storage is 1,390 acre-ft. Lake is used for recreation, flood control, low-flow augmentation, and water supply. Figures given herein represent total contents. Regulation is accomplished by a multi-level water-quality outlet system, and two flood-control gates.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,730 acre-ft, Jan. 29, 1976, elevation, 636.30 ft; minimum contents, 15,110 acre-ft, Mar. 31, 1983, elevation, 588.79 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,570 acre-ft, May 20, elevation, 629.37 ft; minimum contents, 39,660 acre-ft, Nov. 25, elevation, 626.33 ft.

LEHIGH RIVER BASIN

Lakes and Reservoirs in Lehigh River Basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01447780 Francis E. Walter Reservoir</u>				<u>01449400 Penn Forest Reservoir</u>		
Sept. 30	1,304.81	2,230	---	998.30	17,530	--
Oct. 31	1,300.18	1,810	-6.8	995.23	16,240	-21.0
Nov. 30	1,303.10	2,070	+4.4	993.47	15,520	-12.1
Dec. 31	1,301.92	1,970	-1.6	993.86	15,680	+2.6
CAL YR 2001	--	--	-0.7	--	--	-3.9
Jan. 31	1,304.53	2,200	+3.7	993.30	15,450	-3.7
Feb. 29	1,356.80	14,210	+216	993.25	15,430	-0.4
Mar. 31	1,386.45	32,050	+290	995.65	16,410	+15.9
Apr. 30	1,392.08	36,520	+75.1	1,000.99	18,710	+38.7
May 31	1,390.21	34,970	-25.2	1,000.78	18,600	-1.8
June 30	1,392.52	36,890	+32.3	1,000.68	18,550	-0.8
July 31	1,385.79	31,530	-87.2	1,000.36	18,410	-2.3
Aug. 31	1,371.14	21,540	-162	997.38	17,150	-20.5
Sept. 30	1,371.63	21,840	+5.0	995.45	16,330	-13.8
WTR YR 2002	--	--	+27.1	--	--	-1.7
<u>01449700 Wild Creek Reservoir</u>				<u>01449790 Beltzville Lake</u>		
Sept. 30	817.80	11,470	---	627.96	41,210	--
Oct. 31	818.83	11,750	+4.6	627.71	40,970	-3.9
Nov. 30	818.35	11,620	-2.2	626.60	39,920	-17.7
Dec. 31	818.24	11,590	-0.5	628.09	41,340	+23.1
CAL YR 2001	--	--	+1.5	--	--	+1.0
Jan. 31	818.02	11,540	-0.8	628.14	41,380	+0.7
Feb. 29	818.35	11,620	+1.4	627.97	41,220	-2.9
Mar. 31	818.96	11,790	+2.8	628.25	41,490	+4.4
Apr. 30	819.91	11,980	+3.2	628.20	41,440	-0.8
May 31	820.24	12,070	+1.5	628.13	41,370	-1.1
June 30	820.08	12,020	-0.8	627.97	41,220	-2.5
July 31	817.70	11,450	-9.3	627.96	41,210	-0.2
Aug. 31	818.37	11,630	+2.9	627.14	40,430	-12.7
Sept. 30	818.72	11,720	+1.5	626.99	40,290	-2.4
WTR YR 2002	--	--	+0.3	--	--	-1.3

DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, NJ

LOCATION.--Lat 40°35'36", long 75°11'17", Warren County, N.J., Hydrologic Unit 02040105, just upstream of suspension bridge at Riegelsville, NJ, 600 ft upstream from Musconetcong River (flow of which is included in the records for this station since Oct. 1, 1931). Water-quality samples are collected from the bridge and do not include flow of the Musconetcong River.

DRAINAGE AREA.--6,328 mi².

PERIOD OF RECORD.--Water years 1934, 1943, 1950, 1960-79, 1991 to current year.

REMARKS.--Total nitrogen (00600) equals the sum of dissolved ammonia plus organic nitrogen (00623), dissolved nitrite plus nitrate nitrogen (00631), and total particulate nitrogen (49570).

COOPERATION.--Field data and samples for laboratory analyses were provided by the New Jersey Department of Environmental Protection. Determination of dissolved ammonia, total ammonia, dissolved nitrite, dissolved orthophosphate, biochemical oxygen demand, total suspended solids, fecal coliform, *E. coli*, and enterococcus bacteria was performed by the New Jersey Department of Health and Senior Services, Public Health and Environmental Laboratories, Environmental and Chemical Laboratory Services. Determination of chlorophyll a was performed by the New Jersey Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

COOPERATIVE NETWORK SITE DESCRIPTOR.--Delaware River Main Stem, New Jersey Department of Environmental Protection Watershed Management Area 1.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	
DATE		CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CaCO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)
DATE		NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, PAR TICULTE WAT FLT SUSP (MG/L AS N) (49570)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, PARTIC-ULATE TOTAL (MG/L AS C) (00689)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
DEC 05...	1030	4100	1.8	--	--	767	90	10.5	7.7	187	15.0	9.0	60	
FEB 26...	1045	4470	1.1	.046	.035	755	91	11.0	7.8	176	10.0	7.0	52	
MAY 21...	0945	23900	6.8	.123	.093	766	94	10.4	7.4	114	11.0	11.0	33	
SEP 05...	1000	E3000	1.9	.059	.045	760	81	7.0	8.0	210	23.0	22.5	69	
DEC 05...	15.4	5.18	1.36	11.4	39	17.0	.1	3.1	17.2	106	99	.030	.38	
FEB 26...	13.5	4.55	1.15	11.2	35	16.5	<.1	2.6	16.6	86	91	<.030	.15	
MAY 21...	8.69	2.70	.75	7.63	21	11.3	E.1	3.3	10.4	76	63	<.030	.21	
SEP 05...	17.8	6.06	1.63	10.2	49	19.5	E.1	3.1	17.1	110	109	<.030	.22	
DEC 05...	.030	.96	.009	1.3	.07	.074	--	.089	.7	<.1	2.5	.7	<1.0	
FEB 26...	<.030	.86	.006	1.0	.04	.056	.030	.066	.4	<.1	1.9	.4	E1.8	
MAY 21...	<.030	1.37	<.003	1.6	.18	.021	.023	.049	1.6	<.1	3.4	1.6	<1.0	
SEP 05...	<.030	.92	.006	1.1	<.02	.094	.074	.103	.3	<.1	2.5	.3	<1.0	

DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLORO- PHYLL A FLUORO- METRIC METHOD CORR. (µG/L) (32209)	BORON, DIS- SOLVED (µG/L AS B) (01020)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
DEC 05...	--	20	4
FEB 26...	--	E10	18
MAY 21...	4.00	<10	11
SEP 05...	.600	20	6

WATER-COLUMN BACTERIA ANALYSES
Samples collected synoptically during the summer months

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)
JUL					AUG				
10...	0900	80	<100	10	07...	0920	80	<100	100
17...	0910	20	<100	30					
24...	0910	170	<100	80					
31...	0900	70	100	60					

TOHICKON CREEK BASIN

01459500 TOHICKON CREEK NEAR PIPERSVILLE, PA

LOCATION.--Lat 40°26'01", long 75°07'01", Bucks County, Hydrologic Unit 02040105, on right bank at site of Traugers bridge, 1.5 mi northeast of Pipersville, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--97.4 mi².

PERIOD OF RECORD.--July 1935 to current year.

REVISED RECORDS.--WDR PA-75-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 258.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since December 1973 by Nockamixon Reservoir about 6.2 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	4.6	4.9	e19	109	18	108	273	30	53	3.4	11
2	18	4.6	4.7	e17	143	18	89	348	28	37	3.7	13
3	17	4.9	4.8	e15	113	174	85	568	24	30	6.5	6.2
4	15	4.9	4.8	e14	87	233	99	303	20	26	3.9	4.3
5	14	5.0	4.8	e13	73	138	83	171	18	22	3.9	3.4
6	13	5.1	4.6	e12	53	88	72	112	24	18	5.5	3.2
7	13	5.1	5.0	e19	48	64	57	84	243	15	3.7	3.1
8	11	3.9	5.7	e21	47	52	50	66	218	12	3.6	3.0
9	8.6	9.5	12	e19	43	46	48	62	119	11	3.4	2.8
10	7.2	4.3	12	e18	40	54	50	76	70	9.6	3.4	2.8
11	5.9	4.1	12	e28	52	40	44	63	48	7.7	3.4	2.8
12	4.9	4.4	12	50	42	34	40	69	116	6.0	3.4	2.4
13	4.6	4.6	12	55	39	38	41	847	297	5.1	3.3	2.9
14	4.2	4.6	14	54	34	44	45	3870	273	4.7	3.1	3.5
15	4.3	4.8	19	54	28	41	54	1220	332	4.2	3.2	4.0
16	5.0	4.7	19	53	28	41	76	416	214	3.6	3.1	6.2
17	5.1	4.5	18	48	28	39	70	223	124	3.4	3.1	3.8
18	4.4	4.5	29	46	27	127	56	515	76	3.6	3.2	3.5
19	4.6	4.5	31	43	22	232	48	571	92	3.6	3.2	3.7
20	4.1	5.5	29	69	22	757	45	302	103	5.4	5.5	3.5
21	3.7	4.6	29	39	26	1020	40	176	71	4.5	3.6	3.3
22	3.8	4.5	25	34	26	441	41	116	50	3.7	3.0	3.4
23	3.3	4.5	22	32	25	223	53	85	37	3.6	3.2	3.3
24	2.5	4.7	35	171	23	136	41	69	31	3.6	3.8	3.1
25	1.8	5.8	37	300	22	97	43	55	28	3.6	5.4	3.3
26	1.5	9.0	34	200	21	78	64	44	25	3.6	3.2	4.0
27	3.8	6.2	31	122	21	294	57	41	35	3.6	2.9	51
28	4.5	5.6	28	85	21	256	300	38	152	3.6	2.9	46
29	4.5	5.6	26	65	---	175	701	35	165	3.6	8.6	27
30	4.6	5.1	e24	56	---	121	398	32	90	3.6	5.6	24
31	4.4	---	e21	73	---	93	---	30	---	3.4	3.9	---
TOTAL	224.3	153.7	570.3	1844	1263	5212	2998	10880	3153	321.3	121.6	257.5
MEAN	7.24	5.12	18.4	59.5	45.1	168	99.9	351	105	10.4	3.92	8.58
MAX	22	9.5	37	300	143	1020	701	3870	332	53	8.6	51
MIN	1.5	3.9	4.6	12	21	18	40	30	18	3.4	2.9	2.4

e Estimated.

TOHICKON CREEK BASIN

01459500 TOHICKON CREEK NEAR PIPERSVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	83.5	160	223	238	205	307	232	196	78.6	66.5	47.1	81.5
MAX	528	553	813	916	436	867	707	579	314	602	232	452
(WY)	1997	1976	1997	1979	1984	1994	1983	1984	1989	1984	1978	1999
MIN	5.87	5.12	3.61	16.4	28.3	43.1	36.9	29.1	5.73	2.11	3.92	4.03
(WY)	1983	2002	1999	1977	1974	1976	1985	1999	1999	1999	2002	1980

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1974 - 2002
ANNUAL TOTAL	45286.1	26998.7	
ANNUAL MEAN	124	74.0	160
HIGHEST ANNUAL MEAN			300 1984
LOWEST ANNUAL MEAN			74.0 2002
HIGHEST DAILY MEAN	1700 May 27	3870 May 14	6810 Dec 5 1993
LOWEST DAILY MEAN	1.5 Oct 26	1.5 Oct 26	1.5 Oct 26 2001
ANNUAL SEVEN-DAY MINIMUM	2.9 Oct 21	2.8 Sep 7	1.7 Sep 12 1991
MAXIMUM PEAK FLOW		4660 May 14	a18600 Sep 16 1999
MAXIMUM PEAK STAGE		7.02 May 14	11.90 Sep 16 1999
10 PERCENT EXCEEDS	344	167	390
50 PERCENT EXCEEDS	34	22	46
90 PERCENT EXCEEDS	4.6	3.4	5.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

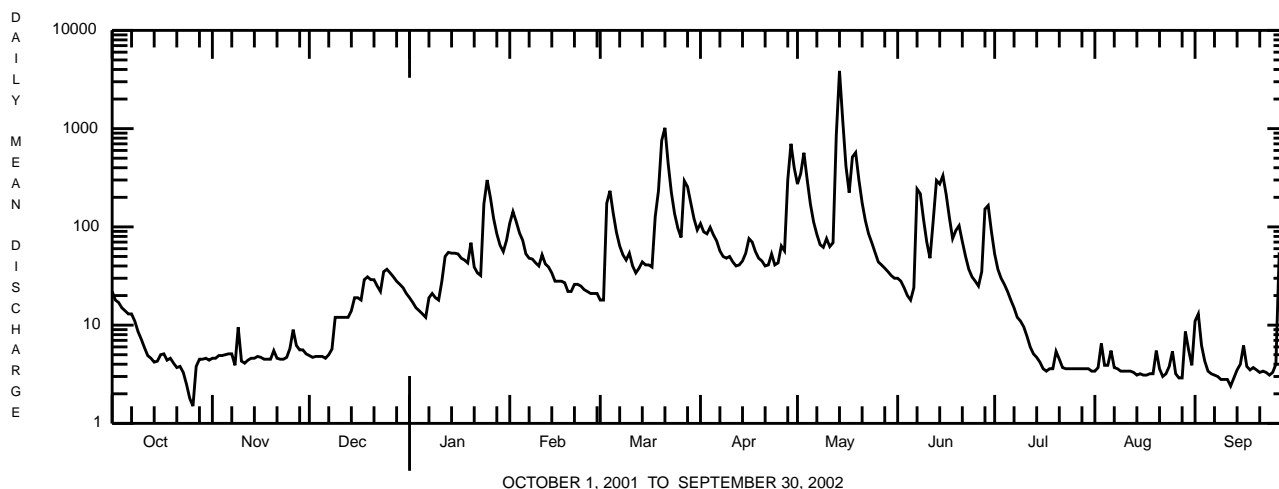
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	43.4	138	183	190	235	300	217	121	79.0	54.0	66.8	54.3
MAX	367	601	464	501	572	795	612	430	413	288	515	513
(WY)	1956	1973	1973	1949	1971	1936	1952	1948	1972	1938	1955	1960
MIN	1.46	3.51	11.5	37.8	42.5	133	35.2	15.9	4.64	1.68	1.12	1.21
(WY)	1965	1965	1966	1966	1947	1949	1946	1955	1965	1957	1957	1957

SUMMARY STATISTICS WATER YEARS 1936 - 1973

ANNUAL MEAN	140	
HIGHEST ANNUAL MEAN	240	1973
LOWEST ANNUAL MEAN	45.8	1965
HIGHEST DAILY MEAN	6820	Sep 12 1960
LOWEST DAILY MEAN	.10	Sep 24 1941 ^b
ANNUAL SEVEN DAY MINIMUM	.47	Jul 24 1955
MAXIMUM PEAK FLOW	a16000	Aug 18 1955
MAXIMUM PEAK STAGE	11.26	Aug 18 1955
INSTANTANEOUS LOW FLOW	.05	Sep 24 1941
ANNUAL RUNOFF (CFSM)	1.43	
ANNUAL RUNOFF (INCHES)	19.48	
10 PERCENT EXCEEDS	325	
50 PERCENT EXCEEDS	37	
90 PERCENT EXCEEDS	3.8	

a From rating curve extended above 13,600 ft³/s on basis of slope-area measurement at gage height 10.48 ft.

b Also Sept. 29, Oct. 6, 1941.



DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

LOCATION.--Lat 40°25'06", long 75°03'42", Bucks County, Hydrologic Unit 02040105, on right bank at Forest Park Water Company pump station, 0.2 mi downstream from Tohickon Creek and 0.4 mi southeast of Point Pleasant.

DRAINAGE AREA.--6,570 mi².

PERIOD OF RECORD.--May 2000 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 2000 to current year.

pH: May 2000 to current year.

WATER TEMPERATURE: May 2000 to current year.

DISSOLVED OXYGEN: May 2000 to current year.

INSTRUMENTATION.--Probes interfaced with a data collection platform with 30-minute recording interval. Satellite and landline telemetry at station.

REMARKS.--Specific conductance, water temperature, and pH records rated good. Dissolved oxygen record rated fair except for period Nov. 28 to Dec. 6, which is poor. Data collection discontinued Dec. 6 to Jan. 15. Other interruptions in the record due to intermittent pumping. (See Distributary from Bradshaw Reservoir, station 01472618).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 295 microsiemens, Jan. 23, 2002; minimum, 89 microsiemens, June 8, 9, 2000.

pH: Maximum, 9.8, Apr. 30, May 1-3, 2001; minimum, 6.8, June 8, 9, 2002.

WATER TEMPERATURE: Maximum, 32.5°C, Aug. 9, 2001; minimum, 2.0°C, Jan. 19-21, 2002.

DISSOLVED OXYGEN: Maximum, 15.5 mg/L, Nov. 25, 2000; minimum, 6.1 mg/L, Aug. 11, 2001.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	217	205	210	226	215	222	212	206	210	---	---	---
2	224	217	221	226	213	220	213	206	210	---	---	---
3	224	219	221	229	218	225	212	193	199	---	---	---
4	228	222	225	228	217	223	196	173	182	---	---	---
5	229	227	228	226	217	222	179	167	172	---	---	---
6	---	---	---	228	217	224	---	---	---	---	---	---
7	---	---	---	230	221	226	---	---	---	---	---	---
8	---	---	---	227	216	222	---	---	---	---	---	---
9	---	---	---	231	220	227	---	---	---	---	---	---
10	---	---	---	235	219	227	---	---	---	---	---	---
11	---	---	---	230	218	225	---	---	---	---	---	---
12	229	220	224	232	216	224	---	---	---	---	---	---
13	228	222	226	228	215	223	---	---	---	---	---	---
14	226	222	224	230	217	224	---	---	---	---	---	---
15	226	220	222	231	218	225	---	---	---	---	---	---
16	230	222	225	236	224	229	---	---	---	---	---	---
17	232	221	227	240	226	234	---	---	---	---	---	---
18	---	---	---	238	224	231	---	---	---	---	---	---
19	---	---	---	230	216	223	---	---	---	239	235	237
20	218	207	212	226	215	221	---	---	---	245	235	241
21	215	210	213	225	215	221	---	---	---	265	245	252
22	225	213	217	223	211	218	---	---	---	266	256	261
23	225	216	221	222	212	218	---	---	---	295	266	281
24	220	211	216	224	213	219	---	---	---	---	---	---
25	224	214	219	223	212	218	---	---	---	---	---	---
26	229	220	223	234	208	217	---	---	---	---	---	---
27	231	223	227	238	220	228	---	---	---	---	---	---
28	229	219	224	225	201	213	---	---	---	---	---	---
29	225	215	221	216	210	214	---	---	---	---	---	---
30	226	216	221	212	203	207	---	---	---	---	---	---
31	225	211	219	---	---	---	---	---	---	---	---	---
MONTH	232	205	221	240	201	222	213	167	195	295	235	254

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	187	176	181	---	---	---	---	---	---
2	---	---	---	185	179	182	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	152	145	147
10	---	---	---	---	---	---	---	---	---	154	148	152
11	---	---	---	---	---	---	153	148	151	151	144	148
12	---	---	---	---	---	---	157	151	153	---	---	---
13	---	---	---	---	---	---	155	149	152	---	---	---
14	---	---	---	---	---	---	161	154	157	---	---	---
15	---	---	---	---	---	---	176	158	165	---	---	---
16	---	---	---	---	---	---	169	144	152	---	---	---
17	---	---	---	---	---	---	144	136	140	---	---	---
18	---	---	---	---	---	---	139	137	138	---	---	---
19	---	---	---	---	---	---	143	139	140	---	---	---
20	---	---	---	---	---	---	152	139	145	---	---	---
21	171	164	167	---	---	---	156	149	151	---	---	---
22	178	170	173	---	---	---	161	156	158	---	---	---
23	179	171	176	---	---	---	161	157	159	---	---	---
24	179	167	173	---	---	---	162	155	158	---	---	---
25	169	161	166	---	---	---	---	---	---	141	134	137
26	171	162	167	---	---	---	---	---	---	144	136	139
27	178	170	173	---	---	---	---	---	---	153	144	148
28	182	175	179	---	---	---	---	---	---	154	150	152
29	---	---	---	---	---	---	---	---	---	154	144	151
30	---	---	---	---	---	---	---	---	---	144	102	109
31	---	---	---	---	---	---	---	---	---	112	101	106
MONTH	182	161	172	187	176	182	176	136	151	154	101	139
	JUNE			JULY			AUGUST			SEPTEMBER		
1	125	112	118	178	170	175	217	212	215	216	195	206
2	127	123	125	190	178	185	221	217	219	234	207	214
3	127	121	124	191	186	189	233	220	225	248	234	244
4	131	126	128	187	183	185	235	220	228	240	218	228
5	135	130	131	194	183	188	234	224	230	219	210	214
6	143	134	138	201	192	195	231	218	225	217	212	214
7	---	---	---	201	197	199	221	215	219	225	216	221
8	137	98	112	207	197	199	216	209	213	227	218	223
9	109	98	103	212	205	208	212	208	210	222	218	220
10	113	108	110	221	212	215	218	212	217	231	222	226
11	122	110	117	222	217	220	224	218	222	232	224	228
12	121	113	116	223	219	220	231	221	227	226	218	224
13	135	120	128	224	215	218	231	222	228	229	221	225
14	142	131	137	230	220	224	222	216	218	---	---	---
15	147	140	145	234	226	231	216	213	214	---	---	---
16	145	125	136	243	234	240	220	212	214	218	210	215
17	136	114	127	238	234	236	226	220	223	225	210	217
18	133	121	125	238	228	232	226	218	223	---	---	---
19	134	125	129	235	226	231	221	216	219	---	---	---
20	142	134	138	232	227	229	221	209	214	---	---	---
21	146	141	142	230	223	226	209	205	208	---	---	---
22	152	146	148	236	223	229	205	195	199	---	---	---
23	158	152	156	228	213	220	201	196	198	---	---	---
24	165	157	160	217	209	213	204	198	202	---	---	---
25	168	163	166	215	199	206	217	201	208	---	---	---
26	168	161	164	214	205	210	230	217	226	229	209	221
27	168	161	166	214	205	209	227	218	222	212	196	204
28	184	159	171	215	201	208	220	213	217	245	212	235
29	175	169	173	229	215	224	213	204	210	233	198	215
30	173	166	170	228	219	223	245	212	232	198	172	181
31	---	---	---	221	216	220	241	212	224	---	---	---
MONTH	184	98	138	243	170	213	245	195	218	248	172	219

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.4	7.6	7.8	9.2	7.6	8.4	8.6	7.4	7.7	---	---	---
2	8.5	7.7	7.9	9.3	7.6	8.6	8.2	7.4	7.6	---	---	---
3	8.7	7.7	8.0	9.2	7.6	8.4	8.3	7.5	7.6	---	---	---
4	8.7	7.7	8.0	9.3	7.6	8.5	8.2	7.4	7.6	---	---	---
5	8.7	7.7	8.0	9.2	7.6	8.5	8.1	7.4	7.5	---	---	---
6	---	---	---	9.2	7.6	8.5	---	---	---	---	---	---
7	---	---	---	9.2	7.8	8.5	---	---	---	---	---	---
8	---	---	---	9.3	7.7	8.6	---	---	---	---	---	---
9	---	---	---	9.2	7.7	8.6	---	---	---	---	---	---
10	---	---	---	9.2	7.8	8.6	---	---	---	---	---	---
11	---	---	---	9.2	7.7	8.5	---	---	---	---	---	---
12	8.8	7.8	8.2	9.2	7.7	8.5	---	---	---	---	---	---
13	9.0	7.8	8.2	9.2	7.8	8.6	---	---	---	---	---	---
14	8.9	7.7	8.2	9.2	7.8	8.6	---	---	---	---	---	---
15	9.0	7.6	8.2	9.2	7.8	8.6	---	---	---	---	---	---
16	8.9	7.6	8.2	9.3	7.8	8.6	---	---	---	---	---	---
17	8.9	7.6	8.1	9.2	7.8	8.6	---	---	---	---	---	---
18	---	---	---	9.2	7.8	8.6	---	---	---	---	---	---
19	---	---	---	9.2	7.8	8.5	---	---	---	7.8	7.6	7.7
20	9.2	7.8	8.5	9.1	7.6	8.4	---	---	---	7.9	7.6	7.7
21	9.2	7.8	8.5	9.1	7.6	8.5	---	---	---	7.9	7.6	7.8
22	9.3	7.8	8.5	9.1	7.8	8.5	---	---	---	8.0	7.6	7.8
23	9.3	7.8	8.5	9.1	7.7	8.5	---	---	---	8.0	7.7	7.8
24	9.3	7.7	8.5	8.9	7.7	8.3	---	---	---	---	---	---
25	9.3	7.7	8.5	9.0	7.6	8.1	---	---	---	---	---	---
26	9.2	7.7	8.4	8.9	7.5	8.0	---	---	---	---	---	---
27	9.1	7.7	8.3	8.7	7.5	7.8	---	---	---	---	---	---
28	9.2	7.7	8.4	8.8	7.3	7.7	---	---	---	---	---	---
29	9.2	7.8	8.5	7.8	7.5	7.6	---	---	---	---	---	---
30	9.3	7.7	8.5	7.9	7.4	7.5	---	---	---	---	---	---
31	8.7	7.7	8.1	---	---	---	---	---	---	---	---	---
MAX	9.3	7.8	8.5	9.3	7.8	8.6	8.6	7.5	7.7	8.0	7.7	7.8
MIN	8.4	7.6	7.8	7.8	7.3	7.5	8.1	7.4	7.5	7.8	7.6	7.7
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	9.0	7.5	8.2	---	---	---	---	---	---
2	---	---	---	8.9	7.5	8.2	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
10	---	---	---	---	---	---	---	---	---	7.7	7.2	7.4
11	---	---	---	---	---	---	8.5	7.3	7.7	7.9	7.3	7.5
12	---	---	---	---	---	---	8.1	7.3	7.6	---	---	---
13	---	---	---	---	---	---	8.5	7.3	7.6	---	---	---
14	---	---	---	---	---	---	8.6	7.3	7.8	---	---	---
15	---	---	---	---	---	---	8.4	7.3	7.6	---	---	---
16	---	---	---	---	---	---	7.3	7.0	7.2	---	---	---
17	---	---	---	---	---	---	7.1	7.0	7.0	---	---	---
18	---	---	---	---	---	---	7.2	7.0	7.0	---	---	---
19	---	---	---	---	---	---	7.3	7.0	7.1	---	---	---
20	---	---	---	---	---	---	7.1	7.0	7.0	---	---	---
21	8.5	7.3	7.7	---	---	---	7.1	7.0	7.0	---	---	---
22	8.6	7.3	7.7	---	---	---	7.2	7.0	7.1	---	---	---
23	8.7	7.4	7.8	---	---	---	7.4	7.1	7.2	---	---	---
24	8.7	7.4	7.9	---	---	---	8.2	7.2	7.3	---	---	---
25	8.8	7.4	7.9	---	---	---	---	---	---	7.7	7.2	7.4
26	8.8	7.4	8.0	---	---	---	---	---	---	7.7	7.3	7.4
27	8.8	7.4	7.9	---	---	---	---	---	---	7.9	7.2	7.5
28	8.9	7.4	8.1	---	---	---	---	---	---	8.2	7.3	7.6
29	---	---	---	---	---	---	---	---	---	7.8	7.2	7.4
30	---	---	---	---	---	---	---	---	---	7.2	6.9	7.0
31	---	---	---	---	---	---	---	---	---	7.0	6.9	7.0
MAX	8.9	7.4	8.1	9.0	7.5	8.2	8.6	7.3	7.8	8.2	7.3	7.6
MIN	8.5	7.3	7.7	8.9	7.5	8.2	7.1	7.0	7.0	7.0	6.9	7.0

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.2	7.0	7.1	8.0	7.2	7.3	8.7	7.6	8.0	8.1	7.7	7.9
2	7.3	7.1	7.1	8.1	7.3	7.6	8.6	7.6	8.0	8.6	7.7	8.0
3	7.7	7.1	7.2	8.0	7.3	7.6	8.6	7.6	7.9	8.8	7.8	8.2
4	7.6	7.1	7.2	8.0	7.2	7.4	8.5	7.5	7.8	8.8	7.7	8.2
5	7.9	7.2	7.3	8.2	7.2	7.6	8.4	7.5	7.8	8.9	7.8	8.2
6	7.9	7.2	7.3	8.2	7.3	7.6	8.5	7.6	7.9	8.9	7.8	8.3
7	---	---	---	8.3	7.3	7.7	8.4	7.6	8.0	8.9	7.8	8.3
8	7.1	6.8	6.9	8.4	7.3	7.8	8.6	7.7	8.0	8.9	7.8	8.3
9	6.9	6.8	6.9	8.4	7.4	7.7	8.6	7.7	8.0	8.9	7.8	8.3
10	7.0	6.9	7.0	8.4	7.4	7.8	8.6	7.7	8.0	8.9	7.8	8.3
11	7.2	7.0	7.0	8.4	7.4	7.9	8.6	7.7	8.0	8.8	7.8	8.4
12	7.1	7.0	7.0	8.4	7.4	7.9	8.7	7.7	8.2	8.8	7.9	8.4
13	7.2	7.0	7.1	8.5	7.4	7.9	8.8	7.7	8.1	8.9	7.8	8.3
14	7.2	7.1	7.2	8.3	7.4	7.8	8.8	7.6	8.1	---	---	---
15	7.2	7.2	7.2	8.5	7.4	7.9	8.8	7.6	8.1	---	---	---
16	7.2	7.2	7.2	8.6	7.5	8.0	8.7	7.5	8.0	8.6	7.6	7.9
17	7.2	7.2	7.2	8.7	7.5	8.0	8.7	7.5	8.0	8.6	7.6	7.9
18	7.3	7.0	7.2	8.7	7.5	8.0	8.7	7.5	7.9	---	---	---
19	7.4	7.1	7.2	8.6	7.4	7.9	8.7	7.4	7.9	---	---	---
20	7.6	7.2	7.3	8.5	7.4	7.9	8.5	7.4	7.8	---	---	---
21	7.8	7.2	7.4	8.5	7.4	7.8	8.6	7.4	7.8	---	---	---
22	8.1	7.2	7.5	8.6	7.4	7.9	8.4	7.5	7.8	---	---	---
23	8.3	7.2	7.6	8.6	7.4	7.8	8.3	7.4	7.7	---	---	---
24	8.5	7.2	7.7	8.4	7.3	7.7	7.9	7.5	7.6	---	---	---
25	8.6	7.2	7.8	8.5	7.4	7.8	8.4	7.4	7.8	---	---	---
26	8.6	7.2	7.8	8.4	7.4	7.8	8.4	7.5	7.9	8.4	7.7	8.0
27	8.5	7.2	7.6	8.1	7.4	7.7	8.6	7.5	7.9	8.0	7.6	7.7
28	7.3	7.1	7.2	8.2	7.4	7.7	8.4	7.6	7.9	8.4	7.5	7.8
29	7.5	7.1	7.2	8.4	7.4	7.8	8.5	7.6	7.8	8.4	7.6	7.7
30	7.6	7.1	7.2	8.7	7.4	7.8	8.5	7.7	8.0	8.4	7.5	7.7
31	---	---	---	8.7	7.5	8.0	8.8	7.7	8.0	---	---	---
MAX	8.6	7.2	7.8	8.7	7.5	8.0	8.8	7.7	8.2	8.9	7.9	8.4
MIN	6.9	6.8	6.9	8.0	7.2	7.3	7.9	7.4	7.6	8.0	7.5	7.7

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.0	15.0	15.0	12.5	10.0	11.0	13.5	11.5	12.5	---	---	---
2	17.5	14.0	15.5	14.0	11.0	12.5	11.5	10.5	11.5	---	---	---
3	19.0	15.5	17.0	15.0	13.0	13.5	11.0	9.5	10.5	---	---	---
4	20.0	17.0	18.0	14.0	12.0	13.0	10.5	9.0	9.5	---	---	---
5	20.5	17.5	19.0	12.5	10.5	11.5	11.0	9.5	10.0	---	---	---
6	---	---	---	12.0	9.5	10.5	---	---	---	---	---	---
7	---	---	---	12.0	9.5	11.0	---	---	---	---	---	---
8	---	---	---	12.0	10.0	11.0	---	---	---	---	---	---
9	---	---	---	11.5	10.0	11.0	---	---	---	---	---	---
10	---	---	---	11.5	9.5	10.5	---	---	---	---	---	---
11	---	---	---	11.0	9.0	10.0	---	---	---	---	---	---
12	17.5	14.5	16.0	10.0	8.0	9.0	---	---	---	---	---	---
13	18.5	15.5	17.0	9.5	7.0	8.5	---	---	---	---	---	---
14	18.0	16.5	17.5	9.5	7.5	8.5	---	---	---	---	---	---
15	18.5	16.5	17.5	10.5	8.0	9.0	---	---	---	---	---	---
16	17.5	15.5	16.5	11.0	8.5	10.0	---	---	---	---	---	---
17	16.5	14.5	15.5	11.0	9.0	10.0	---	---	---	---	---	---
18	---	---	---	10.5	8.0	9.5	---	---	---	---	---	---
19	---	---	---	10.5	8.5	9.5	---	---	---	3.5	2.0	3.0
20	15.5	12.5	14.0	10.0	8.0	9.0	---	---	---	4.0	2.0	2.5
21	16.0	13.0	14.5	9.0	7.0	8.0	---	---	---	3.0	2.0	2.5
22	16.5	14.0	15.0	8.5	6.5	7.5	---	---	---	4.5	2.5	3.0
23	16.5	14.0	15.5	9.0	7.0	8.0	---	---	---	4.5	3.0	3.5
24	18.0	15.5	16.5	9.5	8.0	8.5	---	---	---	---	---	---
25	17.5	15.5	16.5	11.5	9.0	10.5	---	---	---	---	---	---
26	16.0	13.5	15.0	12.0	10.0	11.0	---	---	---	---	---	---
27	13.5	12.5	13.0	10.5	9.5	10.0	---	---	---	---	---	---
28	13.0	11.5	12.0	12.0	10.5	11.0	---	---	---	---	---	---
29	13.0	10.5	11.5	11.5	11.5	11.5	---	---	---	---	---	---
30	13.0	11.0	12.0	12.5	11.5	12.0	---	---	---	---	---	---
31	11.5	10.5	11.0	---	---	---	---	---	---	---	---	---
MONTH	20.5	10.5	15.3	15.0	6.5	10.2	13.5	9.0	10.8	4.5	2.0	2.9

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.0	5.0	6.5	---	---	---	---	---	---
2	---	---	---	7.5	5.5	6.5	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	17.5	16.5	17.0
10	---	---	---	---	---	---	---	---	---	18.5	16.0	17.0
11	---	---	---	---	---	---	15.0	11.5	13.0	18.5	16.0	17.0
12	---	---	---	---	---	---	13.5	12.5	13.0	---	---	---
13	---	---	---	---	---	---	15.0	13.0	14.0	---	---	---
14	---	---	---	---	---	---	16.0	13.5	14.5	---	---	---
15	---	---	---	---	---	---	17.5	15.0	16.0	---	---	---
16	---	---	---	---	---	---	18.5	16.5	17.5	---	---	---
17	---	---	---	---	---	---	20.0	17.5	18.5	---	---	---
18	---	---	---	---	---	---	21.0	19.0	19.5	---	---	---
19	---	---	---	---	---	---	22.0	19.5	20.5	---	---	---
20	---	---	---	---	---	---	20.5	19.0	20.0	---	---	---
21	8.5	6.5	7.5	---	---	---	19.0	16.5	18.0	---	---	---
22	8.0	7.0	7.5	---	---	---	16.5	14.5	15.5	---	---	---
23	9.0	6.5	7.5	---	---	---	15.5	13.0	14.0	---	---	---
24	9.0	6.0	7.5	---	---	---	16.0	12.5	14.0	---	---	---
25	8.5	6.0	7.5	---	---	---	---	---	---	18.5	16.0	17.0
26	9.5	7.0	8.0	---	---	---	---	---	---	18.5	17.0	17.5
27	8.5	6.5	8.0	---	---	---	---	---	---	19.5	17.5	18.5
28	8.0	5.5	6.5	---	---	---	---	---	---	20.5	18.5	19.5
29	---	---	---	---	---	---	---	---	---	21.5	19.5	20.5
30	---	---	---	---	---	---	---	---	---	20.0	18.5	19.5
31	---	---	---	---	---	---	---	---	---	20.5	18.5	19.5
MONTH	9.5	5.5	7.5	8.0	5.0	6.5	22.0	11.5	16.3	21.5	16.0	18.3
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.0	20.0	21.0	28.0	25.0	26.5	31.5	27.5	29.5	22.5	21.0	21.5
2	22.5	20.5	21.5	29.5	25.5	27.5	32.0	28.0	30.0	22.0	20.5	21.0
3	22.5	20.5	21.0	30.5	27.0	28.5	31.5	28.0	30.0	24.5	20.5	22.0
4	21.5	20.0	21.0	31.5	28.0	29.5	32.0	28.0	30.0	26.0	22.0	24.0
5	22.5	20.0	21.0	30.5	28.0	29.5	30.5	29.0	29.5	26.0	22.5	24.0
6	22.5	21.0	21.5	29.0	26.5	27.5	29.0	26.5	28.0	26.0	22.0	24.0
7	---	---	---	28.0	25.0	26.5	27.5	25.0	26.0	26.0	22.0	24.0
8	19.5	18.5	19.0	28.5	25.0	26.5	28.0	24.5	26.0	26.5	22.5	24.5
9	20.0	18.0	19.0	28.5	25.5	27.0	28.5	23.5	26.0	27.0	22.5	25.0
10	21.5	19.5	20.5	29.0	26.0	27.5	28.5	24.0	26.0	27.5	23.5	25.5
11	23.0	20.5	21.5	28.0	24.5	26.0	29.0	24.5	26.5	26.0	23.0	25.0
12	23.5	22.0	22.5	28.0	24.0	26.0	29.5	25.5	27.5	24.5	21.5	23.0
13	22.5	21.5	22.0	27.0	24.0	25.5	30.5	26.5	28.5	25.0	21.0	23.0
14	21.5	19.5	20.5	26.5	24.5	25.5	30.5	27.0	28.5	---	---	---
15	19.5	18.5	19.0	28.5	24.0	26.0	30.5	27.5	29.0	---	---	---
16	19.5	18.0	18.5	28.5	25.0	26.5	30.5	28.5	29.5	25.5	23.0	24.0
17	20.5	18.0	19.0	29.5	24.5	26.5	31.5	28.0	29.5	25.5	22.5	24.0
18	21.0	19.0	20.0	29.5	26.5	28.0	31.5	28.5	30.0	---	---	---
19	21.0	19.5	20.0	30.0	27.0	28.5	31.0	28.0	29.5	---	---	---
20	22.5	20.0	21.0	30.5	26.5	28.5	30.0	28.0	29.0	---	---	---
21	24.0	21.0	22.0	29.5	27.5	28.5	30.5	27.0	28.5	---	---	---
22	25.0	22.0	23.5	30.5	26.5	28.0	28.5	26.0	27.5	---	---	---
23	26.0	23.0	24.5	31.0	27.5	29.0	28.5	26.5	27.5	---	---	---
24	27.0	24.0	25.5	29.0	27.0	28.0	27.0	25.5	26.0	---	---	---
25	28.0	25.0	26.5	29.0	26.0	27.5	28.5	25.0	26.5	---	---	---
26	29.0	26.0	27.0	27.0	25.5	26.0	27.0	24.5	26.0	22.0	20.5	21.5
27	28.5	26.5	27.0	26.0	24.5	25.0	27.5	24.5	25.5	21.0	19.5	20.5
28	26.5	25.0	26.0	27.5	25.0	26.0	26.0	24.5	25.0	22.0	20.0	21.0
29	27.0	24.5	26.0	29.5	25.5	27.5	24.5	22.5	23.0	21.5	19.0	20.0
30	27.5	24.5	26.0	30.0	26.5	28.0	23.0	22.0	22.5	21.5	19.0	20.0
31	---	---	---	31.0	26.5	28.5	24.5	21.5	22.5	---	---	---
MONTH	29.0	18.0	22.2	31.5	24.0	27.3	32.0	21.5	27.4	27.5	19.0	22.9

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.7	9.4	10	13.7	10.3	11.7	11.9	9.1	10.2	---	---	---
2	10.8	9.7	10.1	13.6	10.1	11.5	11.6	9.6	10.5	---	---	---
3	10.9	9.5	10.1	13.4	9.5	11.0	12.4	10.2	11.1	---	---	---
4	10.6	9.1	9.7	13.6	9.7	11.3	12.4	10.7	11.3	---	---	---
5	10.5	8.8	9.5	13.5	9.7	11.3	12.4	10.8	11.4	---	---	---
6	---	---	---	14.0	9.9	11.7	---	---	---	---	---	---
7	---	---	---	14.1	10.2	11.8	---	---	---	---	---	---
8	---	---	---	14.2	10.1	11.8	---	---	---	---	---	---
9	---	---	---	14.3	10.0	11.8	---	---	---	---	---	---
10	---	---	---	14.1	10.2	11.9	---	---	---	---	---	---
11	---	---	---	14.3	10.3	12.0	---	---	---	---	---	---
12	12.1	9.8	10.8	14.6	10.7	12.3	---	---	---	---	---	---
13	12.1	9.6	10.6	14.9	11.2	12.8	---	---	---	---	---	---
14	11.8	9.2	10.2	15.2	11.4	13.1	---	---	---	---	---	---
15	12.0	8.9	10.2	14.9	11.2	12.8	---	---	---	---	---	---
16	11.9	9.2	10.4	14.9	10.9	12.7	---	---	---	---	---	---
17	12.1	9.0	10.4	15.0	10.8	12.6	---	---	---	---	---	---
18	---	---	---	14.8	11.0	12.7	---	---	---	---	---	---
19	---	---	---	14.5	11.0	12.4	---	---	---	13.5	13.0	13.2
20	12.6	9.8	11.0	14.4	10.7	12.3	---	---	---	13.8	13.2	13.5
21	12.6	9.9	11.0	14.9	11.2	12.8	---	---	---	13.8	13.4	13.6
22	12.6	9.6	10.8	15.1	11.4	13.0	---	---	---	14.0	13.4	13.7
23	12.4	9.4	10.6	15.0	11.5	13.0	---	---	---	13.8	13.3	13.6
24	12.2	8.9	10.3	14.4	11.3	12.5	---	---	---	---	---	---
25	12.0	8.6	10.0	13.5	10.6	11.7	---	---	---	---	---	---
26	12.3	8.9	10.3	13.6	10.0	11.4	---	---	---	---	---	---
27	12.4	9.3	10.6	12.9	10.1	11.1	---	---	---	---	---	---
28	13.1	9.8	11.2	13.0	9.6	10.8	---	---	---	---	---	---
29	13.4	10.4	11.6	10.8	9.5	10	---	---	---	---	---	---
30	13.5	10.1	11.6	10.9	9.2	9.8	---	---	---	---	---	---
31	12.4	10.2	11.1	---	---	---	---	---	---	---	---	---
MONTH	13.5	8.6	10.5	15.2	9.2	11.9	12.4	9.1	10.9	14.0	13.0	13.5
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	14.5	12.1	13.2	---	---	---	---	---	---
2	---	---	---	14.5	12.1	13.2	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	9.5	9.1	9.3
10	---	---	---	---	---	---	---	---	---	10.1	9.1	9.6
11	---	---	---	---	---	---	11.8	10.6	11.2	10.4	9.4	9.9
12	---	---	---	---	---	---	11.5	10.3	10.9	---	---	---
13	---	---	---	---	---	---	11.8	10.2	10.9	---	---	---
14	---	---	---	---	---	---	11.8	10.1	10.9	---	---	---
15	---	---	---	---	---	---	11.3	9.2	10.4	---	---	---
16	---	---	---	---	---	---	9.3	8.9	9.1	---	---	---
17	---	---	---	---	---	---	9.4	8.7	9.0	---	---	---
18	---	---	---	---	---	---	9.4	8.5	8.9	---	---	---
19	---	---	---	---	---	---	9.5	8.2	8.6	---	---	---
20	---	---	---	---	---	---	9.0	7.9	8.4	---	---	---
21	13.1	11.9	12.4	---	---	---	9.4	8.3	8.8	---	---	---
22	13.4	11.6	12.4	---	---	---	10.2	8.9	9.5	---	---	---
23	13.5	11.6	12.5	---	---	---	10.9	9.7	10.3	---	---	---
24	13.6	11.8	12.6	---	---	---	11.0	10.1	10.5	---	---	---
25	13.8	11.8	12.7	---	---	---	---	---	---	10.0	9.3	9.6
26	13.3	11.7	12.4	---	---	---	---	---	---	9.9	9.0	9.4
27	13.5	11.2	12.3	---	---	---	---	---	---	10.1	9.0	9.5
28	14.1	11.7	12.8	---	---	---	---	---	---	10.2	8.9	9.5
29	---	---	---	---	---	---	---	---	---	9.5	8.5	8.8
30	---	---	---	---	---	---	---	---	---	8.8	8.5	8.7
31	---	---	---	---	---	---	---	---	---	8.8	8.3	8.6
MONTH	14.1	11.2	12.5	14.5	12.1	13.2	11.8	7.9	9.8	10.4	8.3	9.3

DELAWARE RIVER BASIN

01460200 DELAWARE RIVER BELOW TOHICKON CREEK AT POINT PLEASANT, PA

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.5	8.2	8.4	8.3	6.9	7.5	8.3	6.7	7.5	9.2	8.0	8.5
2	8.8	8.3	8.5	8.2	6.9	7.5	8.2	6.6	7.4	9.8	8.2	8.9
3	9.3	8.3	8.7	7.8	6.6	7.2	8.3	6.5	7.4	9.7	8.4	9.0
4	9.4	8.3	8.8	7.7	6.4	7.0	8.1	6.2	7.2	9.5	7.9	8.7
5	9.7	8.3	8.9	7.8	6.2	7.0	8.1	6.2	7.1	9.3	7.9	8.5
6	9.5	8.2	8.7	8.2	6.6	7.3	8.5	6.4	7.5	9.4	7.9	8.6
7	---	---	---	8.5	6.8	7.6	8.7	7.1	7.9	9.5	8.0	8.7
8	8.7	8.4	8.6	8.6	7.0	7.8	8.7	7.3	8.0	9.5	8.0	8.6
9	8.8	8.6	8.7	8.6	6.9	7.7	8.8	7.5	8.1	9.4	7.8	8.6
10	8.6	8.4	8.6	8.6	6.8	7.6	8.8	7.6	8.2	9.4	7.7	8.5
11	8.5	8.1	8.3	8.7	7.0	7.8	8.7	7.4	8.0	9.4	7.4	8.4
12	8.2	7.8	8.0	8.9	7.1	8.0	8.8	7.2	8.0	9.8	7.9	8.8
13	8.1	7.7	7.9	9.1	7.2	8.1	8.4	7.0	7.7	9.6	8.2	8.8
14	8.4	7.9	8.1	8.8	7.1	7.9	8.3	6.6	7.5	---	---	---
15	8.7	8.2	8.5	9.0	7.2	8.1	8.2	6.6	7.4	---	---	---
16	8.9	8.7	8.8	9.1	7.1	8.1	8.3	6.4	7.3	9.4	7.6	8.4
17	8.9	8.7	8.8	9.0	7.2	8.1	8.2	6.4	7.2	9.5	7.7	8.5
18	8.9	8.4	8.7	8.9	6.8	7.8	8.1	6.3	7.2	---	---	---
19	8.7	8.4	8.5	8.7	6.6	7.7	8.2	6.3	7.2	---	---	---
20	8.9	8.3	8.6	8.6	6.4	7.5	8.3	6.4	7.3	---	---	---
21	8.9	8.1	8.5	8.6	6.4	7.5	8.4	6.6	7.4	---	---	---
22	8.9	7.9	8.4	8.7	6.6	7.6	8.4	6.8	7.6	---	---	---
23	9.0	7.6	8.3	8.5	6.5	7.4	8.4	6.8	7.6	---	---	---
24	9.1	7.4	8.2	8.5	6.3	7.3	8.0	6.9	7.3	---	---	---
25	9.2	7.1	8.1	8.6	6.7	7.6	8.5	6.9	7.7	---	---	---
26	9.1	6.9	7.9	8.8	6.8	7.7	8.8	7.1	7.9	---	---	---
27	9.0	6.7	7.6	8.6	7.0	7.7	8.9	7.3	8.1	---	---	---
28	6.9	6.4	6.6	8.8	7.0	7.9	8.8	7.3	8.1	---	---	---
29	7.7	6.5	7.1	8.7	7.0	7.8	9.0	7.7	8.3	---	---	---
30	7.9	6.9	7.4	8.5	6.7	7.6	9.3	7.7	8.5	---	---	---
31	---	---	---	8.5	6.8	7.6	9.5	8.1	8.6	---	---	---
MONTH	9.7	6.4	8.3	9.1	6.2	7.6	9.5	6.2	7.7	9.8	7.4	8.6

DELAWARE RIVER BASIN

01461000 DELAWARE RIVER AT LUMBERVILLE, PA

LOCATION.--Lat 40°24'27", long 75°02'16", Bucks County, Hydrologic Unit 02040105, at pedestrian bridge at Lumberville, 1.4 mi upstream from Lockatong Creek.

DRAINAGE AREA.--6,598 mi².

PERIOD OF RECORD.--Water years 1976 to current year.

REMARKS.--Total nitrogen (00600) equals the sum of dissolved ammonia plus organic nitrogen (00623), dissolved nitrite plus nitrate nitrogen (00631), and total particulate nitrogen (49570).

COOPERATION.--Field data and samples for laboratory analyses were provided by the New Jersey Department of Environmental Protection. Determination of dissolved ammonia, total ammonia, dissolved nitrite, dissolved orthophosphate, biochemical oxygen demand, total suspended solids, fecal coliform, *E. coli*, and enterococcus bacteria was performed by the New Jersey Department of Health and Senior Services, Public Health and Environmental Laboratories, Environmental and Chemical Laboratory Services. Determination of chlorophyll a was performed by the New Jersey Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

COOPERATIVE NETWORK SITE DESCRIPTOR.--Delaware River Main Stem, New Jersey Department of Environmental Protection Watershed Management Area 11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR-BID-ITY FIELD WATER UNFLTRD (61028)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS) /CM (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS) /CM (61726)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (MG/L) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER FIELD (STAND-ARDE ANCE) (UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-A-TURE AIR (DEG C) (00020)	TEMPER-A-TURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV 08...	1000	2700	1.1	.046	.035	764	--	--	8.1	232	9.0	11.0	77
FEB 21...	1000	4660	1.3	.056	.042	754	95	11.5	7.8	164	13.5	6.5	52
MAY 14...	1000	29000	73	.141	.110	758	87	9.1	7.7	146	14.0	13.0	46
AUG 13...	0900	3050	1.5	.061	.045	762	92	7.4	8.1	213	23.5	26.5	78

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB AS (MG/L CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)
NOV 08...	19.1	7.10	1.80	12.8	62	20.0	E.1	.4	17.9	128	120	.080	.25
FEB 21...	13.1	4.55	1.18	11.3	35	16.9	E.1	3.0	16.7	94	92	.040	.17
MAY 14...	12.1	3.83	1.56	8.06	32	12.0	E.1	4.4	13.6	96	79	.030	.32
AUG 13...	19.0	7.40	1.70	14.0	55	20.1	E.1	3.1	19.4	134	--	<.030	<.10

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, PAR-TICULATE SUSP (MG/L AS N) (49570)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)
NOV 08...	.030	.93	.003	1.2	.05	.068	--	.077	.3	<.1	2.5	.3	E1.8
FEB 21...	.060	.92	.007	1.1	.03	.053	.027	.062	.4	<.1	2.2	.3	E1.2
MAY 14...	.040	.84	.006	1.2	.08	.059	.031	.190	.9	<.1	3.9	.9	E1.5
AUG 13...	.040	--	.008	--	.07	.092	.094	.120	.2	<.1	3.8	.2	E1.1

DELAWARE RIVER BASIN

01461000 DELAWARE RIVER AT LUMBERVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	CHLORO- PHYLL A FLUORO- METRIC METHOD CORR. (µG/L) (32209)	BORON, DIS- SOLVED (µG/L AS B) (01020)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)
NOV 08...	--	20	<1
FEB 21...	--	E10	9
MAY 14...	4.30	10	79
AUG 13...	.500	<10	7

WATER-COLUMN BACTERIA ANALYSES
Samples collected synoptically during the summer months

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)
JUL					AUG				
09...	1028	20	<100	60	06...	1040	90	<100	50
16...	1010	40	<100	210					
25...	1000	70	<100	140					

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ
(National Water-Quality Assessment Station)
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°13'18", long 74°46'42", Mercer County, Hydrologic Unit 02040105, on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mi upstream from Assunpink Creek, and at river mile 134.5.

DRAINAGE AREA.--6,780 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1913 to current year. October 1912 to February 1913 monthly discharge only, published in WSP 1302. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 951: Drainage area. WSP 1302: 1913-20. WSP 1382: 1924, 1928.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Sept. 30, 1965, at datum 7.77 ft higher. Feb. 24, 1913 to Oct. 2, 1928, nonrecording gage on downstream side of highway bridge at site 450 ft downstream.

REMARKS.--Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lakes Wallenpaupack (station 01431700) and Hopatcong, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, Neversink, Wild Creek, and Merrill Creek Reservoirs and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs. Diversion to Bradshaw and Merrill Creek Reservoirs and to Delaware and Raritan Canal. Water diverted just above station by borough of Morrisville, PA, and city of Trenton, NJ for municipal supply. Satellite gage height and water-quality parameter telemeter at station. Information on the above lakes and reservoirs can be found in the annual Water-Data Report NJ-02-1.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 11, 1903, reached an elevation of about 28.5 ft above sea level, discharge estimated, 295,000 ft³/s. Maximum elevation since 1692, 30.6 ft above sea level, Mar. 8, 1904, from floodmark, due to ice jam.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft³/s and maximum (*):

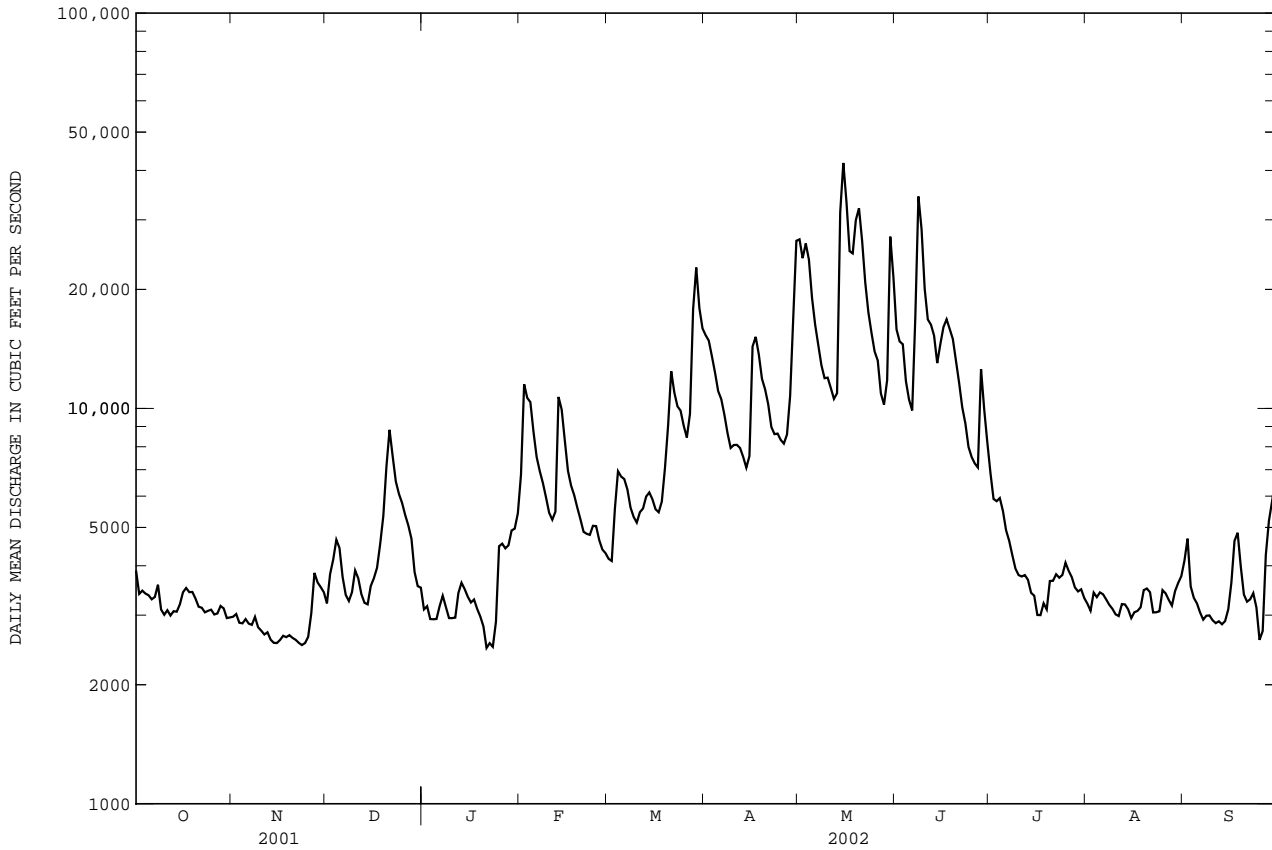
Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)					
(No peaks above base discharge.)												
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3890	2970	3210	3100	6800	4170	15300	26800	15800	6880	3210	4120
2	3390	3020	3810	3160	11500	4110	14800	24000	14800	5900	3080	4680
3	3460	2870	4150	2930	10600	5570	13600	26100	14500	5830	3420	3550
4	3400	2860	4650	2930	10400	6940	12300	23800	11700	5930	3330	3320
5	3370	2930	4440	2930	8720	6720	11100	19000	10500	5500	3420	3210
6	3290	2860	3750	3160	7540	6630	10600	16300	9880	4920	3390	3050
7	3330	2840	3380	3360	6940	6240	9640	14500	17000	4620	3290	2920
8	3580	2970	3260	3150	6480	5610	8660	12900	34400	4260	3180	2990
9	3100	2800	3430	2950	5950	5310	7940	11900	28400	3930	3110	2990
10	3010	2740	3890	2950	5450	5140	8080	12000	20100	3790	3010	2910
11	3090	2680	3720	2960	5230	5460	8090	11300	16800	3760	2980	2860
12	2990	2710	3390	3410	5480	5580	7940	10600	16300	3790	3200	2890
13	3070	2600	3220	3620	10700	5990	7540	10900	15300	3680	3190	2840
14	3060	2550	3190	3490	9940	6130	7080	31300	13000	3420	3100	2900
15	3190	2550	3560	3340	8300	5890	7580	41800	14500	3360	2950	3100
16	3430	2600	3720	3230	6960	5560	14300	33300	16100	3000	3050	3630
17	3510	2660	3950	3290	6380	5460	15200	25000	16800	3000	3070	4620
18	3430	2640	4540	3110	6040	5810	13700	24700	15900	3210	3140	4850
19	3430	2670	5340	2980	5610	7060	11900	30000	15000	3100	3470	3980
20	3300	2630	7120	2810	5240	9030	11200	32100	13200	3660	3500	3380
21	3150	2600	8830	2480	4870	12400	10200	26600	11600	3660	3430	3240
22	3130	2550	7560	2550	4820	11000	8980	20900	10100	3810	3050	3290
23	3050	2520	6540	2500	4790	10100	8610	17500	9160	3730	3050	3410
24	3080	2550	6080	2890	5050	9870	8640	15500	7990	3790	3070	3140
25	3100	2640	5770	4480	5040	9040	8320	13900	7540	4070	3470	2600
26	3010	3040	5370	4550	4650	8440	8150	13200	7260	3880	3400	2740
27	3030	3840	5060	4430	4400	9690	8590	10900	7090	3740	3280	4260
28	3160	3630	4680	4510	4310	17800	10800	10200	12600	3530	3170	5200
29	3120	3530	3860	4910	---	22700	17000	11800	9980	3440	3450	5820
30	2950	3430	3550	4960	---	17900	26600	27200	8230	3490	3620	6580
31	2960	---	3520	5430	---	15900	---	21500	---	3310	3760	---
TOTAL	100060	85480	140540	106550	188190	263250	332440	627500	421530	125990	100840	109070
MEAN	3228	2849	4534	3437	6721	8492	11080	20240	14050	4064	3253	3636
MAX	3890	3840	8830	5430	11500	22700	26600	41800	34400	6880	3760	6580
MIN	2950	2520	3190	2480	4310	4110	7080	10200	7090	3000	2950	2600
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2002, BY WATER YEAR (WY)												
MEAN	6794	10310	12530	12350	12750	20480	22170	14180	9149	6980	5856	5727
MAX	28710	27340	42860	34950	27550	60840	52680	31690	33460	25720	30290	22490
(WY)	1956	1928	1997	1979	1951	1936	1940	1989	1972	1928	1955	1933
MIN	1632	1868	2037	2539	3500	7715	6828	5074	2572	1548	1808	1762
(WY)	1942	1915	1923	1981	1920	1981	1985	1995	1965	1965	1965	1932

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1913 - 2002	
ANNUAL TOTAL	2954910		2601440		11600	
ANNUAL MEAN	8096		7127		19810	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					4708	
HIGHEST DAILY MEAN	50200	Apr 11	41800	May 15	279000	Aug 20 1955
LOWEST DAILY MEAN	2520	Nov 23	2480	Jan 21	1240	Oct 31 1914
ANNUAL SEVEN-DAY MINIMUM	2590	Nov 18	2590	Nov 18	1310	Oct 31 1914
MAXIMUM PEAK FLOW			43400	May 15	a329000	Aug 20 1955
MAXIMUM PEAK STAGE			13.52	May 15	b28.60	Aug 20 1955
INSTANTANEOUS LOW FLOW			2220	Sep 26	1180	Oct 31 1963
10 PERCENT EXCEEDS	15500		15300		24400	
50 PERCENT EXCEEDS	5400		4260		7830	
90 PERCENT EXCEEDS	3020		2930		3000	

- a From rating curve extended above 230,000 ft³/s, maximum flow since 1692.
- b From high-water mark in gage house, current datum.



DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued
 (National Water-Quality Assessment Station)
 (Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

DISSOLVED OXYGEN: October 1962 to current year. Recorded as once daily during 1979.
 DISSOLVED OXYGEN PERCENT SATURATION: October 2001 to September 2002.
 pH: June 1968 to current year. Recorded as once daily during 1979.
 SPECIFIC CONDUCTANCE: October 1963 to current year. Recorded as once daily during years 1964 to 1968, 1979.
 SUSPENDED SEDIMENT DISCHARGE: September 1949 to September 1981.
 WATER TEMPERATURE: October 1944 to current year. Recorded as once daily during years 1945 to 1953, 1962, 1964, 1979.
 TURBIDITY: November 2000 to current year.

INSTRUMENTATION.--

TEMPERATURE MONITOR (graphic recorder at gage house, in situ system): October 1953 to September 1961.
 TEMPERATURE / DISSOLVED-OXYGEN MONITOR: October 1962 to September 1965: graphic recorder; only dissolved-oxygen concentration recorded during water year 1964. October 1965 to May 1968: digital recorder.
 WATER-QUALITY MONITOR (continuous pumping system, measurements recorded hourly): June 1968 to August 1975: water withdrawn from raw-water intake within Trenton Water Filtration Plant, Trenton, NJ. November 1975 to November 1978: water withdrawn from river through PVC pipe to gage house outside Trenton Water Filtration Plant, Trenton, NJ. December 1979 to September 1986: water withdrawn from raw-water intake within Trenton Water Filtration Plant, Trenton, NJ.
 WATER-QUALITY MONITOR (in situ system, measurements recorded hourly): October 1986 to September 1995: probes located inside raw-water intake of Trenton Water Filtration Plant, Trenton, NJ. October 1995 to current year: monitor suspended within stilling well of Morrisville Water Filtration Plant, Morrisville, Pa., 1,600 ft upstream from the gage house.

REMARKS.--Additional nutrient samples on Dec. 6 at 0911, Mar. 6 at 1041, June 17 at 1211, and Sep. 5 at 0931 were collected to fulfill the requirements of the Ambient Stream Monitoring Network. For definition of the type of quality-control data listed under SAMPLE TYPE refer to "Quality-Control Data" in the "Introduction." Unpublished records of suspended-sediment discharge for the period Oct. 1, 1981, to Mar. 31, 1982, are available at the U.S. Geological Survey Office in West Trenton, NJ. Beginning October, 1999, pH daily value tables reported maximum, minimum and median values. Continuous turbidity-record values less than 2 were below the instrument detection level. Missing continuous water-quality records are the result of instrument malfunction or interruption of flow through the filtration plant. The calibration of water-quality sensors is verified by regular inspections. Cleaning or recalibration is needed occasionally as a result of sensor fouling or drift. When a sensor is recalibrated, the continuous-record water-quality data for the period between inspections are adjusted to account for the difference between the sensor's response and a known value. The adjustment may be constant over the period or may be prorated. Continuous-record water-quality data for periods for which the difference between the sensor's response and a known value does not exceed recalibration criteria are considered to be reliable and are not adjusted. Recalibration criteria are listed in the "Introduction" (see section "Explanation of the Records, On-Site Measurements and Sample Collection"). Data from the following periods were adjusted: DISSOLVED OXYGEN: Oct. 1-16, Feb. 15 to Mar. 26, May 16-22, June 19 to July 2, Aug. 1-14, Aug. 23 to Sep. 3. pH: July 2-22. TURBIDITY: Oct. 29 to Nov. 1, Feb. 15-28.

COOPERATION.--Samples were collected as part of the Delaware River Basin National Water-Quality Assessment Program (NAWQA) with cooperation from the Delaware River Basin Commission. Determination of dissolved ammonia, total ammonia, dissolved nitrite, dissolved orthophosphate, biochemical oxygen demand, and dissolved hexavalent chromium on Dec. 6 at 0912, Mar. 6 at 1042, June 17 at 1212, and Sep. 5 at 0932; and fecal coliform, *E. coli*, and enterococcus bacteria collected synoptically during the summer months was performed by the New Jersey Department of Health and Senior Services, Public Health and Environmental Laboratories, Environmental and Chemical Laboratory Services. Determination of chlorophyll a was performed by the New Jersey Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 468 microsiemens, Jan. 11, 1999; minimum, 63 microsiemens, July 7, 1984.
 pH: Maximum, 10.3, Aug. 9, 10, 1983; minimum, 5.3, June 22, 1972.
 WATER TEMPERATURE: Maximum, 34.0°C, June 18, 1957; minimum, 0.0°C, on many days during winters in water years 1954-57.
 DISSOLVED OXYGEN: Maximum, 20.0 mg/L, Feb. 11, 1989; minimum, 4.0 mg/L, Nov. 9, 1972, Sept. 9, 1995.
 DISSOLVED OXYGEN PERCENT SATURATION: Maximum, 151, Aug. 12, 2002; minimum, 62, July 14, 2002.
 TURBIDITY: Maximum, 460 ntu, May 19, 2000; minimum, <2.0 ntu, on many days in water years 2000-02

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 314 microsiemens, Jan. 24; minimum, 100 microsiemens, June 9.
 pH: Maximum, 9.3, July 19; minimum, 6.6, May 10.
 WATER TEMPERATURE: Maximum, 31.5°C, Aug. 4; minimum, 0.0°C, several days during winter.
 DISSOLVED OXYGEN: Maximum, 15.9 mg/L, Jan. 22, 23; minimum, 5.5 mg/L, July 13.
 DISSOLVED OXYGEN PERCENT SATURATION: Maximum, 151, Aug. 12; minimum, 67, July 13.
 TURBIDITY: Maximum, 120 ntu, June 29; minimum, <0.2 ntu, many days.

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, TOTAL SUSP (MG/L AS N) (00600)	NITRO- GEN,PAR TICULATE WAT FLT SUSP (MG/L AS N) (49570)
NOV													
01...	.45	18.5	124	120	<.04	.21	--	.23	.74	<.008	.95	.97	--
DEC													
06...	2.26	15.8	102	96	E.03	.23	--	.36	.87	E.005	1.1	1.2	.04
06...	--	--	--	--	--	.27	--	--	.91	--	1.2	--	--
06...	--	--	--	--	<.030	--	<.030	--	--	.004	--	--	--
JAN													
09...	--	21.1	--	--	E.03	--	--	.29	1.36	.008	--	1.7	--
MAR													
06...	2.4	16.3	100	96	<.04	--	--	.27	.87	.010	--	1.1	.05
06...	--	--	--	--	--	.18	--	--	.82	--	1.0	--	--
06...	--	--	--	--	.065	--	<.030	--	--	.005	--	--	--
APR													
04...	--	12.5	--	--	<.04	--	--	.28	.60	E.004	--	.88	--
MAY													
22...	--	11.6	--	--	<.04	--	--	.36	.50	<.008	--	.86	--
22...	--	11.5	--	--	<.04	--	--	.27	.50	<.008	--	.77	--
JUN													
17...	<.2	<.1	<10	--	<.04	--	--	<.10	<.05	<.008	--	--	--
17...	3.9	11.7	71	75	<.04	--	--	.33	.60	E.004	--	.93	.09
17...	--	--	--	--	--	.22	--	--	.59	--	.81	--	--
17...	--	--	--	--	.045	--	<.030	--	--	.004	--	--	--
JUL													
10...	--	17.4	--	--	<.04	--	--	.29	.71	E.007	--	1.0	--
SEP													
05...	3.5	20.0	118	125	<.04	--	--	.25	1.06	.017	--	1.3	.08
05...	--	--	--	--	--	.22	--	--	1.11	--	1.3	--	--
05...	--	--	--	--	<.030	--	<.030	--	--	.006	--	--	--

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR- GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC- ULATE TOTAL (MG/L AS C) (00689)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLORO- PHYLL A FLUORO- METRIC METHOD CORR. (µG/L) (32209)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
NOV												
01...	.061	.04	.065	--	--	--	--	--	--	--	5.6	.7
DEC												
06...	.067	.05	.085	.5	<.1	2.9	.5	--	--	10	38.7	3.8
06...	.065	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	<1.0	--	--	--	--
JAN												
09...	--	.07	.087	--	--	--	--	--	--	--	13.6	1.8
MAR												
06...	--	.03	.060	.5	<.1	2.2	.5	--	--	<10	66.2	3.7
06...	.038	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	<1.8	--	--	--	--
APR												
04...	--	.02	.058	--	--	--	--	--	--	--	309	8.8
MAY												
22...	--	E.01	.049	--	--	--	--	--	--	--	633	11
22...	--	E.01	.049	--	--	--	--	--	--	--	--	12
JUN												
17...	--	<.02	<.004	--	--	--	--	--	--	--	--	--
17...	--	.03	.068	1.0	<.1	3.4	1.0	--	--	<10	586	13
17...	.040	--	--	--	--	--	--	--	--	--	--	--
17...	--	<.020	--	--	--	--	--	<1.0	1.20	--	--	--
JUL												
10...	--	.05	.079	--	--	--	--	--	--	--	35.8	3.4
SEP												
05...	--	.07	.108	.5	<.1	2.6	.5	--	--	10	18.3	2.1
05...	.098	--	--	--	--	--	--	--	--	--	--	--
05...	--	.085	--	--	--	--	--	<1.0	.800	--	--	--

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	ARSENIC TOTAL (µG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (µG/L AS BE) (01012)	BORON, DIS- SOLVED (µG/L AS B) (01020)	BORON, TOTAL RECOV- ERABLE (µG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (µG/L AS CR) (01032)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)
NOV 01...	0830	--	--	--	20	--	--	--	--	--	--	--	20
DEC 06...	0910	E1	22.3	E.03	20	18	.04	<.8	--	1.0	1.8	2.0	22
MAR 06...	0912	--	--	--	--	--	--	<5	--	--	--	--	--
MAR 06...	1040	<2	21.5	E.06	20	14	.07	<.8	--	E.5	2.6	1.5	--
MAR 06...	1042	--	--	--	--	--	--	<5	--	--	--	--	--
JUN 17...	1210	<2	27.2	E.04	10	11	.08	<.8	--	<.8	1.3	2.1	--
JUN 17...	1212	--	--	--	--	--	--	<5	--	--	--	--	--
SEP 05...	0930	E1	26.4	<.06	20	23	.12	<.8	--	<.8	1.7	2.0	--
SEP 05...	0932	--	--	--	--	--	--	<5	--	--	--	--	--

DATE	TIME	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (µG/L AS HG) (71900)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (µG/L AS AG) (01077)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
NOV 01...	--	--	--	--	5.9	--	--	--	--	--	--	--	--	--
DEC 06...	100	.08	<1	--	8.6	19.6	<.01	<.01	.83	1	E.2	<.05	7	13
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR 06...	110	.10	<1	--	23.7	<.01	<.01	.94	1	E.3	<.05	5	9	
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN 17...	340	.21	1	--	63.4	<.01	E.01	.85	1	<.4	<.05	6	16	
JUN 17...	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP 05...	60	.12	<1	--	18.6	<.01	<.01	.58	2	.5	<.05	4	6	
SEP 05...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	1,1,1- TRI- CHLORO- ETHANE TOTAL (µG/L) (34506)	1,1-DI- CHLORO- ETHANE TOTAL (µG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (µG/L) (34501)	1,2-DI- CHLORO- ETHANE TOTAL (µG/L) (32103)	1,2-DI- CHLORO- PROPANE TOTAL (µG/L) (34541)	TRANS- 1,2-DI- CHLORO- ETHENE TOTAL (µG/L) (34546)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (µG/L) (34566)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (µG/L) (34571)	BENZENE O-DI- CHLORO- WATER UNFLTRD REC (µG/L) (34536)	BENZENE TOTAL (µG/L) (34030)	BROMO- FORM TOTAL (µG/L) (32104)	CARBON TETRA- CHLO- RIDE TOTAL (µG/L) (32102)
DEC 06...	0910	<.1	<.1	<.1	<.2	<.1	<.1	<.1	<.1	<.1	<.1	<.2	<.2
MAR 06...	1040	<.1	<.1	<.1	<.2	<.1	<.1	<.1	<.1	<.1	<.1	<.2	<.2
JUN 17...	1210	<.1	<.1	<.1	<.2	<.1	<.1	<.1	<.1	<.1	<.1	<.2	<.2
SEP 05...	0930	<.1	<.1	<.1	<.2	<.1	<.1	<.1	<.1	<.1	<.1	<.2	<.2

DATE	TIME	CHLORO- DI- BROMO- METHANE TOTAL (µG/L) (34301)	CHLORO- DI- BROMO- METHANE TOTAL (µG/L) (32105)	CHLORO- FORM WATER TOTAL (µG/L) (32106)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (µG/L) (77093)	BROMO- DI- CHLORO- METHANE TOTAL (µG/L) (32101)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (µG/L) (34668)	DI-ISO- PROPYL- ETHER, WATER, UNPLTRD RECOVER (µG/L) (81577)	ETHER ETHYL WATER UNPLTRD RECOVER (µG/L) (81576)	ETHER TERT- BUTYL ETHYL UNPLTRD RECOVER (µG/L) (50004)	ETHER TERT- PENTYL METHYL UNPLTRD RECOVER (µG/L) (50005)	ETHYL- BENZENE TOTAL (µG/L) (34371)	FREON- 113 WATER UNFLTRD REC (µG/L) (77652)	METHYL TERT- BUTYL ETHER WAT UNF REC (µG/L) (78032)
DEC 06...	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.2	<.1	<.1	.3	
MAR 06...	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.2	<.1	<.1	<.2	
JUN 17...	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.2	<.1	<.1	.3	
SEP 05...	<.1	<.2	<.1	<.1	<.1	<.2	<.2	<.2	<.1	<.2	<.1	<.1	.4	

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	METHYL- ENE- CHLO- RIDE TOTAL (µG/L) (34423)	META/ PARA- XYLENE WATER UNFLTRD REC (µG/L) (85795)	O- XYLENE WATER WHOLE TOTAL (µG/L) (77135)	STYRENE TOTAL (µG/L) (77128)	TETRA- CHLORO- ETHYL- ENE TOTAL (µG/L) (34475)	TOLUENE TOTAL (µG/L) (34010)	TRI- CHLORO- ETHYL- ENE TOTAL (µG/L) (39180)	TRI- CHLORO- FLUORO- METHANE TOTAL (µG/L) (34488)	VINYL CHLO- RIDE TOTAL (µG/L) (39175)
DEC 06...	<.2	<.2	<.1	<.1	<.1	<.1	<.1	<.2	<.2
MAR 06...	<.2	<.2	<.1	<.1	<.1	<.1	<.1	<.2	<.2
JUN 17...	<.2	<.2	<.1	<.1	<.1	<.1	<.1	<.2	<.2
SEP 05...	<.2	<.2	<.1	<.1	<.1	<.1	<.1	<.2	<.2

FILTERED-WATER PESTICIDE ANALYSES

REMARKS.--Selected samples were analyzed for pesticides with laboratory schedule 2001 (listed in its entirety, with laboratory reporting levels, on page 179). Only pesticides identified by the analyses in one or more surface-water samples are listed in the following table.

DATE	TIME	SAMPLE TYPE	ACETO- CHLOR, WATER, FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)
NOV 01...	0830	ENVIRONMENTAL	<.004	<.002	<.005	.020	<.010	<.041	<.005	<.018	<.003
DEC 06...	0910	ENVIRONMENTAL	<.004	<.002	<.005	.014	<.010	<.041	<.005	<.018	<.003
JAN 09...	1230	FIELD BLANK	<.006	<.004	<.005	<.007	<.010	<.041	<.005	<.018	<.003
JAN 09...	1330	ENVIRONMENTAL	<.006	<.004	<.005	.020	<.010	<.041	<.005	<.018	<.003
MAR 06...	1040	ENVIRONMENTAL	<.006	<.004	<.005	.027	<.010	<.041	<.005	<.018	<.003
APR 04...	0850	ENVIRONMENTAL	<.006	<.004	<.005	.010	<.010	<.041	<.005	<.018	<.003
MAY 22...	1000	ENVIRONMENTAL	<.008	<.004	<.005	.032	<.010	<.041	<.005	<.018	<.003
JUN 17...	1210	ENVIRONMENTAL	<.006	<.004	<.005	E.065	<.010	<.041	<.005	<.018	<.003
JUL 10...	0930	ENVIRONMENTAL	<.006	<.004	<.005	.034	<.010	<.041	<.005	<.018	<.003
SEP 05...	0930	ENVIRONMENTAL	<.006	<.004	<.005	.033	<.010	<.041	<.005	<.018	<.003

DATE	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	EPTC WATER FLTRD 0.7 µ GF, REC (82668)	LINDANE DIS- SOLVED (µG/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (82666)	MALA- THON, DIS- SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (82686)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (82684)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (82683)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (82679)
NOV 01...	E.020	<.005	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.010	<.01	<.011
DEC 06...	E.014	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.010	<.01	<.011
JAN 09...	<.006	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.022	<.01	<.011
JAN 09...	E.018	E.004	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.022	M	<.011
MAR 06...	E.016	<.005	<.002	<.004	<.035	<.027	<.050	.014	<.006	<.007	<.022	E.01	<.011
APR 04...	E.005	<.005	<.002	<.004	<.035	<.027	<.050	E.006	<.006	<.007	<.022	M	<.011
MAY 22...	E.012	<.005	<.002	<.004	<.035	<.027	<.050	.015	<.006	<.007	<.022	<.01	<.011
JUN 17...	E.015	<.005	<.002	<.004	<.035	<.027	<.050	.018	<.006	<.007	<.022	M	<.011
JUL 10...	E.019	<.005	<.002	<.004	<.035	<.027	<.050	E.008	<.006	<.007	<.022	E.01	<.011
SEP 05...	E.037	.005	<.002	<.004	<.035	<.027	<.050	E.007	<.006	<.007	<.022	.02	<.011

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI-MAZINE, WATER, DISS, REC (µG/L) (04035)	TEBU-THIURON WATER, FLTRD 0.7 µ GF, REC (µG/L) (82670)	TER-BACIL WATER, FLTRD 0.7 µ GF, REC (µG/L) (82665)
NOV 01...	<.011	<.02	<.034
DEC 06...	<.011	<.02	<.034
JAN 09...	<.005	<.02	E.018
JAN 09...	<.005	<.02	<.034
MAR 06...	<.005	<.02	<.034
APR 04...	<.005	<.02	<.034
MAY 22...	.022	<.02	<.034
JUN 17...	.011	<.02	<.034
JUL 10...	.011	<.02	<.034
SEP 05...	.007	<.02	<.034

WHOLE-WATER PESTICIDE ANALYSES

DATE	TIME	ALDRIN, TOTAL (µG/L) (39330)	ALPHA BHC TOTAL (µG/L) (39337)	AROCOLOR					BETA BENZENE CHLOR-IDE TOTAL (µG/L) (39338)	CHLOR-DANE CIS WATER WHOLE TOTAL (µG/L) (39062)	CHLOR-DANE, TECH-NICAL TOTAL (µG/L) (39350)	CHLOR-DANE TRANS WATER WHOLE TOTAL (µG/L) (39065)	
				1016/1242 PCB WATER UNFLTRD (µG/L) (81648)	1221 PCB TOTAL (µG/L) (39488)	1232 PCB TOTAL (µG/L) (39492)	1248 PCB TOTAL (µG/L) (39500)	1254 PCB TOTAL (µG/L) (39504)					1260 PCB TOTAL (µG/L) (39508)
DEC 06...	0910	<.04	<.03	<.1	<1	<.1	<.1	<.1	<.1	<.03	<.1	<.1	<.1
MAR 06...	1040	<.04	<.03	<.1	<1	<.1	<.1	<.1	<.1	<.03	<.1	<.1	<.1
JUN 17...	1210	<.04	<.03	<.1	<1	<.1	<.1	<.1	<.1	<.03	<.1	<.1	<.1
SEP 05...	0930	<.04	<.03	<.1	<1	<.1	<.1	<.1	<.1	<.03	<.1	<.1	<.1

DATE	DELTA BENZENE HEXA-CHLOR-IDE TOTAL (µG/L) (34259)	DI-ELDRIN TOTAL (µG/L) (39380)	ENDO-SULFAN-I WATER WHOLE REC (µG/L) (34361)	ENDO-SULFAN-II TOTAL (µG/L) (34356)	ENDO-SULFAN-SULFATE TOTAL (µG/L) (34351)	ENDRIN ALDE-HYDE TOTAL (µG/L) (34366)	ENDRIN WATER UNFLTRD REC (µG/L) (39390)	HEPTA-CHLOR EPOXIDE TOTAL (µG/L) (39420)	HEPTA-CHLOR, TOTAL (µG/L) (39410)	LINDANE TOTAL (µG/L) (39340)	P,P' DDD, TOTAL (µG/L) (39310)	P,P' DDE, TOTAL (µG/L) (39320)	P,P' DDT, TOTAL (µG/L) (39300)
MAR 06...	<.09	<.02	<.1	<.04	<.6	<.2	<.06	<.8	<.03	<.03	<.1	<.04	<.1
JUN 17...	<.09	<.02	<.1	<.04	<.6	<.2	<.06	<.8	<.03	<.03	<.1	<.04	<.1
SEP 05...	<.09	<.02	<.1	<.04	<.6	<.2	<.06	<.8	<.03	<.03	<.1	<.04	<.1

DATE	TOX-APHENE, TOTAL (µG/L) (39400)
DEC 06...	<2
MAR 06...	<2
JUN 17...	<2
SEP 05...	<2

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

WATER-COLUMN BACTERIA ANALYSES
Samples collected synoptically during the summer months

DATE	TIME	COLI-FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/100 ML) (31633)	ENTERO-COCCI, ME MF, WATER (COL/100 ML) (31649)	DATE	TIME	COLI-FORM, FECAL, EC BROTH (MPN) (31615)	E COLI, MTEC MF WATER (COL/100 ML) (31633)	ENTERO-COCCI, ME MF, WATER (COL/100 ML) (31649)
JUN					JUL				
05...	1045	20	<100	<10	02...	1200	<20	<100	10
12...	1035	80	<100	<10					
19...	1120	20	100	10					
25...	1040	20	<100	<10					

Analyses of pesticides in surface-water and ground-water samples (schedule 2001)

Selected water samples from DELR-NAWQA study sites were analyzed for pesticides by use of NWQL schedule 2001. This table lists the pesticides on the schedule, the unit of measure (micrograms per liter, µg/L), the U.S. Geological Survey National Water Information System parameter code, and the reporting level. **Only pesticides measured at or above the minimum reporting level for one or more samples are listed in the water-quality tables.**

SCHEDULE DESCRIPTION.--Pesticides in filtered water extracted on C-18 Solid Phase Extraction (SPE) cartridge and analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).

SAMPLE REQUIREMENTS.--1 liter of water filtered through 0.7-micron glass-fiber depth filter, chilled at 4° C (packed in ice).

CONTAINER REQUIREMENTS.--1 liter baked amber glass bottle (GCC) from NWQL.

PCODE.--The USGS/EPA parameter code.

COMMON NAME.--Common or trade name(s) for constituent.

LRL.--Laboratory reporting level.

PCode	Common Name	LRL (µg/L)	PCode	Common Name	LRL (µg/L)
82660	2,6-Diethylaniline	0.006	82667	Parathion-methyl	0.006
49260	Acetochlor	0.006	39415	Metolachlor	0.013
46342	Alachlor	0.0045	82630	Metribuzin	0.006
34253	alpha-HCH	0.0046	82671	Molinate	0.0016
39632	Atrazine	0.007	82684	Napropamide	0.007
82673	Benfluralin	0.010	34653	p,p'-DDE	0.0025
04028	Butylate	0.002	39542	Parathion	0.010
82680	Carbaryl	0.041	82669	Pebulate	0.0041
82674	Carbofuran	0.020	82683	Pendimethalin	0.022
38933	Chlorpyrifos	0.005	82687	cis-Permethrin	0.006
04041	Cyanazine	0.018	82664	Phorate	0.011
82682	Dacthal	0.0030	04037	Prometon	0.015
04040	Deethylatrazine	0.006	82676	Propyzamide	0.0041
39572	Diazinon	0.005	04024	Propachlor	0.010
39381	Dieldrin	0.0048	82679	Propanil	0.011
82677	Disulfoton	0.021	82685	Propargite	0.023
82668	EPTC	0.0020	04035	Simazine	0.005
82663	Ethalfuralin	0.009	82670	Tebuthiuron	0.016
82672	Ethoprophos	0.005	82665	Terbacil	0.034
04095	Fonofos	0.0027	82675	Terbufos	0.017
39341	Lindane	0.0040	82681	Thiobencarb	0.0048
82666	Linuron	0.035	82678	Triallate	0.0023
39532	Malathion	0.027	82661	Trifluralin	0.009
82686	Azinphos-methyl	0.05			

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued
(Pennsylvania Water-Quality Network Station)

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)
APR 2002 25...	1820	9813	8400	40	10.8	7.7	161	12.5	52	13.9	4.3	34	<.2
JUN 20...	1700	9813	12500	40	9.8	7.9	140	21.8	50	13.4	3.9	30	<.2
AUG 19...	1430	9813	3470	40	9.3	8.8	224	30.6	70	16.8	6.8	48	<.2

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN-ABLE TO CHLOR-INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)
APR 2002 25...	14.6	92	<2	<.020	.71	<.040	.99	.03	.050	2.9	<10	<1.00	190
JUN 20...	12.1	124	16	<.020	.64	<.040	.88	.04	.050	4.1	<10	<1.00	420
AUG 19...	19.6	142	2	.030	.81	<.040	1.2	.07	.100	3.0	<10	<1.00	70

Date	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002 25...	<1.0	40	<50	20	<5
JUN 20...	1.0	50	<50	20	<5
AUG 19...	<1.0	30	<50	<10	<5

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	207	194	200	231	227	229	223	217	220	221	209	218
2	219	206	212	235	229	231	224	218	221	230	216	225
3	229	219	224	236	228	232	224	221	223	234	230	231
4	230	225	228	236	230	233	222	205	212	237	223	233
5	235	228	232	234	230	232	205	185	194	240	236	238
6	237	232	235	234	229	231	189	184	186	245	239	242
7	243	231	234	235	231	233	199	189	194	239	232	236
8	235	230	232	237	233	235	207	199	203	232	227	230
9	239	234	237	237	230	233	215	206	210	234	228	231
10	236	220	227	238	231	235	223	215	220	246	233	237
11	224	219	221	242	236	239	---	---	---	259	246	253
12	228	221	223	239	235	237	---	---	---	260	256	258
13	234	227	231	240	234	237	226	219	222	259	255	257
14	236	233	234	237	234	236	229	225	227	260	255	258
15	234	230	232	239	233	236	232	225	229	258	248	252
16	235	229	231	237	234	236	236	227	232	249	244	246
17	237	229	233	243	234	239	230	226	229	246	243	244
18	240	231	236	248	243	245	226	210	217	246	244	245
19	232	224	227	247	241	244	210	201	204	246	244	245
20	229	225	227	243	234	239	209	198	205	247	245	246
21	230	218	223	237	233	235	198	161	177	253	246	250
22	222	219	221	236	232	234	162	159	160	264	253	257
23	228	221	223	235	229	232	165	161	163	271	264	269
24	231	226	228	233	230	231	165	160	162	314	271	285
25	229	222	225	235	229	233	176	164	170	299	281	292
26	229	224	226	234	230	232	180	173	178	281	273	276
27	234	228	230	242	227	232	183	180	181	277	273	276
28	236	233	235	244	238	241	186	182	183	274	250	262
29	238	230	232	241	224	232	188	185	186	250	228	239
30	232	228	230	227	222	225	202	188	193	228	217	224
31	233	230	231	---	---	---	215	202	210	217	212	215
MONTH	243	194	228	248	222	235	236	159	200	314	209	247
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	215	211	213	193	188	190	132	128	130	133	121	124
2	212	172	192	195	190	192	131	129	131	126	121	123
3	172	160	167	198	189	192	132	129	130	139	125	134
4	160	145	150	209	197	201	136	129	132	138	130	133
5	154	146	148	211	194	203	145	136	141	136	131	133
6	165	154	161	194	183	188	147	142	145	138	136	137
7	172	165	168	184	177	181	155	142	148	141	138	139
8	180	172	176	189	179	181	156	154	155	147	140	144
9	181	175	177	200	184	187	156	154	155	151	146	150
10	181	176	179	190	186	188	161	156	158	159	150	155
11	186	180	183	193	190	191	160	156	158	159	153	156
12	190	185	188	196	192	194	164	158	160	156	152	154
13	195	147	180	192	179	184	164	160	162	---	---	---
14	147	135	139	181	177	179	167	161	163	---	---	---
15	146	139	143	181	176	178	173	166	168	---	---	---
16	156	146	151	179	176	178	182	161	171	---	---	---
17	164	156	160	180	177	178	164	146	155	115	107	110
18	167	164	165	181	177	179	148	145	146	125	112	118
19	169	165	167	188	179	185	150	146	148	136	124	131
20	172	167	169	191	183	187	154	149	152	128	112	118
21	176	170	173	196	176	183	157	152	155	119	113	114
22	183	176	179	203	196	201	164	154	159	124	115	119
23	189	183	185	203	192	198	168	163	166	130	122	125
24	189	184	187	195	179	188	170	165	167	135	130	133
25	188	177	183	180	175	177	168	162	164	140	135	139
26	180	172	177	177	174	176	167	162	164	144	140	143
27	183	179	180	180	175	177	172	166	169	152	142	147
28	189	183	186	184	147	174	170	160	165	159	151	156
29	---	---	---	147	129	133	169	159	164	161	156	159
30	---	---	---	132	128	130	169	133	153	158	105	127
31	---	---	---	133	130	132	---	---	---	108	101	103
MONTH	215	135	172	211	128	181	182	128	154	161	101	134

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	123	108	116	174	168	171	225	221	223	240	210	227
2	130	122	126	184	174	179	222	214	219	210	200	204
3	130	125	128	193	184	190	220	200	213	223	206	212
4	130	125	128	193	186	190	229	220	225	247	223	240
5	135	130	133	188	184	186	232	226	229	247	232	240
6	139	133	137	193	185	189	231	227	229	232	222	227
7	157	137	146	201	192	196	232	225	229	222	219	221
8	150	108	127	201	198	199	225	222	224	227	221	223
9	108	100	103	205	199	201	223	217	220	229	227	229
10	114	105	109	211	204	207	218	214	216	229	226	227
11	119	112	115	218	211	214	223	216	218	232	226	229
12	124	117	120	221	217	219	226	221	223	234	231	232
13	135	118	126	220	215	217	233	225	228	232	229	231
14	145	134	140	---	---	---	234	228	231	229	225	227
15	151	144	148	---	---	---	228	219	222	231	222	228
16	151	137	146	---	---	---	220	214	217	225	220	222
17	140	134	137	---	---	---	217	213	215	223	213	217
18	134	126	129	---	---	---	223	216	220	222	214	218
19	130	127	128	238	228	232	225	220	223	217	197	205
20	141	130	136	231	220	226	223	216	219	198	192	194
21	144	141	143	231	224	228	219	212	215	200	193	196
22	150	143	147	232	227	228	213	210	211	211	200	205
23	158	149	153	236	232	233	210	203	206	221	211	218
24	162	156	159	232	222	226	204	198	202	237	216	227
25	168	162	165	222	215	218	204	199	202	236	220	229
26	169	166	168	219	208	212	215	204	208	220	205	212
27	170	162	165	217	210	214	231	215	225	215	205	210
28	182	163	167	217	213	215	232	227	229	219	201	205
29	183	171	175	---	---	---	229	210	218	237	219	232
30	175	171	173	---	---	---	216	213	214	226	194	211
31	---	---	---	---	---	---	240	215	226	---	---	---
MONTH	183	100	140	238	168	208	240	198	219	247	192	220
YEAR	314	100	196									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.9	7.4	7.6	8.8	7.8	8.4	8.1	7.2	7.5	7.8	7.6	7.7
2	8.2	7.4	7.7	8.9	8.0	8.6	7.9	7.3	7.5	7.8	7.6	7.7
3	8.3	7.5	7.8	8.8	8.0	8.6	8.1	7.3	7.6	7.8	7.6	7.7
4	8.4	7.5	7.8	8.8	8.0	8.5	8.2	7.3	7.6	7.8	7.6	7.7
5	8.4	7.5	7.9	8.8	8.1	8.6	8.0	7.3	7.5	7.8	7.6	7.7
6	8.3	7.5	7.8	8.8	8.0	8.5	8.1	7.3	7.6	7.8	7.6	7.7
7	8.4	7.6	7.9	8.9	8.2	8.6	8.1	7.3	7.6	7.7	7.6	7.6
8	8.5	7.6	8.0	8.9	8.2	8.7	7.7	7.3	7.5	7.9	7.6	7.7
9	8.5	7.7	8.0	8.9	8.2	8.6	8.0	7.4	7.6	7.8	7.6	7.7
10	8.5	7.8	8.2	8.9	8.2	8.7	8.1	7.5	7.7	7.9	7.6	7.7
11	8.6	7.8	8.2	8.9	8.3	8.6	---	---	---	7.8	7.6	7.7
12	8.6	7.8	8.2	8.9	8.3	8.6	---	---	---	8.0	7.6	7.8
13	8.7	7.9	8.3	8.9	8.3	8.7	7.8	7.5	7.7	8.0	7.6	7.8
14	8.6	7.9	8.3	8.9	8.4	8.7	7.6	7.4	7.5	8.1	7.6	7.8
15	8.7	7.9	8.4	8.9	8.4	8.7	8.1	7.4	7.8	8.1	7.6	7.8
16	8.7	7.8	8.4	8.9	8.4	8.8	8.3	7.6	7.8	8.2	7.7	7.9
17	8.8	7.9	8.4	8.9	8.3	8.7	7.9	7.6	7.7	8.0	7.6	7.8
18	8.8	8.0	8.4	8.9	8.3	8.7	7.9	7.5	7.7	8.1	7.5	7.7
19	8.8	8.0	8.5	8.9	8.3	8.6	8.1	7.5	7.7	7.8	7.6	7.7
20	8.8	8.0	8.5	8.7	8.2	8.6	7.8	7.5	7.6	8.1	7.6	7.8
21	8.8	8.0	8.3	8.8	8.2	8.5	7.5	7.4	7.5	8.1	7.7	7.8
22	8.8	8.0	8.5	8.9	8.2	8.6	7.6	7.3	7.4	8.3	7.8	8.0
23	8.8	8.0	8.5	8.9	8.3	8.6	7.6	7.3	7.4	8.1	7.8	8.0
24	8.8	8.0	8.5	8.7	8.1	8.5	7.6	7.3	7.4	8.1	7.8	7.9
25	8.8	7.9	8.5	8.6	7.9	8.3	7.7	7.3	7.5	8.1	7.7	7.9
26	8.8	8.0	8.5	8.6	7.7	8.1	7.8	7.4	7.6	8.3	7.6	7.9
27	8.8	8.1	8.5	8.6	7.5	7.9	7.8	7.4	7.6	8.4	7.7	8.1
28	8.8	8.0	8.5	8.5	7.4	7.9	7.8	7.4	7.6	8.5	7.7	8.1
29	8.9	8.1	8.6	7.8	7.3	7.5	7.8	7.5	7.6	8.5	7.6	8.0
30	8.9	8.2	8.6	7.7	7.2	7.4	7.8	7.5	7.6	8.1	7.6	7.9
31	8.8	8.2	8.6	---	---	---	7.8	7.5	7.7	7.8	7.5	7.7
MAX	8.9	8.2	8.6	8.9	8.4	8.8	8.3	7.6	7.8	8.5	7.8	8.1
MIN	7.9	7.4	7.6	7.7	7.2	7.4	7.5	7.2	7.4	7.7	7.5	7.6

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.8	7.6	7.6	8.9	7.8	8.5	7.2	7.0	7.1	7.0	6.7	6.7
2	7.6	7.5	7.6	8.8	7.8	8.5	7.2	7.1	7.1	6.8	6.7	6.7
3	7.6	7.4	7.5	8.4	7.6	7.9	7.1	7.0	7.1	6.8	6.7	6.8
4	7.5	7.3	7.4	8.3	7.4	7.9	7.2	7.0	7.1	6.9	6.8	6.8
5	7.6	7.4	7.4	8.5	7.7	8.1	7.3	7.0	7.2	6.9	6.7	6.8
6	7.7	7.4	7.6	8.4	7.6	8.0	7.4	7.2	7.3	6.9	6.7	6.8
7	7.7	7.4	7.5	8.5	7.4	8.0	7.5	7.2	7.4	6.9	6.7	6.8
8	7.9	7.4	7.7	8.6	7.5	8.1	7.5	7.3	7.4	7.0	6.7	6.8
9	7.9	7.5	7.7	8.6	7.5	8.0	7.5	7.3	7.4	6.8	6.7	6.7
10	7.9	7.5	7.7	8.6	7.3	7.9	7.6	7.2	7.3	7.0	6.6	6.8
11	8.2	7.5	7.8	8.6	7.5	8.0	7.7	7.2	7.5	7.0	6.7	6.8
12	8.2	7.6	7.8	8.3	7.5	7.8	7.5	7.3	7.4	6.9	6.7	6.8
13	7.9	7.5	7.7	7.8	7.2	7.4	7.7	7.2	7.4	---	---	---
14	7.6	7.2	7.4	8.0	7.1	7.6	7.6	7.2	7.4	---	---	---
15	7.7	7.4	7.4	8.2	7.3	7.6	7.8	7.1	7.4	---	---	---
16	7.9	7.4	7.5	7.6	7.2	7.4	7.4	6.9	7.0	---	---	---
17	7.9	7.5	7.7	7.6	7.1	7.3	6.9	6.8	6.9	7.2	7.1	7.2
18	8.2	7.5	7.8	7.4	7.2	7.3	7.0	6.8	6.9	7.3	7.2	7.2
19	8.3	7.6	7.9	7.5	7.1	7.3	7.0	6.8	6.8	7.4	7.3	7.3
20	8.4	7.6	7.9	7.4	7.2	7.3	6.8	6.7	6.8	7.3	7.3	7.3
21	8.5	7.5	8.0	7.3	7.2	7.2	6.9	6.7	6.8	7.3	7.3	7.3
22	8.5	7.6	8.1	7.4	7.3	7.3	7.0	6.8	6.9	7.5	7.3	7.4
23	8.5	7.7	7.9	7.6	7.3	7.4	7.3	7.0	7.1	7.6	7.4	7.5
24	8.8	7.9	8.5	7.6	7.3	7.4	7.2	7.1	7.2	7.6	7.4	7.5
25	8.9	7.7	8.3	7.6	7.3	7.4	7.2	7.1	7.2	7.7	7.4	7.5
26	9.0	7.9	8.6	7.4	7.3	7.4	7.5	7.1	7.2	7.7	7.5	7.5
27	8.6	7.6	8.1	7.5	7.3	7.4	7.7	7.2	7.4	7.8	7.5	7.6
28	8.8	7.8	8.5	7.4	7.1	7.4	7.4	7.2	7.3	7.9	7.5	7.7
29	---	---	---	7.1	7.0	7.0	7.2	7.1	7.1	8.0	7.6	7.7
30	---	---	---	7.1	7.0	7.0	7.2	7.0	7.1	7.7	7.1	7.2
31	---	---	---	7.1	7.0	7.1	---	---	---	7.1	7.1	7.1
MAX	9.0	7.9	8.6	8.9	7.8	8.5	7.8	7.3	7.5	8.0	7.6	7.7
MIN	7.5	7.2	7.4	7.1	7.0	7.0	6.8	6.7	6.8	6.8	6.6	6.7
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.2	7.1	7.2	8.1	7.5	7.7	8.7	7.7	8.2	8.2	7.7	7.8
2	7.4	7.2	7.3	8.4	7.5	7.8	8.7	7.7	8.2	8.4	7.6	7.9
3	7.5	7.3	7.4	8.4	7.6	7.9	8.6	7.5	8.0	8.7	7.6	8.3
4	7.6	7.3	7.5	8.5	7.6	7.9	8.6	7.6	8.1	8.7	7.8	8.3
5	7.6	7.4	7.5	8.7	7.6	8.1	8.4	7.6	8.0	8.7	7.8	8.3
6	7.6	7.4	7.5	8.9	7.7	8.2	8.7	7.6	8.2	8.8	7.8	8.4
7	7.5	7.4	7.4	8.9	7.8	8.2	8.7	7.8	8.2	8.8	7.9	8.4
8	7.4	7.2	7.3	9.1	7.8	8.5	8.7	7.8	8.3	8.8	7.9	8.4
9	7.3	7.2	7.2	9.1	7.8	8.4	8.8	7.8	8.3	8.8	7.9	8.4
10	7.3	7.2	7.3	9.2	7.8	8.5	8.8	7.8	8.3	8.8	7.8	8.5
11	7.4	7.3	7.4	9.2	7.9	8.6	8.8	7.8	8.3	8.8	7.9	8.5
12	7.4	7.3	7.4	9.2	8.0	8.5	8.9	7.8	8.3	8.9	8.1	8.5
13	7.4	7.3	7.3	9.3	7.9	8.5	8.9	7.8	8.4	8.9	8.1	8.5
14	7.4	7.4	7.4	---	---	---	8.9	7.8	8.4	8.9	8.1	8.5
15	7.6	7.4	7.5	---	---	---	8.8	7.8	8.4	8.6	7.9	8.2
16	7.6	7.5	7.5	---	---	---	8.8	7.7	8.2	8.6	7.6	8.0
17	7.6	7.5	7.6	---	---	---	8.7	7.6	8.1	8.7	7.7	8.1
18	7.6	7.4	7.5	---	---	---	8.7	7.6	8.0	8.7	7.6	8.1
19	7.5	7.4	7.5	9.3	7.9	8.4	8.7	7.6	8.1	8.8	7.7	8.2
20	7.7	7.5	7.6	9.2	7.6	8.1	8.6	7.5	8.0	8.8	7.7	8.2
21	7.8	7.5	7.6	9.2	7.8	8.3	8.7	7.5	8.1	8.7	7.6	8.2
22	8.0	7.5	7.7	8.9	7.8	8.2	8.8	7.6	8.1	8.7	7.6	8.1
23	8.2	7.6	7.8	8.8	7.6	8.2	8.5	7.6	7.9	8.7	7.6	8.1
24	8.4	7.6	7.9	8.4	7.6	7.8	8.1	7.4	7.7	8.7	7.7	8.2
25	8.5	7.7	8.0	8.6	7.6	8.0	8.6	7.4	8.0	8.9	7.8	8.4
26	8.6	7.7	8.0	8.5	7.6	7.9	8.6	7.5	8.1	8.4	7.8	8.1
27	8.7	7.7	8.1	8.1	7.6	7.8	8.7	7.6	8.2	8.3	7.6	7.8
28	8.0	7.4	7.5	8.4	7.6	7.8	8.4	7.7	8.1	8.5	7.4	7.8
29	7.5	7.4	7.4	---	---	---	8.2	7.7	7.9	8.4	7.6	7.9
30	7.8	7.5	7.6	---	---	---	8.4	7.6	8.0	8.4	7.6	7.8
31	---	---	---	---	---	---	8.5	7.7	8.1	---	---	---
MAX	8.7	7.7	8.1	9.3	8.0	8.6	8.9	7.8	8.4	8.9	8.1	8.5
MIN	7.2	7.1	7.2	8.1	7.5	7.7	8.1	7.4	7.7	8.2	7.4	7.8
YEAR	MAX	MIN	MEDIAN	MAXIMUM	MINIMUM	MEDIAN	MAXIMUM	MINIMUM	MEDIAN	MAXIMUM	MINIMUM	MEDIAN
				9.3	6.8		8.4	6.6		8.8	6.7	

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	15.0	14.5	14.5	11.5	9.5	10.5	12.5	12.0	12.0	0.5	0.0	0.0
2	16.5	14.0	15.0	13.5	11.0	12.0	12.0	10.0	11.0	0.5	0.0	0.0
3	18.5	15.5	17.0	13.5	13.0	13.5	10.0	9.0	9.5	0.5	0.0	0.0
4	19.5	17.0	18.0	13.0	12.0	12.5	9.5	8.5	9.0	0.5	0.0	0.5
5	19.5	17.5	18.5	12.5	10.0	11.5	10.0	9.0	9.5	1.5	0.0	1.0
6	19.0	18.0	18.5	10.0	9.0	9.5	10.5	9.5	10.0	1.5	0.5	1.0
7	18.0	15.5	16.5	10.5	9.0	10.0	11.0	10.0	10.5	1.5	1.0	1.0
8	15.5	14.0	14.5	11.0	9.5	10.5	10.5	8.5	9.5	1.0	0.0	0.5
9	15.0	12.5	14.0	11.0	10.0	10.5	8.5	7.5	8.0	1.0	0.5	1.0
10	15.0	13.0	14.0	10.0	9.0	9.5	7.5	6.5	7.0	2.5	1.0	1.5
11	16.5	14.0	15.0	9.5	8.5	9.0	---	---	---	3.5	2.5	2.5
12	17.0	15.0	16.0	8.5	7.5	8.0	---	---	---	4.0	3.0	3.5
13	18.0	16.0	17.0	8.0	7.0	7.5	7.5	7.0	7.5	4.5	3.0	3.5
14	18.0	17.0	17.5	8.0	6.5	7.5	8.5	7.5	8.0	4.0	2.5	3.5
15	18.5	17.0	17.5	9.5	7.5	8.5	8.5	7.0	8.0	4.0	3.0	3.5
16	17.5	15.5	16.5	10.0	8.5	9.5	7.0	6.0	6.5	4.0	3.0	3.5
17	16.0	14.0	15.5	10.0	9.0	9.5	6.5	6.0	6.5	4.0	3.0	3.5
18	14.5	13.0	13.5	9.5	8.0	9.0	7.5	6.5	7.0	3.5	3.0	3.5
19	14.0	12.0	13.0	9.5	8.0	9.0	7.0	6.0	6.5	3.0	1.0	2.0
20	14.5	12.5	13.5	9.5	8.5	9.0	6.5	5.5	6.0	2.0	0.5	1.5
21	15.0	13.0	14.0	8.5	7.0	7.5	5.5	4.5	5.0	2.0	1.5	1.5
22	16.0	14.0	15.0	7.5	6.0	7.0	4.5	3.5	4.0	3.0	1.5	2.5
23	16.0	14.5	15.5	7.5	6.0	7.0	4.0	3.5	4.0	3.5	2.5	2.5
24	17.5	15.5	16.5	9.0	7.5	8.0	5.0	4.0	4.5	4.5	3.5	4.0
25	17.5	16.0	17.0	11.0	9.0	10.0	4.0	3.5	3.5	5.0	4.0	4.5
26	16.0	14.0	15.0	11.5	10.5	11.0	3.5	3.0	3.0	5.0	3.5	4.5
27	14.0	11.5	12.5	11.0	9.5	10.0	3.0	2.0	2.5	5.0	3.5	4.0
28	11.5	10.0	11.0	11.0	10.0	10.5	2.0	1.0	1.5	5.0	3.5	4.5
29	11.5	9.5	10.5	11.0	11.0	11.0	2.0	1.5	1.5	5.5	4.0	4.5
30	12.0	10.5	11.5	12.0	11.0	11.5	1.5	0.0	0.5	6.0	5.0	5.5
31	11.5	10.5	10.5	---	---	---	0.5	0.0	0.0	6.0	5.5	5.5
MONTH	19.5	9.5	15.0	13.5	6.0	9.7	12.5	0.0	6.3	6.0	0.0	2.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.5	5.0	5.0	7.0	4.5	6.0	10.5	9.5	10.0	12.0	10.5	11.0
2	5.0	3.0	4.0	6.5	5.0	6.0	11.5	9.5	10.5	12.0	11.0	11.5
3	3.0	2.5	2.5	8.0	6.5	7.5	12.5	11.0	11.5	12.5	11.5	12.0
4	2.5	1.5	2.0	7.5	6.0	7.0	11.5	10.0	10.5	13.0	11.5	12.0
5	1.5	0.5	1.0	6.0	5.0	5.5	10.5	9.0	10.0	14.0	12.0	13.0
6	2.0	1.0	1.5	6.0	4.5	5.5	9.5	8.5	9.0	15.0	13.0	14.0
7	2.5	2.0	2.0	7.5	5.5	6.5	9.5	8.0	8.5	17.0	14.5	15.5
8	3.5	2.0	2.5	8.0	6.5	7.0	9.5	8.5	9.0	18.0	16.5	17.0
9	4.0	2.5	3.0	10.0	7.0	8.5	11.5	9.5	10.5	17.5	16.0	17.0
10	5.5	3.5	4.5	10.5	8.0	9.5	13.0	11.5	12.0	18.0	16.0	17.0
11	5.5	4.0	5.0	8.0	6.5	7.5	13.5	12.0	12.5	18.0	16.5	17.0
12	4.0	3.5	3.5	7.5	6.5	7.0	12.5	12.5	12.5	17.5	16.5	17.0
13	4.5	3.0	4.0	7.5	7.0	7.0	14.5	12.5	13.5	---	---	---
14	3.5	2.5	3.0	9.5	7.0	8.0	15.5	14.0	15.0	---	---	---
15	3.0	2.5	3.0	10.5	8.5	9.5	17.5	15.0	16.0	---	---	---
16	4.5	3.0	3.5	10.5	9.5	10.0	18.5	16.0	17.0	---	---	---
17	5.0	4.0	4.5	9.5	7.5	8.0	19.5	17.5	18.5	15.5	13.5	14.5
18	4.5	3.0	3.5	7.5	7.0	7.0	20.5	18.5	19.5	15.0	14.0	14.5
19	5.0	3.0	4.0	8.0	7.0	7.5	21.0	19.5	20.5	14.0	13.5	13.5
20	6.0	4.5	5.0	8.0	7.0	7.5	21.0	19.5	20.0	13.5	12.5	13.0
21	8.0	6.0	6.5	8.0	6.5	7.5	19.5	16.5	18.0	12.5	11.5	12.0
22	8.0	6.5	7.5	8.0	6.0	6.5	16.5	15.0	16.0	13.5	11.0	12.5
23	8.0	6.0	7.0	7.0	5.5	6.0	15.0	13.5	14.0	14.5	12.0	13.5
24	8.0	6.0	7.0	7.0	6.0	6.5	15.0	13.0	14.0	16.5	13.5	15.0
25	8.0	6.0	7.0	7.0	6.5	6.5	14.0	12.0	13.0	17.5	16.0	16.5
26	9.0	6.5	8.0	7.0	6.5	6.5	13.5	11.5	12.5	17.5	16.5	17.0
27	8.5	6.5	7.5	8.0	6.5	7.0	14.0	12.5	13.0	18.5	17.0	18.0
28	7.0	5.0	6.0	8.0	6.5	7.5	13.5	13.0	13.0	19.5	18.5	19.0
29	---	---	---	7.5	6.0	7.0	13.0	12.0	12.5	21.0	19.5	20.0
30	---	---	---	9.0	7.0	8.0	12.0	11.0	11.5	20.5	19.0	19.5
31	---	---	---	9.5	8.5	9.0	---	---	---	20.0	18.0	19.0
MONTH	9.0	0.5	4.4	10.5	4.5	7.3	21.0	8.0	13.5	21.0	10.5	15.2

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.5	19.5	20.5	27.5	25.5	26.5	30.5	27.5	29.0	21.5	20.5	21.0
2	21.5	20.0	21.0	29.0	26.0	27.0	31.0	28.5	29.5	21.0	19.5	20.0
3	21.5	20.0	21.0	30.0	27.0	28.5	30.5	27.5	29.0	23.0	20.0	21.5
4	21.0	20.0	20.5	31.0	28.0	29.5	31.5	28.5	30.0	25.0	22.5	23.5
5	22.0	19.5	20.5	30.0	28.0	29.0	30.5	29.0	29.5	25.0	23.0	24.0
6	22.0	21.0	21.5	28.0	26.5	27.0	29.5	26.5	28.0	24.5	22.5	23.5
7	21.0	19.5	20.0	27.0	25.0	26.0	26.5	24.5	25.5	24.5	22.0	23.5
8	19.5	18.5	19.0	28.0	25.0	26.5	26.0	24.0	25.0	25.0	22.5	23.5
9	19.5	17.5	18.5	28.5	25.5	27.0	27.0	24.0	25.5	25.5	23.0	24.5
10	20.5	18.5	19.5	28.5	26.0	27.0	27.5	24.5	26.0	26.5	24.0	25.0
11	22.0	20.0	21.0	27.0	24.5	26.0	28.0	25.0	26.5	26.0	22.5	24.5
12	22.5	21.5	22.0	27.5	24.0	25.5	28.5	26.0	27.5	23.0	21.0	22.0
13	22.5	21.0	21.5	26.5	24.5	25.5	29.5	27.0	28.5	22.5	20.5	21.5
14	21.0	19.5	20.0	---	---	---	30.0	27.5	28.5	23.0	21.5	22.5
15	19.5	18.5	19.0	---	---	---	29.5	27.5	28.5	23.5	23.0	23.5
16	19.0	17.5	18.5	---	---	---	30.0	28.0	29.0	24.5	23.0	23.5
17	19.5	18.0	19.0	---	---	---	30.5	28.5	29.5	24.5	22.5	23.5
18	20.5	18.5	19.5	---	---	---	31.0	29.0	30.0	24.0	22.0	23.0
19	20.0	19.0	19.5	29.0	27.5	28.0	30.5	28.5	29.5	23.5	21.5	22.5
20	21.5	19.5	20.5	29.5	26.5	28.0	29.5	28.0	29.0	23.5	22.0	23.0
21	23.0	20.5	21.5	29.0	27.0	28.0	29.0	27.0	28.0	24.5	22.5	23.5
22	24.0	22.0	23.0	29.5	26.5	28.0	28.0	26.0	27.0	25.0	23.5	24.5
23	25.0	23.0	24.0	30.5	27.5	28.5	27.5	26.0	27.0	24.5	23.0	23.5
24	26.0	24.5	25.0	29.0	26.5	27.5	26.0	25.0	25.0	23.0	21.5	22.5
25	27.5	25.5	26.0	27.0	25.5	26.0	26.5	24.0	25.5	22.0	20.5	21.5
26	28.0	26.0	27.0	25.5	24.5	25.0	26.5	25.0	26.0	21.5	20.0	20.5
27	28.5	26.5	27.5	24.5	24.0	24.0	26.0	24.5	25.0	20.0	19.0	19.5
28	27.0	25.5	26.0	26.5	24.0	25.0	25.5	23.5	24.5	21.0	19.5	20.5
29	26.5	24.5	25.5	---	---	---	23.5	21.5	22.0	20.5	19.0	20.0
30	27.0	25.0	26.0	---	---	---	22.0	21.0	21.5	20.5	18.5	19.5
31	---	---	---	---	---	---	22.0	21.0	21.5	---	---	---
MONTH	28.5	17.5	21.8	31.0	24.0	26.9	31.5	21.0	27.0	26.5	18.5	22.5
YEAR	31.5	0.0	14.2									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	11.0	9.7	10.3	14.1	11.1	12.6	12.4	9.6	10.9	14.9	14.2	14.5
2	11.6	9.9	10.6	14.1	11.4	12.7	12.0	9.9	10.9	15.3	14.3	14.8
3	11.5	9.5	10.4	13.0	10.8	11.7	12.5	10.2	11.3	15.6	15.0	15.2
4	11.3	9.2	10.1	13.7	10.7	12.1	12.7	10.7	11.6	15.6	14.8	15.2
5	11.2	9.0	10.0	13.4	10.9	12.1	12.5	10.9	11.5	15.5	14.8	15.1
6	10.6	8.8	9.5	13.7	10.9	12.3	12.6	10.7	11.5	15.2	14.6	14.8
7	11.2	9.0	10.0	14.1	11.6	12.8	12.3	10.4	11.2	14.8	14.3	14.5
8	11.8	9.5	10.6	14.4	11.6	12.9	11.6	10.3	11.0	15.4	14.5	14.9
9	12.1	10.1	11.0	14.0	11.4	12.7	12.5	10.6	11.4	15.2	14.7	14.9
10	12.4	10.4	11.3	14.2	11.6	12.8	13.1	11.2	12.1	15.3	14.5	14.8
11	12.4	10.4	11.2	14.2	11.8	12.9	---	---	---	14.7	14.0	14.3
12	12.1	9.8	10.9	14.3	11.9	13.0	---	---	---	14.8	13.7	14.1
13	12.0	9.7	10.8	14.6	12.4	13.6	12.6	11.8	12.1	14.3	13.4	13.9
14	11.6	9.3	10.3	15.0	12.7	13.8	12.0	11.2	11.6	14.8	13.5	14.1
15	11.7	9.0	10.3	14.8	12.3	13.6	13.0	11.0	11.9	14.9	13.7	14.2
16	11.7	9.3	10.5	14.5	12.2	13.3	13.7	11.7	12.6	15.1	13.7	14.3
17	11.8	9.5	10.6	14.5	12.0	13.2	12.9	12.1	12.4	14.8	13.7	14.2
18	12.6	10.1	11.2	14.6	12.3	13.4	12.6	11.5	12.0	15.0	13.6	14.2
19	12.8	10.5	11.6	14.3	12.3	13.3	13.2	11.6	12.3	14.5	13.7	14.1
20	12.9	10.6	11.6	13.7	11.9	12.8	12.8	11.9	12.3	15.7	14.0	14.7
21	12.8	10.4	11.6	14.7	12.2	13.2	12.9	12.1	12.5	15.6	14.4	14.9
22	12.8	10.3	11.4	15.2	12.9	13.9	13.4	12.4	12.9	15.9	14.4	15.1
23	12.5	9.9	11.1	15.2	13.0	14.0	13.6	12.6	13.1	15.2	14.3	14.7
24	12.5	9.8	11.1	14.3	12.6	13.4	13.4	12.6	13.0	14.5	13.8	14.1
25	11.9	9.3	10.5	13.9	11.8	12.7	13.7	12.7	13.1	14.5	13.1	13.8
26	11.9	9.4	10.7	13.6	10.9	12.1	13.7	12.7	13.2	14.9	12.9	13.9
27	12.2	10.1	11.1	13.6	10.8	12.2	13.8	12.6	13.2	15.2	13.4	14.2
28	13.2	10.5	11.8	13.6	10.9	12.1	14.0	13.1	13.5	15.3	13.3	14.2
29	13.7	11.2	12.4	11.8	10.3	10.8	14.2	13.4	13.8	15.1	13.2	14.1
30	13.9	11.4	12.6	11.8	9.6	10.6	14.4	13.4	13.9	13.9	12.8	13.5
31	13.0	11.2	12.2	---	---	---	14.8	14.1	14.3	13.2	12.5	12.8
MONTH	13.9	8.8	10.9	15.2	9.6	12.8	14.8	9.6	12.3	15.9	12.5	14.4

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

OXYGEN DIS. PERCENT, in % OF SATURATION, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	109	95	102	129	98	113	117	89	102	103	97	100
2	119	96	106	134	103	118	110	90	99	106	98	102
3	122	96	108	126	103	113	111	89	100	108	103	105
4	123	95	107	130	99	114	112	92	101	108	102	105
5	123	94	107	122	100	111	111	94	101	110	102	106
6	113	93	102	122	95	108	113	93	102	107	102	104
7	116	92	102	127	100	113	111	92	101	105	101	103
8	118	93	104	130	102	115	101	90	96	109	100	104
9	120	95	107	126	102	113	107	90	97	108	102	105
10	124	99	110	126	101	113	109	92	100	112	102	106
11	126	100	111	124	102	112	---	---	---	110	103	106
12	126	98	111	121	99	110	---	---	---	113	101	106
13	127	99	112	123	102	113	106	97	101	110	101	105
14	123	97	109	127	104	115	102	94	98	112	100	106
15	124	94	108	128	104	116	110	93	100	114	102	108
16	121	94	107	129	105	116	112	94	102	115	102	108
17	119	95	106	128	104	116	105	97	101	112	102	107
18	123	96	108	127	104	115	105	95	99	113	101	107
19	125	98	111	125	104	115	109	94	101	106	99	102
20	126	100	112	119	103	111	103	95	99	113	99	105
21	127	100	113	124	101	111	101	95	98	113	103	107
22	130	100	113	126	105	115	104	95	99	117	103	110
23	127	98	112	126	106	116	105	95	100	113	105	109
24	131	99	113	123	106	113	105	97	100	111	105	108
25	125	96	109	125	104	113	104	95	99	113	100	107
26	118	93	106	125	98	110	104	94	99	117	98	107
27	114	94	104	122	96	109	102	92	97	119	101	109
28	122	93	107	123	96	108	101	92	97	120	100	110
29	126	99	112	107	94	98	103	95	99	120	100	110
30	129	103	116	109	87	97	101	93	97	112	100	107
31	118	101	110	---	---	---	103	97	99	106	99	102
MONTH	131	92	109	134	87	112	117	89	99	120	97	106
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	105	98	100	124	98	111	106	100	103	105	103	104
2	103	96	99	120	99	110	108	100	104	103	99	101
3	103	96	100	112	100	106	106	100	103	103	98	100
4	101	95	98	114	97	105	110	99	104	105	98	102
5	101	93	96	116	98	107	108	101	105	106	96	102
6	103	95	99	116	100	107	111	103	107	103	97	101
7	104	97	99	121	101	110	115	104	109	101	94	98
8	107	95	101	123	102	112	114	106	110	103	86	97
9	108	97	102	124	102	112	114	106	110	95	89	91
10	108	98	103	121	98	108	114	103	108	101	85	94
11	107	97	101	121	95	107	116	103	109	101	90	95
12	106	93	99	115	96	106	110	103	107	95	88	91
13	102	95	98	106	98	102	115	102	108	---	---	---
14	104	95	99	125	94	110	114	101	107	---	---	---
15	103	96	99	127	104	115	115	98	106	---	---	---
16	107	97	101	114	103	109	106	95	100	---	---	---
17	106	97	101	113	100	106	102	91	96	104	100	101
18	107	95	101	109	98	105	103	93	98	100	93	98
19	111	97	104	117	99	109	103	88	96	102	97	100
20	112	97	105	110	106	107	95	87	91	103	100	102
21	116	98	106	110	104	107	96	87	91	104	100	102
22	115	94	106	110	102	106	99	92	95	105	99	102
23	120	91	105	114	104	108	110	96	102	106	98	102
24	121	100	110	112	104	108	116	101	107	106	98	101
25	122	97	109	112	102	107	107	102	104	106	94	100
26	124	100	111	106	102	104	114	100	107	103	94	98
27	115	94	103	109	101	105	118	105	111	106	94	100
28	120	93	106	108	103	105	111	102	106	110	95	102
29	---	---	---	107	103	105	102	99	101	110	95	101
30	---	---	---	108	105	106	105	102	103	98	92	94
31	---	---	---	106	102	104	---	---	---	95	92	94
MONTH	124	91	102	127	94	107	118	87	104	110	85	99

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

OXYGEN DIS. PERCENT, in % OF SATURATION, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

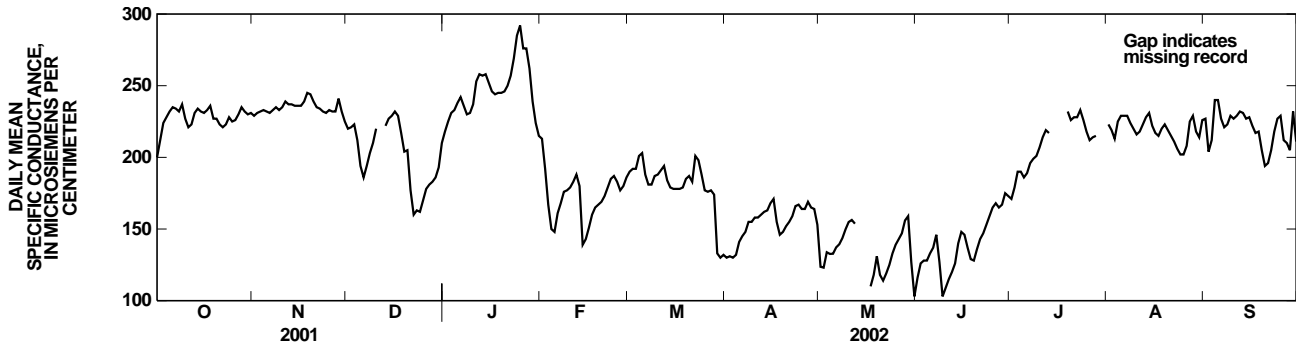
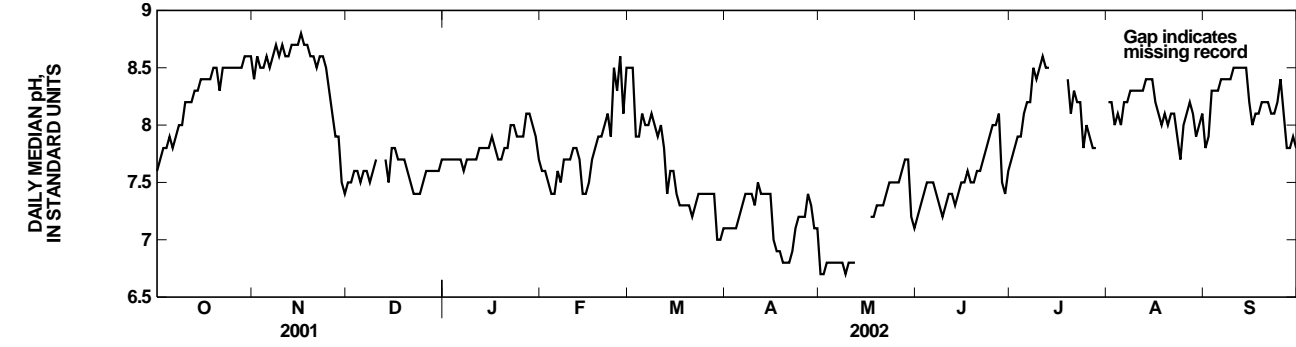
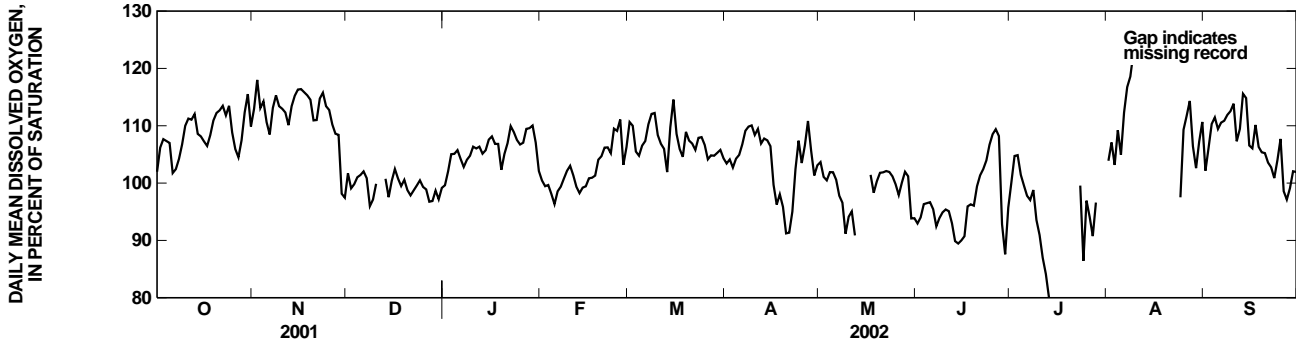
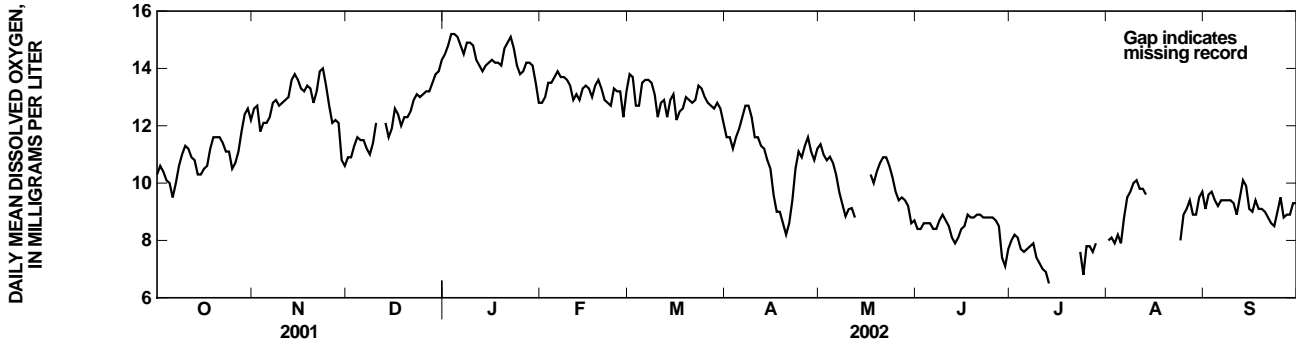
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	96	90	93	112	88	100	129	81	104	110	96	102
2	99	90	94	121	89	105	131	86	107	118	95	106
3	102	91	96	120	91	105	126	81	103	129	95	110
4	100	94	96	118	86	101	135	86	109	133	94	111
5	103	91	97	116	84	100	120	88	105	131	91	109
6	101	92	95	116	82	98	140	91	112	133	92	111
7	95	90	92	116	81	97	141	95	117	134	91	111
8	95	93	94	116	83	99	140	98	119	136	92	112
9	97	93	95	113	79	94	148	101	123	137	92	113
10	98	93	95	111	75	91	150	103	125	141	92	114
11	99	92	95	103	71	87	149	99	123	125	90	107
12	96	91	93	101	69	84	151	103	125	134	88	109
13	91	89	90	96	67	80	150	100	124	140	95	116
14	91	88	89	---	---	---	---	---	---	139	96	115
15	92	88	90	---	---	---	---	---	---	127	94	107
16	95	82	91	---	---	---	---	---	---	129	89	106
17	100	90	96	---	---	---	---	---	---	131	94	110
18	100	93	96	---	---	---	---	---	---	124	93	106
19	100	93	96	---	---	---	---	---	---	125	89	105
20	105	95	99	---	---	---	---	---	---	124	90	105
21	108	95	101	---	---	---	---	---	---	123	87	104
22	111	95	102	---	---	---	---	---	---	125	85	103
23	115	95	104	133	75	100	---	---	---	123	84	101
24	119	96	107	106	71	86	111	87	98	126	86	104
25	124	95	109	118	80	97	136	87	109	131	88	108
26	124	98	109	111	81	94	135	92	112	108	89	99
27	126	90	108	100	78	91	139	94	114	111	88	97
28	104	86	93	114	84	97	120	95	106	116	84	99
29	93	81	88	---	---	---	113	95	103	118	88	102
30	107	86	96	---	---	---	122	93	107	116	89	102
31	---	---	---	---	---	---	125	98	111	---	---	---
MONTH	126	81	97	133	67	95	151	81	112	141	84	107
YEAR	151	67	104									

TURBIDITY, FIELD, IN (NTU), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.3	<2.0	<2.0	5.8	<2.0	2.9	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2	<2.0	<2.0	<2.0	3.7	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
3	<2.0	<2.0	<2.0	5.1	<2.0	2.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4	<2.0	<2.0	<2.0	5.1	<2.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
5	<2.0	<2.0	<2.0	4.6	<2.0	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
6	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0
7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	3.4	<2.0	<2.0
8	<2.0	<2.0	<2.0	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
9	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
11	<2.0	<2.0	<2.0	2.3	<2.0	<2.0	---	---	---	4.0	<2.0	<2.0
12	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	---	<2.0	<2.0	<2.0
13	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
14	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	<2.0	<2.0	<2.0	<2.0
15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
17	2.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
18	3.1	<2.0	<2.0	<2.0	<2.0	<2.0	3.5	<2.0	<2.0	<2.0	<2.0	<2.0
19	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	3.6	<2.0	2.3	<2.0	<2.0	<2.0
20	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	16	2.2	5.0	<2.0	<2.0	<2.0
21	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	17	7.1	11	<2.0	<2.0	<2.0
22	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	10	6.4	7.9	<2.0	<2.0	<2.0
23	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	10	6.2	7.6	<2.0	<2.0	<2.0
24	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	9.4	6.3	7.9	4.2	<2.0	<2.0
25	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	9.0	5.2	7.2	10	<2.0	6.3
26	2.9	<2.0	<2.0	<2.0	<2.0	<2.0	7.3	<2.0	2.9	10	2.5	5.0
27	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	<2.0	<2.0	3.8	2.3	2.6
28	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.6	<2.0	2.0
29	3.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.3	<2.0	<2.0
30	4.2	<2.0	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	<2.0
31	3.8	<2.0	<2.0	---	---	---	<2.0	<2.0	<2.0	3.4	<2.0	<2.0
MONTH	4.3	<2.0	<2.0	5.8	<2.0	<2.0	17	<2.0	2.6	10	<2.0	<2.0

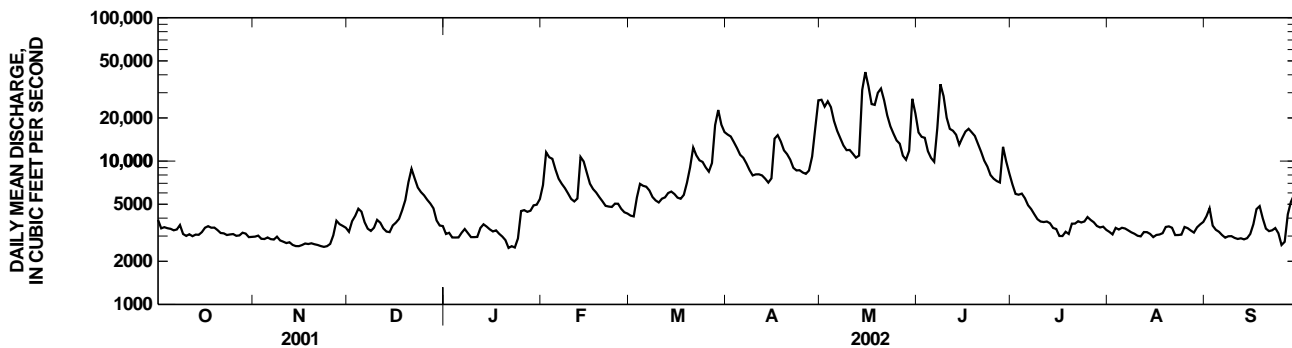
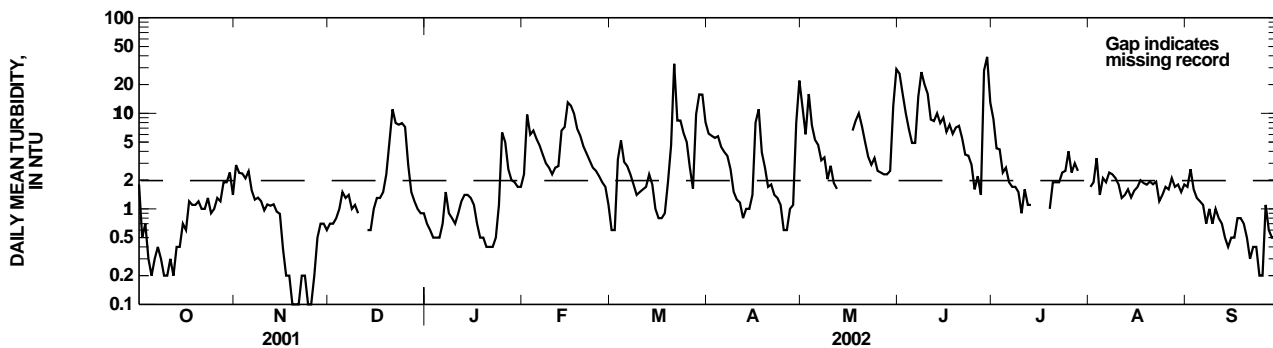
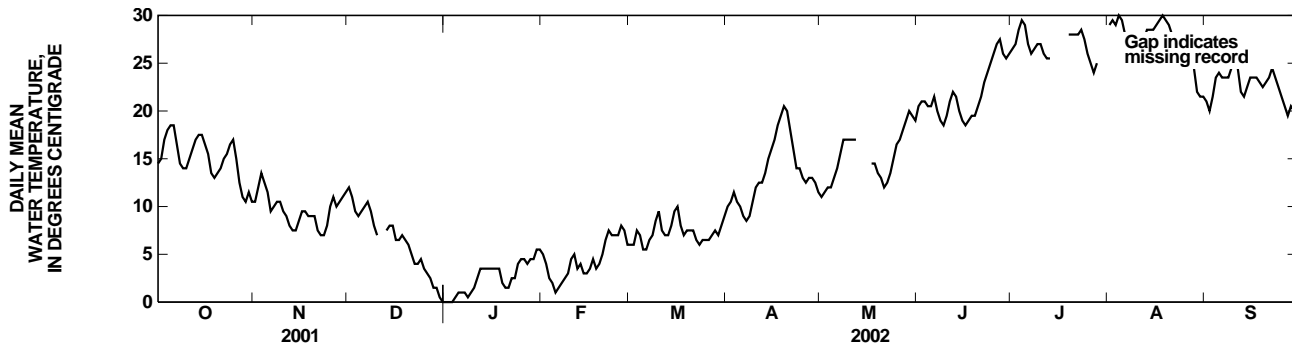
DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued



DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued



NESHAMINY CREEK BASIN

01464645 NORTH BRANCH NESHAMINY CREEK BELOW LAKE GALENA NEAR NEW BRITAIN, PA

LOCATION.--Lat 40°18'44", long 75°12'25", Bucks County, Hydrologic Unit 02040201, on left bank 0.3 mi downstream from Lake Galena (Peace Valley Reservoir), 1.5 mi west of New Britain, 2.0 mi north of Chalfont on Callowhill Road, and 4.0 mi west of Doylestown.

DRAINAGE AREA.--16.2 mi².

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake Galena (Peace Valley Reservoir). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

COOPERATION.--Records of change in contents in Lake Galena provided by Forest Park Water Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	25	25	25	28	26	30	29	34	34	23
2	27	27	26	25	25	25	25	36	31	34	36	23
3	26	28	26	26	25	27	25	29	30	34	34	25
4	28	28	26	26	25	25	25	25	30	35	30	28
5	28	28	27	26	25	25	25	24	31	32	31	29
6	28	28	26	26	25	26	26	25	32	31	32	28
7	26	27	25	26	25	26	26	26	31	31	31	27
8	26	27	25	26	25	27	26	27	27	33	31	26
9	25	27	24	26	25	26	34	26	27	34	30	28
10	25	28	25	26	25	26	28	26	30	34	31	31
11	26	29	26	26	26	27	28	25	31	34	29	30
12	28	29	26	25	25	28	28	25	32	34	33	25
13	27	28	26	25	25	28	29	38	29	32	35	25
14	25	28	26	25	25	27	26	129	28	31	34	25
15	26	28	25	25	25	27	26	85	25	32	35	24
16	26	28	24	25	24	27	27	56	23	35	37	24
17	28	28	26	25	24	27	29	41	25	36	37	27
18	29	28	24	25	24	29	29	78	28	38	38	26
19	29	28	23	25	23	26	29	77	26	38	38	25
20	28	27	24	25	23	36	30	53	27	35	35	26
21	27	27	26	24	23	30	29	39	29	34	33	25
22	30	27	27	25	23	29	30	32	28	34	33	24
23	30	26	26	25	23	26	27	27	28	33	32	26
24	31	26	24	27	23	26	29	25	33	31	29	27
25	33	26	24	26	23	26	29	25	34	31	27	26
26	32	26	24	26	25	25	29	25	33	31	29	26
27	31	26	23	25	27	26	28	28	35	28	28	27
28	30	24	23	25	28	26	35	29	30	29	28	26
29	28	23	23	25	---	27	28	30	29	34	27	25
30	28	23	24	24	---	26	30	30	30	34	26	25
31	28	---	25	25	---	26	---	30	---	34	25	---
TOTAL	866	810	774	786	689	836	841	1201	881	1030	988	782
MEAN	27.9	27.0	25.0	25.4	24.6	27.0	28.0	38.7	29.4	33.2	31.9	26.1
MAX	33	29	27	27	28	36	35	129	35	38	38	31
MIN	25	23	23	24	23	25	25	24	23	28	25	23
(≠)	-6.2	-12.1	-5.0	-1.5	-2.2	+16.3	+11.1	+4.9	0.0	-3.6	-3.2	-6.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	23.5	24.7	47.0	34.3	27.7	38.5	31.6	28.9	25.0	21.2	18.5	24.0					
MAX	81.8	86.4	145	80.4	58.8	123	80.0	81.1	80.4	55.3	41.7	114					
(WY)	1997	1996	1997	1996	1988	1994	1996	1998	2001	1988	1994	1999					
MIN	3.91	5.85	17.5	6.62	5.36	4.75	4.68	6.55	5.38	4.92	4.97	3.63					
(WY)	1989	1992	1995	1986	1989	1988	1988	1986	1986	1990	1987	1988					

≠ Change in contents, equivalent in cubic feet per second, in Lake Galena.

NESHAMINY CREEK BASIN

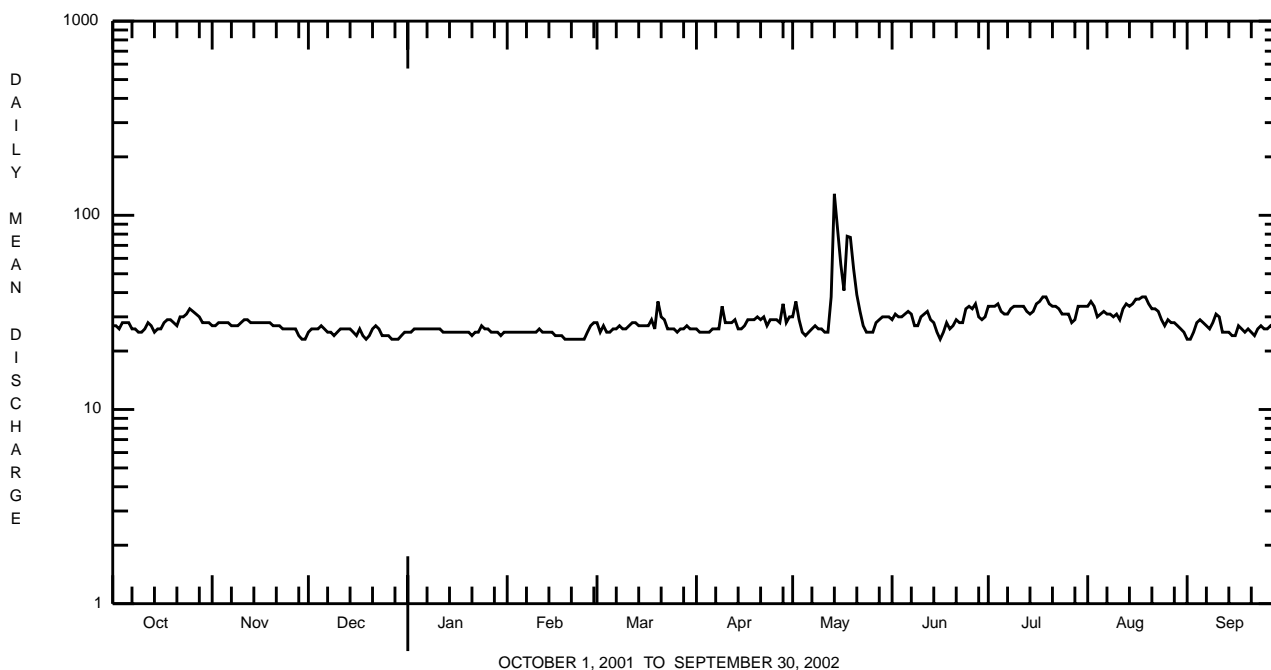
01464645 NORTH BRANCH NESHAMINY CREEK BELOW LAKE GALENA NEAR NEW BRITAIN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1986 - 2002	
ANNUAL TOTAL	12447		10484			
ANNUAL MEAN	34.1		28.7		29.2	
HIGHEST ANNUAL MEAN					44.3	1996
LOWEST ANNUAL MEAN					13.1	1992
HIGHEST DAILY MEAN	943	Jun 17	129	May 14	1040	Sep 17 1999
LOWEST DAILY MEAN	23	Jan 7 ^a	23	Nov 29, 30 ^b	3.1	Dec 22 1989
ANNUAL SEVEN-DAY MINIMUM	23	Mar 1	23	Feb 19	3.1	Dec 22 1989
MAXIMUM PEAK FLOW			173	May 13	^c 2340	Sep 16 1999
MAXIMUM PEAK STAGE			2.71	May 13	4.96	Sep 16 1999
10 PERCENT EXCEEDS	36		34		51	
50 PERCENT EXCEEDS	28		27		23	
90 PERCENT EXCEEDS	24		25		5.0	

^a Also Nov. 29, 30, Dec. 19, 27-29.

^b Also Dec. 19, 27-29, Feb. 19-25, June 16, Sept. 1, 2.

^c From rating curve extended above 270 ft³/s on basis of slope-conveyance computation.



NESHAMINY CREEK BASIN

01464720 NORTH BRANCH NESHAMINY CREEK AT CHALFONT, PA

LOCATION.--Lat 40°17'17", long 75°12'15", Bucks County, Hydrologic Unit 02040201, on right bank 250 ft upstream from Route 202 bridge in Chalfont, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--31.5 mi².

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

REVISED RECORDS.--WDR PA-99-1: 1993-98(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.--No estimated daily discharges. Records fair. Diversion for municipal supply by Forest Park Water Company upstream of gage. Flow regulated by Lake Galena (Peace Valley Reservoir) 1.8 mi upstream, drainage area 15.8 mi², normal pool capacity 6,539 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by Forest Park Water Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.2	3.3	7.7	9.8	7.5	15	21	11	8.6	6.5	12
2	7.3	5.4	5.0	4.2	10	8.0	11	79	13	8.8	18	9.3
3	6.7	5.9	3.5	7.2	9.4	27	11	86	10	7.4	16	7.9
4	6.6	6.6	3.5	5.9	7.3	14	11	22	10	9.1	8.8	7.3
5	7.4	5.2	5.3	7.5	7.5	8.0	9.7	16	10	7.5	8.4	7.4
6	7.7	4.7	6.0	8.5	6.2	8.4	10	13	22	7.3	7.0	6.5
7	5.8	4.1	3.9	7.3	6.6	7.7	10	11	58	6.8	7.9	6.3
8	5.9	4.2	4.0	6.3	6.8	8.0	11	9.8	17	5.9	8.2	5.9
9	5.6	4.3	5.3	6.6	6.4	9.0	23	17	12	9.1	6.8	5.8
10	4.7	4.8	4.1	6.5	7.0	7.5	9.8	12	11	9.6	7.3	7.1
11	5.9	6.6	4.5	12	6.4	7.8	9.0	10	8.9	7.2	6.6	6.4
12	7.2	4.7	4.5	7.7	6.2	8.0	9.7	12	13	7.4	7.4	6.0
13	6.6	5.8	5.4	7.4	6.6	9.6	12	55	21	7.5	8.1	6.3
14	5.6	4.2	5.4	5.7	5.1	9.0	11	178	26	8.0	7.3	6.5
15	5.6	4.6	4.0	6.0	5.1	8.5	9.6	81	22	5.9	8.1	8.7
16	7.3	4.5	4.5	5.8	5.7	9.7	8.7	44	13	7.8	8.6	8.1
17	5.6	5.0	4.2	5.1	6.0	8.4	8.7	27	9.5	7.9	8.2	8.5
18	7.8	6.4	7.4	5.6	4.2	28	9.6	158	10	9.0	7.8	7.0
19	7.3	4.5	4.8	6.1	4.2	22	8.4	107	11	33	7.1	5.0
20	6.9	4.1	4.8	6.7	4.4	111	11	61	8.4	49	8.2	4.5
21	5.6	3.9	5.1	4.9	4.5	69	10	36	9.1	14	6.8	5.8
22	8.1	3.8	5.8	5.9	4.1	27	11	24	8.3	10	8.6	5.2
23	8.0	4.6	6.4	5.6	4.2	18	9.5	17	8.4	6.8	9.1	6.3
24	8.0	4.3	7.6	19	4.6	15	8.7	15	15	7.8	7.2	5.8
25	10	5.9	5.0	12	3.9	12	11	13	7.2	6.3	6.4	4.7
26	9.0	4.6	6.4	10	4.9	13	12	14	6.4	7.6	6.3	8.0
27	6.8	5.0	4.9	8.6	6.2	35	11	16	26	6.5	6.2	46
28	7.6	5.1	4.8	6.9	7.1	18	67	14	17	5.6	6.0	49
29	5.9	4.1	4.8	6.1	---	15	43	13	10	6.5	14	13
30	5.7	3.7	5.9	6.4	---	15	20	14	8.7	6.9	7.3	8.2
31	5.1	---	6.7	9.0	---	14	---	12	---	5.9	6.8	---
TOTAL	209.6	145.8	156.8	230.2	170.4	578.1	422.4	1207.8	432.9	306.7	257.0	294.5
MEAN	6.76	4.86	5.06	7.43	6.09	18.6	14.1	39.0	14.4	9.89	8.29	9.82
MAX	10	6.6	7.6	19	10	111	67	178	58	49	18	49
MIN	4.7	3.7	3.3	4.2	3.9	7.5	8.4	9.8	6.4	5.6	6.0	4.5
(†)	22.5	22.1	21.0	22.1	22.2	21.9	22.7	23.0	24.9	28.7	29.0	24.0
(≠)	-6.2	-12.1	-5.0	-1.5	-2.2	+16.3	+11.1	+4.9	0.0	-3.6	-3.2	-6.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2002, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	28.3	28.6	59.8	61.5	38.3	77.2	49.0	32.9	25.7	18.1	19.7	28.5
MAX	131	108	236	209	74.6	222	121	136	113	55.8	67.5	197
(WY)	1997	1996	1997	1996	1998	1994	1996	1998	2001	1996	1994	1999
MIN	6.76	4.86	5.06	7.43	6.09	18.6	11.8	11.1	5.92	7.65	4.82	5.86
(WY)	2002	2002	2002	2002	2002	2002	1995	1995	1999	1995	1995	1992

† Diversion by Forest Park Water Company, equivalent in cubic feet per second.

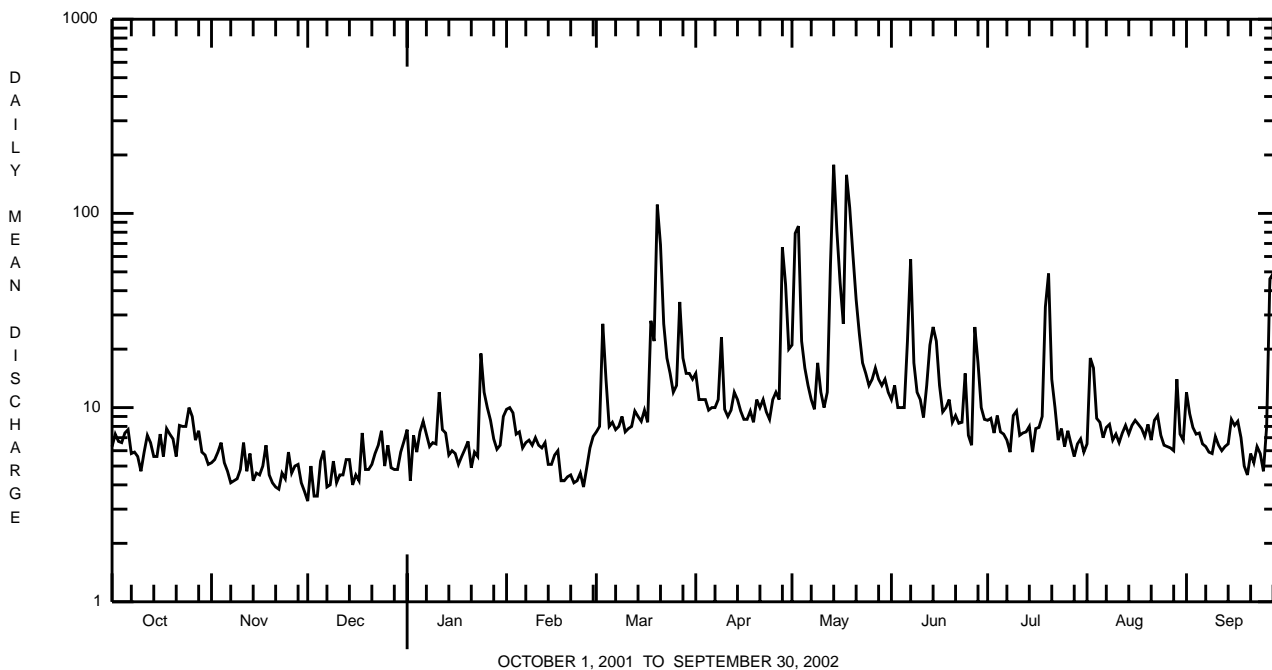
≠ Change in contents, equivalent in cubic feet per second, in Lake Galena.

NESHAMINY CREEK BASIN

01464720 NORTH BRANCH NESHAMINY CREEK AT CHALFONT, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1991 - 2002	
ANNUAL TOTAL	11560.9		4412.2			
ANNUAL MEAN	31.7		12.1		39.2	
HIGHEST ANNUAL MEAN					67.0	1996
LOWEST ANNUAL MEAN					12.1	2002
HIGHEST DAILY MEAN	1320	Jun 17	178	May 14	2090	Sep 16 1999
LOWEST DAILY MEAN	3.3	Dec 1	3.3	Dec 1	2.3	Aug 18 1991
ANNUAL SEVEN-DAY MINIMUM	4.0	Nov 28	4.0	Nov 28	3.0	Aug 12 1991
MAXIMUM PEAK FLOW			712	May 2	a6930	Sep 16 1999
MAXIMUM PEAK STAGE			5.61	May 2	11.36	Sep 16 1999
10 PERCENT EXCEEDS	62		18		78	
50 PERCENT EXCEEDS	11		7.5		15	
90 PERCENT EXCEEDS	5.0		4.7		6.1	

a From rating curve extended above 1,550 ft³/s on basis of velocity-area study of peak flow at gage height 11.36 ft.



NESHAMINY CREEK BASIN

01464750 NESHAMINY CREEK NEAR RUSHLAND, PA

LOCATION.--Lat 40°15'37", long 75°02'07", Bucks County, Hydrologic Unit 02040201, on left bank at bridge on Rushland Road, 2,000 ft upstream from confluence with Little Neshaminy Creek.

DRAINAGE AREA.--91.0 mi².

PERIOD OF RECORD.--December 1986 to September 1992; October 2001 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,950 ft³/s and maximum(*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1530	*1,750	*6.70	(No peaks above base discharge.)			

REVISIONS.--The peak discharges and annual maximums reported for water years 1988 to 1992 have been revised as shown in the following table. They supersede previously published figures.

Water Year	Date	Discharge ft ³ /s	Gage Height (ft)
1988	July 27, 1988	4,340	10.66
1989	Sept. 20, 1989	5,300	12.33
1990	May 30, 1990	4,490	10.91
1991	Aug. 20, 1991	2,620	8.02
1992	June 5, 1992	2,380	7.64

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	20	25	e44	e68	33	109	173	39	42	18	68
2	33	21	24	45	92	36	91	168	36	39	18	148
3	30	23	25	40	67	246	75	689	35	38	204	63
4	27	29	24	45	56	125	82	185	33	34	48	50
5	26	25	25	e38	50	72	70	129	33	32	27	44
6	28	22	27	e42	46	57	65	108	54	28	24	42
7	29	21	28	e88	43	53	63	94	408	27	21	39
8	25	20	28	e63	43	49	59	85	104	26	23	37
9	27	20	72	e54	41	45	63	142	65	25	22	37
10	26	18	45	e50	39	49	71	138	53	27	19	38
11	24	18	32	e78	43	48	57	90	46	27	20	40
12	29	21	29	157	41	44	54	83	72	23	20	37
13	31	20	29	77	39	49	61	186	90	22	23	36
14	28	22	32	58	37	71	60	721	169	23	24	37
15	31	19	51	48	33	54	58	243	192	24	23	39
16	38	19	36	43	32	50	55	149	88	23	25	65
17	30	19	31	40	33	48	53	109	63	23	24	50
18	27	18	59	e36	31	181	52	805	55	22	24	34
19	29	21	60	e37	30	210	53	358	67	52	24	31
20	29	19	37	e40	29	619	56	192	63	194	31	28
21	25	19	32	e50	36	494	55	140	48	49	38	24
22	24	18	32	e36	37	191	59	109	45	29	25	22
23	27	17	33	e37	33	130	71	87	41	25	83	21
24	27	16	75	e160	30	106	58	70	40	26	37	22
25	28	18	63	197	31	91	59	60	57	25	32	22
26	30	56	e36	84	30	81	81	53	39	21	29	22
27	29	34	e31	62	31	256	64	56	44	22	26	244
28	23	29	e30	51	33	142	266	53	301	19	26	240
29	27	28	e31	47	---	105	300	48	71	18	145	67
30	25	27	e31	e41	---	94	142	45	50	18	93	37
31	22	---	e36	e50	---	90	---	42	---	18	50	---
TOTAL	873	677	1149	1938	1154	3919	2462	5610	2501	1021	1246	1684
MEAN	28.2	22.6	37.1	62.5	41.2	126	82.1	181	83.4	32.9	40.2	56.1
MAX	39	56	75	197	92	619	300	805	408	194	204	244
MIN	22	16	24	36	29	33	52	42	33	18	18	21
CFSM	0.31	0.25	0.41	0.69	0.45	1.39	0.90	1.99	0.92	0.36	0.44	0.62
IN.	0.36	0.28	0.47	0.79	0.47	1.60	1.01	2.29	1.02	0.42	0.51	0.69

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

	1990	1989	1991	1990	1988	1987	1987	1989	1989	1989	1989	1989
MEAN	72.0	100	111	166	142	156	150	192	138	117	64.6	73.8
MAX	211	249	187	311	315	214	321	374	443	315	132	244
(WY)	1990	1989	1991	1990	1988	1987	1987	1989	1989	1989	1989	1989
MIN	28.2	22.6	37.1	62.5	41.2	95.7	61.9	70.0	30.4	32.5	32.2	24.8
(WY)	2002	2002	2002	2002	2002	1990	1988	1987	1991	1992	1987	1992

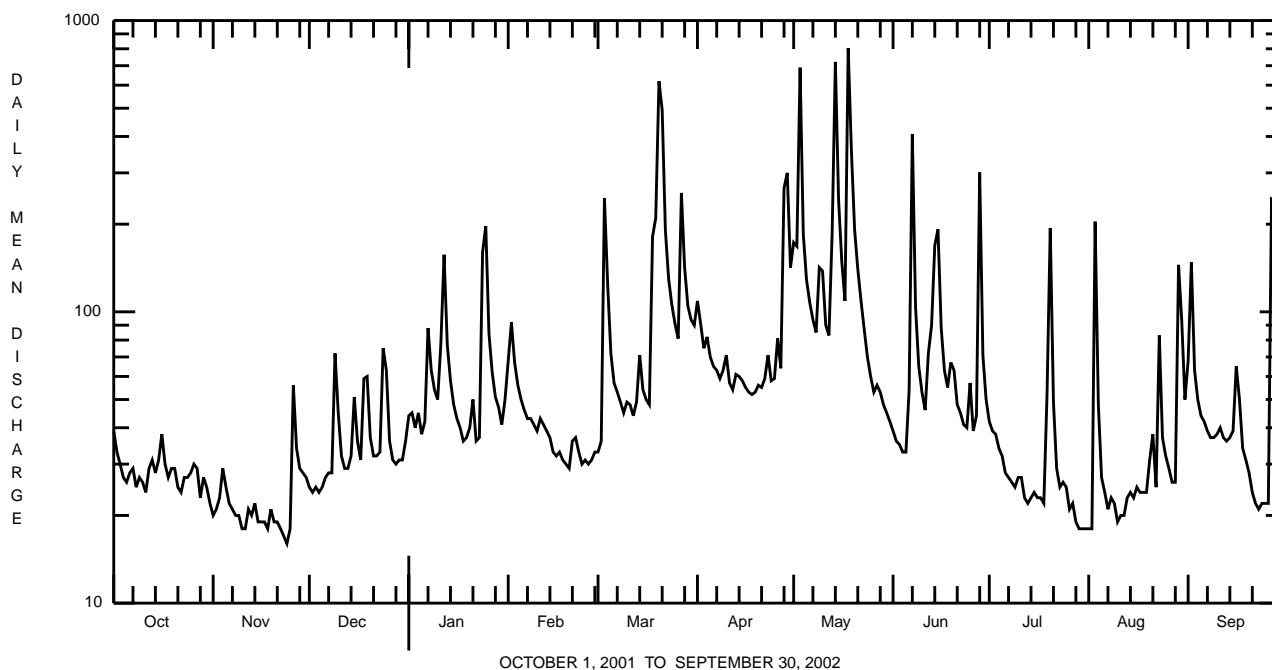
e Estimated.

NESHAMINY CREEK BASIN

01464750 NESHAMINY CREEK NEAR RUSHLAND, PA--Continued

SUMMARY STATISTICS	FOR 2002 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	24234		123	
ANNUAL MEAN	66.4		214	
HIGHEST ANNUAL MEAN			214	1989
LOWEST ANNUAL MEAN			66.4	2002
HIGHEST DAILY MEAN	805	May 18	3130	Jul 19 1989
LOWEST DAILY MEAN	16	Nov 24	15	Aug 14 1987
ANNUAL SEVEN-DAY MINIMUM	18	Nov 18	16	Sep 14 1992
MAXIMUM PEAK FLOW	a1750	May 18	a5300	Sep 20 1989
MAXIMUM PEAK STAGE	6.70	May 18	12.33	Sep 20 1989
ANNUAL RUNOFF (CFSM)	0.73		1.36	
ANNUAL RUNOFF (INCHES)	9.91		18.44	
10 PERCENT EXCEEDS	141		257	
50 PERCENT EXCEEDS	39		62	
90 PERCENT EXCEEDS	22		23	

a From rating curve extended above 916 ft³/s based on slope-area measurement at gage height 10.33 ft.



NESHAMINY CREEK BASIN

01464907 LITTLE NESHAMINY CREEK AT VALLEY ROAD NEAR NESHAMINY, PA
(National Water-Quality Assessment Station)

LOCATION.--Lat 40°13'45", long 75°07'12", Bucks County, Hydrologic Unit 02040201, on left bank just upstream from bridge on Valley Road, 6.8 mi upstream from confluence with Neshaminy Creek, 3.0 mi downstream from Bradford Dam, 2.0 mi downstream from Park Creek, and 1.1 mi east of Neshaminy.

DRAINAGE AREA.--26.8 mi².

PERIOD OF RECORD.--November 1998 to current year.

REVISED RECORDS.--WDR PA-01-1: 1999, 2000 (P).

GAGE.--Water stage recorder and crest-stage gage. Datum of gage is 190.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 7	0100	*1,590	*5.88	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	2.7	4.1	3.2	27	4.5	25	33	13	7.0	0.87	30
2	5.1	2.1	4.1	2.9	23	5.1	17	50	8.0	5.9	11	25
3	3.8	3.1	4.0	2.9	14	156	15	38	6.9	5.0	32	9.3
4	3.2	3.2	3.9	2.9	12	30	15	19	6.7	3.8	6.2	6.0
5	2.6	3.7	3.8	2.6	9.8	17	12	15	6.7	3.2	3.3	3.9
6	3.2	2.2	3.7	12	8.9	14	12	13	136	2.3	2.7	3.0
7	3.5	1.8	4.4	40	9.4	11	10	12	295	2.4	2.1	e2.4
8	2.7	1.7	7.1	16	9.6	9.2	9.9	10	30	2.7	1.5	e1.6
9	2.5	1.3	31	9.7	8.5	8.3	9.7	70	17	2.6	1.2	e1.1
10	2.4	1.2	9.6	9.2	8.1	9.6	16	29	14	7.2	1.2	1.5
11	2.2	1.2	6.0	75	9.6	8.0	6.0	16	12	3.1	0.96	0.95
12	2.2	1.2	4.4	38	7.9	7.4	8.0	22	17	2.2	0.97	1.7
13	2.2	2.5	4.5	17	7.2	12	10	139	17	1.8	0.98	2.3
14	1.9	1.6	8.7	12	6.4	14	10	146	66	2.0	1.3	2.6
15	6.0	1.9	13	9.8	7.0	10	10	35	38	2.1	1.2	4.3
16	4.7	2.0	7.0	8.2	6.7	9.0	9.5	22	20	2.0	1.2	12
17	3.3	1.8	5.9	7.0	6.7	8.3	8.4	17	14	2.0	1.2	5.9
18	3.7	2.0	20	6.2	6.1	91	7.7	489	12	2.0	1.4	3.6
19	3.9	2.0	12	5.8	5.6	48	7.3	74	17	10	1.3	2.7
20	3.2	2.5	7.6	6.7	5.4	321	8.4	36	13	7.4	2.9	3.0
21	3.3	1.7	5.8	5.6	10	105	8.0	27	9.2	2.6	1.8	e2.4
22	2.9	1.7	4.8	6.3	7.9	40	10	21	7.7	2.1	2.0	e2.0
23	2.4	1.3	4.5	7.5	6.7	26	10	18	6.8	5.7	3.3	e1.8
24	2.3	1.2	35	103	6.3	21	8.1	15	9.2	7.4	2.6	1.8
25	2.6	3.7	14	49	6.5	18	11	12	7.8	3.2	2.7	1.7
26	3.0	26	8.5	20	6.1	17	15	16	6.0	2.1	2.4	7.1
27	e3.7	11	6.4	14	5.8	82	9.6	14	20	1.7	1.9	95
28	e2.6	5.0	5.5	11	5.0	29	97	12	64	1.7	1.9	78
29	e3.3	4.5	4.9	9.4	---	21	42	11	13	1.8	52	16
30	2.9	4.2	4.2	9.4	---	18	24	9.7	8.7	1.4	15	8.8
31	2.8	---	3.6	29	---	18	---	9.1	---	1.1	6.6	---
TOTAL	99.9	102.0	262.0	551.3	253.2	1188.4	461.6	1449.8	911.7	107.5	167.68	337.45
MEAN	3.223	3.400	8.452	17.78	9.043	38.34	15.39	46.77	30.39	3.468	5.409	11.25
MAX	6.0	26	35	103	27	321	97	489	295	10	52	95
MIN	1.9	1.2	3.6	2.6	5.0	4.5	6.0	9.1	6.0	1.1	0.87	0.95
CFSM	0.12	0.13	0.32	0.66	0.34	1.43	0.57	1.75	1.13	0.13	0.20	0.42
IN.	0.14	0.14	0.36	0.77	0.35	1.65	0.64	2.01	1.27	0.15	0.23	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

	1999	2000	2001	2002	1999	2000	2001	2002	1999	2000	2001	2002
MEAN	14.26	16.39	27.70	40.58	41.78	71.30	32.75	32.73	65.18	13.00	22.78	59.96
MAX	23.6	25.5	56.7	71.2	68.4	93.1	44.7	46.8	211	34.2	47.5	174
(WY)	2000	2000	2001	1999	2001	2001	2000	2000	2001	2000	2000	1999
MIN	3.22	4.07	2.47	17.8	9.04	38.3	15.4	13.3	3.06	1.40	5.41	11.2
(WY)	2002	2002	1999	2002	2002	2002	2002	1999	1999	1999	2002	2002

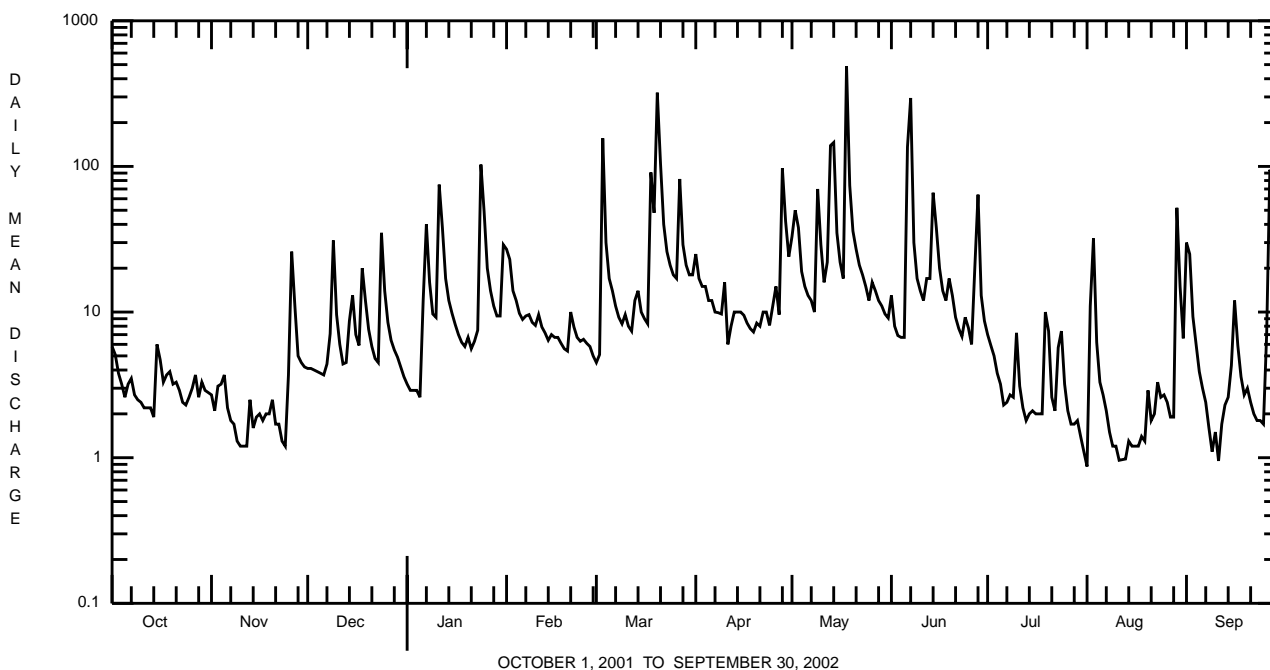
e Estimated.

NESHAMINY CREEK BASIN

01464907 LITTLE NESHAMINY CREEK AT VALLEY ROAD NEAR NESHAMINY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1999 - 2002	
ANNUAL TOTAL	16772.7		5892.53		35.96	
ANNUAL MEAN	45.95		16.14		52.5	
HIGHEST ANNUAL MEAN					2001	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	2170	Jun 17	489	May 18	2830	Sep 16 1999
LOWEST DAILY MEAN	1.2	Nov 10-12,24	0.87	Aug 1	0.24	Aug 2 1999
ANNUAL SEVEN-DAY MINIMUM	1.5	Nov 6	1.1	Aug 9	0.27	Aug 1 1999
MAXIMUM PEAK FLOW			a1590	Jun 7	a11300	Jun 16 2001
MAXIMUM PEAK STAGE			5.88	Jun 7	b14.57	Jun 16 2001
INSTANTANEOUS LOW FLOW			0.75	Aug 1c	0.15	Aug 8 1999
ANNUAL RUNOFF (CFSM)	1.71		0.60		1.34	
ANNUAL RUNOFF (INCHES)	23.28		8.18		18.23	
10 PERCENT EXCEEDS	70		30		68	
50 PERCENT EXCEEDS	14		7.0		13	
90 PERCENT EXCEEDS	2.4		1.8		2.9	

- a From rating curve extended above 758 ft³/s on basis of contracted-opening measurements at gage height 11.68 and at peak flow.
- b From outside high-water mark.
- c Also Aug. 2, 15, Sept. 11.



NESHAMINY CREEK BASIN

01464907 LITTLE NESHAMINY CREEK AT VALLEY ROAD NEAR NESHAMINY, PA--Continued
(National Water-Quality Assessment Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1998 to current year.

REMARKS.--These samples were collected as part of the Delaware River Basin National Water-Quality Assessment Program (DELNR NAWQA). For the definition of the type of quality-control data listed under SAMPLE TYPE refer to "Quality-Control Data" in the "Introduction".

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	ALKA-LINITY WAT DIS FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV 01...	1120	2.8	764	79	9.3	7.6	879	19.5	8.4	172	210	122	84.9
DEC 07...	0900	4.3	755	72	7.9	7.2	832	16.0	11.0	144	179	110	80.4
JAN 09...	0910	9.8	752	99	14.0	7.6	622	1.0	.5	99	121	96.8	53.0
MAR 07...	0850	11	762	99	12.8	7.6	567	--	4.5	97	119	82.9	47.5
APR 04...	1230	15	767	178	18.7	8.8	517	--	13.5	107	126	72.0	46.0
MAY 08...	1020	10	760	93	8.6	7.5	544	22.5	19.0	117	142	66.8	47.3
JUN 13...	0920	16	753	77	6.8	7.6	497	19.5	21.0	105	128	51.7	43.2
JUL 10...	1230	7.4	756	141	11.3	8.3	624	--	26.0	116	138	83.4	47.0
SEP 05...	1330	3.9	758	105	9.0	7.9	449	--	22.5	97	118	46.2	41.9

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV 01...	.61	<.04	1.85	.009	.17	.20	.0	.2
DEC 07...	.85	E.02	3.77	.027	.16	.22	.04	3.7
JAN 09...	.64	.07	1.57	.023	.06	.112	.17	6.4
MAR 07...	.45	<.04	1.58	E.007	.03	.094	.24	8.1
APR 04...	.46	<.04	.66	.012	.03	.069	.15	3.6
MAY 08...	.57	<.04	.98	.028	.05	.119	.14	5.3
JUN 13...	.41	E.03	1.50	.011	.09	.136	.42	9.8
JUL 10...	.58	<.04	1.14	.014	.11	.157	.13	6.4
SEP 05...	.50	<.04	1.00	E.005	.08	.137	.06	5.7

NESHAMINY CREEK BASIN

01464907 LITTLE NESHAMINY CREEK AT VALLEY ROAD NEAR NESHAMINY, PA--Continued

WATER-COLUMN PESTICIDE ANALYSES

REMARKS.--Selected samples were analyzed for pesticides with laboratory schedule 2001 (listed in its entirety, with laboratory reporting levels, on page 179). Only pesticides identified by the analyses in one or more surface-water samples are listed in the following table.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	ACETO- CHLOR, WATER, FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)		
NOV 01...	1120	ENVIRONMENTAL	<.004	<.002	<.005	.019	<.010	<.041	<.005	<.018	<.003		
DEC 07...	0900	ENVIRONMENTAL	<.004	<.002	<.005	.021	<.010	<.041	<.005	<.018	<.003		
JAN 09...	0910	ENVIRONMENTAL	<.006	<.004	<.005	.015	<.010	E.005	<.005	<.018	<.003		
MAR 07...	0850	ENVIRONMENTAL	<.006	<.004	<.005	.011	<.010	E.008	<.005	<.018	<.003		
APR 04...	1230	ENVIRONMENTAL	<.006	<.004	<.005	.014	<.010	<.041	<.005	<.018	<.003		
MAY 08...	1020	ENVIRONMENTAL	<.006	<.004	<.005	.032	<.010	E.003	<.005	<.018	<.003		
MAY 08...	1021	SPLIT REPLICATE	<.006	<.004	<.005	.032	<.010	E.003	<.005	<.018	<.003		
JUN 13...	0920	ENVIRONMENTAL	.016	<.004	<.005	.509	<.010	E.017	<.005	<.018	<.003		
JUL 10...	1230	ENVIRONMENTAL	<.006	<.004	<.005	.168	<.010	E.006	<.005	<.018	<.003		
SEP 05...	1330	ENVIRONMENTAL	<.006	<.004	<.005	.019	<.010	E.011	<.005	<.018	<.003		
DATE	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	LINDANE DIS- SOLVED (µG/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µG/L) (82666)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN WATER DISSOLV (µG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	
NOV 01...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.010	<.01	<.011
DEC 07...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.010	<.01	<.011
JAN 09...	E.009	<.005	<.006	<.004	<.035	<.027	<.050	E.006	<.006	<.007	<.022	.02	<.011
MAR 07...	E.007	E.004	<.002	<.004	<.035	<.027	<.050	E.008	<.006	<.007	<.022	<.02	<.011
APR 04...	E.007	.005	<.002	<.004	<.035	<.027	<.050	E.010	<.006	<.007	<.022	E.01	<.011
MAY 08...	E.018	.011	<.002	<.004	<.035	<.027	<.050	.013	<.006	<.007	<.022	.02	<.011
MAY 08...	E.018	.012	<.002	<.004	<.035	<.027	<.050	.013	<.006	<.007	<.022	.02	<.011
JUN 13...	E.038	.015	<.002	<.004	<.035	<.027	<.050	.132	<.006	<.007	<.022	.03	<.011
JUL 10...	E.035	.010	<.002	<.004	<.035	<.027	<.050	.038	<.006	<.007	<.022	.12	<.011
SEP 05...	E.021	.015	<.002	<.004	<.035	<.027	<.050	E.012	<.006	<.007	<.022	.10	<.011

NESHAMINY CREEK BASIN

01464907 LITTLE NESHAMINY CREEK AT VALLEY ROAD NEAR NESHAMINY, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI- MAZINE, WATER, DISS, REC (µG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 µ GF, REC (µG/L) (82670)	TER- BACIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82665)
NOV 01...	<.011	<.02	<.034
DEC 07...	<.011	<.02	<.034
JAN 09...	<.005	<.02	<.034
MAR 07...	<.005	<.02	<.034
APR 04...	E.005	<.02	<.034
MAY 08...	.008	<.02	<.034
08...	.007	<.02	<.034
JUN 13...	.232	.02	<.034
JUL 10...	.081	<.02	<.034
SEP 05...	.006	<.02	<.034

NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°10'26", long 74°57'26", Bucks County, Hydrologic Unit 02040201, on left bank at bridge on State Highway 213, 0.3 mi downstream from Mill Creek, and 1.7 mi west of Langhorne.

DRAINAGE AREA.--210 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 1332: 1949. WSP 1432: 1936-37. WDR PA-83-1: 1982(P).

GAGE.--Water-stage recorder. Datum of gage is 40.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mills above station. Flow regulated by upstream reservoirs on Little Neshaminy Creek, Robin Run, Pine Run, North Branch Neshaminy Creek, and Core Creek (combined flood control capacity, about 9,560 acre-ft). Occasional regulation by Springfield Lake, capacity, 2,000 acre-ft, completed in 1934; no significant regulation except during period May 1934 to January 1944, when the lake was filling, and in September 1949, July 1954, July through October 1957, and September, October 1961. Interceptor sewer installed along left bank during May and June 1966. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23, 1933 reached a stage of 17.3 ft, from floodmark, discharge, about 30,000 ft³/s, from rating curve extended as explained in footnotes on next page.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft³/s and maximum(*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1500	*3,960	*6.90	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	37	40	e55	168	50	200	257	101	89	36	93
2	52	35	38	e50	164	50	182	251	93	78	37	288
3	48	38	37	e48	129	565	150	869	81	72	388	115
4	46	39	38	e47	107	283	147	314	75	66	131	72
5	44	43	36	e46	e85	151	136	199	73	59	70	54
6	43	40	38	66	e78	113	123	163	183	53	53	45
7	43	37	40	e150	e76	101	115	143	1250	49	43	41
8	42	36	43	e130	e78	89	110	130	288	47	38	43
9	38	35	94	112	77	83	108	213	166	53	35	40
10	40	35	120	83	71	88	128	299	131	141	33	39
11	39	34	63	132	89	85	118	159	110	64	30	39
12	37	34	52	313	79	73	95	140	132	51	35	35
13	39	37	50	140	72	80	105	299	193	47	46	32
14	39	35	56	102	65	113	111	1200	263	45	50	38
15	42	38	79	84	61	100	114	453	469	47	45	46
16	43	34	76	73	61	87	106	271	208	46	39	66
17	45	35	55	67	61	83	99	208	153	41	40	82
18	38	35	77	61	60	242	93	1910	132	40	39	43
19	36	35	123	56	55	443	91	869	131	49	39	38
20	39	39	75	57	53	1010	91	407	138	218	38	38
21	40	38	58	66	57	1210	91	294	106	108	50	35
22	38	36	52	63	66	384	96	234	92	62	45	32
23	38	36	50	61	57	247	111	195	84	49	83	33
24	40	35	106	196	52	196	92	167	89	54	80	30
25	40	39	147	471	52	169	92	149	100	57	53	31
26	39	75	79	174	51	151	125	134	81	46	47	37
27	39	81	61	124	51	454	109	140	91	42	39	463
28	39	49	54	100	50	290	389	132	555	42	38	509
29	36	44	54	88	---	200	565	120	174	39	106	200
30	39	42	43	81	---	172	250	110	110	37	219	101
31	37	---	e58	114	---	165	---	105	---	36	72	---
TOTAL	1271	1206	1992	3410	2125	7527	4342	10534	5852	1927	2097	2758
MEAN	41.0	40.2	64.3	110	75.9	243	145	340	195	62.2	67.6	91.9
MAX	53	81	147	471	168	1210	565	1910	1250	218	388	509
MIN	36	34	36	46	50	50	91	105	73	36	30	30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2002, BY WATER YEAR (WY)

MEAN	130	236	360	408	453	538	431	288	207	184	167	164
MAX	840	1170	1424	1509	1074	1246	1455	862	882	1161	1694	1330
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	1989	1938	1955	1999
MIN	13.8	23.2	34.3	47.2	75.9	105	89.8	54.5	33.7	21.8	15.1	15.4
(WY)	1958	1937	1966	1981	2002	1985	1985	1963	1965	1957	1966	1951

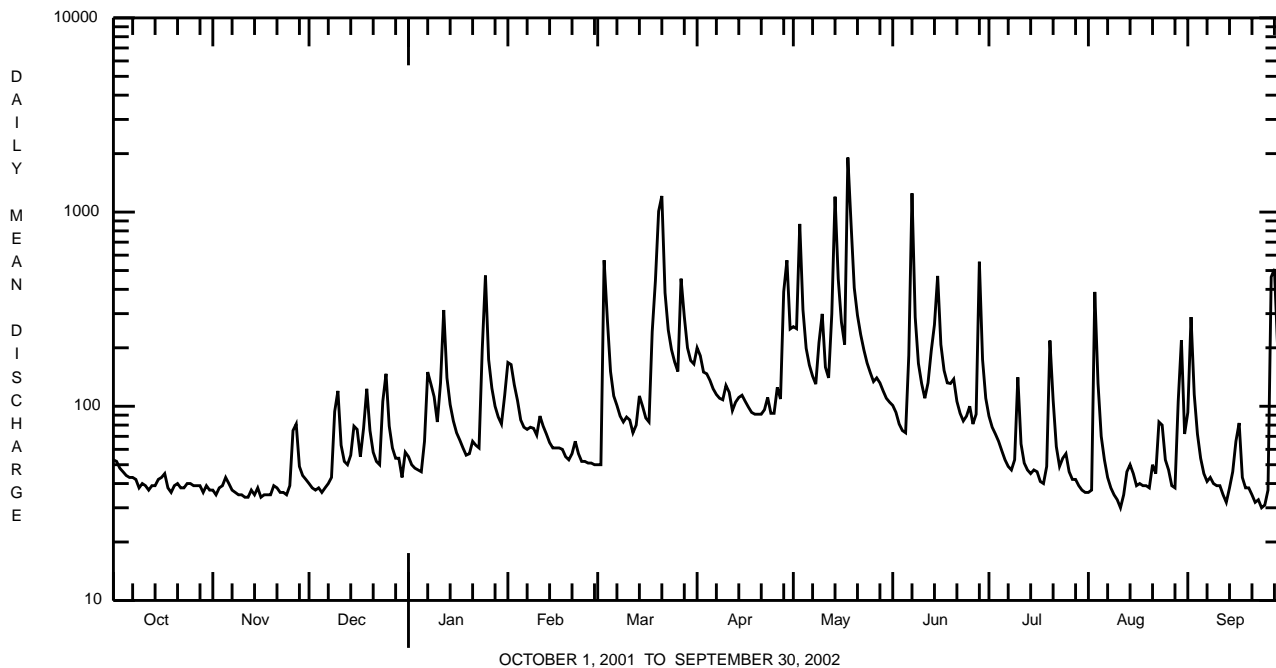
e Estimated.

NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1935 - 2002	
ANNUAL TOTAL	99473		45041			
ANNUAL MEAN	273		123		296	
HIGHEST ANNUAL MEAN					565	1973
LOWEST ANNUAL MEAN					121	1985
HIGHEST DAILY MEAN	11100	Jun 17	1910	May 18	27300	Aug 19 1955
LOWEST DAILY MEAN	34	Nov 11, 12, 16	30	Aug 11, Sep 24	2.9	Sep 8 1957
ANNUAL SEVEN-DAY MINIMUM	35	Nov 8	34	Sep 20	8.2	Aug 26 1944
MAXIMUM PEAK FLOW			3960	May 18	a 49300	Aug 19 1955
MAXIMUM PEAK STAGE			6.90	May 18	b 22.84	Aug 19 1955
INSTANTANEOUS LOW FLOW			27	Dec 30, Aug 12	1.9	Sep 8 1957
10 PERCENT EXCEEDS	557		244		575	
50 PERCENT EXCEEDS	109		72		139	
90 PERCENT EXCEEDS	38		37		32	

a From rating curve extended above 4,700 ft³/s on basis of slope-area measurement of peak flow at gage height 22.84 ft.
b From floodmark.



NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 30...	0850	9813	257	30	10.7	7.6	326	11.6	92	22.8	8.6	64	27.4
JUN 18...	1120	9813	125	30	12.2	8.4	372	20.8	110	26.6	11.0	72	32.3
AUG 14...	0830	9813	50	30	5.8	7.7	473	24.4	120	31.1	10.5	88	37.2

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002 30...	202	8	.050	1.44	<.040	2.1	.13	.180	6.2	<10	360	<1.0	20
JUN 18...	264	4	<.020	2.28	<.040	2.7	.16	.180	4.0	<10	240	<1.0	30
AUG 14...	296	8	.340	.86	.090	1.8	.15	.250	5.1	<10	370	<1.0	100

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 30...	<50	10
JUN 18...	<50	<10
AUG 14...	<50	10

POQUESSING CREEK BASIN

01465798 POQUESSING CREEK AT GRANT AVENUE, PHILADELPHIA, PA

LOCATION.--Lat 40°03'25", long 74°59'08", Philadelphia County, Hydrologic Unit 02040202, on right bank 600 ft upstream from Interstate Highway 95, 3,000 ft upstream from mouth, and in northeast Philadelphia.

DRAINAGE AREA.--21.4 mi².

PERIOD OF RECORD.--July 1965 to current year. Records for 1971-74 published in WDR PA-81-1.

REVISED RECORD.--WDR PA-86-1: 1985.

GAGE.--Water-stage recorder, crest-stage gage, and concrete low-water control. Datum of gage is 2.68 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Flow occasionally affected by tide.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1045	1,500	7.51	June 24	2015	*1,690	*7.82
June 6	2345	1,360	7.26				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e0.60	2.8	3.2	19	3.3	43	17	11	5.5	1.8	95
2	5.5	e0.60	2.7	3.2	11	5.5	8.4	44	4.6	5.1	35	120
3	2.6	e2.0	2.7	3.4	5.6	137	6.7	17	3.9	5.2	160	5.6
4	1.8	e2.5	2.7	3.3	5.0	9.0	6.1	6.6	3.7	4.5	5.3	2.9
5	1.4	e1.8	4.1	3.3	4.3	5.6	5.9	5.8	9.4	4.2	16	1.8
6	18	e1.7	2.6	84	4.0	4.8	5.6	5.4	114	3.7	8.3	1.5
7	4.0	e1.7	3.0	44	7.4	4.4	5.2	5.2	163	3.6	2.1	1.1
8	1.4	e3.0	36	9.9	6.2	3.9	4.9	4.9	13	3.5	1.3	1.0
9	1.2	e2.5	63	7.8	4.2	3.9	5.0	51	9.4	9.2	1.1	0.95
10	1.2	e2.3	6.3	7.3	5.5	29	5.7	9.1	5.6	71	1.2	0.84
11	1.3	e2.2	5.1	39	28	5.0	4.8	5.3	9.7	5.6	0.91	0.97
12	1.3	e2.1	4.1	11	5.5	3.9	12	33	21	4.0	0.76	1.7
13	1.4	e2.0	5.4	5.9	4.3	11	9.1	99	11	3.7	0.74	2.0
14	1.8	e1.9	17	5.1	4.0	7.1	6.0	29	99	4.4	0.66	19
15	30	e1.9	9.1	4.8	4.0	4.3	5.1	7.6	17	4.2	0.57	6.4
16	3.1	e2.0	4.1	4.6	4.1	3.9	4.7	5.8	8.3	3.4	0.58	9.2
17	1.5	1.7	3.9	4.4	4.0	4.9	4.5	5.4	8.6	3.0	0.53	2.2
18	e1.3	1.8	52	4.4	3.8	102	4.2	436	33	2.8	0.43	1.1
19	e1.2	2.1	7.2	4.5	3.9	15	20	25	49	51	0.37	0.83
20	e1.2	5.0	4.3	7.3	3.9	201	15	11	7.8	31	23	0.74
21	e1.0	5.5	4.0	8.6	4.8	32	5.1	7.9	5.0	4.7	1.6	0.69
22	e1.0	2.3	3.7	11	4.3	12	25	6.9	4.4	3.8	0.68	0.70
23	e1.0	1.9	3.7	12	3.8	7.8	7.4	6.4	3.8	2.9	0.98	0.72
24	e1.0	1.9	82	136	3.7	6.6	4.7	6.1	275	3.4	8.7	0.71
25	e1.0	32	7.2	19	3.7	5.8	30	5.7	41	3.2	5.4	0.67
26	e0.90	28	4.6	8.2	3.7	15	12	6.0	11	2.6	1.2	46
27	e0.80	4.5	4.0	6.4	3.7	99	5.2	5.2	74	2.4	0.74	140
28	e0.80	3.3	3.7	5.7	3.4	11	140	22	73	2.5	0.60	80
29	e0.70	3.1	3.7	5.0	---	7.6	38	10	8.7	3.7	90	4.6
30	e0.60	2.9	3.5	6.7	---	7.0	13	5.1	6.3	3.7	5.2	2.4
31	e0.60	---	3.4	35	---	22	---	4.6	---	2.0	2.1	---
TOTAL	112.60	126.80	361.6	514.0	168.8	790.3	462.3	909.0	1104.2	263.5	377.85	551.32
MEAN	3.63	4.23	11.7	16.6	6.03	25.5	15.4	29.3	36.8	8.50	12.2	18.4
MAX	30	32	82	136	28	201	140	436	275	71	160	140
MIN	0.60	0.60	2.6	3.2	3.4	3.3	4.2	4.6	3.7	2.0	0.37	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

MEAN	20.8	25.8	32.8	34.8	33.3	40.1	36.0	33.6	30.1	36.5	31.3	28.9
MAX	59.9	112	124	136	105	98.0	104	74.2	84.7	112	130	109
(WY)	1997	1973	1997	1979	1979	1994	1983	1989	1989	1989	1971	1999
MIN	3.63	4.23	3.58	4.34	6.03	9.17	8.91	10.6	5.94	3.98	4.22	3.93
(WY)	2002	2002	1999	1981	2002	1985	1985	1977	1966	1999	1995	1970

e Estimated.

POQUESSING CREEK BASIN

01465798 POQUESSING CREEK AT GRANT AVENUE, PHILADELPHIA, PA--Continued

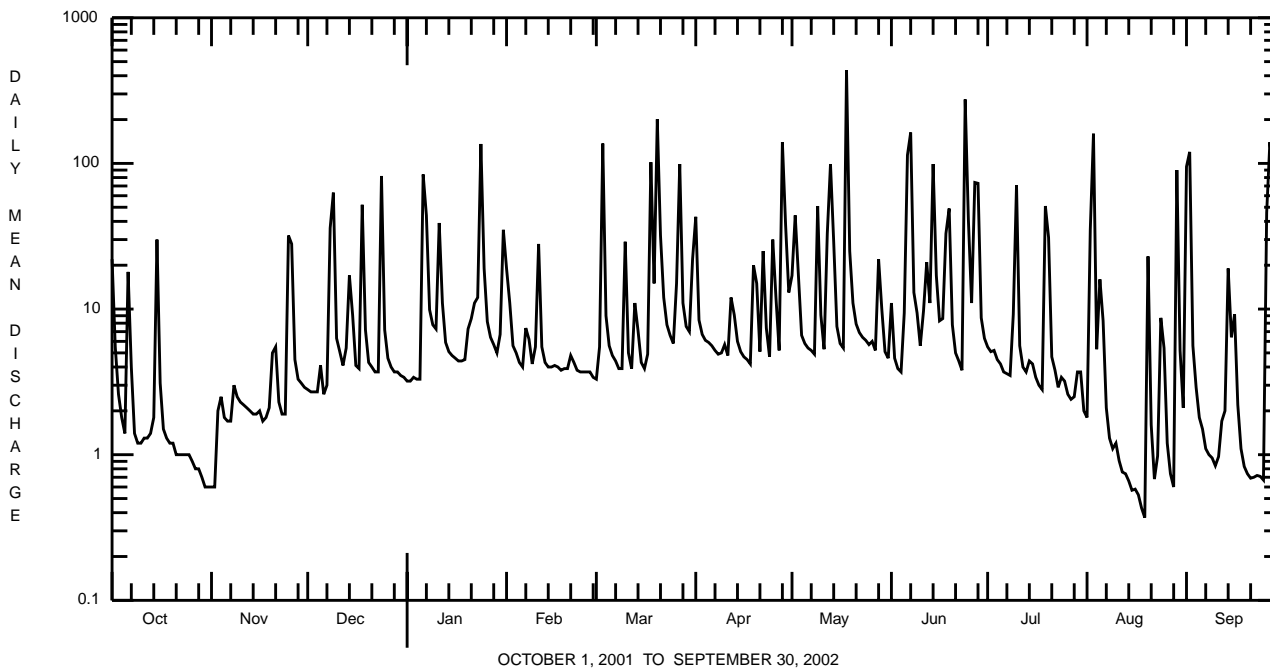
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	8750.30		5742.27			
ANNUAL MEAN	24.0		15.7		32.1	
HIGHEST ANNUAL MEAN					52.3	1979
LOWEST ANNUAL MEAN					15.7	2002
HIGHEST DAILY MEAN	621	Mar 30	436	May 18	2490	Sep 16 1999
LOWEST DAILY MEAN	e0.60	Oct 30 ^a	0.37	Aug 19	0.21	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	0.67	Oct 27 ^b	0.55	Aug 13	0.33	Aug 1 1999
MAXIMUM PEAK FLOW			c1690	Jun 24	c9400	Jul 28 1982
MAXIMUM PEAK STAGE			7.82	Jun 24	15.35	Jul 28 1982
10 PERCENT EXCEEDS	48		35		60	
50 PERCENT EXCEEDS	9.2		4.8		12	
90 PERCENT EXCEEDS	2.0		1.0		4.2	

a Also Oct. 31, Nov. 1, 2.

b Computed using estimated daily discharges.

c From rating curve extended above 550 ft³/s on basis of slope-area measurement of peak flow.

e Estimated.



PENNYPACK CREEK BASIN

01467048 PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA

LOCATION.--Lat 40°03'00", long 75°01'59", Philadelphia County, Hydrologic Unit 02040202, on left bank at downstream side of footbridge pier, 400 ft downstream from Lower Rhawn Street bridge, and 0.8 mi upstream from Wooden Bridge Run in Philadelphia.

DRAINAGE AREA.--49.8 mi².

PERIOD OF RECORD.--June 1965 to current year. Records for 1971-74 published in WDR PA-81-1.

REVISED RECORDS: WDR PA-81-1: 1974. WDR PA-89-1: 1988.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 21.27 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1130	1,990	6.62	June 7	0330	*2,240	*6.94

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	16	15	e17	50	20	89	48	53	27	14	113
2	23	16	14	e16	38	27	40	83	28	25	21	141
3	17	16	14	e16	29	370	34	58	25	24	228	26
4	16	20	16	e15	27	44	32	29	26	23	25	19
5	15	17	14	e14	25	27	29	26	39	21	49	16
6	35	15	14	e90	24	24	29	23	190	20	25	15
7	21	16	15	143	29	23	28	23	632	19	16	14
8	15	16	48	45	30	22	28	22	59	20	14	13
9	15	16	135	33	24	22	29	102	42	22	14	13
10	14	16	25	32	30	54	32	44	38	206	14	14
11	15	16	20	88	60	25	27	24	45	30	13	14
12	14	16	18	55	28	22	36	54	101	23	13	11
13	14	16	20	33	24	33	33	160	73	22	13	11
14	14	16	40	29	23	33	33	116	229	23	13	17
15	55	16	38	25	23	24	42	36	81	23	12	33
16	19	16	19	23	23	23	29	28	45	21	12	52
17	15	16	18	22	23	25	25	25	42	19	12	19
18	14	16	e79	22	22	177	23	783	56	19	11	17
19	15	17	28	e21	22	56	39	94	63	90	12	13
20	14	19	19	e20	22	388	51	54	43	117	20	12
21	15	20	17	e20	32	116	23	47	34	27	13	12
22	14	18	16	e19	24	50	54	44	31	22	11	12
23	14	18	16	e19	22	38	29	41	29	21	12	11
24	14	17	143	e240	21	34	21	38	53	36	37	11
25	15	58	31	73	21	32	40	33	61	23	25	10
26	13	82	21	35	21	50	41	31	31	19	13	58
27	14	18	20	28	21	197	21	31	108	19	12	360
28	15	16	19	26	21	47	230	32	221	19	11	171
29	15	15	18	25	---	38	70	31	35	19	158	28
30	16	15	e18	30	---	36	36	30	29	e17	31	20
31	16	---	e17	78	---	57	---	30	---	15	17	---
TOTAL	562	605	945	1352	759	2134	1273	2220	2542	1031	891	1276
MEAN	18.1	20.2	30.5	43.6	27.1	68.8	42.4	71.6	84.7	33.3	28.7	42.5
MAX	55	82	143	240	60	388	230	783	632	206	228	360
MIN	13	15	14	14	21	20	21	22	25	15	11	10
CFSM	0.36	0.40	0.61	0.88	0.54	1.38	0.85	1.44	1.70	0.67	0.58	0.85
IN.	0.42	0.45	0.71	1.01	0.57	1.59	0.95	1.66	1.90	0.77	0.67	0.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

MEAN	58.0	73.2	93.4	97.8	94.9	121	117	101	87.0	83.9	69.9	73.7
MAX	174	300	311	334	252	273	338	194	270	257	163	276
(WY)	1997	1973	1997	1979	1979	1994	1983	1978	2001	1975	1967	1999
MIN	18.1	17.5	18.5	14.0	27.1	33.5	32.5	42.5	21.4	18.2	15.7	17.4
(WY)	2002	1966	1999	1981	2002	1985	1985	1995	1995	1999	1966	1970

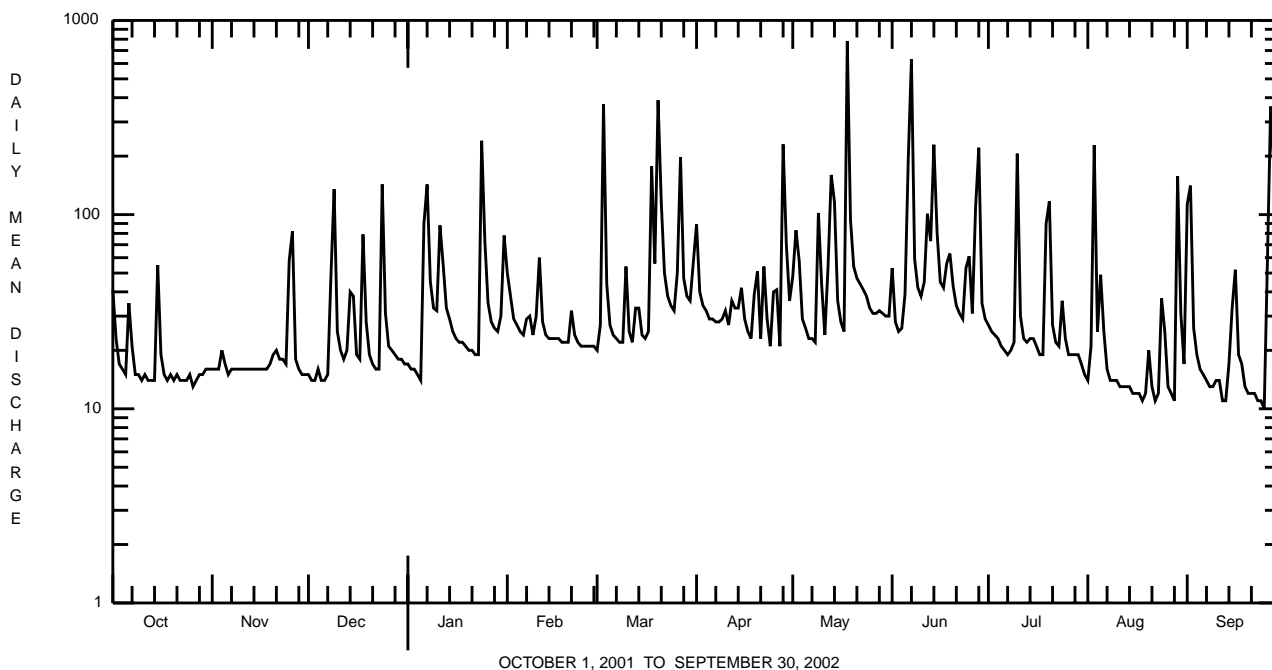
e Estimated.

PENNYPACK CREEK BASIN

01467048 PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	29595		15590			
ANNUAL MEAN	81.1		42.7		89.6	
HIGHEST ANNUAL MEAN					165	1973
LOWEST ANNUAL MEAN					42.7	2002
HIGHEST DAILY MEAN	e4330	Jun 17	783	May 18	e4900	Sep 16 1999
LOWEST DAILY MEAN	13	Oct 26	10	Sep 25	7.8	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	14	Oct 20	12	Sep 19	9.1	Aug 1 1999
MAXIMUM PEAK FLOW			2240	Jun 7	a12400	Sep 16 1999
MAXIMUM PEAK STAGE			6.94	Jun 7	b14.77	Sep 16 1999
INSTANTANEOUS LOW FLOW			8.9	Sep 25,26	6.0	Oct 11 1966
ANNUAL RUNOFF (CFSM)	1.63		0.86		1.80	
ANNUAL RUNOFF (INCHES)	22.11		11.65		24.44	
10 PERCENT EXCEEDS	133		80		169	
50 PERCENT EXCEEDS	44		23		49	
90 PERCENT EXCEEDS	16		14		21	

- a From rating curve extended above 3,900 ft³/s on basis of slope-area measurement at gage height 13.15 ft.
- b From high-water mark in gage shelter.
- e Estimated.



FRANKFORD CREEK BASIN

01467087 FRANKFORD CREEK AT CASTOR AVENUE, PHILADELPHIA, PA

LOCATION.--Lat 40°00'57", long 75°05'50", Philadelphia County, Hydrologic Unit 02040203, on left bank at upstream side of Castor Avenue bridge, and 2.8 mi upstream from mouth in northeast Philadelphia.

DRAINAGE AREA.--30.4 mi².

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 16.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 27	2115	4,770	7.64	Aug. 24	1945	*7,630	*9.81

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e21	3.7	2.9	4.3	16	4.0	37	12	7.8	5.9	3.6	81
2	e6.5	4.4	2.9	4.4	9.2	25	7.2	95	5.2	5.8	3.7	41
3	5.4	5.0	2.9	4.5	6.4	233	6.8	15	5.0	6.4	22	1.7
4	5.2	5.5	3.0	4.4	6.6	6.9	7.0	5.8	5.2	6.4	3.6	1.3
5	4.7	3.8	3.2	4.5	6.9	5.2	6.6	5.4	49	5.9	28	1.0
6	32	4.1	2.8	164	6.1	4.8	6.5	5.6	230	6.2	3.8	1.0
7	6.0	3.7	2.6	29	8.9	4.6	6.4	5.7	70	6.2	1.6	0.89
8	4.8	3.6	64	8.9	7.0	4.5	6.1	5.2	7.0	6.1	2.2	0.99
9	4.8	4.2	54	8.9	5.9	4.8	6.2	51	5.9	10	1.5	0.81
10	4.4	4.0	e5.0	7.3	10	22	7.1	6.2	5.7	60	1.6	0.76
11	4.2	7.4	e4.5	39	28	4.3	5.9	4.7	5.9	7.2	1.7	0.64
12	4.2	4.5	e6.0	7.9	6.3	4.5	13	75	8.6	6.7	1.7	0.49
13	4.3	4.0	10	5.6	6.4	8.8	7.7	154	5.4	7.9	1.5	0.56
14	4.1	4.0	22	5.1	6.1	5.8	6.8	22	92	10	1.6	2.1
15	44	3.7	8.5	5.3	6.3	4.5	6.7	8.1	9.1	7.7	1.6	4.4
16	3.6	3.9	4.8	5.2	6.7	4.5	5.9	7.2	5.7	6.1	1.7	6.7
17	4.2	3.9	5.2	5.2	6.4	7.1	5.3	6.8	37	5.7	1.7	0.83
18	4.1	4.0	43	5.5	6.1	64	11	518	38	5.6	1.8	0.58
19	4.3	4.0	6.0	5.9	6.6	8.3	19	15	76	43	1.2	0.50
20	4.5	6.1	4.9	8.2	6.7	211	11	10	9.7	16	2.9	0.50
21	4.7	6.1	4.8	9.3	11	17	5.7	9.2	5.9	4.8	1.3	0.46
22	4.7	e4.5	5.2	10	5.7	8.5	29	8.5	5.8	4.3	0.69	0.53
23	5.0	e4.0	5.2	11	5.3	7.2	6.5	8.3	5.5	5.1	1.1	0.48
24	5.0	e6.0	97	164	5.6	6.7	5.2	7.8	41	8.6	287	0.48
25	5.0	e30	6.3	13	6.5	6.6	21	7.6	10	4.1	11	0.39
26	4.5	e50	5.0	7.7	5.3	55	8.0	7.4	7.3	3.6	1.1	132
27	4.9	2.9	4.6	7.2	5.0	100	5.0	7.7	224	3.9	0.80	154
28	5.1	2.8	4.5	6.7	5.0	8.2	145	7.0	36	3.8	0.64	103
29	5.8	2.8	4.6	6.0	---	7.3	9.5	6.2	6.8	3.6	194	2.9
30	4.1	2.7	4.7	15	---	6.9	7.6	6.0	6.3	3.3	2.0	2.1
31	3.7	---	4.6	29	---	37	---	6.9	---	3.6	1.1	---
TOTAL	228.8	199.3	404.7	612.0	218.0	898.0	431.7	1110.3	1026.8	283.5	589.73	544.09
MEAN	7.38	6.64	13.1	19.7	7.79	29.0	14.4	35.8	34.2	9.15	19.0	18.1
MAX	44	50	97	164	28	233	145	518	230	60	287	154
MIN	3.6	2.7	2.6	4.3	5.0	4.0	5.0	4.7	5.0	3.3	0.64	0.39
CFSM	0.24	0.22	0.43	0.65	0.26	0.95	0.47	1.18	1.13	0.30	0.63	0.60
IN.	0.28	0.24	0.50	0.75	0.27	1.10	0.53	1.36	1.26	0.35	0.72	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2002, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	26.6	33.0	36.3	35.0	33.3	50.4	46.4	48.8	42.2	48.5	38.3	44.7										
MAX	86.5	81.7	145	61.8	80.4	91.4	143	98.4	111	116	71.4	143										
(WY)	1997	1987	1997	1996	1988	1994	1983	1989	1989	1989	1989	1999										
MIN	7.38	6.64	6.47	10.6	7.79	11.7	14.4	20.8	11.1	4.91	5.66	9.02										
(WY)	2002	2002	1999	1985	2002	1985	2002	1986	1999	1999	1995	1998										

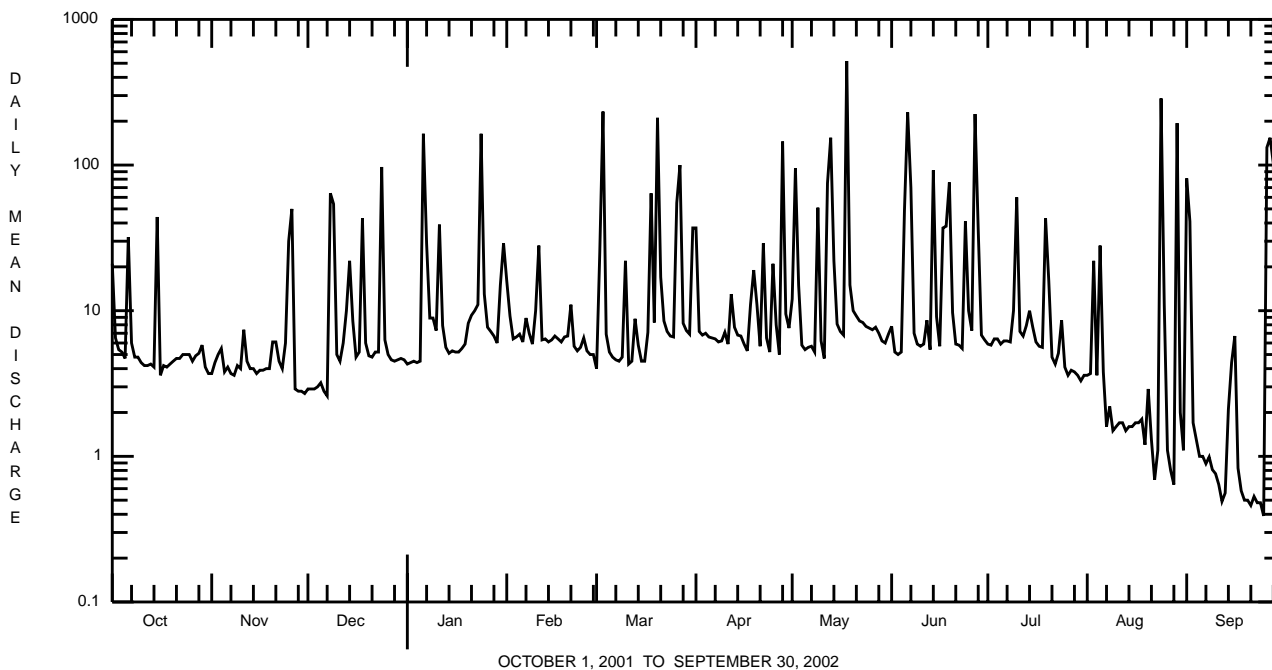
e Estimated.

FRANKFORD CREEK BASIN

01467087 FRANKFORD CREEK AT CASTOR AVENUE, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1982 - 2002	
ANNUAL TOTAL	11706.9		6546.92		40.3	
ANNUAL MEAN	32.1		17.9		61.7	
HIGHEST ANNUAL MEAN					1996	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	1220	Jun 16	518	May 18	3140	Sep 16 1999
LOWEST DAILY MEAN	2.6	Dec 7	0.39	Sep 25	0.39	Sep 25 2002
ANNUAL SEVEN-DAY MINIMUM	2.8	Nov 27	0.48	Sep 19	0.48	Sep 19 2002
MAXIMUM PEAK FLOW			7630	Aug 24	a10300	Jul 31 1985
MAXIMUM PEAK STAGE			9.81	Aug 24	11.82	Jul 31 1985
INSTANTANEOUS LOW FLOW			0.31	Sep 25	0.31	Sep 25 2002
ANNUAL RUNOFF (CFSM)	1.06		0.59		1.33	
ANNUAL RUNOFF (INCHES)	14.33		8.01		18.02	
10 PERCENT EXCEEDS	51		38		77	
50 PERCENT EXCEEDS	15		5.9		16	
90 PERCENT EXCEEDS	4.4		1.7		6.6	

a From rating curve extended above 8,000 ft³/s on basis of slope-area measurement at gage height 9.97 ft.



DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA

LOCATION.--Lat 39°57'14", long 75°08'16", Philadelphia County, Hydrologic Unit 02040202, on right bank at river end of pier 12, 150 ft upstream from Ben Franklin bridge, and at Philadelphia.

DRAINAGE AREA.--7,993 mi².

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1963 to current year.

pH: October 1967 to current year.

WATER TEMPERATURE: November 1960 to current year.

DISSOLVED OXYGEN: October 1961 to current year.

INSTRUMENTATION.--Water-quality monitor interfaced with a data collection platform.

REMARKS.--Water temperature, pH, and specific conductance records rated good. Dissolved oxygen record rated good except for period, Nov. 13-19, which is fair, and May 28 to June 5, and July 10-12, which are poor. Prior to July 1988, located on edge of pier 11 about 300 ft downstream of pier 12. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-0. Data collection for pH and dissolved oxygen discontinued during winter months, specific conductance and water temperature data collected for the entire water year. Other interruptions in the record were due to malfunctions of the pump or recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,450 microsiemens, Nov. 20, 1964; minimum, 65 microsiemens, Sept. 15, 1979.

pH: Maximum, 8.7, Oct. 14, 1979; minimum, 4.7, Dec. 29, 1978.

WATER TEMPERATURE: Maximum, 31.0°C, July 13-15, 1966; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 14.1 mg/L, Dec. 14, 1962; minimum, 0.0 mg/L, on many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 516 microsiemens, Sept. 26; minimum, 124 microsiemens, May 19.

WATER TEMPERATURE: Maximum, 28.5°C, Aug. 2-6, 18-21; minimum, 2.5°C, Jan. 10.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	318	278	296	355	300	325	419	322	366	296	253	271
2	317	274	293	353	298	325	422	313	357	296	252	273
3	305	269	288	356	301	325	426	311	359	303	249	276
4	314	271	294	356	298	324	415	313	355	306	255	280
5	318	280	298	356	296	324	405	310	352	304	256	280
6	316	281	297	352	294	319	405	312	352	301	249	276
7	307	278	292	356	300	325	391	307	346	298	249	273
8	305	273	289	383	300	334	421	304	348	298	243	266
9	315	277	294	369	301	332	389	302	346	304	247	272
10	311	277	294	---	---	---	400	298	343	299	244	268
11	315	276	291	---	---	---	394	299	339	306	245	273
12	323	278	295	---	---	---	391	300	339	298	245	268
13	323	278	298	---	---	---	406	306	348	296	245	269
14	327	281	302	390	314	348	405	301	343	283	236	259
15	336	281	307	397	311	350	380	280	327	291	242	263
16	330	270	302	407	315	358	389	290	332	288	250	268
17	325	275	303	422	312	360	415	293	344	301	250	272
18	317	271	292	430	328	370	390	284	332	295	255	273
19	332	271	300	417	325	369	372	284	325	299	255	276
20	330	279	304	407	322	360	360	284	314	---	---	---
21	337	279	303	440	321	366	322	266	287	---	---	---
22	328	280	302	432	332	378	325	263	287	---	---	---
23	343	274	305	443	326	375	327	264	294	332	299	314
24	343	287	311	439	331	379	312	263	284	339	299	321
25	333	289	308	443	334	382	298	258	275	336	307	319
26	330	289	306	432	329	369	298	257	274	337	305	319
27	329	283	299	420	323	366	304	260	276	335	305	318
28	342	283	303	423	317	364	301	260	275	348	307	322
29	343	288	317	441	312	367	302	255	274	351	309	325
30	349	294	319	434	321	372	295	253	271	344	309	325
31	358	297	323	---	---	---	291	250	270	348	309	326
MONTH	358	269	301	443	294	353	426	250	320	351	236	287

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.0	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	---	---	---
2	7.0	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	---	---	---
3	6.9	6.9	6.9	7.0	7.0	7.0	7.0	6.9	7.0	---	---	---
4	7.0	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	---	---	---
5	6.9	6.9	6.9	7.0	6.9	7.0	---	---	---	---	---	---
6	7.0	6.9	6.9	7.0	6.9	7.0	---	---	---	---	---	---
7	7.0	6.9	6.9	7.0	7.0	7.0	---	---	---	---	---	---
8	7.0	6.9	7.0	7.0	7.0	7.0	---	---	---	---	---	---
9	7.0	6.9	7.0	7.1	7.0	7.0	---	---	---	---	---	---
10	7.0	6.9	7.0	---	---	---	---	---	---	---	---	---
11	7.0	6.9	7.0	---	---	---	---	---	---	---	---	---
12	7.0	6.9	7.0	---	---	---	---	---	---	---	---	---
13	7.0	6.9	6.9	---	---	---	---	---	---	---	---	---
14	7.0	6.9	6.9	7.1	7.0	7.1	---	---	---	---	---	---
15	6.9	6.9	6.9	7.1	7.0	7.1	---	---	---	---	---	---
16	6.9	6.9	6.9	7.1	7.0	7.0	---	---	---	---	---	---
17	7.0	6.9	7.0	7.1	7.0	7.0	---	---	---	---	---	---
18	7.0	7.0	7.0	7.1	7.0	7.0	---	---	---	---	---	---
19	7.0	7.0	7.0	7.1	7.0	7.0	---	---	---	---	---	---
20	7.0	7.0	7.0	7.1	7.0	7.0	---	---	---	---	---	---
21	7.0	6.9	7.0	7.1	7.0	7.0	---	---	---	---	---	---
22	7.0	6.9	6.9	7.1	7.0	7.0	---	---	---	---	---	---
23	6.9	6.9	6.9	7.1	7.0	7.0	---	---	---	---	---	---
24	6.9	6.9	6.9	7.0	7.0	7.0	---	---	---	---	---	---
25	6.9	6.9	6.9	7.1	7.0	7.0	---	---	---	---	---	---
26	7.0	6.9	6.9	7.0	7.0	7.0	---	---	---	---	---	---
27	7.0	7.0	7.0	7.0	7.0	7.0	---	---	---	---	---	---
28	7.1	7.0	7.0	7.0	7.0	7.0	---	---	---	---	---	---
29	7.0	7.0	7.0	7.0	6.9	7.0	---	---	---	---	---	---
30	7.1	6.9	7.0	7.0	7.0	7.0	---	---	---	---	---	---
31	7.1	7.0	7.0	---	---	---	---	---	---	---	---	---
MAX	7.1	7.0	7.0	7.1	7.0	7.1	7.0	7.0	7.0	---	---	---
MIN	6.9	6.9	6.9	7.0	6.9	7.0	7.0	6.9	7.0	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	7.3	7.3	7.3	7.2	7.0	7.1
2	---	---	---	---	---	---	7.3	7.3	7.3	7.2	7.1	7.2
3	---	---	---	---	---	---	7.3	7.2	7.3	7.2	7.1	7.1
4	---	---	---	---	---	---	7.2	7.2	7.2	7.1	7.1	7.1
5	---	---	---	---	---	---	7.2	7.2	7.2	7.1	7.0	7.1
6	---	---	---	---	---	---	7.2	7.2	7.2	7.0	7.0	7.0
7	---	---	---	---	---	---	7.2	7.2	7.2	7.0	7.0	7.0
8	---	---	---	---	---	---	7.2	7.2	7.2	7.0	7.0	7.0
9	---	---	---	---	---	---	7.2	7.2	7.2	7.2	7.0	7.1
10	---	---	---	---	---	---	7.2	7.2	7.2	7.1	7.1	7.1
11	---	---	---	---	---	---	7.3	7.2	7.2	7.1	7.1	7.1
12	---	---	---	---	---	---	7.2	7.2	7.2	7.1	7.0	7.1
13	---	---	---	---	---	---	7.2	7.2	7.2	7.0	7.0	7.0
14	---	---	---	---	---	---	7.2	7.1	7.2	7.0	6.9	7.0
15	---	---	---	---	---	---	7.2	7.1	7.1	7.1	7.0	7.0
16	---	---	---	---	---	---	7.1	7.1	7.1	7.2	7.1	7.2
17	---	---	---	---	---	---	7.1	7.0	7.1	7.2	7.1	7.2
18	---	---	---	---	---	---	7.1	7.0	7.1	7.2	7.0	7.0
19	---	---	---	---	---	---	7.1	7.0	7.0	7.0	7.0	7.0
20	---	---	---	---	---	---	7.1	7.0	7.0	7.0	7.0	7.0
21	---	---	---	---	---	---	7.0	7.0	7.0	7.1	7.0	7.0
22	---	---	---	---	---	---	7.1	6.9	7.0	7.1	7.0	7.1
23	---	---	---	---	---	---	7.1	7.1	7.1	7.1	7.0	7.0
24	---	---	---	---	---	---	7.1	7.1	7.1	7.0	7.0	7.0
25	---	---	---	---	---	---	7.1	7.0	7.1	7.0	7.0	7.0
26	---	---	---	---	---	---	7.0	7.0	7.0	---	---	---
27	---	---	---	7.4	7.3	7.3	7.0	7.0	7.0	---	---	---
28	---	---	---	7.3	7.3	7.3	7.0	6.9	7.0	---	---	---
29	---	---	---	7.4	7.3	7.3	7.0	6.9	6.9	7.0	6.9	7.0
30	---	---	---	7.4	7.3	7.4	7.1	7.0	7.0	7.0	6.9	7.0
31	---	---	---	7.4	7.3	7.3	---	---	---	7.0	6.9	7.0
MAX	---	---	---	7.4	7.3	7.4	7.3	7.3	7.3	7.2	7.1	7.2
MIN	---	---	---	7.3	7.3	7.3	7.0	6.9	6.9	7.0	6.9	7.0

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.0	6.9	7.0	6.8	6.7	6.8	6.9	6.8	6.8	6.9	6.8	6.9
2	7.0	6.9	7.0	6.9	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.9
3	7.0	6.9	7.0	6.9	6.7	6.8	6.9	6.8	6.8	6.9	6.8	6.9
4	6.9	6.9	6.9	6.8	6.7	6.7	6.8	6.8	6.8	6.9	6.8	6.9
5	7.0	6.8	6.9	6.9	6.7	6.8	6.9	6.8	6.8	6.9	6.8	6.8
6	7.0	6.9	6.9	6.9	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.9
7	7.0	6.8	6.9	7.0	6.8	6.9	6.9	6.8	6.9	7.0	6.9	6.9
8	6.9	6.8	6.9	7.0	6.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9
9	6.9	6.8	6.9	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.8	6.9
10	6.9	6.9	6.9	7.0	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.8
11	6.9	6.8	6.9	7.0	6.9	6.9	6.9	6.9	6.9	6.8	6.8	6.8
12	6.8	6.7	6.8	7.1	6.9	7.0	6.9	6.8	6.9	6.8	6.8	6.8
13	6.8	6.7	6.8	7.1	7.0	7.0	6.9	6.8	6.8	6.8	6.8	6.8
14	6.8	6.7	6.8	7.0	6.9	7.0	6.9	6.8	6.8	6.8	6.8	6.8
15	6.8	6.8	6.8	7.0	6.9	6.9	6.9	6.8	6.9	6.8	6.8	6.8
16	6.8	6.8	6.8	6.9	6.8	6.9	6.9	6.8	6.9	6.9	6.8	6.8
17	6.9	6.8	6.8	6.9	6.7	6.9	6.9	6.8	6.8	6.9	6.9	6.9
18	6.9	6.8	6.8	6.8	6.7	6.7	6.9	6.8	6.8	6.9	6.9	6.9
19	6.9	6.8	6.8	6.8	6.7	6.8	6.9	6.8	6.8	6.9	6.9	6.9
20	7.1	6.8	6.9	6.8	6.7	6.8	6.9	6.8	6.8	6.9	6.9	6.9
21	7.0	6.9	6.9	6.8	6.7	6.7	6.9	6.8	6.8	6.9	6.9	6.9
22	7.0	6.9	6.9	6.8	6.7	6.7	6.9	6.8	6.8	6.9	6.9	6.9
23	7.0	6.9	6.9	6.8	6.7	6.7	6.9	6.8	6.8	6.9	6.9	6.9
24	6.9	6.8	6.9	6.8	6.7	6.8	6.9	6.8	6.8	7.0	6.9	6.9
25	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	7.0	6.9	6.9
26	6.8	6.8	6.8	6.8	6.8	6.8	6.9	6.8	6.8	7.0	6.9	6.9
27	6.8	6.8	6.8	6.9	6.8	6.8	6.8	6.8	6.8	7.0	6.9	6.9
28	6.8	6.7	6.8	6.9	6.8	6.8	6.8	6.8	6.8	7.0	6.9	6.9
29	6.8	6.7	6.8	6.8	6.8	6.8	6.9	6.8	6.8	7.0	6.9	7.0
30	6.8	6.7	6.8	6.8	6.8	6.8	6.9	6.8	6.8	7.0	6.9	6.9
31	---	---	---	6.8	6.8	6.8	6.9	6.8	6.8	---	---	---
MAX	7.1	6.9	7.0	7.1	7.0	7.0	6.9	6.9	6.9	7.0	6.9	7.0
MIN	6.8	6.7	6.8	6.8	6.7	6.7	6.8	6.8	6.8	6.8	6.8	6.8

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.5	20.0	20.0	15.0	14.5	14.5	12.5	12.5	12.5	5.0	4.5	5.0
2	20.0	19.5	20.0	15.0	14.5	15.0	12.5	12.0	12.5	4.5	4.0	4.5
3	20.0	19.5	20.0	15.0	15.0	15.0	12.5	12.0	12.0	4.5	4.0	4.0
4	20.0	19.5	20.0	15.0	14.5	15.0	12.5	12.0	12.0	4.5	3.5	4.0
5	20.0	20.0	20.0	15.0	14.0	14.5	12.0	12.0	12.0	4.0	3.5	4.0
6	20.0	19.5	20.0	14.0	14.0	14.0	12.5	12.0	12.0	4.0	3.5	3.5
7	19.5	19.0	19.5	14.0	13.5	14.0	12.5	12.0	12.0	4.0	3.5	3.5
8	19.0	18.5	18.5	14.0	13.5	13.5	12.0	11.5	12.0	3.5	3.0	3.5
9	18.5	18.0	18.0	13.5	13.5	13.5	12.0	11.5	11.5	3.5	3.0	3.0
10	18.0	18.0	18.0	---	---	---	11.5	11.0	11.5	3.5	2.5	3.0
11	18.0	17.5	18.0	---	---	---	11.5	11.0	11.0	3.5	3.0	3.5
12	18.0	18.0	18.0	---	---	---	11.0	11.0	11.0	3.5	3.0	3.5
13	18.5	18.0	18.0	---	---	---	11.0	11.0	11.0	3.5	3.0	3.5
14	18.5	18.0	18.5	12.5	12.0	12.5	11.0	11.0	11.0	3.5	3.0	3.5
15	18.5	18.0	18.5	12.5	12.0	12.5	11.0	10.5	11.0	3.5	3.0	3.5
16	18.5	18.0	18.0	12.5	12.0	12.5	10.5	10.5	10.5	3.5	3.5	3.5
17	18.0	17.5	18.0	12.5	12.0	12.0	10.5	10.0	10.5	4.0	3.5	3.5
18	17.5	17.0	17.0	12.5	12.0	12.0	10.5	10.0	10.5	3.5	3.5	3.5
19	17.0	16.5	17.0	12.5	12.0	12.0	10.0	10.0	10.0	3.5	3.0	3.5
20	17.0	16.5	16.5	12.0	11.5	12.0	10.0	9.5	10.0	---	---	---
21	17.0	16.5	16.5	12.0	11.5	11.5	9.5	9.0	9.0	---	---	---
22	17.0	16.5	17.0	11.5	11.5	11.5	9.0	8.5	8.5	---	---	---
23	17.0	17.0	17.0	11.5	11.0	11.5	8.5	8.0	8.5	3.5	3.0	3.5
24	17.5	17.0	17.0	11.5	11.5	11.5	8.5	8.0	8.5	4.0	3.5	3.5
25	17.5	17.5	17.5	12.0	11.5	11.5	8.0	7.5	8.0	4.0	3.5	4.0
26	17.5	16.5	17.0	12.0	11.5	12.0	8.0	7.5	7.5	4.0	3.5	4.0
27	16.5	16.0	16.0	12.0	11.5	12.0	7.5	7.0	7.0	4.0	4.0	4.0
28	16.0	15.5	15.5	12.0	12.0	12.0	7.0	6.5	6.5	4.5	4.0	4.5
29	15.5	15.0	15.0	12.0	12.0	12.0	6.5	6.0	6.5	5.0	4.5	4.5
30	15.0	15.0	15.0	12.5	12.0	12.0	6.5	5.5	6.0	5.0	4.5	5.0
31	15.0	14.5	14.5	---	---	---	5.5	4.5	5.0	5.5	5.0	5.0
MONTH	20.5	14.5	17.7	15.0	11.0	12.8	12.5	4.5	9.9	5.5	2.5	3.8

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.2	5.8	6.0	7.6	6.9	7.2	7.5	6.6	7.0	---	---	---
2	6.2	5.8	6.0	7.6	6.8	7.2	7.6	6.5	7.0	---	---	---
3	6.3	5.9	6.1	7.6	6.7	7.1	7.6	6.4	6.9	---	---	---
4	6.3	5.9	6.0	7.4	6.7	7.0	---	---	---	---	---	---
5	6.0	5.5	5.7	7.5	6.7	7.0	---	---	---	---	---	---
6	5.9	5.5	5.7	7.5	6.9	7.1	---	---	---	---	---	---
7	6.0	5.5	5.8	7.5	6.2	7.1	---	---	---	---	---	---
8	6.3	5.7	6.0	7.6	7.0	7.3	---	---	---	---	---	---
9	6.4	6.0	6.1	7.9	7.2	7.5	---	---	---	---	---	---
10	6.4	5.9	6.2	---	---	---	---	---	---	---	---	---
11	6.6	6.1	6.3	---	---	---	---	---	---	---	---	---
12	6.6	6.0	6.3	---	---	---	---	---	---	---	---	---
13	6.6	6.0	6.3	---	---	---	---	---	---	---	---	---
14	6.7	5.9	6.2	7.3	6.8	7.0	---	---	---	---	---	---
15	6.5	5.9	6.2	7.3	6.7	6.9	---	---	---	---	---	---
16	6.5	5.7	6.2	7.3	6.6	6.9	---	---	---	---	---	---
17	7.1	5.8	6.5	7.3	6.7	6.9	---	---	---	---	---	---
18	7.1	6.5	6.8	7.2	6.7	6.9	---	---	---	---	---	---
19	7.1	6.4	6.8	7.3	6.7	6.9	---	---	---	---	---	---
20	7.1	6.5	6.8	7.3	6.8	7.0	---	---	---	---	---	---
21	7.0	6.3	6.6	7.5	6.8	7.1	---	---	---	---	---	---
22	6.9	6.1	6.5	7.4	6.9	7.1	---	---	---	---	---	---
23	6.8	6.2	6.5	7.5	7.0	7.2	---	---	---	---	---	---
24	6.7	6.1	6.4	7.4	6.9	7.1	---	---	---	---	---	---
25	6.6	6.0	6.3	7.6	7.0	7.3	---	---	---	---	---	---
26	6.9	6.2	6.5	7.5	7.0	7.2	---	---	---	---	---	---
27	7.3	6.5	6.8	7.6	6.9	7.2	---	---	---	---	---	---
28	7.6	6.7	7.1	7.6	6.7	7.1	---	---	---	---	---	---
29	7.4	6.8	7.2	7.6	6.7	7.1	---	---	---	---	---	---
30	7.7	6.9	7.3	7.6	6.5	7.0	---	---	---	---	---	---
31	7.7	7.0	7.3	---	---	---	---	---	---	---	---	---
MONTH	7.7	5.5	6.4	7.9	6.2	7.1	7.6	6.4	7.0	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	10.4	10.1	10.3	8.2	6.9	7.7
2	---	---	---	---	---	---	10.4	10.2	10.3	8.2	7.4	7.9
3	---	---	---	---	---	---	10.5	10.1	10.3	8.6	7.8	8.2
4	---	---	---	---	---	---	10.2	10.0	10.1	8.8	8.3	8.6
5	---	---	---	---	---	---	10.1	9.9	10	8.7	8.4	8.6
6	---	---	---	---	---	---	9.9	9.8	9.9	8.5	8.2	8.4
7	---	---	---	---	---	---	9.9	9.6	9.7	8.3	7.9	8.1
8	---	---	---	---	---	---	9.8	9.6	9.7	8.4	7.9	8.1
9	---	---	---	---	---	---	9.7	9.5	9.6	8.4	8.1	8.2
10	---	---	---	---	---	---	9.6	9.4	9.5	8.2	8.0	8.1
11	---	---	---	---	---	---	9.7	9.4	9.5	8.2	7.9	8.0
12	---	---	---	---	---	---	9.5	9.2	9.4	8.1	7.6	7.9
13	---	---	---	---	---	---	9.3	9.0	9.1	7.7	7.3	7.5
14	---	---	---	---	---	---	9.2	8.9	9.1	7.4	6.7	7.0
15	---	---	---	---	---	---	9.2	8.8	8.9	7.8	6.8	7.2
16	---	---	---	---	---	---	9.0	8.6	8.8	8.3	7.3	7.8
17	---	---	---	---	---	---	9.0	8.5	8.7	8.2	7.8	8.0
18	---	---	---	---	---	---	8.7	8.2	8.5	8.0	6.6	7.4
19	---	---	---	---	---	---	8.2	7.7	8.0	8.4	7.4	8.0
20	---	---	---	---	---	---	7.7	7.3	7.5	8.2	7.0	7.8
21	---	---	---	---	---	---	7.4	6.8	7.1	8.1	7.3	7.7
22	---	---	---	---	---	---	7.0	6.5	6.7	8.2	7.8	8.0
23	---	---	---	---	---	---	6.8	6.3	6.5	8.3	7.9	8.1
24	---	---	---	---	---	---	6.7	6.3	6.4	8.3	7.8	8.0
25	---	---	---	---	---	---	6.5	6.0	6.2	8.4	7.8	8.1
26	---	---	---	---	---	---	6.1	5.9	6.0	---	---	---
27	---	---	---	10.1	9.7	9.9	6.1	5.8	6.0	---	---	---
28	---	---	---	10.2	9.8	10.0	6.1	5.7	5.9	---	---	---
29	---	---	---	10.7	9.9	10.2	7.1	5.5	6.0	7.9	7.6	7.7
30	---	---	---	10.5	10.1	10.3	7.6	6.0	6.8	7.8	7.4	7.6
31	---	---	---	10.6	10.2	10.4	---	---	---	7.5	7.3	7.4
MONTH	---	---	---	10.7	9.7	10.2	10.5	5.5	8.3	8.8	6.6	7.9

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.3	7.0	7.2	5.1	4.2	4.6	4.8	4.0	4.3	4.7	3.9	4.3
2	7.2	6.9	7.0	5.1	4.2	4.5	4.7	4.0	4.3	4.7	4.0	4.3
3	7.1	6.5	6.9	4.9	3.9	4.2	4.6	3.9	4.2	4.6	4.1	4.3
4	7.1	6.6	6.8	4.6	3.7	4.0	4.4	3.7	4.0	4.6	4.0	4.4
5	6.9	6.3	6.6	4.9	3.8	4.1	4.2	3.5	3.8	5.0	4.3	4.7
6	6.4	6.1	6.2	5.1	4.0	4.4	4.0	3.2	3.7	5.1	4.5	4.8
7	6.1	5.7	5.9	5.6	4.2	4.7	4.4	3.6	4.0	5.1	4.6	4.8
8	6.4	5.8	6.0	5.9	4.5	5.0	4.5	3.8	4.2	5.0	4.6	4.8
9	6.4	5.8	6.2	6.3	4.7	5.3	4.7	4.2	4.5	5.0	4.5	4.7
10	6.4	5.9	6.2	6.0	4.5	5.1	4.8	4.3	4.5	4.8	4.2	4.5
11	6.4	5.8	6.1	5.9	4.3	5.0	4.8	4.3	4.5	4.7	4.0	4.3
12	6.3	5.8	6.0	6.0	4.5	5.2	4.7	4.3	4.5	4.8	4.0	4.4
13	6.2	5.7	5.9	6.0	4.9	5.2	4.5	4.2	4.3	4.9	4.3	4.6
14	6.1	5.3	5.6	5.7	4.6	5.0	4.5	4.1	4.3	5.2	4.3	4.9
15	5.8	5.1	5.5	5.3	4.4	4.6	4.6	4.1	4.4	5.0	4.6	4.8
16	5.9	5.2	5.5	5.0	4.2	4.5	4.7	4.2	4.4	5.0	4.3	4.7
17	6.4	5.7	6.0	4.7	4.1	4.4	4.6	4.1	4.3	4.9	4.5	4.7
18	6.3	5.7	5.9	4.5	3.9	4.2	4.6	4.0	4.3	5.0	4.5	4.7
19	6.3	5.7	6.0	4.5	3.9	4.2	4.5	4.0	4.3	5.0	4.5	4.7
20	6.2	5.6	5.9	4.4	3.7	4.0	4.5	3.9	4.2	5.1	4.5	4.7
21	6.4	5.5	5.9	4.3	3.7	3.9	4.7	4.0	4.4	5.0	4.5	4.7
22	6.5	5.5	6.0	4.3	3.7	4.0	4.7	4.1	4.4	5.0	4.5	4.8
23	6.5	5.5	6.1	4.6	3.7	4.1	4.6	4.1	4.4	5.0	4.5	4.8
24	6.4	5.5	6.0	4.6	3.9	4.2	4.6	4.0	4.3	5.1	4.5	4.9
25	6.1	5.5	5.8	4.7	4.2	4.5	4.2	3.6	3.8	5.2	4.8	5.0
26	5.9	5.1	5.5	4.7	4.3	4.5	3.9	3.3	3.6	5.3	4.7	5.0
27	5.7	5.0	5.3	4.7	4.1	4.4	3.5	3.2	3.4	5.3	4.7	5.0
28	5.4	4.7	4.9	4.5	4.1	4.2	4.0	3.3	3.6	4.9	4.4	4.7
29	5.2	4.5	4.8	4.5	3.9	4.1	4.0	3.6	3.8	5.4	4.5	4.9
30	5.2	4.4	4.7	4.4	3.9	4.1	3.9	3.3	3.7	5.2	4.4	4.8
31	---	---	---	4.6	4.0	4.2	4.5	3.3	3.8	---	---	---
MONTH	7.3	4.4	5.9	6.3	3.7	4.5	4.8	3.2	4.1	5.4	3.9	4.7

SCHUYLKILL RIVER BASIN

01468500 SCHUYLKILL RIVER AT LANDINGVILLE, PA

LOCATION.--Lat 40°37'45", long 76°07'30", Schuylkill County, Hydrologic Unit 02040203, on left bank 10 ft upstream from highway bridge on SR 2011 at Landingville, 0.1 mi upstream from Mahannon Creek, and 5.0 mi downstream from West Branch Schuylkill River.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--August 1947 to April 1953, October 1963 to September 1965, August 1973 to current year.

REVISED RECORDS.--WDR PA-75-1: 1973(P), 1974(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 470.64 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 27, 1947, nonrecording gage 10 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1972 reached a stage of 17.36 ft, discharge, about 14,000 ft³/s.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	0900	*1,290	*5.96	(No peaks above base base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	62	125	e95	144	79	395	380	206	94	52	66
2	79	62	92	e95	138	82	326	614	186	90	52	61
3	77	57	86	e100	129	258	310	542	179	87	52	52
4	75	56	83	101	132	151	284	482	178	83	53	53
5	73	56	83	86	130	135	256	435	173	79	54	52
6	69	60	84	84	127	133	244	390	242	77	57	52
7	63	61	93	91	127	130	229	359	267	84	55	49
8	64	64	102	80	123	122	210	337	173	83	54	44
9	70	63	158	79	110	121	209	409	151	87	54	44
10	71	58	113	84	116	228	244	340	141	91	52	42
11	67	54	99	105	162	154	192	287	127	79	48	38
12	60	54	91	98	121	148	180	298	265	76	49	38
13	59	54	94	92	112	151	187	357	222	69	47	40
14	63	54	119	89	108	150	223	442	249	71	46	42
15	181	53	111	86	107	143	691	358	215	68	50	98
16	85	54	97	86	109	143	478	342	190	63	64	224
17	91	53	106	85	106	137	421	323	161	63	46	84
18	74	54	201	83	103	227	380	896	141	68	45	73
19	70	55	158	e85	104	207	366	682	160	67	46	64
20	62	64	149	e92	107	357	334	585	128	66	50	63
21	61	61	140	93	109	417	302	510	126	61	49	60
22	61	59	128	91	102	369	292	447	121	61	48	74
23	62	59	116	92	96	331	258	402	119	95	57	153
24	61	55	134	147	91	301	232	365	113	87	58	73
25	58	198	115	157	91	279	242	329	108	71	51	60
26	55	197	107	133	88	363	233	307	103	67	46	68
27	53	100	e100	123	88	727	211	286	178	66	44	381
28	54	80	105	119	81	537	397	270	157	63	43	415
29	56	78	101	117	---	464	450	258	102	59	75	166
30	59	121	94	126	---	406	400	237	97	58	50	123
31	62	---	e90	130	---	369	---	213	---	55	46	---
TOTAL	2172	2156	3474	3124	3161	7819	9176	12482	4978	2288	1593	2852
MEAN	70.1	71.9	112	101	113	252	306	403	166	73.8	51.4	95.1
MAX	181	198	201	157	162	727	691	896	267	95	75	415
MIN	53	53	83	79	81	79	180	213	97	55	43	38
CFSM	0.53	0.54	0.84	0.76	0.85	1.90	2.30	3.03	1.25	0.55	0.39	0.71
IN.	0.61	0.60	0.97	0.87	0.88	2.19	2.57	3.49	1.39	0.64	0.45	0.80

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	173	254	335	326	319	435	428	355	226	167	130	152
MAX	760	569	918	887	620	929	1079	811	562	471	253	475
(WY)	1977	1952	1997	1979	1981	1977	1993	1989	1982	1984	2000	1975
MIN	28.5	52.5	59.7	41.2	113	164	157	127	77.1	54.2	51.4	55.6
(WY)	1964	1965	1999	1981	2002	1985	1985	1965	1965	1965	2002	1964

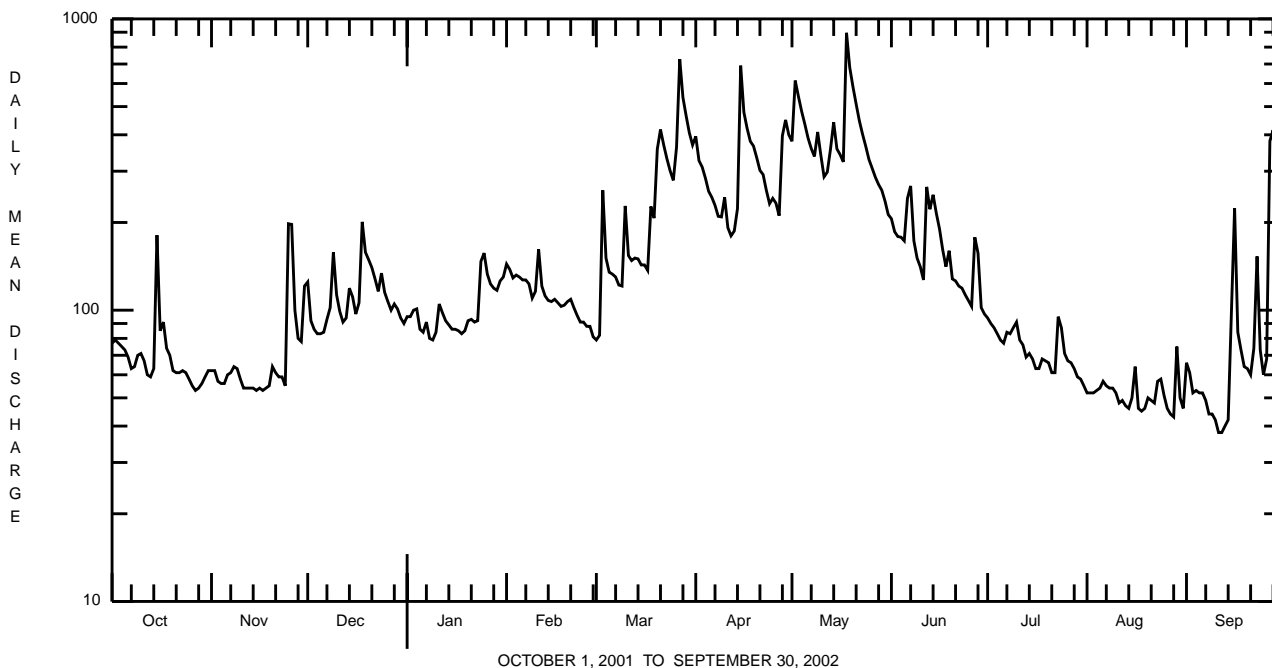
e Estimated.

SCHUYLKILL RIVER BASIN

01468500 SCHUYLKILL RIVER AT LANDINGVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	59767		55275			
ANNUAL MEAN	164		151		272	
HIGHEST ANNUAL MEAN					441	1952
LOWEST ANNUAL MEAN					122	1965
HIGHEST DAILY MEAN	740	Mar 30	896	May 18	4660	Apr 16 1983
LOWEST DAILY MEAN	53	Oct 27	38	Sep 11,12	21	Nov 4 1963
ANNUAL SEVEN-DAY MINIMUM	54	Nov 11	41	Sep 8	23	Oct 25 1963
MAXIMUM PEAK FLOW			1290	May 18	ab8570	Nov 25 1950
MAXIMUM PEAK STAGE			5.96	May 18	13.60	Apr 16 1983
INSTANTANEOUS LOW FLOW			35	Sep 11	19	Oct 30 1963
ANNUAL RUNOFF (CFSM)	1.23		1.14		2.05	
ANNUAL RUNOFF (INCHES)	16.72		15.46		27.82	
10 PERCENT EXCEEDS	326		357		541	
50 PERCENT EXCEEDS	132		99		190	
90 PERCENT EXCEEDS	62		53		74	

a From rating curve extended above 5,000 ft³/s.
 b Gage height, 13.29 ft.



SCHUYLKILL RIVER BASIN

01469500 LITTLE SCHUYLKILL RIVER AT TAMAQUA, PA

LOCATION.--Lat 40°48'25", long 75°58'20", Schuylkill County, Hydrologic Unit 02040203, on left bank along State Highway 309, 0.6 mi upstream from Tamaqua, and 0.8 mi upstream from Panther Creek.

DRAINAGE AREA.--42.9 mi².

PERIOD OF RECORD.--October 1919 to current year. June 1916 to September 1919, gage heights and discharge measurements only, in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 756: Drainage area. WSP 971: 1942. WSP 1302: 1922, 1926-30. WSP 1432: 1920-21, 1933.

GAUGE.--Water-stage recorder and broad-crested weir. Datum of gage is 817.48 ft above National Geodetic Vertical Datum of 1929. Prior to June 21, 1929, nonrecording gage at site 3,600 ft downstream at datum 28.64 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Still Creek Reservoir (station 01469200) 6.5 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion and change in contents of Still Creek Reservoir provided by the Borough of Tamaqua.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	10	63	e38	53	31	162	127	68	30	11	12
2	e20	10	47	e36	55	30	127	159	59	27	11	12
3	e18	10	37	e34	50	86	114	135	53	26	12	8.7
4	17	10	36	33	51	66	104	116	49	e24	10	7.7
5	16	10	34	32	49	51	93	136	48	e23	9.5	6.8
6	17	9.4	35	33	47	49	87	135	70	22	9.1	6.5
7	16	9.2	31	43	47	48	82	123	98	21	8.4	6.2
8	14	9.2	33	37	46	47	77	111	66	20	8.3	5.9
9	13	9.1	51	33	44	50	76	136	53	19	7.9	5.8
10	13	8.7	43	32	45	112	84	124	47	19	7.9	5.6
11	13	8.7	38	37	74	85	82	101	41	19	7.7	5.3
12	13	8.4	34	38	59	80	91	107	47	17	7.1	5.1
13	13	8.4	34	36	53	79	92	151	53	17	7.1	5.2
14	14	8.5	37	33	48	78	97	206	64	17	6.9	5.1
15	29	9.3	41	31	48	76	158	167	67	17	8.3	16
16	20	8.9	35	30	48	74	155	153	59	16	9.4	59
17	24	8.5	36	30	48	68	148	142	49	15	7.7	22
18	18	8.3	69	29	47	78	142	297	48	15	7.2	19
19	16	8.3	61	28	44	80	130	260	53	16	6.8	59
20	15	10	56	31	44	105	118	237	56	17	6.5	57
21	15	9.3	52	30	46	141	111	201	45	16	6.2	58
22	14	8.6	51	29	43	134	108	160	40	15	6.0	59
23	14	8.3	58	27	40	127	95	137	37	e14	6.4	68
24	14	8.5	69	32	38	120	76	122	36	e16	10	63
25	13	43	63	44	36	111	75	109	37	e18	9.0	61
26	12	e88	57	40	35	134	68	99	33	15	6.9	62
27	11	e90	52	38	36	332	63	93	39	15	6.7	127
28	10	e80	49	38	33	259	120	87	57	15	6.3	147
29	10	e74	46	40	---	219	173	91	39	14	11	54
30	10	69	41	44	---	179	135	79	33	14	8.8	36
31	10	---	e40	46	---	154	---	72	---	12	7.3	---
TOTAL	475	661.6	1429	1082	1307	3283	3243	4373	1544	561	254.4	1064.9
MEAN	15.32	22.05	46.10	34.90	46.68	105.9	108.1	141.1	51.47	18.10	8.206	35.50
MAX	29	90	69	46	74	332	173	297	98	30	12	147
MIN	10	8.3	31	27	33	30	63	72	33	12	6.0	5.1
(†)	3.0	2.9	2.8	3.0	3.2	3.2	3.4	3.8	4.0	4.1	4.1	4.3

† Diversion from Still Creek Reservoir, equivalent in cubic feet per second.

e Estimated.

SCHUYLKILL RIVER BASIN

01469500 LITTLE SCHUYLKILL RIVER AT TAMAQUA, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.17	80.40	102.2	89.45	94.61	141.0	141.4	107.2	64.66	49.79	38.47	43.07
MAX	317	242	321	338	242	365	475	315	430	394	226	259
(WY)	1977	1952	1997	1996	1951	1936	1993	1989	1972	1947	1933	1933
MIN	5.82	7.81	12.2	8.57	26.6	42.5	46.6	21.1	14.6	8.87	6.25	6.46
(WY)	1964	1942	1981	1981	1934	1985	1985	1941	1941	1965	1944	1964

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1933 - 2002

ANNUAL TOTAL		18058.3		19277.9								
ANNUAL MEAN		49.5		52.8						83.4		
HIGHEST ANNUAL MEAN										155		1952
LOWEST ANNUAL MEAN										33.8		1965
HIGHEST DAILY MEAN				285	Mar 30		332	Mar 27		2790	Aug 24	1933
LOWEST DAILY MEAN				7.6	Sep 19		5.1	Sep 12,14		2.9	Sep 2	1966
ANNUAL SEVEN-DAY MINIMUM				8.6	Nov 13		5.4	Sep 8		3.5	Aug 27	1966
MAXIMUM PEAK FLOW							423	Mar 27		a7790	Aug 18	1955
MAXIMUM PEAK STAGE							3.56	Mar 27		11.10	Aug 18	1955
INSTANTANEOUS LOW FLOW										2.6	Sep 2	1966
10 PERCENT EXCEEDS				105			127			176		
50 PERCENT EXCEEDS				36			38			51		
90 PERCENT EXCEEDS				10			8.5			13		

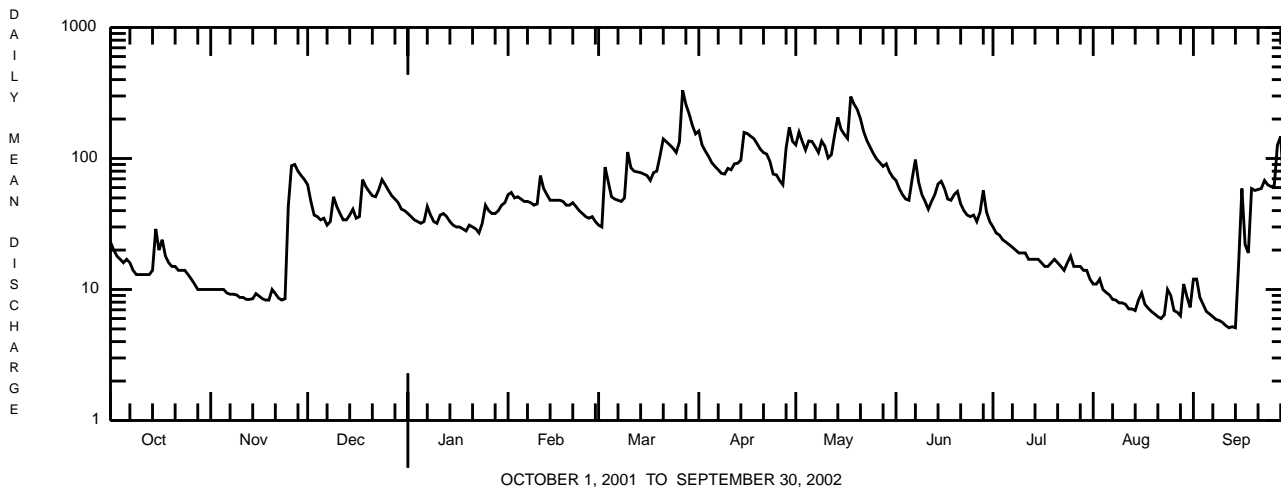
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1932, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	73.0	96.5	101	78.7	103	188	143	112	74.4	57.0	33.7	37.7
MAX	227	308	241	266	344	410	227	208	209	185	81.5	152
(WY)	1928	1927	1928	1924	1925	1920	1928	1924	1922	1928	1927	1924
MIN	6.67	6.74	7.99	13.3	25.7	88.5	72.6	32.8	27.3	14.5	10.3	6.66
(WY)	1931	1931	1931	1931	1931	1931	1926	1926	1921	1923	1923	1932

SUMMARY STATISTICS WATER YEARS 1920 - 1932

ANNUAL TOTAL	ANNUAL MEAN	91.5
HIGHEST ANNUAL MEAN		145
LOWEST ANNUAL MEAN		42.3
HIGHEST DAILY MEAN		3600
LOWEST DAILY MEAN		3.0
ANNUAL SEVEN DAY MINIMUM		3.8
MAXIMUM PEAK FLOW		5000
INSTANTANEOUS LOW FLOW		1.8
ANNUAL RUNOFF (CFSM)		2.13
ANNUAL RUNOFF (INCHES)		28.97
10 PERCENT EXCEEDS		201
50 PERCENT EXCEEDS		54
90 PERCENT EXCEEDS		12

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



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA--Continued
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°31'21", long 75°59'55", Berks County, Hydrologic Unit 02040203, on right bank 50 ft upstream from bridge on Township Route 558 at Berne, 0.5 mi upstream from Mill Creek, and 6.5 mi downstream from Little Schuylkill River.

DRAINAGE AREA.--355 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 310.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mine pumpage and by Still Creek Reservoir (station 01469200) about 25 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 15	0800	*3,230	*7.36	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	124	405	e220	357	190	1120	1320	487	245	112	107
2	173	124	271	e210	381	187	903	1780	443	234	106	193
3	167	123	227	e230	333	622	816	1840	402	221	111	126
4	156	116	209	e245	328	511	760	1530	382	210	112	113
5	151	112	197	e240	320	409	669	1330	376	196	111	105
6	144	116	193	228	309	381	623	1170	443	183	113	100
7	139	119	204	e235	305	369	586	1050	796	183	107	98
8	123	120	202	e215	300	345	542	943	472	185	107	88
9	125	120	375	e205	274	327	530	1080	389	184	106	82
10	127	115	303	e190	261	615	615	992	349	204	103	80
11	127	108	253	220	370	492	508	785	319	177	97	79
12	122	104	230	258	326	452	484	753	375	168	92	76
13	117	104	225	233	289	454	489	888	628	159	93	75
14	113	106	246	219	258	449	599	1220	511	156	88	77
15	332	108	315	210	252	420	2280	994	566	161	86	101
16	207	109	247	208	256	411	1860	921	469	151	118	482
17	199	106	236	202	258	385	1480	874	406	142	103	249
18	175	104	456	198	245	525	1240	2110	350	143	90	158
19	150	104	470	190	233	591	1130	2070	451	145	86	150
20	137	121	412	212	238	906	1050	1720	361	147	98	174
21	130	129	366	233	249	1540	899	1450	324	140	95	169
22	126	118	326	200	240	1280	864	1230	303	136	91	202
23	122	117	302	196	226	1090	771	1060	290	143	106	309
24	122	113	341	290	214	949	668	948	277	227	113	231
25	123	206	309	486	210	836	655	830	268	157	144	185
26	122	661	275	413	208	780	657	752	255	141	103	182
27	115	316	248	369	216	2100	571	696	275	138	92	739
28	114	247	266	343	202	1650	934	637	568	138	87	1090
29	114	225	e260	326	---	1420	1680	611	306	135	124	489
30	116	247	e250	324	---	1220	1390	563	262	124	149	332
31	120	---	e225	333	---	1050	---	513	---	120	104	---
TOTAL	4486	4642	8844	7881	7658	22956	27373	34660	12103	5193	3247	6641
MEAN	145	155	285	254	274	741	912	1118	403	168	105	221
MAX	332	661	470	486	381	2100	2280	2110	796	245	149	1090
MIN	113	104	193	190	202	187	484	513	255	120	86	75
CFSM	0.41	0.44	0.80	0.72	0.77	2.09	2.57	3.15	1.14	0.47	0.30	0.62
IN.	0.47	0.49	0.93	0.83	0.80	2.41	2.87	3.63	1.27	0.54	0.34	0.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2002, BY WATER YEAR (WY)

MEAN	417	682	914	812	880	1176	1123	875	560	371	334	353
MAX	1896	1631	2932	2547	1735	2525	3319	2689	3410	1240	1594	1381
(WY)	1977	1971	1997	1979	1981	1994	1993	1989	1972	1984	1955	1987
MIN	75.7	120	125	88.4	274	462	424	314	148	104	105	94.6
(WY)	1964	1965	1981	1981	2002	1985	1985	1999	1965	1999	2002	1964

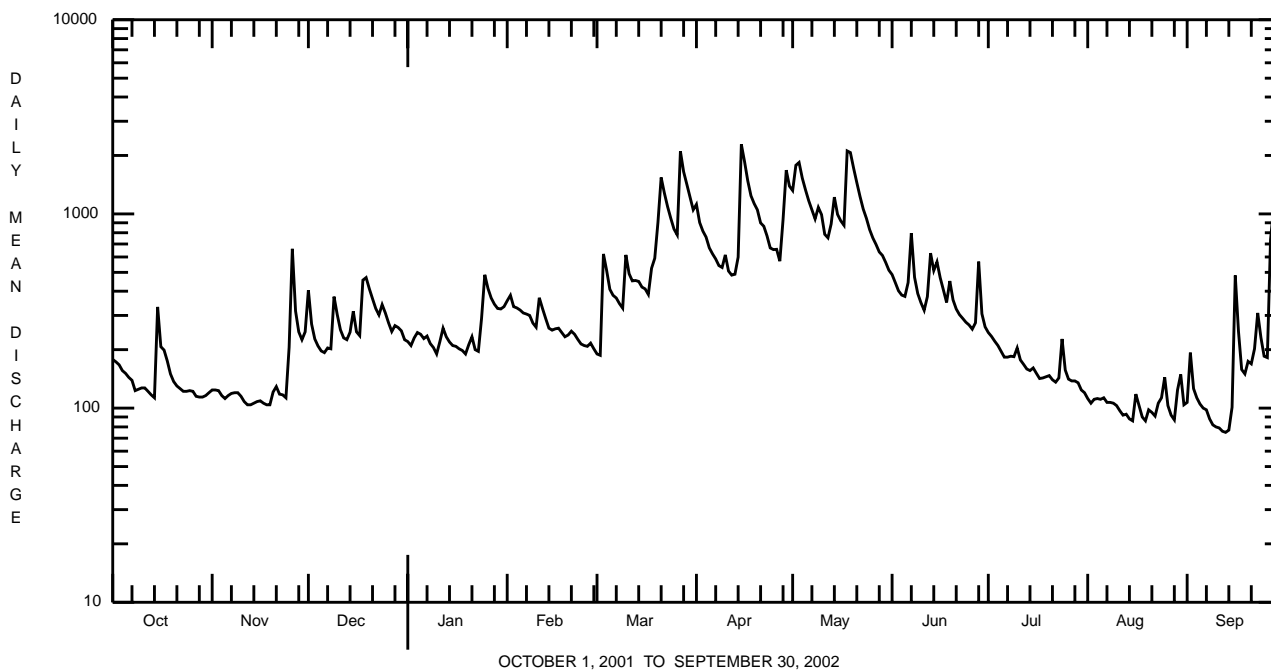
e Estimated.

SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1947 - 2002	
ANNUAL TOTAL	144017		145684			
ANNUAL MEAN	395		399		707	
HIGHEST ANNUAL MEAN					1182	1952
LOWEST ANNUAL MEAN					321	1965
HIGHEST DAILY MEAN	1980	Mar 30	2280	Apr 15	26000	Jun 23 1972
LOWEST DAILY MEAN	97	Sep 13	75	Sep 13	40	Sep 2 1949
ANNUAL SEVEN-DAY MINIMUM	106	Nov 12	80	Sep 8	52	Aug 30 1999
MAXIMUM PEAK FLOW			3230	Apr 15	a 42800	Jun 22 1972
MAXIMUM PEAK STAGE			7.36	Apr 15	b 19.00	Jun 22 1972
INSTANTANEOUS LOW FLOW			70	Sep 12,13	31	Sep 2 1949
ANNUAL RUNOFF (CFSM)	1.11		1.12		1.99	
ANNUAL RUNOFF (INCHES)	15.09		15.27		27.07	
10 PERCENT EXCEEDS	844		948		1460	
50 PERCENT EXCEEDS	275		245		448	
90 PERCENT EXCEEDS	119		107		158	

a From rating curve extended above 20,800 ft³/s.
b From floodmark in gage shelter.



SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)
APR 2002 11...	1000	9813	513	40	10.6	7.1	276	12.0	100	18.8	20.4	11.3	12.2
JUN 13...	0955	9813	619	40	7.6	6.9	318	21.7	130	26.5	25.8	15.6	15.5
AUG 21...	1020	9813	98	40	7.3	7.5	557	23.4	230	47.7	46.7	29.0	28.4

Date	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDEd (MG/L) (00530)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-THORUS TOTAL (MG/L AS P) (70507)	PHOS-THORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)
APR 2002 11...	18	81.4	220	12	.020	.98	<.040	1.2	.02	.024	1.3	<4	<4
JUN 13...	26	102	278	2	.030	.90	<.040	1.3	.03	.047	2.1	<4	<4
AUG 21...	38	207	470	8	<.020	1.03	<.040	1.4	.03	.042	.8	<4	<4

Date	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 11...	40	320	<1.0	<1.0	440	500	10	20
JUN 13...	50	660	<1.0	1.8	140	360	7.3	20
AUG 21...	60	160	<1.0	<1.0	40	130	<5.0	9.6

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA

LOCATION.--Lat 40°24'48", long 76°10'19", Berks County, Hydrologic Unit, 02040203, on left bank 30 ft downstream from Mill Road bridge at Kricks Mill, 0.4 mi upstream from Mill Creek, and 3.5 mi west of Bernville.

DRAINAGE AREA.--66.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1974 to current year.

REVISED RECORDS.--WDR PA-96-1: 1975-83(P), 1988(P), 1990(P), 1993-94(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 311.26 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation datum).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of about 9.5 ft, from information by local resident, discharge about 6,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1400	*389	*3.54	(No peaks above base discharge.)			

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	31	34	e23	36	23	69	85	60	49	28	25
2	47	32	31	e22	34	24	60	123	59	47	28	28
3	54	32	30	e21	33	59	61	110	56	44	28	26
4	50	30	29	e19	33	39	62	95	54	41	30	24
5	35	30	29	e20	30	32	59	88	56	39	29	20
6	46	30	28	e19	29	31	57	82	61	38	32	18
7	57	32	28	e19	30	30	54	76	103	38	29	16
8	57	31	30	e19	29	29	52	70	64	39	28	15
9	40	30	38	e20	29	29	51	84	59	36	31	16
10	36	29	30	e23	28	35	57	76	56	36	33	16
11	37	29	29	e27	29	31	49	66	54	34	32	16
12	36	29	27	32	26	30	47	72	51	35	32	16
13	35	30	27	27	26	33	46	109	49	34	30	17
14	36	31	31	24	25	34	53	157	60	34	29	19
15	30	32	35	22	25	33	146	110	57	32	30	26
16	26	31	28	22	25	33	91	96	49	32	32	30
17	28	30	29	22	25	32	76	88	47	32	23	28
18	26	30	38	22	25	47	69	215	50	32	20	28
19	26	29	33	e21	24	53	65	148	47	31	22	27
20	26	29	30	e20	24	89	63	126	42	30	25	27
21	27	29	29	e25	28	109	60	118	40	29	23	28
22	30	29	28	e22	26	79	67	104	40	29	22	30
23	30	29	27	e23	25	63	60	95	39	30	25	31
24	29	30	28	44	25	61	54	89	39	34	26	30
25	29	41	26	53	25	58	54	84	39	33	26	29
26	28	51	26	40	25	60	53	80	39	32	25	33
27	30	35	25	37	25	129	48	77	56	33	24	101
28	31	31	e24	34	23	86	80	72	134	37	23	72
29	31	29	e23	33	---	77	149	68	52	35	33	51
30	32	32	e25	32	---	70	89	63	51	30	28	47
31	31	---	e26	34	---	65	---	59	---	29	25	---
TOTAL	1087	943	901	821	767	1603	2001	2985	1663	1084	851	890
MEAN	35.1	31.4	29.1	26.5	27.4	51.7	66.7	96.3	55.4	35.0	27.5	29.7
MAX	57	51	38	53	36	129	149	215	134	49	33	101
MIN	26	29	23	19	23	23	46	59	39	29	20	15
CFSM	0.53	0.47	0.44	0.40	0.41	0.78	1.00	1.45	0.83	0.53	0.41	0.45
IN.	0.61	0.53	0.50	0.46	0.43	0.90	1.12	1.67	0.93	0.61	0.48	0.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2002, BY WATER YEAR (WY)

MEAN	79.2	91.9	111	126	126	163	146	112	98.0	84.1	64.6	65.9
MAX	250	181	288	385	264	468	367	277	208	216	129	181
(WY)	1977	1997	1997	1979	1979	1994	1993	1989	1982	1984	1976	1975
MIN	35.1	31.4	29.1	26.5	27.4	51.7	58.8	59.5	41.4	32.1	27.5	29.7
(WY)	2002	2002	2002	2002	2002	2002	1985	1999	1999	1999	2002	2002

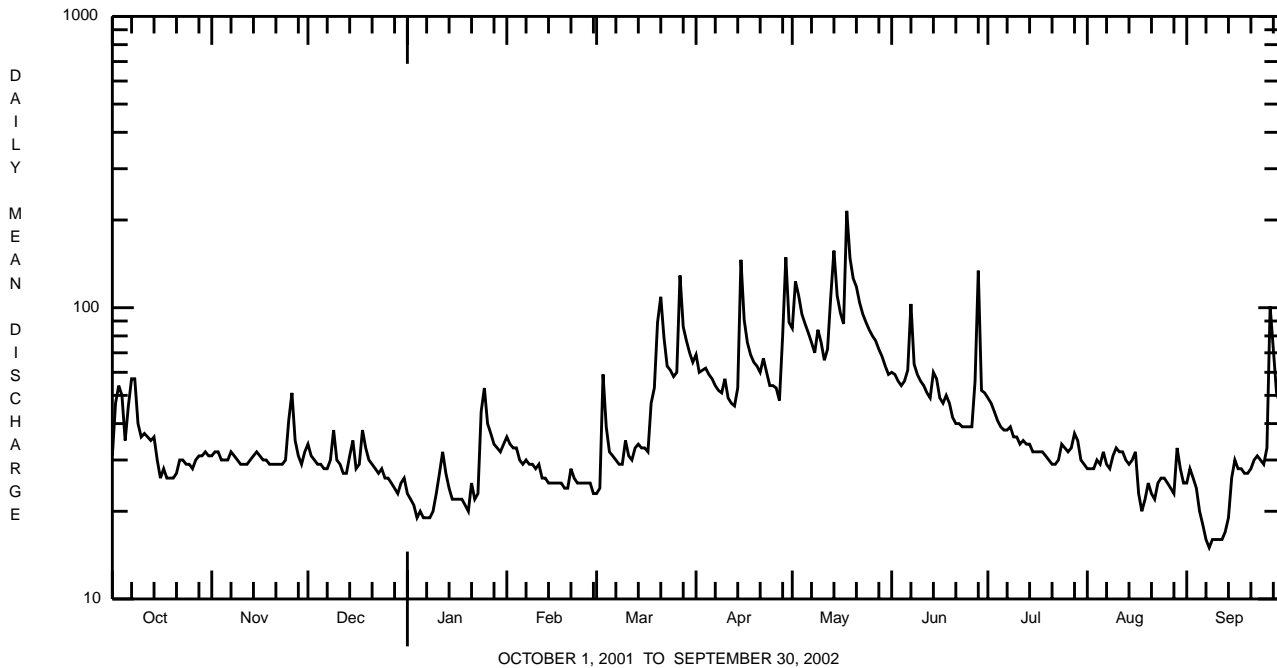
e Estimated.

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	23451		15596		105	
ANNUAL MEAN	64.2		42.7		164	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	324	Mar 30	215	May 18	2140	Jan 26 1978
LOWEST DAILY MEAN	22	Sep 17, 22, 23	15	Sep 8	15	Sep 8 2002
ANNUAL SEVEN-DAY MINIMUM	23	Sep 17	16	Sep 7	16	Sep 7 2002
MAXIMUM PEAK FLOW			389	May 18	a 7140	Jan 24 1979
MAXIMUM PEAK STAGE			3.54	May 18	10.16	Jan 24 1979
INSTANTANEOUS LOW FLOW			14	Sep 8	14	Sep 8 2002
ANNUAL RUNOFF (CFSM)	0.97		0.64		1.57	
ANNUAL RUNOFF (INCHES)	13.12		8.72		21.36	
10 PERCENT EXCEEDS	117		76		175	
50 PERCENT EXCEEDS	54		32		81	
90 PERCENT EXCEEDS	28		23		40	

a From rating curve extended above 740 ft³/s on basis of contracted-opening measurement at 3,900 ft³/s, gage height 8.01 ft.



SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1978 to current year.

INSTRUMENTATION.--Temperature recorder since October 1977. Temperature probe interfaced with a data collection platform since 1986 water year.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.5°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 27.5°C, Aug. 2; minimum, 0.0°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	12.5	13.0	10.5	7.5	9.0	13.5	11.0	12.5	0.0	0.0	0.0
2	15.0	12.5	13.5	13.5	9.5	11.5	11.0	7.5	10.0	0.5	0.0	0.0
3	17.0	14.5	15.5	15.5	12.5	14.0	8.0	6.0	7.0	0.5	0.0	0.0
4	17.5	16.0	16.5	13.5	10.5	12.0	8.0	5.5	6.5	0.5	0.0	0.0
5	17.5	15.5	16.5	11.0	8.5	10.0	10.0	7.0	8.5	0.5	0.0	0.0
6	17.0	14.5	16.5	10.0	7.5	8.5	10.5	8.5	9.5	0.5	0.0	0.0
7	14.5	11.0	13.0	10.5	7.0	8.5	11.5	9.5	10.5	0.5	0.0	0.0
8	11.5	9.5	10.5	11.0	7.5	9.0	9.5	7.0	8.0	0.5	0.0	0.5
9	11.5	9.0	10.0	11.0	8.5	9.5	7.5	5.5	6.5	1.0	0.0	0.5
10	12.5	9.0	10.5	9.5	7.5	8.0	6.0	4.5	5.0	2.0	0.0	1.0
11	14.5	10.5	12.5	9.0	6.5	8.0	7.0	4.5	5.5	3.5	1.5	2.5
12	16.0	12.5	14.5	8.0	5.0	6.5	7.0	5.0	6.0	4.5	3.0	3.5
13	17.5	14.5	16.0	7.0	4.0	5.0	8.0	6.0	7.0	4.0	2.5	3.5
14	17.5	15.5	16.5	7.5	4.0	5.5	9.5	8.0	9.0	4.0	2.0	3.0
15	17.5	14.5	16.5	9.5	5.5	7.5	9.5	6.5	8.5	4.5	2.5	3.5
16	15.0	13.0	14.0	11.0	7.5	9.0	6.5	5.0	5.5	4.0	3.0	3.5
17	13.0	11.0	12.5	10.0	7.5	9.0	6.5	5.0	5.5	4.5	3.0	3.5
18	12.0	9.5	10.5	8.5	6.5	7.5	8.0	6.5	7.5	3.5	1.5	2.5
19	12.0	8.5	10.0	8.5	6.0	7.0	7.5	5.5	7.0	1.5	0.0	1.0
20	13.5	9.5	11.5	8.5	6.5	7.5	6.5	4.5	5.5	1.0	0.0	0.5
21	14.5	11.0	12.5	7.0	4.5	5.5	5.0	3.0	4.0	1.5	0.0	0.5
22	16.0	12.5	14.0	6.0	3.5	4.5	4.0	2.5	3.0	4.0	1.0	2.0
23	16.0	14.0	15.0	6.5	3.5	5.0	4.0	2.0	3.0	4.5	1.5	3.0
24	18.0	14.5	16.0	8.0	4.5	6.5	5.0	3.5	4.0	5.0	3.5	4.5
25	18.0	15.0	16.5	11.5	8.0	10.0	3.5	2.0	3.0	6.0	4.0	5.0
26	15.0	10.5	13.0	12.5	10.0	11.5	3.0	1.0	2.0	5.0	3.0	4.0
27	10.5	8.5	9.5	10.5	9.5	10.0	2.0	0.0	1.0	5.5	3.0	4.0
28	10.0	7.5	8.5	11.0	9.5	10.5	1.5	0.0	0.5	6.0	3.5	4.5
29	9.5	6.5	8.0	11.5	11.0	11.5	2.0	0.0	1.0	7.5	4.0	5.5
30	11.0	8.0	9.0	13.0	11.0	12.0	1.0	0.0	0.5	8.5	6.0	7.5
31	9.5	8.5	9.0	---	---	---	0.5	0.0	0.0	8.0	6.5	7.5
MONTH	18.0	6.5	12.9	15.5	3.5	8.7	13.5	0.0	5.6	8.5	0.0	2.5

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)
JUN 2002					
04...	0933	53	0	--	--
04...	0934	--	8	1.00	17.6
04...	0935	--	13	1.00	17.6
04...	0936	--	18	1.00	17.6
04...	0937	--	23	1.00	17.5
04...	0938	--	28	1.00	17.5
04...	0939	--	33	1.00	17.5
04...	0940	--	38	1.00	17.5
04...	0941	--	43	1.00	17.5
04...	0942	--	48	1.00	17.7
04...	0943	--	53	1.00	17.7
04...	0944	--	58	1.00	17.7
04...	0945	--	63	--	--

SCHUYLKILL RIVER BASIN

01470853 FURNACE CREEK AT ROBESONIA, PA

LOCATION.--Lat 40°20'24", long 76°08'37", Berks County, Hydrologic Unit 02040202, on left bank 500 ft upstream from Furnace Street in Robesonia.

DRAINAGE AREA.--4.18 mi².

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

REVISED RECORDS.--WDR PA-87-1: 1986 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 527.20 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 27, 1986, 760 ft downstream at different datum.

REMARKS.--Records poor. Flow slightly regulated by Furnace Creek Reservoir 0.6 mi upstream, until drained in early 2002. Reservoir now acts as a retention basin and releases water through an unregulated 10 in. outlet pipe. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Apr. 28	2145	*41	*1.24	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	2.8	e1.4	3.3	1.1	5.7	5.5	3.8	3.0	1.3	1.4
2	2.0	2.5	1.9	e1.4	3.0	1.2	4.7	11	3.6	2.2	1.1	1.5
3	1.8	2.6	1.7	e1.5	2.5	1.7	4.5	7.9	3.2	2.3	1.2	1.3
4	1.7	2.7	1.6	e1.5	2.1	1.2	4.5	5.2	3.3	2.4	1.2	1.3
5	1.6	2.7	1.6	e1.6	e1.9	1.1	4.5	4.2	3.4	2.4	1.3	1.3
6	1.9	2.7	1.4	e1.6	1.8	0.56	4.3	3.6	6.7	2.3	1.2	1.2
7	1.7	2.6	1.2	e1.5	1.7	0.54	3.9	3.1	15	2.3	1.1	1.1
8	1.5	2.5	1.6	e1.6	1.7	1.1	3.5	2.8	4.0	2.2	1.1	1.1
9	1.4	2.1	3.4	e1.6	1.6	1.2	3.4	5.8	3.2	2.2	1.0	1.1
10	1.3	1.9	2.2	e1.7	1.5	1.3	3.4	3.5	3.2	2.2	0.96	0.96
11	1.3	1.8	1.9	e4.0	1.9	1.2	3.3	2.5	3.5	2.2	0.96	0.96
12	1.3	1.8	1.9	4.0	1.7	1.1	3.5	2.7	3.4	2.1	1.0	0.91
13	1.2	1.8	1.9	3.0	1.8	1.1	3.3	8.9	3.1	2.1	1.2	0.82
14	1.2	1.8	2.7	2.4	1.7	1.0	3.1	16	3.5	2.2	0.68	0.72
15	2.4	3.3	3.0	2.3	1.7	1.1	5.4	11	5.1	2.2	0.83	0.82
16	1.2	1.1	2.0	2.3	1.7	1.7	7.0	8.7	4.6	2.3	0.96	1.0
17	2.0	1.1	2.1	2.3	1.7	1.7	7.2	6.0	3.5	2.3	0.96	1.1
18	1.5	1.1	4.3	2.1	1.7	2.0	3.1	19	2.9	2.1	0.96	1.1
19	1.2	1.2	3.1	e2.0	1.7	1.9	4.4	10	3.7	2.0	0.96	1.1
20	0.87	1.3	2.2	e1.9	1.7	2.4	3.3	10	3.6	1.9	1.3	1.1
21	0.83	1.3	1.9	2.3	1.6	2.4	3.8	9.3	3.4	1.9	1.4	1.1
22	0.79	1.3	1.7	2.0	1.6	2.2	5.5	7.7	2.7	1.9	1.4	1.1
23	0.84	1.4	1.6	2.1	1.6	1.9	3.4	6.9	2.5	2.0	1.4	1.1
24	0.95	1.5	2.2	7.4	1.6	1.8	3.0	6.4	2.5	2.2	1.4	0.89
25	1.1	4.7	2.1	4.5	1.6	3.8	3.4	5.8	2.5	2.2	1.4	0.88
26	1.2	4.2	1.9	2.8	1.4	7.1	3.0	5.5	2.5	1.8	1.4	1.0
27	1.6	2.1	1.7	2.3	1.4	9.5	2.6	5.5	3.7	1.5	1.2	7.5
28	1.8	1.8	1.6	2.1	1.2	8.6	14	4.5	7.6	1.6	0.83	2.7
29	1.8	1.8	1.6	1.9	---	8.2	20	4.4	3.9	1.7	1.6	0.26
30	2.0	2.6	e1.7	2.0	---	6.6	8.1	4.6	3.5	1.8	1.6	0.35
31	1.9	---	e1.5	3.1	---	6.0	---	4.3	---	1.6	1.3	---
TOTAL	45.98	63.5	64.0	74.2	50.4	84.30	152.8	212.3	121.1	65.1	36.20	38.77
MEAN	1.48	2.12	2.06	2.39	1.80	2.72	5.09	6.85	4.04	2.10	1.17	1.29
MAX	2.4	4.7	4.3	7.4	3.3	9.5	20	19	15	3.0	1.6	7.5
MIN	0.79	1.1	1.2	1.4	1.2	0.54	2.6	2.5	2.5	1.5	0.68	0.26
CFSM	0.35	0.51	0.49	0.57	0.43	0.65	1.22	1.64	0.97	0.50	0.28	0.31
IN.	0.41	0.57	0.57	0.66	0.45	0.75	1.36	1.89	1.08	0.58	0.32	0.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2002, BY WATER YEAR (WY)

MEAN	3.13	5.30	7.40	6.78	8.17	11.6	11.7	9.28	5.55	4.17	2.83	2.82
MAX	7.31	10.3	22.0	14.3	15.2	26.7	31.8	24.7	14.8	11.7	8.98	9.05
(WY)	1997	1987	1997	1996	1996	1994	1993	1989	1989	1987	1986	1999
MIN	0.94	1.68	2.06	2.34	1.80	2.72	3.32	4.29	2.10	1.36	0.85	0.63
(WY)	1989	2001	2002	1983	2002	2002	1985	1997	1985	1983	1983	1983

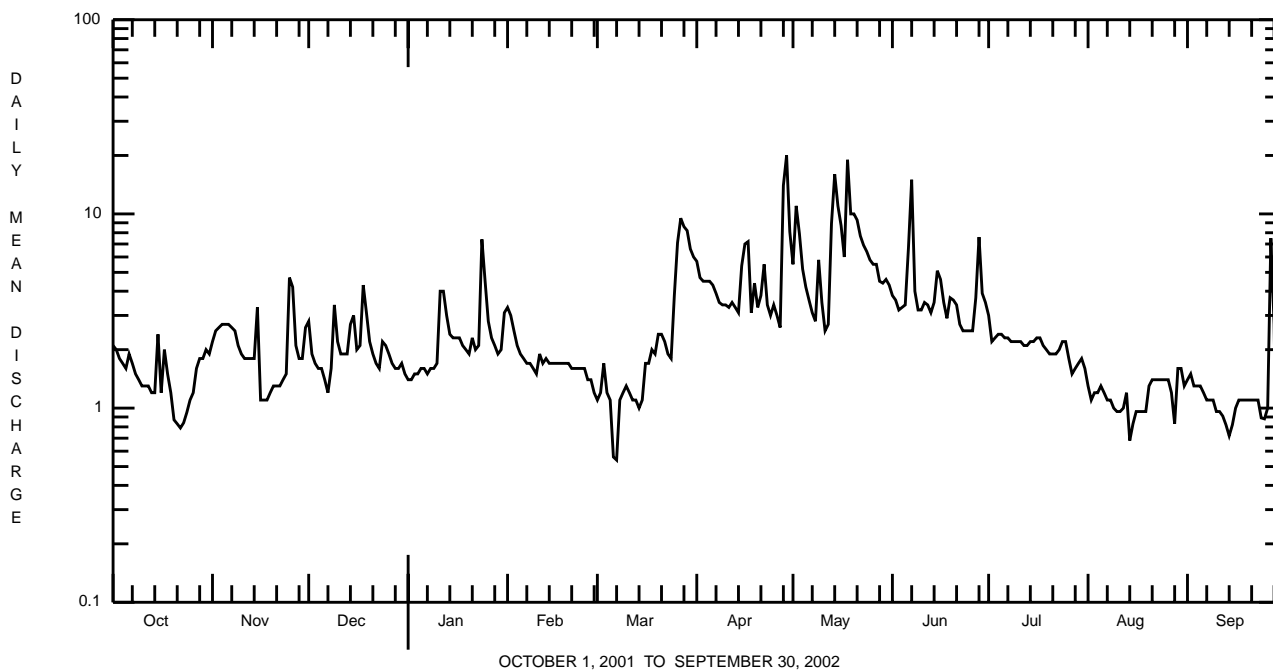
e Estimated.

SCHUYLKILL RIVER BASIN

01470853 FURNACE CREEK AT ROBESONIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	1601.78		1008.65			
ANNUAL MEAN	4.39		2.76		6.55	
HIGHEST ANNUAL MEAN					10.5	1994
LOWEST ANNUAL MEAN					2.76	2002
HIGHEST DAILY MEAN	28	Mar 30	20	Apr 29	139	Dec 5 1993
LOWEST DAILY MEAN	0.79	Oct 22	0.26	Sep 29	0.11	Sep 11 1983
ANNUAL SEVEN-DAY MINIMUM	0.94	Oct 19	0.88	Sep 10	0.19	Sep 16 1985
MAXIMUM PEAK FLOW			41	Apr 28	a718	Dec 17 2000
MAXIMUM PEAK STAGE			1.24	Apr 28	b4.72	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.05		0.66		1.57	
ANNUAL RUNOFF (INCHES)	14.26		8.98		21.30	
10 PERCENT EXCEEDS	9.8		5.5		13	
50 PERCENT EXCEEDS	2.9		1.9		4.4	
90 PERCENT EXCEEDS	1.5		1.1		1.4	

a From rating curve extended above 308 ft³/s on basis of slope-area measurement of peak flow at gage height 3.11 ft.
 b From peak indicator; ice jam.



SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA

LOCATION.--Lat 40°22'14", long 76°01'32", Berks County, Hydrologic Unit 02040203, on right bank 1.0 mi upstream from Rebers Bridge and Plum Creek, 1.0 mi east of Blue Marsh, 3.0 mi north of Sinking Spring, and 5.5 mi northeast of Reading.

DRAINAGE AREA.--175 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1965 to current year.

REVISED RECORDS.--WDR PA-72-1: 1969-71 (M).

GAGE.--Water-stage recorder. Datum of gage is 230.06 ft above National Geodetic Vertical Datum of 1929 (Western Berks Water Authority datum). Prior to Nov. 25, 1974, water-stage recorder at site 0.3 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since April 1979 by Blue Marsh Lake (station 01470870) 0.8 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	50	27	32	89	56	166	362	120	209	48	53
2	111	43	27	47	89	57	100	462	120	122	48	52
3	112	38	27	57	89	58	60	601	120	90	48	51
4	112	37	50	56	103	56	60	459	91	91	48	51
5	113	45	65	56	117	57	60	453	69	82	48	52
6	114	53	65	57	117	57	60	344	161	76	48	52
7	115	52	65	56	101	56	60	218	282	76	48	53
8	117	51	65	66	86	57	86	192	374	67	48	53
9	171	51	65	75	86	57	123	192	264	60	48	72
10	208	51	65	75	86	58	155	192	110	60	48	93
11	208	51	81	62	85	58	136	192	68	60	48	93
12	207	51	97	53	84	58	102	192	68	56	48	96
13	207	51	97	54	84	58	102	315	68	53	47	116
14	208	50	97	81	84	58	102	544	84	54	69	134
15	248	84	97	98	84	58	259	473	93	54	93	135
16	275	109	97	98	84	58	381	311	93	55	93	91
17	273	109	86	98	84	58	355	220	105	55	93	50
18	272	109	68	81	84	59	347	192	115	55	93	51
19	181	96	84	70	68	58	240	192	115	55	94	53
20	114	84	98	70	40	60	176	460	145	55	72	52
21	115	85	98	70	40	110	176	627	141	55	53	51
22	115	84	98	70	40	145	198	560	115	48	53	51
23	82	84	98	70	40	145	217	380	115	44	53	139
24	46	84	98	70	40	145	215	241	76	47	53	152
25	48	85	98	146	40	145	161	208	45	46	53	50
26	49	57	68	198	50	146	114	208	46	48	53	50
27	49	27	39	198	56	400	114	208	47	48	53	51
28	49	27	32	172	56	375	115	143	158	48	53	50
29	50	27	32	105	---	206	210	104	235	48	53	50
30	50	27	32	89	---	166	334	114	235	48	53	51
31	50	---	32	89	---	166	---	120	---	48	53	---
TOTAL	4191	1852	2148	2619	2106	3301	4984	9479	3878	2013	1813	2148
MEAN	135	61.7	69.3	84.5	75.2	106	166	306	129	64.9	58.5	71.6
MAX	275	109	98	198	117	400	381	627	374	209	94	152
MIN	46	27	27	32	40	56	60	104	45	44	47	50

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	203	221	326	337	341	441	326	298	231	176	119	139
MAX	612	484	986	1151	596	1365	1016	1058	606	543	283	379
(WY)	1980	1997	1997	1979	1979	1994	1993	1989	1982	1984	1994	1987
MIN	51.4	61.7	61.3	84.5	75.2	106	49.8	123	69.9	64.9	55.4	54.0
(WY)	1996	2002	1999	2002	2002	2002	1985	1999	1979	2002	1981	1983

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1979 - 2002	
ANNUAL TOTAL	59280	40532		
ANNUAL MEAN	162	111	263	
HIGHEST ANNUAL MEAN			435	1994
LOWEST ANNUAL MEAN			111	2002
HIGHEST DAILY MEAN	702	Apr 18	627	May 21
LOWEST DAILY MEAN	27	Nov 27 ^a	27	Nov 27 ^a
ANNUAL SEVEN-DAY MINIMUM	27	Nov 27	27	Nov 27
MAXIMUM PEAK FLOW			686	May 2,3
MAXIMUM PEAK STAGE			4.15	May 2
10 PERCENT EXCEEDS	354		212	
50 PERCENT EXCEEDS	115		82	
90 PERCENT EXCEEDS	49		48	

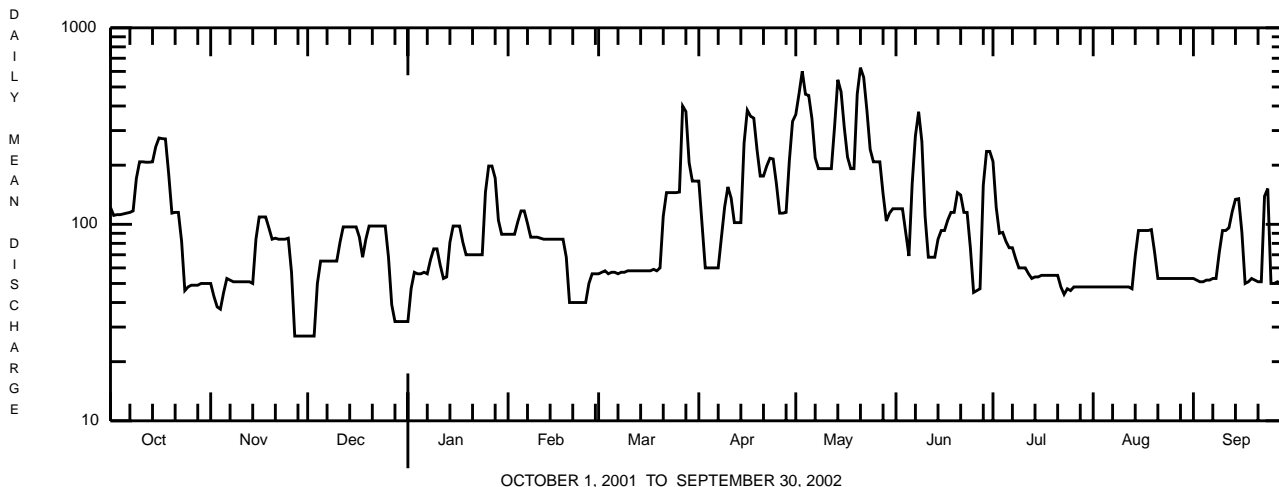
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1978, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	180	236	333	333	373	423	363	261	285	233	175	150
MAX	701	464	827	761	790	832	706	423	1244	523	350	536
(WY)	1977	1976	1978	1978	1971	1978	1970	1973	1972	1969	1969	1975
MIN	56.2	58.3	69.9	100	146	163	144	89.2	60.4	45.0	31.9	43.4
(WY)	1967	1966	1966	1966	1969	1969	1966	1965	1965	1966	1966	1966

SUMMARY STATISTICS WATER YEARS 1965 - 1978

ANNUAL MEAN	283	
HIGHEST ANNUAL MEAN	416	1978
LOWEST ANNUAL MEAN	122	1966
HIGHEST DAILY MEAN	11000	Jun 23 1972
LOWEST DAILY MEAN	23	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7 1966
MAXIMUM PEAK FLOW	b16100	Jun 22 1972
MAXIMUM PEAK STAGE	c18.70	Jun 22 1972
ANNUAL RUNOFF (CFSM)	1.62	
ANNUAL RUNOFF (INCHES)	22.00	
10 PERCENT EXCEEDS	551	
50 PERCENT EXCEEDS	178	
90 PERCENT EXCEEDS	69	

- a Also Nov. 28-30, Dec. 1-3.
- b From rating curve extended above 3,540 ft³/s on basis of runoff comparison with downstream station.
- c From floodmark.



SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to 1980.**PERIOD OF DAILY RECORD.**--

WATER TEMPERATURE: Water years 1969 to current year.

SUSPENDED-SEDIMENT DISCHARGE.--May 1973 to May 1976.

INSTRUMENTATION.--Temperature recorder since October 1968. Temperature probe interfaced with a data collection platform since 1986 water year.**REMARKS.**--Water temperature records rated good. Temperature records collected at streamgage. Water-quality samples and suspended sediment samples collected at Rebers Bridge 1.0 mi downstream.**EXTREMES FOR PERIOD OF DAILY RECORD.**--

WATER TEMPERATURE: Maximum, 34.0°C, Oct. 2, 1968; minimum, 0.0°C, on several days during December 1970, January and March 1971, and February 1979.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,400 mg/L, June 22, 1973; minimum daily mean, 2 mg/L on many days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 8,570 tons, Jan. 27, 1976; minimum daily, 0.45 tons, July 13.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.5°C, July 12, 25; minimum, 1.5°C, Jan. 6.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.0	19.0	19.5	13.5	12.5	13.0	10.5	8.5	9.5	4.0	3.0	3.0
2	19.5	18.5	19.0	14.0	12.5	13.0	10.0	8.5	9.0	3.5	2.5	3.0
3	19.5	18.5	18.5	13.5	12.0	13.0	10.0	8.5	9.0	3.5	2.5	3.0
4	19.0	18.0	18.5	13.5	12.0	12.5	10.0	8.5	9.0	3.5	2.5	3.0
5	19.0	18.0	18.5	13.0	11.5	12.0	10.0	9.5	9.5	3.5	2.5	3.0
6	19.0	17.5	18.0	13.0	12.0	12.0	10.0	9.5	9.5	3.0	1.5	2.5
7	18.5	17.5	18.0	13.0	12.0	12.0	10.5	9.5	10.0	3.0	2.5	2.5
8	18.5	17.5	18.0	13.0	11.5	12.0	9.5	9.0	9.5	3.0	2.0	2.5
9	18.0	17.5	17.5	12.5	11.5	12.0	9.5	9.0	9.5	3.0	2.5	2.5
10	18.0	17.5	17.5	12.5	11.5	11.5	9.5	9.0	9.0	3.0	2.0	2.5
11	17.5	17.0	17.0	12.0	11.0	11.5	9.5	9.0	9.0	3.0	2.5	2.5
12	17.0	16.5	16.5	12.0	10.5	11.0	9.5	9.0	9.0	3.0	2.5	2.5
13	17.0	16.0	16.5	11.5	10.5	11.0	9.0	9.0	9.0	3.5	2.5	3.0
14	17.0	16.0	16.5	11.5	10.5	11.0	9.0	8.5	9.0	3.0	2.5	2.5
15	17.5	16.0	16.5	11.0	10.5	10.5	9.0	8.5	8.5	3.0	2.5	3.0
16	17.0	16.5	16.5	11.0	10.0	10.5	8.5	8.0	8.5	3.0	2.5	3.0
17	17.0	16.5	16.5	10.5	9.5	10.0	8.5	8.5	8.5	3.5	2.5	3.0
18	16.5	16.0	16.0	10.0	9.5	10.0	8.5	8.0	8.5	3.5	2.5	2.5
19	16.5	15.5	16.0	10.0	9.5	9.5	8.5	8.0	8.0	3.0	2.0	2.5
20	16.5	15.5	16.0	10.0	9.0	9.5	8.0	7.5	8.0	3.0	2.5	2.5
21	16.5	15.5	15.5	10.0	9.0	9.5	7.5	7.0	7.5	3.0	2.5	2.5
22	16.0	15.0	15.5	10.0	9.0	9.5	7.0	7.0	7.0	3.0	2.5	2.5
23	16.0	15.0	15.5	10.0	9.0	9.5	7.0	6.5	7.0	3.0	2.5	3.0
24	16.0	14.5	15.5	10.0	9.0	9.5	7.0	6.5	7.0	3.0	2.5	3.0
25	16.0	14.5	15.0	10.0	9.5	10.0	6.5	6.0	6.5	3.0	2.5	3.0
26	15.5	14.5	15.0	10.0	8.5	9.5	6.5	5.5	6.0	3.5	3.0	3.0
27	15.0	14.0	14.5	10.0	8.5	9.5	6.0	5.0	5.5	3.5	3.0	3.0
28	14.5	13.0	14.0	10.0	9.0	9.5	6.0	4.5	5.0	3.5	3.0	3.0
29	14.5	13.0	13.5	9.5	9.0	9.5	5.5	4.0	5.0	4.0	3.0	3.5
30	14.5	13.0	13.5	10.0	9.0	9.5	4.5	3.5	4.0	4.0	3.5	3.5
31	13.5	12.5	13.0	---	---	---	4.0	3.0	3.5	4.0	3.5	3.5
MONTH	20.0	12.5	16.4	14.0	8.5	10.8	10.5	3.0	7.9	4.0	1.5	2.8

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)
JUN 2002					
04...	1200	68	100	--	--
04...	1201	--	95	.2	18.8
04...	1202	--	90	.4	18.7
04...	1203	--	85	.4	18.6
04...	1204	--	80	.4	18.6
04...	1205	--	75	.4	18.5
04...	1206	--	70	.5	18.6
04...	1207	--	65	.5	18.6
04...	1208	--	60	.5	18.6
04...	1209	--	55	.5	18.7
04...	1210	--	50	.5	18.9
04...	1211	--	45	.5	18.9
04...	1212	--	40	.5	19.0
04...	1213	--	35	.5	19.1
04...	1214	--	30	.5	19.2
04...	1215	--	25	.5	19.4
04...	1216	--	20	.4	19.4
04...	1217	--	15	.3	19.5
04...	1218	--	10	.2	19.8
04...	1219	--	5	.1	20.4
04...	1220	--	0	--	--

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°22'08", long 75°58'46", Berks County, Hydrologic Unit 02040203, on right bank 15 ft upstream from covered bridge on Township Route 921, 1.0 mi downstream from Cacoosing Creek, 2.5 mi upstream from mouth, and 3.5 mi northwest of town square in Reading.

DRAINAGE AREA.--211 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1382: 1951-53, 1954 (M). WSP 2102: 1965 (M). WDR PA-72-1: 1971 (M).

GAGE.--Water-stage recorder. Datum of gage is 216.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since April 1979 by Blue Marsh Lake (station 01470870) 3.9 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	52	38	37	116	66	194	391	157	231	58	67
2	131	46	36	48	116	67	137	510	156	154	58	67
3	130	40	35	63	114	92	86	650	154	114	70	64
4	129	40	52	63	127	76	85	482	128	115	66	62
5	129	45	74	64	145	73	82	474	103	106	64	63
6	132	56	73	65	145	73	81	375	215	93	62	63
7	133	56	74	66	130	72	80	255	359	96	61	62
8	133	56	76	71	109	71	99	226	388	85	60	63
9	179	56	84	82	108	72	146	239	302	77	60	77
10	227	57	76	83	108	75	171	227	157	77	60	107
11	226	56	89	81	108	71	159	221	105	76	60	107
12	226	55	111	70	106	70	123	230	104	72	59	110
13	227	56	111	68	105	73	124	431	102	67	57	127
14	229	55	115	90	104	72	127	667	123	69	75	149
15	272	81	115	115	104	71	310	556	131	68	108	151
16	300	113	112	115	105	71	399	370	128	66	109	115
17	301	113	104	114	105	71	371	278	134	66	109	60
18	299	113	88	97	103	90	359	341	149	66	110	60
19	219	102	97	82	90	86	269	285	151	67	109	61
20	136	88	114	82	52	128	201	512	169	67	93	61
21	135	88	113	81	52	171	197	691	170	66	62	62
22	135	89	113	80	51	204	221	617	142	61	62	65
23	106	88	113	81	51	196	233	430	142	55	65	131
24	53	87	115	110	51	193	229	286	107	59	74	175
25	52	104	113	170	51	191	191	247	66	57	68	61
26	52	90	87	231	58	194	142	246	66	59	64	65
27	52	37	49	230	67	436	139	243	104	60	62	120
28	52	36	38	207	66	413	210	189	211	62	63	87
29	53	35	39	137	---	238	286	146	258	59	79	71
30	52	37	38	113	---	193	370	152	253	58	66	69
31	51	---	38	116	---	193	---	159	---	58	64	---
TOTAL	4695	2027	2530	3112	2647	4162	5821	11126	4934	2486	2237	2602
MEAN	151.5	67.57	81.61	100.4	94.54	134.3	194.0	358.9	164.5	80.19	72.16	86.73
MAX	301	113	115	231	145	436	399	691	388	231	110	175
MIN	51	35	35	37	51	66	80	146	66	55	57	60

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	234.8	269.6	385.3	356.4	385.4	507.8	399.4	362.8	280.9	206.7	145.7	160.5
MAX (WY)	651	589	1220	1069	663	1604	1191	1226	673	661	331	456
MIN (WY)	1997	1997	1997	1996	1986	1994	1983	1989	1982	1984	1994	1987
MIN (WY)	78.3	67.6	80.1	99.8	94.5	134	64.2	155	98.8	80.2	63.1	63.0
(WY)	1996	2002	1999	1981	2002	2002	1985	1999	1999	2002	1981	1983

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1980 - 2002
ANNUAL TOTAL	70531	48379	
ANNUAL MEAN	193	133	308
HIGHEST ANNUAL MEAN			531
LOWEST ANNUAL MEAN			133
HIGHEST DAILY MEAN	830	Apr 18	691
LOWEST DAILY MEAN	35	Nov 29, Dec 3	35
ANNUAL SEVEN-DAY MINIMUM	36	Nov 27	36
MAXIMUM PEAK FLOW		754	May 13
MAXIMUM PEAK STAGE		2.48	May 13
10 PERCENT EXCEEDS	393		254
50 PERCENT EXCEEDS	147		102
90 PERCENT EXCEEDS	56		55

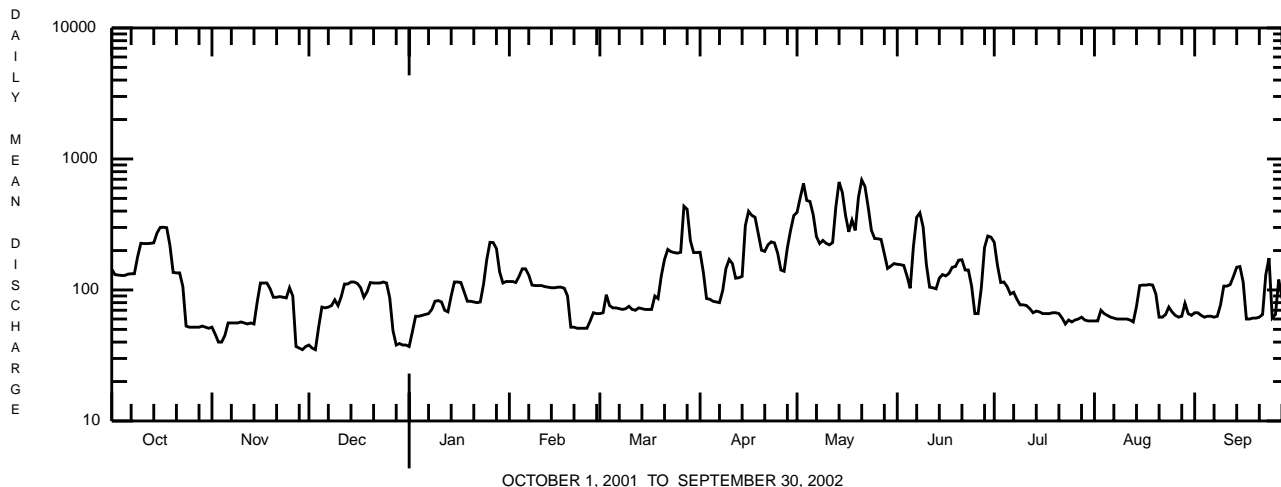
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	178	259	360	405	444	522	451	318	263	210	178	192
MAX (WY)	689	490	829	1193	917	914	806	712	1434	645	481	588
MIN (WY)	1977	1973	1978	1979	1971	1978	1970	1953	1972	1969	1955	1975
MIN (WY)	55.8	67.5	84.4	124	178	202	170	116	72.8	57.5	41.9	54.8
(WY)	1964	1966	1966	1966	1969	1969	1966	1965	1965	1966	1966	1957

SUMMARY STATISTICS WATER YEARS 1951 - 1979

ANNUAL MEAN	314
HIGHEST ANNUAL MEAN	491
LOWEST ANNUAL MEAN	144
HIGHEST DAILY MEAN	12000
LOWEST DAILY MEAN	33
ANNUAL SEVEN-DAY MINIMUM	35
MAXIMUM PEAK FLOW	a17000
MAXIMUM PEAK STAGE	b15.65
INSTANTANEOUS LOW FLOW	23
ANNUAL RUNOFF (CFSM)	1.49
ANNUAL RUNOFF (INCHES)	20.23
10 PERCENT EXCEEDS	613
50 PERCENT EXCEEDS	211
90 PERCENT EXCEEDS	86

a From rating curve extended above 3,600 ft³/s on basis of contracted-opening measurement of peak flow.
 b From floodmark in gage shelter.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 11...	1230	9813	151	40	12.1	8.5	375	11.3	170	45.5	13.6	114	24.4
JUN 13...	1145	9813	102	40	7.5	7.5	398	18.8	180	49.4	13.6	124	23.2
AUG 21...	1330	9813	61	40	8.9	7.8	422	19.3	190	51.6	13.9	146	22.5

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002 11...	250	14	<.020	3.65	<.040	4.3	.03	.070	3.2	<10	120	<1.0	60
JUN 13...	298	6	.060	4.08	<.040	4.7	.17	.180	2.9	10	160	<1.0	90
AUG 21...	330	2	.060	2.80	.090	3.4	.14	.180	3.0	<10	90	<1.0	60

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 11...	<50	<10
JUN 13...	<50	10
AUG 21...	<50	<10

SCHUYLKILL RIVER BASIN

01471510 SCHUYLKILL RIVER AT READING, PA

LOCATION.--Lat 40°20'05", long 75°56'12", Berks County, Hydrologic Unit 02040203, on left bank 200 ft downstream from bridge on Penn Street at Reading, and 1.0 mi downstream from Tulpehocken Creek.

DRAINAGE AREA.--880 mi².

PERIOD OF RECORD.--May 1914 to September 1915, October 1919 to September 1930, and July 1977 to current year. Prior to October 1914 monthly discharge only, published in WSP 1302. Diversion by Schuylkill Navigation Canal included during the navigation seasons of 1914-15.

REVISED RECORD.--WDR PA-78-1: 1977.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 185.50 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Railroad datum). May 7, 1914, to Sept. 30, 1930, and July 6, 1979, to Dec. 5, 1980, nonrecording gage. June 30, 1977, to July 5, 1979, water-stage recorder at site 1,500 ft downstream on right bank at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Lake (station 01470870) since April 1979, and to some extent by Lake Ontelaunee. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of about 31.3 ft at site 1,500 ft downstream, from floodmarks, discharge, about 90,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	563	301	573	e315	874	396	2060	2600	971	679	246	288
2	512	306	496	e305	965	402	1780	3030	902	550	239	297
3	483	303	407	e325	852	915	1550	3700	837	460	270	286
4	460	296	380	e350	834	1110	1480	3010	756	435	258	255
5	435	294	389	e345	746	819	1330	2640	679	405	253	251
6	440	315	376	e340	751	740	1250	2310	892	366	273	236
7	426	306	376	e365	744	715	1190	1960	1750	352	256	230
8	401	304	414	400	700	679	1150	1770	1300	354	245	226
9	417	303	599	392	663	640	1190	1880	1000	351	241	227
10	470	300	637	382	615	865	1360	1920	756	369	233	254
11	477	295	536	427	693	907	1240	1580	618	356	234	250
12	472	289	506	527	718	753	1090	1530	576	319	234	248
13	461	284	474	e510	637	763	1080	2120	1000	307	227	250
14	470	288	537	494	583	765	1230	2770	880	302	229	269
15	659	305	663	490	552	726	3550	2400	1080	307	257	292
16	768	334	594	492	552	699	3510	2010	900	301	258	447
17	627	334	546	492	555	677	2720	1800	797	289	281	466
18	619	327	750	464	535	848	2330	3130	738	282	261	299
19	505	319	972	429	501	1160	2030	3430	888	295	264	276
20	400	318	853	425	456	1510	1920	3020	874	300	279	283
21	391	327	776	441	493	e3000	1670	2840	754	293	232	298
22	384	317	691	442	489	2710	1650	2500	649	276	226	304
23	370	311	631	428	454	2320	1560	2130	603	267	234	401
24	315	311	668	616	428	2040	1390	1810	548	327	357	558
25	310	416	e565	1180	415	1820	1310	1610	462	320	285	315
26	314	965	e475	1270	408	1720	1290	1490	432	283	255	357
27	297	585	e390	1160	430	3300	1150	1410	558	281	233	943
28	298	434	e415	1050	416	3040	1740	1280	1370	282	240	1430
29	295	386	e390	901	---	2560	2950	1160	943	276	310	880
30	293	389	e355	844	---	2240	2710	1100	763	268	288	573
31	296	---	e325	851	---	2010	---	1030	---	260	264	---
TOTAL	13628	10562	16759	17452	17059	42849	52460	66970	25276	10512	7962	11689
MEAN	440	352	541	563	609	1382	1749	2160	843	339	257	390
MAX	768	965	972	1270	965	3300	3550	3700	1750	679	357	1430
MIN	293	284	325	305	408	396	1080	1030	432	260	226	226

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2002, BY WATER YEAR (WY)

MEAN	1029	1402	1971	1883	1911	2626	2395	1989	1313	914	691	763
MAX	3390	2791	5763	5682	3358	6484	6472	5493	3411	2907	1531	2705
(WY)	1980	1997	1997	1979	1984	1994	1983	1989	1982	1984	1994	1987
MIN	322	352	278	265	609	824	606	724	415	330	257	273
(WY)	1981	2002	1981	1981	2002	1985	1985	1999	1999	1999	2002	1983

e Estimated.

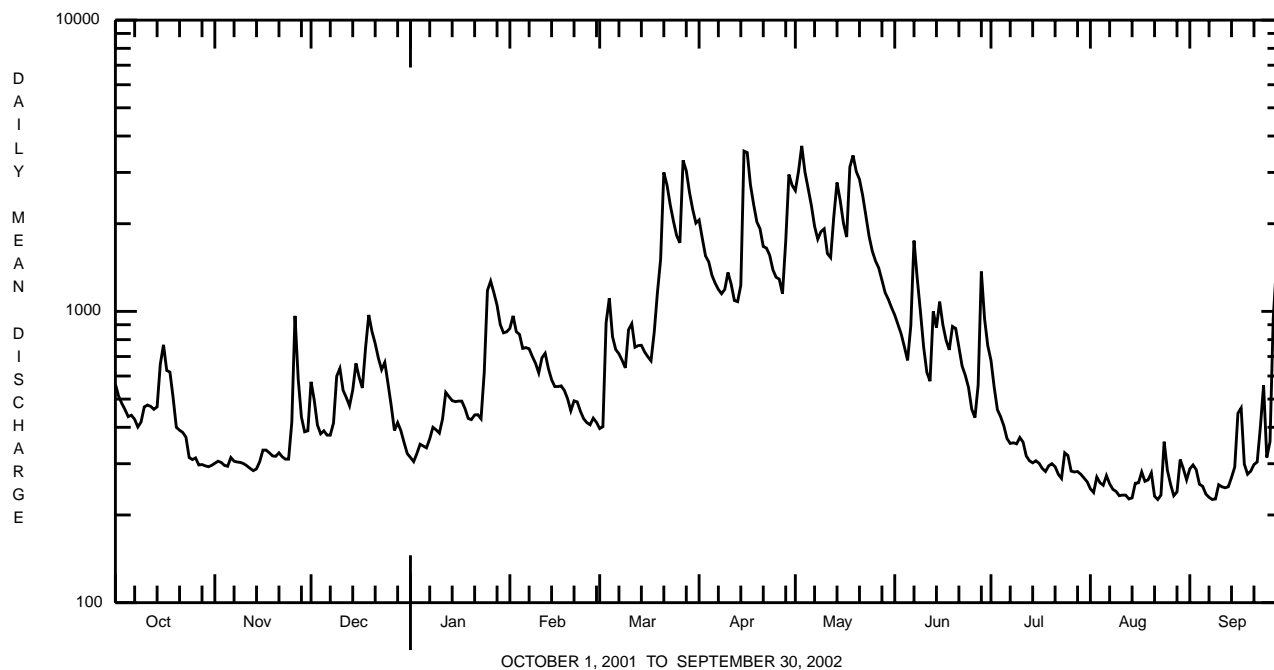
SCHUYLKILL RIVER BASIN

01471510 SCHUYLKILL RIVER AT READING, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1977 - 2002	
ANNUAL TOTAL	348845		293178		1575	
ANNUAL MEAN	956		803		2559	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	4160	Jun 23	3700	May 3	24700	Jan 25 1979
LOWEST DAILY MEAN	273	Sep 13	226	Aug 22	180	Oct 1 1980
ANNUAL SEVEN-DAY MINIMUM	295	Nov 8	235	Aug 8	224	Dec 24 1980
MAXIMUM PEAK FLOW			4860	Apr 15	a 37500	Jan 25 1979
MAXIMUM PEAK STAGE			5.76	Apr 15	b 17.50	Apr 16 1983
10 PERCENT EXCEEDS	1990		1900		3200	
50 PERCENT EXCEEDS	673		493		1050	
90 PERCENT EXCEEDS	313		269		394	

a From rating curve extended above 31,000 ft³/s, gage height 17.36 ft, at site 150 ft downstream.

b Discharge, 33,100 ft³/s, from rating curve extended above 31,000 ft³/s.



SCHUYLKILL RIVER BASIN

01471875 MANATAWNY CREEK NEAR SPANGSVILLE, PA

LOCATION.--Lat 40°20'22", long 75°44'33", Berks County, Hydrologic Unit 02040203, on left bank 200 ft north of powerline across stream, 1.2 mi south of Spangsville, and 1.3 mi north of SR 562 and Earlville.

DRAINAGE AREA.--56.9 mi².

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 265 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2115	*2,860	*7.64	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	27	32	22	64	28	59	110	60	40	19	27
2	30	28	26	22	66	28	47	186	56	38	18	38
3	30	28	24	22	46	108	45	136	52	36	19	22
4	29	28	24	24	43	50	49	92	52	34	18	19
5	28	27	23	24	40	37	41	79	53	32	17	17
6	30	26	23	27	37	35	39	70	125	31	19	16
7	31	26	23	47	39	34	38	66	319	31	17	15
8	29	26	25	e35	38	32	37	61	91	30	16	15
9	29	26	55	33	36	32	38	91	72	30	14	15
10	30	26	31	33	35	35	51	84	61	31	14	15
11	29	26	28	63	38	32	40	60	56	28	14	15
12	29	26	25	68	34	31	37	74	56	28	14	15
13	29	26	e26	49	33	34	38	837	55	28	13	15
14	31	26	e33	41	31	34	44	778	71	28	13	16
15	46	27	e58	39	31	32	182	217	77	29	13	18
16	31	26	e36	39	33	31	75	167	62	26	14	27
17	36	26	e33	36	32	30	55	139	51	26	14	19
18	31	26	64	34	30	68	48	474	48	25	14	17
19	29	26	43	e30	30	67	46	184	57	25	14	17
20	29	30	32	e28	30	213	50	144	47	33	17	17
21	27	29	28	31	31	122	45	128	43	26	16	17
22	27	26	26	31	30	68	61	116	41	25	15	18
23	27	26	25	34	29	54	54	107	40	26	18	19
24	27	26	31	133	28	49	45	99	38	29	23	18
25	27	39	29	91	29	45	49	91	37	24	29	17
26	26	62	26	53	29	44	56	85	37	21	18	19
27	26	30	23	44	31	118	44	84	107	21	16	119
28	26	27	23	40	29	61	254	75	200	21	16	56
29	27	26	23	38	---	51	301	71	53	20	45	27
30	27	27	22	38	---	47	113	68	43	20	25	22
31	27	---	e20	52	---	43	---	63	---	19	19	---
TOTAL	911	851	940	1301	1002	1693	2081	5036	2160	861	551	707
MEAN	29.4	28.4	30.3	42.0	35.8	54.6	69.4	162	72.0	27.8	17.8	23.6
MAX	46	62	64	133	66	213	301	837	319	40	45	119
MIN	26	26	20	22	28	28	37	60	37	19	13	15
CFSM	0.52	0.50	0.53	0.74	0.63	0.96	1.22	2.86	1.27	0.49	0.31	0.41
IN.	0.60	0.56	0.61	0.85	0.66	1.11	1.36	3.29	1.41	0.56	0.36	0.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)

MEAN	57.5	67.3	96.7	101	97.0	155	124	98.3	71.3	49.9	35.6	39.6
MAX	139	154	326	201	141	353	201	162	108	88.1	79.5	95.0
(WY)	1997	1997	1997	1996	1996	1994	1996	2002	1998	1996	1994	1999
MIN	27.4	28.4	21.1	42.0	35.8	54.6	69.4	50.8	26.3	14.6	13.6	18.9
(WY)	1998	2002	1999	2002	2002	2002	2002	1999	1999	1999	1999	1995

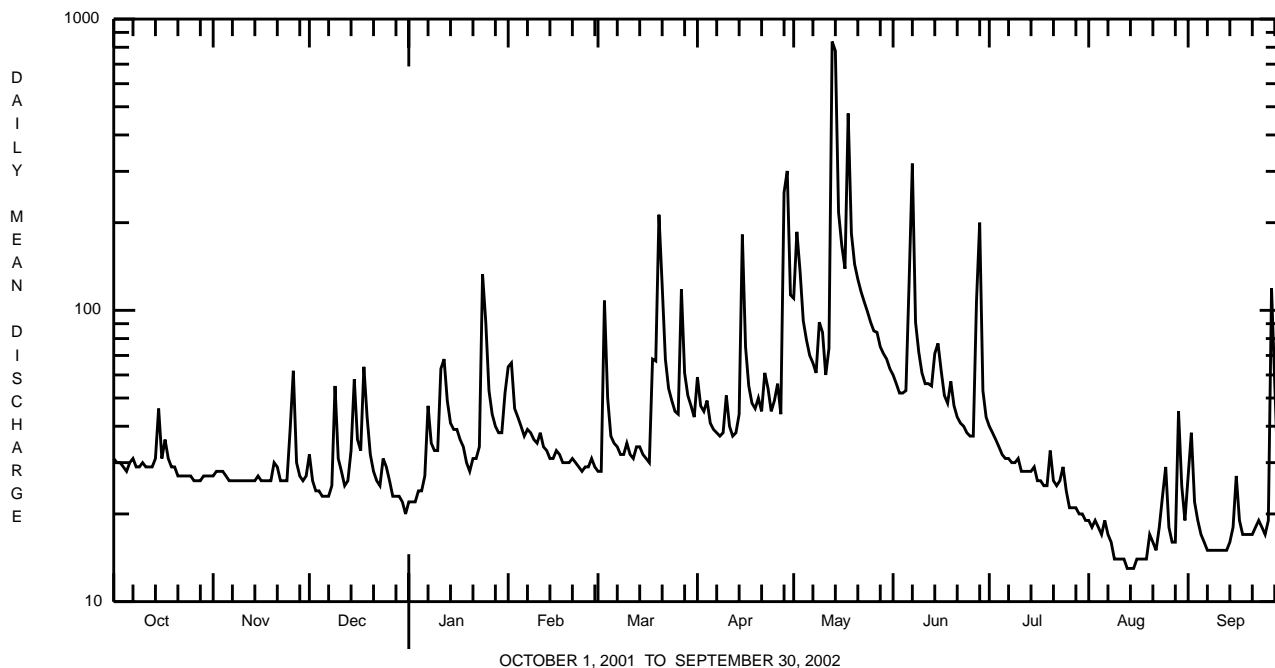
e Estimated.

SCHUYLKILL RIVER BASIN

01471875 MANATAWNY CREEK NEAR SPANGSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1994 - 2002	
ANNUAL TOTAL	24696		18094			
ANNUAL MEAN	67.7		49.6		82.7	
HIGHEST ANNUAL MEAN					125	1994
LOWEST ANNUAL MEAN					49.6	2002
HIGHEST DAILY MEAN	814	Jul 26	837	May 13	1620	Oct 19 1996
LOWEST DAILY MEAN	e20	Dec 31	13	Aug 13-15	8.8	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	a24	Dec 25	14	Aug 9	9.5	Aug 1 1999
MAXIMUM PEAK FLOW			b2860	May 13	b3380	Oct 19 1996
MAXIMUM PEAK STAGE			7.64	May 13	8.11	Oct 19 1996
INSTANTANEOUS LOW FLOW			c12	Dec 30	7.5	Jan 17 2000
ANNUAL RUNOFF (CFSM)	1.19		0.87		1.45	
ANNUAL RUNOFF (INCHES)	16.15		11.83		19.76	
10 PERCENT EXCEEDS	123		84		157	
50 PERCENT EXCEEDS	48		31		53	
90 PERCENT EXCEEDS	26		18		23	

- a Computed using estimated daily discharges.
- b From rating curve extended above 1,200 ft³/s.
- c Result of freezeup.
- e Estimated.



SCHUYLKILL RIVER BASIN

01471980 MANATAWNY CREEK NEAR POTTSTOWN, PA

LOCATION.--Lat 40°16'22", long 75°40'49", Berks County, Hydrologic Unit 02040203, on left bank 180 ft upstream from bridge on Manatawny Street, 0.7 mi downstream from Ironstone Creek, 2.4 mi northwest of Pottstown, 3.1 mi upstream from mouth, and 4.7 mi southwest of Boyertown.

DRAINAGE AREA.--85.5 mi².

PERIOD OF RECORD.--August 1974 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972 reached a stage of 17.1 ft from floodmarks, discharge, about 9,600 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 14	0045	*4,680	*9.11	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	28	39	e30	69	36	79	120	71	49	25	34
2	34	29	34	e30	89	37	68	202	68	47	23	54
3	33	30	32	e30	60	164	65	168	63	45	24	32
4	32	30	30	e33	56	78	69	99	63	42	24	26
5	30	29	30	e38	e52	56	61	86	64	40	23	23
6	30	29	30	56	e48	51	57	80	139	38	25	21
7	32	28	30	114	52	50	54	75	415	37	23	20
8	30	29	34	89	52	47	54	71	101	37	20	20
9	30	29	68	75	48	45	53	98	80	37	19	19
10	30	29	46	70	46	48	62	93	73	38	19	19
11	30	29	37	132	50	45	57	71	68	36	18	19
12	30	28	36	135	47	44	52	72	68	34	18	17
13	31	28	35	69	45	48	53	927	65	34	18	18
14	31	29	42	55	e42	50	57	1580	95	34	16	19
15	43	30	62	51	44	46	185	364	90	35	16	23
16	38	30	42	50	43	45	89	229	72	33	16	37
17	36	29	38	47	41	45	67	169	64	30	17	27
18	35	29	73	44	40	96	59	620	60	30	16	23
19	31	29	63	41	39	101	56	284	66	31	16	22
20	30	31	44	e42	40	340	59	179	60	42	17	22
21	29	34	38	e38	41	234	55	149	55	36	20	22
22	28	31	35	e38	39	105	68	130	52	32	17	23
23	28	30	34	41	38	84	68	118	49	29	19	24
24	28	30	43	160	37	74	55	110	48	44	38	24
25	28	40	41	140	38	68	56	99	47	35	45	23
26	27	89	35	68	38	67	67	96	46	30	24	28
27	27	42	e30	57	40	155	54	94	60	30	21	182
28	27	35	e30	52	38	89	257	88	263	32	20	105
29	27	33	e30	50	---	73	426	84	65	31	70	44
30	28	33	e29	49	---	68	129	80	53	28	42	34
31	28	---	e27	63	---	63	---	75	---	26	27	---
TOTAL	955	979	1217	1987	1312	2552	2591	6710	2583	1102	736	1004
MEAN	30.8	32.6	39.3	64.1	46.9	82.3	86.4	216	86.1	35.5	23.7	33.5
MAX	43	89	73	160	89	340	426	1580	415	49	70	182
MIN	27	28	27	30	37	36	52	71	46	26	16	17
CFSM	0.36	0.38	0.46	0.75	0.55	0.96	1.01	2.53	1.01	0.42	0.28	0.39
IN.	0.42	0.43	0.53	0.86	0.57	1.11	1.13	2.92	1.12	0.48	0.32	0.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY)

MEAN	79.9	106	145	165	171	205	191	156	103	83.6	58.7	69.8
MAX	245	231	511	499	356	470	450	390	266	312	138	191
(WY)	1997	1997	1997	1979	1984	1994	1993	1989	1982	1984	1990	1987
MIN	30.8	32.6	32.2	28.0	46.9	69.6	53.6	67.4	36.1	18.2	21.6	27.1
(WY)	2002	2002	1999	1981	2002	1981	1985	1987	1999	1999	1981	1983

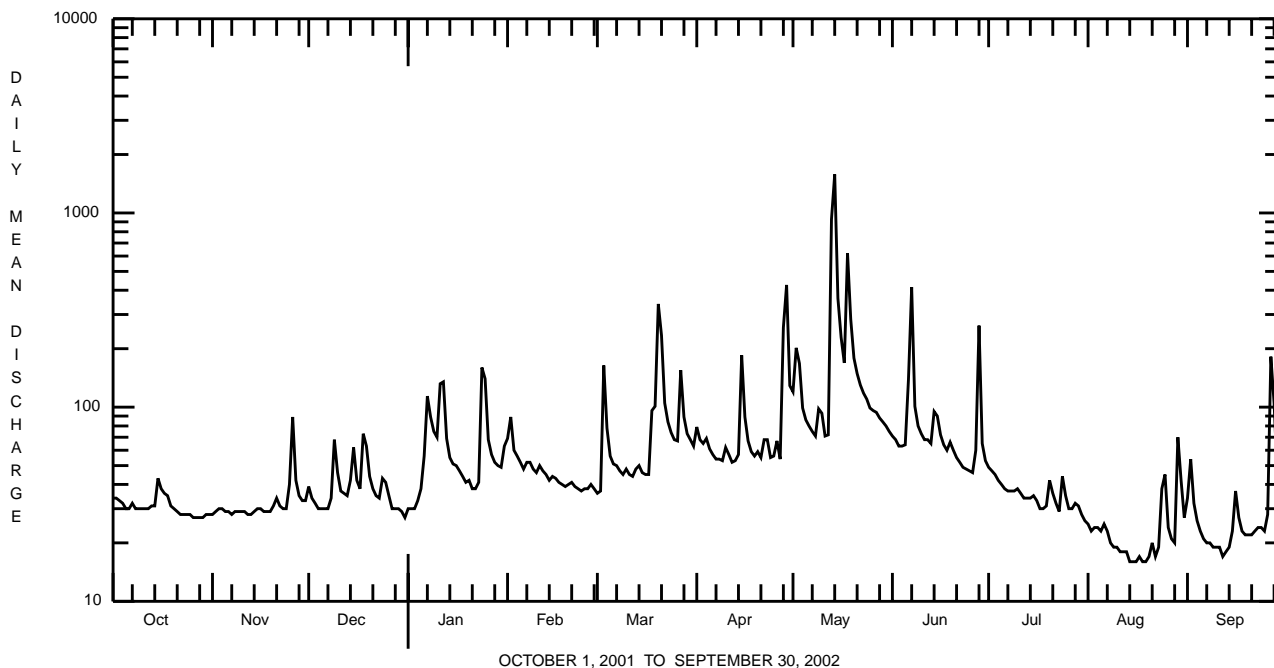
e Estimated.

SCHUYLKILL RIVER BASIN

01471980 MANATAWNY CREEK NEAR POTTSTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	33993		23728		127	
ANNUAL MEAN	93.1		65.0		230	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					63.4	
HIGHEST DAILY MEAN	e1500	Jun 23	1580	May 14	3010	Jul 7 1984
LOWEST DAILY MEAN	27	Oct 26-29a	16	Aug 14-16b	11	Aug 3 1999
ANNUAL SEVEN-DAY MINIMUM	27	Oct 23	16	Aug 14	12	Aug 1 1999
MAXIMUM PEAK FLOW			c4680	May 14	c7550	Sep 9 1987
MAXIMUM PEAK STAGE			9.11	May 14	11.46	Sep 9 1987
INSTANTANEOUS LOW FLOW			15	Aug 11	9.1	Aug 3 1999
ANNUAL RUNOFF (CFSM)	1.09		0.76		1.49	
ANNUAL RUNOFF (INCHES)	14.79		10.32		20.25	
10 PERCENT EXCEEDS	189		100		237	
50 PERCENT EXCEEDS	57		42		81	
90 PERCENT EXCEEDS	30		23		33	

- a Also Dec. 31.
- b Also Aug. 18, 19.
- c From rating curve extended above 2,780 ft³/s.
- e Estimated.



SCHUYLKILL RIVER BASIN

01472000 SCHUYLKILL RIVER AT POTTSTOWN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°14'30", long 75°39'07", Montgomery County, Hydrologic Unit 02040203, on right bank 75 ft upstream from bridge on Hanover Street in Pottstown, and 0.3 mi downstream from Manatawny Creek.

DRAINAGE AREA.--1,147 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 117.86 ft above National Geodetic Vertical Datum of 1929. October 1927 to Nov. 22, 1928, nonrecording gage, and Nov. 23, 1928, to Dec. 26, 1972, recording gage at site 100 ft downstream at same datum. Dec. 27, 1972, to May 10, 1974, nonrecording gage 1.0 mi downstream at datum 2.83 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Blue Marsh Lake (station 01470870) since April 1979, by Still Creek Reservoir (station 01469200) since February 1933, and by Lake Ontelaunee. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to October 1926, 21.0 ft, Feb. 28, 1902, from floodmarks, discharge, about 53,900 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	729	362	569	e390	1030	493	2030	3090	1200	972	294	432
2	662	366	687	e390	1150	482	1860	3240	1130	859	279	498
3	634	361	540	e406	1030	1140	1550	4730	1050	709	282	450
4	603	355	467	e426	941	1390	1500	3610	987	659	441	379
5	578	348	461	e418	929	1020	1330	3080	909	617	304	340
6	564	350	452	e414	873	888	1220	2690	1270	556	319	324
7	560	357	433	e437	871	842	1140	2260	2930	516	310	305
8	534	354	465	e481	840	815	1090	2000	1970	505	292	295
9	501	346	674	e481	797	787	1100	2140	1510	497	280	294
10	569	347	789	e481	746	809	1220	2290	1190	505	274	308
11	587	346	647	e570	755	1090	1270	1840	988	510	270	333
12	593	336	592	e830	848	907	1030	1670	945	459	271	320
13	581	328	562	786	752	909	1010	3890	1180	428	266	317
14	571	328	610	707	702	916	1080	7520	1390	425	254	343
15	662	333	739	681	656	876	2790	3650	1500	426	264	381
16	928	374	713	656	649	825	4060	2770	1320	416	296	494
17	811	390	612	662	652	813	3130	2380	1160	395	302	743
18	750	393	752	636	642	1120	2590	4130	1070	377	318	478
19	707	393	1030	592	609	1390	2240	4730	1150	373	296	381
20	535	388	907	601	566	2350	2050	3750	1260	410	386	364
21	506	385	820	600	569	3300	1820	3550	1110	391	304	388
22	493	388	750	590	585	3040	1810	3120	966	364	271	438
23	490	372	694	590	559	2460	1740	2680	900	343	309	432
24	430	369	716	1010	539	2090	1500	2260	856	410	380	687
25	387	419	726	1410	512	1840	1410	1990	758	446	714	518
26	372	1060	646	1430	496	1660	1400	1820	703	372	374	436
27	361	918	542	1260	525	3050	1240	1730	747	350	322	1570
28	360	611	471	1160	513	3330	2050	1620	1970	362	300	2050
29	364	511	464	1040	---	2640	3890	1430	1420	361	607	1480
30	353	480	435	918	---	2260	3270	1340	1080	325	467	863
31	352	---	e402	1030	---	2020	---	1280	---	311	402	---
TOTAL	17127	12668	19367	22083	20336	47552	55420	88280	36619	14649	10448	16641
MEAN	552	422	625	712	726	1534	1847	2848	1221	473	337	555
MAX	928	1060	1030	1430	1150	3330	4060	7520	2930	972	714	2050
MIN	352	328	402	390	496	482	1010	1280	703	311	254	294

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2002, BY WATER YEAR (WY)

MEAN	1128	1644	2154	2177	2429	3174	2912	2274	1556	1233	1021	1057
MAX (WY)	3870	3897	7359	7383	5117	8948	7820	7220	7634	3940	5290	3732
MIN (WY)	1977	1951	1997	1979	1971	1936	1983	1989	1972	1984	1933	1987
MIN (WY)	258	309	419	316	540	1101	875	729	462	302	301	256
(WY)	1931	1931	1931	1981	1934	1981	1985	1965	1965	1966	1966	1932

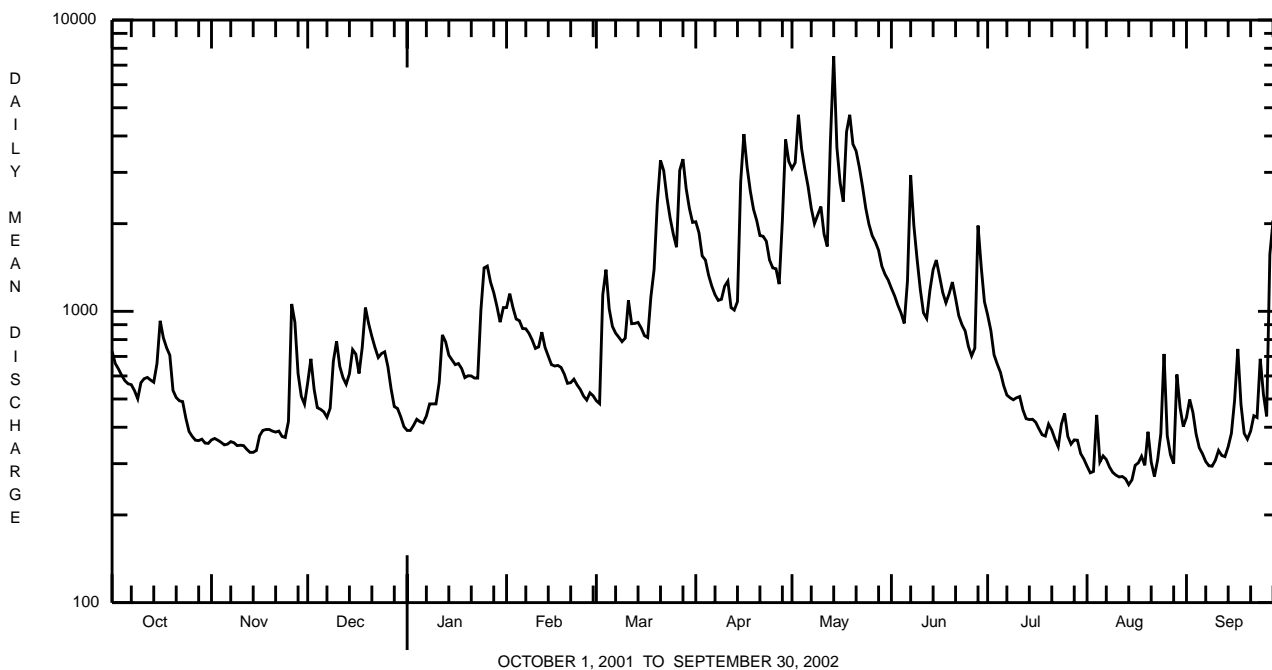
e Estimated.

SCHUYLKILL RIVER BASIN

01472000 SCHUYLKILL RIVER AT POTTSTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1928 - 2002	
ANNUAL TOTAL	466786		361190			
ANNUAL MEAN	1279		990		1894	
HIGHEST ANNUAL MEAN					3211	1984
LOWEST ANNUAL MEAN					843	1965
HIGHEST DAILY MEAN	8260	Jun 23	7520	May 14	71200	Jun 23 1972
LOWEST DAILY MEAN	328	Nov 13, 14	254	Aug 14	175	Sep 19 1932
ANNUAL SEVEN-DAY MINIMUM	338	Nov 9	268	Aug 9	210	Sep 19 1932
MAXIMUM PEAK FLOW			14800	May 14	a95900	Jun 23 1972
MAXIMUM PEAK STAGE			9.68	May 14	b29.97	Jun 23 1972
10 PERCENT EXCEEDS	2640		2180		3810	
50 PERCENT EXCEEDS	898		652		1280	
90 PERCENT EXCEEDS	389		335		471	

a From rating curve extended above 50,400 ft³/s.
 b From floodmark.



SCHUYLKILL RIVER BASIN

01472000 SCHUYLKILL RIVER AT POTTSTOWN, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L) AS (00900)	CALCIUM RECOV-ERABLE (MG/L) AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L) AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L) AS CACO3) (00417)	FLUO-RIDE, TOTAL (MG/L) AS F) (00951)
APR 2002 09...	1030	9813	1100	40	11.3	7.7	339	11.6	120	29.6	12.3	62	<.2
JUN 27...	1000	9813	674	40	6.2	7.7	419	26.8	150	35.3	14.8	80	<.2
AUG 27...	0940	9813	328	40	7.0	7.8	503	22.8	190	47.0	18.4	100	<.2

Date	SULFATE DIS-SOLVED (MG/L) AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) AS N) (00530)	NITRO-GEN, AMMONIA (MG/L) AS N) (00610)	NITRO-GEN, NITRATE (MG/L) AS N) (00620)	NITRO-GEN, NITRITE (MG/L) AS N) (00615)	NITRO-GEN, TOTAL (MG/L) AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L) AS P) (70507)	PHOS-PHORUS TOTAL (MG/L) AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L) AS CU) (01042)	CYANIDE AMEN-ABLE TO CHLOR-INATION UNFLTRD (MG/L) AS FE) (00722)	IRON, TOTAL RECOV-ERABLE (µG/L) AS FE) (01045)
APR 2002 09...	55.0	248	4	.210	2.40	.080	3.0	.06	.120	2.5	<10	<1.00	280
JUN 27...	68.6	292	2	<.020	2.90	.070	3.2	.08	.140	2.6	<10	<1.00	150
AUG 27...	86.7	302	8	<.020	2.52	<.040	3.2	.14	.260	3.6	<10	<1.00	170

Date	LEAD, TOTAL RECOV-ERABLE (µG/L) AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L) AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L) AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L) AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)	GROSS ALPHA, WATER, UNFLT, (PCI/L) (01519)	GROSS BETA, WATER, UNFLT, (PCI/L) (85817)	TRITIUM TOTAL (PCI/L) (07000)
APR 2002 09...	1.3	120	<50	<10	<5	.11	2	--
JUN 27...	<1.0	50	<50	<10	<5	2.03	4	21
AUG 27...	<1.0	90	<50	<10	<5	1.47	5	56

SCHUYLKILL RIVER BASIN

01472104 SCHUYLKILL RIVER AT VINCENT DAM AT LINFIELD, PA

LOCATION--Lat 40°12'22", long 75°33'57", Montgomery County, Hydrologic Unit 02040203, on left bank 100 ft upstream from Vincent Dam, and 0.3 mi south of Linfield.

DRAINAGE AREA--1,189 mi².

PERIOD OF RECORD--Water years 1986 to current year.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: January 1986 to September 1990.

WATER TEMPERATURE: September 1989 to current year.

DISSOLVED OXYGEN: January 1986 to September 1990; March 1997 to current year.

INSTRUMENTATION--Water-quality monitor January 1986 to September 1990, March 1997 to current year. In situ water temperature probe since October 1990. Probes interfaced with a data collection platform.

REMARKS--Water temperature records rated good. Dissolved oxygen records rated fair. Dissolved oxygen collection discontinued October through March. Other interruptions in the record were due to pump intake sedimentation and instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Maximum, 752 microsiemens, Sept. 15, 1989; minimum, 118 microsiemens, Sept. 15, 1987.

WATER TEMPERATURE: Maximum, 33.5°C, July 6, 1999; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.6 mg/L, Mar. 24, 1988; minimum, 0.8 mg/L, July 26, 1986.

EXTREMES FOR CURRENT YEAR--

WATER TEMPERATURE: Maximum 33.0°C, Aug. 2, 3; minimum, 0.0°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.0	14.5	15.0	12.5	9.5	11.0	14.5	12.5	13.0	1.5	0.0	0.5
2	18.5	14.0	16.0	15.0	11.0	13.0	12.5	10.0	11.5	1.5	0.0	0.5
3	20.0	16.0	18.0	16.5	14.5	15.0	10.5	8.5	9.5	2.0	0.0	0.5
4	21.0	17.5	19.0	15.0	12.5	13.5	10.0	8.0	9.0	1.5	0.0	0.5
5	21.0	17.5	19.5	13.5	10.5	12.0	11.5	9.5	10.0	1.5	0.0	0.5
6	19.5	17.5	18.5	12.0	9.5	10.5	12.0	10.0	11.0	1.0	0.0	0.5
7	17.5	14.5	16.0	12.0	9.0	10.5	12.0	11.0	11.5	1.5	0.0	1.0
8	15.0	12.5	13.5	12.0	9.5	10.5	11.0	8.5	9.5	2.0	0.0	1.0
9	14.5	11.0	13.0	12.0	10.0	11.0	9.0	7.5	8.5	2.0	0.5	1.5
10	15.0	11.5	13.0	11.5	8.5	10.0	7.5	6.0	7.0	3.5	1.0	2.0
11	17.0	13.0	14.5	10.5	8.5	9.5	8.5	7.0	7.5	4.5	3.0	3.5
12	18.0	14.5	16.0	9.0	6.5	8.0	7.5	6.0	7.0	4.5	3.0	3.5
13	19.5	16.5	18.0	9.0	6.0	7.5	8.5	7.0	8.0	4.5	3.5	4.0
14	19.5	18.0	18.5	9.0	6.0	7.5	10.0	8.5	9.0	4.5	2.5	3.5
15	19.5	17.0	18.0	10.5	7.5	9.0	10.0	8.0	9.0	5.5	3.0	4.0
16	17.5	15.0	16.5	12.0	8.5	10.0	8.0	6.5	7.0	5.0	3.5	4.0
17	16.0	13.5	15.0	11.5	9.5	10.0	7.5	6.5	7.0	5.0	3.5	4.0
18	14.5	11.5	13.0	10.5	8.0	9.0	9.0	7.5	8.0	4.5	3.0	3.5
19	14.5	11.0	12.5	10.5	8.0	9.0	8.5	7.0	7.5	3.0	0.5	2.0
20	15.5	12.0	13.5	10.0	8.0	9.5	7.5	5.5	6.5	3.0	0.5	1.5
21	16.0	12.5	14.0	9.0	6.5	7.5	6.0	4.5	5.0	2.5	1.0	1.5
22	17.5	14.0	15.5	8.0	6.0	7.0	5.0	3.5	4.5	4.0	1.5	2.5
23	18.0	15.5	16.5	8.0	6.0	7.0	5.0	3.5	4.0	4.0	2.5	3.5
24	19.5	16.5	18.0	10.0	7.0	8.5	6.0	4.5	5.5	5.5	4.0	5.0
25	19.0	16.5	18.0	12.0	10.0	11.0	4.5	3.5	4.0	6.5	5.0	5.5
26	16.5	13.0	15.0	13.0	11.5	12.0	4.5	3.0	3.5	6.0	4.0	5.0
27	13.0	10.5	11.5	12.0	10.5	11.0	3.0	1.5	2.0	6.0	3.5	4.5
28	11.5	9.5	10.5	12.5	11.0	11.5	3.0	0.5	1.5	6.0	4.0	4.5
29	12.0	8.5	10.0	12.5	12.0	12.0	3.0	1.5	2.0	7.0	4.5	5.5
30	12.5	10.0	11.0	13.5	12.0	12.5	2.0	0.0	1.0	8.0	6.5	7.0
31	11.0	10.0	10.5	---	---	---	1.5	0.0	0.5	8.0	7.0	7.0
MONTH	21.0	8.5	15.1	16.5	6.0	10.2	14.5	0.0	6.8	8.0	0.0	3.0

SCHUYLKILL RIVER BASIN

01472104 SCHUYLKILL RIVER AT VINCENT DAM AT LINFIELD, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	10.1	9.8	9.9	9.5	8.9	9.2
2	---	---	---	---	---	---	10.2	9.8	10	10.1	9.4	9.8
3	---	---	---	---	---	---	10.2	9.7	9.9	---	---	---
4	---	---	---	---	---	---	10.9	10.1	10.5	---	---	---
5	---	---	---	---	---	---	11.3	9.6	10.4	---	---	---
6	---	---	---	---	---	---	11.6	10.1	10.8	---	---	---
7	---	---	---	---	---	---	11.8	10.4	10.9	8.5	7.9	8.1
8	---	---	---	---	---	---	11.4	10.1	10.7	8.2	7.3	7.7
9	---	---	---	---	---	---	10.9	9.8	10.3	7.7	7.1	7.2
10	---	---	---	---	---	---	---	---	---	8.4	6.8	7.6
11	---	---	---	---	---	---	---	---	---	8.7	7.4	8.1
12	---	---	---	---	---	---	10.4	8.8	9.6	8.4	7.0	7.9
13	---	---	---	---	---	---	10.6	8.8	9.6	8.0	6.5	7.2
14	---	---	---	---	---	---	11.1	8.4	9.6	---	---	---
15	---	---	---	---	---	---	8.8	7.1	8.1	---	---	---
16	---	---	---	---	---	---	8.5	7.1	7.9	---	---	---
17	---	---	---	---	---	---	9.9	7.8	9.2	8.3	7.7	7.8
18	---	---	---	---	---	---	9.3	8.5	8.9	7.7	7.4	7.6
19	---	---	---	---	---	---	9.1	8.4	8.8	8.5	7.4	8.1
20	---	---	---	---	---	---	---	---	---	8.9	8.2	8.6
21	---	---	---	---	---	---	---	---	---	8.9	8.5	8.7
22	---	---	---	---	---	---	---	---	---	8.8	8.1	8.4
23	---	---	---	---	---	---	---	---	---	8.8	8.1	8.4
24	---	---	---	---	---	---	---	---	---	8.4	7.6	8.1
25	---	---	---	---	---	---	9.1	8.3	8.7	8.6	7.5	8.0
26	---	---	---	---	---	---	10.4	8.8	9.5	---	---	---
27	---	---	---	---	---	---	10.6	9.0	9.8	---	---	---
28	---	---	---	---	---	---	9.7	8.2	8.6	---	---	---
29	---	---	---	10.9	10.5	10.8	8.6	7.8	8.1	8.6	8.2	8.4
30	---	---	---	10.6	9.9	10.3	9.5	8.5	9.2	8.6	7.9	8.3
31	---	---	---	10.2	9.5	9.9	---	---	---	8.1	7.5	7.8
MONTH	---	---	---	10.9	9.5	10.3	11.8	7.1	9.5	10.1	6.5	8.1
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.9	7.2	7.6	6.8	6.5	6.6	---	---	---	---	---	---
2	7.8	7.4	7.6	6.7	6.3	6.5	---	---	---	---	---	---
3	8.1	7.7	7.9	6.5	5.9	6.2	---	---	---	---	---	---
4	8.0	7.8	7.9	6.3	5.8	6.1	---	---	---	---	---	---
5	7.9	7.5	7.7	6.7	5.7	6.2	---	---	---	---	---	---
6	7.5	7.1	7.3	7.1	6.1	6.6	---	---	---	---	---	---
7	7.2	6.3	6.7	7.4	6.5	6.9	---	---	---	---	---	---
8	7.1	6.7	6.8	---	---	---	---	---	---	---	---	---
9	7.2	6.6	6.9	---	---	---	---	---	---	---	---	---
10	6.9	6.5	6.7	---	---	---	---	---	---	---	---	---
11	6.6	5.9	6.4	---	---	---	---	---	---	---	---	---
12	6.6	5.6	6.1	---	---	---	---	---	---	---	---	---
13	6.7	6.2	6.4	---	---	---	---	---	---	---	---	---
14	6.9	6.3	6.6	---	---	---	---	---	---	---	---	---
15	7.2	6.8	7.0	---	---	---	---	---	---	---	---	---
16	7.4	7.1	7.3	---	---	---	---	---	---	---	---	---
17	7.4	7.2	7.3	---	---	---	---	---	---	---	---	---
18	7.3	7.0	7.1	---	---	---	---	---	---	---	---	---
19	7.3	6.7	7.0	---	---	---	---	---	---	---	---	---
20	7.3	6.8	7.0	---	---	---	---	---	---	---	---	---
21	7.4	6.9	7.2	---	---	---	---	---	---	---	---	---
22	7.6	6.8	7.2	---	---	---	---	---	---	---	---	---
23	7.7	6.6	7.1	---	---	---	---	---	---	---	---	---
24	7.5	6.4	6.9	---	---	---	---	---	---	---	---	---
25	7.2	6.0	6.6	---	---	---	---	---	---	---	---	---
26	6.8	5.8	6.3	---	---	---	---	---	---	---	---	---
27	6.8	5.6	6.2	---	---	---	---	---	---	---	---	---
28	6.1	5.1	5.5	---	---	---	---	---	---	---	---	---
29	6.3	5.4	6.0	---	---	---	---	---	---	---	---	---
30	6.8	6.3	6.5	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	8.1	5.1	6.9	7.4	5.7	6.4	---	---	---	---	---	---

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA
(National Water-Quality Assessment Station)

LOCATION.--Lat 40°09'05", long 75°36'06", Chester County, Hydrologic Unit 02040203, on right bank 70 ft downstream from two-span county bridge on French Creek Road, 4.5 mi northwest of Phoenixville, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--59.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 7, 1968, nonrecording gage at site 70 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2245	*771	*6.69	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	18	17	e16	59	18	49	51	28	19	8.9	16
2	18	17	16	e17	52	18	43	54	25	17	9.1	29
3	17	18	16	e18	37	149	39	130	23	16	9.2	19
4	16	18	14	e19	e30	65	51	58	22	16	9.5	14
5	15	18	14	e19	e28	38	39	43	22	15	11	11
6	e14	15	13	e20	e26	32	35	38	36	14	10	10
7	e14	16	13	e50	e23	29	32	34	103	13	9.4	10
8	e13	16	14	e70	e22	27	31	31	41	11	9.2	9.9
9	e13	16	39	e50	e21	26	31	68	31	13	8.9	9.8
10	e13	15	23	e35	e23	29	33	65	28	13	8.8	9.5
11	e12	16	17	e90	e26	25	30	40	23	13	8.8	8.5
12	e11	16	16	85	e23	23	28	36	23	12	8.7	7.6
13	e11	17	16	43	e21	32	29	174	23	12	8.7	7.5
14	e20	15	20	33	e20	42	31	418	48	12	8.5	7.8
15	e30	16	31	29	e19	32	31	109	56	14	8.2	8.4
16	20	16	19	27	21	29	30	69	37	13	8.0	15
17	18	16	17	25	22	27	26	55	29	11	8.0	13
18	18	16	33	24	20	72	25	223	27	10	8.0	11
19	17	15	29	22	19	77	24	119	34	11	7.8	9.6
20	18	16	19	e24	20	261	23	72	29	11	7.7	9.3
21	18	16	16	e23	23	182	23	59	25	10	8.1	9.3
22	18	16	15	23	22	78	38	52	22	10	8.7	9.1
23	16	16	15	25	20	56	39	48	20	10	9.2	9.1
24	16	14	20	167	19	49	28	44	19	10	14	8.6
25	17	19	21	114	19	42	28	39	18	11	25	8.3
26	18	41	17	51	19	41	37	36	17	10	16	9.5
27	17	22	e21	38	20	111	28	36	18	9.9	12	67
28	17	18	e22	33	20	62	134	37	41	11	11	80
29	19	16	18	30	---	48	119	34	26	10	37	32
30	18	16	e17	29	---	43	57	32	20	9.5	28	20
31	18	---	e16	54	---	42	---	29	---	9.0	16	---
TOTAL	519	520	594	1303	694	1805	1191	2333	914	376.4	361.4	488.8
MEAN	16.7	17.3	19.2	42.0	24.8	58.2	39.7	75.3	30.5	12.1	11.7	16.3
MAX	30	41	39	167	59	261	134	418	103	19	37	80
MIN	11	14	13	16	19	18	23	29	17	9.0	7.7	7.5
CFSM	0.28	0.29	0.32	0.71	0.42	0.99	0.67	1.27	0.52	0.21	0.20	0.28
IN.	0.33	0.33	0.37	0.82	0.44	1.14	0.75	1.47	0.58	0.24	0.23	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2002, BY WATER YEAR (WY)

MEAN	47.9	68.6	96.7	107	121	143	134	104	75.5	58.2	38.9	47.7
MAX	180	166	328	394	266	350	306	250	353	258	110	214
(WY)	1997	1973	1997	1979	1984	1994	1983	1989	1972	1984	1971	1999
MIN	16.7	17.3	19.2	13.7	24.8	40.5	35.6	31.9	22.2	11.1	11.7	14.1
(WY)	2002	2002	2002	1981	2002	1981	1985	1969	1999	1999	2002	1980

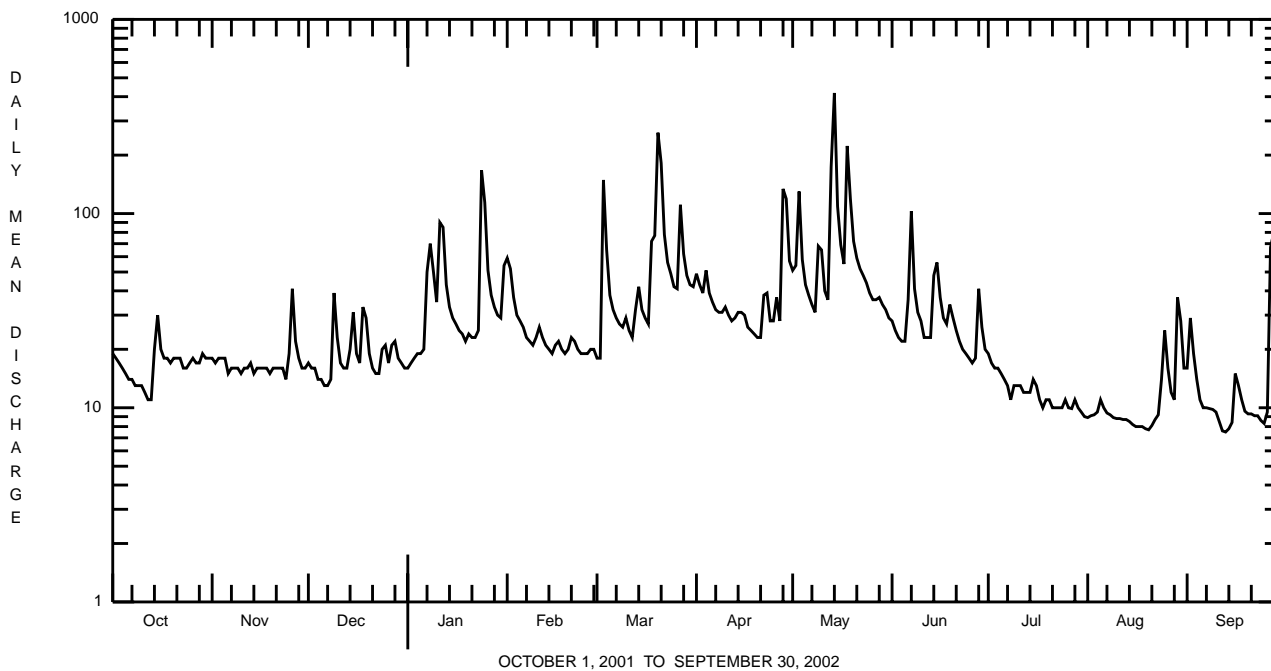
e Estimated.

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1969 - 2002	
ANNUAL TOTAL	22432		11167.6			
ANNUAL MEAN	61.5		30.6		86.6	
HIGHEST ANNUAL MEAN					155	1984
LOWEST ANNUAL MEAN					30.6	2002
HIGHEST DAILY MEAN	670	Mar 30	418	May 14	4530	Jun 22 1972
LOWEST DAILY MEAN	e11	Oct 12	7.5	Sep 13	7.1	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	a12	Oct 7	8.0	Aug 15	7.3	Aug 2 1999
MAXIMUM PEAK FLOW			771	May 13	b11200	Jun 22 1972
MAXIMUM PEAK STAGE			6.69	May 13	13.66	Jun 22 1972
INSTANTANEOUS LOW FLOW			7.2	Sep 12	6.9	Aug 8 1999
ANNUAL RUNOFF (CFSM)	1.04		0.52		1.47	
ANNUAL RUNOFF (INCHES)	14.12		7.03		19.91	
10 PERCENT EXCEEDS	126		56		166	
50 PERCENT EXCEEDS	39		20		54	
90 PERCENT EXCEEDS	16		9.6		20	

- a Computed using estimated daily discharges.
- b From rating curve extended above 2,500 ft³/s, on basis of slope-area measurement of peak flow.
- e Estimated.



SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued
(National Water-Quality Assessment Station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1998 to April 1999, June 1999 to August 1999, June 2000 to September 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
OCT 2001 16...	1315	80020	1028	20	10.2	7.6	178	14.5	18.0	5.44	2.12	8.33	52
Date		CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)			
OCT 2001 16...			13.2	14.4	12.7	<.04	.43	E.005	<.02	20	36		

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/16/01
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	110
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoploneurtea	
Tetrastemmatidae	
<u>Prostoma</u> sp	2
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	53
Lymnaeidae	
<u>Fossaria</u> sp	5
<u>Lymnaea</u> sp	3
Planorbidae	
<u>Gyraulus</u> sp	3
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	7
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	13
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	57
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	103
<u>Pseudocloeon</u> sp	11
Caenidae	
<u>Caenis</u> sp	8
Ephemerellidae	
<u>Eurylophella</u> sp	4
<u>Serratella</u> sp	112
Heptageniidae	
<u>Epeorus</u> sp	55
<u>Stenacron</u> sp	2
<u>Stenonema</u> sp	409
Isonychiidae	
<u>Isonychia</u> sp	152
Odonata	
Coenagrionidae (DAMSELFLIES)	
<u>Argia</u> sp	7
Gomphidae (DRAGONFLIES)	7
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	7
<u>Paragnetina</u> sp	6
Taeniopterygidae	
<u>Taeniopteryx</u> sp	6

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/16/01
Benthic Macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Nigronia</u> sp	4
Sialidae (ALDERFLIES)	
<u>Sialis</u> sp	1
Trichoptera (CADDISFLIES)	
Apataniidae	
<u>Apatania</u> sp	52
Brachycentridae	
<u>Micrasema</u> sp	255
Glossosomatidae	
<u>Culoptila</u> sp	14
<u>Glossosoma</u> sp	19
Helicopsychidae	
<u>Helicopsyche</u> sp	28
Hydropsychidae	
<u>Cheumatopsyche</u> sp	243
<u>Hydropsyche</u> sp	107
<u>Macrostemum</u> sp	4
Hydroptilidae	
<u>Leucotrichia</u> sp	108
Lepidostomatidae	
<u>Lepidostoma</u> sp	10
Leptoceridae	
<u>Oecetis</u> sp	4
Philopotamidae	
<u>Chimarra</u> sp	86
Polycentropodidae	
<u>Nyctiophylax</u> sp	3
<u>Polycentropus</u> sp	5
Psychomyiidae	
<u>Psychomyia</u> sp	19
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	9
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	151
<u>Oulimnius</u> sp	19
<u>Promoresia</u> sp	20
<u>Stenelmis</u> sp	16
Psephenidae (WATER PENNIES)	
<u>Ectopria</u> sp	4
<u>Psephenus</u> sp	18
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	3
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	11
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	9
Total Organisms	2416
Total Taxa	51

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

REMARKS.--These samples were collected as part of the Delaware River Basin National Water-Quality Assessment Program (DELNR NAWQA). For the definition of the type of quality-control data listed under SAMPLE TYPE, refer to "Quality-Control Data" in the "Introduction."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 07...	1050	ENVIRONMENTAL	16	758	112	13.1	7.8	173	17.0	8.3	51
DEC 06...	1030	ENVIRONMENTAL	13	759	106	12.3	7.7	185	20.5	9.2	49
JAN 17...	1010	ENVIRONMENTAL	25	754	100	13.5	7.6	181	9.0	2.6	38
MAR 05...	1030	ENVIRONMENTAL	38	765	109	15.2	7.5	159	9.0	2.0	30
APR 11...	0900	ENVIRONMENTAL	31	769	108	12.1	7.7	176	18.0	10.8	43
MAY 15...	0930	ENVIRONMENTAL	112	757	102	10.9	7.4	129	19.0	12.2	27
MAY 15...	0931	SPLIT REPLICATE	--	--	--	--	--	--	--	--	28
JUN 11...	1000	ENVIRONMENTAL	25	755	109	9.8	7.7	173	27.5	20.2	42
JUL 11...	1010	ENVIRONMENTAL	13	759	101	9.2	8.0	177	22.0	19.8	47
SEP 03...	1049	FIELD BLANK	--	--	--	--	--	--	--	--	--
SEP 03...	1050	ENVIRONMENTAL	19	757	103	9.5	7.8	193	28.5	18.8	45

DATE	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV 07...	62	12.4	12.1	.18	<.04	.39	<.008	<.02	.014	--	<1.0
DEC 06...	59	12.3	13.3	.25	<.04	.94	<.008	<.02	.016	.13	3.6
JAN 17...	46	16.6	16.0	.22	<.04	1.54	<.008	<.02	.018	--	<1.0
MAR 05...	37	14.6	15.5	.37	<.04	1.11	E.005	E.01	.041	.33	3.2
APR 11...	52	14.0	13.7	.23	<.04	1.02	.006	E.01	.023	--	--
MAY 15...	33	9.38	12.0	.60	E.03	.92	E.006	E.02	.084	4.5	15
MAY 15...	34	9.12	11.9	.61	E.03	.91	E.006	.02	.084	--	14
JUN 11...	51	13.6	12.3	.33	E.02	1.14	E.007	.03	.051	.26	3.8
JUL 11...	57	12.6	11.6	.22	<.04	.58	<.008	E.01	.034	.11	3.0
SEP 03...	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	55	13.2	20.4	.31	<.04	.68	<.008	.02	.043	.25	4.9

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

WATER-COLUMN PESTICIDE ANALYSES

REMARKS.--Selected samples were analyzed for pesticides with laboratory schedule 2001 (listed in its entirety, with laboratory reporting levels, on page 179). Only pesticides identified by the analyses in one or more surface-water samples are listed in the following table.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	ACETO- CHLOR, WATER, FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)
NOV 07...	1050	ENVIRONMENTAL	<.004	<.002	<.005	E.006	<.010	<.041	<.005	<.018	<.003
DEC 06...	1030	ENVIRONMENTAL	<.004	<.002	<.005	E.006	<.010	<.041	<.005	<.018	<.003
JAN 17...	1010	ENVIRONMENTAL	<.006	<.004	<.005	.010	<.010	<.041	<.005	<.018	<.003
MAR 05...	1030	ENVIRONMENTAL	<.006	<.004	<.005	.010	<.010	<.041	<.005	<.018	<.003
APR 11...	0900	ENVIRONMENTAL	<.004	<.002	<.005	.012	<.010	<.041	<.005	<.018	<.003
MAY 15...	0930	ENVIRONMENTAL	<.006	<.004	<.005	1.33	<.010	<.041	<.005	<.018	<.003
JUN 11...	1000	ENVIRONMENTAL	<.006	.005	<.005	.284	<.010	<.041	<.005	<.018	<.003
JUL 11...	1010	ENVIRONMENTAL	<.006	<.004	<.005	.034	<.010	<.041	<.005	<.018	<.003
SEP 03...	1049	FIELD BLANK	<.006	<.004	<.005	<.007	<.010	<.041	<.005	<.018	<.003
03...	1050	ENVIRONMENTAL	<.006	<.004	<.005	.013	<.010	<.041	<.005	<.018	<.003

DATE	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	LINDANE DIS- SOLVED (µG/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µG/L) (82666)	MALA- THION, DIS- SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)
NOV 07...	E.022	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.010	<.01	<.011
DEC 06...	E.007	<.005	<.002	<.004	<.035	<.027	<.050	E.003	<.006	<.007	<.010	<.01	<.011
JAN 17...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.022	<.01	<.011
MAR 05...	E.015	<.005	<.002	<.004	<.035	<.027	<.050	E.004	<.006	<.007	<.022	<.01	<.011
APR 11...	E.009	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.010	<.01	<.011
MAY 15...	E.060	<.005	<.002	<.004	<.035	<.027	<.050	.159	<.006	<.007	<.022	<.01	<.011
JUN 11...	E.055	<.005	<.002	<.004	<.035	<.027	<.050	.034	<.006	<.007	<.022	<.01	<.011
JUL 11...	E.031	<.005	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.022	<.01	<.011
SEP 03...	<.006	<.005	<.002	<.004	<.035	<.027	<.050	<.013	<.006	<.007	<.022	<.01	<.011
03...	E.018	<.005	<.002	<.004	<.035	<.027	<.050	E.005	<.006	<.007	<.022	E.01	<.011

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI- MAZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82670)	TER- BACIL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82665)
NOV 07...	E.006	<.02	<.034
DEC 06...	E.005	<.02	<.034
JAN 17...	.053	<.02	<.034
MAR 05...	.011	<.02	<.034
APR 11...	.296	<.02	<.034
MAY 15...	.022	<.02	<.034
JUN 11...	.302	<.02	<.040
JUL 11...	.055	<.02	<.034
SEP 03...	<.005	<.02	<.034
03...	.020	<.02	<.034

SCHUYLKILL RIVER BASIN

01472198 PERKIOMEN CREEK AT EAST GREENVILLE, PA

LOCATION.--Lat 40°23'38", long 75°30'57", Montgomery County, Hydrologic Unit 02040203, on right bank 100 ft upstream from bridge on Church Road, 0.9 mi upstream from Molasses Creek, and 1.0 mi southwest of East Greenville.

DRAINAGE AREA.--38.0 mi².

PERIOD OF RECORD.--October 1981 to current year.

REVISED RECORD.--WDR PA-98-1: 1982-97(P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 288.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, and those greater than 1,500 ft³/s, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2045	*4,070	*6.10	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	7.7	13	e10	52	14	40	62	38	28	11	38
2	15	7.9	12	e10	53	14	30	105	30	26	12	34
3	14	8.8	11	e9.0	37	81	30	90	26	25	12	15
4	13	8.6	11	e10	30	40	31	59	26	23	12	13
5	13	8.5	10	e11	25	e20	25	51	27	21	11	11
6	13	8.2	10	13	23	22	24	44	63	20	16	10
7	12	8.4	11	21	24	22	22	41	150	20	11	10
8	11	8.2	12	18	22	20	21	35	50	19	10	10
9	11	8.9	39	16	21	19	22	52	38	19	9.7	9.5
10	11	8.9	17	17	20	20	25	45	32	19	9.7	9.4
11	11	8.9	14	32	23	17	21	33	29	17	9.6	8.6
12	11	8.5	13	41	19	17	20	44	66	17	9.4	8.0
13	11	8.7	13	30	18	20	22	963	75	17	9.2	8.1
14	10	8.8	23	24	e14	20	27	655	71	18	9.2	8.5
15	17	8.9	29	e21	e16	18	60	158	62	19	9.2	10
16	11	9.1	17	24	18	18	39	108	48	16	9.6	25
17	12	9.0	16	21	17	17	31	88	38	15	9.3	11
18	9.9	8.9	47	20	16	49	25	299	32	15	8.4	9.9
19	9.3	8.7	28	17	15	53	23	125	61	15	7.8	9.6
20	9.4	9.7	18	21	16	174	23	95	39	16	11	9.8
21	8.9	9.5	15	18	16	94	22	82	30	15	9.6	9.5
22	8.7	9.2	14	18	15	58	31	71	28	14	8.9	9.9
23	8.3	8.9	14	20	15	48	26	63	25	15	11	9.4
24	8.5	8.9	26	83	15	41	21	58	23	17	12	9.3
25	8.3	20	18	70	14	33	26	53	23	15	15	9.0
26	7.7	37	15	45	15	33	29	50	24	14	10	12
27	8.0	14	13	34	16	70	22	49	87	14	9.8	105
28	8.0	12	e12	28	14	46	116	45	157	15	9.6	57
29	7.9	11	e13	26	---	39	127	42	44	14	30	21
30	7.7	12	e11	25	---	34	64	37	32	13	16	15
31	7.7	---	e10	35	---	30	---	35	---	12	12	---
TOTAL	329.3	315.8	525	788.0	599	1201	1045	3737	1474	543	351.0	525.5
MEAN	10.6	10.5	16.9	25.4	21.4	38.7	34.8	121	49.1	17.5	11.3	17.5
MAX	17	37	47	83	53	174	127	963	157	28	30	105
MIN	7.7	7.7	10	9.0	14	14	20	33	23	12	7.8	8.0
CFSM	0.28	0.28	0.45	0.67	0.56	1.02	0.92	3.17	1.29	0.46	0.30	0.46
IN.	0.32	0.31	0.51	0.77	0.59	1.18	1.02	3.66	1.44	0.53	0.34	0.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2002, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	34.9	48.6	66.7	68.4	73.2	97.0	93.6	73.8	47.0	37.6	27.2	32.8									
MAX	117	100	246	223	138	273	213	160	121	154	53.1	93.1									
(WY)	1997	1993	1997	1996	1984	1994	1983	1989	1982	1984	1994	1999									
MIN	10.6	10.5	14.7	25.4	21.4	34.5	24.9	35.0	18.5	10.2	11.3	13.4									
(WY)	2002	2002	1999	2002	2002	1985	1985	1995	1999	1999	1995	1986									

e Estimated.

SCHUYLKILL RIVER BASIN

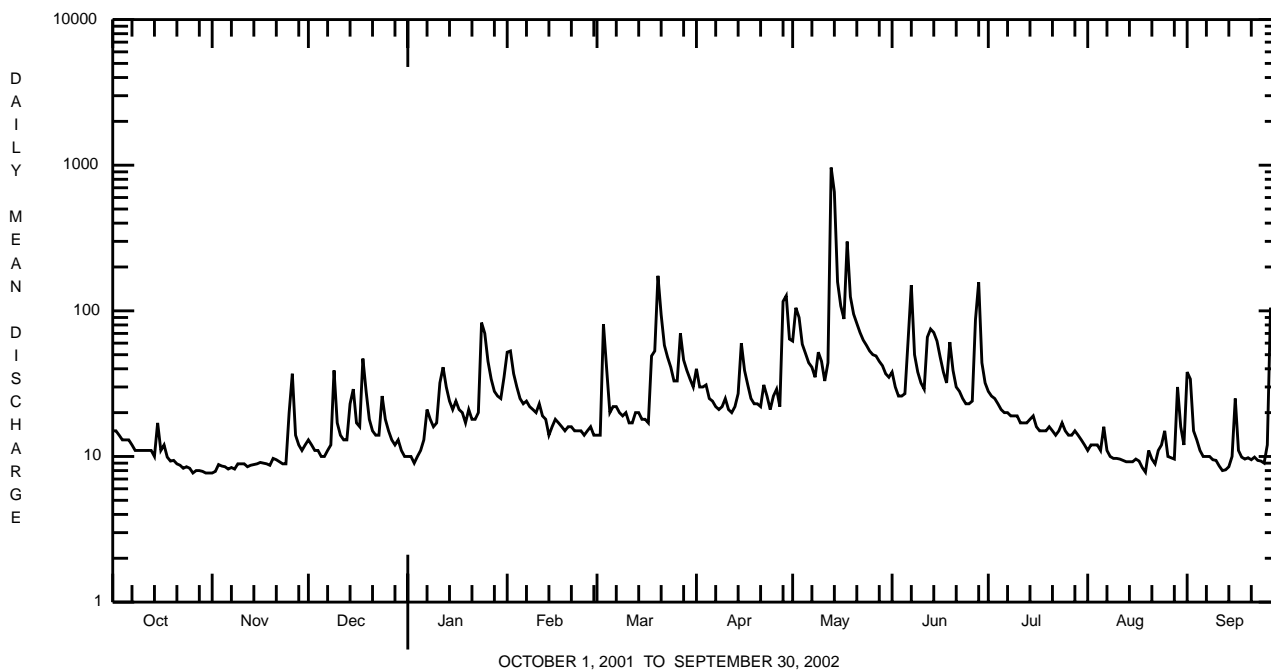
01472198 PERKIOMEN CREEK AT EAST GREENVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1982 - 2002	
ANNUAL TOTAL	17095.1		11433.6			
ANNUAL MEAN	46.8		31.3		58.3	
HIGHEST ANNUAL MEAN					101	1984
LOWEST ANNUAL MEAN					31.3	2002
HIGHEST DAILY MEAN	620	Jul 26	963	May 13	2800	Jan 19 1996
LOWEST DAILY MEAN	7.7	Oct 26 ^a	7.7	Oct 26 ^a	4.2	Aug 21 1985
ANNUAL SEVEN-DAY MINIMUM	7.8	Oct 26	7.8	Oct 26	4.4	Aug 18 1985
MAXIMUM PEAK FLOW			b4070	May 13	b6740	Jun 25 1984
MAXIMUM PEAK STAGE			6.10	May 13	7.26	Jun 25 1984
INSTANTANEOUS LOW FLOW			c4.8	Dec 30	3.8	Sep 5 1985
ANNUAL RUNOFF (CFSM)	1.23		0.82		1.54	
ANNUAL RUNOFF (INCHES)	16.74		11.19		20.86	
10 PERCENT EXCEEDS	96		58		110	
50 PERCENT EXCEEDS	31		17		35	
90 PERCENT EXCEEDS	9.6		8.9		15	

a Also Oct. 30, 31, Nov. 1.

b From rating curve extended above 1,500 ft³/s on basis of contracted-opening measurement at gage height 6.53 ft and Flood Insurance Study of Montgomery County.

c Result of freeze-up.



SCHUYLKILL RIVER BASIN

01472199 WEST BRANCH PERKIOMEN CREEK AT HILLEGASS, PA

LOCATION.--Lat 40°22'26", long 75°31'22", Montgomery County, Hydrologic Unit 02040203, on left bank 0.3 mi downstream from bridge on private road off Heffner Road, and 0.5 mi north of Hillegass.

DRAINAGE AREA.--23.0 mi².

PERIOD OF RECORD.--October 1981 to current year. Prior to October 1992, published as "Northwest Branch".

REVISED RECORDS: WDR PA-01-1: 1982-85, 1987, 1989, 1990, 1993-96 (P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 290.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those above 560 ft³/s, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2315	*2,130	*5.54	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	6.4	9.2	6.7	36	7.0	26	44	26	12	5.8	16
2	9.0	6.5	7.8	6.3	38	7.1	17	74	21	11	5.6	20
3	8.5	6.5	7.3	6.5	20	66	17	59	18	10	5.7	7.8
4	8.3	6.4	7.1	6.6	17	25	18	37	18	9.7	5.9	6.6
5	7.8	6.5	7.0	6.8	15	13	14	31	19	9.1	5.8	5.9
6	7.7	6.4	6.9	7.1	13	11	12	26	48	8.5	6.1	5.5
7	7.6	6.2	7.0	11	12	11	11	23	93	8.4	5.7	5.3
8	7.2	6.3	7.7	10	12	10	11	19	35	8.6	5.3	5.2
9	7.0	6.2	24	9.0	10	9.6	11	33	28	8.3	5.1	5.1
10	7.1	6.1	11	9.0	10	10	15	31	23	8.7	5.0	5.1
11	7.4	6.1	8.9	21	11	9.0	11	19	19	8.0	4.9	4.7
12	7.4	6.0	8.2	29	9.9	8.7	11	28	19	7.7	5.0	4.4
13	7.3	6.1	8.2	18	9.5	10	11	571	28	7.7	4.9	4.3
14	6.9	6.1	13	13	e8.0	10	15	414	34	8.0	4.8	4.3
15	13	6.3	20	12	e8.0	9.4	54	96	36	8.1	4.7	5.0
16	8.8	6.3	10	13	9.0	9.2	26	65	28	7.6	4.8	10
17	8.9	6.1	9.2	11	8.8	8.8	16	55	19	7.1	4.8	6.4
18	8.1	6.1	29	11	8.1	36	13	183	17	7.0	4.5	5.3
19	7.0	6.2	17	9.1	7.8	40	12	76	24	7.2	4.2	5.1
20	7.0	7.0	11	11	8.2	141	12	58	18	8.3	5.1	5.0
21	6.8	7.3	9.2	9.8	8.4	77	11	51	16	7.4	5.0	4.8
22	6.5	7.0	8.5	9.5	7.9	42	19	47	15	7.0	4.8	4.7
23	6.5	6.7	8.2	9.7	7.6	31	17	43	14	11	5.2	4.9
24	6.6	6.9	13	59	7.3	25	12	40	14	9.9	6.0	4.8
25	6.4	12	11	50	7.3	20	14	37	13	7.7	7.9	4.7
26	6.1	25	8.8	26	7.4	21	18	35	14	7.0	5.7	5.2
27	6.0	9.4	8.7	18	7.9	58	12	35	22	7.0	5.1	51
28	6.1	8.1	8.0	15	7.4	31	99	33	99	7.4	5.2	34
29	6.0	7.7	7.9	13	---	23	105	31	20	7.2	12	9.8
30	6.2	8.1	7.2	13	---	19	47	30	14	6.5	8.5	7.6
31	6.3	---	6.7	24	---	17	---	28	---	5.9	6.2	---
TOTAL	230.9	224.0	326.7	474.1	332.5	815.8	687	2352	812	255.0	175.3	268.5
MEAN	7.45	7.47	10.5	15.3	11.9	26.3	22.9	75.9	27.1	8.23	5.65	8.95
MAX	13	25	29	59	38	141	105	571	99	12	12	51
MIN	6.0	6.0	6.7	6.3	7.3	7.0	11	19	13	5.9	4.2	4.3
CFSM	0.32	0.32	0.46	0.66	0.52	1.14	1.00	3.30	1.18	0.36	0.25	0.39
IN.	0.37	0.36	0.53	0.77	0.54	1.32	1.11	3.80	1.31	0.41	0.28	0.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2002, BY WATER YEAR (WY)

MEAN	20.6	30.9	44.7	43.4	46.4	62.0	59.1	47.4	29.7	21.7	15.3	18.6
MAX	66.9	60.6	165	140	93.8	171	146	114	83.7	99.0	35.3	52.5
(WY)	1997	1993	1984	1996	1984	1994	1983	1989	1984	1984	1994	1999
MIN	7.45	7.47	7.94	15.3	11.9	23.4	16.4	22.9	11.0	5.67	5.65	5.47
(WY)	2002	2002	1999	2002	2002	1985	1985	1995	1999	1999	2002	1983

e Estimated.

SCHUYLKILL RIVER BASIN

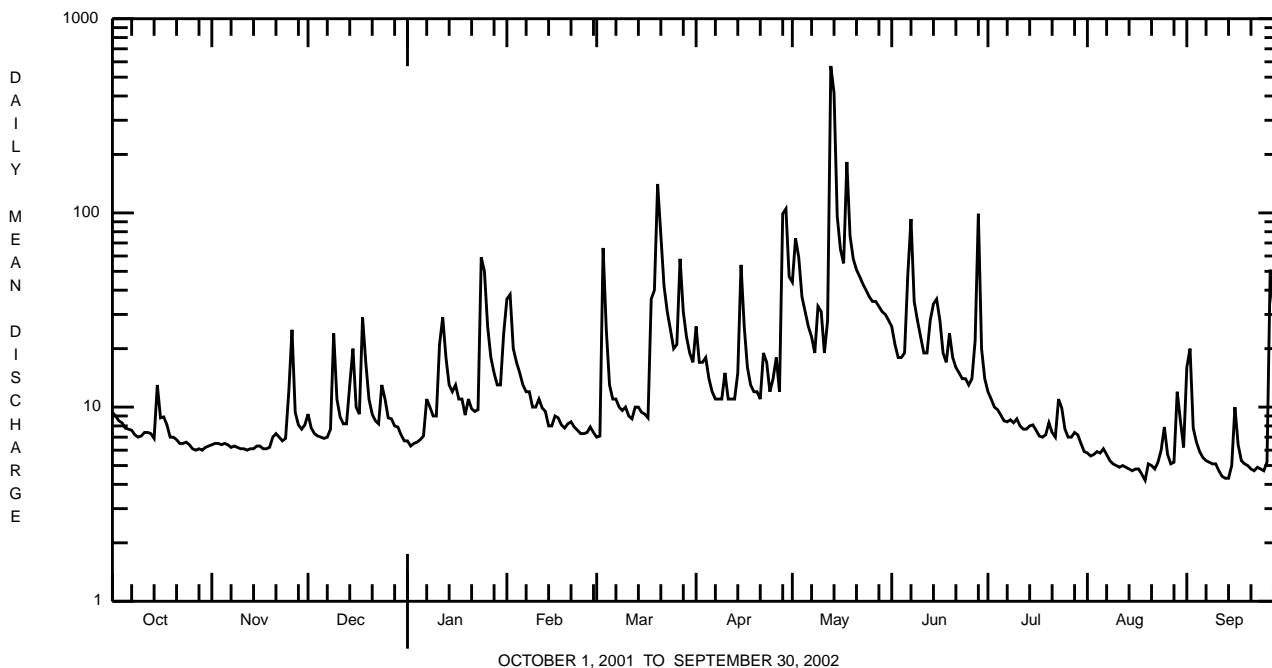
01472199 WEST BRANCH PERKIOMEN CREEK AT HILLEGASS, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1982 - 2002	
ANNUAL TOTAL	10127.0		6953.8			
ANNUAL MEAN	27.7		19.1		36.6	
HIGHEST ANNUAL MEAN					69.5	1984
LOWEST ANNUAL MEAN					19.1	2002
HIGHEST DAILY MEAN	264	Mar 30	571	May 13	1760	Jan 19 1996
LOWEST DAILY MEAN	6.0	Oct 27 ^a	4.2	Aug 19	3.0	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	6.1	Nov 8	4.7	Aug 13	3.2	Aug 1 1999
MAXIMUM PEAK FLOW			b2130	May 13	b3270	Jan 19 1996
MAXIMUM PEAK STAGE			5.54	May 13	6.34	Jan 19 1996
INSTANTANEOUS LOW FLOW			c3.4	Dec 30	c2.6	Dec 31 1998
ANNUAL RUNOFF (CFSM)	1.21		0.83		1.59	
ANNUAL RUNOFF (INCHES)	16.38		11.25		21.62	
10 PERCENT EXCEEDS	59		36		71	
50 PERCENT EXCEEDS	17		9.2		22	
90 PERCENT EXCEEDS	7.0		5.4		7.8	

a Also Oct. 29, Nov. 12.

b From rating curve extended above 560 ft³/s on basis of contracted-opening measurement at gage height 5.51 ft.

c Result of freeze-up.



SCHUYLKILL RIVER BASIN

01472620 EAST BRANCH PERKIOMEN CREEK NEAR DUBLIN, PA

LOCATION.--Lat 40°24'14", long 75°14'05", Bucks County, Hydrologic Unit 02040203, on right bank 40 ft downstream from bridge on Bucks Road, 4.5 mi northeast of Perkasio, and 5.0 mi southeast of Quakertown.

DRAINAGE AREA.--4.05 mi², not including distributary.

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

REVISED RECORD.--WDR PA-99-1: 1984, 1985, 1989, 1993, 1994, 1996, 1997 (M).

GAGE.--Water-stage recorder, crest-stage gage and concrete control. Datum of gage is 338.14 ft (revised) above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those below 10 ft³/s, which are poor. Diversion since August 1989 from Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin). Pumpage from reservoir enters the stream about 0.5 mi upstream of gage. Pumpage into the creek was equivalent to an annual mean discharge of 41.5 ft³/s. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Peak flows are unregulated. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	1915	*562	*4.55	May 14	0000	451	4.05

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	60	58	44	25	60	18	36	62	62	62	61
2	62	57	58	50	20	60	16	44	62	62	56	62
3	62	61	58	52	17	51	17	37	62	62	58	60
4	62	60	58	66	17	19	17	32	62	62	63	60
5	62	60	58	66	16	17	16	32	62	62	64	60
6	62	60	58	66	16	17	16	31	68	63	64	60
7	62	60	58	64	16	16	15	31	71	64	63	60
8	62	60	58	56	16	16	15	51	74	64	63	60
9	62	60	58	52	15	16	15	64	74	63	63	60
10	62	60	58	59	15	16	35	64	74	63	62	60
11	63	60	58	66	17	15	56	62	74	63	62	60
12	64	60	48	65	16	15	56	59	74	63	62	60
13	64	60	38	63	15	17	56	139	74	60	62	60
14	64	60	38	60	15	17	59	71	72	61	62	47
15	64	60	33	32	15	16	64	27	66	62	62	55
16	64	58	33	28	15	16	64	30	64	62	62	62
17	63	58	30	28	15	15	62	29	64	62	62	61
18	48	58	31	27	15	33	62	51	64	62	62	37
19	45	58	30	58	15	22	62	32	64	52	62	11
20	62	58	30	58	49	77	62	29	63	50	58	0.22
21	62	58	30	58	64	30	64	28	62	64	62	0.09
22	59	58	31	57	60	20	65	28	62	64	62	0.06
23	62	58	31	53	60	17	64	28	62	63	62	0.04
24	64	58	33	61	60	14	64	28	62	51	62	0.00
25	63	58	32	35	60	12	38	56	62	50	62	26
26	62	58	31	30	60	13	32	64	62	64	62	61
27	64	58	46	29	60	34	33	64	67	64	61	68
28	64	58	62	29	60	17	83	64	68	63	61	65
29	64	58	62	28	---	16	41	62	64	62	62	61
30	62	58	62	29	---	16	36	62	64	62	62	61
31	60	---	51	22	---	16	---	62	---	62	61	---
TOTAL	1907	1768	1420	1491	844	736	1303	1497	1985	1893	1913	1398.41
MEAN	61.5	58.9	45.8	48.1	30.1	23.7	43.4	48.3	66.2	61.1	61.7	46.6
MAX	64	61	62	66	64	77	83	139	74	64	64	68
MIN	45	57	30	22	15	12	15	27	62	50	56	0.00

SCHUYLKILL RIVER BASIN

01472620 EAST BRANCH PERKIOMEN CREEK NEAR DUBLIN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	54.4	42.3	33.0	26.8	21.1	28.1	27.3	46.8	55.9	58.2	59.8	58.0
MAX (WY)	2001	1999	1999	2002	2002	1993	2002	2001	2001	2001	2000	1999
MIN (WY)	1990	1991	1995	1993	1991	1991	1992	1996	1992	1990	1995	2002

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1990 - 2002

ANNUAL TOTAL	18362	18155.41	
ANNUAL MEAN	50.3	49.7	42.8
HIGHEST ANNUAL MEAN			50.3 1999
LOWEST ANNUAL MEAN			35.7 1990
HIGHEST DAILY MEAN	116 Jun 16	139 May 13	528 Sep 16 1999
LOWEST DAILY MEAN	a14 Jan 3-7	b0.00 Sep 24	b0.00 Sep 24 2002
ANNUAL SEVEN-DAY MINIMUM	a14 Jan 1	5.3 Sep 19	2.5 Apr 17 1990
MAXIMUM PEAK FLOW		562 May 13	c1860 Sep 16 1999
MAXIMUM PEAK STAGE		4.55 May 13	8.57 Sep 16 1999
10 PERCENT EXCEEDS	68	64	64
50 PERCENT EXCEEDS	62	60	44
90 PERCENT EXCEEDS	19	16	14

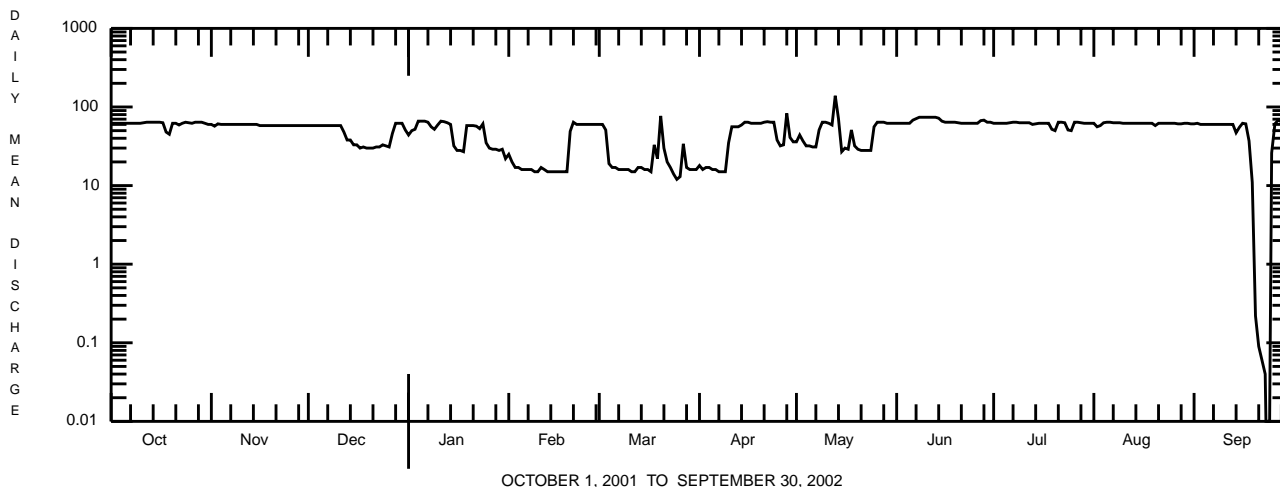
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1989, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.19	10.1	8.67	5.60	11.8	8.00	7.61	9.15	3.18	5.25	2.89	6.55
MAX (WY)	1986	1986	1984	1986	1984	1984	1984	1984	1989	1984	1989	1989
MIN (WY)	1987	1985	1989	1985	1987	1985	1985	1986	1987	1985	1987	1986

SUMMARY STATISTICS WATER YEARS 1984 - 1989

ANNUAL MEAN	6.63	
HIGHEST ANNUAL MEAN	11.7	1984
LOWEST ANNUAL MEAN	3.60	1985
HIGHEST DAILY MEAN	418	Sep 20 1989
LOWEST DAILY MEAN	.00	Jul 20 1985
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 14 1985
MAXIMUM PEAK FLOW	c1790	Jul 7 1984
MAXIMUM PEAK STAGE	8.41	Jul 7 1984
ANNUAL RUNOFF (CFSM)	1.50	
ANNUAL RUNOFF (INCHES)	20.42	
10 PERCENT EXCEEDS	13	
50 PERCENT EXCEEDS	1.2	
90 PERCENT EXCEEDS	.06	

- a Computed using estimated daily discharges.
- b Result of no pumpage from the Delaware River diversion.
- c From rating curve extended above 1,300 ft³/s.
- e Estimated.



SCHUYLKILL RIVER BASIN

01472810 EAST BRANCH PERKIOMEN CREEK NEAR SCHWENKSVILLE, PA

LOCATION.--Lat 40°15'31", long 75°25'45", Montgomery County, Hydrologic Unit 02040203, on left bank 600 ft upstream from Bergey's Mill bridge, and 2.0 mi east of Schwenksville.

DRAINAGE AREA.--58.7 mi², not including distributary.

PERIOD OF RECORD.--January 1991 to current year.

REVISED RECORD.--WDR PA-96-1: 1993-95(P). WDR PA-99-1: 1996, 1997 (M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion since August 1989 from Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin). Pumpage from reservoir enters stream about 19 mi upstream of gage. Pumpage into the creek was equivalent to an annual mean discharge of 41.5 ft³/s. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Peak flows are unregulated. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 14	0100	*2,780	*6.98	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	66	61	e67	78	63	77	130	78	73	64	81
2	68	64	61	e68	90	64	65	234	75	71	66	88
3	67	65	61	e73	56	199	62	338	74	70	73	71
4	67	64	61	e76	50	86	78	132	75	69	66	68
5	67	66	62	e81	44	54	60	101	74	68	66	66
6	67	64	62	e82	44	46	54	86	94	67	67	65
7	67	65	62	e81	40	43	50	78	262	68	64	65
8	67	65	65	e81	40	39	48	72	93	68	64	65
9	67	64	85	82	37	38	47	120	93	68	66	65
10	67	65	69	82	35	42	48	112	82	70	65	65
11	67	66	65	e106	38	39	78	95	79	67	63	64
12	67	67	63	148	37	37	82	94	77	67	64	65
13	67	68	48	104	35	44	83	501	89	67	64	66
14	67	68	51	84	33	54	83	1080	103	65	63	67
15	71	69	52	68	32	45	87	190	114	68	63	53
16	68	67	42	51	32	41	85	119	89	66	63	78
17	67	64	41	46	32	40	83	95	82	66	62	65
18	65	64	61	44	31	180	82	443	77	67	62	61
19	46	65	49	51	31	173	81	192	79	67	62	30
20	56	68	41	76	35	760	81	126	78	60	70	18
21	59	68	39	86	69	382	81	99	75	65	64	9.4
22	60	67	38	63	68	155	93	83	73	67	64	6.1
23	56	65	38	63	65	106	88	76	73	67	73	4.4
24	61	65	63	265	64	85	82	71	71	70	68	3.6
25	63	71	49	179	64	72	79	70	73	50	72	3.5
26	67	80	42	86	64	59	67	89	71	65	66	33
27	68	63	44	67	64	268	56	88	101	67	66	246
28	68	62	e63	57	64	117	281	86	189	67	66	206
29	69	62	76	53	---	86	279	83	87	67	96	89
30	69	63	e75	50	---	75	123	83	77	66	73	78
31	66	---	e68	76	---	70	---	80	---	65	68	---
TOTAL	2019	1980	1757	2596	1372	3562	2643	5246	2757	2068	2073	1945.0
MEAN	65.1	66.0	56.7	83.7	49.0	115	88.1	169	91.9	66.7	66.9	64.8
MAX	71	80	85	265	90	760	281	1080	262	73	96	246
MIN	46	62	38	44	31	37	47	70	71	50	62	3.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2002, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	112	114	159	156	110	195	124	108	84.3	79.3	89.2	100
MAX	287	201	405	456	183	388	230	230	137	107	159	277
(WY)	1997	1994	1997	1996	2001	1994	1993	1998	2001	1996	1994	1999
MIN	65.1	66.0	52.1	70.7	49.0	115	43.2	60.9	57.8	56.3	52.5	64.8
(WY)	2002	2002	1996	1992	2002	2002	1992	1999	1993	1999	1997	2002

e Estimated.

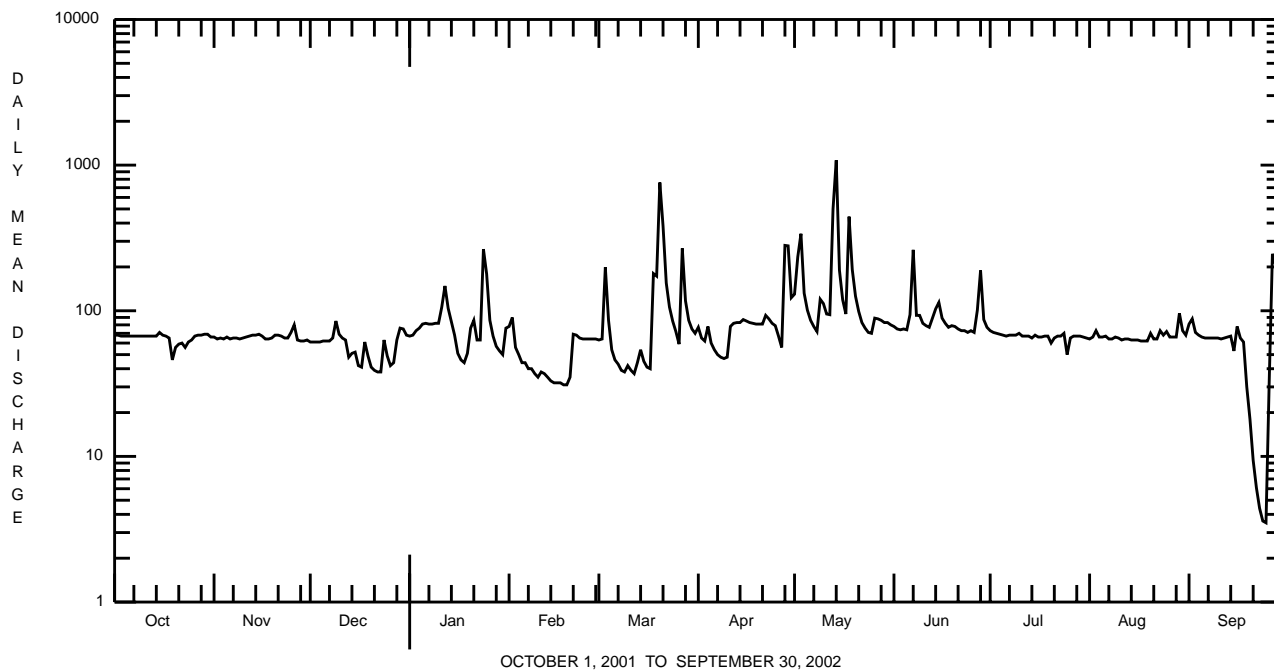
SCHUYLKILL RIVER BASIN

01472810 EAST BRANCH PERKIOMEN CREEK NEAR SCHWENKSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1991 - 2002	
ANNUAL TOTAL	38976		30018.0			
ANNUAL MEAN	107		82.2		121	
HIGHEST ANNUAL MEAN					154	1996
LOWEST ANNUAL MEAN					80.6	1992
HIGHEST DAILY MEAN	1240	Feb 10	1080	May 14	6020	Jan 19 1996
LOWEST DAILY MEAN	38	Dec 22, 23	3.5	Sep 25 ^a	3.5	Sep 25 2002 ^a
ANNUAL SEVEN-DAY MINIMUM	44	Dec 17	11	Sep 19	11	Sep 19 2002
MAXIMUM PEAK FLOW			2780	May 14	^b 12300	Sep 16 1999
MAXIMUM PEAK STAGE			6.98	May 14	14.03	Sep 16 1999
10 PERCENT EXCEEDS	173		102		188	
50 PERCENT EXCEEDS	69		67		72	
90 PERCENT EXCEEDS	58		43		49	

^a Result of no pumpage from the Delaware River diversion.

^b From rating curve extended above 2,840 ft³/s on basis of contracted-opening measurement of peak flow.



SCHUYLKILL RIVER BASIN

01473000 PERKIOMEN CREEK AT GRATERFORD, PA

LOCATION.--Lat 40°13'46", long 75°27'07", Montgomery County, Hydrologic Unit 02040203, on left bank 1,650 ft upstream from highway bridge at Graterford, 0.5 mi upstream from Lodel Creek, and 2.5 mi north of Collegeville.

DRAINAGE AREA.--279 mi².

PERIOD OF RECORD.--June 1914 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1950, published as "at Graters Ford."

REVISED RECORDS.--WSP 756: Drainage area. WSP 1171: 1935(M). WSP 1302: 1915-16, 1927-29. WSP 1382: 1932-33, 1935, 1937, 1942, 1947, 1948(M), 1949(P), 1950(M), 1951-52(P), WDR PA-91-1: 1989-90 (adjusted means and monthly runoff).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 112.66 ft above National Geodetic Vertical Datum of 1929. June 1914, to Sept. 6, 1921, nonrecording gage at site 1,650 ft downstream at datum 3.29 ft lower. Sept. 7, 1921, to Sept. 13, 1927, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation since Dec. 21, 1956 by Green Lane Reservoir (station 01472200) 10.5 mi upstream. Diversion from the Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin) has been pumped from the reservoir to the East Branch Perkiomen Creek since August 1989. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	126	130	e90	260	135	255	481	172	159	102	134
2	125	126	129	e95	322	135	226	871	162	143	102	196
3	120	125	126	e100	228	602	205	1170	149	135	117	140
4	121	129	127	e105	187	336	263	458	141	128	105	122
5	120	128	125	e110	e115	196	206	327	141	122	104	113
6	123	128	124	e115	e140	162	182	268	194	116	103	108
7	118	126	126	e120	148	148	164	235	965	114	101	104
8	114	126	131	e125	146	136	150	212	322	113	101	103
9	120	129	177	e130	135	129	145	299	225	112	102	102
10	120	131	163	e140	128	132	157	332	190	115	101	102
11	121	139	148	e200	138	123	171	244	170	112	101	101
12	122	136	133	377	136	115	168	220	166	111	101	101
13	123	131	122	271	127	132	170	2060	269	110	100	104
14	117	126	124	215	120	161	175	8360	271	109	100	106
15	124	126	153	186	114	142	225	1170	389	110	100	95
16	122	123	134	157	114	130	252	625	244	108	100	133
17	117	123	122	141	112	124	202	439	198	107	108	124
18	120	123	161	137	107	463	179	1950	173	107	108	109
19	104	123	172	e130	106	599	167	1040	181	108	107	82
20	103	126	137	e135	105	2120	167	547	188	105	122	62
21	115	122	119	e140	148	1370	161	402	162	105	111	56
22	117	127	111	154	147	495	184	328	148	110	106	49
23	119	125	109	154	145	341	218	282	140	108	119	45
24	124	123	143	613	143	286	176	251	137	114	119	45
25	126	130	149	644	140	243	165	224	138	97	140	45
26	126	180	128	302	139	208	187	224	131	101	117	67
27	127	153	e110	224	140	824	159	223	188	106	110	554
28	125	136	e115	190	136	434	998	212	784	107	108	515
29	126	133	e120	173	---	295	1510	202	284	107	169	196
30	128	130	e105	164	---	250	536	189	192	105	154	145
31	127	---	e95	228	---	221	---	178	---	104	124	---
TOTAL	3739	3909	4068	6065	4126	11187	8123	24023	7214	3508	3462	3958
MEAN	121	130	131	196	147	361	271	775	240	113	112	132
MAX	128	180	177	644	322	2120	1510	8360	965	159	169	554
MIN	103	122	95	90	105	115	145	178	131	97	100	45

e Estimated.

SCHUYLKILL RIVER BASIN

01473000 PERKIOMEN CREEK AT GRATERFORD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	212	360	517	553	597	763	625	429	264	202	155	227
MAX (WY)	1059	1182	1869	2071	1241	2100	1759	1298	1330	1286	493	1163
MIN (WY)	1997	1973	1997	1979	1971	1994	1983	1989	1972	1984	1971	1971
MIN (WY)	28.1	43.8	63.3	75.6	147	186	128	84.0	52.9	41.7	37.4	24.8
(WY)	1958	1958	1966	1981	2002	1985	1985	1965	1965	1965	1957	1957

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1957 - 2002

ANNUAL TOTAL		132762		83382								
ANNUAL MEAN		364		228						408		
HIGHEST ANNUAL MEAN										767		1984
LOWEST ANNUAL MEAN										165		1965
HIGHEST DAILY MEAN				4200	Mar 30		8360	May 14		16600	Dec 5	1993
LOWEST DAILY MEAN				e95	Dec 31		45	Sep 23-25		13	Sep 1	1957
ANNUAL SEVEN-DAY MINIMUM				112	Sep 12		53	Sep 20		19	Aug 31	1957
MAXIMUM PEAK FLOW							a19100	May 14		a35800	Jun 22	1972
MAXIMUM PEAK STAGE							12.52	May 14		17.08	Jun 22	1972
10 PERCENT EXCEEDS				817			327			824		
50 PERCENT EXCEEDS				164			133			180		
90 PERCENT EXCEEDS				118			104			61		

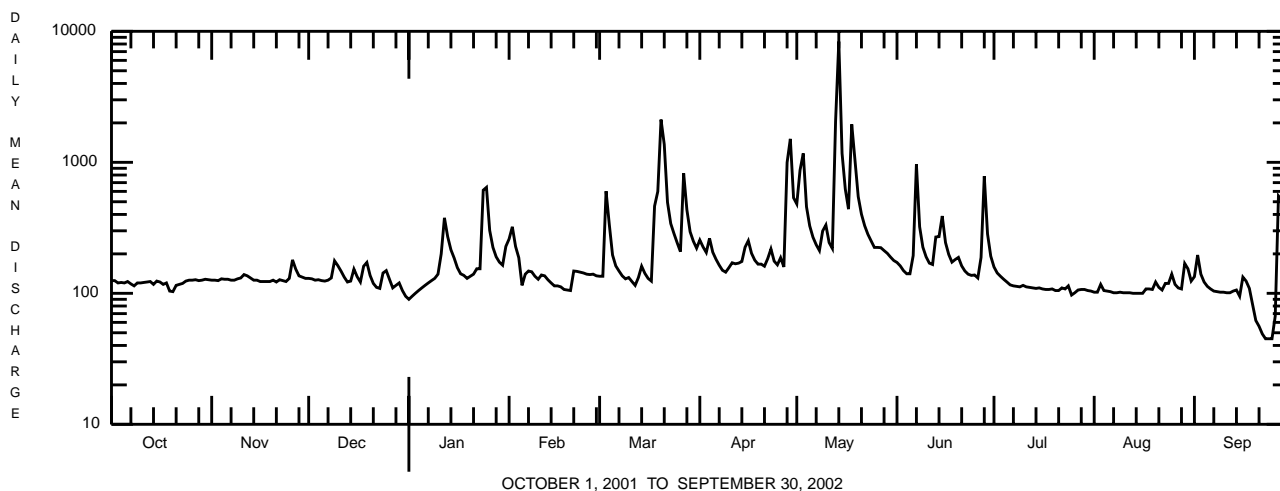
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1956, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	345	445	504	641	771	513	346	213	274	261	177
MAX (WY)	856	1119	1077	1336	1458	2193	1335	1395	976	1190	1378	869
MIN (WY)	1956	1933	1928	1915	1918	1936	1952	1948	1946	1919	1955	1934
MIN (WY)	21.2	38.0	69.8	66.5	80.2	247	167	71.7	32.7	32.4	21.0	23.8
(WY)	1942	1932	1923	1925	1934	1915	1946	1941	1921	1954	1930	1932

SUMMARY STATISTICS WATER YEARS 1915 - 1956

ANNUAL MEAN	389											
HIGHEST ANNUAL MEAN	689					1956						
LOWEST ANNUAL MEAN	188					1931						
HIGHEST DAILY MEAN	18600					Jul 9 1935						
LOWEST DAILY MEAN	3.8					Jun 25 1921						
ANNUAL SEVEN-DAY MINIMUM	5.2					Jun 22 1921						
MAXIMUM PEAK FLOW	a39900					Jul 9 1935						
MAXIMUM PEAK STAGE	18.26					Jul 9 1935						
INSTANTANEOUS LOW FLOW	4.7					Oct 4 1941						
ANNUAL RUNOFF (CFSM)	1.40											
ANNUAL RUNOFF (INCHES)	18.96											
10 PERCENT EXCEEDS	800											
50 PERCENT EXCEEDS	166											
90 PERCENT EXCEEDS	42											

a From rating curve extended above 14,000 ft³/s on basis of slope-area measurement at 32,000 ft³/s, gage height 16.23 ft.
e Estimated.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA

LOCATION.--Lat 40°04'45", long 75°27'40", Chester County, Hydrologic Unit 02040202, on right bank 100 ft upstream from Pennsylvania turnpike bridge, 0.9 mi downstream from Little Valley Creek, 2.2 mi upstream from mouth, and 1.0 mi south of Valley Forge.

DRAINAGE AREA.--20.8 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 108.62 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. Satellite telemetry at station. Intermittent pumpage from quarry upstream.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 6	2100	*576	*6.40	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.4	11	11	16	11	18	18	15	12	8.8	31
2	11	8.9	10	11	14	12	15	90	14	12	8.6	15
3	10	9.7	11	11	14	67	15	34	13	12	8.4	11
4	10	9.2	10	11	13	16	15	18	13	11	10	10
5	9.9	8.9	10	11	11	14	15	17	17	11	9.0	9.8
6	11	8.9	10	30	11	13	14	14	86	11	8.6	9.3
7	10	8.6	10	27	13	13	14	15	57	11	8.5	9.4
8	10	8.8	19	15	12	12	14	15	18	11	8.2	9.4
9	9.7	8.8	31	13	12	12	14	30	17	11	8.4	9.2
10	9.9	9.1	13	14	12	15	15	16	16	18	8.4	9.0
11	9.9	8.9	12	36	13	12	13	15	15	11	8.3	8.7
12	9.8	8.9	12	17	11	12	12	26	15	11	8.2	9.1
13	9.9	9.2	12	14	10	16	12	56	15	10	8.1	9.4
14	9.3	9.3	22	13	10	13	16	47	32	11	7.8	9.3
15	16	8.8	14	13	11	12	16	20	18	11	7.9	11
16	9.9	8.7	12	12	11	12	14	17	16	10	7.8	16
17	9.8	8.8	12	12	11	13	12	17	15	9.9	7.5	9.7
18	9.4	9.2	25	12	11	30	11	143	23	9.7	7.6	9.5
19	9.2	8.6	13	12	11	16	13	27	22	18	7.5	9.4
20	9.5	9.2	12	13	12	75	15	22	15	15	8.6	9.2
21	9.1	8.7	12	12	16	27	14	19	14	10	7.6	9.2
22	9.1	9.2	11	13	12	18	23	18	14	10	7.7	9.0
23	8.8	9.2	11	14	11	16	14	18	13	9.7	9.7	9.0
24	9.0	9.2	25	76	11	16	13	17	16	10	15	8.9
25	9.1	26	13	22	11	15	15	16	14	9.8	14	9.0
26	9.2	18	12	16	11	20	14	16	13	9.7	9.0	26
27	9.5	11	12	14	11	50	13	17	30	9.9	8.6	76
28	9.1	10	11	14	11	18	48	16	24	10	9.0	41
29	9.3	11	11	12	---	17	18	15	14	9.4	58	12
30	9.3	11	11	13	---	16	18	15	13	9.1	12	11
31	9.4	---	11	24	---	17	---	15	---	8.9	10	---
TOTAL	307.1	303.2	421	538	333	626	473	839	617	343.1	326.8	435.5
MEAN	9.91	10.1	13.6	17.4	11.9	20.2	15.8	27.1	20.6	11.1	10.5	14.5
MAX	16	26	31	76	16	75	48	143	86	18	58	76
MIN	8.8	8.6	10	11	10	11	11	14	13	8.9	7.5	8.7
CFSM	0.48	0.49	0.65	0.83	0.57	0.97	0.76	1.30	0.99	0.53	0.51	0.70
IN.	0.55	0.54	0.75	0.96	0.60	1.12	0.85	1.50	1.10	0.61	0.58	0.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2002, BY WATER YEAR (WY)

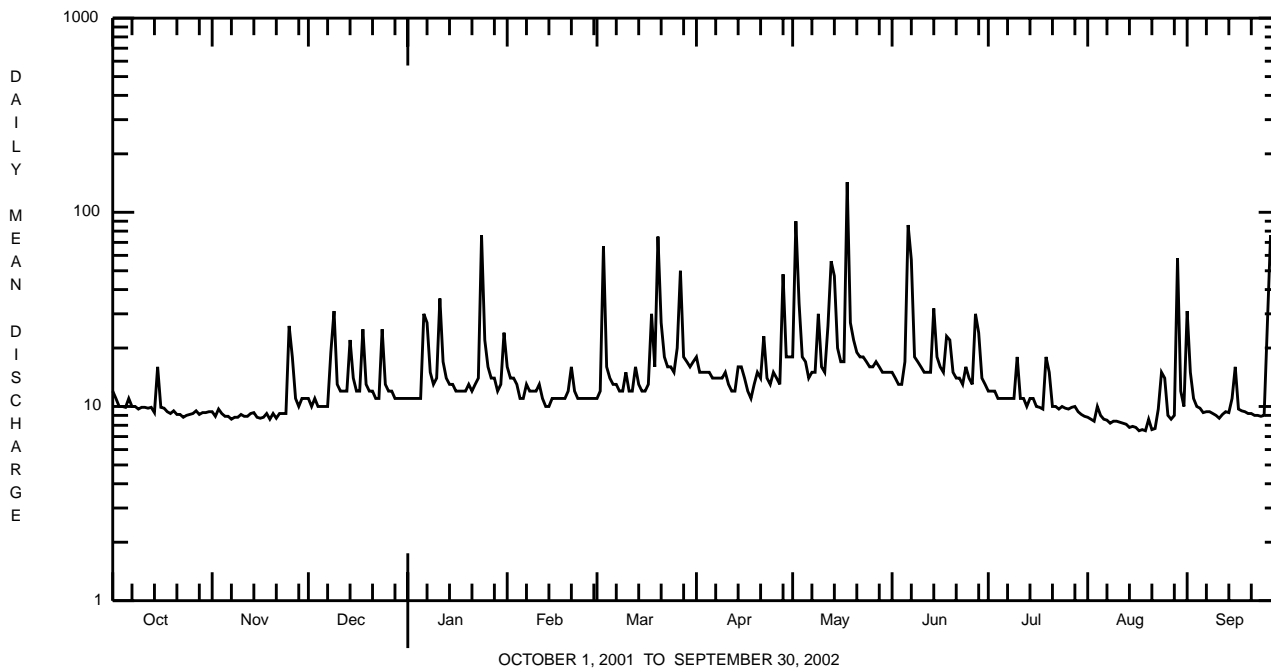
MEAN	22.6	26.8	31.7	33.3	32.4	43.9	43.0	36.8	28.0	26.2	22.5	28.1
MAX	61.8	48.8	103	95.8	53.5	85.9	98.8	77.5	49.9	53.1	36.6	95.5
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1984	1996	1996	1999
MIN	9.91	10.1	12.7	16.8	11.9	17.9	15.8	19.5	15.1	11.1	10.5	14.5
(WY)	2002	2002	1999	1985	2002	1985	2002	1995	1995	2002	2002	2002

SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	9041.7		5562.7			
ANNUAL MEAN	24.8		15.2		31.3	
HIGHEST ANNUAL MEAN					47.7	1996
LOWEST ANNUAL MEAN					15.2	2002
HIGHEST DAILY MEAN	282	Mar 30	143	May 18	2020	Sep 16 1999
LOWEST DAILY MEAN	7.9	Sep 10	7.5	Aug 17	7.4	Jul 13 1999
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 7	7.7	Aug 13	7.7	Aug 13 2002
MAXIMUM PEAK FLOW			576	Jun 6	a6280	Sep 16 1999
MAXIMUM PEAK STAGE			6.40	Jun 6	b14.75	Sep 16 1999
INSTANTANEOUS LOW FLOW			6.6	Aug 8	6.4	Jul 29 1999
ANNUAL RUNOFF (CFSM)	1.19		0.73		1.50	
ANNUAL RUNOFF (INCHES)	16.17		9.95		20.44	
10 PERCENT EXCEEDS	42		22		51	
50 PERCENT EXCEEDS	18		12		23	
90 PERCENT EXCEEDS	9.2		8.9		14	

a From rating curve extended above 3,690 ft³/s on basis of slope-area measurement of peak flow.
 b From outside highwater mark.



SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1984, 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
OCT 2001 10...	0830	80020	1028	10	11.0	8.3	685	9.0	55.2	31.6	3.31	34.3	207

Date	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) AS P (00671)	BORON, DIS-SOLVED (µG/L) AS B (01020)	IRON, DIS-SOLVED (µG/L) AS FE (01046)
OCT 2001 10...	67.9	6.9	28.6	<.04	1.78	E.005	E.01	60	<10

SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 μ m. Each sample covered a total area of 3.2 m².

Date	10/10/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	44
Nematoda (NEMATODES)	13
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	22
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	4
Tubificida	
Naididae	47
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	117
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	16
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	25
<u>Pseudocloeon</u> sp	3
Ephemerellidae	
<u>Eurylophella</u> sp	31
<u>Serratella</u> sp	103
Plecoptera (STONEFLIES)	
Taeniopterygidae	
<u>Taeniopteryx</u> sp	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<u>Glossosoma</u> sp	3
Hydropsychidae	
<u>Cheumatopsyche</u> sp	137
<u>Hydropsyche</u> sp	450
Hydroptilidae	
<u>Hydroptila</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	24

SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/10/01
Benthic Macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i> sp	517
<i>Oulimnius</i> sp	90
<i>Stenelmis</i> sp	38
Psephenidae (WATER PENNIES)	
<i>Psephenus</i> sp	6
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	439
Empididae (DANCE FLIES)	
<i>Hemerodromia</i> sp	4
Simuliidae (BLACK FLIES)	
<i>Simulium</i> sp	64
Tipulidae (CRANE FLIES)	
<i>Antocha</i> sp	90
<i>Tipula</i> sp	2
Total organisms	
	2291
Total number of taxa	
	26

SCHUYLKILL RIVER BASIN

01473500 SCHUYLKILL RIVER AT NORRISTOWN, PA

LOCATION.--Lat 40°06'40", long 75°20'25", Montgomery County, Hydrologic Unit 02040203, on left bank at Haws Avenue bridge leading to Barbadoes Island, 0.2 miles upstream from Stony Creek, 0.6 miles upstream from Norristown Dam.

DRAINAGE AREA.--1,760 mi².

PERIOD OF RECORD.--August 2001 to current year. October 1927 to May 1933 at site 0.6 mi downstream, at different datum. Annual maximums, October 1983 to September 1993 from crest-stage gage located 0.7 mi downstream at different datum.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is about 51 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several measurements of temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 14	0830	*24,200	*13.08	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	521	691	565	1640	715	2490	3740	1410	1180	448	620
2	1020	522	865	579	1790	705	2480	3680	1280	1050	423	813
3	945	535	842	607	1640	2090	2060	6510	1200	889	488	643
4	873	521	734	641	1420	2190	2030	4550	1120	736	497	547
5	806	504	661	699	1320	e1630	1850	3660	1060	653	565	409
6	782	503	670	766	1220	e1260	1630	3150	1600	605	460	355
7	764	513	653	1130	1220	1160	1510	2640	4570	552	437	348
8	750	521	717	1070	1200	1100	1400	2260	2980	534	346	361
9	726	500	1110	906	1130	1060	1350	2480	2010	532	313	375
10	728	503	1140	837	1070	1040	1450	2850	1590	606	303	371
11	789	498	1090	1220	1040	1180	1610	2290	1290	536	298	395
12	793	508	935	1850	1090	1220	1470	1940	1170	524	279	393
13	796	498	887	1380	1080	1180	1330	2910	1200	465	271	390
14	770	482	949	1170	979	1270	1320	16900	2000	454	252	391
15	857	481	1100	1050	925	1200	1780	5870	2280	455	234	476
16	1010	489	1130	966	887	1110	4490	3930	1930	442	249	610
17	1130	546	998	920	874	1070	3680	3120	1550	418	291	707
18	971	554	1120	892	853	1670	2990	6720	1380	394	318	813
19	957	558	1390	868	837	2550	2570	7060	1510	395	311	555
20	835	565	1410	871	807	4730	2260	4860	1590	438	324	418
21	709	553	1220	887	833	6480	2080	4310	1400	428	428	388
22	701	557	1120	878	842	4230	1980	3860	1210	371	300	406
23	678	555	1030	873	825	3380	2040	3340	1070	345	281	441
24	657	537	1170	1900	793	2800	1720	2800	1090	440	399	448
25	567	630	1150	3030	761	2430	1510	2400	979	451	863	742
26	533	1020	1050	2150	727	2170	1520	2180	836	455	611	597
27	514	1430	912	1860	727	3650	1410	2060	929	392	376	2310
28	518	989	782	1640	719	4430	2480	1970	2820	376	325	3080
29	522	792	773	1480	---	3420	5380	1760	2240	470	813	2180
30	528	712	721	1330	---	2890	4240	1590	1460	508	930	1280
31	506	---	632	1580	---	2580	---	1470	---	466	554	---
TOTAL	23835	18097	29652	36595	29249	68590	66110	118860	48754	16560	12987	21862
MEAN	769	603	957	1180	1045	2213	2204	3834	1625	534	419	729
MAX	1130	1430	1410	3030	1790	6480	5380	16900	4570	1180	930	3080
MIN	506	481	632	565	719	705	1320	1470	836	345	234	348
CFSM	0.44	0.34	0.54	0.67	0.59	1.26	1.25	2.18	0.92	0.30	0.24	0.41
IN.	0.50	0.38	0.63	0.77	0.62	1.45	1.40	2.51	1.03	0.35	0.27	0.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2002, BY WATER YEAR (WY)

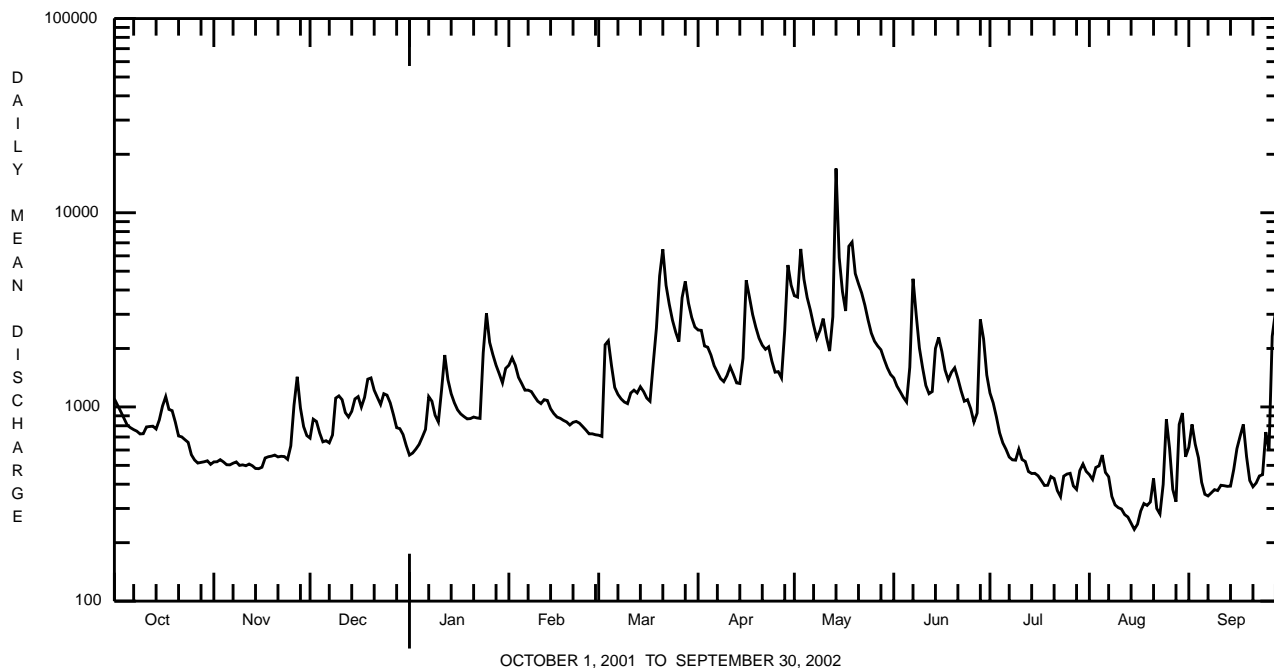
MEAN	769	603	957	1180	1045	2213	2204	3834	1625	534	419	890
MAX	769	603	957	1180	1045	2213	2204	3834	1625	534	419	1052
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2001
MIN	769	603	957	1180	1045	2213	2204	3834	1625	534	419	729
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated.

SCHUYLKILL RIVER BASIN

01473500 SCHUYLKILL RIVER AT NORRISTOWN, PA

SUMMARY STATISTICS	FOR 2002 WATER YEAR		WATER YEARS 2001 - 2002	
ANNUAL TOTAL	491151			
ANNUAL MEAN	1346		1346	
HIGHEST ANNUAL MEAN			1346	2002
LOWEST ANNUAL MEAN			1346	2002
HIGHEST DAILY MEAN	16900	May 14	16900	May 14 2002
LOWEST DAILY MEAN	234	Aug 15	234	Aug 15 2002
ANNUAL SEVEN-DAY MINIMUM	268	Aug 11	268	Aug 11 2002
MAXIMUM PEAK FLOW	24200	May 14	24200	May 14 2002
MAXIMUM PEAK STAGE	13.08	May 14	13.08	May 14 2002
ANNUAL RUNOFF (CFSM)	0.76		0.76	
ANNUAL RUNOFF (INCHES)	10.38		10.39	
10 PERCENT EXCEEDS	2810		2810	
50 PERCENT EXCEEDS	929		929	
90 PERCENT EXCEEDS	414		414	



SCHUYLKILL RIVER BASIN

01473900 WISSAHICKON CREEK AT FORT WASHINGTON, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°07'26", long 75°13'13", Montgomery County, Hydrologic Unit 02040203, on left bank at downstream side of bridge on State Highway 73, 0.5 mi downstream from Sandy Run, and 1 mi south of Fort Washington.

DRAINAGE AREA.--40.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1961 to March 1969; June 2000 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 139.98 ft above National Geodetic Vertical Datum of 1929. From Sept. 1961 to Mar. 1969 gage at present site at datum 140.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several measurements of temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 16, 1999, reached a stage of 18.05 ft, from floodmarks, discharge about 14,300 ft³/s.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1115	2,460	8.71	June 7	0030	*2,950	*9.48

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	16	17	14	50	18	60	53	49	24	13	47
2	17	16	16	14	44	19	40	82	31	23	13	40
3	15	18	16	14	33	300	38	61	31	22	43	18
4	14	15	16	15	31	51	37	35	23	21	15	17
5	14	15	16	14	27	33	33	30	21	20	18	15
6	19	16	16	54	25	29	31	27	296	19	15	14
7	13	16	16	88	28	26	30	24	419	18	13	13
8	14	14	35	33	25	23	30	23	53	20	13	12
9	13	15	87	21	22	23	28	112	41	23	12	13
10	13	15	24	21	23	35	31	47	37	75	12	12
11	13	15	19	116	32	23	26	27	102	22	11	12
12	12	15	17	54	23	22	29	53	70	20	11	11
13	12	18	20	27	22	34	32	187	51	19	11	12
14	12	16	42	20	20	31	30	171	158	18	11	14
15	31	16	33	17	20	25	36	53	73	19	11	17
16	15	16	20	16	20	24	26	38	51	17	12	29
17	15	16	20	16	19	24	24	32	43	16	12	15
18	15	16	59	15	18	150	23	707	38	16	11	13
19	15	16	26	15	17	65	39	102	62	25	11	12
20	15	19	20	17	16	390	30	65	39	26	14	12
21	14	17	19	16	26	130	22	52	31	16	11	12
22	14	16	17	17	18	65	45	44	29	15	11	12
23	15	14	17	19	18	52	26	40	27	19	12	12
24	15	14	82	223	18	44	21	37	28	27	20	12
25	16	46	27	72	19	38	30	32	26	17	19	11
26	17	44	21	39	18	39	30	34	28	15	13	31
27	17	20	19	31	18	149	20	33	62	16	12	195
28	16	17	19	28	17	55	175	30	109	16	14	115
29	17	17	18	25	---	44	69	26	31	15	152	19
30	17	17	16	27	---	42	42	25	25	14	24	14
31	16	---	15	68	---	46	---	41	---	13	16	---
TOTAL	484	541	805	1166	667	2049	1133	2323	2084	646	586	781
MEAN	15.6	18.0	26.0	37.6	23.8	66.1	37.8	74.9	69.5	20.8	18.9	26.0
MAX	31	46	87	223	50	390	175	707	419	75	152	195
MIN	12	14	15	14	16	18	20	23	21	13	11	11
CFSM	0.38	0.44	0.64	0.92	0.58	1.62	0.93	1.84	1.70	0.51	0.46	0.64
IN.	0.44	0.49	0.73	1.06	0.61	1.87	1.03	2.12	1.90	0.59	0.53	0.71

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	21.2	28.9	43.2	58.4	69.8	94.2	60.1	50.8	54.9	26.5	30.7	27.6
MAX	55.7	58.4	111	108	119	140	115	77.5	219	51.2	107	84.2
(WY)	1967	1963	1968	1964	1966	1967	1962	1968	2001	1967	1967	2000
MIN	7.45	11.7	14.0	17.4	23.8	61.6	30.2	17.2	10.9	9.88	8.55	11.3
(WY)	1964	1966	1966	1966	2002	1965	1963	1963	1963	1962	1964	1968

SCHUYLKILL RIVER BASIN

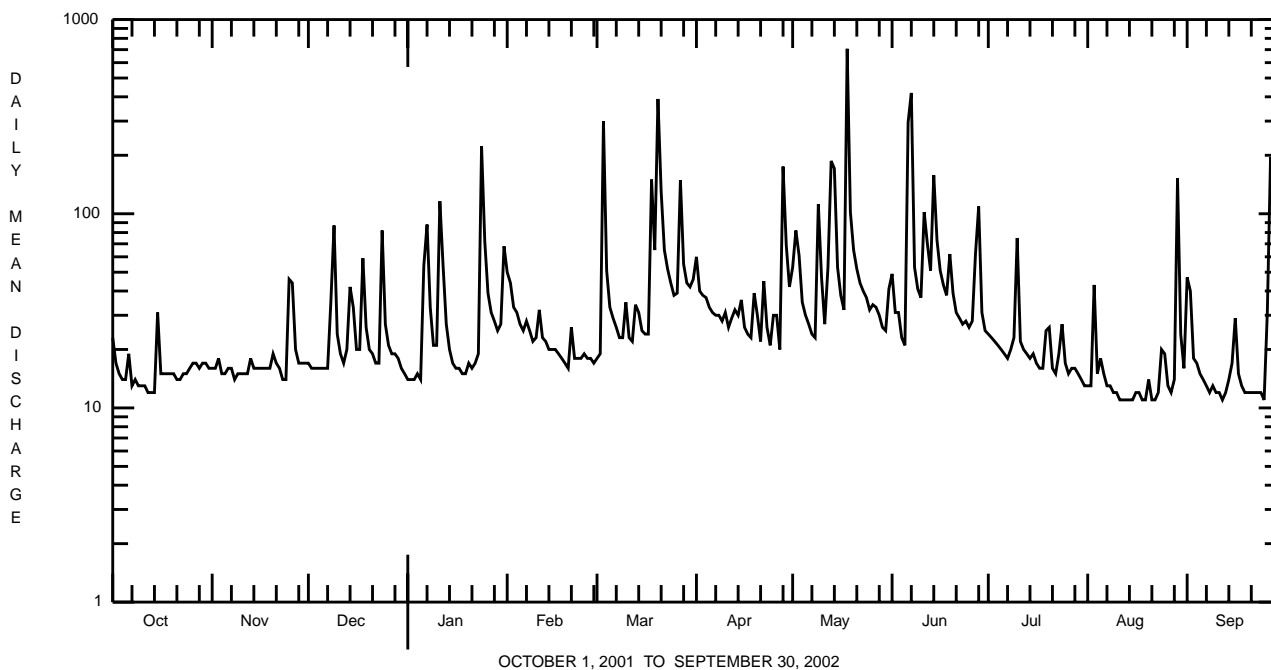
01473900 WISSAHICKON CREEK AT FORT WASHINGTON, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	25218		13265			
ANNUAL MEAN	69.1		36.3		47.4	
HIGHEST ANNUAL MEAN					76.1	2001
LOWEST ANNUAL MEAN					31.6	1965
HIGHEST DAILY MEAN	2490	Jun 17	707	May 18	2490	Jun 17 2001
LOWEST DAILY MEAN	12	Oct 12-14	11	Aug 11-15a	4.6	Jul 5 1963
ANNUAL SEVEN-DAY MINIMUM	13	Oct 8	11	Aug 9	5.6	Jul 1 1963
MAXIMUM PEAK FLOW			b2950	Jun 7	b11000	Jun 17 2001
MAXIMUM PEAK STAGE			9.48	Jun 7	c16.30	Jun 17 2001
INSTANTANEOUS LOW FLOW			8.1	Aug 19,22	2.9	Sep 2 1963
ANNUAL RUNOFF (CFSM)	1.69		0.89		1.16	
ANNUAL RUNOFF (INCHES)	22.99		12.09		15.80	
10 PERCENT EXCEEDS	116		61		88	
50 PERCENT EXCEEDS	30		20		24	
90 PERCENT EXCEEDS	15		13		9.0	

a Also Aug. 18, 19, 21, 22, Sept. 12, 25

b From rating curve extended above 1,860 ft³/s on basis of slope-area measurement at gage height 16.30 ft.

c From floodmark.



SCHUYLKILL RIVER BASIN

01473900 WISSAHICKON CREEK AT FORT WASHINGTON, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 09...	1450	9813	27	30	17.0	8.8	769	15.2	200	47.6	18.9	102	66.7
JUN 27...	1320	9813	28	30	8.2	7.8	840	25.6	190	47.5	17.6	108	96.7
AUG 27...	1320	9813	13	30	8.1	7.7	993	22.4	210	52.7	18.4	100	125

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002 09...	484	8	<.020	8.63	<.040	9.9	1.68	1.68	6.7	20	170	<1.0	20
JUN 27...	550	8	.020	8.79	.070	9.4	1.89	1.67	5.2	20	160	<1.0	20
AUG 27...	706	6	.090	13.8	.260	15	2.51	3.05	9.1	30	190	1.5	40

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 09...	<50	20
JUN 27...	<50	20
AUG 27...	<50	60

SCHUYLKILL RIVER BASIN

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°00'55", long 75°12'26", Philadelphia County, Hydrologic Unit 02040203, on left bank 100 ft upstream from dam at Ridge Avenue, 750 ft upstream from mouth, and 1,000 ft northwest of Gustine Lake in Philadelphia.

DRAINAGE AREA.--64.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1897 to September 1903, January 1905 to July 1906, October 1965 to current year. Prior to October 1965, records furnished by Department of Public Works, City of Philadelphia. Records for 1971-74 published in WDR PA-81-1. Prior to October 1965, published as "near Philadelphia".

REVISED RECORDS.--WSP 1302: 1905: WDR PA-89-1: 1988.

GAGE.--Water-stage recorder, crest-stage gage and concrete control. Datum of gage is 26.41 ft above National Geodetic Vertical Datum of 1929. Prior to October 1965, water-stage recorder at about same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 7	0415	*2,040	*4.81	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	28	25	39	57	35	63	72	66	42	21	62
2	39	28	28	28	54	42	46	114	51	40	20	82
3	33	32	26	25	48	415	47	97	46	40	43	35
4	31	42	26	28	46	70	48	58	45	42	35	27
5	29	32	27	29	45	46	48	53	55	39	28	26
6	37	27	27	63	41	39	47	50	141	37	30	24
7	40	28	27	127	43	35	47	50	668	38	23	26
8	28	27	44	53	43	31	46	49	68	39	20	28
9	29	27	124	45	41	27	45	132	55	37	19	26
10	30	32	50	43	39	43	48	77	50	110	19	22
11	28	34	39	102	49	31	48	79	45	40	19	21
12	27	32	31	84	40	26	52	e93	133	34	18	20
13	31	28	32	52	38	32	55	e309	60	35	17	19
14	33	30	44	48	34	46	54	286	168	38	17	21
15	60	28	54	40	33	31	56	73	102	38	16	35
16	38	30	40	39	34	27	49	61	58	30	16	46
17	29	29	34	37	35	28	49	57	53	27	18	33
18	28	29	65	36	34	141	49	847	50	24	18	24
19	27	32	50	36	29	79	48	156	119	30	17	22
20	30	28	38	43	32	416	64	87	56	49	16	20
21	31	34	30	40	44	185	52	72	46	34	19	23
22	31	30	29	43	39	67	70	65	45	27	18	23
23	25	32	30	42	33	59	55	61	45	25	16	23
24	25	32	93	261	33	55	48	58	57	41	73	19
25	29	67	52	101	32	53	52	56	45	33	52	20
26	25	88	40	53	35	58	58	55	41	26	22	42
27	29	38	32	49	37	191	50	58	73	28	18	310
28	35	29	32	47	35	66	226	55	173	34	17	172
29	33	27	33	41	---	55	104	51	49	33	280	45
30	26	28	29	41	---	54	59	50	44	25	48	36
31	26	---	27	68	---	62	---	49	---	23	30	---
TOTAL	993	1008	1258	1783	1103	2545	1783	3430	2707	1138	1023	1332
MEAN	32.0	33.6	40.6	57.5	39.4	82.1	59.4	111	90.2	36.7	33.0	44.4
MAX	60	88	124	261	57	416	226	847	668	110	280	310
MIN	25	27	25	25	29	26	45	49	41	23	16	19
CFSM	0.50	0.53	0.63	0.90	0.62	1.28	0.93	1.73	1.41	0.57	0.52	0.69
IN.	0.58	0.59	0.73	1.04	0.64	1.48	1.04	1.99	1.57	0.66	0.59	0.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

MEAN	68.1	85.1	112	118	121	152	137	116	92.7	79.7	73.5	82.9
MAX	216	265	398	378	266	370	410	229	306	230	171	365
(WY)	1997	1973	1997	1979	1979	1994	1983	1984	2001	1975	1973	1999
MIN	23.1	17.7	22.7	24.3	37.0	40.7	41.3	50.8	32.0	23.7	19.8	23.0
(WY)	1966	1966	1966	1981	1969	1985	1985	1986	1986	1999	1966	1968

e Estimated.

SCHUYLKILL RIVER BASIN

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	39298		20103			
ANNUAL MEAN	108		55.1		103	
HIGHEST ANNUAL MEAN					169	1996
LOWEST ANNUAL MEAN					50.6	1966
HIGHEST DAILY MEAN	4550	Jun 17	847	May 18	5560	Sep 16 1999
LOWEST DAILY MEAN	25	Oct 23,24,28 ^a	16	Aug 15,16 ^b	8.8	Aug 30 1995
ANNUAL SEVEN-DAY MINIMUM	27	Dec 1	17	Aug 14	12	Aug 27 1966
MAXIMUM PEAK FLOW			2040	Jun 7	^c 19800	Sep 16 1999
MAXIMUM PEAK STAGE			4.81	Jun 7	^d 11.50	Sep 16 1999
INSTANTANEOUS LOW FLOW			16	Aug 12-20 ^f	2.0	Jul 18 1905 ^g
ANNUAL RUNOFF (CFSM)	1.68		0.86		1.61	
ANNUAL RUNOFF (INCHES)	22.84		11.68		21.87	
10 PERCENT EXCEEDS	174		80		176	
50 PERCENT EXCEEDS	63		39		59	
90 PERCENT EXCEEDS	28		24		28	

^a Also Dec. 1.

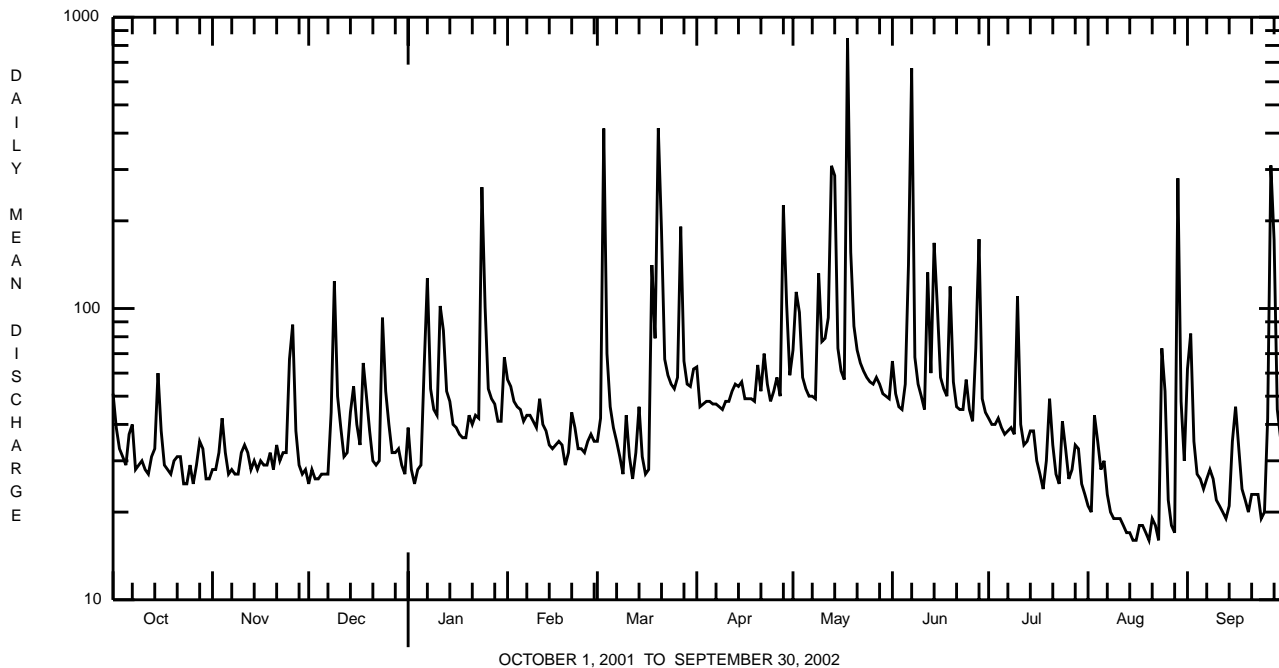
^b Also Aug. 20, 23.

^c From rating curve extended above 4,000 ft³/s on basis of slope-area measurement at peak flow.

^d From floodmark. Maximum recorded 10.77 ft.

^f Also Aug. 23, 28.

^g Also July 19. Minimum observed is outside computed statistical period.



SCHUYLKILL RIVER BASIN

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002 08...	1530	9813	46	30	13.5	8.3	707	9.2	220	47.7	24.3	130	54.4
JUN 13...	1510	9813	57	30	8.9	7.7	393	22.0	120	26.6	11.7	68	36.7
AUG 15...	1310	9813	16	30	8.2	8.0	758	26.0	210	46.3	22.9	128	66.5

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002 08...	474	2	<.020	5.91	<.040	6.5	.72	.750	3.6	<10	120	<1.0	20
JUN 13...	286	4	.110	2.83	<.040	3.7	.52	.510	5.6	70	350	<1.0	30
AUG 15...	474	10	.140	5.57	<.200	5.6	.91	1.09	3.7	<10	220	1.1	40

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 08...	<50	10
JUN 13...	<50	30
AUG 15...	<50	20

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA
(National Water-Quality Assessment Station)

LOCATION.--Lat 39°58'04", long 75°11'20", Philadelphia County, Hydrologic Unit 02040203, on right bank 150 ft upstream from Fairmount Dam, 1,500 ft upstream from bridge on Spring Garden Street in Philadelphia, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--1,893 mi².

PERIOD OF RECORD.--October 1931 to current year. Records for January 1898 to December 1912, published in WSP 35, 48, 65, 82, 97, 125, 166, 202, 214, 261, 301, and 381 have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1936(M). WSP 1432: 1945. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 5.74 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 25, 1956, water-stage recorder at site on right bank just upstream from Fairmount Dam at same datum. Nov. 26, 1956, to Oct. 6, 1966, water-stage recorder at site on left bank 40 ft upstream from Fairmount Dam at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Lake (station 01470870) since April 1979, Green Lane Reservoir (station 01472200) since December 1956 and to some extent by Lake Ontelaunee. Daily mean discharges do not include diversion above station by city of Philadelphia for municipal water supply. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by Philadelphia Water Department.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4, 1869 reached a stage of 17.0 ft, discharge, about 135,000 ft³/s. Flood of Mar. 1, 1902 reached a stage of 14.8 ft, discharge, about 98,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 14	1030	*28,400	*9.75	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	422	601	476	1630	631	2710	4220	1550	1330	243	755
2	889	410	736	563	1720	613	2630	4160	1420	1090	185	928
3	795	481	846	528	1610	2330	2210	6960	1380	956	203	740
4	746	475	678	569	1420	2330	2080	5260	1250	705	246	550
5	657	496	616	609	1250	1710	1920	4170	1270	698	458	404
6	706	410	620	755	1170	1280	1650	3620	1470	615	277	295
7	650	450	585	1330	1160	1120	1560	3110	5530	597	236	282
8	664	434	676	1100	1110	983	1490	2630	3490	613	275	247
9	588	421	1230	912	1050	1010	1390	2830	2290	539	183	307
10	578	411	1110	796	1000	1030	1450	3250	1880	799	166	214
11	664	462	1070	1100	1040	1060	1560	2700	1500	552	153	218
12	682	495	895	1880	954	1220	1510	2280	1420	536	236	214
13	729	436	869	1420	1040	1140	1310	3070	1310	471	161	213
14	689	398	878	1190	902	1230	1350	18400	2110	512	144	181
15	878	412	1090	1000	828	1160	1590	6830	2550	529	115	314
16	851	368	1070	917	828	1030	4460	4530	2100	451	84	526
17	1070	454	1020	876	827	1030	4060	3550	1770	400	79	566
18	875	497	1160	829	814	1620	3310	7430	1530	376	120	701
19	777	549	1260	823	774	2720	2800	7940	1860	353	259	476
20	787	526	1420	813	735	4290	2460	5450	1750	480	191	256
21	616	507	1160	850	799	7640	2240	4700	1530	409	280	201
22	654	436	1080	873	751	4710	2270	4280	1300	471	234	220
23	582	521	1010	811	734	3700	2260	3730	1170	389	135	342
24	592	456	1330	1840	724	3070	2000	3160	1220	416	362	271
25	548	634	1090	3390	740	2670	1780	2680	1230	466	751	505
26	426	1010	1100	2190	676	2350	1760	2450	881	392	755	541
27	418	1380	909	1850	688	3860	1660	2280	920	406	367	2030
28	468	1030	722	1640	671	4780	2510	2200	2720	388	270	3330
29	495	780	736	1460	---	3740	5940	1960	2500	424	1120	2330
30	457	655	669	1310	---	3120	4870	1760	1640	329	947	1510
31	428	---	634	1540	---	2810	---	1620	---	261	613	---
TOTAL	20999	16416	28870	36240	27645	71987	70790	133210	54541	16953	9848	19667
MEAN	677.4	547.2	931.3	1169	987.3	2322	2360	4297	1818	546.9	317.7	655.6
MAX	1070	1380	1420	3390	1720	7640	5940	18400	5530	1330	1120	3330
MIN	418	368	585	476	671	613	1310	1620	881	261	79	181
(†)	191	194	190	204	198	184	176	180	196	221	228	206

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2002, BY WATER YEAR (WY)

	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	1398	2284	3145	3331	3610	4844	4232	3127	2114	1607	1365	1425																																																											
MAX	5624	6272	11150	11400	8136	13320	11620	9943	11640	6434	7980	5300																																																											
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	1972	1984	1933	1999																																																											
MIN	89.4	223	444	340	647	1552	1237	693	261	116	140	117																																																											
(WY)	1942	1932	1981	1981	1934	1981	1985	1965	1965	1966	1966	1932																																																											

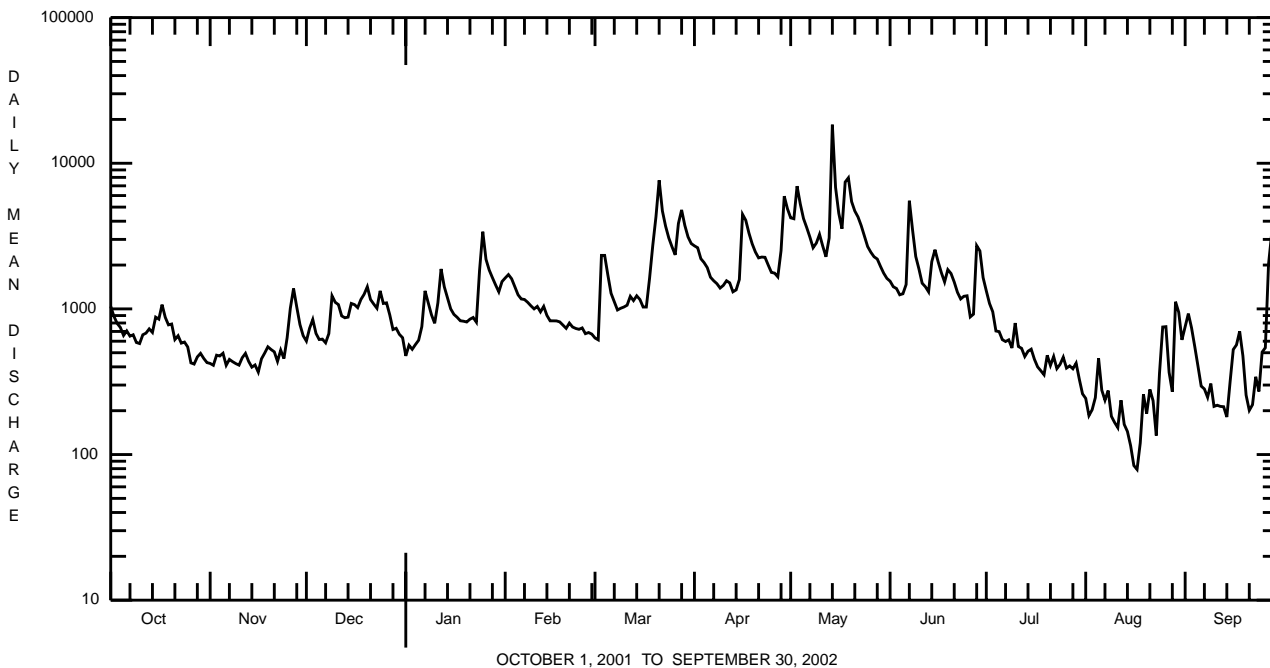
† Diversion for municipal supply of City of Philadelphia, equivalent in cubic feet per second.

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR			FOR 2002 WATER YEAR			WATER YEARS 1932 - 2002		
ANNUAL TOTAL	771730			507166			2702		
ANNUAL MEAN	2114			1389			4791		
HIGHEST ANNUAL MEAN							1984		
LOWEST ANNUAL MEAN							1965		
HIGHEST DAILY MEAN	12200	Mar 30		18400	May 14		93400	Jun 23	1972
LOWEST DAILY MEAN	368	Nov 16		79	Aug 17		0.60	Sep 2	1966
ANNUAL SEVEN-DAY MINIMUM	426	Nov 10		134	Aug 12		24	Sep 28	1941
MAXIMUM PEAK FLOW				28400	May 14		a103000	Jun 23	1972
MAXIMUM PEAK STAGE				9.75	May 14		14.65	Jun 23	1972
INSTANTANEOUS LOW FLOW				54	Aug 16		0.00	Sep 2	1966 ^b
10 PERCENT EXCEEDS	4610			3090			5780		
50 PERCENT EXCEEDS	1290			889			1660		
90 PERCENT EXCEEDS	495			302			434		

a From rating curve extended above 92,000 ft³/s.
 b No flow over dam at times.



SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued
(National Water-Quality Assessment Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1998, revised, to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1998 to April 1999, July 1999 to September 1999.

WATER TEMPERATURE: September 1998 to September 2001.

REMARKS.--These samples were collected as part of the Delaware River Basin National Water-Quality Assessment Program (NAWQA). For the definition of the type of quality-control data listed under SAMPLE TYPE refer to "Quality-Control Data" in the "Introduction."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 13...	1130	ENVIRONMENTAL	519	773	95	10.9	7.9	607	14.5	9.8	106
DEC 12...	1150	ENVIRONMENTAL	986	770	96	11.1	7.9	491	12.3	9.0	95
JAN 15...	1140	ENVIRONMENTAL	1120	762	101	13.3	7.8	558	8.0	3.8	78
FEB 04...	1200	ENVIRONMENTAL	1490	752	108	13.5	7.9	482	5.0	5.4	71
MAR 07...	1130	ENVIRONMENTAL	1230	766	109	13.3	7.8	432	20.2	7.0	72
APR 08...	1050	ENVIRONMENTAL	1570	772	109	12.2	7.8	374	12.0	11.0	59
MAY 16...	1209	FIELD BLANK	--	--	--	--	--	--	--	--	--
MAY 16...	1210	ENVIRONMENTAL	4520	755	104	10.3	7.5	266	--	15.4	53
JUN 13...	1130	ENVIRONMENTAL	1410	756	90	7.3	7.6	389	29.0	25.2	--
JUN 13...	1131	SPLIT REPLICATE	--	--	--	--	--	--	--	--	--
JUL 08...	1050	ENVIRONMENTAL	648	764	84	6.6	7.8	458	31.0	27.6	81
SEP 05...	1140	ENVIRONMENTAL	519	761	90	7.7	7.8	535	27.0	23.2	81

DATE	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV 13...	130	66.5	78.6	.73	.14	4.32	.057	.51	.55	1.4	1.0
DEC 12...	117	49.3	68.4	.59	.12	3.80	.075	.41	.45	96.6	36
JAN 15...	95	83.2	51.4	.68	.18	3.17	.084	.24	.28	9.7	3.2
FEB 04...	87	63.3	48.5	.67	.23	3.78	.122	.26	.31	8.9	2.2
MAR 07...	89	46.7	47.6	.81	.09	2.77	.061	.23	.27	21.9	6.6
APR 08...	72	38.8	44.5	.47	.16	2.97	.052	.22	.25	15.3	3.6
MAY 16...	--	<.30	<.1	<.10	<.04	<.05	<.008	<.02	<.004	--	--
MAY 16...	64	19.3	30.9	.68	.12	2.06	.035	.10	.172	255	21
JUN 13...	--	32.5	48.9	.62	.13	3.10	.065	.27	.31	47.2	12
JUN 13...	--	--	--	--	--	--	--	--	--	--	--
JUL 08...	98	41.8	56.4	.55	.10	3.31	.055	.33	.37	5.8	3.3
SEP 05...	99	55.2	75.2	.49	.09	3.23	.043	.45	.47	4.3	3.1

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

WATER-COLUMN PESTICIDE ANALYSES

REMARKS.--Selected samples were analyzed for pesticides with laboratory schedule 2001 (listed in its entirety, with laboratory reporting levels, on page 179). Only pesticides identified by the analyses in one or more surface-water samples are listed in the following table.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	TIME	SAMPLE TYPE	ACETO- CHLOR, WATER, FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)
NOV											
13...	1130	ENVIRONMENTAL	<.004	<.002	<.005	.037	<.010	<.041	<.005	<.018	<.003
DEC											
12...	1150	ENVIRONMENTAL	<.004	<.002	<.005	.035	<.010	<.041	<.005	<.018	<.003
JAN											
15...	1140	ENVIRONMENTAL	<.006	<.004	<.005	.025	<.010	<.041	<.005	<.018	<.003
FEB											
04...	1200	ENVIRONMENTAL	<.006	<.004	<.005	.041	<.010	E.006	<.005	<.018	<.003
MAR											
07...	1130	ENVIRONMENTAL	<.006	<.004	<.005	.026	<.010	<.041	<.005	<.018	<.003
APR											
08...	1050	ENVIRONMENTAL	<.006	<.004	<.005	.021	<.010	E.004	<.005	<.018	<.003
MAY											
16...	1210	ENVIRONMENTAL	.046	.017	<.005	.556	<.010	E.033	E.005	.019	<.003
JUN											
13...	1130	ENVIRONMENTAL	.035	<.015	<.005	.557	<.010	E.008	<.005	<.018	<.003
13...	1131	SPLIT REPLICATE	.034	<.015	<.005	.563	<.010	E.007	<.005	<.018	<.003
JUL											
08...	1050	ENVIRONMENTAL	.024	<.004	<.005	.341	<.010	<.041	<.005	E.006	<.003
SEP											
05...	1140	ENVIRONMENTAL	<.006	<.004	<.005	.092	<.010	E.007	<.005	<.018	<.003

DATE	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	LINDANE DIS- SOLVED (µG/L) (39341)	LIN- URON WATER FLTRD 0.7 µ GF, REC (µG/L) (82666)	MALA- THION, DIS- SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)
NOV													
13...	E.033	<.005	<.002	<.004	<.035	<.027	<.050	E.011	<.006	<.007	<.010	<.01	<.011
DEC													
12...	E.025	.006	<.002	<.004	<.035	<.027	<.050	.014	<.006	<.007	<.010	.02	<.011
JAN													
15...	E.020	<.005	<.002	<.004	<.035	<.027	<.050	E.012	<.006	<.007	<.022	E.01	<.011
FEB													
04...	E.045	<.005	<.002	<.004	<.035	<.027	<.050	.021	<.006	<.007	<.022	.02	<.011
MAR													
07...	E.026	E.004	<.002	<.004	<.035	<.027	<.050	E.012	<.006	<.007	<.022	<.02	<.011
APR													
08...	E.013	<.005	<.002	<.004	<.035	<.027	<.050	.014	<.006	<.007	<.022	E.01	<.011
MAY													
16...	E.045	.011	<.002	<.004	<.035	<.027	<.050	.165	<.006	<.007	E.018	.04	<.011
JUN													
13...	E.068	.009	<.002	<.004	<.035	<.027	<.050	.170	<.006	<.007	<.022	.04	<.011
13...	E.061	.009	<.002	<.004	<.035	<.027	<.050	.172	<.006	<.007	<.022	.04	<.011
JUL													
08...	E.078	E.004	<.002	<.004	<.035	<.027	<.050	.094	<.006	<.007	<.022	.03	<.011
SEP													
05...	E.041	.009	<.002	<.004	<.035	<.027	<.050	.024	<.006	<.007	<.022	.06	<.011

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DATE	SI- MAZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82670)	TER- BACILL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82665)
NOV 13...	.015	E.02	<.034
DEC 12...	.015	<.02	<.034
JAN 15...	.007	<.02	<.034
FEB 04...	.015	E.01	<.034
MAR 07...	.007	<.02	<.034
APR 08...	.010	<.02	<.034
MAY 16...	.042	E.01	<.034
JUN 13...	.037	E.01	<.034
JUN 13...	.036	E.01	<.034
JUL 08...	.052	<.02	<.034
SEP 05...	.026	.02	<.034

SCHUYLKILL RIVER BASIN

LAKES AND RESERVOIRS IN SCHUYLKILL RIVER BASIN

01469200 STILL CREEK RESERVOIR.--Lat 40°51'25", long 75°59'30", Schuylkill County, Hydrologic Unit 02040106, at dam on Still Creek, 1.0 mi upstream from mouth, and 2.3 mi north of Hometown. DRAINAGE AREA, 7.19 mi². PERIOD OF RECORD, January 1933 to current year. GAGE, nonrecording gage. Datum of gage is sea level (levels by Panther Valley Water Co.).

REMARKS.--Reservoir formed by earthfill dam with ungated concrete spillway at elevation 1,182.00 ft. Storage began February 1933. Capacity at elevation 1,182.00 ft is 8,290 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation by valves on pipe through dam. COOPERATION.--Records provided by the borough of Tamaqua.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,570 acre-ft, Oct. 15, 1955, elevation, 1,182.92 ft, but may have been greater during 1950 or 1951 water years; minimum contents (after first filling), 588 acre-ft, Dec. 8, 1944, elevation, 1,136.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,340 acre-ft, Mar. 27, elevation, 1,182.2 ft; minimum contents, 7,190 acre-ft, Sept. 30, elevation, 1,178.0 ft.

01470870 BLUE MARSH LAKE.--Lat 40°22'45", long 76°01'59", Berks County, Hydrologic Unit 02040203, at dam on Tulpehocken Creek, 0.8 mi upstream from gaging station on Tulpehocken Creek (station 01470960), 1.0 mi northeast of Blue Marsh, 1.9 mi upstream from Rebers Bridge, and 5.1 mi southeast of Bernville. DRAINAGE AREA, 175 mi². PERIOD OF RECORD, April 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Lake formed by earthfill dam with ungated concrete spillway at elevation 307.00 ft. Storage began April 23, 1979. Capacity at elevation 307.00 ft is 50,000 acre-ft. Dead storage is 3,000 acre-ft. Lake is used for flood control, water supply, and recreation. Figures herein represent total contents. Satellite telemetry at station. COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,480 acre-ft, Apr. 17, 1983, elevation, 301.65 ft; minimum contents (after first filling), 13,150 acre-ft, Mar. 18, 1994, elevation, 279.88 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,410 acre-ft, May 20, elevation, 291.29 ft; minimum contents, 16,830 acre-ft, Nov. 25, elevation, 284.17 ft.

01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, Hydrologic Unit 02040203, at dam on Perkiomen Creek, 0.4 mi west of Green Lane, and 2.1 mi upstream from Unami Creek. DRAINAGE AREA, 70.9 mi². PERIOD OF RECORD, December 1956 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by Philadelphia Suburban Water Co.).

REMARKS.--Reservoir formed by concrete, gravity-type dam with ungated spillway at elevation 286.00 ft. Storage began December 21, 1956. Capacity at elevation 286.00 ft is 13,430 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation by valves on pipe through dam. COOPERATION.--Records provided by Philadelphia Suburban Water Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,030 acre-ft, June 23, 1972, elevation, 290.05 ft; minimum contents (after first filling), 1,270 acre-ft, Aug. 25, 1957, elevation, 251.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,550 acre-ft, May 14, elevation, 287.26 ft; minimum contents, 9,930 acre-ft, Jan. 11, elevation, 281.28 ft.

01472618 DISTRIBUTARY FROM BRADSHAW RESERVOIR.--Lat 40°24'50", long 75°13'13", Bucks County, Hydrologic Unit 02040203, about 0.5 mi upstream from station 01472620, East Branch Perkiomen Creek near Dublin, Pa. PERIOD OF RECORD, October 1994 to current year.

REMARKS.--Water from the Delaware River near Point Pleasant is diverted to Bradshaw Reservoir located in Geddes Run Basin on Tohickon Creek, a tributary to the Delaware River, for consumptive use by the Philadelphia Electric Company. Figures in this table represent the equivalent monthly mean streamflow, in cubic feet per second, diverted from Bradshaw Reservoir to the East Branch Perkiomen Creek. COOPERATION.--Records provided by Philadelphia Electric Company.

SCHUYLKILL RIVER BASIN

Lakes and Reservoirs in Schuylkill River Basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01469200 Still Creek Reservoir</u>				<u>01470870 Blue Marsh Lake</u>		
Sept. 30	1,182.0	8,290	--	289.56	22,390	--
Oct. 31	1,181.8	8,230	-1.0	284.98	17,600	-77.9
Nov. 30	1,181.8	8,230	0	284.85	17,480	-2.0
Dec. 31	1,182.1	8,320	+1.5	285.08	17,700	+3.4
CAL YR 2001	--	--	0	--	--	-0.1
Jan. 31	1,182.1	8,320	0	285.07	17,690	-0.2
Feb. 29	1,182.1	8,320	0	285.12	17,740	+0.9
Mar. 31	1,182.2	8,340	+0.3	289.01	21,780	+65.7
Apr. 30	1,182.2	8,340	0	290.83	23,860	+35.0
May 31	1,182.1	8,320	-0.3	290.09	23,000	-14.0
June 30	1,182.1	8,320	0	290.30	23,240	+4.0
July 31	1,181.7	8,210	-1.8	289.97	22,860	-6.2
Aug. 31	1,181.2	8,070	-2.3	289.29	22,090	-12.5
Sept. 30	1,178.0	7,190	-14.8	288.37	21,080	-17.0
WTR YR 2002	--	--	-1.5	--	--	-1.8

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01472200 Green Lane Reservoir</u>			
Sept. 30	285.05	12,590	--
Oct. 31	283.70	11,540	-17.1
Nov. 30	282.24	10,530	-17.0
Dec. 31	281.67	10,170	-5.9
CAL YR 2001	--	--	-4.5
Jan. 31	282.58	10,760	+9.6
Feb. 29	282.85	10,930	+3.1
Mar. 31	286.00	13,430	+40.7
Apr. 30	286.13	13,550	+2.0
May 31	286.00	13,430	-2.0
June 30	286.00	13,430	0
July 31	285.15	12,680	-12.2
Aug. 31	283.36	11,290	-22.6
Sept. 30	283.31	11,260	-0.5
WTR YR 2002	--	--	-1.8

Date	Monthly Mean Discharge (equivalent in ft ³ /s)
------	--------------------------------------------------------------------

01472618 Distributary from Bradshaw Reservoir

Oct 2001	60.2
Nov	57.6
Dec	43.4
Jan 2002	44.7
Feb	25.9
Mar	14.3
Apr	41.9
May	38.8
June	60.1
July	60.4
Aug	61.9
Sept	47.3

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA

LOCATION.--Lat 39°52'45", long 75°12'11", Philadelphia County, Hydrologic Unit 02040202, on right bank at outer end of L-shaped pier at Fort Mifflin, 0.4 mi downstream from mouth of Schuylkill River, and at Philadelphia.

DRAINAGE AREA.--10,000 mi², approximately.

PERIOD OF RECORD.--Water years 1970-76, 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1970 to December 1971, February 1981 to November 1999, November 2001 to current year.

WATER TEMPERATURE: June 1972 to June 1976, February 1981 to November 1999, November 2001 to current year.

INSTRUMENTATION.--Water-quality monitor July 1970 to June 1976 and since Feb. 1981. Satellite telemetry at station.

REMARKS.--Specific conductance and water temperature records rated good. Interruptions in the record were due to malfunctions of the recording or monitoring instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,340 microsiemens, Aug. 11, 1999; minimum, 90 microsiemens, Apr. 11, 17, 19, 29, 1983, Apr. 29, 1984.

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 4-6, 13, 1975; minimum, 0.5°C, Feb. 5, 1981, Jan. 11, 13, 14, 1999.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,320 microsiemens, Sept. 26; minimum, 162 microsiemens, May 22.

WATER TEMPERATURE: Maximum, 29.0°C, Aug. 4; minimum, 3.0°C, Jan. 8-15, 19, 20.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	713	554	608	410	361	385
2	---	---	---	---	---	---	795	514	601	418	367	385
3	---	---	---	---	---	---	---	---	---	424	374	389
4	---	---	---	---	---	---	671	533	582	449	379	400
5	---	---	---	---	---	---	649	522	567	443	370	401
6	---	---	---	---	---	---	688	522	578	418	375	393
7	---	---	---	539	449	476	690	525	571	418	379	400
8	---	---	---	593	450	485	694	524	577	462	367	401
9	---	---	---	581	460	494	647	523	589	424	375	393
10	---	---	---	588	444	502	671	531	573	407	373	387
11	---	---	---	571	466	499	661	510	568	434	371	390
12	---	---	---	611	468	510	683	511	556	421	375	395
13	---	---	---	611	469	513	875	501	575	437	362	400
14	---	---	---	650	474	521	657	516	561	424	370	395
15	---	---	---	653	480	532	621	486	544	450	380	397
16	---	---	---	730	496	560	707	487	542	471	385	409
17	---	---	---	824	503	581	855	495	598	468	359	399
18	---	---	---	793	520	597	766	561	648	449	388	406
19	---	---	---	722	533	586	---	---	---	426	374	399
20	---	---	---	679	537	584	---	---	---	450	377	407
21	---	---	---	750	520	582	538	415	468	449	389	422
22	---	---	---	728	543	610	504	414	448	484	400	427
23	---	---	---	748	550	611	495	416	445	439	394	416
24	---	---	---	796	553	624	480	408	443	441	394	420
25	---	---	---	848	574	633	451	384	422	568	406	471
26	---	---	---	742	577	635	436	384	411	497	420	448
27	---	---	---	727	562	612	455	386	410	526	425	451
28	---	---	---	723	546	610	439	372	400	501	412	444
29	---	---	---	866	558	611	430	373	392	501	420	445
30	---	---	---	759	562	619	424	366	388	483	424	443
31	---	---	---	---	---	---	404	369	384	469	418	436
MONTH	---	---	---	866	444	566	875	366	516	568	359	411

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	493	413	434	356	323	332	297	243	263	290	216	246
2	500	412	439	345	310	324	298	246	261	256	209	224
3	446	391	406	514	310	359	---	---	---	306	218	256
4	451	384	404	518	337	414	---	---	---	361	219	265
5	488	380	410	498	327	360	295	221	253	334	199	238
6	426	379	394	361	316	335	281	218	245	260	200	228
7	426	377	390	398	314	339	270	222	242	256	183	220
8	425	377	389	348	310	321	279	220	243	245	188	215
9	422	377	389	365	307	321	279	225	242	246	192	215
10	407	363	384	452	298	340	300	219	244	240	191	210
11	477	370	398	384	304	327	290	227	240	240	193	212
12	403	365	383	352	305	317	318	225	252	243	190	214
13	420	366	384	339	296	313	307	221	246	267	202	219
14	403	345	372	358	305	318	319	223	247	322	169	246
15	376	345	365	369	299	319	332	227	261	221	166	184
16	370	341	357	395	302	328	361	232	281	193	172	185
17	419	341	357	342	303	317	319	233	270	247	184	199
18	419	337	351	436	303	334	304	230	257	286	187	232
19	357	318	344	468	304	365	265	227	243	286	182	228
20	369	322	340	468	316	361	248	218	233	267	176	219
21	391	322	347	476	320	392	239	214	229	252	173	211
22	403	308	348	389	258	322	242	221	233	263	162	213
23	377	328	342	313	257	288	245	222	234	254	177	207
24	386	320	336	290	245	276	265	223	241	268	177	213
25	349	315	332	298	269	280	299	232	245	274	175	216
26	354	326	336	305	269	284	301	234	257	261	184	210
27	380	321	337	349	273	303	263	220	241	253	180	205
28	386	326	342	342	278	310	264	224	242	233	186	204
29	---	---	---	337	265	295	346	211	267	246	186	204
30	---	---	---	333	264	291	323	211	260	234	179	202
31	---	---	---	312	255	272	---	---	---	226	176	196
MONTH	500	308	372	518	245	324	361	211	249	361	162	217
	JUNE			JULY			AUGUST			SEPTEMBER		
1	226	183	200	335	226	269	316	284	303	663	482	533
2	228	186	200	342	296	316	346	303	315	569	479	513
3	258	188	207	338	228	263	323	297	310	602	459	505
4	243	187	211	269	229	240	330	306	316	581	458	504
5	240	193	209	259	230	240	332	298	316	581	461	492
6	246	198	219	254	228	237	343	313	323	569	447	493
7	315	208	240	253	228	236	350	314	328	637	455	503
8	350	206	256	258	230	236	356	325	338	642	455	512
9	325	185	229	249	227	236	361	316	340	867	464	540
10	296	176	206	269	231	239	383	333	354	886	470	562
11	272	185	204	269	233	242	426	340	363	758	482	588
12	245	182	201	262	236	243	437	343	371	758	494	580
13	267	174	201	253	235	241	432	346	377	850	516	620
14	265	187	207	---	---	---	419	350	380	788	537	621
15	261	183	206	---	---	---	446	356	391	866	550	632
16	261	181	205	---	---	---	450	369	401	811	550	631
17	249	183	204	---	---	---	481	378	412	908	552	640
18	285	178	217	---	---	---	560	386	428	908	554	660
19	324	170	214	---	---	---	535	394	442	951	566	676
20	372	187	246	---	---	---	570	413	458	1080	570	691
21	309	188	222	---	---	---	602	426	479	1030	584	719
22	294	188	216	---	---	---	606	435	492	1100	601	728
23	290	185	217	---	---	---	609	440	493	977	616	749
24	290	189	223	---	---	---	621	450	515	1140	641	774
25	275	201	228	---	---	---	690	475	524	1070	637	774
26	261	198	216	---	---	---	634	478	523	1320	663	851
27	258	204	220	---	---	---	625	484	530	1290	657	824
28	294	200	233	---	---	---	600	483	532	850	615	697
29	272	212	231	---	---	---	634	483	537	891	599	660
30	273	209	229	314	275	294	599	504	535	755	580	638
31	---	---	---	322	289	300	600	483	527	---	---	---
MONTH	372	170	217	342	226	255	690	284	418	1320	447	630

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	13.0	12.5	12.5	5.5	5.0	5.0
2	---	---	---	---	---	---	12.5	12.0	12.5	5.0	4.5	5.0
3	---	---	---	---	---	---	---	---	---	5.0	4.0	4.5
4	---	---	---	---	---	---	12.5	12.0	12.5	4.5	4.0	4.5
5	---	---	---	---	---	---	12.5	12.0	12.5	4.5	4.0	4.5
6	---	---	---	---	---	---	12.5	12.0	12.5	4.5	4.0	4.0
7	---	---	---	14.0	13.5	14.0	12.5	12.5	12.5	4.5	3.5	4.0
8	---	---	---	14.0	13.5	14.0	12.5	12.0	12.0	4.0	3.0	3.5
9	---	---	---	14.0	13.5	13.5	12.5	11.5	12.0	4.0	3.0	3.5
10	---	---	---	13.5	13.0	13.5	12.0	11.5	11.5	4.0	3.0	3.5
11	---	---	---	13.5	13.0	13.0	12.0	11.5	11.5	4.0	3.0	3.5
12	---	---	---	13.0	12.5	12.5	11.5	11.0	11.5	4.0	3.0	3.5
13	---	---	---	12.5	12.5	12.5	11.5	11.0	11.5	4.0	3.0	3.5
14	---	---	---	12.5	12.0	12.5	11.5	11.0	11.5	4.0	3.0	3.5
15	---	---	---	13.0	12.0	12.5	11.5	11.0	11.0	4.0	3.0	3.5
16	---	---	---	12.5	12.0	12.5	11.0	10.5	10.5	4.0	3.5	4.0
17	---	---	---	12.5	12.0	12.5	11.0	10.5	10.5	4.0	3.5	4.0
18	---	---	---	12.5	12.0	12.0	11.0	10.0	10.5	4.0	3.5	4.0
19	---	---	---	12.5	12.0	12.0	---	---	---	4.0	3.0	3.5
20	---	---	---	12.5	12.0	12.0	---	---	---	4.0	3.0	3.5
21	---	---	---	12.0	11.5	12.0	9.5	8.5	9.0	3.5	3.5	3.5
22	---	---	---	12.0	11.5	11.5	9.0	8.5	9.0	4.0	3.5	3.5
23	---	---	---	12.0	11.5	11.5	9.0	8.5	8.5	4.0	3.5	3.5
24	---	---	---	12.0	11.5	11.5	9.0	8.5	8.5	4.0	3.5	4.0
25	---	---	---	12.0	11.5	12.0	8.5	8.0	8.0	4.5	4.0	4.0
26	---	---	---	12.0	12.0	12.0	8.0	7.5	8.0	4.5	4.0	4.0
27	---	---	---	12.0	11.5	12.0	7.5	7.0	7.5	4.5	4.0	4.0
28	---	---	---	12.5	12.0	12.0	7.0	6.5	7.0	5.0	4.0	4.5
29	---	---	---	12.5	12.0	12.0	7.0	6.0	6.5	5.0	4.5	4.5
30	---	---	---	13.0	12.0	12.5	6.5	5.5	6.0	5.5	5.0	5.0
31	---	---	---	---	---	---	6.0	5.0	5.5	5.5	5.0	5.5
MONTH	---	---	---	14.0	11.5	12.4	13.0	5.0	10.1	5.5	3.0	4.0
	FEBRUARY			MARCH			APRIL			MAY		
1	6.5	5.5	5.5	6.5	6.0	6.0	10.0	9.0	9.5	16.5	15.5	16.0
2	6.5	5.5	5.5	6.5	6.0	6.0	10.5	9.0	10.0	16.0	15.0	15.5
3	6.0	5.0	5.5	8.0	6.0	7.0	---	---	---	15.5	15.0	15.0
4	6.0	5.0	5.5	8.5	6.5	7.5	---	---	---	16.0	14.5	15.0
5	6.0	5.0	5.0	8.0	6.5	6.5	11.5	10.0	10.5	16.0	14.5	15.0
6	5.5	4.5	5.0	7.0	6.0	6.5	11.0	10.0	10.5	16.0	14.5	15.0
7	5.0	4.5	5.0	8.0	6.5	7.0	11.0	10.0	10.5	16.5	14.5	15.5
8	5.0	4.5	5.0	7.5	6.5	7.0	11.5	10.0	10.5	17.0	15.0	16.0
9	5.5	4.5	5.0	8.0	7.0	7.5	12.0	10.5	11.0	16.5	15.5	16.0
10	5.5	5.0	5.0	8.0	7.5	8.0	12.5	11.0	11.5	17.5	15.5	16.0
11	6.0	5.0	5.5	8.0	7.0	7.5	13.0	11.5	12.0	17.5	16.0	16.5
12	5.5	5.0	5.0	7.5	7.5	7.5	12.5	11.5	12.0	17.5	16.0	16.5
13	5.5	4.5	5.0	8.0	7.5	7.5	13.0	12.0	12.5	18.0	16.5	17.0
14	5.5	4.5	5.0	9.0	7.5	8.0	13.5	12.5	13.0	18.5	15.0	17.0
15	5.0	4.5	5.0	9.0	8.0	8.5	14.5	13.0	13.5	16.5	15.0	16.0
16	5.5	4.5	5.0	9.5	8.5	9.0	16.5	13.5	14.5	17.0	15.5	16.5
17	5.5	5.0	5.0	9.0	8.5	8.5	17.0	14.5	15.5	17.0	16.0	16.5
18	5.5	4.5	5.0	9.5	8.5	9.0	17.5	15.5	16.5	17.0	15.5	16.5
19	5.5	4.5	5.0	10.0	8.5	9.0	17.5	16.0	16.5	16.5	15.0	16.0
20	6.0	5.0	5.5	10.0	8.5	9.0	18.0	16.5	17.0	15.5	15.0	15.0
21	6.0	5.5	5.5	10.0	8.0	9.0	18.0	16.5	17.0	15.0	14.5	15.0
22	6.0	5.5	6.0	8.5	7.5	8.0	17.5	16.5	17.0	15.5	14.5	15.0
23	6.5	5.5	6.0	8.0	7.5	8.0	17.0	16.0	16.5	16.0	15.0	15.5
24	6.0	5.5	6.0	8.0	7.0	8.0	17.5	16.0	16.5	16.5	15.0	15.5
25	6.5	6.0	6.0	8.0	7.5	8.0	16.5	16.0	16.5	17.0	16.0	16.0
26	7.0	6.0	6.5	8.0	7.5	8.0	16.5	16.0	16.0	17.0	16.0	16.5
27	6.5	6.5	6.5	8.5	7.5	8.0	16.5	15.5	16.0	17.5	16.5	17.0
28	6.5	6.0	6.0	8.5	7.5	8.0	16.5	15.5	16.0	18.0	17.0	17.5
29	---	---	---	9.0	8.0	8.5	16.5	14.5	15.5	19.0	17.5	18.0
30	---	---	---	9.0	8.5	9.0	16.5	15.0	15.5	19.0	18.0	18.5
31	---	---	---	9.5	8.5	9.0	---	---	---	19.5	18.0	19.0
MONTH	7.0	4.5	5.4	10.0	6.0	7.9	18.0	9.0	13.9	19.5	14.5	16.2

CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA

LOCATION.--Lat 39°58'35", long 75°26'13", Delaware County, Hydrologic Unit 02040202, at Castle Rock bridge on State Highway 3, 0.6 mi upstream from Preston Run, 0.8 mi upstream from Springton Reservoir, and 2.0 mi west of Newtown Square.

DRAINAGE AREA.--15.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1981 to current year. Occasional low-flow measurements, water years 1932, 1949, 1970-1977, and annual maximum 1977-1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 207.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1030	*487	*5.21	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	3.5	6.0	5.1	14	5.3	16	15	8.7	5.3	2.4	15
2	5.1	3.6	5.5	5.1	12	6.7	12	53	8.0	5.0	2.3	11
3	4.5	4.2	5.4	5.3	9.1	84	12	40	7.3	4.6	2.6	4.8
4	4.0	4.4	5.4	5.3	8.5	17	11	15	7.6	4.4	2.6	3.7
5	4.2	3.9	5.4	5.9	7.3	11	9.9	12	12	4.2	2.2	3.1
6	4.9	3.7	5.4	13	6.9	10	9.6	11	17	3.8	2.1	2.7
7	4.0	3.9	5.4	29	7.4	9.6	9.2	10	40	3.8	2.0	2.4
8	3.3	3.9	8.4	13	7.2	8.6	9.2	9.5	11	3.9	1.8	2.2
9	3.4	3.9	20	9.7	6.7	8.5	9.0	15	8.8	5.0	1.6	2.2
10	3.7	3.9	8.5	9.7	6.9	12	9.7	12	8.2	9.4	1.5	2.3
11	3.9	4.1	7.8	38	8.7	8.8	8.4	9.3	7.4	4.6	1.5	2.4
12	3.8	3.9	7.0	19	6.9	8.4	9.6	12	7.0	3.7	1.4	2.7
13	3.6	3.9	7.7	11	6.7	11	10	39	6.9	3.4	1.4	2.6
14	3.7	4.3	11	8.6	5.9	11	11	24	17	4.0	1.4	3.2
15	7.4	4.5	11	8.6	6.2	9.4	15	14	12	4.2	1.2	3.6
16	4.1	4.4	7.2	7.5	6.4	9.1	10	11	9.0	3.5	1.2	4.7
17	3.6	4.1	7.0	7.2	6.2	9.3	9.3	10	10	3.0	1.2	4.3
18	3.4	3.9	17	6.9	5.8	28	8.3	149	13	2.9	1.1	3.5
19	3.7	3.9	9.8	e6.5	5.7	17	8.5	27	18	11	1.1	3.1
20	3.6	4.6	7.5	e7.5	6.1	75	11	17	11	13	1.6	2.8
21	3.7	4.3	7.6	e7.0	8.6	31	8.8	14	7.8	4.5	1.2	2.7
22	3.5	3.9	6.9	e7.0	6.4	16	16	12	6.8	4.0	1.1	2.7
23	3.4	3.9	6.6	e8.0	6.1	13	11	12	6.4	3.9	1.2	2.6
24	3.4	4.0	17	56	5.8	12	8.7	11	6.3	3.9	3.6	2.4
25	3.2	9.0	9.4	22	5.4	11	9.7	10	6.2	3.5	7.5	2.2
26	3.1	18	7.6	11	5.7	12	11	9.6	5.8	3.2	2.7	6.4
27	3.0	7.8	6.6	9.2	5.7	52	8.4	10	12	3.3	2.0	40
28	3.2	6.6	6.2	8.2	5.4	16	42	11	17	3.8	2.3	28
29	3.2	6.4	6.4	7.8	---	13	18	9.6	6.9	3.5	22	5.9
30	3.6	6.1	5.6	8.1	---	12	12	9.1	5.6	3.0	6.0	3.9
31	3.3	---	5.2	18	---	13	---	8.7	---	2.6	3.5	---
TOTAL	120.0	150.5	253.5	384.2	199.7	560.7	354.3	621.8	320.7	141.9	87.3	179.1
MEAN	3.87	5.02	8.18	12.4	7.13	18.1	11.8	20.1	10.7	4.58	2.82	5.97
MAX	7.4	18	20	56	14	84	42	149	40	13	22	40
MIN	3.0	3.5	5.2	5.1	5.4	5.3	8.3	8.7	5.6	2.6	1.1	2.2
CFSM	0.24	0.32	0.52	0.78	0.45	1.14	0.75	1.27	0.68	0.29	0.18	0.38
IN.	0.28	0.35	0.60	0.90	0.47	1.32	0.83	1.46	0.76	0.33	0.21	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2002, BY WATER YEAR (WY)

MEAN	14.3	19.6	25.1	26.6	27.2	36.7	32.3	25.4	18.4	15.3	11.5	15.0
MAX	53.4	37.3	92.6	63.0	42.7	95.0	76.8	58.9	43.8	36.2	24.3	74.6
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1982	1989	1996	1999
MIN	3.87	5.02	4.63	7.45	7.13	11.7	9.45	13.2	5.85	4.02	2.82	4.53
(WY)	2002	2002	1999	1985	2002	1985	1985	1999	1985	1999	2002	1998

e Estimated.

CRUM CREEK BASIN

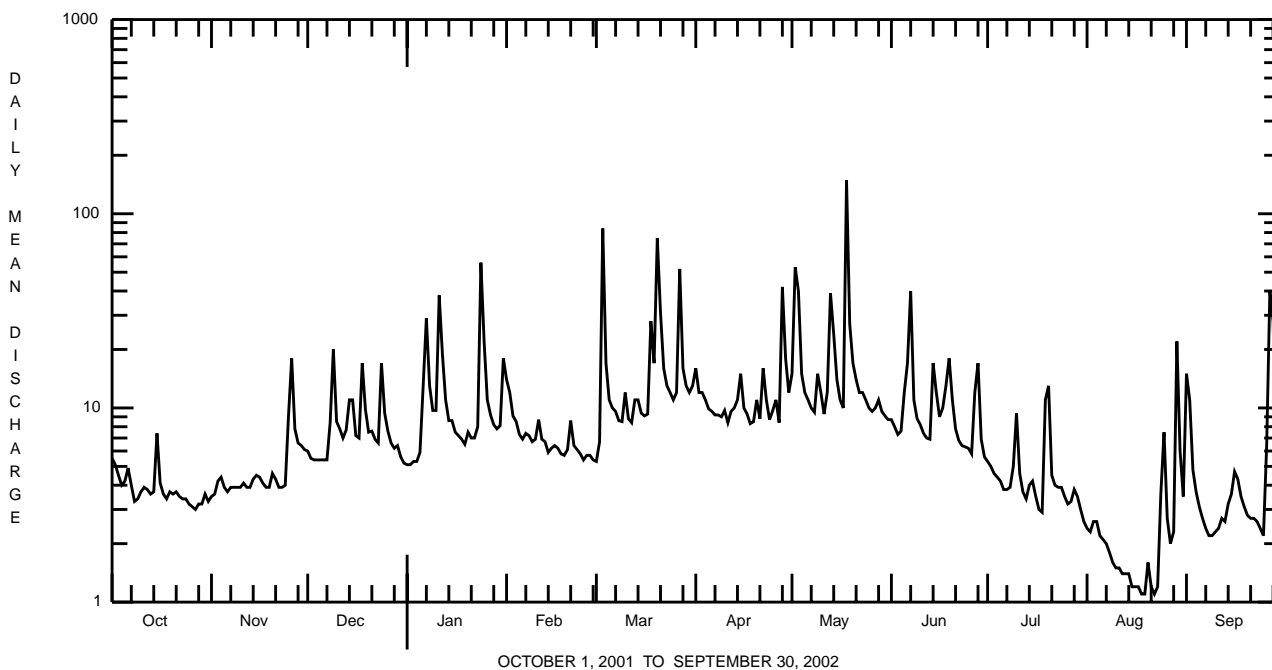
01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1982 - 2002	
ANNUAL TOTAL	6470.3		3373.7		22.3	
ANNUAL MEAN	17.7		9.24		34.7	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	236	Mar 30	149	May 18	1610	Sep 16 1999
LOWEST DAILY MEAN	3.0	Sep 13 ^a	1.1	Aug 18,19,22	0.64	Aug 8 1991
ANNUAL SEVEN-DAY MINIMUM	3.2	Oct 23	1.2	Aug 16	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			487	May 18	^b 4250	Sep 16 1999
MAXIMUM PEAK STAGE			5.21	May 18	^c 11.99	Sep 16 1999
ANNUAL RUNOFF (CFSM)	1.12		0.59		1.41	
ANNUAL RUNOFF (INCHES)	15.23		7.94		19.13	
10 PERCENT EXCEEDS	34		16		38	
50 PERCENT EXCEEDS	10		6.8		15	
90 PERCENT EXCEEDS	3.8		2.7		5.6	

^a Also Oct. 27.

^b From rating curve extended above 1,300 ft³/s on basis of slope-area measurement at peak flow.

^c From outside floodmark.



CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975, 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
------	------	------------------------------------------------	-------------------------------------------------	-------------------------------------------------	-----------------------------------	------------------------------------------------	-----------------------------------------	------------------------------------	-----------------------------------------	---------------------------------------------	--------------------------------------------	-----------------------------------------	----------------------------------------------------

OCT 2001	0930	80020	1028	4.1	9.2	7.2	240	12.0	20.4	9.25	2.88	9.86	56
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Date	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	
OCT 2001		26.0	17.8	14.0	<.04	.94	<.008	<.02	20	111

CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 μm . Each sample covered a total area of 3.2 m^2 .

Date	10/16/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	19
Nematoda (NEMATODES)	45
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	6
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	34
Planorbidae	
<u>Gyraulus</u> sp	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	9
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	92
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	43
<u>Pseudocloeon</u> sp	4
Ephemerellidae	
<u>Eurylophella</u> sp	1
<u>Serratella</u> sp	7
Heptageniidae	
<u>Stenonema</u> sp	16
Isonychiidae	
<u>Isonychia</u> sp	49
Leptohyphidae	
<u>Tricorythodes</u> sp	2
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Gomphidae	
<u>Stylogomphus</u> sp	2
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	12
<u>Agnetina</u> sp	1

CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/16/01
Benthic Macroinvertebrate	Count
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Corydalis</u> sp	7
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<u>Glossosoma</u> sp	3
Hydropsychidae	
<u>Cheumatopsyche</u> sp	153
<u>Hydropsyche</u> sp	556
Hydroptilidae	
<u>Hydroptila</u> sp	14
<u>Leucotrichia</u> sp	6
Philopotamidae	
<u>Chimarra</u> sp	171
<u>Dolophilodes</u> sp	3
Psychomyiidae	
<u>Psychomyia</u> sp	3
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	43
<u>Oulimnius</u> sp	62
<u>Stenelmis</u> sp	91
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	407
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	3
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	6
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	18
Total organisms	1897
Total number of taxa	36

RIDLEY CREEK BASIN

01476480 RIDLEY CREEK AT MEDIA, PA

LOCATION.--Lat 39°54'58", long 75°24'13", Delaware County, Hydrologic Unit 02040202, on right bank 400 ft downstream from bridge on U.S. Highway 1 (Baltimore Pike) at Media.

DRAINAGE AREA.--30.5 mi².

PERIOD OF RECORD.--October 1986 to September 1995, October 1995 to December 1996 (fragmentary), January 1997 to current year.

REVISED RECORDS.--WDR PA-94-1: 1987, 1991, 1992 adjusted monthly and yearly summaries.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Diversion during entire period of record by Philadelphia Suburban Water Company (formerly Media Water Company). Satellite telemetry at station.

COOPERATION.--Records of diversion provided by Philadelphia Suburban Water Company.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1330	*539	*5.12	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	7.4	8.5	e7.5	25	8.5	32	24	13	7.7	4.8	19
2	8.2	9.0	9.4	e7.3	20	9.6	21	36	11	6.8	4.5	24
3	6.4	9.7	9.0	e8.0	15	158	19	81	12	5.4	5.1	7.2
4	7.2	8.8	7.8	8.2	14	31	17	24	11	6.1	4.8	5.1
5	4.8	8.7	9.0	9.4	13	18	16	20	11	5.9	6.6	4.5
6	6.8	7.8	9.6	22	12	15	15	18	29	4.3	5.6	4.8
7	6.7	8.3	9.6	51	13	14	15	17	75	4.8	4.8	4.5
8	5.1	6.9	13	22	12	13	14	15	19	7.1	4.6	4.3
9	4.6	7.7	33	15	11	12	15	18	15	6.0	3.9	4.7
10	4.6	7.9	13	15	12	18	16	20	13	7.2	3.0	5.2
11	4.8	e8.3	12	50	14	13	14	15	13	6.7	2.0	5.5
12	3.8	7.5	11	32	12	12	16	17	11	4.5	2.8	5.9
13	6.0	7.3	11	17	11	16	17	71	11	4.9	3.6	4.8
14	6.7	8.5	14	14	10	17	16	46	36	5.7	2.2	5.8
15	11	8.9	19	13	10	14	23	22	26	7.5	1.5	5.1
16	7.7	8.7	11	13	11	13	16	19	17	5.8	1.6	6.4
17	5.2	8.2	9.7	13	10	14	14	17	13	4.5	0.57	5.6
18	5.0	8.3	27	13	9.8	46	13	231	18	5.6	1.2	4.8
19	5.1	8.2	16	13	9.4	29	15	55	19	6.7	1.6	4.1
20	6.8	8.5	11	15	10	124	19	31	13	23	2.2	4.6
21	6.3	8.9	9.5	13	14	65	15	25	12	6.5	3.3	6.5
22	5.1	9.1	8.9	13	12	30	21	21	12	5.2	3.2	4.9
23	6.1	10	8.8	14	11	21	17	19	10	6.1	3.6	5.1
24	5.6	11	27	73	9.5	19	13	17	8.9	6.7	6.9	5.1
25	6.1	21	16	47	9.4	17	15	16	8.8	4.5	11	4.5
26	5.7	38	12	21	9.5	19	17	15	7.3	6.0	4.7	9.7
27	5.1	12	11	17	9.4	85	13	21	9.5	6.5	3.4	63
28	8.4	9.5	10	15	8.8	31	71	18	33	5.8	3.8	43
29	6.9	8.5	e9.0	14	---	23	35	15	13	6.0	44	11
30	6.6	8.5	e8.2	14	---	20	21	14	8.9	4.3	14	5.7
31	7.4	---	e7.7	30	---	23	---	13	---	5.2	4.2	---
TOTAL	193.5	301.1	391.7	629.4	337.8	948.1	581	991	509.4	199.0	169.07	294.4
MEAN	6.24	10.0	12.6	20.3	12.1	30.6	19.4	32.0	17.0	6.42	5.45	9.81
MAX	11	38	33	73	25	158	71	231	75	23	44	63
MIN	3.8	6.9	7.7	7.3	8.8	8.5	13	13	7.3	4.3	0.57	4.1
(†)	4.3	4.4	4.1	4.1	4.5	4.6	4.5	4.2	4.4	3.4	1.3	2.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2002, BY WATER YEAR (WY)

MEAN	19.8	31.8	39.1	50.4	47.9	71.0	52.7	45.6	34.1	30.8	22.2	30.5
MAX	49.3	62.4	84.0	82.7	74.3	164	108	87.8	68.7	89.6	46.3	147
(WY)	1990	1987	1987	1990	1988	1994	1993	1989	1989	1989	1989	1999
MIN	6.24	10.0	8.14	20.3	12.1	30.6	19.4	23.1	11.7	6.42	5.45	8.42
(WY)	2002	2002	1999	2002	2002	2002	2002	1999	1999	2002	2002	1998

† Diversion for municipal supply, equivalent in cubic feet per second.

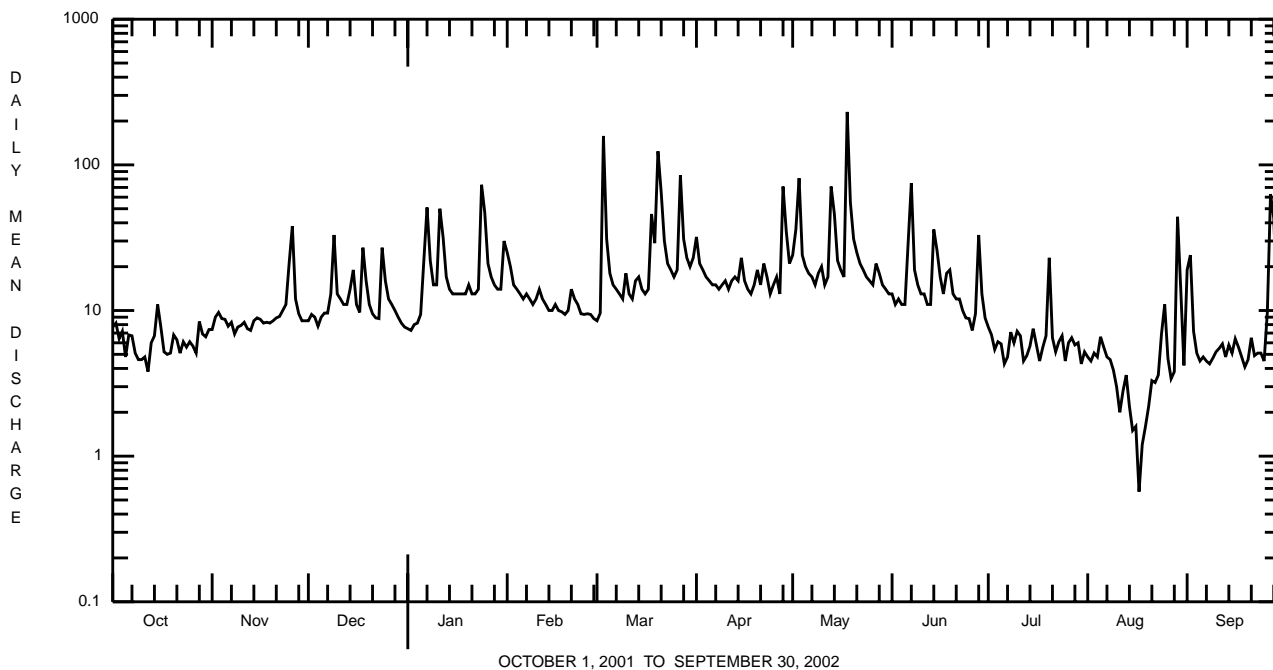
e Estimated.

RIDLEY CREEK BASIN

01476480 RIDLEY CREEK AT MEDIA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1987 - 2002	
ANNUAL TOTAL	12396.7		5545.47			
ANNUAL MEAN	34.0		15.2		39.3	
HIGHEST ANNUAL MEAN					57.6	1994
LOWEST ANNUAL MEAN					15.2	2002
HIGHEST DAILY MEAN	463	Mar 30	231	May 18	2860	Sep 16 1999
LOWEST DAILY MEAN	3.8	Oct 12	0.57	Aug 17	0.57	Aug 17 2002
ANNUAL SEVEN-DAY MINIMUM	5.1	Oct 7	1.6	Aug 14	1.6	Aug 14 2002
MAXIMUM PEAK FLOW			539	May 18	a 8000	Sep 16 1999
MAXIMUM PEAK STAGE			5.12	May 18	b 15.10	Sep 16 1999
10 PERCENT EXCEEDS	64		26		71	
50 PERCENT EXCEEDS	24		11		26	
90 PERCENT EXCEEDS	6.8		4.8		9.4	

a From rating curve extended above 1,600 ft³/s on basis of slope-area measurement of peak flow.
b From floodmark.



CHESTER CREEK BASIN

01477000 CHESTER CREEK NEAR CHESTER, PA

LOCATION.--Lat 39°52'08", long 75°24'31", Delaware County, Hydrologic Unit 02040202, on right bank 30 ft downstream from bridge on Dutton Mill Road, and 3.0 mi northwest of Chester.

DRAINAGE AREA.--61.1 mi².

PERIOD OF RECORD.--August 1931 to current year. Monthly discharges only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR PA-72-1: 1971.

GAGE.--Water-stage recorder. Datum of gage is 23.41 ft above Penn Central Railroad datum. Prior to June 27, 1966, water-stage recorder at site 50 ft upstream, and June 28, 1966, to Oct. 4, 1967, nonrecording gage 30 ft upstream and at gage, all at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion about 2.6 mi upstream into Ridley Creek basin (see station 01476480 Ridley Creek at Media) by Philadelphia Suburban Water Company. Diversion for the year was equivalent to a mean daily discharge of 3.2 ft³/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 18	1145	*972	*5.29	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	22	28	e25	55	32	83	57	34	24	6.7	55
2	28	25	26	e25	48	33	57	71	29	22	6.8	71
3	26	26	26	e25	40	316	52	84	27	22	6.5	32
4	24	25	27	e25	38	70	49	42	27	20	8.2	23
5	23	25	26	e24	36	48	44	36	26	17	7.7	19
6	25	24	25	52	35	45	44	35	44	16	7.1	15
7	24	25	26	121	36	42	42	35	148	15	6.5	13
8	23	25	30	53	36	40	43	34	52	13	6.3	15
9	24	24	73	39	34	39	42	39	39	17	6.0	13
10	24	22	37	37	35	51	45	40	35	27	5.9	13
11	24	23	35	97	42	39	40	32	30	20	5.8	12
12	24	24	34	60	35	38	44	38	32	15	6.0	11
13	22	24	35	41	34	48	47	126	29	12	6.7	12
14	23	24	44	36	33	50	45	82	115	15	6.2	13
15	45	23	47	35	33	43	56	47	77	19	6.6	17
16	25	25	33	34	34	38	43	40	63	16	7.2	25
17	20	23	32	34	33	38	39	35	40	12	6.2	18
18	18	24	67	34	32	112	36	385	45	12	6.2	14
19	18	24	41	34	32	69	35	104	41	15	6.5	13
20	17	27	33	37	33	251	44	66	46	14	10	13
21	18	28	32	35	43	126	35	57	32	15	9.5	12
22	19	24	30	35	35	69	51	53	27	13	6.7	12
23	20	23	30	38	33	56	42	48	30	11	6.7	11
24	19	24	75	127	33	49	35	45	29	17	20	9.9
25	20	48	41	81	33	46	39	40	28	16	64	11
26	22	88	33	45	33	47	46	37	24	10	18	22
27	20	34	31	40	33	167	35	53	27	11	13	156
28	21	30	e30	38	32	68	165	46	79	14	12	84
29	21	29	e28	37	---	55	72	40	34	14	158	28
30	25	29	e27	36	---	49	49	36	26	13	48	21
31	24	---	e26	64	---	54	---	34	---	7.9	27	---
TOTAL	717	841	1108	1444	1009	2228	1499	1917	1315	484.9	518.0	783.9
MEAN	23.1	28.0	35.7	46.6	36.0	71.9	50.0	61.8	43.8	15.6	16.7	26.1
MAX	45	88	75	127	55	316	165	385	148	27	158	156
MIN	17	22	25	24	32	32	35	32	24	7.9	5.8	9.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2002, BY WATER YEAR (WY)

MEAN	55.6	76.8	89.9	104	114	142	127	101	76.6	67.7	61.3	67.0
MAX	234	233	328	326	326	627	413	224	176	254	217	543
(WY)	1980	1951	1997	1979	1979	1994	1980	1983	1982	1975	1955	1971
MIN	13.7	18.2	24.3	23.4	36.0	53.1	41.9	34.8	28.3	15.6	13.7	10.4
(WY)	1942	1932	1932	1981	2002	1981	1963	1942	1966	2002	1966	1932

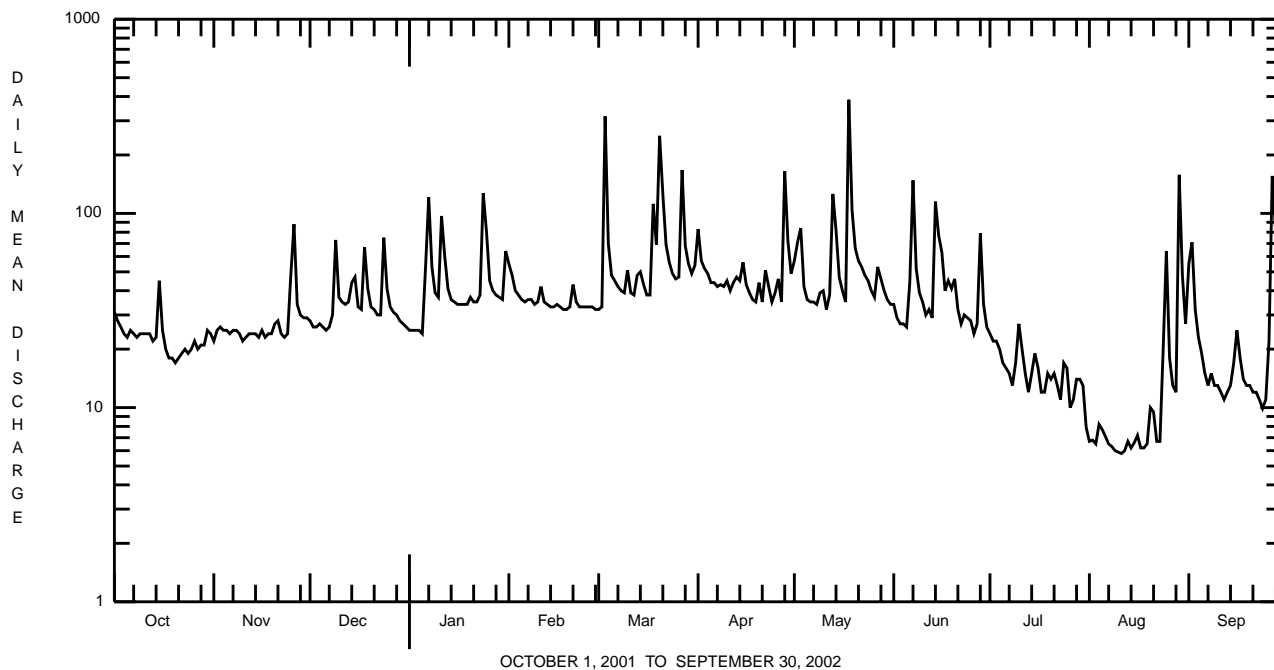
e Estimated.

CHESTER CREEK BASIN

01477000 CHESTER CREEK NEAR CHESTER, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1932 - 2002	
ANNUAL TOTAL	26097		13864.8		90.1	
ANNUAL MEAN	71.5		38.0		168	
HIGHEST ANNUAL MEAN					1979	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	965	Mar 30	385	May 18	6510	Sep 13 1971
LOWEST DAILY MEAN	17	Oct 20	5.8	Aug 11	5.8	Aug 11 2002
ANNUAL SEVEN-DAY MINIMUM	18	Oct 18	6.1	Aug 8	6.1	Aug 8 2002
MAXIMUM PEAK FLOW			972	May 18	a 21000	Sep 13 1971
MAXIMUM PEAK STAGE			5.29	May 18	b 24.59	Sep 13 1971
INSTANTANEOUS LOW FLOW			4.5	Aug 17	0.30	Aug 7 1934
10 PERCENT EXCEEDS	134		64		154	
50 PERCENT EXCEEDS	50		32		60	
90 PERCENT EXCEEDS	23		12		27	

- a** From rating curve extended above 2,400 ft³/s on basis of contracted-opening measurement at 9,400 ft³/s, at gage height 13.57 ft, and slope-area measurement of peak flow.
- b** From floodmark.



DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA

LOCATION.--Lat 39°50'33", long 75°21'28", Delaware County, Hydrologic Unit 02040202, in the pumping house of Kimberly-Clark Paper Company at Chester.

DRAINAGE AREA.--10,300 mi², approximately.

PERIOD OF RECORD.--December 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: January 1968 to current year.

WATER TEMPERATURES: December 1961 to current year.

DISSOLVED OXYGEN: December 1961 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1961. Probes interfaced with a data collection platform since the 1986 water year.

REMARKS.--Specific conductance, pH, and water temperature records rated good. Dissolved oxygen record rated fair. Data collection for pH and dissolved oxygen discontinued during winter months. Specific conductance and water temperature data collected for the entire year. Other interruptions in the record were due to malfunctions of the instrumentation. Prior to April 1981 sampling site located at auxiliary tidal-gaging station at the end of Reynolds Aluminum Company pier, 0.5 mi downstream from Chester Creek in Chester (latitude 39°50'12", longitude 75°22'00").

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 5,900 microsiemens, Oct. 7, 1965; minimum, 103 microsiemens, June 2, 1984, Apr. 9, 1987.

pH: Maximum, 8.7, Sept. 13, 14, 1971, Oct. 16, 1979; minimum, 5.5, Dec. 10, 11, 1969.

WATER TEMPERATURE: Maximum, 33.0°C, July 21, 1977, Aug. 3, 1999; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 16.3 mg/L, Mar. 28, 1993; minimum, 0.0 mg/L, on many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 4,390 microsiemens, Sept. 26; minimum, 171 microsiemens, May 22.

WATER TEMPERATURE: Maximum, 30.0°C, Aug. 5; minimum, 4.0°C, Jan. 19-22.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1120	522	784	1700	779	1140	2420	1160	1640	---	---	---
2	1110	524	746	1680	800	1130	2440	1160	1600	---	---	---
3	937	510	685	1610	807	1130	2570	1180	1600	---	---	---
4	827	497	654	1940	816	1180	---	---	---	---	---	---
5	843	497	649	1520	795	1140	---	---	---	---	---	---
6	841	483	630	1800	795	1160	2200	1130	1540	---	---	---
7	745	461	587	1840	846	1220	2180	1100	1510	---	---	---
8	725	459	574	2140	844	1300	2360	1090	1580	1070	565	752
9	1180	463	671	1920	829	1260	2190	1060	1540	1070	561	743
10	1020	503	677	2090	910	1320	2330	1100	1570	932	545	690
11	1170	494	697	1850	851	1210	2170	624	1470	1230	560	759
12	1410	505	757	2060	953	1370	2290	1060	1510	973	577	723
13	1470	541	823	2140	963	1380	2660	1120	1640	984	556	707
14	1480	564	938	2100	981	1390	2270	1110	1530	784	513	630
15	2100	669	1060	2260	973	1400	2040	982	1390	963	518	646
16	1440	609	982	2420	1040	1510	2250	1010	1420	891	522	670
17	1390	604	960	2560	1110	1590	2470	1040	1500	1030	523	692
18	1110	572	815	2700	1170	1700	2060	941	1340	---	---	---
19	1550	630	936	2420	1150	1610	1860	961	1310	960	519	679
20	1430	644	953	2110	1150	1560	1720	910	1240	1090	542	734
21	1540	668	994	2540	1120	1620	1260	733	982	981	544	729
22	1450	681	986	2470	1200	1660	1440	706	1010	837	532	646
23	1680	708	1050	2560	1160	1660	1440	748	1060	897	511	652
24	1720	759	1140	2550	1200	1750	1290	730	969	1100	526	706
25	1470	751	1100	2640	1240	1780	1150	657	874	---	---	---
26	1380	762	1040	2400	1180	1650	1200	632	859	842	517	649
27	1300	682	958	2320	1220	1680	1310	632	872	795	502	605
28	1580	678	1000	2320	1210	1640	1160	624	812	---	---	---
29	1680	753	1130	2580	1190	1680	1150	574	763	---	---	---
30	1510	743	1070	2430	1240	1710	1080	567	732	984	516	676
31	1740	797	1170	---	---	---	935	554	701	1150	513	711
MONTH	2100	459	878	2700	779	1450	2660	554	1260	1230	502	690

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	7.3	7.1	7.2	---	---	---
2	---	---	---	---	---	---	7.3	7.2	7.2	---	---	---
3	---	---	---	---	---	---	7.3	7.1	7.2	---	---	---
4	---	---	---	---	---	---	7.3	7.1	7.2	---	---	---
5	---	---	---	---	---	---	7.3	7.1	7.3	---	---	---
6	---	---	---	---	---	---	7.3	7.2	7.3	---	---	---
7	---	---	---	---	---	---	7.3	7.1	7.2	---	---	---
8	---	---	---	---	---	---	7.3	7.2	7.2	---	---	---
9	---	---	---	---	---	---	7.2	7.1	7.2	---	---	---
10	---	---	---	---	---	---	7.1	6.9	7.0	---	---	---
11	---	---	---	---	---	---	7.1	6.8	7.0	---	---	---
12	---	---	---	---	---	---	7.1	7.0	7.1	---	---	---
13	---	---	---	---	---	---	7.0	6.9	6.9	---	---	---
14	---	---	---	---	---	---	7.0	6.8	6.9	---	---	---
15	---	---	---	---	---	---	7.0	6.9	6.9	---	---	---
16	---	---	---	---	---	---	7.0	6.7	6.9	---	---	---
17	---	---	---	---	---	---	6.9	6.5	6.8	---	---	---
18	---	---	---	---	---	---	6.9	6.7	6.8	---	---	---
19	---	---	---	---	---	---	7.0	6.8	6.9	---	---	---
20	---	---	---	---	---	---	7.0	6.9	6.9	---	---	---
21	---	---	---	---	---	---	7.0	6.9	6.9	7.1	7.1	7.1
22	---	---	---	---	---	---	7.0	6.9	7.0	7.1	7.0	7.0
23	---	---	---	---	---	---	7.1	7.0	7.0	---	---	---
24	---	---	---	---	---	---	7.1	6.9	7.0	7.0	6.9	7.0
25	---	---	---	---	---	---	7.1	6.9	7.0	7.1	6.9	6.9
26	---	---	---	---	---	---	7.0	6.8	6.9	7.0	7.0	7.0
27	---	---	---	7.4	7.3	7.4	7.0	6.8	6.9	7.0	6.9	7.0
28	---	---	---	7.4	7.2	7.3	7.0	6.8	6.9	6.9	6.8	6.9
29	---	---	---	7.4	7.3	7.3	7.0	6.8	6.9	7.0	6.8	6.9
30	---	---	---	7.3	7.1	7.2	7.0	6.9	6.9	7.0	7.0	7.0
31	---	---	---	7.3	7.2	7.2	---	---	---	7.0	7.0	7.0
MAX	---	---	---	7.4	7.3	7.4	7.3	7.2	7.3	7.1	7.1	7.1
MIN	---	---	---	7.3	7.1	7.2	6.9	6.5	6.8	6.9	6.8	6.9

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.0	20.0	20.5	15.5	15.0	15.5	14.0	13.5	14.0	---	---	---
2	20.5	20.0	20.5	16.0	15.5	15.5	14.0	13.5	13.5	---	---	---
3	21.0	20.0	20.5	16.0	15.5	16.0	13.5	13.0	13.5	---	---	---
4	21.5	20.5	21.0	16.0	15.5	15.5	---	---	---	---	---	---
5	21.5	20.5	21.0	16.0	15.0	15.5	---	---	---	---	---	---
6	21.5	20.5	21.0	15.0	14.5	15.0	13.5	13.0	13.5	---	---	---
7	20.5	19.5	20.0	15.0	14.5	14.5	13.5	13.0	13.5	---	---	---
8	19.5	19.0	19.0	15.0	14.5	14.5	13.5	12.5	13.0	5.0	4.5	5.0
9	19.0	18.5	19.0	15.0	14.0	14.5	13.0	12.5	12.5	5.0	4.5	4.5
10	19.0	18.5	18.5	14.5	14.0	14.0	12.5	12.0	12.0	5.0	4.5	4.5
11	19.5	18.5	19.0	14.0	13.5	13.5	12.5	12.0	12.0	5.5	4.5	5.0
12	19.5	18.5	19.0	13.5	13.0	13.0	12.5	12.0	12.0	5.0	4.5	5.0
13	20.0	18.5	19.5	13.0	12.5	13.0	12.5	11.5	12.0	5.0	4.5	5.0
14	20.0	19.0	19.5	13.0	12.5	13.0	12.5	12.0	12.0	5.0	4.5	4.5
15	20.0	19.0	19.5	13.0	12.5	13.0	12.0	11.5	12.0	5.0	4.5	5.0
16	19.5	19.0	19.0	13.5	13.0	13.0	11.5	11.0	11.5	5.0	4.5	5.0
17	19.0	18.0	18.5	13.5	13.0	13.0	11.5	11.0	11.0	5.0	4.5	5.0
18	18.0	17.5	18.0	13.0	12.5	12.5	11.5	11.0	11.5	---	---	---
19	18.0	17.5	17.5	13.0	12.5	13.0	11.0	11.0	11.0	4.5	4.0	4.5
20	18.0	17.5	17.5	13.0	12.5	13.0	11.0	10.0	10.5	4.5	4.0	4.5
21	18.0	17.5	17.5	12.5	12.0	12.5	10.0	9.5	10.0	4.5	4.0	4.5
22	18.5	17.5	18.0	12.0	12.0	12.0	10.0	9.5	9.5	5.0	4.0	4.5
23	18.5	18.0	18.0	12.0	11.5	12.0	9.5	9.0	9.5	4.5	4.5	4.5
24	19.0	18.0	18.5	12.0	11.5	12.0	10.0	9.5	9.5	5.0	4.5	5.0
25	19.0	18.5	18.5	12.5	12.0	12.5	9.5	9.0	9.0	---	---	---
26	18.5	17.5	18.0	13.0	12.5	13.0	9.0	8.5	8.5	5.5	5.0	5.0
27	17.5	16.5	17.0	13.0	12.5	13.0	8.5	8.0	8.0	5.5	5.0	5.5
28	16.5	15.5	16.0	13.5	12.5	13.0	8.0	7.5	7.5	---	---	---
29	16.5	15.5	16.0	13.5	13.0	13.5	7.5	7.0	7.5	---	---	---
30	16.0	15.5	16.0	14.0	13.0	13.5	7.5	6.5	7.0	6.0	5.5	5.5
31	15.5	15.5	15.5	---	---	---	6.5	6.0	6.5	6.0	5.5	6.0
MONTH	21.5	15.5	18.6	16.0	11.5	13.6	14.0	6.0	10.8	6.0	4.0	4.9

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.6	5.5	6.2	8.0	7.2	7.6	8.4	7.5	7.9	---	---	---
2	6.5	5.9	6.2	7.9	7.1	7.6	8.4	7.4	7.8	---	---	---
3	6.6	5.8	6.2	7.9	7.1	7.5	---	---	---	---	---	---
4	6.7	5.7	6.1	7.9	7.0	7.4	---	---	---	---	---	---
5	6.6	5.6	6.1	7.8	7.1	7.4	---	---	---	---	---	---
6	6.6	5.9	6.3	7.9	7.2	7.5	---	---	---	---	---	---
7	6.7	6.1	6.4	7.9	7.2	7.7	---	---	---	---	---	---
8	7.1	6.4	6.7	8.0	7.1	7.6	---	---	---	---	---	---
9	7.2	6.6	6.9	8.0	7.2	7.6	---	---	---	---	---	---
10	7.3	6.6	6.9	8.1	7.4	7.7	---	---	---	---	---	---
11	7.3	6.6	6.9	8.3	7.6	7.9	---	---	---	---	---	---
12	7.5	6.6	6.9	8.3	7.9	8.1	---	---	---	---	---	---
13	7.4	6.5	6.8	8.4	7.9	8.1	---	---	---	---	---	---
14	7.4	6.2	6.9	8.4	8.0	8.2	---	---	---	---	---	---
15	7.3	6.6	6.9	8.5	8.0	8.2	---	---	---	---	---	---
16	7.4	6.3	6.8	8.5	7.9	8.2	---	---	---	---	---	---
17	7.5	6.8	7.1	8.7	7.9	8.3	---	---	---	---	---	---
18	7.4	7.0	7.2	8.7	8.1	8.4	---	---	---	---	---	---
19	7.5	6.9	7.2	8.6	8.0	8.3	---	---	---	---	---	---
20	7.5	6.6	7.2	8.7	8.1	8.4	---	---	---	---	---	---
21	7.7	6.7	7.2	8.9	8.2	8.5	---	---	---	---	---	---
22	7.3	6.5	7.0	8.8	8.3	8.6	---	---	---	---	---	---
23	7.4	6.6	7.0	8.8	8.2	8.5	---	---	---	---	---	---
24	7.4	6.2	6.9	8.8	8.2	8.5	---	---	---	---	---	---
25	7.3	6.4	6.9	9.0	8.2	8.6	---	---	---	---	---	---
26	7.8	6.5	7.2	8.9	8.2	8.5	---	---	---	---	---	---
27	8.0	7.1	7.5	8.8	7.9	8.3	---	---	---	---	---	---
28	8.1	7.2	7.6	8.7	7.6	8.1	---	---	---	---	---	---
29	8.2	6.8	7.7	8.6	7.7	8.1	---	---	---	---	---	---
30	8.2	6.7	7.6	8.7	7.5	8.1	---	---	---	---	---	---
31	8.0	7.3	7.7	---	---	---	---	---	---	---	---	---
MONTH	8.2	5.5	6.9	9.0	7.0	8.1	8.4	7.4	7.8	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	9.7	9.3	9.5	---	---	---
2	---	---	---	---	---	---	9.7	9.4	9.6	---	---	---
3	---	---	---	---	---	---	9.8	9.5	9.7	---	---	---
4	---	---	---	---	---	---	9.8	9.6	9.7	---	---	---
5	---	---	---	---	---	---	9.9	9.6	9.7	---	---	---
6	---	---	---	---	---	---	10.0	9.6	9.8	---	---	---
7	---	---	---	---	---	---	10.0	9.7	9.8	---	---	---
8	---	---	---	---	---	---	10.2	9.8	9.9	---	---	---
9	---	---	---	---	---	---	10.2	9.9	10.0	---	---	---
10	---	---	---	---	---	---	10.2	9.9	10.1	---	---	---
11	---	---	---	---	---	---	10.1	9.8	9.9	---	---	---
12	---	---	---	---	---	---	10.0	9.7	9.9	---	---	---
13	---	---	---	---	---	---	9.8	9.4	9.6	---	---	---
14	---	---	---	---	---	---	9.7	9.2	9.4	---	---	---
15	---	---	---	---	---	---	9.7	8.9	9.1	---	---	---
16	---	---	---	---	---	---	9.1	8.5	8.9	---	---	---
17	---	---	---	---	---	---	8.8	7.9	8.4	---	---	---
18	---	---	---	---	---	---	8.6	8.3	8.5	---	---	---
19	---	---	---	---	---	---	8.4	7.9	8.2	---	---	---
20	---	---	---	---	---	---	8.0	7.6	7.8	---	---	---
21	---	---	---	---	---	---	7.6	7.3	7.5	7.9	7.5	7.7
22	---	---	---	---	---	---	7.5	6.7	7.2	7.9	7.6	7.7
23	---	---	---	---	---	---	7.1	6.6	6.9	---	---	---
24	---	---	---	---	---	---	6.9	6.6	6.8	7.8	7.5	7.6
25	---	---	---	---	---	---	6.7	6.4	6.5	7.7	7.5	7.6
26	---	---	---	---	---	---	6.7	6.3	6.5	7.6	7.4	7.5
27	---	---	---	9.8	9.7	9.8	6.5	6.2	6.3	7.6	7.2	7.4
28	---	---	---	9.7	9.5	9.6	6.3	6.0	6.2	7.4	7.1	7.2
29	---	---	---	9.7	9.5	9.5	6.4	6.0	6.2	7.3	6.9	7.1
30	---	---	---	9.7	9.5	9.6	6.5	6.1	6.3	7.3	6.9	7.1
31	---	---	---	9.6	9.4	9.5	---	---	---	7.3	6.9	7.1
MONTH	---	---	---	9.8	9.4	9.6	10.2	6.0	8.5	7.9	6.9	7.4

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.6	7.0	7.3	4.9	4.3	4.6	5.5	4.3	5.0	6.8	6.0	6.4
2	7.7	7.1	7.4	5.0	4.4	4.7	5.5	4.3	4.9	6.8	6.0	6.4
3	7.7	7.2	7.4	4.9	4.2	4.6	5.4	4.3	4.9	6.8	6.0	6.4
4	7.6	7.1	7.4	4.9	4.0	4.5	5.3	4.0	4.7	6.8	5.9	6.3
5	7.5	7.3	7.4	5.1	3.9	4.5	5.3	4.3	4.7	6.6	5.5	6.1
6	7.3	7.0	7.1	5.4	4.3	4.8	5.5	4.3	4.9	6.6	5.5	6.1
7	7.0	6.6	6.9	5.4	4.6	5.0	5.7	4.8	5.3	6.6	5.5	6.1
8	7.0	6.4	6.7	5.6	4.7	5.2	5.9	4.8	5.4	6.4	5.5	6.0
9	6.5	5.9	6.2	5.7	4.9	5.3	6.0	4.8	5.5	6.4	5.4	6.0
10	6.0	5.6	5.8	5.8	4.8	5.3	6.0	4.8	5.5	6.2	5.2	5.8
11	5.8	5.5	5.6	5.9	4.9	5.4	5.9	5.1	5.5	6.1	5.4	5.8
12	5.8	5.4	5.6	6.0	5.0	5.5	5.9	4.9	5.4	6.3	5.6	5.9
13	5.7	5.4	5.5	5.9	5.0	5.5	5.6	4.8	5.2	6.5	5.7	6.1
14	5.8	5.5	5.7	5.8	4.8	5.3	5.6	4.7	5.2	6.4	5.8	6.1
15	5.9	5.4	5.6	5.6	4.8	5.2	5.6	4.9	5.3	6.5	5.7	6.2
16	5.7	5.3	5.5	5.6	4.8	5.2	5.7	5.0	5.3	6.5	5.9	6.2
17	5.7	5.3	5.5	6.0	4.8	5.3	---	---	---	6.5	5.8	6.1
18	5.5	5.1	5.3	5.9	5.0	5.4	---	---	---	6.5	5.8	6.2
19	5.4	4.9	5.1	5.7	4.7	5.2	---	---	---	6.4	5.6	6.0
20	5.2	4.6	4.8	5.9	4.5	5.0	5.7	4.8	5.3	6.4	5.6	6.0
21	4.7	4.4	4.5	5.5	4.2	4.9	5.7	4.9	5.4	6.3	5.5	5.9
22	4.7	4.2	4.4	5.5	4.4	5.0	5.7	5.0	5.4	6.3	5.4	5.9
23	4.8	4.3	4.6	5.5	4.7	5.2	5.8	4.8	5.3	6.2	5.6	6.0
24	5.0	4.5	4.7	5.5	4.7	5.2	5.7	5.0	5.3	6.3	5.6	6.0
25	5.1	4.4	4.7	5.8	5.0	5.5	5.5	4.7	5.1	6.4	5.8	6.1
26	5.1	4.2	4.6	5.9	5.2	5.5	5.4	4.6	5.1	6.6	5.9	6.3
27	5.1	4.5	4.8	5.8	4.8	5.4	5.4	4.5	5.0	6.9	6.3	6.6
28	5.2	4.3	4.7	5.5	4.5	5.1	5.8	4.7	5.3	6.7	6.0	6.4
29	4.8	4.2	4.5	5.4	4.5	5.0	6.0	5.4	5.8	6.8	5.9	6.3
30	4.8	4.2	4.5	5.5	4.5	5.0	6.0	5.3	5.7	6.8	5.7	6.2
31	---	---	---	5.5	4.5	5.1	6.3	5.2	5.8	---	---	---
MONTH	7.7	4.2	5.7	6.0	3.9	5.1	6.3	4.0	5.3	6.9	5.2	6.1

CHRISTINA RIVER BASIN

01478245 WHITE CLAY CREEK NEAR STRICKERSVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°44'51", long 75°46'15", Chester County, Hydrologic Unit 02040205, on right bank 0.1 mi downstream from West Branch White Clay Creek, in the White Clay Creek State Preserve, and 1.5 mi northeast of Strickersville.

DRAINAGE AREA.--59.2 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Mar. 20	1700	*457	*5.07	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	26	28	e20	50	28	69	43	25	19	9.2	24
2	27	26	27	e19	44	29	49	80	24	18	8.6	24
3	26	27	27	e19	38	204	46	70	22	17	8.4	15
4	25	27	27	e18	37	62	43	43	22	16	8.5	12
5	24	26	27	e18	e34	44	41	39	22	16	8.1	10
6	24	26	27	41	e34	40	41	36	49	15	8.2	9.6
7	24	25	27	88	34	38	39	35	106	14	7.2	9.2
8	24	25	29	52	33	36	38	33	31	14	6.9	8.9
9	24	25	46	42	32	35	39	33	28	14	7.2	8.8
10	25	25	32	38	32	44	42	34	26	19	7.0	8.5
11	26	25	35	132	35	35	38	30	25	14	6.6	8.5
12	25	24	33	69	32	34	38	35	24	13	6.4	8.0
13	25	24	32	46	31	47	39	56	25	13	6.2	8.7
14	25	25	38	39	30	45	38	55	75	15	5.7	9.2
15	35	25	42	37	30	38	39	35	40	16	5.4	10
16	28	25	33	35	31	37	46	32	33	13	5.6	14
17	28	24	32	34	30	35	38	30	27	12	7.1	12
18	27	24	54	33	29	64	35	176	26	12	15	10
19	27	24	39	33	29	52	40	66	32	12	7.6	9.5
20	27	26	34	e36	30	196	49	44	27	13	7.1	9.6
21	27	25	31	e34	35	112	37	38	24	12	6.7	9.4
22	27	24	30	32	31	62	43	35	22	11	6.4	9.3
23	27	24	30	35	30	50	38	33	21	11	6.4	9.1
24	27	24	46	105	29	46	34	31	20	13	12	8.8
25	26	45	37	79	29	43	35	29	41	13	25	8.7
26	25	62	32	47	29	43	35	29	23	11	11	13
27	25	33	30	41	29	155	32	30	21	12	9.4	60
28	25	30	e27	39	28	64	148	30	30	13	9.6	41
29	26	29	e29	37	---	52	68	29	21	12	60	17
30	27	29	e26	36	---	48	44	27	19	11	20	13
31	25	---	e21	52	---	51	---	26	---	9.7	12	---
TOTAL	811	829	1008	1386	915	1869	1361	1342	931	423.7	330.5	418.8
MEAN	26.2	27.6	32.5	44.7	32.7	60.3	45.4	43.3	31.0	13.7	10.7	14.0
MAX	35	62	54	132	50	204	148	176	106	19	60	60
MIN	24	24	21	18	28	28	32	26	19	9.7	5.4	8.0
CFSM	0.44	0.47	0.55	0.76	0.55	1.02	0.77	0.73	0.52	0.23	0.18	0.24
IN.	0.51	0.52	0.63	0.87	0.57	1.17	0.86	0.84	0.59	0.27	0.21	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002
MEAN	54.0	54.1	86.0	84.7	86.3	121	89.8
MAX	143	119	246	134	134	191	126
(WY)	1997	1997	1997	1997	1997	2000	1997
MIN	25.8	27.6	26.6	44.7	32.7	60.3	45.4
(WY)	1998	2002	1999	2002	2002	2002	2002

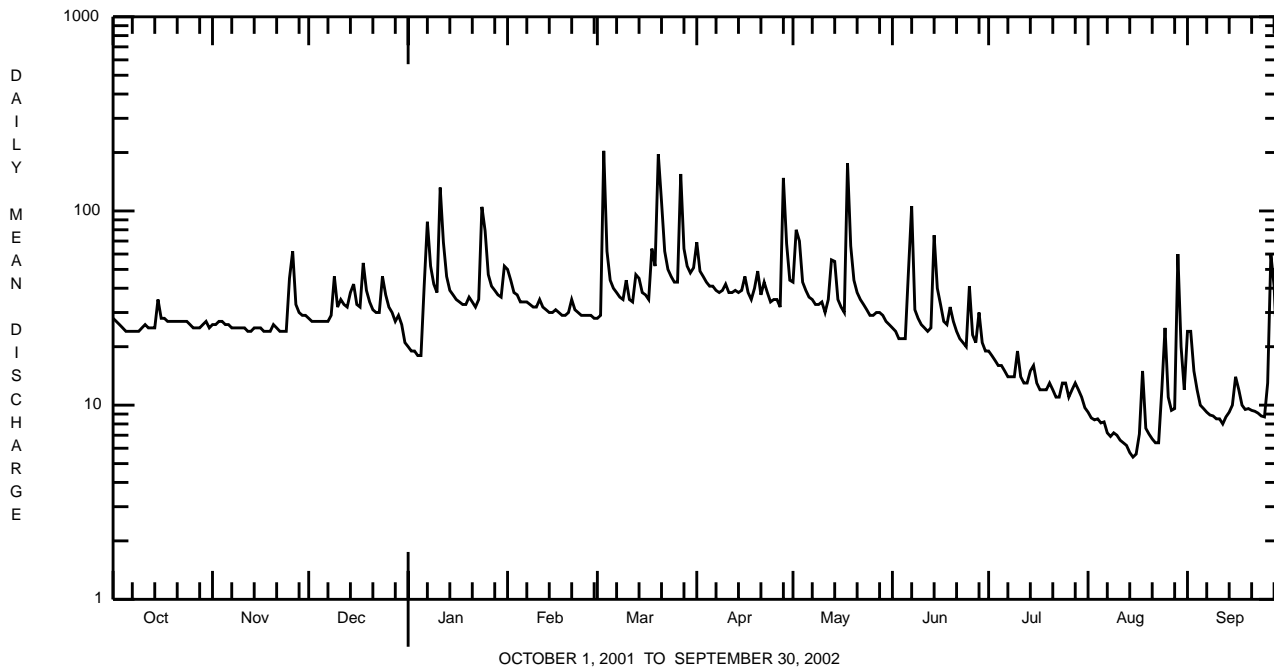
e Estimated.

CHRISTINA RIVER BASIN

01478245 WHITE CLAY CREEK NEAR STRICKERSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1996 - 2002	
ANNUAL TOTAL	21340		11625.0		68.3	
ANNUAL MEAN	58.5		31.8		105	
HIGHEST ANNUAL MEAN					31.8	
LOWEST ANNUAL MEAN					1997	
HIGHEST DAILY MEAN	703	Mar 30	204	Mar 3	4930	Sep 16 1999
LOWEST DAILY MEAN	18	Aug 8,9	5.4	Aug 15	5.4	Aug 15 2002
ANNUAL SEVEN-DAY MINIMUM	20	Aug 3	6.1	Aug 10	6.1	Aug 10 2002
MAXIMUM PEAK FLOW			457	Mar 20	a 14400	Sep 16 1999
MAXIMUM PEAK STAGE			5.07	Mar 20	b 16.71	Sep 16 1999
INSTANTANEOUS LOW FLOW			5.0	Aug 15,16	5.0	Aug 15 2002
ANNUAL RUNOFF (CFSM)	0.99		0.54		1.15	
ANNUAL RUNOFF (INCHES)	13.41		7.30		15.67	
10 PERCENT EXCEEDS	97		49		121	
50 PERCENT EXCEEDS	41		28		45	
90 PERCENT EXCEEDS	24		9.5		21	

a From rating curve extended above 1,180 ft³/s on basis of runoff comparison with nearby station.
b From floodmark in gage.



CHRISTINA RIVER BASIN

01478245 WHITE CLAY CREEK NEAR STRICKERSVILLE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM RECOVERABLE (MG/L AS Ca) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS Mg) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CaCO3) (00417)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 2002 24...	1120	9813	33	30	13.0	8.1	342	10.4	150	35.1	14.3	86	27.2
JUN 25...	1210	9813	37	30	8.5	7.8	309	22.8	120	29.8	11.7	72	21.7
AUG 28...	0935	9813	9.3	30	7.5	7.9	365	21.4	140	35.7	13.5	98	28.4

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	ORTHO-PHOSPHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)
APR 2002 24...	29.5	228	8	.030	3.60	<.010	3.7	.095	.150	2.5	3.0	.6	10
JUN 25...	29.3	88	108	.030	3.58	.070	4.5	.113	.310	7.5	7.3	2.6	23
AUG 28...	32.7	294	2	.060	2.23	.010	2.4	.111	.170	--	3.8	.7	<10

Date	FECAL COLIFORM, MFC MF, WATER (COL/100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	ARSENIC TOTAL (µG/L AS AS) (01002)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHROMIUM, HEXAVALENT, DIS-SOLVED (µG/L AS CR) (01032)	CHROMIUM, TOTAL RECOVERABLE (µG/L AS CR) (01034)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)
APR 2002 24...	--	<4.0	<4	<.20	<.2	<1	<4	<4	<4	70	190	<1.0	<1.0
JUN 25...	260000	<4.0	<4	<.20	<.2	<1	<4	<4	5.9	40	3220	<1.0	2.8
AUG 28...	280	<4.0	<4	<.20	<.2	<1	<4	<4	<4	40	180	<1.0	<1.0

Date	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	MERCURY TOTAL RECOVERABLE (µG/L AS HG) (71900)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	SILVER, DIS-SOLVED (µG/L AS AG) (01075)	SILVER, TOTAL RECOVERABLE (µG/L AS AG) (01077)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)
APR 2002 24...	<2.0	<2	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	<5.0	<5.0
JUN 25...	20	100	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	<5.0	10
AUG 28...	40	50	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	6.5	<5.0

CHRISTINA RIVER BASIN

01479676 RUNOFF TO UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'52", long 75°43'42", Chester County, Hydrologic unit 02040205, 125 ft upstream from station 01479678, and 725 ft upstream from confluence with West Branch Red Clay Creek, at Kennett Square Borough.

DRAINAGE AREA.--0.03 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1999 to December 2001. (discontinued)

GAGE.--Water-stage recorder. Elevation of gage is 335 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Other data for this project presented in tables on pages 426-435 and 472-496.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 2001 TO DECEMBER 2001
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.023	0.024	0.011	---	---	---	---	---	---	---	---	---
2	0.020	0.024	0.011	---	---	---	---	---	---	---	---	---
3	0.020	0.021	0.014	---	---	---	---	---	---	---	---	---
4	0.020	0.020	0.013	---	---	---	---	---	---	---	---	---
5	0.372	0.018	0.012	---	---	---	---	---	---	---	---	---
6	0.281	0.018	0.012	---	---	---	---	---	---	---	---	---
7	0.296	0.014	0.012	---	---	---	---	---	---	---	---	---
8	0.031	0.014	0.012	---	---	---	---	---	---	---	---	---
9	0.030	0.015	0.010	---	---	---	---	---	---	---	---	---
10	0.029	0.013	0.009	---	---	---	---	---	---	---	---	---
11	0.029	0.014	0.013	---	---	---	---	---	---	---	---	---
12	0.029	0.014	0.015	---	---	---	---	---	---	---	---	---
13	0.160	0.014	0.017	---	---	---	---	---	---	---	---	---
14	0.034	0.020	0.019	---	---	---	---	---	---	---	---	---
15	0.036	0.014	0.017	---	---	---	---	---	---	---	---	---
16	0.026	0.014	0.017	---	---	---	---	---	---	---	---	---
17	0.023	0.014	0.014	---	---	---	---	---	---	---	---	---
18	0.021	0.012	0.016	---	---	---	---	---	---	---	---	---
19	0.020	0.011	0.020	---	---	---	---	---	---	---	---	---
20	0.017	0.013	0.008	---	---	---	---	---	---	---	---	---
21	0.021	0.014	0.008	---	---	---	---	---	---	---	---	---
22	0.020	0.014	0.008	---	---	---	---	---	---	---	---	---
23	0.021	0.014	0.008	---	---	---	---	---	---	---	---	---
24	0.019	0.012	0.012	---	---	---	---	---	---	---	---	---
25	0.016	0.023	0.011	---	---	---	---	---	---	---	---	---
26	0.014	0.014	0.011	---	---	---	---	---	---	---	---	---
27	0.016	0.014	e0.010	---	---	---	---	---	---	---	---	---
28	0.017	0.012	0.013	---	---	---	---	---	---	---	---	---
29	0.021	0.011	0.011	---	---	---	---	---	---	---	---	---
30	0.018	0.013	e0.008	---	---	---	---	---	---	---	---	---
31	0.021	---	e0.008	---	---	---	---	---	---	---	---	---
TOTAL	1.721	0.462	0.380	---	---	---	---	---	---	---	---	---
MEAN	0.056	0.015	0.012	---	---	---	---	---	---	---	---	---
MAX	0.372	0.024	0.020	---	---	---	---	---	---	---	---	---
MIN	0.014	0.011	0.008	---	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

	2001	2002	2000	2001	2000	2000	2000	2000	2000	2000	2000	1999
MEAN	0.038	0.022	0.027	0.038	0.046	0.042	0.030	0.035	0.038	0.042	0.027	0.056
MAX	0.056	0.029	0.035	0.049	0.060	0.064	0.050	0.056	0.053	0.065	0.050	0.092
(WY)	2002	2000	2000	2001	2000	2000	2000	2000	2000	2000	2000	1999
MIN	0.027	0.013	0.012	0.028	0.032	0.020	0.010	0.014	0.024	0.019	0.005	0.027
(WY)	2001	2002	2002	2000	2001	2001	2001	2001	2001	2001	1999	2001

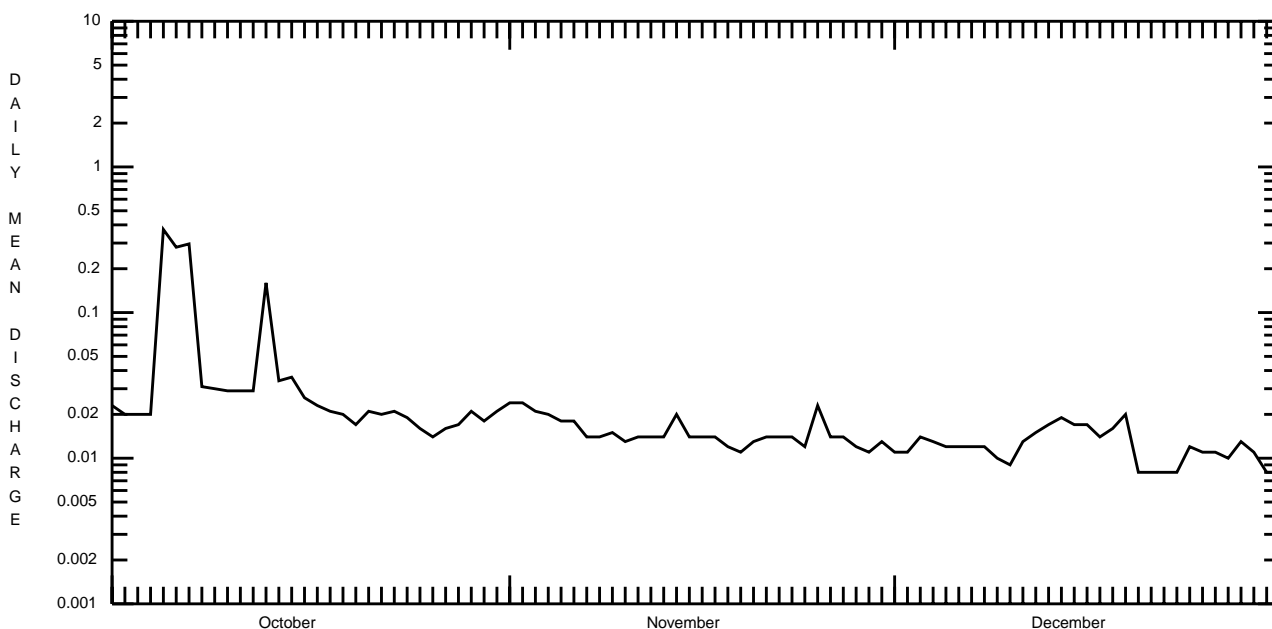
e Estimated.

CHRISTINA RIVER BASIN

01479676 RUNOFF TO UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued
(New Garden Township, Chester County, Spray Irrigation Project)

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	9.309			
ANNUAL MEAN	0.026		0.036	
HIGHEST ANNUAL MEAN			0.047	2000
LOWEST ANNUAL MEAN			0.025	2001
HIGHEST DAILY MEAN	0.580	Jan 19	2.3	Sep 16 1999
LOWEST DAILY MEAN	e0.005	Jan 2,9,15	0.000	Jul 7 1999
ANNUAL SEVEN-DAY MINIMUM	a0.01	Jan 9	0.00	Jul 7 1999
MAXIMUM PEAK FLOW			13	Sep 16 1999
MAXIMUM PEAK STAGE			2.54	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.00	Jul 6 1999
10 PERCENT EXCEEDS	0.03		0.06	
50 PERCENT EXCEEDS	0.01		0.02	
90 PERCENT EXCEEDS	0.01		0.01	

a Computed using estimated daily discharges.
e Estimated.



OCTOBER 1, 2001 TO DECEMBER 31, 2001

CHRISTINA RIVER BASIN

01479676 RUNOFF TO UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued
(New Garden Township, Chester County, Spray Irrigation Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1999 to December 2001. (discontinued)

INSTRUMENTATION.--Automatic pumping sampler for stormflow events since September 1999. Sample intakes are located in flume.

REMARKS.-- Two types of samples are collected at this station. Grab samples are collected at the outlet of the flume. These are samples with one date in the table below. Samples with two dates are composited stormflow samples. Constituent values for stormflow water quality are for discharge-weighted composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for dissolved phosphorus exceed values for total phosphorus and one value for dissolved ortho-phosphorus exceeds values for dissolved and total phosphorus. These results are within the limits of analytical precision and methods. Other data for this project are presented in tables on pages 426-435 and 472-496.

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)
OCT 2001									
05-05	0917	9813	1028	.50	--	--	--	--	--
11...	1000	9813	1028	--	.03	--	--	6.4	462
OCT									
13-13	1045	9813	1028	.35	--	--	--	--	--
25...	0910	9813	1028	--	.02	--	5.1	7.0	430
NOV									
14...	0830	9813	1028	--	.01	--	7.8	6.7	414
14...	0840	9813	1028	--	--	--	--	--	--
NOV									
25-25	1711	9813	1028	.08	--	--	--	--	--
29...	1210	9813	1028	--	.01	230	--	6.6	408
DEC									
06...	0820	9813	1028	--	.01	220	7.4	6.8	401
06...	0821	9813	1028	--	.01	220	7.4	6.8	401
12...	1150	9813	1028	--	.01	242	9.5	7.0	396
27...	0810	9813	1028	--	.01	260	9.7	6.9	395

Date	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT 2001									
05-05	--	--	--	--	--	--	87.8	--	--
11...	--	--	--	--	--	--	50.9	--	--
OCT									
13-13	--	--	--	--	--	--	85.9	--	--
25...	13.6	--	--	--	--	--	48.5	--	--
NOV									
14...	5.6	--	--	--	--	--	49.2	--	--
14...	--	--	--	--	--	--	--	--	--
NOV									
25-25	--	--	--	--	--	--	52.9	--	--
29...	12.3	--	--	--	--	--	48.4	--	--
DEC									
06...	9.9	--	--	--	--	--	47.7	--	--
06...	9.9	--	--	--	--	--	47.8	--	--
12...	8.4	51.9	13.4	4.48	7.63	<.2	49.3	<.20	9.76
27...	2.1	--	--	--	--	--	47.7	--	--

CHRISTINA RIVER BASIN

01479676 RUNOFF TO UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, TOTAL AMMONIA (MG/L AS N) (00610)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
OCT 2001									
05-05	--	--	.440	.460	4.5	1.33	.240	5.0	.700
11...	--	--	<.020	<.020	.61	.11	<.040	.61	.063
OCT									
13-13	--	--	.440	.450	3.2	1.53	<.040	4.6	.540
25...	--	--	<.020	<.020	.46	.12	<.040	.50	.058
NOV									
14...	--	--	<.020	<.020	.64	.43	<.040	.66	.030
14...	--	--	--	--	--	--	--	--	--
NOV									
25-25	--	--	.110	.110	2.1	1.07	<.040	2.4	.198
29...	--	--	<.020	<.020	.76	.42	<.040	.81	.031
DEC									
06...	--	--	<.020	<.020	.88	.50	<.040	.93	.025
06...	--	--	<.020	<.020	.86	.49	<.040	.90	.030
12...	27.2	248	<.020	<.020	.80	.58	<.040	.95	.029
27...	--	--	<.020	<.020	.96	.73	<.040	1.0	.026

Date	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (MG/L AS SB) (01095)	ARSENIC DIS- SOLVED (MG/L AS AS) (01000)	BARIUM, DIS- SOLVED (MG/L AS BA) (01005)
OCT 2001								
05-05	.582	.960	--	10.9	--	--	--	--
11...	.043	.060	--	3.2	--	--	--	--
OCT								
13-13	.465	.800	--	--	--	--	--	--
25...	.024	.030	--	--	--	--	--	--
NOV								
14...	.029	.040	--	2.4	--	--	--	--
14...	--	--	--	--	--	--	--	--
NOV								
25-25	.194	.330	--	11.2	--	--	--	--
29...	.037	.035	--	2.5	--	--	--	--
DEC								
06...	.026	.040	--	2.2	--	--	--	--
06...	.026	.060	--	2.1	--	--	--	--
12...	.024	.038	2.2	2.2	39	<2	<4.0	91.8
27...	.020	.030	--	1.6	--	--	--	--

CHRISTINA RIVER BASIN

01479676 RUNOFF TO UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	BORON, DIS- SOLVED (µG/L AS B) (01020)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
OCT 2001								
05-05	--	--	--	--	<20	620	--	--
11...	--	--	--	--	20	30	--	--
OCT								
13-13	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
NOV								
14...	--	--	--	--	<20	80	--	--
14...	--	--	--	--	--	--	--	--
NOV								
25-25	--	--	--	--	40	620	--	--
29...	--	--	--	--	30	40	--	--
DEC								
06...	--	--	--	--	<20	<20	--	--
06...	--	--	--	--	<20	<20	--	--
12...	200	<.20	<4	<4	<20	--	<1.0	<20
27...	--	--	--	--	<20	<20	--	--

Date	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	N15/N14 NO3 FRAC WATER FLTRD 0.45 µ PER MIL (82690)
OCT 2001								
05-05	<10	140	--	--	--	--	410	--
11...	10	20	--	--	--	--	<10	--
OCT								
13-13	--	--	--	--	--	--	20	--
25...	--	--	--	--	--	--	<10	--
NOV								
14...	<10	80	--	--	--	--	<10	--
14...	--	--	--	--	--	--	--	11.80
NOV								
25-25	<10	230	--	--	--	--	<10	--
29...	<10	<10	--	--	--	--	10	--
DEC								
06...	<10	<10	--	--	--	--	<10	--
06...	<10	<10	--	--	--	--	<10	--
12...	<10	--	<.20	<4.0	<7	140	<10	--
27...	<10	<10	--	--	--	--	<10	--

CHRISTINA RIVER BASIN

01479677 UNNAMED POND ABOVE UNNAMED TRIB. TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'55", long 75°43'43", Chester County, Hydrologic unit 02040205.

DRAINAGE AREA.--0.07 mi².

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

REMARKS.-- Depth intergrated samples collected with a grab sample prior to July 7, 1999 and by a peristaltic pump from July 29, 1999 to current year. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods. Other data for this project presented in tables on pages 426-435 and 472-496.

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (CODE 00028)	AGENCY COL-LECTING SAMPLE NUMBER (CODE 00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)
OCT 2001										
10...	1500	9813	1028	2.4	7.5	430	13.0	50.1	11.1	5.22
NOV 08...	1100	9813	1028	9.5	7.4	446	10.4	--	--	--
DEC 05...	1530	9813	1028	13.8	7.9	425	10.5	53.6	12.8	3.41

Date	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L) AS BR (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)
OCT 2001									
10...	11.8	65	<.2	39.6	<.20	11.4	39.6	256	.370
NOV 08...	--	79	--	--	--	--	--	--	<.020
DEC 05...	10.1	75	<.2	39.8	<.20	14.6	41.4	298	<.020

Date	NITRO-GEN, AMMONIA TOTAL (MG/L) AS N (00610)	NITRO-GEN DIS-SOLVED (MG/L) AS N (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) AS N (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, TOTAL (MG/L) AS N (00600)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) AS P (00671)	PHOS-PHORUS TOTAL (MG/L) AS P (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L) AS C (00681)
OCT 2001									
10...	.370	8.8	7.38	.100	9.4	.022	<.010	.130	3.7
NOV 08...	<.020	9.2	7.83	.110	9.6	.017	<.010	.060	--
DEC 05...	<.020	9.5	7.89	<.040	10	.023	<.010	.070	2.6

CHRISTINA RIVER BASIN

01479677 UNNAMED POND ABOVE UNNAMED TRIB. TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (µG/L AS SB) (01095)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	BORON, DIS- SOLVED (µG/L AS B) (01020)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)
OCT 2001 10...	3.8	16	<2	<4.0	79.6	<200	<.20	<4	<4
NOV 08...	--	--	--	--	--	--	--	--	--
DEC 05...	2.8	17	<2	<4.0	77.4	<200	<.20	<4	<4

Date	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 10...	40	<1.0	<20	70	<.20	<4.0	<7	170	<10
NOV 08...	--	--	--	--	--	--	--	--	--
DEC 05...	20	<1.0	<20	80	<.20	<4.0	<7	190	<10

CHRISTINA RIVER BASIN

01479678 UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'56", long 75°43'41", Chester County, Hydrologic unit 02040205, on right bank 600 ft upstream of confluence with West Branch Red Clay Creek, downstream of pond (station 01479677), at Kennett Square Borough.

DRAINAGE AREA.--0.07 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1998 to December 2001. (discontinued)

GAGE.--Water-stage recorder. Elevation of gage is 302.30 ft above sea level, from Global Positioning System.

REMARKS.--Records poor. Monthly water-quality samples were collected during the year. Other data for this project presented in tables on pages 426-435 and 472-496.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 2001 TO DECEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.037	0.030	0.026	---	---	---	---	---	---	---	---	---
2	0.033	0.030	0.026	---	---	---	---	---	---	---	---	---
3	0.034	0.030	0.026	---	---	---	---	---	---	---	---	---
4	0.033	0.030	0.026	---	---	---	---	---	---	---	---	---
5	0.423	0.030	0.026	---	---	---	---	---	---	---	---	---
6	0.364	0.030	0.024	---	---	---	---	---	---	---	---	---
7	0.362	0.030	0.022	---	---	---	---	---	---	---	---	---
8	0.069	0.030	0.028	---	---	---	---	---	---	---	---	---
9	0.062	0.030	0.034	---	---	---	---	---	---	---	---	---
10	0.067	0.026	0.026	---	---	---	---	---	---	---	---	---
11	0.072	0.028	0.029	---	---	---	---	---	---	---	---	---
12	0.059	0.026	0.030	---	---	---	---	---	---	---	---	---
13	0.181	0.028	0.028	---	---	---	---	---	---	---	---	---
14	0.061	0.033	0.031	---	---	---	---	---	---	---	---	---
15	0.136	0.030	0.028	---	---	---	---	---	---	---	---	---
16	0.092	0.030	0.026	---	---	---	---	---	---	---	---	---
17	0.071	0.030	0.027	---	---	---	---	---	---	---	---	---
18	0.056	0.030	0.035	---	---	---	---	---	---	---	---	---
19	0.036	0.030	0.035	---	---	---	---	---	---	---	---	---
20	0.035	0.030	0.028	---	---	---	---	---	---	---	---	---
21	0.037	0.030	0.026	---	---	---	---	---	---	---	---	---
22	0.042	0.028	0.026	---	---	---	---	---	---	---	---	---
23	0.041	0.026	0.026	---	---	---	---	---	---	---	---	---
24	0.042	0.026	0.034	---	---	---	---	---	---	---	---	---
25	0.041	0.048	0.028	---	---	---	---	---	---	---	---	---
26	0.035	0.033	0.026	---	---	---	---	---	---	---	---	---
27	0.035	0.027	0.026	---	---	---	---	---	---	---	---	---
28	0.034	0.026	0.026	---	---	---	---	---	---	---	---	---
29	0.030	0.026	0.026	---	---	---	---	---	---	---	---	---
30	0.030	0.026	0.026	---	---	---	---	---	---	---	---	---
31	0.030	---	0.026	---	---	---	---	---	---	---	---	---
TOTAL	2.680	0.887	0.857	---	---	---	---	---	---	---	---	---
MEAN	0.086	0.030	0.028	---	---	---	---	---	---	---	---	---
MAX	0.423	0.048	0.035	---	---	---	---	---	---	---	---	---
MIN	0.030	0.026	0.022	---	---	---	---	---	---	---	---	---
CFSM	1.24	0.42	0.39	---	---	---	---	---	---	---	---	---
IN.	1.42	0.47	0.46	---	---	---	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

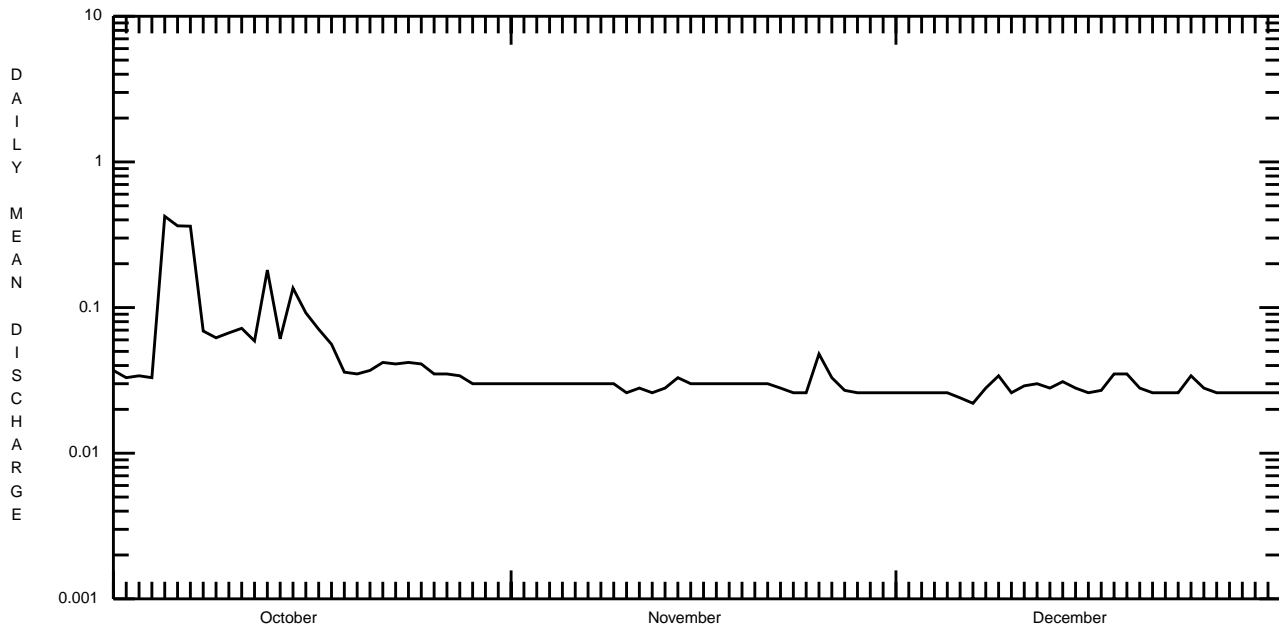
MEAN	0.053	0.036	0.059	0.075	0.083	0.103	0.076	0.045	0.062	0.041	0.034	0.089
MAX	0.086	0.054	0.12	0.092	0.090	0.14	0.12	0.096	0.11	0.089	0.076	0.22
(WY)	2002	2000	2001	2001	1999	2000	2000	2000	2001	2000	2000	1999
MIN	0.012	0.010	0.015	0.052	0.072	0.070	0.041	0.019	0.020	0.011	0.010	0.010
(WY)	1999	1999	1999	2000	2001	2001	2001	1999	1999	1998	1998	1998

CHRISTINA RIVER BASIN

01479678 UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	21.215			
ANNUAL MEAN	0.058		0.068	
HIGHEST ANNUAL MEAN			0.084	2000
LOWEST ANNUAL MEAN			0.055	1999
HIGHEST DAILY MEAN	1.3	Jan 30	e5.5	Sep 16 1999
LOWEST DAILY MEAN	e0.008	Jan 2	a0.000	Aug 6 1998
ANNUAL SEVEN-DAY MINIMUM	b0.01	Jan 9	a0.00	Jul 12 1999
MAXIMUM PEAK FLOW			27	Sep 16 1999
MAXIMUM PEAK STAGE			c1.82	Sep 16 1999
INSTANTANEOUS LOW FLOW			0.00	Jul 19 1999
ANNUAL RUNOFF (CFSM)	0.83		0.97	
ANNUAL RUNOFF (INCHES)	11.27		13.20	
10 PERCENT EXCEEDS	0.07		0.10	
50 PERCENT EXCEEDS	0.04		0.04	
90 PERCENT EXCEEDS	0.02		0.01	

- a** First occurrence.
b Computed using estimated daily discharges.
c Maximum recorded.
e Estimated.



OCTOBER 1, 2001 TO DECEMBER 31, 2001

CHRISTINA RIVER BASIN

01479678 UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued
(New Garden Township, Chester County, Spray Irrigation Project)

WATER-QUALITY RECORDS

REMARKS.--Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)
OCT 2001 18...	1300	9813	1028	2.4	7.5	437	11.7	52.3	12.1	5.14
NOV 08...	1000	9813	1028	9.5	7.5	452	10.2	--	--	--
DEC 06...	1400	9813	1028	8.5	7.3	438	12.3	51.0	11.6	3.62

Date	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 18...	11.3	99	<.2	43.7	<.20	12.6	35.9	316	<.020
NOV 08...	--	82	--	--	--	--	--	--	<.020
DEC 06...	9.88	74	<.2	39.7	<.20	13.6	40.0	308	.020

Date	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 2001 18...	<.020	6.9	5.56	<.040	7.1	.048	.021	.050	3.5
NOV 08...	<.020	8.2	7.30	<.040	8.1	.035	.023	.040	--
DEC 06...	.020	9.7	7.76	<.040	9.3	.023	.015	.030	2.9

CHRISTINA RIVER BASIN

01479678 UNNAMED TRIBUTARY TO WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (µG/L AS SB) (01095)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	BORON, DIS- SOLVED (µG/L AS B) (01020)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)
OCT 2001 18...	3.3	16	<2	<4.0	86.7	<200	<.20	<4	<4
NOV 08...	--	--	--	--	--	--	--	--	--
DEC 06...	3.0	17	<2	<4.0	80.2	<200	<.20	<4	<4

Date	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 18...	30	<1.0	20	80	<.20	<4.0	<7	180	<10
NOV 08...	--	--	--	--	--	--	--	--	--
DEC 06...	20	<1.0	<20	40	<.20	<4.0	<7	180	<10

CHRISTINA RIVER BASIN

01479820 RED CLAY CREEK NEAR KENNETT SQUARE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°49'00", long 75°41'31", Chester County, Hydrologic Unit 02040205, on left bank along SR 82 (Creek Road), and 3.0 mi south of the intersection of SR 82 and U.S. Highway 1 at Kennett Square.

DRAINAGE AREA.--28.3 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 200 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records poor. Some regulation upstream of gage. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 19	2145	*981	*5.84	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	12	15	24	15	30	25	17	17	7.8	17
2	13	15	12	14	21	16	19	39	15	17	7.7	14
3	12	14	12	13	18	133	19	26	15	17	8.2	11
4	12	12	12	12	17	24	18	20	14	15	7.9	9.3
5	12	13	12	12	16	18	17	19	14	14	9.3	8.4
6	15	13	12	29	16	16	16	18	50	13	9.4	8.0
7	12	12	12	40	16	15	14	18	49	13	6.4	7.8
8	11	12	15	22	16	15	15	18	18	13	6.1	7.9
9	12	12	20	18	16	14	16	19	14	13	5.1	7.8
10	13	12	12	20	16	20	17	19	14	15	5.0	8.0
11	13	11	17	78	19	16	17	17	13	12	5.2	7.7
12	14	11	17	30	16	16	19	19	14	12	5.1	11
13	15	11	17	21	16	27	18	42	18	11	5.0	10
14	14	12	23	18	15	27	17	30	58	15	4.7	7.1
15	23	12	20	18	16	24	18	20	31	15	6.9	7.9
16	15	12	17	17	16	24	16	18	28	13	5.1	14
17	16	11	18	16	15	24	16	17	20	11	11	8.1
18	15	11	33	15	15	52	17	135	15	9.9	16	7.5
19	15	11	20	15	15	24	22	35	140	9.7	5.0	6.7
20	15	13	18	17	16	111	28	25	69	10	6.2	7.3
21	14	12	18	16	22	43	15	22	22	8.7	5.7	5.5
22	15	11	17	17	16	25	24	20	16	9.1	6.0	5.0
23	16	11	16	19	15	20	18	19	14	8.7	6.4	5.9
24	16	11	34	59	15	20	17	19	32	13	10	6.0
25	16	30	19	32	15	19	24	19	43	9.8	10	6.0
26	14	31	17	19	15	20	24	18	22	8.9	4.6	19
27	13	17	17	17	16	79	20	19	29	9.9	5.1	66
28	13	16	17	17	15	25	86	20	35	9.8	11	39
29	13	15	17	16	---	21	31	18	20	11	131	12
30	14	13	16	16	---	19	24	18	17	8.0	29	12
31	14	---	16	28	---	22	---	17	---	10	10	---
TOTAL	438	411	535	696	464	944	652	788	876	372.5	371.9	362.9
MEAN	14.1	13.7	17.3	22.5	16.6	30.5	21.7	25.4	29.2	12.0	12.0	12.1
MAX	23	31	34	78	24	133	86	135	140	17	131	66
MIN	11	11	12	12	15	14	14	17	13	8.0	4.6	5.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

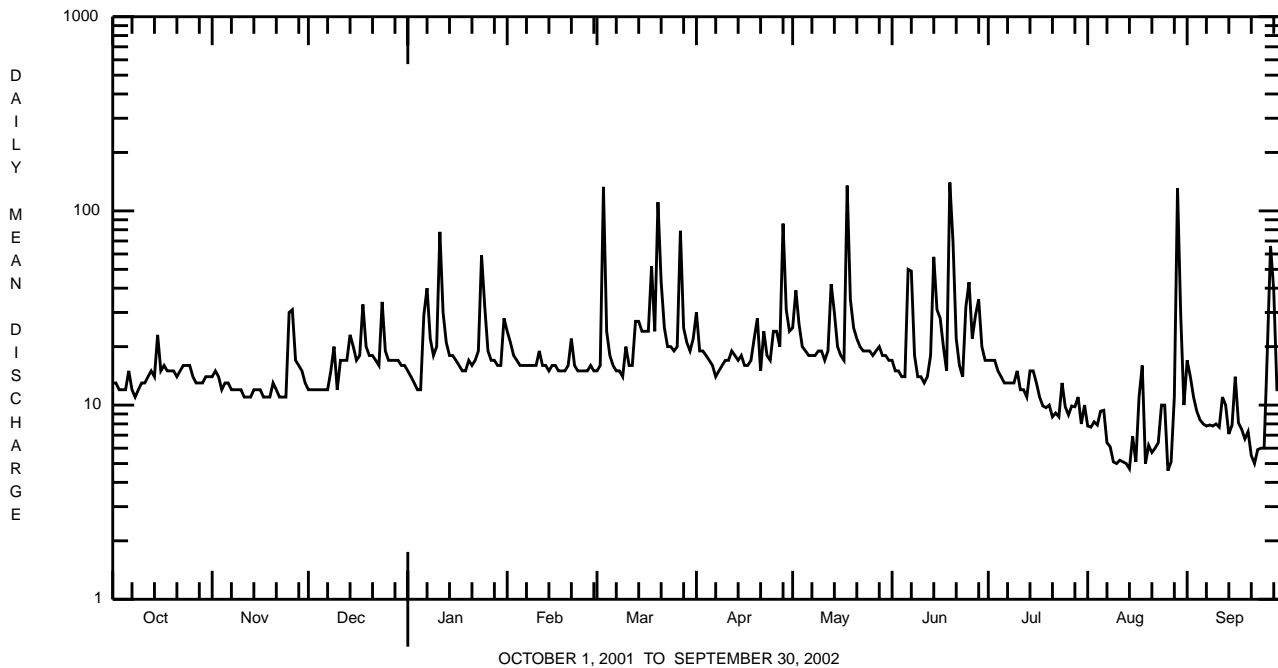
MEAN	26.6	31.0	40.3	48.0	42.7	60.1	45.6	40.5	32.6	26.7	21.5	29.2
MAX	75.5	61.3	128	96.1	81.2	116	85.5	79.2	57.3	94.5	55.2	89.4
(WY)	1997	1997	1997	1996	1994	1994	1993	1989	1996	1989	1996	1999
MIN	10.8	10.9	12.9	22.0	16.6	30.5	21.7	21.7	16.0	12.0	5.84	8.83
(WY)	1995	1999	1999	1992	2002	2002	2002	1999	1995	1995	1995	1995

CHRISTINA RIVER BASIN

01479820 RED CLAY CREEK NEAR KENNETT SQUARE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	11193.4		6911.3			
ANNUAL MEAN	30.7		18.9		37.2	
HIGHEST ANNUAL MEAN					52.0	1997
LOWEST ANNUAL MEAN					18.9	2002
HIGHEST DAILY MEAN	454	Mar 30	140	Jun 19	1820	Sep 16 1999
LOWEST DAILY MEAN	8.9	Aug 9	4.6	Aug 26	0.86	Sep 3 1995
ANNUAL SEVEN-DAY MINIMUM	11	Aug 3	5.2	Aug 8	1.1	Sep 2 1995
MAXIMUM PEAK FLOW			981	Jun 19	a4680	Sep 16 1999
MAXIMUM PEAK STAGE			5.84	Jun 19	10.04	Sep 16 1999
10 PERCENT EXCEEDS	54		29		59	
50 PERCENT EXCEEDS	20		16		26	
90 PERCENT EXCEEDS	12		8.0		12	

a From rating curve extended above 2,100 ft³/s.



CHRISTINA RIVER BASIN

01479820 RED CLAY CREEK NEAR KENNETT SQUARE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD) UNITS (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L) AS (00900)	CALCIUM RECOV-ERABLE (MG/L) AS CA (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L) AS MG (00927)	ANC WATER UNFLTRD FET LAB (MG/L) AS CAC03 (00417)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)
APR 2002 24...	1340	9813	17	30	12.7	8.2	403	13.0	170	40.5	16.3	90	37.6
JUN 25...	1420	9813	31	30	9.0	7.9	310	23.0	120	28.3	11.1	70	23.9
AUG 28...	1115	9813	8.3	30	8.9	8.0	476	21.4	170	40.7	17.3	112	39.0

Date	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA (MG/L) AS N (00610)	NITRO-GEN, NITRATE (MG/L) AS N (00620)	NITRO-GEN, NITRITE (MG/L) AS N (00615)	NITRO-GEN, TOTAL (MG/L) AS N (00600)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) AS P (00671)	PHOS-PHORUS TOTAL (MG/L) AS P (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L) AS C (00681)	CARBON, ORGANIC TOTAL (MG/L) AS C (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) AS C (00310)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) AS CL (00340)
APR 2002 24...	37.8	312	28	.040	4.79	.050	5.2	.309	.350	3.1	3.3	1.1	<10
JUN 25...	30.2	246	18	.170	2.70	.040	3.3	.174	.250	7.5	6.8	2.0	28
AUG 28...	40.5	710	12	<.020	4.56	<.010	5.1	.645	.670	3.4	3.6	.5	<10

Date	FECAL COLI-FORM, MFC MF, WATER (COL/100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L) AS AS (01000)	ARSENIC TOTAL (µG/L) AS AS (01002)	CADMIUM DIS-SOLVED (µG/L) AS CD (01025)	CADMIUM WATER UNFLTRD TOTAL (µG/L) AS CD (01027)	CHRO-MIUM, HEXA-VALENT, DIS. (µG/L) AS CR (01032)	CHRO-MIUM, TOTAL RECOV-ERABLE (µG/L) AS CR (01034)	COPPER, DIS-SOLVED (µG/L) AS CU (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L) AS CU (01042)	IRON, DIS-SOLVED (µG/L) AS FE (01046)	IRON, TOTAL RECOV-ERABLE (µG/L) AS FE (01045)	LEAD, DIS-SOLVED (µG/L) AS PB (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L) AS PB (01051)
APR 2002 24...	180	<4.0	<4	<.20	<.2	<1	<4	<4	<4	50	170	<1.0	<1.0
JUN 25...	20000	<4.0	<4	<.20	<.2	<1	<4	<4	7.3	80	1420	<1.0	2.5
AUG 28...	1000	<4.0	<4	<.20	<.2	<1	<4	<4	<4	30	150	<1.0	<1.0

Date	MANGA-NESE, DIS-SOLVED (µG/L) AS MN (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L) AS MN (01055)	MERCURY DIS-SOLVED (µG/L) AS HG (71890)	MERCURY TOTAL RECOV-ERABLE (µG/L) AS HG (71900)	NICKEL, DIS-SOLVED (µG/L) AS NI (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L) AS NI (01067)	SELE-NIUM, DIS-SOLVED (µG/L) AS SE (01145)	SILVER, DIS-SOLVED (µG/L) AS AG (01075)	SILVER, TOTAL RECOV-ERABLE (µG/L) AS AG (01077)	ZINC, DIS-SOLVED (µG/L) AS ZN (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L) AS ZN (01092)
APR 2002 24...	20	30	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	7.0	9.7
JUN 25...	30	60	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	5.0	10
AUG 28...	20	30	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	10	10

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA

LOCATION.--Lat 40°04'22", long 75°51'40", Chester County, Hydrologic Unit 02040205, on right bank 100 ft upstream from bridge on SR 4007 at Birdell, 0.4 mi downstream from Two Log Run, and 3.0 mi southeast of Honey Brook.

DRAINAGE AREA.--18.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1960 to current year.

REVISED RECORDS.--WDR PA-73-1: 1972(P). WDR PA-99-1: 1972, 1973, 1975, 1976, 1978, 1979, 1982, 1984, 1985, 1987-89, 1996, 1997 (P).

GAGE.--Water-stage recorder and crest-stage gage. Prior to July 1990, water-stage recorder at site 130 ft downstream on right bank at same datum. Datum of gage is 591.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except those above 1,000 ft³/s, and those for estimated daily discharges, which are poor. Some regulation at low flow by pumpage from the Northwestern Chester County Wastewater Treatment plant. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 7	0145	*365	*5.12	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.9	5.5	e4.8	15	4.8	16	11	7.2	5.6	1.8	5.0
2	6.1	5.9	4.9	e5.0	11	4.7	11	56	6.3	5.2	2.2	5.7
3	6.1	5.4	5.6	5.4	8.3	49	12	54	6.4	4.7	3.2	3.7
4	5.5	5.4	6.0	5.3	8.3	13	15	14	6.4	4.5	6.2	2.8
5	5.3	5.9	6.0	5.0	6.8	8.2	11	11	7.1	4.6	3.2	2.4
6	5.3	5.7	6.0	8.3	6.8	8.0	9.4	9.8	36	4.2	2.7	2.1
7	5.2	5.9	6.0	18	7.3	7.5	8.7	9.2	96	4.7	2.3	1.5
8	5.4	6.1	6.7	10	7.0	6.8	8.9	8.6	13	4.8	1.6	1.5
9	5.6	5.7	13	9.4	6.0	6.5	9.2	20	9.6	4.8	2.0	2.0
10	6.2	5.4	7.8	12	6.4	6.9	11	14	8.8	4.9	1.4	1.9
11	5.8	5.2	7.4	97	7.5	6.1	8.6	8.8	8.1	4.4	1.4	1.9
12	5.6	5.9	7.0	22	6.4	6.3	8.4	11	7.8	3.5	1.8	1.7
13	5.1	6.2	7.2	13	6.2	10	8.5	60	7.8	4.0	1.6	1.7
14	5.1	6.3	14	10	5.6	9.4	9.9	85	20	4.5	1.2	1.4
15	7.6	5.7	13	9.5	5.9	7.6	9.8	19	13	4.9	1.1	2.0
16	6.3	6.4	7.2	8.7	5.7	6.4	8.6	14	9.9	4.1	1.3	5.3
17	7.8	5.5	8.0	8.4	5.3	5.9	7.8	12	8.1	3.1	1.1	3.1
18	6.0	5.6	20	7.7	5.3	17	7.4	67	7.7	3.5	1.1	2.3
19	5.8	6.7	10	6.7	5.3	13	7.2	23	12	3.1	1.3	2.2
20	5.5	7.4	7.9	7.5	5.6	71	6.8	15	7.7	6.4	1.4	2.1
21	5.2	7.1	7.0	7.2	5.9	30	6.7	13	7.1	3.6	1.0	1.5
22	6.2	6.3	6.1	7.3	5.3	15	12	11	6.1	3.8	1.0	1.4
23	6.2	6.9	6.1	10	4.7	11	8.8	11	5.6	3.7	1.6	2.2
24	5.7	6.3	10	97	4.5	10	7.3	9.8	6.0	4.6	3.1	2.1
25	5.9	14	8.8	26	5.1	10	8.3	8.5	6.1	3.3	6.4	2.0
26	5.2	14	7.2	11	5.1	11	8.4	8.5	5.7	3.5	2.7	3.2
27	4.9	6.7	6.9	8.8	5.8	33	6.4	9.4	6.2	3.0	2.2	19
28	5.0	6.0	6.8	8.3	5.2	15	40	11	13	3.8	2.3	27
29	5.7	5.9	5.8	8.2	---	13	24	8.9	5.9	4.0	6.1	5.4
30	5.6	6.3	5.2	8.4	---	11	12	8.6	5.6	2.9	4.2	4.3
31	5.6	---	e5.1	17	---	11	---	8.4	---	2.5	2.1	---
TOTAL	178.8	197.7	244.2	482.9	183.3	438.1	329.1	630.5	366.2	128.2	72.6	120.4
MEAN	5.77	6.59	7.88	15.6	6.55	14.1	11.0	20.3	12.2	4.14	2.34	4.01
MAX	7.8	14	20	97	15	71	40	85	96	6.4	6.4	27
MIN	4.9	5.2	4.9	4.8	4.5	4.7	6.4	8.4	5.6	2.5	1.0	1.4
CFSM	0.31	0.35	0.42	0.83	0.35	0.76	0.59	1.09	0.65	0.22	0.13	0.21
IN.	0.36	0.39	0.49	0.96	0.36	0.87	0.65	1.25	0.73	0.26	0.14	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

MEAN	16.7	23.9	28.7	34.8	36.6	41.0	32.5	25.6	22.4	19.9	12.4	16.7
MAX	68.5	58.6	107	136	85.1	110	83.8	74.6	96.6	106	25.8	63.1
(WY)	1997	1973	1997	1996	1979	1994	1983	1989	1972	1984	1990	1960
MIN	5.74	6.59	7.65	7.03	6.55	14.1	11.0	8.84	6.46	3.79	2.34	3.62
(WY)	1965	2002	1999	1981	2002	2002	2002	1963	1963	1963	2002	1964

e Estimated.

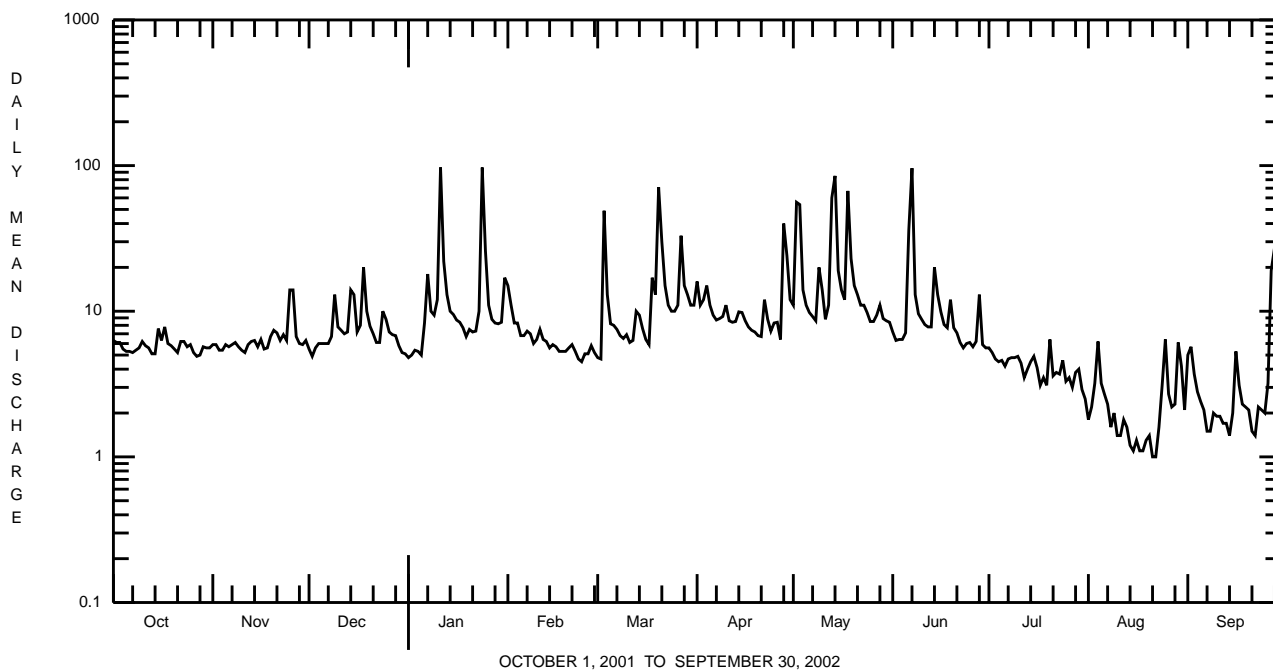
CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1960 - 2002	
ANNUAL TOTAL	6424.9		3372.0			
ANNUAL MEAN	17.6		9.24		25.8	
HIGHEST ANNUAL MEAN					46.3	1984
LOWEST ANNUAL MEAN					9.24	2002
HIGHEST DAILY MEAN	262	Jun 23	97	Jan 11,24	1400	Jun 22 1972
LOWEST DAILY MEAN	3.7	Sep 16	1.0	Aug 21,22	1.0	Aug 21,22 2002
ANNUAL SEVEN-DAY MINIMUM	4.1	Sep 13	1.2	Aug 16	1.2	Aug 16 2002
MAXIMUM PEAK FLOW			365	Jun 7	a3800	Jan 19 1996
MAXIMUM PEAK STAGE			5.12	Jun 7	11.62	Jan 19 1996
INSTANTANEOUS LOW FLOW			0.83	Aug 14,19,20	0.83	Aug 14 2002 b
ANNUAL RUNOFF (CFSM)	0.94		0.49		1.38	
ANNUAL RUNOFF (INCHES)	12.78		6.71		18.73	
10 PERCENT EXCEEDS	31		14		40	
50 PERCENT EXCEEDS	9.9		6.3		15	
90 PERCENT EXCEEDS	5.3		2.2		6.7	

a From rating curve extended above 1,000 ft³/s on basis of runoff comparison with nearby stations.

b Also Aug. 19, 20, 2002.r



CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
------	------	----------------------------------------	-----------------------------------------	-------------------------------------------------	-----------------------------------	------------------------------------------------	-----------------------------------------	------------------------------------	-----------------------------------------	---------------------------------------------	--------------------------------------------	-----------------------------------------	----------------------------------------------------

OCT 2001	04...	1215	80020	1028	6.5	8.8	7.8	342	16.5	26.5	9.80	4.76	22.8	62
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Date	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	
OCT 2001	04...	34.1	12.8	25.9	<.04	3.89	.029	.13	60	36

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/04/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	53
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	11
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	20
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	17
Tubificida	
Naididae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	50
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
<u>Crangonyx</u> sp	1
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<u>Caecidotea</u> sp	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	27
Ephemerellidae	
<u>Serratella</u> sp	15
Heptageniidae	
<u>Stenonema</u> sp	69
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Megaloptera	
Sialidae (ALDERFLIES)	
<u>Sialis</u> sp	1

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/04/01
Benthic Macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	67
<u>Hydropsyche</u> sp	619
Hydroptilidae	
<u>Hydroptila</u> sp	54
<u>Leucotrichia</u> sp	13
Philopotamidae	
<u>Chimarra</u> sp	16
Coleoptera (BEETLES)	
Elmidae (RIFPLE BEETLES)	
<u>Ancyronyx</u> sp	4
<u>Macronychus</u> sp	2
<u>Optioservus</u> sp	108
<u>Stenelmis</u> sp	506
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	3
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	624
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	19
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	9
Tabanidae (HORSE FLIES)	
<u>Tabanus</u> sp	2
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	49
<u>Tipula</u> sp	2
Total organisms	2366
Total number of taxa	30

CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA

LOCATION.--Lat 40°01'38", long 75°50'43", Chester County, Hydrologic Unit 02040205, on right bank 15 ft upstream from SR 4005, 0.2 mi upstream of mouth, 0.6 mi downstream from Chambers Lake, and 1.1 mi northwest of Wagontown.

DRAINAGE AREA.--4.55 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-99-1: 1996-98 (M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 505.81 ft above North American Vertical Datum of 1988.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Chambers Lake (station 01480399) 0.6 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.0	1.3	2.9	3.1	3.3	1.4	1.4	1.4	1.5	1.1	4.8
2	3.3	2.8	1.3	2.9	3.1	3.3	1.4	1.5	1.4	1.4	1.1	4.6
3	3.4	2.7	1.6	2.8	3.1	3.4	1.4	1.5	1.4	1.4	1.1	4.6
4	3.3	2.7	2.2	3.0	3.1	3.3	1.4	1.4	1.4	1.4	1.2	4.6
5	3.3	2.7	3.0	3.0	3.2	3.3	1.4	1.4	1.4	1.4	2.2	4.6
6	3.3	2.7	3.0	3.1	3.3	3.3	1.5	1.4	6.3	1.4	3.0	4.6
7	3.3	2.7	3.1	3.1	3.2	3.3	1.4	1.4	27	1.4	3.0	4.6
8	3.1	2.4	2.6	3.1	3.1	2.7	1.4	1.4	11	1.4	2.9	4.6
9	3.1	1.8	1.9	3.0	3.1	1.2	1.5	1.4	5.0	1.4	2.8	4.6
10	3.0	2.4	3.2	3.0	3.1	1.3	1.5	1.4	3.3	1.4	2.8	4.6
11	2.9	2.4	3.1	3.1	3.1	1.3	1.4	1.4	2.7	1.4	2.9	4.6
12	2.8	2.4	3.1	3.1	3.2	1.3	1.5	1.4	2.3	1.4	3.1	5.9
13	2.8	2.4	3.1	3.1	3.2	1.3	1.4	4.9	1.9	1.4	3.4	5.7
14	2.9	2.3	3.1	3.1	3.3	1.3	1.4	23	7.1	1.5	3.4	4.7
15	3.5	2.2	3.1	3.1	3.2	1.3	1.4	11	8.8	1.4	3.2	5.3
16	3.5	2.3	3.1	3.1	3.3	1.3	1.4	5.4	6.2	1.3	3.3	5.2
17	3.5	2.4	3.1	3.1	3.3	1.4	1.3	3.8	3.9	1.3	3.3	4.8
18	3.2	2.5	3.1	3.1	3.2	1.4	1.3	11	3.1	1.3	3.3	5.1
19	3.1	1.8	3.1	3.1	3.2	1.4	1.3	10	3.0	1.3	3.2	4.9
20	3.1	1.2	3.0	3.0	3.2	1.6	1.3	5.5	2.5	1.3	3.1	4.9
21	3.1	1.3	2.9	3.0	3.2	1.5	1.3	3.7	2.1	1.3	3.1	3.9
22	3.1	1.2	2.9	3.1	3.2	1.4	1.4	3.1	1.8	1.4	3.0	4.0
23	3.1	1.2	2.9	3.1	3.3	1.4	1.4	2.8	1.6	1.4	3.1	4.0
24	3.0	1.2	3.0	3.3	3.3	1.4	1.4	2.6	1.5	1.4	3.1	3.9
25	3.0	1.2	3.0	3.1	3.2	1.4	1.4	2.3	1.5	1.4	3.0	3.9
26	3.0	1.3	3.0	3.1	3.2	1.4	1.4	2.2	1.4	1.4	3.0	4.1
27	3.0	1.3	3.0	3.1	3.3	1.5	1.4	2.4	1.4	1.4	3.0	3.6
28	3.0	1.3	3.0	3.1	3.3	1.4	1.5	4.3	1.5	1.4	3.1	1.6
29	3.0	1.3	3.0	3.1	---	1.4	1.4	5.3	1.5	1.4	3.6	1.2
30	3.0	1.7	3.0	3.1	---	1.4	1.4	3.6	1.5	1.2	4.6	1.3
31	3.0	---	3.0	3.1	---	1.4	---	1.4	---	1.1	4.6	---
TOTAL	97.0	60.8	86.8	95.0	89.6	57.6	42.0	125.3	116.9	42.5	90.6	128.8
MEAN	3.129	2.027	2.800	3.065	3.200	1.858	1.400	4.042	3.897	1.371	2.923	4.293
MAX	3.5	3.0	3.2	3.3	3.3	3.4	1.5	23	27	1.5	4.6	5.9
MIN	2.8	1.2	1.3	2.8	3.1	1.2	1.3	1.4	1.4	1.1	1.1	1.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2002, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001	2002	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	5.243	3.616	7.519	6.000	7.441	11.16	9.185	5.694	4.014	2.433	2.540	2.963				
MAX	19.2	11.3	30.3	16.2	9.94	17.3	17.1	8.99	10.4	6.23	4.49	6.19				
(WY)	1997	1997	1997	1996	1997	2000	1998	1998	1996	1996	1999	1996				
MIN	1.15	1.23	1.21	1.57	2.79	1.86	1.40	2.65	1.50	1.33	1.25	1.45				
(WY)	1996	1996	1996	1999	1999	2002	2002	1999	1999	1995	1995	1995				

CHRISTINA RIVER BASIN

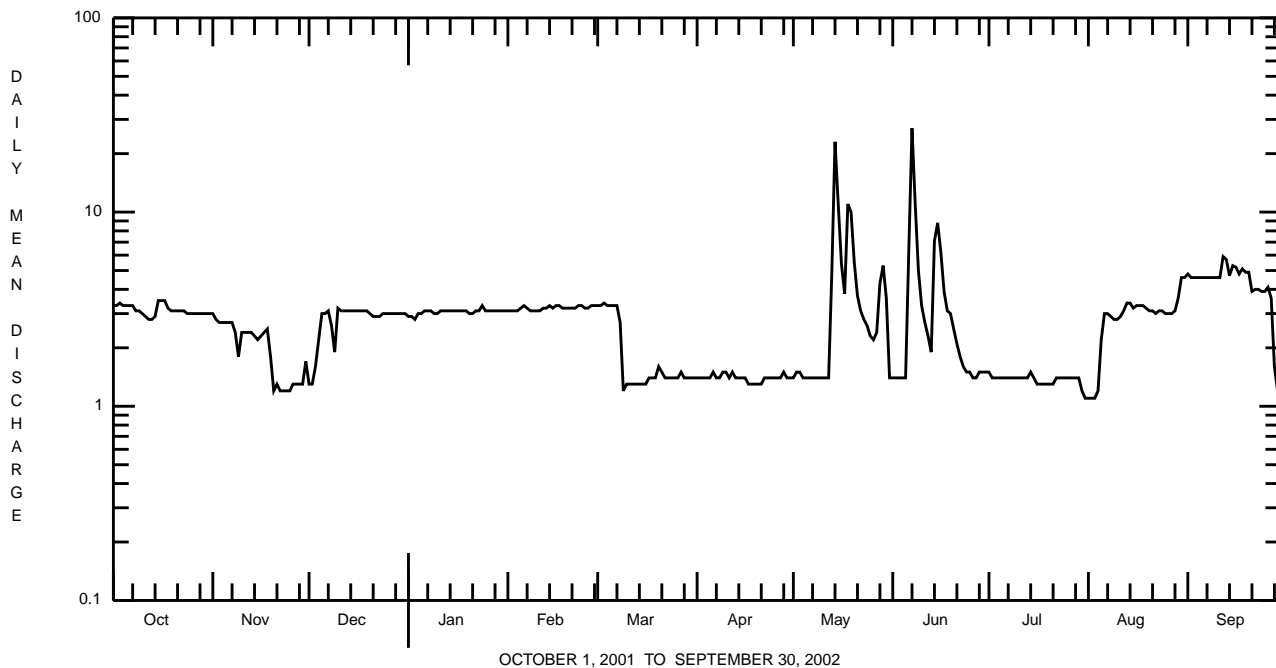
01480400 BIRCH RUN NEAR WAGONTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1995 - 2002	
ANNUAL TOTAL	1735.9		1032.9			
ANNUAL MEAN	4.76		2.83		5.85	
HIGHEST ANNUAL MEAN					9.52	
LOWEST ANNUAL MEAN					2.83	
HIGHEST DAILY MEAN	41	Mar 30	27	Jun 7	250	Oct 19 1996
LOWEST DAILY MEAN	1.2	Nov 20 ^a	1.1	Jul 31 ^b	0.10	Feb 15 1995
ANNUAL SEVEN-DAY MINIMUM	1.2	Nov 20	1.2	Jul 29	0.27	Apr 18 1995
MAXIMUM PEAK FLOW			43	Jun 7	c401	Jan 19 1996
MAXIMUM PEAK STAGE			2.93	Jun 7	4.99	Jan 19 1996
10 PERCENT EXCEEDS	11		4.6		12	
50 PERCENT EXCEEDS	3.0		3.0		3.1	
90 PERCENT EXCEEDS	1.5		1.3		1.5	

^a Also Nov. 22-25.

^b Also Aug. 1-3.

^c From rating curve extended above 230 ft³/s based on a slope-conveyance calculation.



CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1996 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, July 19, Aug. 1, 1996; minimum, 0.0°C, several days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.0°C, Aug. 17, 18; minimum, 1.0°C, Jan. 1, 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.5	17.0	17.0	13.0	11.5	12.0	11.0	8.5	9.5	1.5	1.0	1.0
2	18.5	16.5	17.5	14.0	12.0	12.5	9.5	8.0	9.0	2.0	1.0	1.0
3	19.0	17.0	17.5	14.0	12.5	13.0	10.0	8.0	8.5	2.5	1.5	2.0
4	19.0	17.0	17.5	13.5	12.0	12.5	10.5	8.0	9.0	3.0	2.0	2.0
5	18.5	17.0	17.5	13.0	11.5	12.0	11.0	9.5	10.0	3.0	2.0	2.5
6	18.5	16.5	17.5	12.0	11.0	11.5	11.5	10.0	10.5	3.0	1.5	2.5
7	17.5	16.0	16.5	12.0	10.5	11.0	11.0	10.0	10.5	3.0	2.0	2.5
8	16.5	15.0	15.5	12.0	10.5	11.0	10.0	9.0	9.5	3.0	1.5	2.0
9	16.0	14.5	15.0	11.5	9.5	10.5	10.0	8.5	9.0	3.0	2.0	2.5
10	16.0	14.0	15.0	11.5	10.0	10.5	9.5	8.5	9.0	3.5	2.0	2.5
11	16.5	15.0	15.5	11.0	9.5	10.0	9.5	8.5	9.0	3.5	2.5	3.0
12	16.5	15.0	15.5	10.5	9.0	9.5	9.0	8.0	8.5	3.5	2.0	2.5
13	16.5	15.5	16.0	10.5	8.5	9.5	9.5	8.5	9.0	3.5	2.5	2.5
14	16.5	15.5	16.0	10.5	8.5	9.0	9.5	9.0	9.0	3.5	2.0	2.5
15	17.0	15.5	16.0	11.0	9.0	10.0	9.5	8.0	8.5	3.5	2.5	3.0
16	16.5	15.0	15.5	11.5	9.0	10.0	8.5	7.5	8.0	3.5	2.5	3.0
17	16.0	14.0	15.0	10.5	9.0	9.5	8.5	8.0	8.0	4.0	2.5	3.0
18	15.0	14.0	14.5	10.5	9.0	9.5	8.5	7.5	8.0	3.0	2.0	2.5
19	15.0	13.5	14.0	11.0	9.0	9.5	8.0	7.5	7.5	2.5	1.5	2.0
20	15.5	13.5	14.5	10.0	8.0	9.5	7.5	6.5	7.0	3.0	2.0	2.5
21	15.5	14.0	14.5	9.5	7.5	8.5	6.5	5.5	6.0	3.5	2.0	2.5
22	16.0	14.5	15.0	10.0	7.5	8.5	6.0	5.5	5.5	3.5	2.5	3.0
23	15.5	14.0	15.0	10.0	7.5	8.5	6.5	5.0	5.5	3.5	2.5	3.0
24	16.5	15.0	15.0	10.5	7.5	9.0	6.0	5.0	5.5	4.0	3.0	3.5
25	16.5	14.5	15.5	10.5	9.5	10.0	5.0	4.5	5.0	4.0	2.5	3.5
26	15.5	13.5	14.5	10.5	8.5	9.5	5.0	4.0	4.5	4.0	2.5	3.0
27	14.0	13.0	13.5	10.5	8.0	9.0	4.5	3.5	4.0	4.5	2.5	3.5
28	13.5	12.0	12.5	11.0	9.0	9.5	4.5	3.0	3.5	5.0	3.0	3.5
29	13.0	11.5	12.0	10.0	9.5	9.5	4.5	2.5	3.5	6.0	3.5	4.5
30	13.0	11.5	12.5	10.5	9.5	10.5	2.5	2.0	2.5	5.5	4.5	5.0
31	12.5	11.5	12.0	---	---	---	2.0	1.5	1.5	5.0	4.5	5.0
MONTH	19.0	11.5	15.2	14.0	7.5	10.2	11.5	1.5	7.2	6.0	1.0	2.8

CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
APR 2002					
23...	1558	1.4	--	--	0
23...	1559	--	.50	11.2	2
23...	1600	--	1.00	11.3	4
23...	1601	--	1.00	11.3	5
23...	1602	--	1.00	11.2	6
23...	1603	--	1.00	11.1	7
23...	1604	--	1.00	11.1	8
23...	1605	--	1.00	11.0	9
23...	1606	--	1.00	11.0	10
23...	1607	--	1.00	11.0	11
23...	1608	--	1.00	11.0	12
23...	1609	--	1.00	11.1	13
23...	1610	--	1.00	11.2	14
23...	1611	--	1.00	11.2	15
23...	1612	--	1.00	11.2	16
23...	1613	--	1.00	11.2	17
23...	1614	--	--	--	18

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA

LOCATION.--Lat 39°59'08", long 75°49'40", Chester County, Hydrologic Unit 02040205, on right bank at city limits of Coatesville, 1,200 ft upstream from bridge on old Lincoln Highway, and 0.6 mi downstream from Rock Run.

DRAINAGE AREA.--45.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to December 1951, January 1970 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 306.05 ft above National Geodetic Vertical Datum of 1929. Sept. 10, 1943, to Dec. 31, 1951, nonrecording gage at site 1,100 ft downstream at different datum. Satellite and landline telemetry at station.

REMARKS.--No estimated daily discharges. Records good. Diversion from Rock Run Reservoir (station 01480465) 2.6 mi upstream, capacity, 982 acre-ft, for municipal supply of city of Coatesville.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 9, 1942, reached a stage of 12.3 ft, site and datum then in use, discharge, 8,600 ft³/s, by slope-area measurement.

COOPERATION.--Records of diversion provided by city of Coatesville.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 13	2330	*741	*5.41	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	11	11	40	15	31	29	22	14	6.1	11
2	13	11	10	10	35	15	26	61	19	13	5.7	12
3	12	11	9.7	11	26	93	24	128	18	13	5.4	9.0
4	13	10	11	11	24	36	30	41	18	12	8.1	7.4
5	12	10	12	11	20	23	24	31	20	11	7.8	6.4
6	11	10	12	16	21	21	22	27	87	11	6.9	6.1
7	10	11	12	30	21	20	20	25	206	10	6.1	5.6
8	10	11	12	21	21	19	19	23	48	11	5.6	5.2
9	11	9.7	19	18	19	17	20	33	33	11	5.1	4.8
10	11	10	16	17	18	19	25	38	26	12	4.8	4.9
11	11	10	14	102	20	17	22	26	22	10	4.8	4.8
12	11	9.7	13	61	19	16	21	28	20	9.6	4.5	4.4
13	11	9.9	13	30	18	20	21	97	20	9.0	3.6	5.7
14	10	10	18	23	17	24	24	234	55	10	4.0	4.4
15	13	10	24	21	17	19	23	59	51	11	3.7	5.5
16	12	10	16	20	18	18	22	42	39	9.9	3.5	8.2
17	13	10	14	19	17	17	20	35	27	8.8	3.3	7.4
18	12	10	27	18	16	31	19	134	23	7.8	3.5	6.5
19	11	9.8	21	17	16	33	19	75	26	7.9	3.4	5.7
20	11	10	16	19	17	106	19	46	23	8.7	3.1	5.5
21	11	9.9	14	18	18	83	18	38	20	9.6	3.3	4.9
22	10	9.5	13	18	17	38	25	34	18	8.1	3.1	4.2
23	11	9.0	13	19	16	29	26	31	16	7.7	3.0	4.2
24	11	9.3	17	138	15	25	20	28	15	8.0	4.3	3.9
25	11	15	16	82	15	23	21	26	15	8.5	8.2	4.1
26	11	28	14	36	16	24	23	25	15	7.5	7.0	5.7
27	10	14	13	28	16	56	19	26	16	7.7	5.3	28
28	9.8	12	13	25	16	35	70	30	24	7.9	5.3	37
29	9.8	11	13	24	---	29	55	30	18	8.0	12	12
30	11	11	11	24	---	25	33	27	15	7.8	10	7.3
31	11	---	10	39	---	24	---	22	---	6.7	7.8	---
TOTAL	346.6	332.8	447.7	937	549	970	761	1529	975	298.2	168.3	241.8
MEAN	11.2	11.1	14.4	30.2	19.6	31.3	25.4	49.3	32.5	9.62	5.43	8.06
MAX	13	28	27	138	40	106	70	234	206	14	12	37
MIN	9.8	9.0	9.7	10	15	15	18	22	15	6.7	3.0	3.9
(†)	1.1	1.0	1.0	1.0	1.0	0.9	1.1	2.6	1.7	1.1	1.0	6.2

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	37.2	54.1	67.9	77.6	84.2	96.1	86.0	71.9	58.9	47.5	31.2	36.7
MAX	149	114	227	262	179	275	197	159	236	176	82.9	136
(WY)	1997	1973	1997	1979	1971	1994	1983	1989	1972	1984	1971	1979
MIN	11.2	11.1	14.4	15.5	19.6	31.3	25.4	29.6	17.5	9.62	5.43	8.06
(WY)	2002	2002	2002	1981	2002	2002	2002	1999	1999	2002	2002	2002

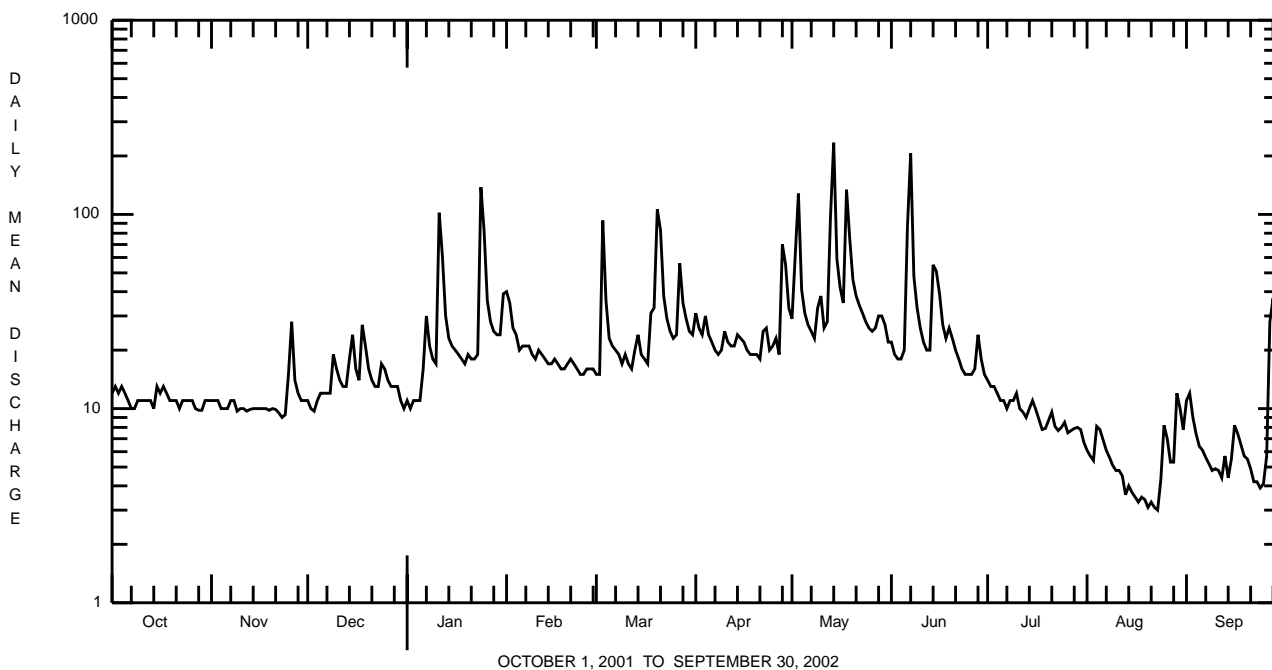
† Diversion for municipal supply, equivalent in cubic feet per second (includes change in contents from Rock Run Reservoir).

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	14883.4		7556.4		62.4	
ANNUAL MEAN	40.8		20.7		98.6	
HIGHEST ANNUAL MEAN					20.7	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	418	Mar 30	234	May 14	3400	Jun 22 1972
LOWEST DAILY MEAN	8.7	Sep 17	3.0	Aug 23	3.0	Aug 23 2002
ANNUAL SEVEN-DAY MINIMUM	9.4	Sep 13	3.2	Aug 17	3.2	Aug 17 2002
MAXIMUM PEAK FLOW			741	May 13	a8100	Jun 29 1973
MAXIMUM PEAK STAGE			5.41	May 13	10.08	Jun 29 1973
10 PERCENT EXCEEDS	83		35		110	
50 PERCENT EXCEEDS	26		15		41	
90 PERCENT EXCEEDS	10		5.7		15	

a From rating curve extended above 7,800 ft³/s on basis of slope-area measurement at gage height 9.92 ft.



CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1970-72, 1995 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: January 1995 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform.

REMARKS.--Water temperature records rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.0°C, July 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.0°C, Aug. 18; minimum 0.5°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.5	12.5	13.0	11.5	8.5	10.0	13.5	12.0	12.5	1.0	0.5	0.5
2	15.5	11.5	13.5	14.5	10.5	12.5	12.0	8.5	10.0	1.0	0.5	0.5
3	17.0	13.5	15.0	15.0	13.0	14.0	8.5	6.5	7.0	1.0	0.5	0.5
4	17.0	15.0	16.0	13.0	10.0	11.5	8.0	5.5	6.5	1.0	0.5	0.5
5	17.0	14.5	16.0	11.0	8.5	9.5	10.5	7.5	9.0	1.0	0.5	0.5
6	17.0	15.0	16.0	8.5	7.5	8.0	11.0	9.0	10.0	1.0	0.5	0.5
7	15.0	11.5	12.5	10.0	7.0	8.5	11.5	10.5	11.0	1.0	0.5	0.5
8	11.5	9.5	10.5	9.5	7.5	9.0	10.5	7.5	8.0	1.0	0.5	0.5
9	10.0	7.5	9.0	9.5	8.5	9.0	8.0	6.5	7.5	1.0	0.5	0.5
10	11.5	8.0	9.5	8.5	6.5	7.5	6.5	4.0	5.0	1.0	0.5	1.0
11	14.0	10.5	12.0	8.0	7.0	7.5	7.5	6.0	6.5	2.0	0.5	1.0
12	15.0	12.5	13.5	7.5	5.0	6.0	7.0	5.0	6.0	3.0	1.5	2.0
13	16.5	14.0	15.5	6.0	4.5	5.5	9.0	7.0	8.0	3.5	2.0	2.5
14	17.0	15.0	16.0	6.5	4.5	5.5	10.0	8.5	9.0	3.0	1.0	2.0
15	17.0	15.0	16.0	9.0	6.0	7.5	10.0	7.0	8.5	4.0	2.0	3.0
16	15.0	11.5	13.0	9.5	7.5	8.5	7.0	4.5	5.5	4.0	3.0	3.5
17	13.5	11.5	12.0	9.5	8.0	8.5	7.5	5.5	6.0	4.0	2.5	3.5
18	11.5	9.0	10.0	8.0	6.0	7.0	9.0	7.5	8.5	3.5	2.0	3.0
19	11.0	8.0	9.5	8.5	6.0	7.5	7.5	6.5	7.0	2.0	0.5	1.0
20	12.5	9.5	11.0	8.5	7.5	8.5	6.5	4.5	5.5	1.0	0.5	1.0
21	13.5	10.0	12.0	7.5	5.0	5.5	4.5	3.5	4.0	1.0	0.5	1.0
22	15.0	12.0	13.5	5.5	3.5	4.5	3.5	2.0	2.5	2.0	0.5	1.5
23	15.5	13.0	14.5	5.5	4.0	5.0	4.0	1.5	2.5	3.5	1.5	2.0
24	17.0	14.5	15.5	9.0	5.0	6.5	5.0	4.0	4.5	5.0	3.5	4.0
25	17.0	15.0	15.5	12.0	9.0	11.0	4.0	1.5	2.5	5.5	4.0	5.0
26	15.0	11.0	12.5	12.0	10.5	11.5	2.5	1.5	2.0	5.0	2.5	3.5
27	11.0	9.0	9.5	10.5	8.0	9.5	1.5	0.5	1.0	5.0	2.0	3.5
28	9.5	8.5	9.0	12.5	10.5	11.5	1.0	0.5	0.5	6.0	2.5	4.0
29	9.0	6.5	8.0	12.5	12.0	12.0	1.0	0.5	1.0	8.0	4.0	5.5
30	10.5	8.5	9.5	13.5	12.0	13.0	1.0	0.5	1.0	8.5	7.0	8.0
31	10.0	8.0	9.0	---	---	---	1.0	0.5	0.5	8.5	7.0	7.5
MONTH	17.0	6.5	12.5	15.0	3.5	8.7	13.5	0.5	5.8	8.5	0.5	2.4

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002					
12...	1201	9.9	--	--	1
12...	1203	--	.50	19.2	3
12...	1204	--	1.00	18.9	6
12...	1206	--	1.00	18.8	9
12...	1207	--	1.00	18.8	12
12...	1209	--	1.00	18.9	15
12...	1210	--	1.00	18.9	18
12...	1213	--	1.00	18.9	21
12...	1214	--	1.00	18.9	24
12...	1216	--	1.00	18.9	27
12...	1218	--	1.00	19.0	30
12...	1219	--	1.50	18.9	33
12...	1221	--	1.00	18.8	36
12...	1222	--	1.00	18.8	39
12...	1223	--	1.00	18.8	42
12...	1224	--	1.00	18.9	45
12...	1226	--	1.00	19.1	48
12...	1227	--	1.00	19.3	51
12...	1229	--	1.00	19.3	54
12...	1230	--	1.00	19.3	57
12...	1232	--	1.00	19.2	60
12...	1233	--	1.00	19.2	63
12...	1235	--	.50	19.5	66
12...	1236	--	--	--	70

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA

LOCATION.--Lat 39°57'42", long 75°48'06", Chester County, Hydrologic Unit 02040205, on left bank at bridge on SR 15068 at Modena, and 300 ft upstream from Dennis Run.

DRAINAGE AREA.--55.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1970 to current year.

REVISED RECORDS.--WDR PA-74-1: 1971-72(P), 1973. WDR PA-75-1: 1974(m).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 265 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Slight regulation from Rock Run Reservoir 5.6 mi upstream, capacity, 982 acre-ft, and by Lukens Steel Company. Diversion from Rock Run Reservoir for municipal supply of city of Coatesville reenters creek upstream from gage. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by the city of Coatesville.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
June 6	2330	*833	*5.13	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	17	21	19	49	25	40	34	29	19	11	26
2	19	16	19	20	45	30	36	96	26	20	11	20
3	19	19	17	20	35	132	33	125	24	18	11	15
4	21	16	20	20	33	49	38	45	25	19	13	14
5	18	16	19	21	30	33	33	37	27	17	13	12
6	19	15	20	39	29	31	32	32	109	17	13	12
7	18	16	20	46	31	30	30	32	261	16	11	11
8	17	15	24	31	30	30	30	30	49	17	12	11
9	19	15	32	28	30	27	31	39	35	16	9.9	10
10	19	16	24	25	28	33	35	43	30	18	11	11
11	19	15	23	117	30	26	31	31	28	15	9.3	15
12	19	15	22	81	30	27	31	37	26	16	11	18
13	19	15	22	38	27	32	31	97	26	14	7.8	20
14	18	15	32	31	28	35	35	e235	67	18	9.1	19
15	27	16	34	30	27	30	32	e60	57	16	8.5	30
16	20	15	24	28	30	29	31	44	40	15	8.6	22
17	23	17	25	26	29	28	29	39	31	15	8.4	20
18	23	15	41	27	28	44	28	175	28	14	8.8	17
19	21	16	31	26	28	44	31	85	29	13	8.0	18
20	22	15	25	29	29	140	28	50	28	15	7.9	16
21	20	16	23	26	30	102	27	40	25	15	7.9	17
22	21	16	22	28	28	45	34	39	24	14	8.0	15
23	21	13	21	28	27	38	32	35	23	13	7.4	15
24	23	15	30	166	27	33	27	34	22	14	22	14
25	20	36	26	106	26	32	28	32	22	15	14	12
26	23	40	23	45	28	39	29	30	21	12	14	33
27	20	23	23	36	27	71	25	33	23	15	9.9	74
28	21	20	22	34	27	42	94	33	26	14	12	62
29	17	20	22	31	---	38	62	33	23	14	35	24
30	16	19	21	35	---	33	37	33	20	12	17	16
31	17	---	20	48	---	36	---	29	---	12	14	---
TOTAL	620	533	748	1285	846	1364	1040	1737	1204	478	364.5	619
MEAN	20.0	17.8	24.1	41.5	30.2	44.0	34.7	56.0	40.1	15.4	11.8	20.6
MAX	27	40	41	166	49	140	94	235	261	20	35	74
MIN	16	13	17	19	26	25	25	29	20	12	7.4	10
CFSM	0.36	0.32	0.44	0.75	0.55	0.80	0.63	1.02	0.73	0.28	0.21	0.38
IN.	0.42	0.36	0.51	0.87	0.57	0.92	0.70	1.17	0.81	0.32	0.25	0.42
(†)	-.3	-.2	-.1	+.4	+.1	+.6	+.1	0	-.1	-1.0	-.8	0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2002, BY WATER YEAR (WY)

MEAN	54.5	70.2	90.8	101	106	125	116	93.8	80.4	66.8	45.4	54.1
MAX	190	144	306	330	235	308	241	213	302	236	123	186
(WY)	1997	1997	1997	1979	1971	1994	1983	1989	1972	1984	1971	1979
MIN	20.0	17.8	21.5	20.1	30.2	43.0	34.7	41.5	28.4	15.4	11.8	20.6
(WY)	2002	2002	1999	1981	2002	1985	2002	1999	1999	2002	2002	2002

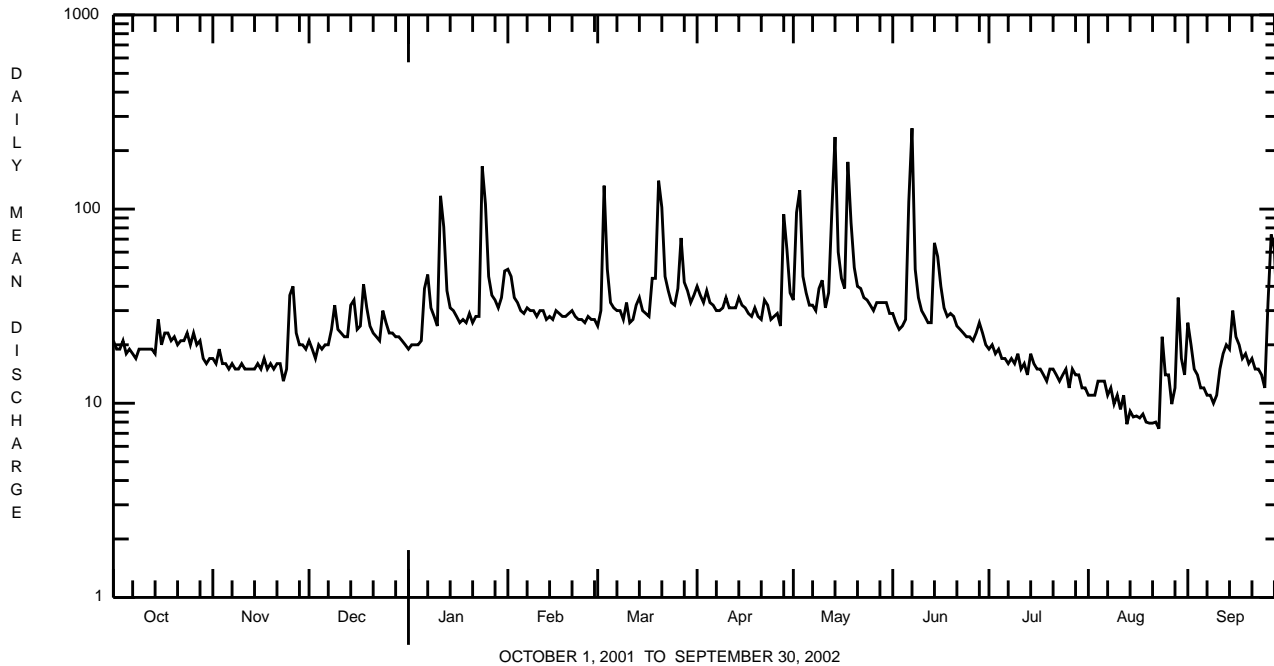
† Change in contents from Rock Run Reservoir, equivalent in cubic feet per second.
e Estimated.

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1970 - 2002	
ANNUAL TOTAL	21060		10838.5			
ANNUAL MEAN	57.7		29.7		83.7	
HIGHEST ANNUAL MEAN					130	1979
LOWEST ANNUAL MEAN					29.7	2002
HIGHEST DAILY MEAN	520	Mar 30	261	Jun 7	4010	Jun 22 1972
LOWEST DAILY MEAN	13	Nov 23	7.4	Aug 23	7.4	Aug 23 2002
ANNUAL SEVEN-DAY MINIMUM	15	Nov 8	8.1	Aug 17	8.1	Aug 17 2002
MAXIMUM PEAK FLOW			833	Jun 6	a9600	Jun 29 1973
MAXIMUM PEAK STAGE			5.13	Jun 6	12.47	Jun 29 1973
ANNUAL RUNOFF (CFSM)	1.05		0.54		1.52	
ANNUAL RUNOFF (INCHES)	14.24		7.33		20.67	
10 PERCENT EXCEEDS	113		43		143	
50 PERCENT EXCEEDS	37		25		55	
90 PERCENT EXCEEDS	17		13		25	

a From rating curve extended above 7,800 ft³/s on basis of slope-area measurement at gage height 11.48 ft.



CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1969 to October 1978, August 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1971 to October 1977, August 1981 to current year.

pH: May 1971 to October 1977, August 1981 to current year.

WATER TEMPERATURES: May 1971 to October 1977, August 1981 to current year.

DISSOLVED OXYGEN: May 1971 to October 1977, August 1981 to current year.

INSTRUMENTATION.--Water-quality monitor May 1971 to October 1977, August 1981 to current year.

REMARKS.--Specific conductance record rated fair except for periods Mar. 18 to Apr. 1 and Aug. 14-18, which are poor. pH record rated good. Water temperature and dissolved oxygen records rated fair. Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 858 microsiemens, Jan. 10, 1977; minimum, 72 microsiemens, Nov. 16, 1985.

pH: Maximum, 10.0, Dec. 21, 1971; minimum, 5.9, July 14, 1991.

WATER TEMPERATURE: Maximum, 33.5°C, July 19, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.5 mg/L, Sept. 2, 1990; minimum, 0.6 mg/L, Nov. 1, 3, 1974.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.7 µM-MF (COLS. / 100 ML) (31625)
MAR 2002									
05...	1235	1028	1028	33	14.5	8.3	313	4.4	272
18...	1210	1028	1028	46	12.9	8.1	323	7.2	580
APR 23...	1330	1028	1028	31	11.0	8.0	323	13.4	217
MAY 01...	1315	1028	1028	35	10.7	8.0	317	16.4	740
14...	1230	1028	1028	227	8.8	7.5	202	16.3	48000
30...	1410	1028	1028	35	10.2	8.1	323	21.4	175
JUN 10...	0849	1028	1028	30	7.7	7.5	311	19.5	827
17...	1325	1028	1028	32	9.6	8.1	307	20.6	1160
25...	1400	1028	1028	23	10.8	8.7	381	25.6	760
JUL 08...	1410	1028	1028	17	11.5	8.6	396	23.7	120
15...	1145	1028	1028	17	9.9	8.0	400	22.1	233
23...	1335	1028	1028	14	10.8	8.5	431	27.4	197
AUG 06...	1130	1028	1028	14	8.6	7.8	463	24.5	380
14...	1220	1028	1028	10	10.2	8.4	538	26.6	553
20...	1250	1028	1028	9.1	10.0	8.2	531	26.9	293
SEP 12...	1355	1028	1028	17	10.9	8.4	463	21.1	157
23...	1320	1028	1028	16	9.9	8.1	502	22.5	500

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	
OCT 2001 02...	0845	80020	1028	19	11.3	7.9	393	14.5	32.3	10.4	5.97	25.1	73	
Date		CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT 2001 02...	41.4	10.6	34.5	<.04	4.10	.016	.16	20	<2	90	<.1	3.9	3.1	
Date		IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)						
OCT 2001 02...		47	<1	31.3	<.01	31.1	3.0	<24						

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/02/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	104
Nematoda (NEMATODES)	84
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	10
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	1
Physidae	
<u>Physa</u> sp	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	31
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	17
<u>Pseudocloeon</u> sp	3
Ephemerellidae	
<u>Serratella</u> sp	3
Heptageniidae	
<u>Stenonema</u> sp	2
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	447
<u>Hydropsyche</u> sp	661
Hydroptilidae	
<u>Leucotrichia</u> sp	132
Leptoceridae	
<u>Oecetis</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	1
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	89
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	41
<u>Oulimnius</u> sp	5
<u>Stenelmis</u> sp	47
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	3

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/02/01
Benthic Macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	121
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	9
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	1
Total organisms	1814
Total number of taxa	23

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	400	357	386	399	364	388	---	---	---
2	---	---	---	398	357	383	412	374	394	---	---	---
3	412	379	396	396	358	383	415	373	399	---	---	---
4	404	365	386	398	352	378	418	371	397	---	---	---
5	408	369	390	399	354	381	---	---	---	---	---	---
6	419	372	397	406	360	388	---	---	---	---	---	---
7	410	375	395	402	367	391	---	---	---	---	---	---
8	409	375	395	403	360	386	---	---	---	---	---	---
9	421	378	396	396	358	382	---	---	---	---	---	---
10	397	361	386	409	370	394	---	---	---	---	---	---
11	410	367	385	403	360	383	---	---	---	---	---	---
12	402	368	386	404	363	388	---	---	---	---	---	---
13	404	375	392	398	361	384	---	---	---	---	---	---
14	402	367	387	404	378	393	---	---	---	---	---	---
15	401	270	346	399	367	388	---	---	---	---	---	---
16	393	360	377	401	352	386	---	---	---	---	---	---
17	396	336	367	401	349	384	---	---	---	---	---	---
18	396	353	374	398	357	382	---	---	---	---	---	---
19	401	358	387	399	360	384	---	---	---	---	---	---
20	404	370	393	396	363	381	---	---	---	---	---	---
21	399	365	388	393	359	382	---	---	---	---	---	---
22	402	366	389	405	360	387	---	---	---	---	---	---
23	416	377	397	405	352	382	---	---	---	---	---	---
24	400	364	388	412	367	397	---	---	---	---	---	---
25	407	368	393	405	204	347	---	---	---	---	---	---
26	403	362	385	325	287	307	---	---	---	---	---	---
27	402	369	387	371	325	351	---	---	---	---	---	---
28	413	367	392	393	363	380	---	---	---	---	---	---
29	413	369	396	398	365	384	---	---	---	---	---	---
30	404	360	389	396	371	387	---	---	---	---	---	---
31	402	358	381	---	---	---	---	---	---	---	---	---
MONTH	421	270	387	412	204	380	418	364	394	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	378	342	362	---	---	---	324	289	310
2	---	---	---	374	339	361	340	304	322	332	149	272
3	---	---	---	339	195	233	345	320	337	257	129	219
4	---	---	---	302	257	279	342	306	321	311	257	283
5	---	---	---	345	299	319	353	317	334	338	311	322
6	---	---	---	350	315	336	355	313	338	343	323	336
7	---	---	---	351	328	339	352	323	341	348	324	338
8	---	---	---	356	332	348	358	331	348	358	335	347
9	---	---	---	368	335	353	360	321	345	362	289	333
10	---	---	---	365	289	336	353	306	320	338	290	315
11	---	---	---	373	333	355	357	320	332	352	326	340
12	---	---	---	378	340	358	362	323	346	349	284	326
13	---	---	---	362	320	338	355	326	343	306	175	253
14	---	---	---	334	294	316	348	308	333	235	156	198
15	---	---	---	353	331	342	348	326	336	286	235	261
16	---	---	---	361	327	348	357	325	341	307	278	292
17	---	---	---	370	337	354	363	329	350	333	305	318
18	---	---	---	350	300	322	373	345	362	333	174	241
19	---	---	---	327	281	299	377	312	357	272	230	248
20	---	---	---	334	182	266	374	343	361	305	271	285
21	---	---	---	260	210	237	373	345	362	318	295	307
22	---	---	---	319	260	289	364	323	339	335	305	319
23	---	---	---	331	318	324	340	309	327	342	313	327
24	---	---	---	326	278	299	362	331	347	354	324	341
25	---	---	---	349	295	316	366	329	350	356	333	346
26	---	---	---	354	220	334	357	324	339	356	341	348
27	364	324	348	305	221	262	358	294	342	352	335	344
28	363	322	346	319	287	307	358	221	261	350	324	335
29	---	---	---	328	296	312	293	238	266	335	310	324
30	---	---	---	344	285	320	305	293	299	380	314	340
31	---	---	---	346	307	325	---	---	---	365	339	354
MONTH	364	322	347	378	182	319	377	221	334	380	129	307

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	373	339	356	386	357	373	477	442	465	434	266	346
2	382	348	363	392	356	374	484	442	470	391	335	362
3	388	366	382	397	359	381	488	425	468	420	370	394
4	390	351	373	405	367	389	492	443	467	450	400	431
5	385	342	364	417	376	396	452	409	428	471	443	460
6	373	139	327	424	382	406	472	426	451	476	448	464
7	226	138	188	432	386	413	474	443	460	475	409	451
8	283	226	254	431	387	410	480	440	467	484	435	467
9	320	278	296	444	404	427	480	443	467	485	438	467
10	341	310	325	438	371	411	493	450	476	478	441	461
11	351	324	338	446	380	412	491	433	467	479	435	460
12	367	341	356	425	383	403	489	440	468	485	443	466
13	374	350	362	417	357	395	493	461	481	526	427	475
14	366	239	283	437	343	372	539	432	497	478	430	447
15	289	235	263	452	397	429	538	447	487	485	305	460
16	304	286	293	442	382	412	528	461	491	415	207	337
17	322	293	308	---	---	---	545	468	506	430	388	415
18	336	303	320	477	432	453	549	491	516	448	409	432
19	340	307	324	476	444	459	523	474	504	471	438	451
20	348	315	330	477	438	461	532	493	515	499	452	474
21	387	332	351	475	419	449	541	518	532	497	397	464
22	394	372	387	484	415	455	554	518	539	488	452	474
23	408	374	391	463	424	444	540	489	520	509	453	487
24	417	360	397	447	405	433	517	232	442	508	484	496
25	428	381	400	451	406	430	431	231	364	524	485	508
26	403	387	396	454	404	435	426	374	398	512	223	464
27	408	366	387	461	431	448	467	415	438	316	201	274
28	371	328	343	445	404	428	484	449	469	350	197	303
29	387	339	361	446	412	434	471	200	323	440	350	391
30	390	365	382	447	413	435	402	361	384	471	423	451
31	---	---	---	469	435	453	434	370	394	---	---	---
MONTH	428	138	340	484	343	421	554	200	463	526	197	434

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	---	---	---	8.6	7.5	7.9	7.6	7.3	7.5	---	---	---
2	---	---	---	8.4	7.4	7.7	8.0	7.4	7.8	---	---	---
3	8.7	7.7	8.3	8.1	7.2	7.4	8.1	7.8	7.9	---	---	---
4	8.8	7.6	8.3	8.5	7.3	7.8	7.9	7.5	7.8	---	---	---
5	8.8	7.6	8.3	8.5	7.4	8.0	---	---	---	---	---	---
6	8.5	7.5	8.1	8.5	7.5	7.9	---	---	---	---	---	---
7	8.7	7.7	8.4	8.4	7.5	7.9	---	---	---	---	---	---
8	8.7	7.8	8.4	8.6	7.5	8.0	---	---	---	---	---	---
9	8.6	7.8	8.3	8.6	7.5	8.0	---	---	---	---	---	---
10	8.7	7.8	8.3	8.6	7.6	8.0	---	---	---	---	---	---
11	8.5	7.6	8.2	8.6	7.6	8.0	---	---	---	---	---	---
12	8.5	7.5	8.1	8.6	7.6	8.1	---	---	---	---	---	---
13	8.4	7.3	7.9	8.6	7.6	7.9	---	---	---	---	---	---
14	8.3	7.3	7.8	8.4	7.6	7.9	---	---	---	---	---	---
15	8.0	7.1	7.6	8.4	7.4	7.8	---	---	---	---	---	---
16	8.2	7.4	7.7	8.3	7.3	7.8	---	---	---	---	---	---
17	8.2	7.3	7.8	8.3	7.3	7.8	---	---	---	---	---	---
18	8.3	7.5	7.8	8.4	7.5	7.9	---	---	---	---	---	---
19	8.3	7.4	7.8	8.3	7.5	7.8	---	---	---	---	---	---
20	8.3	7.4	7.8	8.2	7.4	7.8	---	---	---	---	---	---
21	8.3	7.3	7.6	8.2	7.5	7.9	---	---	---	---	---	---
22	8.4	7.2	7.8	8.3	7.6	8.0	---	---	---	---	---	---
23	8.3	7.2	7.7	8.3	7.7	7.9	---	---	---	---	---	---
24	8.3	7.2	7.6	8.0	7.5	7.7	---	---	---	---	---	---
25	8.2	7.1	7.5	7.5	7.2	7.3	---	---	---	---	---	---
26	8.2	7.2	7.8	7.4	7.2	7.3	---	---	---	---	---	---
27	8.4	7.4	8.0	7.9	7.3	7.5	---	---	---	---	---	---
28	8.5	7.5	8.0	7.8	7.4	7.5	---	---	---	---	---	---
29	8.4	7.6	7.8	7.6	7.4	7.5	---	---	---	---	---	---
30	8.5	7.5	7.8	7.5	7.3	7.4	---	---	---	---	---	---
31	8.6	7.5	8.0	---	---	---	---	---	---	---	---	---
MAX	8.8	7.8	8.4	8.6	7.7	8.1	8.1	7.8	7.9	---	---	---
MIN	8.0	7.1	7.5	7.4	7.2	7.3	7.6	7.3	7.5	---	---	---

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	9.2	7.6	8.4	9.0	7.4	7.9	8.2	7.4	7.7
2	---	---	---	9.2	7.6	8.4	9.0	7.5	8.1	8.4	7.5	7.8
3	---	---	---	8.0	7.7	7.8	8.9	7.5	7.8	7.7	7.5	7.6
4	---	---	---	8.3	7.7	7.8	9.0	7.5	8.1	7.7	7.5	7.6
5	---	---	---	8.6	7.7	7.9	9.0	7.5	8.2	7.8	7.5	7.6
6	---	---	---	8.8	7.6	8.0	9.1	7.6	8.3	7.9	7.5	7.6
7	---	---	---	8.9	7.6	8.2	9.1	7.6	8.3	7.9	7.5	7.6
8	---	---	---	9.1	7.6	8.2	9.2	7.5	8.4	8.0	7.5	7.7
9	---	---	---	9.1	7.6	8.2	9.1	7.5	8.2	7.8	7.5	7.6
10	---	---	---	9.1	7.6	8.2	9.2	7.4	8.2	8.2	7.6	7.8
11	---	---	---	9.0	7.6	8.3	9.1	7.5	8.3	8.3	7.6	7.8
12	---	---	---	9.0	7.6	8.2	8.8	7.5	8.0	8.2	7.5	7.7
13	---	---	---	8.1	7.6	7.8	9.0	7.5	8.1	8.0	7.5	7.7
14	---	---	---	9.2	7.6	8.2	8.9	7.4	7.9	7.8	7.4	7.6
15	---	---	---	9.0	7.5	8.1	8.8	7.4	7.9	7.9	7.6	7.7
16	---	---	---	9.0	7.5	8.1	8.8	7.4	7.9	8.0	7.6	7.7
17	---	---	---	8.6	7.6	7.9	8.7	7.4	7.9	8.2	7.6	7.7
18	---	---	---	8.3	7.6	7.7	8.6	7.3	7.8	7.9	7.5	7.6
19	---	---	---	8.9	7.7	8.0	8.5	7.3	7.6	7.8	7.6	7.6
20	---	---	---	8.1	7.6	7.7	7.9	7.3	7.6	8.0	7.6	7.7
21	---	---	---	7.9	7.6	7.7	7.8	7.4	7.5	8.1	7.6	7.8
22	---	---	---	8.3	7.5	7.8	7.8	7.5	7.6	8.2	7.6	7.8
23	---	---	---	8.3	7.6	7.8	8.3	7.5	7.8	8.4	7.6	7.8
24	---	---	---	8.6	7.6	7.8	8.3	7.6	7.8	8.5	7.6	7.9
25	---	---	---	8.7	7.6	7.9	7.8	7.5	7.6	8.6	7.6	8.1
26	---	---	---	8.2	7.6	7.8	8.3	7.6	7.8	8.6	7.6	7.9
27	9.2	7.5	8.5	8.3	7.6	7.8	8.3	7.5	7.8	8.1	7.5	7.8
28	9.1	7.7	8.5	8.6	7.6	7.8	7.7	7.5	7.6	8.5	7.5	7.8
29	---	---	---	8.8	7.5	7.9	7.8	7.5	7.6	8.6	7.5	7.9
30	---	---	---	8.9	7.5	7.9	7.8	7.4	7.6	8.8	7.5	7.9
31	---	---	---	8.7	7.5	7.8	---	---	---	8.8	7.5	8.0
MAX	9.2	7.7	8.5	9.2	7.7	8.4	9.2	7.6	8.4	8.8	7.6	8.1
MIN	9.1	7.5	8.5	7.9	7.5	7.7	7.7	7.3	7.5	7.7	7.4	7.6
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.4	7.4	7.8	8.6	7.4	7.9	8.5	7.4	8.0	8.2	7.6	7.6
2	8.6	7.5	7.9	8.6	7.4	8.0	8.5	7.4	8.0	8.4	7.5	7.9
3	8.5	7.5	7.9	8.6	7.3	8.0	8.5	7.4	7.9	8.7	7.5	8.0
4	8.5	7.5	7.9	8.6	7.3	8.0	8.6	7.4	7.9	8.6	7.5	8.3
5	8.1	7.5	7.8	8.6	7.3	8.0	8.3	7.4	7.9	8.5	7.5	8.3
6	8.2	7.4	7.6	8.7	7.4	8.0	8.7	7.4	8.0	8.6	7.6	8.4
7	7.4	7.2	7.3	8.7	7.4	8.1	8.7	7.5	8.2	8.6	7.6	8.4
8	7.7	7.3	7.5	8.8	7.4	8.2	8.6	7.5	8.2	8.6	7.6	8.3
9	8.0	7.5	7.6	8.7	7.4	8.1	8.7	7.5	8.2	8.5	7.5	8.3
10	8.3	7.5	7.8	8.7	7.2	8.0	8.7	7.5	8.3	8.6	7.6	8.3
11	8.5	7.5	7.9	8.7	7.4	8.1	8.7	7.6	8.3	8.6	7.5	8.4
12	8.4	7.5	7.8	8.7	7.4	8.0	8.7	7.6	8.4	8.6	7.7	8.4
13	8.0	7.5	7.7	8.6	7.4	8.0	8.8	7.7	8.5	8.7	7.6	8.4
14	7.6	7.4	7.5	8.2	7.4	7.7	8.8	7.7	8.5	8.6	7.6	8.4
15	7.7	7.5	7.5	8.7	7.3	8.0	8.7	7.7	8.5	8.4	7.5	8.0
16	7.9	7.5	7.6	8.7	7.3	8.1	8.6	7.6	8.3	8.3	7.3	7.7
17	8.1	7.4	7.6	---	---	---	8.7	7.6	8.2	8.4	7.4	7.8
18	8.4	7.5	7.8	8.7	7.3	8.0	8.7	7.4	8.3	8.5	7.4	8.0
19	8.4	7.5	7.7	8.6	7.3	8.0	8.8	7.6	8.2	8.6	7.5	8.2
20	8.5	7.5	7.9	8.8	7.3	8.0	8.8	7.6	8.4	8.7	7.5	8.4
21	8.7	7.5	8.0	8.7	7.3	8.1	8.8	7.7	8.3	8.7	7.5	8.4
22	8.7	7.5	8.1	8.7	7.3	8.1	8.9	7.6	8.5	8.6	7.5	8.4
23	8.8	7.5	8.2	8.7	7.3	8.2	8.6	7.9	8.3	8.6	7.5	8.3
24	8.8	7.4	8.1	8.4	7.2	7.9	8.1	7.4	7.6	8.6	7.6	8.4
25	8.8	7.4	8.1	8.8	7.4	8.1	8.1	7.5	7.7	8.7	7.6	8.4
26	8.6	7.4	8.1	8.5	7.4	7.9	8.2	7.5	7.8	8.7	7.5	8.0
27	8.6	7.4	7.9	8.2	7.4	7.8	8.4	7.5	7.9	7.7	7.5	7.6
28	8.3	7.2	7.6	8.5	7.4	7.8	8.1	7.5	7.8	8.1	7.6	7.7
29	8.5	7.4	7.8	8.5	7.3	7.8	8.0	7.6	7.8	8.3	7.5	7.8
30	8.4	7.4	7.8	8.4	7.3	7.9	8.2	7.5	7.7	8.4	7.4	7.9
31	---	---	---	8.5	7.3	7.9	8.5	7.6	8.0	---	---	---
MAX	8.8	7.5	8.2	8.8	7.4	8.2	8.9	7.9	8.5	8.7	7.7	8.4
MIN	7.4	7.2	7.3	8.2	7.2	7.7	8.0	7.4	7.6	7.7	7.3	7.6

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	13.0	10.0	11.5	15.0	13.5	14.0	---	---	---
2	---	---	---	15.5	12.0	14.0	13.5	10.5	12.0	---	---	---
3	18.5	15.0	16.5	16.0	14.0	15.0	10.5	8.5	9.5	---	---	---
4	19.0	16.0	17.5	14.0	12.0	13.0	10.5	8.0	9.0	---	---	---
5	19.0	16.0	17.5	13.0	10.0	11.0	---	---	---	---	---	---
6	18.0	16.0	17.5	10.0	8.5	9.5	---	---	---	---	---	---
7	16.0	13.0	14.5	11.5	9.0	10.0	---	---	---	---	---	---
8	13.0	11.0	12.0	11.5	9.5	10.5	---	---	---	---	---	---
9	12.5	9.5	11.5	11.5	10.0	10.5	---	---	---	---	---	---
10	14.0	10.0	12.0	10.5	9.0	10.0	---	---	---	---	---	---
11	16.0	12.5	14.0	10.0	8.5	9.5	---	---	---	---	---	---
12	17.0	14.0	15.5	8.5	6.5	7.5	---	---	---	---	---	---
13	18.5	15.0	16.5	8.5	6.0	7.5	---	---	---	---	---	---
14	18.5	16.0	17.5	9.0	6.5	7.5	---	---	---	---	---	---
15	18.5	15.5	17.0	11.0	8.0	9.5	---	---	---	---	---	---
16	15.5	13.5	14.5	11.5	9.0	10.5	---	---	---	---	---	---
17	15.0	12.5	13.5	11.5	9.5	10.5	---	---	---	---	---	---
18	12.5	10.5	11.5	10.0	8.0	9.5	---	---	---	---	---	---
19	13.0	10.0	11.5	10.5	8.5	9.5	---	---	---	---	---	---
20	14.0	11.0	12.5	11.0	8.5	10.0	---	---	---	---	---	---
21	15.0	12.0	13.5	8.5	7.0	7.5	---	---	---	---	---	---
22	16.5	13.5	15.0	8.0	6.0	7.0	---	---	---	---	---	---
23	16.5	14.5	15.5	8.0	6.0	7.0	---	---	---	---	---	---
24	18.0	15.5	17.0	11.0	7.5	9.0	---	---	---	---	---	---
25	18.0	15.5	17.0	13.5	11.0	12.5	---	---	---	---	---	---
26	15.5	12.0	13.5	13.0	11.5	12.5	---	---	---	---	---	---
27	12.0	10.0	11.0	12.0	10.0	11.0	---	---	---	---	---	---
28	11.0	9.5	10.5	14.0	12.0	12.5	---	---	---	---	---	---
29	11.0	8.0	9.5	14.0	13.0	13.5	---	---	---	---	---	---
30	12.0	9.5	11.0	15.0	14.0	14.5	---	---	---	---	---	---
31	11.5	9.5	10.5	---	---	---	---	---	---	---	---	---
MONTH	19.0	8.0	14.0	16.0	6.0	10.4	15.0	8.0	11.1	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	7.0	3.5	5.5	14.0	11.0	12.0	18.0	13.0	15.5
2	---	---	---	7.0	4.5	5.5	14.0	9.5	12.0	19.5	14.0	16.0
3	---	---	---	8.5	7.0	8.0	16.0	11.5	13.5	17.5	15.0	16.0
4	---	---	---	7.5	4.0	6.0	13.0	9.0	11.0	17.0	12.0	14.5
5	---	---	---	5.5	2.0	4.0	10.5	8.0	9.5	19.0	13.5	16.0
6	---	---	---	7.0	3.5	5.0	11.5	7.5	9.0	18.5	14.5	16.5
7	---	---	---	9.0	5.0	7.0	12.0	7.0	9.5	20.5	16.0	18.0
8	---	---	---	11.0	7.0	9.0	13.5	8.5	10.5	21.0	17.0	19.0
9	---	---	---	12.5	9.5	11.0	16.0	11.5	13.5	18.5	15.5	16.5
10	---	---	---	12.5	7.0	10.5	17.5	13.5	15.5	20.5	15.0	17.5
11	---	---	---	8.5	5.5	7.0	16.5	12.0	14.5	19.5	15.0	17.5
12	---	---	---	8.5	6.0	7.0	14.0	12.5	13.0	19.0	15.5	17.0
13	---	---	---	9.0	8.0	8.5	17.0	13.5	15.0	19.5	17.0	18.0
14	---	---	---	12.5	8.0	10.0	19.0	15.5	17.0	17.5	14.5	16.0
15	---	---	---	14.0	10.0	12.0	21.5	17.0	19.0	17.5	13.0	15.0
16	---	---	---	14.0	11.0	13.0	23.5	18.0	20.5	19.0	13.5	16.0
17	---	---	---	11.0	7.0	8.5	24.5	19.0	21.5	20.0	16.5	18.0
18	---	---	---	7.0	6.5	7.0	24.0	20.0	22.0	18.5	13.5	15.0
19	---	---	---	9.5	6.5	8.0	24.0	19.5	21.5	15.5	11.5	13.5
20	---	---	---	8.5	7.0	7.5	21.0	19.0	20.5	14.5	11.5	13.0
21	---	---	---	10.5	6.0	8.0	19.0	14.0	16.0	15.0	11.0	13.0
22	---	---	---	9.0	5.0	6.5	14.5	12.5	13.5	16.5	11.0	14.0
23	---	---	---	8.5	3.5	6.0	15.0	11.0	13.0	18.5	12.5	15.5
24	---	---	---	9.0	5.5	7.0	16.5	10.5	13.5	20.0	14.0	17.0
25	---	---	---	9.5	7.0	8.0	14.0	11.5	12.5	20.5	17.0	18.5
26	---	---	---	8.5	7.5	8.0	15.5	10.0	12.5	19.0	16.5	17.5
27	9.0	5.5	7.5	8.5	7.0	8.0	16.0	11.0	13.5	19.0	17.5	18.0
28	6.5	3.5	5.0	11.0	6.5	8.5	15.0	12.5	14.0	20.0	17.5	18.5
29	---	---	---	13.0	8.0	10.0	15.0	12.5	14.0	22.0	18.0	19.5
30	---	---	---	14.5	10.5	12.5	15.5	10.5	13.0	23.0	18.5	20.5
31	---	---	---	12.5	11.5	12.5	---	---	---	24.0	19.0	21.5
MONTH	9.0	3.5	6.2	14.5	2.0	8.2	24.5	7.0	14.5	24.0	11.0	16.7

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.0	20.0	22.5	26.0	21.5	24.0	28.0	24.0	26.5	21.5	18.5	19.5
2	23.5	19.5	21.5	27.5	22.5	25.0	28.0	24.5	26.5	21.0	18.5	19.5
3	22.5	18.5	20.5	28.0	24.0	26.0	28.0	25.5	26.5	23.5	19.5	21.5
4	21.0	18.5	19.5	29.0	24.5	27.0	28.0	24.5	26.5	25.0	21.5	23.0
5	23.5	18.5	21.0	27.5	24.5	26.5	27.0	24.5	26.0	23.5	20.5	22.0
6	23.5	19.5	22.0	25.0	21.5	23.5	26.5	23.5	25.0	22.5	19.5	21.5
7	19.5	18.5	19.0	23.5	20.0	22.0	24.5	21.0	22.5	22.5	19.0	21.0
8	21.5	17.0	19.5	25.0	20.0	22.5	23.5	20.0	22.0	22.5	19.0	21.0
9	22.5	17.0	19.5	26.0	21.5	24.0	24.5	20.0	22.5	23.0	19.0	21.5
10	24.0	19.0	21.5	26.5	23.0	24.5	25.0	21.0	23.0	24.0	20.5	22.5
11	25.0	20.0	22.5	24.0	20.0	22.5	25.5	21.5	24.0	23.5	21.0	22.5
12	24.5	21.5	23.0	24.0	19.0	22.0	26.0	23.0	24.5	21.5	18.5	20.0
13	23.0	20.0	21.5	23.0	19.5	21.5	28.0	24.0	26.0	21.0	17.5	19.5
14	20.0	17.5	18.5	22.5	20.5	21.5	28.0	25.0	26.5	22.0	19.0	20.5
15	18.5	17.0	17.5	25.5	20.0	22.5	28.0	25.0	26.5	22.5	21.5	22.0
16	20.5	16.5	18.5	26.0	21.5	24.0	27.5	25.5	26.5	24.0	21.5	23.0
17	21.5	17.5	19.5	---	---	---	28.5	25.0	26.5	23.0	20.5	22.0
18	22.5	17.0	19.5	26.5	23.0	25.0	28.5	25.0	26.5	22.0	19.5	21.0
19	22.0	18.5	20.0	26.5	24.0	25.5	28.5	25.5	27.0	22.0	19.0	20.5
20	23.0	18.5	20.5	27.0	23.5	25.5	27.5	25.0	26.5	23.0	20.0	21.5
21	24.0	18.5	21.0	26.0	23.5	25.0	27.0	23.0	25.0	24.0	21.0	22.5
22	24.5	19.5	22.0	27.5	23.0	25.5	26.5	23.0	24.5	24.5	22.5	23.5
23	25.0	20.0	22.5	28.5	24.5	26.5	26.0	24.5	25.0	23.0	20.5	22.0
24	25.5	21.0	23.5	27.0	24.0	25.0	25.0	23.5	24.0	21.0	18.0	19.5
25	26.5	22.0	24.5	25.5	22.0	24.0	26.0	23.0	24.5	20.0	18.0	19.0
26	27.0	23.0	25.0	24.0	21.5	22.5	24.5	22.0	23.0	19.5	17.5	19.0
27	27.5	23.5	25.5	22.5	21.0	22.0	24.0	21.5	23.0	19.5	16.5	17.5
28	25.5	23.0	24.0	26.0	22.0	24.0	23.5	21.0	22.5	20.5	18.5	19.5
29	25.5	21.5	23.5	27.5	24.0	26.0	21.0	18.5	19.5	19.5	16.5	18.0
30	25.5	21.5	23.5	28.0	25.0	26.5	20.0	19.0	19.5	19.5	16.5	18.0
31	---	---	---	27.5	24.0	26.0	22.0	18.5	20.0	---	---	---
MONTH	27.5	16.5	21.4	29.0	19.0	24.3	28.5	18.5	24.5	25.0	16.5	20.8

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	13.8	9.3	11.0	10.5	8.6	9.4	---	---	---
2	---	---	---	13.4	8.7	10.5	11.3	9.0	10.0	---	---	---
3	10.7	6.6	8.4	12.5	7.7	9.6	12.1	9.6	10.7	---	---	---
4	9.5	6.2	7.6	13.4	8.5	10.4	12.4	10.1	11.0	---	---	---
5	9.4	6.2	7.4	13.8	8.9	10.8	---	---	---	---	---	---
6	9.6	6.3	7.5	14.2	9.7	11.3	---	---	---	---	---	---
7	10.0	6.9	8.3	14.0	9.4	11.2	---	---	---	---	---	---
8	9.8	7.2	8.3	13.5	9.0	10.6	---	---	---	---	---	---
9	10.0	7.2	8.4	13.5	8.0	10.4	---	---	---	---	---	---
10	9.7	6.8	8.2	13.8	8.9	10.7	---	---	---	---	---	---
11	9.1	6.5	7.5	13.7	8.7	10.8	---	---	---	---	---	---
12	9.4	6.4	7.6	13.9	8.3	11.2	---	---	---	---	---	---
13	9.0	6.2	7.3	15.5	8.7	11.5	---	---	---	---	---	---
14	9.1	6.2	7.3	14.1	7.2	11.4	---	---	---	---	---	---
15	9.4	6.5	7.8	13.2	8.5	10.3	---	---	---	---	---	---
16	10.7	7.7	8.8	13.5	7.5	10.2	---	---	---	---	---	---
17	11.6	7.8	9.4	13.4	7.7	9.7	---	---	---	---	---	---
18	12.5	8.7	10.2	13.9	7.6	10.2	---	---	---	---	---	---
19	12.9	7.2	9.9	12.9	8.1	10.6	---	---	---	---	---	---
20	12.7	8.0	9.8	12.6	9.0	10.4	---	---	---	---	---	---
21	13.1	8.2	9.9	13.1	9.8	11.1	---	---	---	---	---	---
22	13.2	8.0	10.1	13.7	10.3	11.6	---	---	---	---	---	---
23	12.3	7.5	9.4	13.7	10.4	11.6	---	---	---	---	---	---
24	12.2	7.2	9.3	12.9	9.7	10.9	---	---	---	---	---	---
25	12.2	7.3	9.1	11.0	8.8	9.6	---	---	---	---	---	---
26	12.7	7.9	9.9	10.7	9.1	9.9	---	---	---	---	---	---
27	13.9	8.4	10.6	11.6	9.6	10.3	---	---	---	---	---	---
28	14.1	8.7	11.1	11.5	9.1	10.0	---	---	---	---	---	---
29	13.8	8.8	11.2	10.2	8.8	9.4	---	---	---	---	---	---
30	13.5	9.4	10.9	10.0	8.6	9.1	---	---	---	---	---	---
31	13.6	9.3	11.0	---	---	---	---	---	---	---	---	---
MONTH	14.1	6.2	9.0	15.5	7.2	10.5	12.4	8.6	10.3	---	---	---

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	15.7	10.9	12.9	13.7	9.6	11.3	10.7	8.2	9.5
2	---	---	---	15.3	10.8	12.6	14.4	9.5	11.7	9.5	7.3	8.4
3	---	---	---	11.2	10.5	10.9	14.0	9.2	10.7	9.0	8.1	8.7
4	---	---	---	13.0	10.8	11.9	14.7	9.4	11.9	10.2	8.6	9.4
5	---	---	---	14.5	11.6	13.0	15.1	10.3	12.5	10.0	8.2	9.1
6	---	---	---	14.7	11.2	12.8	15.3	10.7	12.6	10.0	8.1	8.9
7	---	---	---	14.7	10.5	12.3	15.6	10.7	12.7	9.5	7.7	8.5
8	---	---	---	14.8	9.9	11.9	15.4	10.1	12.4	9.8	7.7	8.5
9	---	---	---	14.0	8.8	11.0	14.4	8.7	11.1	9.3	7.7	8.5
10	---	---	---	14.0	8.6	11.0	14.6	8.2	10.7	10.1	8.3	9.3
11	---	---	---	15.5	10.4	12.5	14.7	8.8	11.2	10.5	8.3	9.3
12	---	---	---	15.4	10.5	12.3	13.3	9.0	10.7	10.3	7.8	9.1
13	---	---	---	11.9	9.7	10.7	13.3	8.6	10.4	9.5	7.9	8.7
14	---	---	---	14.7	9.2	11.6	11.9	7.6	9.4	9.4	8.2	9.0
15	---	---	---	14.0	8.6	10.8	11.1	7.3	8.8	10.1	8.9	9.5
16	---	---	---	12.6	8.1	10.1	10.7	6.8	8.4	10.1	8.3	9.3
17	---	---	---	13.4	9.1	11.1	10.5	6.4	8.0	9.5	7.9	8.6
18	---	---	---	13.1	10.6	11.7	10.4	6.1	7.7	9.8	7.9	9.2
19	---	---	---	14.2	10.6	12.3	10.1	4.4	7.3	10.4	9.4	10
20	---	---	---	11.9	10.5	11.3	8.8	4.5	6.9	10.7	9.5	10.1
21	---	---	---	12.4	10.5	11.6	9.5	6.6	8.3	10.9	9.6	10.2
22	---	---	---	13.4	10.6	12.2	10.4	8.3	9.3	10.9	9.2	10.1
23	---	---	---	13.9	11.3	12.6	11.1	9.0	9.9	10.7	8.6	9.7
24	---	---	---	14.0	11.1	12.4	11.3	8.7	9.8	10.7	7.9	9.3
25	---	---	---	14.0	10.9	12.1	10.3	8.7	9.3	10.7	7.8	9.1
26	---	---	---	13.2	10.8	11.7	11.5	9.2	10.2	10.9	8.1	9.1
27	14.5	9.0	11.6	13.1	11.3	12.0	11.4	8.7	9.9	10.1	8.1	8.8
28	15.2	10.6	12.6	13.7	10.6	12.2	9.9	8.7	9.4	10.3	7.7	8.9
29	---	---	---	13.8	9.8	11.7	10.3	9.1	9.6	10.4	7.9	8.9
30	---	---	---	13.5	9.3	11.0	11.1	8.8	10	10.3	7.6	8.7
31	---	---	---	13.2	9.2	10.8	---	---	---	10.2	7.2	8.4
MONTH	15.2	9.0	12.1	15.7	8.1	11.8	15.6	4.4	10.1	10.9	7.2	9.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.3	6.4	7.7	10.1	6.5	7.9	9.2	5.0	6.8	8.3	6.9	7.7
2	9.9	7.0	8.2	9.5	6.1	7.6	9.3	5.1	6.9	9.1	7.4	8.1
3	10.1	7.3	8.4	9.4	5.6	7.3	9.9	5.0	7.0	10.4	6.9	8.0
4	10.3	7.6	8.8	9.5	5.4	7.1	10.0	5.3	7.3	9.7	6.6	7.9
5	9.9	7.1	8.1	9.9	5.3	7.2	9.2	5.5	7.0	10.1	6.6	8.1
6	9.5	6.8	7.8	10.4	5.6	7.7	10.1	5.6	7.6	10.2	7.0	8.4
7	8.3	7.8	8.1	11.0	6.5	8.4	10.7	6.3	8.2	10.6	7.4	8.7
8	8.6	7.6	8.2	11.6	6.5	8.6	10.8	6.8	8.5	10.6	7.3	8.7
9	9.3	7.7	8.4	11.3	6.2	8.2	11.1	6.7	8.7	10.7	7.3	8.8
10	9.6	7.4	8.3	10.6	5.3	7.7	11.1	6.8	8.7	10.8	7.3	8.9
11	9.6	7.1	8.3	11.0	6.2	8.2	11.1	6.7	8.6	10.6	7.2	8.8
12	9.3	7.0	7.9	10.8	6.3	8.2	10.9	6.5	8.6	10.9	7.8	9.2
13	9.1	7.0	7.9	10.9	5.9	8.0	11.5	6.4	8.6	11.0	7.4	9.0
14	8.8	7.6	8.4	9.6	5.9	7.3	11.2	6.3	8.5	10.6	7.1	8.8
15	9.1	8.3	8.7	10.6	5.8	7.8	10.9	5.7	7.9	9.7	7.0	8.2
16	9.4	7.7	8.6	10.3	5.5	7.7	10.7	5.5	7.9	9.6	6.4	7.8
17	9.7	7.7	8.4	---	---	---	11.1	5.6	7.7	10.1	6.8	8.3
18	10.1	8.0	8.8	10.8	5.3	7.6	10.7	5.2	7.7	10.5	7.1	8.7
19	10.2	8.0	8.9	10.4	5.4	7.5	11.1	5.4	7.9	10.8	7.2	8.9
20	10.5	8.1	9.1	10.6	5.7	7.8	11.1	4.3	7.9	10.8	7.1	8.8
21	10.7	8.0	9.1	10.4	5.9	7.9	11.4	6.0	8.3	10.6	7.1	8.8
22	10.7	7.7	9.0	11.1	6.2	8.3	11.5	6.1	8.6	10.4	6.8	8.6
23	10.9	7.5	8.9	10.9	5.7	7.8	10.1	6.0	7.8	10.0	6.7	8.1
24	10.8	7.2	8.6	9.5	4.2	6.9	8.0	5.8	6.9	9.5	6.1	7.8
25	10.9	6.8	8.5	10.6	6.1	8.0	8.3	5.5	6.7	10.5	6.5	8.6
26	10.3	6.5	8.0	10.2	5.8	7.6	8.9	6.0	7.3	9.3	6.9	8.2
27	9.8	6.0	7.6	9.1	6.1	7.5	9.6	5.9	7.5	8.7	8.0	8.4
28	9.2	5.5	7.2	9.5	5.7	7.3	8.3	6.0	7.1	9.2	7.5	8.3
29	9.4	6.4	7.7	9.3	4.9	6.8	8.7	7.1	8.0	10.7	7.8	9.0
30	9.8	6.4	7.8	8.8	4.8	6.7	9.2	7.3	8.0	11.3	7.5	9.0
31	---	---	---	9.1	5.0	6.8	9.8	7.2	8.2	---	---	---
MONTH	10.9	5.5	8.3	11.6	4.2	7.6	11.5	4.3	7.8	11.3	6.1	8.5

CHRISTINA RIVER BASIN

01480675 MARSH CREEK NEAR GLENMOORE, PA

LOCATION.--Lat 40°05'52", long 75°44'31", Chester County, Hydrologic Unit 02040205, on left bank 200 ft north of Pennsylvania Turnpike, 1.2 mi downstream from Lyons Run, 1.8 mi upstream from Black Horse Creek, and 3.0 mi northeast of Glenmoore.

DRAINAGE AREA.--8.57 mi².

PERIOD OF RECORD.--July 1966 to current year.

REVISED RECORDS.--WDR PA-74-1: 1967(M), 1971-72(P) WDR PA-93-1: 1992.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
May 14	1830	*67	*2.06	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.6	2.9	e1.2	12	2.1	7.3	7.5	3.7	1.7	0.40	1.3
2	1.9	1.7	2.6	e1.2	9.4	2.2	6.0	10	2.7	1.5	0.38	1.5
3	1.8	1.9	2.3	e1.1	6.0	30	5.8	13	2.3	1.3	e0.99	1.1
4	1.7	2.0	2.2	e1.1	4.9	17	7.6	8.4	2.0	1.2	e1.3	0.89
5	1.5	1.9	2.2	e1.3	3.1	5.9	5.8	5.0	2.2	1.1	e0.92	0.68
6	1.4	1.7	2.2	2.4	3.0	4.3	4.5	3.9	7.3	1.0	0.56	0.53
7	1.4	1.6	2.3	6.5	3.4	4.3	3.6	3.4	18	1.0	0.48	0.48
8	1.4	1.7	3.3	5.7	3.7	3.5	3.5	3.0	11	0.98	0.45	0.43
9	1.4	1.7	11	4.6	3.4	3.3	3.6	9.1	5.2	0.95	0.44	0.41
10	1.3	1.6	7.0	4.6	3.4	4.2	4.9	13	3.4	0.98	0.38	0.39
11	1.4	1.7	4.2	14	5.1	3.2	3.9	6.4	2.7	0.83	0.34	0.39
12	1.2	1.6	3.2	18	3.3	2.9	3.5	5.3	2.6	0.76	0.34	0.32
13	1.2	1.7	3.2	10	3.1	5.6	3.6	18	2.7	0.75	0.37	0.31
14	1.3	1.7	6.5	5.6	2.5	8.3	4.8	63	7.8	0.93	0.30	0.32
15	2.7	1.8	8.9	4.7	2.5	5.6	4.3	31	7.9	0.89	0.31	0.39
16	2.6	1.8	5.0	4.2	2.9	4.4	3.7	9.5	6.6	0.76	0.27	0.69
17	3.1	1.7	3.8	3.7	3.2	3.6	3.1	5.8	4.4	0.69	0.26	0.46
18	2.6	1.8	11	3.3	2.7	11	2.7	24	3.8	0.69	0.26	0.39
19	2.2	1.9	8.6	2.7	2.5	14	2.6	28	4.0	0.69	0.23	0.35
20	1.9	2.2	5.1	2.8	2.6	31	2.6	11	3.4	0.83	0.21	0.32
21	1.7	2.1	3.4	2.8	3.7	45	2.6	6.9	3.0	0.68	0.21	0.30
22	1.7	2.0	2.7	3.0	3.4	12	7.2	5.4	2.5	0.61	0.21	0.30
23	1.7	1.9	2.5	4.1	2.8	7.2	7.2	4.6	2.0	0.58	0.31	0.30
24	1.7	2.0	5.4	32	2.5	5.8	4.1	4.0	1.9	0.60	e1.2	0.28
25	1.5	5.1	4.2	39	2.4	4.9	4.6	3.6	1.8	0.58	e1.9	0.27
26	1.4	9.3	3.2	11	2.4	5.1	6.2	3.4	1.7	0.52	e0.95	0.46
27	1.4	6.0	2.4	6.9	2.9	16	4.4	3.7	2.1	0.54	0.36	4.7
28	1.3	3.8	1.9	5.3	2.3	11	22	4.1	3.0	0.58	0.34	12
29	1.4	3.1	e1.7	4.8	---	6.5	30	4.0	2.4	0.52	1.6	7.2
30	1.5	2.9	e1.5	5.5	---	5.2	12	3.4	2.1	0.43	0.87	3.0
31	1.5	---	e1.4	12	---	4.9	---	2.9	---	0.41	0.84	---
TOTAL	52.9	73.5	127.8	225.1	105.1	290.0	187.7	324.3	126.2	25.58	17.98	40.46
MEAN	1.71	2.45	4.12	7.26	3.75	9.35	6.26	10.5	4.21	0.83	0.58	1.35
MAX	3.1	9.3	11	39	12	45	30	63	18	1.7	1.9	12
MIN	1.2	1.6	1.4	1.1	2.3	2.1	2.6	2.9	1.7	0.41	0.21	0.27
CFSM	0.20	0.29	0.48	0.85	0.44	1.09	0.73	1.22	0.49	0.10	0.07	0.16
IN.	0.23	0.32	0.55	0.98	0.46	1.26	0.81	1.41	0.55	0.11	0.08	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

MEAN	7.08	10.6	13.9	14.1	16.5	21.0	18.9	15.0	10.5	8.21	5.57	6.50
MAX	25.3	22.8	49.9	35.9	44.8	58.4	47.4	36.7	42.2	34.0	22.1	23.8
(WY)	1997	1997	1997	1978	1971	1994	1983	1989	1972	1984	1971	1999
MIN	1.71	2.45	2.07	1.19	3.75	6.58	4.84	4.97	2.30	0.83	0.58	0.88
(WY)	2002	2002	1981	1981	2002	1981	1985	1969	1999	2002	2002	1980

e Estimated.

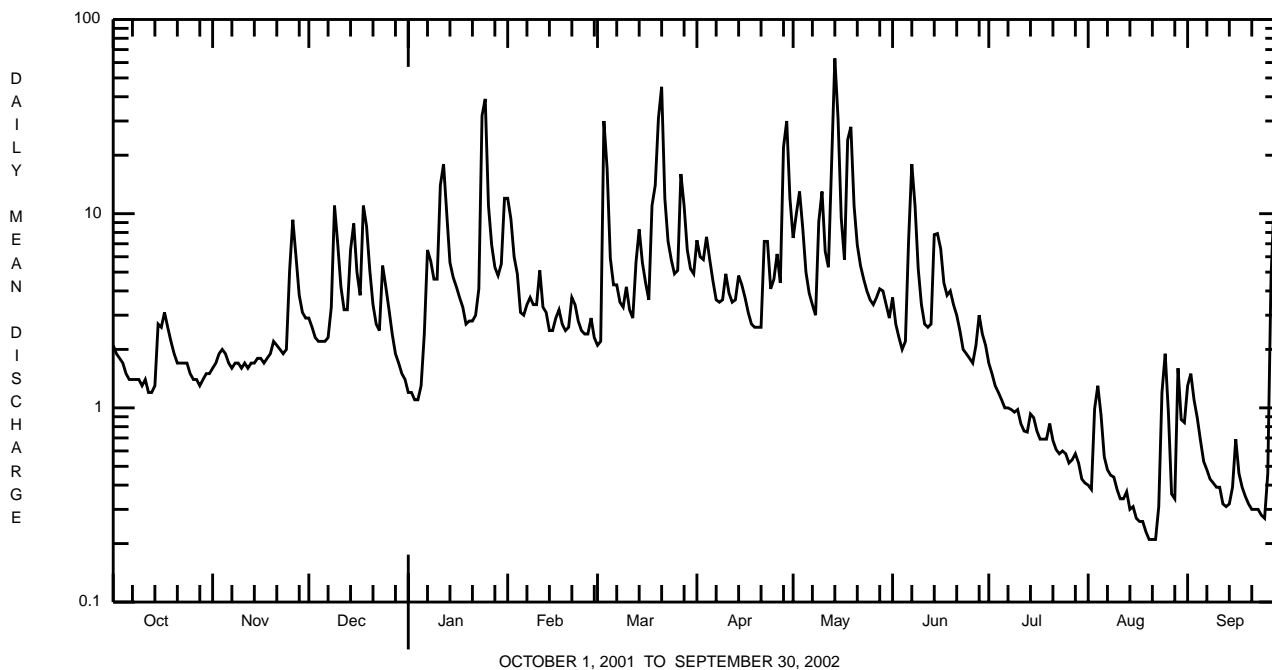
CHRISTINA RIVER BASIN

01480675 MARSH CREEK NEAR GLENMOORE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	3190.64		1596.62		12.3	
ANNUAL MEAN	8.74		4.37		23.2	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	97	Mar 30	63	May 14	444	Jun 22 1972
LOWEST DAILY MEAN	0.83	Sep 18	0.21	Aug 20-22	0.21	Aug 20-22 2002
ANNUAL SEVEN-DAY MINIMUM	0.89	Sep 13	0.24	Aug 16	0.24	Aug 16 2002
MAXIMUM PEAK FLOW			67	May 14	a946	Jun 22 1972
MAXIMUM PEAK STAGE			2.06	May 14	4.68	Jun 22 1972
INSTANTANEOUS LOW FLOW			0.21	Aug 19-22	0.21	Aug 6 1999b
ANNUAL RUNOFF (CFSM)	1.02		0.51		1.44	
ANNUAL RUNOFF (INCHES)	13.85		6.93		19.52	
10 PERCENT EXCEEDS	19		9.3		24	
50 PERCENT EXCEEDS	4.5		2.6		7.5	
90 PERCENT EXCEEDS	1.4		0.44		2.1	

a From rating curve extended above 903 ft³/s based on straight-line extension.

b Also Aug. 19-22,2002.



CHRISTINA RIVER BASIN

01480685 MARSH CREEK NEAR DOWNINGTOWN, PA

LOCATION.--Lat 40°03'19", long 75°43'00", Chester County, Hydrologic Unit 02040205, on left bank 1,000 ft downstream from Marsh Creek Dam, 0.2 mi upstream from mouth, and 3.0 mi north of Downingtown.

DRAINAGE AREA.--20.3 mi².

PERIOD OF RECORD.--June 1973 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated since November 1973 by Marsh Creek Reservoir (station 01480684). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	11	11	11	5.2	12	10	20	15	12	9.1	6.2
2	11	11	11	11	5.0	12	10	22	13	11	9.1	0.77
3	11	11	11	11	5.0	6.1	10	25	10	9.1	9.2	7.1
4	10	11	11	11	5.0	0.28	11	22	10	9.9	4.8	9.8
5	6.2	11	11	11	5.0	0.20	11	20	11	8.8	4.8	9.3
6	3.2	11	11	11	7.9	0.37	11	19	11	7.3	9.3	9.1
7	5.6	11	11	11	11	6.2	10	18	10	10	9.5	9.5
8	9.6	11	11	11	12	8.4	10	17	11	10	9.4	9.1
9	8.9	11	11	11	12	6.6	11	17	13	9.4	9.4	9.9
10	8.6	11	11	11	12	8.1	11	18	17	9.4	9.4	10
11	8.9	11	11	8.4	12	0.65	11	17	18	9.2	9.1	9.6
12	9.1	11	11	1.2	12	3.9	11	16	18	8.9	8.5	11
13	9.1	11	11	1.2	12	8.1	11	18	17	8.8	9.1	10
14	9.1	11	11	1.1	12	8.1	11	32	21	9.0	9.1	9.4
15	9.1	11	11	1.1	12	5.5	12	33	23	9.4	9.1	9.1
16	9.1	11	11	3.2	12	4.5	11	31	22	9.0	9.1	9.6
17	9.1	11	11	11	12	12	11	29	21	8.8	9.1	8.9
18	9.1	11	11	13	12	5.9	11	30	19	8.9	9.1	8.0
19	9.1	11	10	13	12	0.25	11	31	17	8.9	9.1	9.9
20	9.1	11	10	13	12	0.46	11	32	16	8.9	9.1	9.2
21	9.1	11	10	13	12	0.44	9.8	29	14	8.9	9.1	9.0
22	4.3	11	10	13	12	0.25	11	27	12	8.9	9.1	8.7
23	4.4	11	11	13	12	0.22	11	25	14	8.9	9.1	8.6
24	9.8	11	11	13	12	0.19	12	24	20	8.9	9.1	27
25	9.1	11	11	10	12	0.18	13	22	17	8.9	4.5	7.6
26	9.1	11	11	5.1	12	0.20	13	21	14	8.9	5.9	7.6
27	9.1	11	11	5.0	12	1.8	12	19	13	9.0	9.4	5.6
28	9.1	11	11	5.0	12	5.1	16	18	13	9.1	8.8	0.62
29	9.4	12	11	5.0	---	6.1	20	18	11	9.1	5.2	2.0
30	9.8	12	11	5.0	---	7.2	20	17	12	9.1	1.6	9.6
31	11	---	11	5.2	---	8.7	---	16	---	9.1	8.3	---
TOTAL	272.1	332	337	268.5	296.1	139.99	353.8	703	453	285.5	254.5	261.79
MEAN	8.78	11.1	10.9	8.66	10.6	4.52	11.8	22.7	15.1	9.21	8.21	8.73
MAX	13	12	11	13	12	12	20	33	23	12	9.5	27
MIN	3.2	11	10	1.1	5.0	0.18	9.8	16	10	7.3	1.6	0.62
(†)	-6.0	-5.6	-1.6	+7.6	0	+15.3	+3.4	+8	-2.5	-8.8	-5.4	-3.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2002, BY WATER YEAR (WY)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
MEAN	19.4	22.5	41.6	40.8	33.3	38.5	42.1	33.7	23.2	20.5	14.1	16.6																					
MAX	59.5	60.0	148	128	72.4	119	140	83.4	71.2	81.6	31.4	54.3																					
(WY)	1997	1989	1997	1979	1996	1994	1983	1989	1982	1984	1989	1979																					
MIN	3.39	3.50	3.01	7.30	0.86	0.83	0.84	0.72	4.06	5.18	6.42	6.47																					
(WY)	1981	1979	1974	1981	1989	1974	1974	1974	1976	1983	1981	1981																					

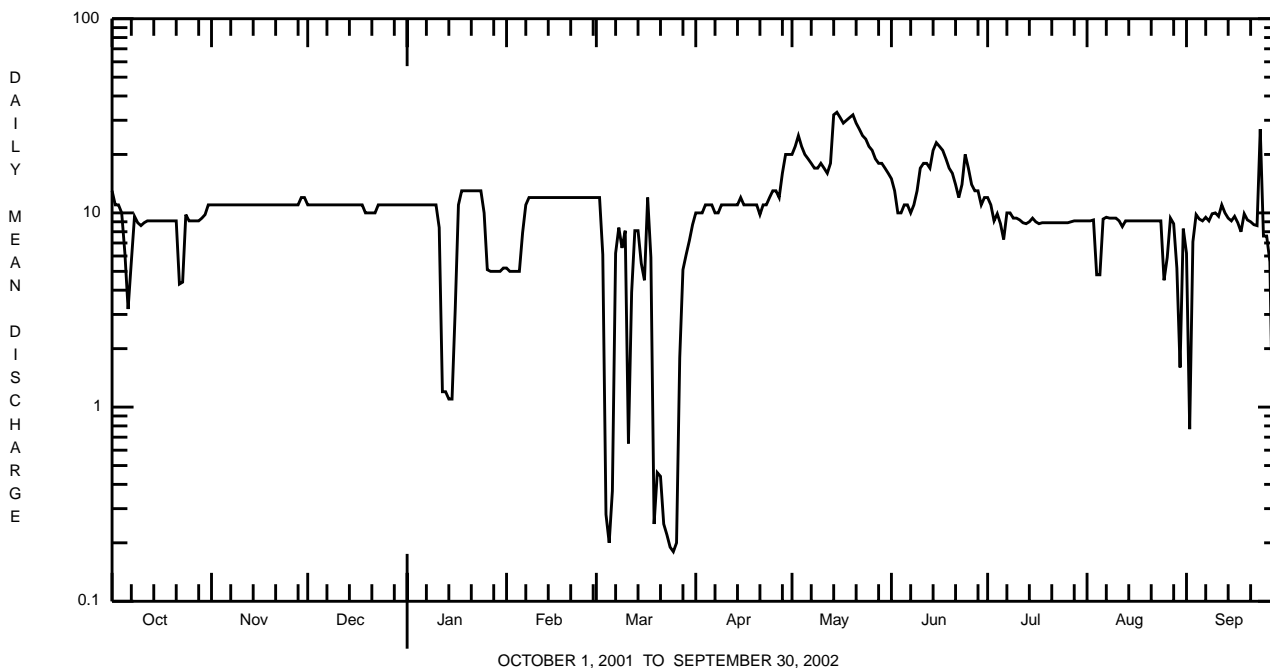
† Change in contents from Marsh Creek Reservoir, equivalent in cubic feet per second.

CHRISTINA RIVER BASIN

01480685 MARSH CREEK NEAR DOWNINGTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1973 - 2002	
ANNUAL TOTAL	7710.2		3957.28			
ANNUAL MEAN	21.1		10.8		28.7	
HIGHEST ANNUAL MEAN					52.9	1984
LOWEST ANNUAL MEAN					10.8	2002
HIGHEST DAILY MEAN	117	May 28	33	May 15	462	Jun 18 1982
LOWEST DAILY MEAN	1.2	Sep 22	0.18	Mar 25	0.18	Mar 25 2002
ANNUAL SEVEN-DAY MINIMUM	6.7	Jul 9	0.28	Mar 20	0.28	Mar 20 2002
MAXIMUM PEAK FLOW			a369	Sep 24	a560	Dec 14 1983
MAXIMUM PEAK STAGE			3.37	Sep 24	3.70	Dec 14 1983
10 PERCENT EXCEEDS	57		17		65	
50 PERCENT EXCEEDS	11		11		15	
90 PERCENT EXCEEDS	8.9		5.0		6.2	

a From rating curve extended above 300 ft³/s.



CHRISTINA RIVER BASIN

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA

LOCATION.--Lat 40°02'05", long 75°42'32", Chester County, Hydrologic Unit 02040205, on right bank 20 ft downstream from bridge on Dowlin Forge Road, 200 ft east of State Highway 282, 0.4 mi downstream from Shamona Creek, 1.5 mi downstream from Marsh Creek, 2.0 mi upstream from Beaver Creek, and 2.2 mi north of Downingtown.

DRAINAGE AREA.--60.6 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1948-57. October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 30, 1966, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) 1.9 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	26	22	21	50	25	47	55	38	27	16	29
2	26	27	21	21	43	26	40	156	33	25	15	21
3	24	27	22	22	31	141	39	155	29	23	43	16
4	23	26	21	21	29	43	47	68	28	22	38	17
5	19	25	21	22	25	26	39	55	29	21	15	16
6	14	24	21	32	27	23	36	48	140	18	18	14
7	16	24	21	61	31	26	34	44	171	21	17	14
8	22	24	25	41	32	30	33	41	49	21	16	13
9	21	25	47	33	30	25	34	69	42	20	16	13
10	19	24	30	33	30	32	41	60	43	23	15	12
11	20	24	26	103	31	19	34	44	41	20	15	10
12	21	24	25	62	30	21	32	49	40	18	14	9.3
13	21	24	26	33	29	32	33	124	39	18	14	9.1
14	21	23	35	26	27	36	36	261	92	20	14	9.4
15	30	23	42	24	28	28	35	98	73	21	14	16
16	27	24	31	23	28	24	33	77	60	19	14	25
17	28	22	29	30	28	33	31	67	48	18	14	18
18	27	22	55	31	27	64	30	204	46	18	14	14
19	26	21	37	30	26	44	30	104	47	18	13	16
20	25	22	30	33	27	187	30	80	41	19	13	15
21	25	23	27	31	30	105	28	71	36	18	13	14
22	19	22	25	30	28	49	45	64	32	18	13	14
23	16	22	25	32	27	35	38	59	31	18	14	14
24	28	22	35	216	26	30	31	55	39	18	24	34
25	26	35	31	98	26	27	36	50	35	18	25	11
26	26	49	28	44	26	28	40	48	32	18	12	15
27	25	25	25	35	27	95	33	46	35	18	16	58
28	25	22	24	31	26	46	136	46	45	19	15	44
29	25	23	25	28	---	39	94	44	30	20	42	13
30	26	24	22	27	---	37	60	42	27	18	14	18
31	26	---	21	52	---	38	---	39	---	17	16	---
TOTAL	727	748	875	1326	825	1414	1255	2423	1471	610	552	541.8
MEAN	23.5	24.9	28.2	42.8	29.5	45.6	41.8	78.2	49.0	19.7	17.8	18.1
MAX	30	49	55	216	50	187	136	261	171	27	43	58
MIN	14	21	21	21	25	19	28	39	27	17	12	9.1

CHRISTINA RIVER BASIN

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	58.6	72.6	109	118	110	138	129	106	71.5	63.6	42.7	54.9
MAX (WY)	199	169	385	361	242	380	365	246	181	257	90.9	191
MIN (WY)	1997	1997	1997	1979	1979	1994	1983	1989	1982	1984	1989	1979
MIN (WY)	23.2	24.9	23.5	17.5	29.5	35.7	28.9	49.2	29.6	19.7	17.8	17.1
(WY)	1981	2002	1981	1981	2002	1985	1985	1976	1985	2002	2002	1980

SUMMARY STATISTICS FOR 2001 CALENDAR YEAR FOR 2002 WATER YEAR WATER YEARS 1974 - 2002

ANNUAL TOTAL	23256		12767.8		89.3	
ANNUAL MEAN	63.7		35.0		150	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					35.0	
HIGHEST DAILY MEAN	523	Mar 30	261	May 14	2020	Jan 26 1978
LOWEST DAILY MEAN	14	Oct 6	9.1	Sep 13	9.1	Sep 13 2002
ANNUAL SEVEN-DAY MINIMUM	19	Oct 5	11	Sep 8	11	Sep 8 2002
MAXIMUM PEAK FLOW			1070		a5410	
MAXIMUM PEAK STAGE			4.71		Jun 6 Sep 16 1999	
INSTANTANEOUS LOW FLOW			7.4		Sep 13 2002	
10 PERCENT EXCEEDS	131		55		172	
50 PERCENT EXCEEDS	43		27		57	
90 PERCENT EXCEEDS	21		15		25	

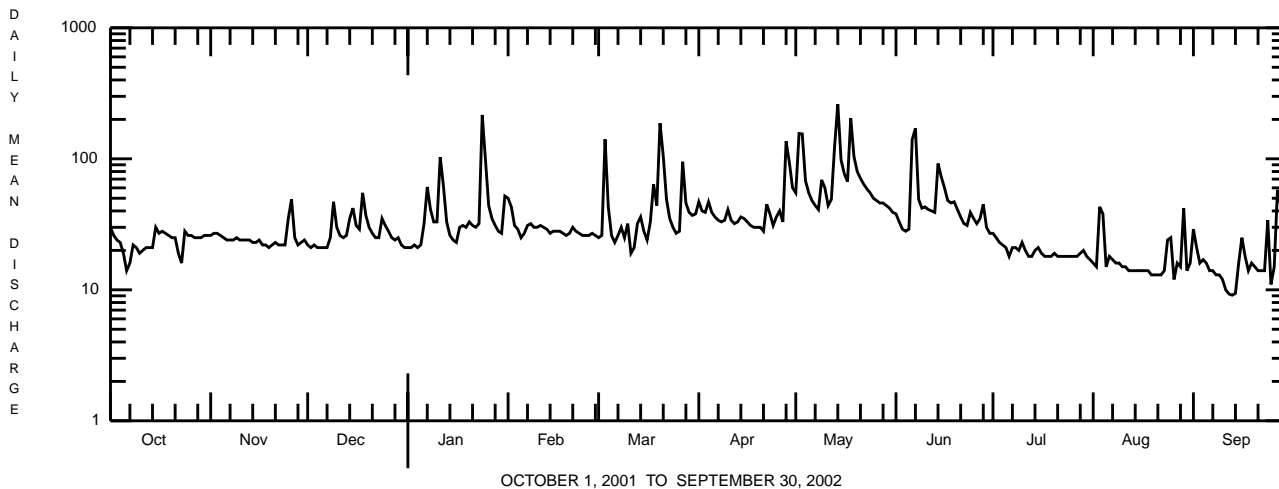
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44.3	76.4	92.0	81.4	139	129	123	98.8	99.8	63.1	56.5	45.2
MAX (WY)	120	168	245	168	286	195	238	144	306	128	147	148
(WY)	1972	1973	1973	1973	1971	1972	1973	1973	1972	1972	1971	1971
MIN (WY)	24.8	27.6	32.0	33.3	51.6	70.0	64.3	43.2	30.3	18.3	15.3	20.1
(WY)	1970	1966	1966	1969	1969	1969	1969	1969	1966	1966	1966	1970

SUMMARY STATISTICS WATER YEARS 1966 - 1973

ANNUAL TOTAL ANNUAL MEAN	87.0	
HIGHEST ANNUAL MEAN	139	1973
LOWEST ANNUAL MEAN	51.6	1969
HIGHEST DAILY MEAN	3220	Jun 22 1972
LOWEST DAILY MEAN	7.2	Sep 12 1966
ANNUAL SEVEN DAY MINIMUM	8.0	Sep 7 1966
MAXIMUM PEAK FLOW	a8070	Jun 22 1972
MAXIMUM PEAK STAGE	b12.06	Jun 22 1972
INSTANTANEOUS LOW FLOW	7.2	Sep 2,3,11-13,1966
ANNUAL RUNOFF (CFSM)	1.44	
ANNUAL RUNOFF (INCHES)	19.51	
10 PERCENT EXCEEDS	163	
50 PERCENT EXCEEDS	56	
90 PERCENT EXCEEDS	23	

- a From rating curve extended above 5,000 ft³/s.
- b From floodmark.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA

LOCATION.--Lat 39°58'07", long 75°40'25", Chester County, Hydrologic Unit 02040205, on left bank at downstream side of Sugars Bridge (U.S. Highway 322), 2,000 ft upstream from Valley Creek, 1.5 mi north of Marshallton, and 3.3 mi southeast of Downingtown.

DRAINAGE AREA.--89.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1972 to current year.

REVISED RECORDS.--WDR PA-75-1: 1972(P), 1973, 1974.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 195 ft above National Geodetic Vertical Datum of 1929, from topographic map. Feb. 1 to Apr. 10, and June 25 to Nov. 17, 1972, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 7.5 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	40	41	e25	76	44	78	83	63	47	22	67
2	40	40	41	e27	72	46	69	212	56	43	23	51
3	38	41	41	e30	55	207	66	244	51	41	52	32
4	37	41	41	e33	e48	78	72	102	49	39	78	33
5	34	40	39	e34	e40	53	65	87	60	36	30	31
6	29	38	39	e50	e37	48	62	80	177	32	30	27
7	30	37	38	96	e45	49	60	75	408	34	28	26
8	35	39	45	64	52	56	58	71	91	37	27	27
9	35	39	75	51	50	44	59	96	72	34	26	24
10	32	37	50	50	50	62	67	94	71	41	25	26
11	34	38	46	129	52	44	58	73	67	33	25	23
12	34	39	44	99	49	42	56	82	65	30	25	20
13	35	39	45	56	49	57	58	157	63	30	23	20
14	35	37	58	47	46	63	66	374	145	34	22	19
15	48	37	63	44	47	54	63	127	114	37	23	25
16	38	40	51	40	48	47	58	103	92	33	22	44
17	42	38	47	44	48	59	55	92	77	30	23	31
18	37	38	79	48	46	96	52	321	72	28	24	25
19	38	39	57	48	46	80	53	144	75	29	23	26
20	40	41	48	50	46	244	54	112	68	31	22	26
21	39	39	45	50	53	156	50	101	61	30	22	25
22	38	40	43	48	47	84	72	92	55	27	22	25
23	28	39	43	48	46	66	64	86	53	28	22	25
24	39	38	59	269	45	59	54	79	62	31	41	45
25	37	61	51	140	46	56	61	76	58	28	64	24
26	38	81	45	69	46	57	65	73	53	26	24	31
27	37	49	e40	56	46	147	55	75	54	26	28	136
28	36	44	e38	52	46	81	186	74	78	30	26	102
29	37	42	e40	50	---	68	126	71	52	30	97	37
30	39	43	e33	48	---	66	88	67	47	28	36	32
31	35	---	e30	80	---	69	---	64	---	23	28	---
TOTAL	1139	1254	1455	1975	1377	2382	2050	3587	2509	1006	983	1085
MEAN	36.7	41.8	46.9	63.7	49.2	76.8	68.3	116	83.6	32.5	31.7	36.2
MAX	48	81	79	269	76	244	186	374	408	47	97	136
MIN	28	37	30	25	37	42	50	64	47	23	22	19
CFSM	0.41	0.46	0.52	0.71	0.55	0.85	0.76	1.29	0.93	0.36	0.35	0.40
IN.	0.47	0.52	0.60	0.82	0.57	0.99	0.85	1.48	1.04	0.42	0.41	0.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY)

MEAN	90.4	110	166	180	173	217	206	168	117	105	72.6	91.6
MAX	304	242	577	527	409	525	594	410	315	421	177	292
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1982	1984	1996	1979
MIN	36.7	41.8	40.8	30.9	49.2	61.6	53.1	75.9	45.5	32.5	28.6	29.5
(WY)	2002	2002	1981	1981	2002	1985	1985	1999	1999	2002	1999	1980

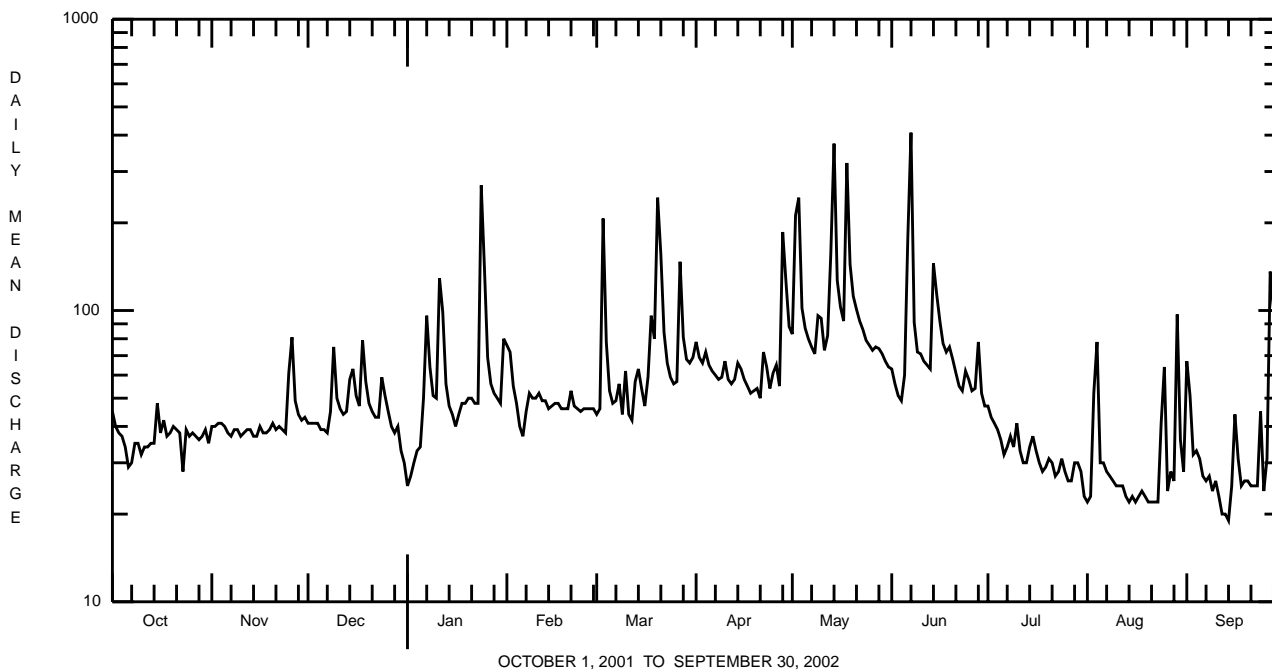
e Estimated.

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	37240		20802		141	
ANNUAL MEAN	102		57.0		257	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					57.0	
HIGHEST DAILY MEAN	938	Mar 30	408	Jun 7	3080	Sep 16 1999
LOWEST DAILY MEAN	28	Oct 23	19	Sep 14	19	Sep 14 2002
ANNUAL SEVEN-DAY MINIMUM	32	Sep 6	22	Sep 9	22	Sep 9 2002
MAXIMUM PEAK FLOW			1590	Jun 7	a8160	Jun 22 1972
MAXIMUM PEAK STAGE			6.51	Jun 7	b14.79	Sep 16 1999
ANNUAL RUNOFF (CFSM)	1.13		0.63		1.57	
ANNUAL RUNOFF (INCHES)	15.41		8.61		21.33	
10 PERCENT EXCEEDS	202		89		269	
50 PERCENT EXCEEDS	70		46		91	
90 PERCENT EXCEEDS	35		26		41	

- a From rating curve extended above 3,600 ft³/s on basis of slope-area measurement of peak flow at gage height 13.40 ft.
- b Discharge, 7,200 ft³/s on basis of runoff comparison with nearby stations.



CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965 to September 1966, October 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1972 to current year.

pH: February 1972 to current year.

WATER TEMPERATURES: February 1972 to current year.

DISSOLVED OXYGEN: February 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1972.

REMARKS.--Specific conductance record rated good, except for periods July 8-23 and Aug. 6-14, which are fair, and Mar. 27 to Apr. 1, which are poor. pH record rated good, except for periods Nov. 7-19 and Sept. 12-30, which are fair. Water temperature record rated good. Dissolved oxygen record rated fair. Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 891 microsiemens, Mar. 5, 2001; minimum, 67 microsiemens, July 1, 1984.

pH: Maximum, 9.9, May 13, June 5, 1973; minimum, 5.4, Oct. 24, 26, 1973.

WATER TEMPERATURE: Maximum, 33.0°C, July 18, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.4 mg/L, Mar. 18, 1989; minimum, 0.8 mg/L, July 23, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.7 µM-MF (COLS./ 100 ML) (31625)
MAR 2002									
05...	1350	1028	1028	51	15.8	8.1	346	6.4	119
18...	1330	1028	1028	105	12.3	7.9	319	7.2	433
APR									
23...	1530	1028	1028	59	12.0	8.3	317	16.3	450
MAY									
01...	1425	1028	1028	84	11.2	7.8	297	11.2	130
14...	1345	1028	1028	234	8.6	7.3	179	15.8	13000
30...	1515	1028	1028	68	10.9	7.7	327	23.2	627
JUN									
10...	0941	1028	1028	62	7.5	7.2	312	20.0	800
17...	1200	1028	1028	68	9.2	7.5	299	19.7	380
25...	1245	1028	1028	57	9.6	7.7	338	25.0	620
JUL									
08...	1300	1028	1028	36	9.7	8.0	382	22.9	360
15...	1310	1028	1028	37	9.9	7.9	402	22.6	237
23...	1245	1028	1028	25	9.2	7.9	414	25.9	520
AUG									
06...	1300	1028	1028	30	8.1	7.8	389	24.0	427
14...	1330	1028	1028	24	10.6	8.3	441	26.2	700
20...	1405	1028	1028	21	9.3	7.8	464	25.7	1450
SEP									
12...	1250	1028	1028	23	8.6	8.2	514	20.0	540
23...	1130	1028	1028	23	7.6	7.6	450	22.0	260

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	
OCT 2001 03...	1130	80020	1028	43	10.4	7.8	382	15.5	32.9	10.8	4.47	25.4	87	
Date		CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (µG/L AS AL) (01106)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)
OCT 2001 03...	38.0	11.0	22.1	<.04	3.19	E.006	.31	20	<2	210	<.1	<.8	4.0	
Date		IRON, DIS-SOLVED (µG/L AS FE) (01046)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO) (01060)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)						
OCT 2001 03...		28	<1	27.3	<.01	<1.8	<2.0	<24						

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 3.2 m².

Date	10/03/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	44
Nematoda (NEMATODES)	82
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	3
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	3
Lymnaeidae	2
Planorbidae	
<u>Gyraulus</u> sp	4
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	9
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	79
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	29
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	68
Caenidae	
<u>Caenis</u> sp	49
Ephemerellidae sp	
<u>Serratella</u> sp	87
Heptageniidae	
<u>Stenonema</u> sp	43
Isonychiidae	
<u>Isonychia</u> sp	5
Leptohyphidae	
<u>Tricorythodes</u> sp	8
Plecoptera (STONEFLIES)	
Capniidae	1

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/03/01
Benthic Macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Apataniidae	
<u>Apatania</u> sp	1
Brachycentridae	
<u>Micrasema</u> sp	6
Hydropsychidae	
<u>Cheumatopsyche</u> sp	232
<u>Hydropsyche</u> sp	626
Hydroptilidae	
<u>Leucotrichia</u> sp	2
Lepidostomatidae	
<u>Lepidostoma</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	80
Lepidoptera	
Pyralididae (MOTHS)	
<u>Petrophila</u> sp	9
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	277
<u>Oulimnius</u> sp	4
<u>Stenelmis</u> sp	63
Hydrophilidae	
<u>Berosus</u> sp	1
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	13
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	56
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	3
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	4
Total organisms	1894
Total number of taxa	32

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	358	341	350	384	362	373	369	318	345	---	---	---
2	375	340	360	388	352	372	374	351	362	---	---	---
3	386	334	369	387	363	376	375	330	356	---	---	---
4	399	343	375	391	363	377	369	356	363	---	---	---
5	394	352	377	397	376	383	---	---	---	---	---	---
6	454	358	418	397	364	380	---	---	---	---	---	---
7	462	429	443	394	358	383	---	---	---	---	---	---
8	456	398	413	395	354	378	---	---	---	---	---	---
9	405	384	392	394	357	378	---	---	---	---	---	---
10	400	356	388	391	362	381	---	---	---	---	---	---
11	398	343	376	393	358	380	---	---	---	---	---	---
12	401	360	384	394	360	381	---	---	---	---	---	---
13	393	361	377	394	369	381	---	---	---	---	---	---
14	395	358	377	410	343	383	---	---	---	---	---	---
15	380	321	347	390	357	376	---	---	---	---	---	---
16	375	303	349	392	357	377	---	---	---	---	---	---
17	389	358	374	402	361	384	---	---	---	---	---	---
18	383	310	355	402	371	390	---	---	---	---	---	---
19	400	370	387	401	383	392	---	---	---	---	---	---
20	422	388	402	395	366	379	---	---	---	---	---	---
21	419	392	407	392	373	384	---	---	---	---	---	---
22	410	380	394	395	348	374	---	---	---	---	---	---
23	423	396	410	374	346	359	---	---	---	---	---	---
24	437	375	398	382	347	368	---	---	---	---	---	---
25	388	324	368	381	246	344	---	---	---	---	---	---
26	393	377	386	---	---	---	---	---	---	---	---	---
27	413	371	394	339	308	325	---	---	---	---	---	---
28	421	378	399	352	313	339	---	---	---	---	---	---
29	418	372	396	356	341	350	---	---	---	---	---	---
30	403	365	382	361	341	352	---	---	---	---	---	---
31	392	301	360	---	---	---	---	---	---	---	---	---
MONTH	462	301	384	410	246	372	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	372	353	361	320	289	307	313	296	303
2	---	---	---	375	350	364	322	302	313	308	144	264
3	---	---	---	350	203	237	341	311	324	242	154	201
4	---	---	---	322	251	289	340	304	323	283	239	266
5	---	---	---	357	322	341	342	315	325	308	282	294
6	---	---	---	373	349	367	337	314	327	311	282	301
7	---	---	---	379	362	373	340	308	328	319	286	311
8	---	---	---	362	329	344	347	311	333	330	301	319
9	---	---	---	390	348	369	354	321	344	347	265	308
10	---	---	---	371	320	337	358	312	334	315	286	300
11	---	---	---	391	356	376	356	315	334	328	305	314
12	---	---	---	406	367	388	367	338	353	329	260	309
13	---	---	---	367	325	348	366	326	344	265	220	245
14	---	---	---	333	312	325	347	324	333	220	151	182
15	---	---	---	355	330	343	349	301	324	267	215	244
16	---	---	---	395	355	369	361	328	341	276	263	269
17	---	---	---	396	342	356	374	336	354	287	273	280
18	---	---	---	442	311	359	367	341	357	284	164	210
19	---	---	---	355	329	343	380	358	368	255	195	230
20	---	---	---	359	186	288	390	359	373	276	253	263
21	---	---	---	238	188	217	390	349	367	287	274	277
22	---	---	---	297	233	269	372	317	332	291	270	282
23	---	---	---	329	252	303	349	302	323	303	281	293
24	---	---	---	333	259	303	365	339	350	306	285	297
25	---	---	---	325	268	297	366	333	346	319	301	306
26	---	---	---	317	285	305	347	312	327	319	295	307
27	361	340	349	285	202	219	359	318	336	311	299	307
28	362	348	354	284	242	262	361	212	264	325	270	303
29	---	---	---	300	267	284	281	227	250	330	260	316
30	---	---	---	301	278	288	306	279	295	338	319	330
31	---	---	---	306	276	297	---	---	---	356	332	350
MONTH	---	---	---	442	186	320	390	212	331	356	144	283

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	359	337	348	369	352	364	460	423	442	420	264	345
2	370	326	350	376	351	361	479	447	464	384	287	336
3	382	364	371	383	362	372	474	192	420	445	381	409
4	381	363	373	392	382	386	369	215	291	434	382	415
5	372	284	341	393	355	374	432	369	397	475	405	442
6	358	138	321	423	393	406	432	381	398	467	438	451
7	240	137	186	---	---	---	419	400	407	469	414	443
8	302	239	276	---	---	---	435	405	421	473	434	452
9	322	302	314	413	391	398	440	394	422	460	372	428
10	335	308	322	415	384	399	447	417	432	456	414	435
11	345	313	334	415	390	404	446	406	429	474	427	448
12	347	313	338	431	384	412	455	419	438	514	450	487
13	352	322	340	420	387	406	446	386	414	526	486	506
14	340	234	276	420	386	397	448	396	426	534	505	518
15	292	236	267	405	380	393	479	441	459	537	455	495
16	305	279	290	414	393	405	479	440	460	455	341	382
17	319	296	310	444	384	416	477	450	460	426	393	413
18	334	304	318	444	392	418	483	442	462	487	425	460
19	---	---	---	448	411	432	475	449	461	478	431	456
20	---	---	---	463	409	434	491	457	469	457	424	443
21	---	---	---	435	410	424	507	478	493	457	432	443
22	---	---	---	433	387	414	511	470	487	474	433	453
23	---	---	---	443	400	421	493	438	470	---	---	---
24	---	---	---	445	414	429	480	254	422	---	---	---
25	---	---	---	450	418	435	363	243	306	457	388	428
26	---	---	---	460	409	438	485	363	434	494	321	458
27	---	---	---	452	427	437	469	414	429	321	207	252
28	---	---	---	452	388	425	452	432	439	323	224	267
29	360	324	337	428	412	420	432	247	311	415	323	366
30	368	348	356	450	412	428	396	314	359	418	395	407
31	---	---	---	457	417	437	428	380	404	---	---	---
MONTH	382	137	318	463	351	410	511	192	423	537	207	423

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.9	7.5	7.6	8.5	7.4	7.6	7.9	7.3	7.4	---	---	---
2	7.9	7.5	7.6	8.5	7.3	7.4	8.0	7.4	7.6	---	---	---
3	7.9	7.4	7.5	8.3	7.2	7.3	8.1	7.6	7.7	---	---	---
4	7.8	7.3	7.4	8.5	7.3	7.5	8.1	7.5	7.7	---	---	---
5	7.9	7.3	7.4	8.5	7.4	7.6	---	---	---	---	---	---
6	7.8	7.2	7.3	8.6	7.5	7.6	---	---	---	---	---	---
7	7.9	7.2	7.4	8.6	7.3	7.5	---	---	---	---	---	---
8	7.9	7.3	7.4	8.5	7.3	7.5	---	---	---	---	---	---
9	8.0	7.4	7.5	8.4	7.3	7.4	---	---	---	---	---	---
10	8.2	7.4	7.6	8.6	7.3	7.5	---	---	---	---	---	---
11	8.2	7.5	7.6	8.6	7.3	7.5	---	---	---	---	---	---
12	8.3	7.4	7.5	8.5	7.4	7.6	---	---	---	---	---	---
13	8.2	7.3	7.4	8.5	7.4	7.5	---	---	---	---	---	---
14	8.2	7.3	7.3	8.6	7.4	7.5	---	---	---	---	---	---
15	7.7	7.2	7.3	8.6	7.3	7.4	---	---	---	---	---	---
16	8.1	7.3	7.4	8.5	7.3	7.4	---	---	---	---	---	---
17	7.9	7.3	7.4	8.4	7.3	7.4	---	---	---	---	---	---
18	8.0	7.4	7.5	8.5	7.3	7.4	---	---	---	---	---	---
19	7.9	7.4	7.5	8.6	7.3	7.5	---	---	---	---	---	---
20	8.0	7.3	7.4	8.5	7.4	7.6	---	---	---	---	---	---
21	8.0	7.3	7.4	8.6	7.5	7.7	---	---	---	---	---	---
22	8.0	7.3	7.4	8.6	7.6	7.7	---	---	---	---	---	---
23	8.2	7.2	7.3	8.6	7.6	7.7	---	---	---	---	---	---
24	8.0	7.2	7.2	8.3	7.3	7.6	---	---	---	---	---	---
25	8.0	7.2	7.2	7.8	7.2	7.3	---	---	---	---	---	---
26	7.9	7.2	7.4	---	---	---	---	---	---	---	---	---
27	7.9	7.3	7.4	8.0	7.4	7.5	---	---	---	---	---	---
28	8.1	7.4	7.5	8.1	7.3	7.4	---	---	---	---	---	---
29	8.2	7.4	7.6	7.6	7.3	7.4	---	---	---	---	---	---
30	8.3	7.5	7.6	7.6	7.3	7.3	---	---	---	---	---	---
31	8.7	7.5	7.7	---	---	---	---	---	---	---	---	---
MAX	8.7	7.5	7.7	8.6	7.6	7.7	---	---	---	---	---	---
MIN	7.7	7.2	7.2	7.6	7.2	7.3	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.6	7.7	7.8	9.0	7.4	7.9	8.0	7.3	7.5
2	---	---	---	8.5	7.6	7.8	9.0	7.4	7.8	7.6	7.0	7.4
3	---	---	---	7.6	7.4	7.4	8.9	7.3	7.5	7.3	7.0	7.3
4	---	---	---	8.1	7.4	7.7	9.1	7.4	7.8	7.7	7.3	7.5
5	---	---	---	8.2	7.6	7.7	9.2	7.5	8.0	7.7	7.3	7.4
6	---	---	---	8.3	7.6	7.7	9.2	7.6	8.1	7.8	7.2	7.4
7	---	---	---	8.3	7.5	7.7	9.3	7.6	8.1	7.7	7.1	7.3
8	---	---	---	8.3	7.3	7.6	9.3	7.5	8.0	7.8	7.1	7.3
9	---	---	---	8.3	7.3	7.5	9.1	7.2	7.6	7.7	7.2	7.4
10	---	---	---	8.5	7.3	7.6	9.3	7.2	7.8	7.9	7.3	7.5
11	---	---	---	8.6	7.6	7.7	9.3	7.3	8.0	8.2	7.3	7.6
12	---	---	---	8.5	7.5	7.7	9.0	7.3	7.7	8.2	7.4	7.6
13	---	---	---	7.9	7.5	7.6	9.2	7.3	7.7	7.5	7.3	7.4
14	---	---	---	8.6	7.3	7.6	9.0	7.2	7.6	7.5	7.2	7.3
15	---	---	---	8.6	7.2	7.5	9.0	7.1	7.5	7.8	7.3	7.6
16	---	---	---	8.3	7.2	7.5	8.9	6.9	7.2	7.8	7.1	7.5
17	---	---	---	8.3	7.4	7.7	8.8	6.9	7.2	7.6	7.1	7.3
18	---	---	---	8.0	7.6	7.6	8.5	6.9	7.1	7.4	7.2	7.4
19	---	---	---	8.7	7.5	7.7	8.4	6.8	7.0	7.7	7.4	7.5
20	---	---	---	7.8	7.5	7.6	7.8	6.8	7.1	7.8	7.5	7.6
21	---	---	---	8.0	7.5	7.6	7.8	7.1	7.5	7.9	7.6	7.7
22	---	---	---	8.4	7.5	7.9	7.8	7.5	7.6	7.9	7.6	7.7
23	---	---	---	8.5	7.8	8.0	8.3	7.4	7.6	7.9	7.4	7.7
24	---	---	---	8.5	7.8	7.9	8.2	7.2	7.5	7.9	7.3	7.6
25	---	---	---	8.7	7.8	7.9	7.7	7.2	7.4	7.9	7.2	7.4
26	---	---	---	8.2	7.8	7.9	8.1	7.3	7.6	8.0	7.3	7.5
27	8.7	7.5	7.8	8.2	7.8	7.9	8.2	7.3	7.5	7.7	7.4	7.5
28	8.6	7.7	7.8	8.7	7.8	7.9	7.3	7.1	7.3	7.8	7.3	7.5
29	---	---	---	8.8	7.7	8.0	7.6	7.1	7.4	7.9	7.3	7.5
30	---	---	---	8.7	7.6	7.8	7.8	7.4	7.5	8.0	7.2	7.4
31	---	---	---	8.6	7.6	7.9	---	---	---	8.0	7.1	7.4
MAX	---	---	---	8.8	7.8	8.0	9.3	7.6	8.1	8.2	7.6	7.7
MIN	---	---	---	7.6	7.2	7.4	7.3	6.8	7.0	7.3	7.0	7.3
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.0	7.1	7.3	8.3	7.3	7.5	8.3	7.2	7.5	7.8	7.6	7.7
2	8.0	7.1	7.4	8.3	7.2	7.4	8.3	7.3	7.4	7.9	7.5	7.7
3	7.9	7.2	7.4	8.2	7.2	7.4	8.5	7.1	7.4	8.1	7.5	7.6
4	7.9	7.3	7.5	8.0	7.2	7.3	7.7	7.1	7.2	8.1	7.4	7.6
5	7.5	7.0	7.3	8.1	7.2	7.3	7.8	7.1	7.3	8.2	7.5	7.6
6	7.6	6.9	7.2	8.1	7.2	7.5	8.2	7.2	7.5	8.3	7.6	7.7
7	7.2	6.8	7.0	---	---	---	8.3	7.4	7.7	8.4	7.7	7.8
8	7.5	7.2	7.3	---	---	---	8.3	7.5	7.7	8.3	7.6	7.8
9	7.6	7.3	7.4	8.4	7.4	7.6	8.5	7.4	7.7	8.3	7.6	7.8
10	7.7	7.2	7.4	8.2	7.3	7.5	8.5	7.4	7.6	8.3	7.6	7.7
11	7.8	7.2	7.4	8.4	7.4	7.6	8.6	7.3	7.6	8.3	7.6	7.7
12	7.7	7.2	7.3	8.5	7.5	7.7	8.3	7.3	7.6	8.4	7.6	7.8
13	7.7	7.2	7.5	8.4	7.5	7.7	8.6	7.2	7.6	8.4	7.7	7.9
14	7.7	7.5	7.6	8.2	7.4	7.6	8.8	7.3	7.6	8.2	7.6	7.8
15	7.9	7.6	7.7	8.4	7.5	7.6	8.3	7.4	7.6	7.8	7.5	7.6
16	8.0	7.5	7.7	8.4	7.4	7.6	8.4	7.3	7.6	7.9	7.5	7.6
17	8.0	7.5	7.6	8.4	7.3	7.6	8.3	7.3	7.5	8.0	7.5	7.6
18	8.2	7.6	7.7	8.2	7.2	7.5	8.3	7.3	7.5	8.1	7.6	7.7
19	---	---	---	8.1	7.2	7.4	8.3	7.2	7.4	8.1	7.6	7.7
20	---	---	---	8.3	7.2	7.4	8.2	7.2	7.4	8.1	7.5	7.7
21	---	---	---	8.3	7.3	7.5	8.3	7.2	7.5	8.0	7.4	7.6
22	---	---	---	8.6	7.2	7.6	8.4	7.2	7.6	8.0	7.4	7.5
23	---	---	---	8.6	7.3	7.5	8.1	7.3	7.5	---	---	---
24	---	---	---	8.0	7.2	7.5	8.0	7.3	7.5	---	---	---
25	---	---	---	8.6	7.4	7.7	8.0	7.2	7.4	8.5	7.5	7.9
26	---	---	---	8.5	7.4	7.7	8.0	7.3	7.5	8.3	7.9	8.1
27	---	---	---	8.1	7.5	7.7	8.2	7.4	7.7	8.2	7.5	8.0
28	---	---	---	8.4	7.3	7.5	7.9	7.4	7.7	7.9	7.5	7.6
29	8.2	7.3	7.5	8.3	7.3	7.4	7.8	7.7	7.8	8.1	7.6	7.8
30	8.2	7.3	7.5	8.3	7.2	7.4	8.0	7.7	7.8	8.1	7.6	7.8
31	---	---	---	8.3	7.2	7.4	8.1	7.6	7.8	---	---	---
MAX	8.2	7.6	7.7	8.6	7.5	7.7	8.8	7.7	7.8	8.5	7.9	8.1
MIN	7.2	6.8	7.0	8.0	7.2	7.3	7.7	7.1	7.2	7.8	7.4	7.5

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	13.5	14.0	14.0	10.0	12.0	14.5	12.5	13.5	---	---	---
2	17.5	13.0	15.0	16.0	12.0	14.0	12.5	9.0	11.0	---	---	---
3	19.0	14.5	16.5	17.0	13.5	15.0	10.5	7.5	9.0	---	---	---
4	20.0	16.0	17.5	14.5	11.5	13.0	10.5	7.5	9.0	---	---	---
5	19.5	15.5	17.5	13.0	10.0	11.0	---	---	---	---	---	---
6	18.5	15.5	17.5	12.0	9.0	10.0	---	---	---	---	---	---
7	15.5	13.0	14.5	13.0	9.0	10.5	---	---	---	---	---	---
8	14.0	11.0	12.5	13.0	9.5	11.0	---	---	---	---	---	---
9	14.0	9.5	11.5	12.5	10.0	11.0	---	---	---	---	---	---
10	14.5	10.0	12.0	11.5	8.0	10.0	---	---	---	---	---	---
11	16.5	12.0	14.0	11.5	8.0	9.5	---	---	---	---	---	---
12	17.5	13.5	15.5	10.0	6.5	8.0	---	---	---	---	---	---
13	19.0	15.5	17.0	10.0	6.0	8.0	---	---	---	---	---	---
14	19.0	17.0	17.5	10.0	6.5	8.0	---	---	---	---	---	---
15	18.0	15.5	17.0	12.0	8.0	10.0	---	---	---	---	---	---
16	16.5	13.5	15.0	12.5	9.0	11.0	---	---	---	---	---	---
17	15.0	12.5	14.0	12.0	9.5	10.5	---	---	---	---	---	---
18	13.5	10.5	12.0	11.0	8.0	9.5	---	---	---	---	---	---
19	14.0	10.0	12.0	11.5	8.0	9.5	---	---	---	---	---	---
20	15.5	11.5	13.0	11.5	8.5	10.0	---	---	---	---	---	---
21	16.0	12.0	14.0	9.5	6.5	8.0	---	---	---	---	---	---
22	17.5	13.5	15.5	8.5	5.5	7.0	---	---	---	---	---	---
23	18.0	15.0	16.5	9.0	5.5	7.5	---	---	---	---	---	---
24	19.5	16.0	17.5	11.5	7.5	9.5	---	---	---	---	---	---
25	18.0	15.0	16.5	13.5	11.5	12.5	---	---	---	---	---	---
26	15.0	11.5	13.5	---	---	---	---	---	---	---	---	---
27	12.0	10.5	11.5	12.0	10.0	11.0	---	---	---	---	---	---
28	12.5	9.5	10.5	13.5	11.5	12.5	---	---	---	---	---	---
29	12.5	8.0	10.0	13.5	13.0	13.0	---	---	---	---	---	---
30	13.5	10.0	11.5	14.5	13.0	14.0	---	---	---	---	---	---
31	11.5	10.0	11.0	---	---	---	---	---	---	---	---	---
MONTH	20.0	8.0	14.3	17.0	5.5	10.6	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.5	3.0	5.5	15.0	11.0	12.5	18.5	13.5	15.5
2	---	---	---	7.0	4.0	5.5	15.0	9.5	12.0	18.0	14.5	16.0
3	---	---	---	9.0	7.0	8.0	17.0	11.5	13.5	18.0	14.5	16.0
4	---	---	---	8.0	4.0	6.5	13.5	9.5	11.0	17.0	12.0	14.5
5	---	---	---	6.5	2.5	4.5	10.5	8.0	9.5	19.0	13.5	16.0
6	---	---	---	8.0	3.5	5.5	11.5	7.5	9.0	19.0	14.5	16.5
7	---	---	---	10.0	5.0	7.5	13.0	6.5	9.0	20.5	16.0	18.0
8	---	---	---	11.5	6.5	9.0	13.5	8.5	11.0	21.5	17.0	19.0
9	---	---	---	13.0	9.0	11.0	16.0	11.5	13.5	18.5	15.5	16.5
10	---	---	---	12.5	7.0	10.5	18.5	13.5	15.5	20.5	15.5	17.5
11	---	---	---	10.5	5.0	7.5	18.5	12.0	14.5	20.0	15.5	17.5
12	---	---	---	10.0	5.5	7.5	14.0	12.5	13.0	19.5	16.0	17.5
13	---	---	---	9.0	8.0	8.5	18.5	13.5	15.5	19.5	17.5	18.5
14	---	---	---	13.0	8.0	10.5	20.0	15.5	17.5	18.5	15.0	16.0
15	---	---	---	15.0	10.0	12.0	22.5	17.0	19.0	17.0	13.0	15.0
16	---	---	---	14.5	11.0	13.0	24.5	18.0	21.0	18.5	13.5	16.0
17	---	---	---	11.0	7.0	9.0	25.5	18.5	22.0	20.0	17.0	18.5
18	---	---	---	7.5	7.0	7.0	25.5	19.5	22.0	18.5	13.5	15.0
19	---	---	---	10.0	7.0	8.0	25.5	19.0	22.0	15.5	12.0	13.5
20	---	---	---	8.5	7.0	8.0	21.5	18.5	20.5	14.0	12.0	13.0
21	---	---	---	10.5	6.5	8.5	18.5	14.0	16.0	14.5	11.5	13.0
22	---	---	---	9.0	5.5	7.0	15.0	13.0	13.5	17.0	11.5	14.0
23	---	---	---	9.5	4.0	6.5	16.5	11.5	13.5	18.5	13.0	15.5
24	---	---	---	9.5	5.5	7.5	18.0	11.0	14.0	20.0	14.5	17.5
25	---	---	---	10.5	7.0	8.5	14.0	12.0	13.0	20.5	17.0	19.0
26	---	---	---	8.5	8.0	8.5	16.0	10.0	13.0	19.0	17.0	18.0
27	9.5	5.0	7.5	9.0	7.5	8.0	18.0	11.0	14.0	19.0	17.5	18.5
28	8.0	3.5	5.5	12.0	6.5	9.0	15.0	13.5	14.0	20.5	17.5	19.0
29	---	---	---	13.5	8.5	10.5	14.5	12.5	14.0	22.5	18.5	20.0
30	---	---	---	15.5	10.5	12.5	16.0	11.0	13.0	23.5	19.0	21.0
31	---	---	---	13.0	11.5	12.0	---	---	---	24.5	19.5	22.0
MONTH	---	---	---	15.5	2.5	8.5	25.5	6.5	14.7	24.5	11.5	16.9

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	25.0	20.5	22.5	27.0	22.0	24.0	29.0	23.0	25.5	20.5	17.5	19.0
2	24.5	19.5	21.5	28.5	22.5	25.0	29.0	23.0	25.5	20.5	17.5	19.0
3	23.5	18.5	20.5	29.5	24.0	26.5	28.0	22.5	25.5	24.0	19.5	21.5
4	21.5	18.5	20.0	30.0	24.5	27.0	26.5	22.5	24.0	25.5	21.0	23.0
5	23.5	19.0	21.0	29.0	24.5	26.5	26.0	23.0	24.5	24.0	20.0	22.0
6	24.0	19.5	22.0	26.0	21.5	23.5	26.0	22.0	24.0	23.5	19.0	21.0
7	---	---	---	---	---	---	23.5	19.0	21.5	23.5	18.0	20.5
8	21.5	17.5	19.5	---	---	---	23.5	18.5	21.0	24.0	18.5	21.0
9	22.5	17.5	20.0	26.5	21.0	23.5	24.5	18.5	21.0	24.5	18.5	21.0
10	24.0	19.5	21.5	26.0	22.5	24.0	25.0	19.0	22.0	25.0	20.0	22.0
11	25.0	20.5	22.5	25.0	19.5	22.0	26.0	19.5	22.5	23.5	20.0	22.0
12	24.5	22.0	23.0	24.5	18.0	21.0	26.0	21.0	23.5	22.5	18.0	20.0
13	23.0	20.5	22.0	23.0	19.0	21.0	27.5	22.0	24.5	22.5	16.0	19.0
14	20.5	18.0	19.0	22.0	20.0	21.0	28.0	23.0	25.5	22.5	18.0	20.5
15	19.0	18.0	18.5	25.0	19.5	22.0	27.5	23.0	25.0	22.5	21.5	22.0
16	21.0	17.5	19.0	26.5	21.0	23.0	27.5	24.5	25.5	24.0	21.5	22.5
17	22.0	18.0	20.0	26.5	20.0	23.0	27.5	23.5	25.5	24.0	20.0	21.5
18	23.0	18.5	20.5	26.5	22.5	24.5	28.0	24.0	25.5	23.0	19.0	20.5
19	---	---	---	26.0	23.0	24.5	28.0	23.5	25.5	23.0	19.0	21.0
20	---	---	---	27.0	22.5	24.5	27.0	24.0	25.0	24.0	19.5	21.5
21	---	---	---	26.5	23.0	24.5	26.0	21.5	24.0	24.5	20.5	22.5
22	---	---	---	27.5	22.5	25.0	26.0	21.0	23.5	24.5	22.0	23.0
23	---	---	---	29.0	23.5	25.5	25.0	23.5	24.0	---	---	---
24	---	---	---	25.0	23.0	23.5	24.0	22.5	23.0	---	---	---
25	---	---	---	25.5	21.5	23.0	25.5	20.5	22.5	19.5	16.5	18.0
26	---	---	---	22.5	20.5	21.5	24.0	21.0	22.5	19.0	17.5	18.5
27	---	---	---	22.5	20.5	21.5	25.0	20.5	22.5	19.0	16.5	17.5
28	---	---	---	26.0	21.5	23.0	22.5	20.0	21.5	20.5	18.5	19.5
29	26.5	21.5	23.5	28.0	23.0	25.0	20.0	18.0	18.5	20.0	16.5	18.0
30	26.5	22.0	24.0	28.0	23.5	25.5	20.0	18.5	19.0	20.5	16.5	18.0
31	---	---	---	28.5	23.0	25.5	22.5	18.5	20.0	---	---	---
MONTH	26.5	17.5	21.1	30.0	18.0	23.8	29.0	18.0	23.3	25.5	16.0	20.6

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	10.0	8.2	8.9	13.8	7.3	9.7	11.2	7.1	8.4	---	---	---
2	10.7	8.1	9.1	13.3	6.2	9.0	11.9	7.5	9.3	---	---	---
3	10.7	7.8	8.9	12.5	5.8	7.9	12.8	8.7	10.1	---	---	---
4	10.8	7.5	8.7	13.4	6.3	8.9	12.9	8.8	10.2	---	---	---
5	10.7	7.5	8.7	13.7	7.0	9.4	---	---	---	---	---	---
6	10.2	6.8	8.3	13.8	7.5	9.8	---	---	---	---	---	---
7	10.7	7.6	8.9	15.0	7.4	10.1	---	---	---	---	---	---
8	11.0	8.3	9.5	15.1	7.7	10.3	---	---	---	---	---	---
9	11.6	8.9	10.0	14.9	7.2	10	---	---	---	---	---	---
10	11.9	8.2	10	15.5	8.1	10.7	---	---	---	---	---	---
11	11.2	7.5	9.0	15.8	8.2	10.8	---	---	---	---	---	---
12	12.0	7.1	9.0	16.5	8.9	11.6	---	---	---	---	---	---
13	12.2	7.2	9.0	16.6	9.2	11.6	---	---	---	---	---	---
14	11.5	6.9	8.5	16.7	8.9	11.6	---	---	---	---	---	---
15	9.8	6.5	7.8	16.8	8.3	11.4	---	---	---	---	---	---
16	10.5	6.9	8.5	16.3	8.1	10.9	---	---	---	---	---	---
17	10.4	7.0	8.4	16.0	8.1	10.9	---	---	---	---	---	---
18	11.1	8.2	9.5	16.4	8.7	11.5	---	---	---	---	---	---
19	11.0	7.5	9.2	16.0	7.6	11.0	---	---	---	---	---	---
20	11.3	7.0	8.6	14.5	7.3	9.6	---	---	---	---	---	---
21	11.6	6.5	8.5	15.5	8.0	10.5	---	---	---	---	---	---
22	11.9	6.2	8.3	15.9	8.8	11.3	---	---	---	---	---	---
23	11.7	5.8	7.9	15.7	9.1	11.2	---	---	---	---	---	---
24	11.0	5.8	7.6	14.6	7.7	10.3	---	---	---	---	---	---
25	11.0	5.9	7.6	12.3	---	---	---	---	---	---	---	---
26	11.6	6.4	8.5	---	---	---	---	---	---	---	---	---
27	12.2	7.7	9.4	11.8	8.0	9.3	---	---	---	---	---	---
28	13.1	8.3	10.1	11.9	7.4	8.9	---	---	---	---	---	---
29	13.4	7.9	10.2	9.7	7.2	8.0	---	---	---	---	---	---
30	13.2	7.6	9.5	9.6	7.1	8.0	---	---	---	---	---	---
31	14.0	7.6	9.8	---	---	---	---	---	---	---	---	---
MONTH	14.0	5.8	8.9	16.8	5.8	10.2	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	17.3	12.4	14.2	15.1	9.1	11.3	11.3	7.7	9.7
2	---	---	---	17.1	12.0	14.1	16.6	8.6	11.6	9.9	7.2	8.3
3	---	---	---	12.5	11.5	12.0	16.8	8.2	10.7	9.1	7.4	8.6
4	---	---	---	14.7	11.5	13.0	16.7	8.6	11.8	10.4	8.4	9.5
5	---	---	---	15.8	12.7	14.0	16.9	9.3	12.3	10.1	7.9	9.0
6	---	---	---	---	---	---	17.5	9.5	12.7	10.3	7.5	8.9
7	---	---	---	---	---	---	18.5	9.2	13.0	10.3	7.1	8.5
8	---	---	---	---	---	---	19.3	8.6	12.9	10.3	6.9	8.3
9	---	---	---	12.8	8.0	9.7	18.9	7.4	11.6	9.3	6.8	8.1
10	---	---	---	12.4	7.9	9.6	18.3	6.9	11.5	10.7	8.0	9.3
11	---	---	---	13.0	8.5	10.2	18.4	7.3	11.9	11.2	7.9	9.5
12	---	---	---	13.4	9.0	10.5	16.9	7.4	11.1	11.7	7.9	9.5
13	---	---	---	11.5	9.4	10.2	18.9	6.9	11.6	10.2	7.8	8.7
14	---	---	---	13.1	7.9	10.2	18.2	6.3	10.8	9.2	7.8	8.7
15	---	---	---	13.7	7.5	9.9	17.2	5.1	10.1	10.5	8.9	9.6
16	---	---	---	13.4	7.2	9.3	15.9	4.2	8.9	10.7	8.5	9.5
17	---	---	---	13.1	7.9	10.3	15.9	3.8	8.3	9.9	7.4	8.7
18	---	---	---	12.3	10.0	10.8	14.6	3.6	7.6	9.3	7.4	8.6
19	---	---	---	12.4	8.8	10.6	13.7	3.7	7.2	10.5	9.2	9.7
20	---	---	---	11.0	9.5	10.4	10.8	3.7	6.7	10.9	9.2	10.0
21	---	---	---	12.1	9.8	10.9	10.6	4.9	7.6	11.1	9.3	10.1
22	---	---	---	13.1	9.8	11.3	10.8	7.1	8.7	11.3	8.8	10.1
23	---	---	---	13.4	10.3	11.5	12.2	7.9	9.8	11.1	8.3	9.7
24	---	---	---	13.9	10.3	11.6	12.0	7.6	9.5	11.2	7.5	9.3
25	---	---	---	14.4	10.0	11.6	10.6	7.5	8.8	11.4	7.4	9.0
26	---	---	---	12.7	10.0	11.0	12.0	8.6	10.2	11.2	7.6	9.0
27	15.5	9.8	12.1	12.8	10.6	11.5	12.0	8.2	10.0	10.3	7.7	8.7
28	16.6	11.6	13.7	14.0	10.1	11.7	9.6	8.1	9.0	11.0	7.4	8.9
29	---	---	---	14.5	9.3	11.5	10.8	8.8	9.8	11.1	6.9	8.7
30	---	---	---	14.4	9.0	11.1	11.7	8.9	10.3	10.9	6.8	8.4
31	---	---	---	14.1	8.9	11.0	---	---	---	10.9	6.3	8.2
MONTH	---	---	---	17.3	7.2	11.2	19.3	3.6	10.2	11.7	6.3	9.1
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.6	6.1	7.8	9.7	6.2	7.5	9.5	5.5	7.1	8.5	6.4	7.5
2	10.7	6.1	7.9	9.5	5.9	7.4	9.6	5.5	7.1	9.3	6.6	8.0
3	10.8	6.3	8.0	9.3	5.6	7.0	9.6	5.7	7.3	9.9	6.0	7.3
4	11.0	6.4	8.3	9.3	5.5	6.9	8.4	6.3	7.1	9.1	5.7	6.9
5	9.3	5.8	7.4	8.9	5.6	6.9	8.6	6.1	7.2	9.4	5.8	7.0
6	9.8	5.6	7.2	9.6	6.1	7.7	8.6	6.2	7.2	9.4	6.0	7.2
7	---	---	---	---	---	---	9.0	6.2	7.5	9.5	6.2	7.4
8	8.1	6.7	7.4	---	---	---	9.5	6.8	7.9	9.3	6.1	7.2
9	9.0	6.4	7.7	10.1	6.1	7.7	9.9	6.9	8.0	9.3	5.9	7.1
10	9.2	6.5	7.6	9.9	5.8	7.4	10.1	6.9	8.1	9.5	5.7	7.1
11	9.4	6.4	7.7	10.0	6.4	7.8	10.4	6.9	8.2	9.2	5.4	6.8
12	8.9	6.2	7.3	10.3	6.8	8.1	10.8	6.5	8.1	9.7	5.8	7.2
13	9.1	6.3	7.4	10.3	6.6	8.2	11.0	6.3	8.1	9.8	5.9	7.3
14	8.3	7.0	7.7	10.0	6.6	8.0	10.9	5.8	7.9	9.5	5.2	7.0
15	9.1	7.8	8.3	10.2	6.4	8.1	10.1	5.4	7.2	8.2	4.9	6.1
16	9.4	7.4	8.4	10.0	6.1	7.6	10.5	5.0	7.2	8.5	5.4	6.5
17	9.7	7.3	8.2	10.2	6.0	7.6	10.3	5.2	7.1	8.5	5.3	6.4
18	9.9	7.0	8.3	9.8	5.3	7.2	10.2	5.0	6.8	8.9	5.2	6.5
19	---	---	---	9.7	5.3	7.1	10.3	4.6	6.7	9.4	5.3	6.7
20	---	---	---	9.7	5.4	7.1	10.2	4.6	6.8	9.3	5.2	6.6
21	---	---	---	9.8	5.3	7.2	10.3	5.1	7.0	9.2	4.9	6.5
22	---	---	---	9.8	5.3	7.1	11.1	5.3	7.4	8.9	4.7	6.2
23	---	---	---	9.7	5.0	6.8	9.5	4.8	6.6	---	---	---
24	---	---	---	8.7	4.9	6.7	9.1	5.1	6.6	---	---	---
25	---	---	---	9.9	5.8	7.4	8.6	5.7	7.1	10.0	6.7	7.9
26	---	---	---	9.7	5.8	7.4	9.4	5.4	6.9	8.5	6.3	7.3
27	---	---	---	9.2	6.2	7.4	9.9	5.4	7.1	8.5	7.2	7.9
28	---	---	---	9.8	6.1	7.5	8.3	5.4	6.7	8.5	7.0	7.5
29	9.5	6.1	7.4	9.7	5.7	7.2	8.6	6.6	7.7	8.8	6.5	7.5
30	9.7	6.2	7.5	9.3	5.4	7.0	9.4	6.9	7.8	8.7	6.3	7.1
31	---	---	---	9.3	5.5	6.9	9.7	6.5	7.7	---	---	---
MONTH	11.0	5.6	7.8	10.3	4.9	7.4	11.1	4.6	7.3	10.0	4.7	7.1

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
MAR								
15...	1306	57	0.0	--	--	--	--	0
15...	1307	--	0.5	14.4	8.6	320	13.5	3
15...	1308	--	0.5	14.4	8.6	336	13.5	6
15...	1309	--	0.5	14.2	8.6	336	13.5	9
15...	1310	--	0.5	14.4	8.6	336	13.5	12
15...	1311	--	0.5	14.3	8.6	336	13.5	15
15...	1312	--	0.5	14.3	8.6	336	13.5	18
15...	1313	--	2.0	14.4	8.6	335	13.5	18
15...	1314	--	0.5	14.4	8.6	335	13.5	22
15...	1315	--	2.5	14.4	8.6	335	13.5	22
15...	1316	--	0.5	14.2	8.6	335	13.5	25
15...	1317	--	2.0	14.4	8.6	335	13.5	25
15...	1318	--	0.5	14.1	8.6	335	13.5	29
15...	1319	--	0.5	14.4	8.6	335	13.7	33
15...	1320	--	0.5	14.4	8.6	335	13.6	37
15...	1321	--	0.5	14.4	8.6	336	13.6	41
15...	1322	--	0.5	14.2	8.6	334	13.6	45
15...	1323	--	0.5	13.9	8.5	336	13.5	49
15...	1324	--	0.5	14.2	8.6	335	13.5	53
15...	1325	--	0.5	14.2	8.6	336	13.5	56
15...	1326	--	0.5	14.2	8.5	335	13.5	59
15...	1327	--	0.5	14.2	8.5	335	13.6	62
15...	1328	57	--	--	--	--	--	63

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°52'11", long 75°35'37", Delaware County, Hydrologic Unit 02040205, on left bank 27 ft upstream from Penn Central Railroad bridge at Chadds Ford, 150 ft upstream from Harvey Run, and 1,200 ft downstream from highway bridge on U.S. Highway 1.

DRAINAGE AREA.--287 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1911 to September 1953, October 1962 to current year. Prior to October 1911, monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1202: 1917-18(M), 1919-20, 1922-31(M), 1932-33, 1934(M), 1936, 1938(P), 1939(M), 1942, 1944-46(M), WDR PA-98-1: 1996-97 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.45 ft above National Geodetic Vertical Datum of 1929. Prior to May 21, 1927, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 17 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 14.64 ft, gage datum, discharge, about 16,400 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	95	102	e80	231	119	216	219	172	128	55	106
2	115	98	101	e85	220	114	190	280	160	124	55	158
3	108	101	97	e85	175	665	176	817	149	118	53	91
4	104	98	97	e90	164	281	178	275	145	112	172	73
5	101	98	97	e90	146	178	172	217	156	110	67	65
6	93	96	98	e100	139	153	161	195	185	101	57	59
7	94	93	95	298	151	147	157	186	1240	98	54	54
8	92	98	103	193	150	152	151	177	291	103	50	52
9	95	94	194	144	145	139	154	202	201	103	48	51
10	95	95	142	136	144	161	169	231	182	115	47	49
11	97	93	122	324	151	140	157	185	171	107	44	47
12	95	91	113	458	141	127	151	180	161	93	43	42
13	97	91	113	187	138	148	151	371	159	89	43	39
14	95	92	132	150	128	171	163	1010	299	89	40	39
15	125	92	175	134	130	153	196	350	346	101	40	42
16	109	96	134	128	135	139	159	248	247	95	38	78
17	104	95	119	123	131	137	149	217	201	85	37	67
18	102	95	196	126	126	225	140	925	185	77	36	55
19	100	92	168	122	124	229	140	560	198	74	37	49
20	101	99	132	128	124	522	166	307	188	74	39	51
21	101	99	117	130	148	681	142	260	162	75	37	50
22	98	96	112	126	137	270	170	235	149	72	33	49
23	93	95	110	128	126	209	172	216	141	69	36	47
24	94	95	157	498	124	186	145	201	144	74	41	54
25	102	134	139	659	122	173	148	194	156	72	158	44
26	91	261	123	243	124	167	165	185	141	69	66	41
27	95	139	e100	190	125	453	144	189	139	65	54	371
28	91	113	e95	171	119	258	471	202	197	70	50	287
29	92	105	e90	163	---	202	393	191	151	70	252	124
30	93	105	e85	159	---	190	231	183	134	65	125	71
31	95	---	e80	231	---	191	---	171	---	56	76	---
TOTAL	3085	3144	3738	5879	4018	7080	5477	9379	6550	2753	1983	2405
MEAN	99.5	105	121	190	144	228	183	303	218	88.8	64.0	80.2
MAX	125	261	196	659	231	681	471	1010	1240	128	252	371
MIN	91	91	80	80	119	114	140	171	134	56	33	39

e Estimated.

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	266	316	453	529	531	657	614	511	376	323	229	269
MAX	924	751	1634	1664	1308	1713	1509	1097	833	1153	562	906
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1975	1975	1996	1979
MIN	99.5	105	112	106	144	195	183	249	153	88.8	64.0	80.2
(WY)	2002	2002	1999	1981	2002	1981	2002	1999	1999	2002	2002	2002

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	111418		55491			
ANNUAL MEAN	305		152		422	
HIGHEST ANNUAL MEAN					714	
LOWEST ANNUAL MEAN					152	
HIGHEST DAILY MEAN	2500	Mar 30	1240	Jun 7	10600	Jan 26 1978
LOWEST DAILY MEAN	e80	Dec 31	33	Aug 22	33	Aug 22 2002
ANNUAL SEVEN-DAY MINIMUM	93	Nov 9	36	Aug 17	36	Aug 17 2002
MAXIMUM PEAK FLOW			2380	Jun 7	a26900	Sep 17 1999
MAXIMUM PEAK STAGE			5.66	Jun 7	17.15	Sep 17 1999
INSTANTANEOUS LOW FLOW			32	Aug 22	8.4	Sep 13 1980
10 PERCENT EXCEEDS	625		233		800	
50 PERCENT EXCEEDS	202		126		287	
90 PERCENT EXCEEDS	95		54		122	

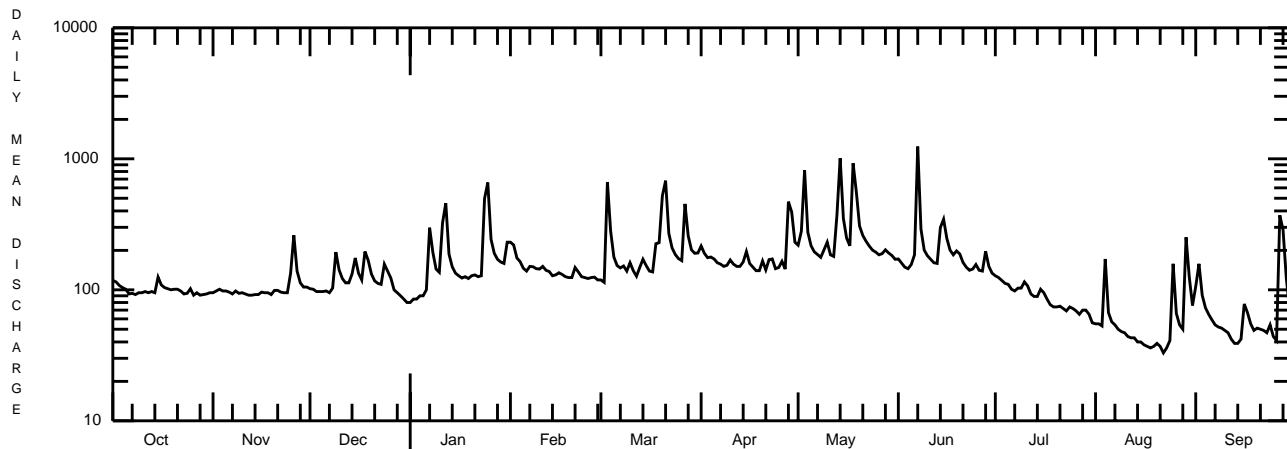
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911-1953, 1963-1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	219	301	348	444	570	605	530	435	364	309	278	230
MAX	666	625	827	1020	1130	1366	1043	946	1144	802	1089	1050
(WY)	1972	1972	1973	1936	1971	1920	1973	1952	1972	1919	1933	1971
MIN	67.7	98.3	114	145	214	247	226	175	149	91.1	82.1	59.4
(WY)	1964	1942	1966	1966	1934	1931	1963	1926	1963	1963	1930	1932

SUMMARY STATISTICS WATER YEARS 1911-1953 1963-1973

ANNUAL MEAN	385	
HIGHEST ANNUAL MEAN	625	1928
LOWEST ANNUAL MEAN	218	1932
HIGHEST DAILY MEAN	9590	Aug 24 1933
LOWEST DAILY MEAN	42	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	45	Sep 7 1966
MAXIMUM PEAK FLOW	b23800	Jun 22 1972
MAXIMUM PEAK STAGE	16.56	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.9	Oct 2 1942
ANNUAL RUNOFF (CFSM)	1.34	
ANNUAL RUNOFF (INCHES)	18.23	
10 PERCENT EXCEEDS	700	
50 PERCENT EXCEEDS	274	
90 PERCENT EXCEEDS	118	

- a From rating curve extended above 13,200 ft³/s on basis of area-velocity study at gage height 16.56 ft.
- b From rating curve extended above 9,000 ft³/s on basis of area-velocity study.
- e Estimated.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to current year.
pH: October 1965 to September 1966, December 1971 to current year.
WATER TEMPERATURES: October 1964 to current year.
DISSOLVED OXYGEN: October 1971 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1963 to September 1978.

INSTRUMENTATION.--Water-quality monitor since August 1971.

REMARKS.--Specific conductance record rated good except for period Nov. 21-27, May 1-9, and Sept. 23-27, which are fair. pH record rated good. Water temperature record rated fair. Dissolved oxygen record rated good, except for period Aug. 20 to Sept. 3, which is poor. Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 689 microsiemens, Mar. 6, 2001; minimum, 42 microsiemens, Nov. 26, 1979.
pH: Maximum, 9.8, Apr. 9, 1975; minimum, 6.1, Feb. 22, 1976.
WATER TEMPERATURE: Maximum, 31.0°C, July 4, 2002; minimum, 0.0°C, many days during winters.
DISSOLVED OXYGEN: Maximum, 17.1 mg/L, Dec. 5, 1976; minimum, 3.0 mg/L, June 21, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.7 µM-MF (COLS./ 100 ML) (31625)
MAR 2002									
05...	1515	1028	1028	171	13.2	7.7	284	5.2	31
18...	1520	1028	1028	244	11.4	7.7	319	7.7	155
APR									
23...	1700	1028	1028	159	11.0	7.7	331	14.8	24
MAY									
01...	1600	1028	1028	212	11.1	7.5	305	16.7	52
14...	1510	1028	1028	1045	8.5	7.2	180	16.9	4800
30...	1230	1028	1028	180	11.6	7.9	323	22.4	58
JUN									
10...	1036	1028	1028	182	7.2	7.3	305	21.3	212
17...	1500	1028	1028	191	9.3	7.4	298	21.7	78
25...	1540	1028	1028	180	9.7	8.1	330	27.3	85
JUL									
08...	1515	1028	1028	106	10.7	8.3	369	26.1	40
15...	1410	1028	1028	102	9.3	8.1	372	25.1	31
23...	1515	1028	1028	68	10.7	8.5	391	30.0	49
AUG									
06...	1500	1028	1028	56	9.5	7.7	319	27.8	55
14...	1450	1028	1028	38	10.5	8.3	421	28.1	28
20...	1540	1028	1028	39	9.5	8.1	437	28.6	29
SEP									
12...	1520	1028	1028	40	11.4	8.3	396	23.0	12
23...	1510	1028	1028	45	11.4	8.4	398	24.0	41

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued
(Pennsylvania Water-Quality Network Station)

PERIOD OF RECORD.--April 2002 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 410-425.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
APR 2002 29...	1110	9813	377	40	10.8	7.6	220	14.0	74	18.6	6.7	48	20.6
JUN 12...	1030	9813	162	40	7.7	7.5	308	23.8	100	25.2	10.2	66	31.0
AUG 20...	1330	9813	39	40	8.8	8.1	419	27.8	130	32.4	12.7	88	49.2

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	OXYGEN DEMAND, CHEM-ICAL, (HIGH LEVEL) (MG/L) (00340)
APR 2002 29...	15.8	186	<2	.100	2.20	.030	2.4	.037	.120	5.1	5.5	2.3	20
JUN 12...	23.7	226	<2	.070	2.83	.030	3.5	.099	.150	3.9	4.1	1.6	11
AUG 20...	31.3	302	2	<.020	1.52	.040	2.1	.102	.140	4.3	4.6	1.4	<10

Date	FECAL COLI-FORM, MFC MF, WATER (COL/100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	ARSENIC TOTAL (µG/L AS AS) (01002)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHRO-MIUM, HEXA-VALENT, DIS-SOLVED (µG/L AS CR) (01032)	CHRO-MIUM, TOTAL RECOV-ERABLE (µG/L AS CR) (01034)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
APR 2002 29...	920	<4.0	<4	<.20	<.2	<1	<4	<4	<4	100	850	<1.0	1.7
JUN 12...	80	<4.0	<4	<.20	<.2	<1	<4	<4	<4	80	360	<1.0	<1.0
AUG 20...	50	<4.0	<4	<.20	<.2	<1	<4	<4	<4	80	140	<1.0	<1.0

Date	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	MERCURY TOTAL RECOV-ERABLE (µG/L AS HG) (71900)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	SELE-NIUM, DIS-SOLVED (µG/L AS SE) (01145)	SILVER, DIS-SOLVED (µG/L AS AG) (01075)	SILVER, TOTAL RECOV-ERABLE (µG/L AS AG) (01077)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002 29...	40	80	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	<5.0	<5.0
JUN 12...	50	60	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	8.7	7.7
AUG 20...	40	40	<.20	<.2	<4.0	<4.0	<7	<.4	<.40	20	6.4

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	374	333	351	370	353	358	336	329	331	---	---	---
2	377	371	374	---	---	---	335	328	332	---	---	---
3	383	372	376	383	348	361	---	---	---	---	---	---
4	387	377	382	359	345	350	---	---	---	---	---	---
5	383	361	373	365	346	353	---	---	---	---	---	---
6	372	360	364	374	342	351	---	---	---	---	---	---
7	364	345	354	360	342	355	---	---	---	---	---	---
8	364	345	356	371	354	360	---	---	---	---	---	---
9	371	362	367	377	367	371	---	---	---	---	---	---
10	367	353	361	383	365	371	---	---	---	---	---	---
11	357	350	353	376	366	371	---	---	---	---	---	---
12	358	349	354	374	359	367	---	---	---	---	---	---
13	349	338	343	377	358	365	---	---	---	---	---	---
14	350	342	346	381	356	361	---	---	---	---	---	---
15	348	338	343	361	348	355	---	---	---	---	---	---
16	351	333	343	364	347	353	---	---	---	---	---	---
17	350	333	340	369	347	354	---	---	---	---	---	---
18	349	329	337	387	353	366	---	---	---	---	---	---
19	360	337	345	358	342	351	---	---	---	---	---	---
20	343	326	334	350	343	346	---	---	---	---	---	---
21	349	340	344	355	343	347	---	---	---	---	---	---
22	352	342	348	352	341	346	---	---	---	---	---	---
23	364	351	354	350	340	345	---	---	---	---	---	---
24	358	342	349	352	341	347	---	---	---	---	---	---
25	377	347	359	397	340	347	---	---	---	---	---	---
26	373	358	366	406	324	365	---	---	---	---	---	---
27	377	361	367	334	285	296	---	---	---	---	---	---
28	379	366	372	316	289	304	---	---	---	---	---	---
29	384	367	376	326	316	323	---	---	---	---	---	---
30	368	357	362	330	324	326	---	---	---	---	---	---
31	366	355	360	---	---	---	---	---	---	---	---	---
MONTH	387	326	357	406	285	351	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	358	338	344	324	309	316	310	291	302
2	---	---	---	372	345	350	319	308	315	340	303	320
3	---	---	---	360	240	277	329	302	309	303	218	250
4	---	---	---	277	237	258	321	311	314	286	261	279
5	---	---	---	307	277	295	333	312	318	313	285	303
6	---	---	---	323	306	315	319	309	314	327	312	319
7	---	---	---	354	323	326	327	308	315	327	303	321
8	---	---	---	347	332	340	334	308	316	338	317	323
9	---	---	---	347	326	336	337	310	317	362	321	338
10	---	---	---	344	321	329	338	320	326	367	323	341
11	---	---	---	344	317	327	344	321	331	340	320	328
12	---	---	---	358	323	327	333	321	326	338	319	326
13	---	---	---	338	326	330	339	326	329	343	288	321
14	---	---	---	352	322	331	336	323	329	295	176	222
15	---	---	---	322	311	315	329	307	318	268	219	251
16	---	---	---	332	310	314	315	306	309	287	267	279
17	---	---	---	334	317	321	318	307	312	297	274	279
18	---	---	---	348	320	328	327	314	321	295	183	236
19	---	---	---	393	324	352	330	319	324	259	188	217
20	---	---	---	335	248	302	338	322	331	292	259	273
21	---	---	---	251	220	231	341	331	336	303	291	297
22	---	---	---	287	251	269	346	333	339	311	297	304
23	---	---	---	304	283	296	348	327	337	319	292	305
24	---	---	---	324	304	315	328	310	318	320	304	312
25	---	---	---	342	323	326	334	322	327	317	302	311
26	---	---	---	335	319	327	338	327	334	328	313	318
27	---	---	---	320	254	287	340	325	333	325	304	317
28	346	335	339	272	251	260	334	257	304	327	306	317
29	---	---	---	293	270	285	270	241	254	327	301	312
30	---	---	---	308	292	297	291	270	280	329	321	325
31	---	---	---	327	304	311	---	---	---	339	328	334
MONTH	---	---	---	393	220	310	348	241	318	367	176	299

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	344	330	337	345	321	334	420	356	392	329	303	314
2	344	332	339	352	336	346	401	358	386	380	324	343
3	349	336	343	361	351	354	417	382	396	333	316	321
4	358	342	352	363	348	353	422	265	363	346	325	332
5	366	354	360	367	344	354	297	260	272	385	346	365
6	376	297	350	384	359	365	353	297	321	389	381	384
7	330	167	204	375	357	365	391	353	373	401	383	390
8	260	201	232	385	359	371	412	391	402	404	394	400
9	295	260	279	394	373	382	417	402	411	---	---	---
10	311	295	303	393	364	374	431	399	416	---	---	---
11	327	309	316	382	359	372	437	312	397	430	400	412
12	337	325	329	378	357	369	430	330	412	416	395	405
13	334	325	328	379	358	369	436	327	393	423	404	410
14	327	308	319	382	358	368	433	335	412	420	411	416
15	310	262	283	381	362	368	443	422	430	433	413	420
16	290	262	278	390	368	379	455	426	439	430	413	418
17	302	286	294	395	377	385	442	419	430	443	412	432
18	307	295	299	388	368	377	440	427	432	412	369	385
19	316	282	304	392	375	382	445	429	436	403	384	392
20	321	291	301	391	377	384	460	431	439	404	365	384
21	306	295	301	405	386	393	448	435	441	410	382	392
22	314	306	310	410	393	399	460	436	443	412	387	403
23	322	311	319	436	388	401	460	432	439	413	396	405
24	340	319	332	408	388	397	450	414	430	416	398	410
25	338	327	334	406	380	393	423	348	386	414	399	406
26	337	331	334	416	384	395	348	306	321	420	313	399
27	363	314	329	397	386	391	358	318	333	320	251	283
28	334	308	321	394	373	386	390	357	372	285	236	259
29	334	317	324	391	370	384	395	295	344	281	236	260
30	325	317	321	400	375	390	305	269	282	312	277	291
31	---	---	---	413	380	397	331	304	316	---	---	---
MONTH	376	167	312	436	321	377	460	260	389	443	236	373

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.3	7.1	7.2	7.6	7.2	7.2	7.1	6.8	6.9	---	---	---
2	7.4	7.1	7.2	---	---	---	7.2	6.9	7.0	---	---	---
3	7.5	7.2	7.2	7.4	6.9	7.0	---	---	---	---	---	---
4	7.6	7.2	7.2	7.5	7.0	7.1	---	---	---	---	---	---
5	7.9	7.2	7.4	7.4	7.0	7.2	---	---	---	---	---	---
6	7.8	7.2	7.4	7.6	7.1	7.2	---	---	---	---	---	---
7	7.9	7.2	7.3	7.8	7.2	7.3	---	---	---	---	---	---
8	7.9	7.3	7.4	7.9	7.2	7.4	---	---	---	---	---	---
9	7.8	7.3	7.4	7.8	7.2	7.4	---	---	---	---	---	---
10	7.9	7.3	7.5	7.9	7.3	7.4	---	---	---	---	---	---
11	7.9	7.4	7.5	7.8	7.2	7.4	---	---	---	---	---	---
12	7.9	7.3	7.5	7.9	7.4	7.5	---	---	---	---	---	---
13	7.8	7.2	7.4	8.0	7.4	7.6	---	---	---	---	---	---
14	7.6	7.1	7.3	8.0	7.4	7.6	---	---	---	---	---	---
15	7.3	7.0	7.1	8.0	7.3	7.6	---	---	---	---	---	---
16	7.3	7.0	7.1	8.0	7.3	7.5	---	---	---	---	---	---
17	7.3	7.1	7.1	8.0	7.2	7.5	---	---	---	---	---	---
18	7.4	7.1	7.2	7.8	7.2	7.4	---	---	---	---	---	---
19	7.5	7.2	7.2	8.0	7.3	7.5	---	---	---	---	---	---
20	7.5	7.2	7.2	8.0	7.3	7.6	---	---	---	---	---	---
21	7.5	7.1	7.2	8.0	7.3	7.6	---	---	---	---	---	---
22	7.4	7.1	7.1	8.0	7.3	7.6	---	---	---	---	---	---
23	7.4	7.0	7.1	8.0	7.4	7.6	---	---	---	---	---	---
24	7.3	6.9	7.0	7.8	7.3	7.5	---	---	---	---	---	---
25	7.2	6.9	7.0	7.6	7.0	7.2	---	---	---	---	---	---
26	7.2	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---
27	7.2	7.0	7.1	7.2	6.8	6.9	---	---	---	---	---	---
28	7.4	7.1	7.1	7.2	6.9	7.0	---	---	---	---	---	---
29	7.4	7.1	7.2	7.0	6.9	6.9	---	---	---	---	---	---
30	7.6	7.2	7.3	7.0	6.9	6.9	---	---	---	---	---	---
31	7.6	7.2	7.2	---	---	---	---	---	---	---	---	---
MAX	7.9	7.4	7.5	8.0	7.4	7.6	---	---	---	---	---	---
MIN	7.2	6.9	7.0	7.0	6.8	6.9	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.8	7.8	8.3	8.1	7.6	7.8	7.7	7.2	7.4
2	---	---	---	8.6	7.7	8.1	8.4	7.7	8.0	7.4	7.3	7.3
3	---	---	---	8.0	7.5	7.6	8.5	7.7	7.9	7.4	7.2	7.2
4	---	---	---	7.6	7.4	7.5	8.6	7.7	8.1	7.3	7.2	7.2
5	---	---	---	7.7	7.4	7.6	8.8	7.9	8.3	7.3	7.2	7.2
6	---	---	---	7.8	7.6	7.7	8.9	7.9	8.5	7.3	7.2	7.3
7	---	---	---	7.9	7.6	7.7	9.0	8.0	8.7	7.4	7.2	7.2
8	---	---	---	7.9	7.6	7.7	9.1	8.0	8.7	7.3	7.2	7.2
9	---	---	---	8.0	7.6	7.7	9.0	7.9	8.6	7.3	7.2	7.2
10	---	---	---	8.0	7.6	7.8	8.9	7.8	8.3	7.5	7.3	7.3
11	---	---	---	8.1	7.7	7.8	8.9	7.8	8.4	7.5	7.3	7.3
12	---	---	---	8.1	7.7	7.8	8.6	7.7	8.1	7.5	7.3	7.3
13	---	---	---	7.9	7.6	7.7	8.5	7.5	7.9	7.3	7.2	7.3
14	---	---	---	7.9	7.6	7.8	8.6	7.5	8.0	7.3	7.2	7.3
15	---	---	---	8.1	7.7	7.8	8.3	7.5	7.8	7.3	7.2	7.3
16	---	---	---	8.0	7.6	7.7	8.3	7.3	7.5	7.4	7.3	7.3
17	---	---	---	7.8	7.6	7.7	8.2	7.3	7.5	7.4	7.2	7.3
18	---	---	---	7.8	7.6	7.7	7.9	7.2	7.3	7.3	7.2	7.3
19	---	---	---	7.9	7.7	7.7	7.6	7.2	7.2	7.3	7.2	7.3
20	---	---	---	7.7	7.6	7.7	7.3	7.1	7.2	7.3	7.2	7.3
21	---	---	---	7.6	7.5	7.5	7.3	7.1	7.2	7.4	7.3	7.3
22	---	---	---	7.7	7.5	7.6	7.4	7.2	7.3	7.4	7.3	7.4
23	---	---	---	7.8	7.6	7.7	7.7	7.3	7.4	7.5	7.3	7.4
24	---	---	---	7.9	7.7	7.8	7.9	7.4	7.5	7.6	7.3	7.4
25	---	---	---	7.9	7.7	7.8	7.5	7.4	7.4	7.8	7.3	7.5
26	---	---	---	7.8	7.6	7.7	7.8	7.3	7.5	8.0	7.3	7.4
27	---	---	---	7.7	7.6	7.6	8.0	7.4	7.6	7.8	7.3	7.4
28	8.8	7.7	8.4	7.8	7.6	7.7	7.5	7.3	7.4	7.9	7.3	7.5
29	---	---	---	8.0	7.6	7.8	7.3	7.2	7.3	8.3	7.3	7.6
30	---	---	---	8.0	7.6	7.7	7.5	7.3	7.3	8.5	7.3	7.7
31	---	---	---	7.8	7.6	7.7	---	---	---	8.6	7.3	7.6
MAX	---	---	---	8.8	7.8	8.3	9.1	8.0	8.7	8.6	7.3	7.7
MIN	---	---	---	7.6	7.4	7.5	7.3	7.1	7.2	7.3	7.2	7.2
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.4	7.3	7.6	8.0	7.2	7.3	8.1	7.2	7.4	7.5	7.2	7.3
2	8.3	7.2	7.5	8.1	7.3	7.4	8.0	7.2	7.4	7.6	7.4	7.4
3	7.8	7.2	7.4	8.1	7.3	7.3	8.2	7.1	7.4	7.9	7.3	7.4
4	7.8	7.3	7.4	8.0	7.2	7.3	7.6	7.1	7.4	8.0	7.3	7.3
5	8.0	7.3	7.5	8.1	7.2	7.3	7.3	7.0	7.1	8.0	7.2	7.4
6	7.8	7.1	7.4	8.0	7.2	7.3	7.9	7.0	7.2	8.1	7.3	7.4
7	7.2	7.0	7.1	8.1	7.2	7.4	8.2	7.2	7.5	8.3	7.3	7.5
8	7.1	7.1	7.1	8.4	7.3	7.5	8.3	7.3	7.6	8.3	7.3	7.6
9	7.3	7.1	7.2	8.3	7.3	7.4	8.5	7.3	7.7	---	---	---
10	7.4	7.2	7.3	8.2	7.3	7.4	8.6	7.3	7.7	---	---	---
11	7.4	7.3	7.3	8.2	7.3	7.4	8.6	7.3	7.7	8.5	7.3	7.6
12	7.5	7.3	7.3	8.3	7.3	7.5	8.7	7.3	7.8	8.5	7.3	7.7
13	7.3	7.3	7.3	8.2	7.3	7.5	8.7	7.2	7.8	8.5	7.4	7.7
14	7.3	7.3	7.3	8.0	7.3	7.4	8.7	7.2	7.8	8.4	7.3	7.8
15	7.3	7.3	7.3	8.3	7.3	7.5	8.6	7.2	7.9	8.2	7.3	7.6
16	7.4	7.2	7.3	8.4	7.3	7.5	8.5	7.2	7.8	8.0	7.3	7.5
17	7.6	7.3	7.4	8.4	7.4	7.6	8.2	7.2	7.7	8.2	7.4	7.5
18	7.7	7.4	7.5	8.4	7.3	7.6	8.3	7.2	7.5	8.5	7.4	7.6
19	7.8	7.4	7.5	8.4	7.3	7.5	8.4	7.1	7.6	8.6	7.4	7.7
20	7.7	7.4	7.5	8.4	7.2	7.5	8.4	7.2	7.6	8.7	7.4	7.7
21	7.8	7.4	7.5	8.3	7.3	7.5	8.4	7.2	7.6	8.6	7.4	7.7
22	8.0	7.4	7.5	8.4	7.3	7.5	8.4	7.2	7.6	8.6	7.3	7.6
23	8.1	7.4	7.5	8.4	7.2	7.4	8.0	7.2	7.6	8.7	7.3	7.6
24	8.2	7.3	7.5	7.7	7.2	7.4	7.9	7.2	7.4	8.6	7.4	7.6
25	8.1	7.3	7.4	8.2	7.2	7.4	7.6	7.3	7.4	8.4	7.5	7.8
26	8.2	7.3	7.4	7.7	7.3	7.4	7.9	7.2	7.3	8.0	7.4	7.6
27	7.9	7.2	7.3	7.8	7.2	7.4	8.2	7.1	7.4	7.6	7.2	7.4
28	7.5	7.2	7.3	8.0	7.2	7.4	7.7	7.2	7.3	7.4	7.2	7.3
29	7.7	7.2	7.3	8.0	7.2	7.4	7.4	7.2	7.4	7.6	7.2	7.4
30	7.8	7.2	7.3	8.0	7.2	7.4	7.4	7.2	7.3	7.8	7.3	7.4
31	---	---	---	8.1	7.2	7.4	7.5	7.2	7.3	---	---	---
MAX	8.4	7.4	7.6	8.4	7.4	7.6	8.7	7.3	7.9	8.7	7.5	7.8
MIN	7.1	7.0	7.1	7.7	7.2	7.3	7.3	7.0	7.1	7.4	7.2	7.3

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	13.5	14.0	11.5	9.0	10.0	14.0	12.5	13.5	---	---	---
2	15.5	13.0	14.0	---	---	---	13.0	10.0	11.5	---	---	---
3	17.0	14.0	15.5	14.5	13.0	13.5	---	---	---	---	---	---
4	18.0	15.5	17.0	13.5	12.0	12.5	---	---	---	---	---	---
5	18.5	16.0	17.5	12.5	10.0	11.0	---	---	---	---	---	---
6	18.0	16.0	17.5	10.5	9.0	9.5	---	---	---	---	---	---
7	16.0	14.0	15.0	10.0	8.5	9.0	---	---	---	---	---	---
8	14.0	12.0	13.0	10.0	8.5	9.0	---	---	---	---	---	---
9	12.5	10.5	11.5	10.0	9.0	9.5	---	---	---	---	---	---
10	12.5	10.5	11.5	9.5	7.5	8.5	---	---	---	---	---	---
11	14.0	11.0	12.5	9.0	7.5	8.0	---	---	---	---	---	---
12	15.0	13.0	14.0	7.5	6.0	7.0	---	---	---	---	---	---
13	17.0	14.5	15.5	6.5	5.0	6.0	---	---	---	---	---	---
14	17.5	16.0	17.0	6.5	4.5	5.5	---	---	---	---	---	---
15	18.0	16.5	17.5	7.5	5.5	6.5	---	---	---	---	---	---
16	17.0	14.5	15.5	9.0	7.0	8.0	---	---	---	---	---	---
17	15.0	13.0	14.0	9.0	8.0	8.5	---	---	---	---	---	---
18	13.5	11.5	12.5	8.5	7.0	8.0	---	---	---	---	---	---
19	12.0	10.0	11.0	8.0	7.0	7.5	---	---	---	---	---	---
20	13.0	10.5	11.5	8.5	7.0	8.0	---	---	---	---	---	---
21	13.5	11.0	12.5	7.5	6.0	6.5	---	---	---	---	---	---
22	15.0	13.0	14.0	6.0	4.5	5.5	---	---	---	---	---	---
23	16.0	14.5	15.0	6.0	4.5	5.0	---	---	---	---	---	---
24	17.5	15.5	16.5	8.0	5.5	6.5	---	---	---	---	---	---
25	17.5	16.0	16.5	11.0	8.0	9.5	---	---	---	---	---	---
26	16.0	13.0	14.5	12.5	11.0	12.0	---	---	---	---	---	---
27	13.0	10.5	11.5	11.5	10.5	11.0	---	---	---	---	---	---
28	11.0	9.0	10.0	12.0	10.5	11.5	---	---	---	---	---	---
29	10.0	8.0	9.0	12.5	12.0	12.0	---	---	---	---	---	---
30	10.5	8.5	9.5	13.5	12.5	13.0	---	---	---	---	---	---
31	10.0	9.0	9.5	---	---	---	---	---	---	---	---	---
MONTH	18.5	8.0	13.7	14.5	4.5	8.9	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	5.5	2.5	4.0	13.0	11.5	12.0	16.5	13.5	15.0
2	---	---	---	5.5	3.0	4.5	13.0	10.5	12.0	17.0	15.0	16.5
3	---	---	---	8.0	5.5	7.0	15.5	12.0	13.5	17.0	16.0	16.5
4	---	---	---	7.5	4.5	6.0	13.0	11.0	12.0	16.5	14.0	15.5
5	---	---	---	4.5	3.0	3.5	11.5	9.5	10.5	17.5	15.0	16.5
6	---	---	---	5.0	2.5	3.5	10.0	8.0	9.0	18.5	16.0	17.0
7	---	---	---	7.0	3.5	5.5	10.5	7.0	8.5	20.0	17.0	18.5
8	---	---	---	9.0	5.5	7.5	12.0	8.0	10.0	20.5	18.5	19.5
9	---	---	---	11.0	7.5	9.5	14.5	11.0	13.0	19.5	16.5	18.0
10	---	---	---	11.5	8.5	10.0	17.0	13.5	15.0	19.0	16.0	17.5
11	---	---	---	8.5	6.0	7.5	17.0	13.5	15.5	19.5	17.0	18.5
12	---	---	---	7.5	5.5	6.5	15.5	13.5	14.0	20.0	17.5	18.5
13	---	---	---	7.5	6.5	7.0	16.5	13.0	14.5	19.5	18.5	19.0
14	---	---	---	10.5	7.0	9.0	18.5	15.5	17.0	19.5	15.5	17.0
15	---	---	---	13.0	9.5	11.5	21.0	18.0	19.5	17.0	14.5	15.5
16	---	---	---	14.0	12.0	13.0	23.0	19.5	21.0	18.0	15.0	16.5
17	---	---	---	12.0	8.0	9.5	24.5	20.5	22.5	20.0	17.5	18.5
18	---	---	---	8.0	7.0	7.0	25.0	21.5	23.5	19.0	14.0	16.0
19	---	---	---	8.0	7.0	7.5	25.0	21.5	23.0	14.5	12.5	13.5
20	---	---	---	8.0	7.0	7.5	23.5	20.5	22.0	14.0	12.5	13.5
21	---	---	---	9.0	6.5	8.0	20.5	16.0	18.0	13.5	12.0	13.0
22	---	---	---	8.5	5.5	7.0	16.0	14.0	15.0	15.5	12.0	13.5
23	---	---	---	7.0	4.5	5.5	14.5	12.0	13.5	17.0	14.0	15.5
24	---	---	---	7.5	5.0	6.5	15.5	12.0	14.0	19.0	15.5	17.5
25	---	---	---	8.5	6.0	7.0	14.5	12.5	13.0	21.0	18.0	19.5
26	---	---	---	7.5	7.0	7.5	14.0	10.5	12.5	20.0	18.5	19.0
27	---	---	---	8.0	7.0	7.5	15.5	11.5	13.5	20.0	18.5	19.0
28	6.0	3.5	5.0	9.5	6.5	8.0	15.0	13.5	14.5	20.0	18.5	19.5
29	---	---	---	11.0	8.5	9.5	14.5	13.0	14.0	22.0	19.0	20.5
30	---	---	---	13.0	10.0	11.5	14.5	11.5	13.0	23.0	20.5	22.0
31	---	---	---	13.0	12.0	12.5	---	---	---	25.0	21.0	23.0
MONTH	---	---	---	14.0	2.5	7.7	25.0	7.0	15.0	25.0	12.0	17.4

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.5	22.5	24.0	27.5	24.5	26.0	30.5	26.0	28.0	20.5	20.0	20.0
2	24.5	22.0	23.5	28.5	25.5	27.0	31.0	26.0	28.0	20.5	19.0	20.0
3	24.0	21.0	22.5	30.5	27.0	28.0	31.0	26.5	28.5	23.5	20.0	21.5
4	22.5	20.5	21.5	31.0	28.0	29.0	28.5	26.5	27.5	25.5	22.0	23.5
5	23.5	20.5	22.0	30.5	27.0	29.0	28.0	26.0	27.0	25.5	22.5	23.5
6	25.0	22.5	23.5	28.0	25.0	26.5	28.5	25.0	26.5	25.0	21.5	23.0
7	22.5	19.5	20.0	26.0	23.5	24.5	27.0	23.0	25.0	25.0	20.5	22.5
8	21.0	18.5	19.5	26.5	23.0	24.5	26.5	22.0	24.0	25.0	20.5	22.5
9	22.0	19.0	20.5	27.5	24.0	25.5	27.0	21.0	24.0	---	---	---
10	23.5	20.0	22.0	28.0	25.5	26.0	27.5	22.0	24.5	---	---	---
11	25.0	21.0	23.0	27.0	23.5	25.0	28.0	22.5	25.0	25.0	22.0	23.0
12	25.5	23.0	24.5	26.5	22.5	24.0	28.5	23.5	26.0	23.5	19.5	21.5
13	25.0	22.0	23.5	25.5	22.5	23.5	29.5	25.0	27.0	23.0	18.5	21.0
14	22.0	18.5	20.0	24.0	23.0	23.0	29.5	25.5	27.5	23.0	19.5	21.0
15	18.5	18.0	18.5	26.0	22.5	24.0	29.5	26.0	28.0	23.0	21.5	22.0
16	20.5	17.5	19.0	27.5	24.0	25.0	29.5	27.0	28.5	24.0	22.0	23.0
17	21.5	19.0	20.5	28.0	24.0	25.5	29.5	26.5	28.0	24.5	22.0	23.0
18	23.0	19.5	21.0	28.5	25.0	26.5	30.0	26.5	28.5	24.0	21.0	22.5
19	23.5	20.5	21.5	29.5	26.0	27.5	30.0	27.0	28.5	24.0	20.0	22.0
20	23.5	20.5	22.0	29.5	26.0	27.0	29.0	27.0	28.0	24.5	20.5	22.5
21	24.5	21.0	23.0	29.5	26.0	27.5	28.5	25.0	27.0	25.0	21.0	23.0
22	25.5	21.5	23.5	29.5	25.5	27.5	27.5	24.5	26.0	25.5	22.5	23.5
23	26.0	22.5	24.0	30.5	26.5	28.0	27.0	25.5	26.5	24.5	22.0	23.5
24	26.5	23.5	25.0	27.5	26.0	27.0	26.5	25.0	25.5	23.0	19.5	21.5
25	27.5	24.5	26.0	27.5	24.5	26.0	26.0	24.0	25.0	21.5	19.5	20.5
26	28.5	25.5	27.0	25.0	23.5	24.5	26.0	23.5	24.5	20.0	18.5	19.5
27	29.0	26.5	27.5	24.5	23.0	23.5	26.5	23.0	24.5	18.5	17.5	18.0
28	27.5	25.5	26.5	27.0	23.0	24.5	24.5	22.5	24.0	20.0	18.5	19.5
29	27.0	24.0	25.5	29.0	25.0	26.5	22.5	19.5	21.0	20.0	18.0	19.0
30	27.5	24.5	26.0	30.0	26.5	28.0	20.0	19.5	19.5	20.0	17.5	19.0
31	---	---	---	30.5	26.0	28.0	22.5	19.0	20.5	---	---	---
MONTH	29.0	17.5	22.9	31.0	22.5	26.1	31.0	19.0	25.9	25.5	17.5	21.6

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.4	9.1	9.6	13.3	10.2	11.3	10.7	8.4	9.2	---	---	---
2	11.0	9.2	9.9	---	---	---	11.3	8.8	9.8	---	---	---
3	11.2	9.1	9.9	12.0	8.5	9.7	---	---	---	---	---	---
4	11.5	8.8	9.8	12.4	8.6	10	---	---	---	---	---	---
5	12.1	8.6	9.9	12.5	9.0	10.4	---	---	---	---	---	---
6	11.6	8.3	9.6	13.1	9.8	11.0	---	---	---	---	---	---
7	12.2	8.8	10.2	14.0	10.3	11.7	---	---	---	---	---	---
8	12.8	9.7	10.8	14.2	10.6	11.9	---	---	---	---	---	---
9	13.1	10.5	11.4	14.0	10.3	11.7	---	---	---	---	---	---
10	13.4	10.7	11.6	14.1	10.5	11.8	---	---	---	---	---	---
11	13.1	10.4	11.3	13.9	10.6	11.8	---	---	---	---	---	---
12	12.8	9.6	10.8	14.2	11.2	12.3	---	---	---	---	---	---
13	11.9	9.0	10.1	14.7	11.7	12.8	---	---	---	---	---	---
14	11.3	8.1	9.3	14.8	11.9	13.0	---	---	---	---	---	---
15	9.7	7.6	8.5	14.9	11.5	12.8	---	---	---	---	---	---
16	10.0	7.5	8.5	14.4	11.1	12.3	---	---	---	---	---	---
17	10.2	8.0	8.9	14.0	10.4	11.8	---	---	---	---	---	---
18	10.9	8.6	9.5	13.8	10.4	11.8	---	---	---	---	---	---
19	11.9	9.2	10.2	---	---	---	---	---	---	---	---	---
20	11.8	9.5	10.4	---	---	---	---	---	---	---	---	---
21	11.7	9.3	10.2	---	---	---	---	---	---	---	---	---
22	11.6	8.8	9.8	13.4	10.3	11.6	---	---	---	---	---	---
23	11.5	8.3	9.4	13.3	10.9	11.9	---	---	---	---	---	---
24	11.0	8.0	8.9	13.2	10.8	11.7	---	---	---	---	---	---
25	10.2	7.2	8.3	12.1	9.5	10.7	---	---	---	---	---	---
26	10.6	7.4	8.6	9.6	8.8	9.2	---	---	---	---	---	---
27	11.0	8.3	9.3	10.5	9.0	9.6	---	---	---	---	---	---
28	12.1	9.2	10.3	11.2	8.9	9.7	---	---	---	---	---	---
29	12.4	10.0	11.0	10.0	8.6	9.1	---	---	---	---	---	---
30	13.0	10.4	11.3	10.1	8.5	9.0	---	---	---	---	---	---
31	12.9	10.3	11.2	---	---	---	---	---	---	---	---	---
MONTH	13.4	7.2	10.0	14.9	8.5	11.2	---	---	---	---	---	---

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	14.6	12.3	13.3	11.8	9.4	10.3	11.1	8.5	9.5
2	---	---	---	14.6	12.3	13.2	12.5	9.7	10.9	9.6	7.9	8.6
3	---	---	---	12.3	10.5	11.0	12.1	9.4	10.4	8.4	7.8	8.2
4	---	---	---	11.9	10.5	11.2	12.8	9.2	10.9	9.5	8.2	8.8
5	---	---	---	13.2	11.6	12.4	13.3	10.1	11.6	9.7	8.3	8.8
6	---	---	---	13.5	12.3	12.8	13.7	10.8	12.3	9.6	7.9	8.6
7	---	---	---	13.2	11.5	12.4	14.3	11.1	12.6	9.4	7.6	8.4
8	---	---	---	12.7	10.9	11.7	14.2	11.0	12.4	9.4	7.2	7.9
9	---	---	---	12.0	9.9	10.9	13.2	9.9	11.3	8.0	7.1	7.6
10	---	---	---	11.5	9.5	10.4	12.9	8.8	10.6	9.7	8.0	8.7
11	---	---	---	12.6	10.4	11.4	12.8	8.7	10.6	9.8	7.9	8.7
12	---	---	---	12.7	11.0	11.6	11.2	8.8	10	9.8	7.9	8.5
13	---	---	---	11.6	10.6	11.1	12.5	8.9	10.5	8.4	7.7	8.0
14	---	---	---	11.9	10.3	11.0	12.1	8.2	9.9	8.9	7.7	8.4
15	---	---	---	11.4	9.5	10.5	10.9	7.7	9.1	9.4	8.7	9.0
16	---	---	---	10.6	9.0	9.6	11.4	6.9	8.8	9.9	8.6	9.1
17	---	---	---	10.5	9.1	9.9	11.2	6.5	8.4	9.3	8.1	8.6
18	---	---	---	11.6	10.3	11.0	10.7	6.0	7.8	9.5	7.9	8.7
19	---	---	---	12.1	11.0	11.4	10.2	5.8	7.4	10.1	9.5	9.8
20	---	---	---	11.2	10.7	10.9	8.5	5.8	6.9	10.5	9.5	10.0
21	---	---	---	11.2	10.4	10.9	8.3	6.3	7.2	11.0	9.9	10.3
22	---	---	---	11.8	10.4	11.2	9.8	7.4	8.4	11.3	9.9	10.4
23	---	---	---	12.6	11.4	11.9	11.0	8.7	9.7	11.2	9.5	10.2
24	---	---	---	12.4	11.4	11.9	11.7	9.1	10.2	11.3	8.9	9.9
25	---	---	---	12.3	11.2	11.6	10.2	8.8	9.2	11.5	8.2	9.7
26	---	---	---	11.4	10.8	11.1	12.1	9.1	10.5	12.0	8.0	9.5
27	---	---	---	11.2	10.8	11.0	12.5	9.3	10.7	11.6	8.1	9.8
28	14.1	11.4	12.6	12.1	10.8	11.3	9.7	8.7	9.0	12.2	8.1	10
29	---	---	---	11.9	10.4	11.1	9.5	8.5	9.0	13.0	7.9	10.1
30	---	---	---	11.5	9.8	10.5	11.1	8.9	9.7	12.3	7.4	9.6
31	---	---	---	10.7	9.2	10	---	---	---	12.6	6.8	9.3
MONTH	---	---	---	14.6	9.0	11.3	14.3	5.8	9.9	13.0	6.8	9.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.9	6.3	8.8	9.7	5.9	7.4	9.3	4.7	6.6	9.1	7.7	8.2
2	11.8	6.2	8.6	9.8	5.8	7.3	9.1	4.5	6.4	9.5	8.2	8.8
3	10.6	6.4	8.3	9.7	5.4	7.0	9.5	4.1	6.4	10.5	7.4	8.9
4	10.8	6.6	8.5	9.5	5.0	6.6	8.2	4.6	6.6	10.4	6.7	8.1
5	11.0	6.8	8.6	9.4	4.9	6.5	7.7	4.9	6.1	10.2	6.5	7.9
6	10.0	6.3	7.5	9.4	5.2	6.9	9.7	4.6	6.5	10.6	6.4	7.9
7	7.5	6.2	7.0	9.9	5.6	7.3	9.8	5.4	7.3	11.0	6.4	8.1
8	7.4	6.8	7.2	10.9	6.0	7.8	10.2	5.8	7.7	11.1	6.5	8.3
9	7.8	6.7	7.2	10.0	6.0	7.4	10.7	5.9	8.1	---	---	---
10	8.4	6.6	7.3	9.7	5.6	7.1	10.9	6.1	8.3	---	---	---
11	8.3	6.6	7.4	9.9	5.7	7.2	11.0	6.1	8.3	11.2	5.9	8.0
12	8.0	6.3	7.0	10.2	5.8	7.4	11.4	5.9	8.4	11.6	6.1	8.3
13	7.4	6.2	6.6	9.4	5.9	7.4	11.4	5.8	8.4	11.7	6.1	8.5
14	7.8	6.7	7.3	8.9	5.8	7.0	11.9	5.6	8.5	11.6	6.0	8.5
15	8.5	7.7	8.0	10.4	5.8	7.5	11.0	4.9	7.8	10.5	5.8	7.8
16	9.0	7.9	8.4	10.1	5.9	7.5	10.6	4.6	7.6	9.9	5.8	7.5
17	9.3	7.6	8.2	10.1	6.0	7.6	9.8	4.6	7.2	11.0	6.4	7.9
18	9.4	7.6	8.3	10.0	5.7	7.6	10.0	4.5	7.2	11.9	6.3	8.4
19	9.4	7.5	8.2	10.1	5.7	7.5	10.2	4.3	7.2	12.6	6.3	8.8
20	9.4	7.5	8.3	10.2	5.6	7.6	10.5	4.3	7.1	12.6	6.1	8.7
21	9.7	7.3	8.2	10.4	6.0	7.8	10.4	4.6	7.3	12.1	6.1	8.4
22	9.9	7.1	8.2	10.6	6.3	8.1	10.6	4.8	7.6	12.0	5.8	8.1
23	10.1	6.8	8.1	10.7	5.6	7.8	9.5	4.8	7.3	12.1	5.6	8.2
24	9.9	6.5	7.8	8.2	4.9	6.4	9.3	5.0	6.8	11.8	5.8	8.1
25	9.7	6.2	7.6	10.4	5.2	7.4	8.7	5.8	7.2	11.9	7.0	8.9
26	9.7	6.0	7.3	8.9	5.8	7.1	9.8	6.2	7.7	10.0	6.4	8.0
27	9.3	5.6	7.0	9.0	5.7	7.1	10.4	6.0	7.9	8.8	7.5	8.2
28	8.2	5.7	6.7	9.9	5.7	7.4	9.1	6.0	7.4	8.8	7.8	8.2
29	9.1	6.0	7.2	9.5	5.5	7.2	8.3	6.5	7.6	9.5	7.7	8.4
30	9.4	6.0	7.3	9.3	5.2	6.9	9.0	7.7	8.2	10.2	7.9	8.7
31	---	---	---	9.4	4.9	6.8	9.9	7.9	8.6	---	---	---
MONTH	11.9	5.6	7.7	10.9	4.9	7.3	11.9	4.1	7.5	12.6	5.6	8.3

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
SEP								
27...	1117	603	0	--	--	--	--	0
27...	1118	--	1	8.6	7.6	307	17.1	3
27...	1124	--	1	8.7	7.6	302	17.1	13
27...	1126	--	1	8.8	7.6	301	17.1	23
27...	1129	--	1	8.8	7.6	299	17.1	33
27...	1133	--	1	8.9	7.6	298	17.1	43
27...	1136	--	1	8.7	7.6	300	17.1	53
27...	1138	--	1	8.9	7.6	296	17.1	63
27...	1141	--	1	8.9	7.6	295	17.1	73
27...	1143	--	1	8.8	7.6	296	17.1	83
27...	1145	577	1	8.8	7.6	300	17.1	93

CHRISTINA RIVER BASIN

LAKES AND RESERVOIRS IN CHRISTINA RIVER BASIN

01480399 CHAMBERS LAKE NEAR WAGONTOWN.--Lat 40°01'40", long 75°51'03", Chester County, Hydrologic Unit 02040205, at Hibernia Dam on Birch Run, 0.6 mi upstream from gaging station on Birch Run (station 01480400), 0.9 mi upstream from mouth, and 1.4 mi northwest of Wagontown. DRAINAGE AREA, 4.5 mi². PERIOD OF RECORD, May 1997 to current year. GAGE, non-recording gage. Manual measurement from top of concrete riser at upstream flank of Hibernia Dam. Datum of gage is sea level (levels by Chester County Water Resources Authority, Chester County Parks and Recreation Department).

REMARKS.--Reservoir formed by earthfill dam with principle spillway at elevation 587.5 ft, capacity 2,000 acre-ft. Dam crest at elevation 596.5 ft. Normal elevation 580 ft, capacity 1,226 acre feet. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent total contents.

COOPERATION.--Records provided by Chester County Water Resources Authority, in cooperation with City of Coatesville Authority and Chester County Parks and Recreation Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,440 acre-ft, March 22, 2000, elevation, 582.76 ft; minimum contents, 659 acre-ft, Dec. 28, 1998, elevation, 572.42 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,240 acre-ft, June 7, elevation, 580.68 ft; minimum contents, 666 acre-ft, Sept. 26, elevation, 572.58 ft.

01480684 MARSH CREEK LAKE NEAR DOWNINGTOWN.--Lat 40°03'24", long 75°43'06", Chester County, Hydrologic Unit 02040205, on right bank at dam on Marsh Creek, 0.3 mi upstream from mouth, and 3.2 mi north of Downingtown. DRAINAGE AREA, 20.1 mi². PERIOD OF RECORD, November 1973 to current year. GAGE, Water-stage recorder. Datum of gage is sea level (levels by Pennsylvania Department of Environmental Protection).

REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 359.5 ft. Storage began November 1973. Total capacity, 22,190 acre-ft, elevation 373 ft. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent contents above lowest gate sill at elevation 289.5 ft.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,500 acre-ft, Sept. 18, 1999, elevation, 363.49 ft; minimum contents (after first filling), 10,410 acre-ft, Mar. 3, 1976, elevation, 351.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,938 acre-ft, May 19, elevation, 360.87 ft; minimum contents, 12,899 acre-ft, Jan. 6, elevation, 356.98 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01480399 Chambers Lake</u>			<u>01480684 Marsh Creek Lake</u>			
Sept. 30	579.50	1,142	---	358.76	13,790	---
Oct. 31	577.80	1,024	-2.0	358.03	13,420	-6.0
Nov. 30	576.78	945	-1.3	357.36	13,090	-5.6
Dec. 31	575.50	855	-1.3	357.17	12,990	-1.6
CAL YR 2001	--	--	-46	--	--	-0.8
Jan. 31	576.29	910	+8.1	358.10	13,460	+7.6
Feb. 28	575.59	861	-9.0	358.10	13,460	0
Mar. 31	577.70	1,016	+2.6	359.90	14,400	+15.3
Apr. 30	578.90	1,103	+1.3	360.26	14,600	-3.4
May 31	579.90	1,168	+1.1	360.34	14,650	+0.8
June 30	580.00	1,175	+1.7	360.07	14,500	-2.5
July 31	579.10	1,116	-9.8	359.09	13,960	-8.8
Aug. 31	576.62	933	-3.1	358.45	13,630	-5.4
Sept. 30	572.68	671	-4.4	358.04	13,430	-3.4
WTR YR 2002	--	--	-65	--	--	-0.5

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, Delaware, Hydrologic Unit 02040205, on dock on streamward side of jetty about 0.4 mi downstream from Reedy Island near Port Penn.

DRAINAGE AREA.--11,200 mi², approximately.

PERIOD OF RECORD.--Water year 1997 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: February 1970 to current year.

WATER TEMPERATURES: February 1970 to current year.

DISSOLVED OXYGEN: February 1970 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1970. Probes interfaced with a data collection platform since the 1986 water year. Probes placed in situ since July 1998.

REMARKS.--Specific conductance and pH records rated good. Water temperature record rated good, except for periods Oct. 1-21 and Nov. 3-12, which are fair. Dissolved oxygen record rated poor, except for periods Oct. 1-13, Nov. 3-12, Feb. 3-9, Apr. 26 to May 11, May 26 to July 19, Aug. 11-23, Aug. 31 to Sept. 8, and Sept. 22-30, which are fair. Interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 35,600 microsiemens, Nov. 15, 1978; minimum, 100 microsiemens, several days in 1969, 1970, 1974 and 1979.

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

WATER TEMPERATURE: Maximum, 32.5°C, July 23, 1987; minimum, 0.0°C, many days during winters.

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 22,900 microsiemens, Sept. 3; minimum, 555 microsiemens, May 18.

pH: Maximum 8.0, Mar. 11-14; minimum, 6.9, Apr. 18-21, June 1, 2, July 19.

WATER TEMPERATURE: Maximum, 30.5°C, Aug. 1; minimum recorded, 3.0°C, Jan. 7-10.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21900	13400	18000	19700	13000	15800	19200	13600	15800	17100	9080	11800
2	22200	13100	16800	19300	12900	15500	19700	13000	15000	18200	9390	12300
3	19400	12900	15600	18200	11600	14400	19200	13200	15300	18200	9790	12900
4	18600	12000	15200	19800	12200	14600	18400	12900	15000	19600	10200	14800
5	19100	12800	15200	17500	12100	14500	18000	12400	14600	19600	11100	15000
6	18000	11300	14300	19800	12100	14800	19100	12400	15000	19000	11500	14600
7	17400	11200	13500	19400	12500	15300	17500	12700	14400	18800	11300	15100
8	18200	11200	13600	21000	11900	15600	19200	12600	14900	20000	11900	15200
9	19100	10900	14500	19800	12600	15500	19100	13200	15500	20300	12300	15400
10	18900	11600	14700	19800	12400	15900	19000	13000	15800	18900	11100	14300
11	18500	10900	13500	19500	12100	14400	18800	12900	15700	20500	12200	15300
12	19500	9980	13800	20000	12700	15500	20100	13800	16000	18900	11800	14600
13	18900	10800	14100	19700	12500	15200	20800	14000	16500	18500	11700	14300
14	18600	11500	14400	19200	12700	15200	19100	14000	15800	15100	10400	12200
15	18600	11900	14500	19500	12600	14900	18000	12800	14800	16900	9140	12300
16	17300	11700	13700	19600	13100	15400	19700	13400	15400	17200	10000	13200
17	16400	10100	13200	19800	12900	15400	20600	13800	16200	18000	10300	13300
18	15000	9160	11300	21700	13500	16500	18300	12700	15000	17900	10500	13500
19	16700	9720	12100	20100	14200	16200	19300	12700	15400	18000	10500	13300
20	15700	9680	12100	17800	13000	15200	18300	12400	14700	18200	11700	15100
21	16900	9680	12600	21300	13000	16100	16200	10400	12500	19100	11800	15300
22	15800	10100	12100	19700	13700	16400	19600	9670	14900	16500	10700	13400
23	18300	9770	12700	19900	13500	16000	20700	11500	16800	17700	9640	12900
24	17700	10300	13400	21200	13900	16800	18900	12100	15600	19200	10500	14200
25	16000	10500	13300	20800	14800	17400	19500	11600	15300	19000	11500	15000
26	16600	9870	12600	19300	13800	16300	19000	11600	15200	19000	10900	14300
27	17000	8800	12200	19400	14100	16300	20900	12100	16400	18100	10300	13100
28	19900	9750	14200	20200	13800	16300	20500	11600	15000	19200	10900	14100
29	19600	12000	15900	21000	14500	16700	19800	10400	13600	19800	11100	14700
30	19900	12600	15400	20700	14700	16800	18900	9860	12900	19200	11900	14300
31	19900	13100	16000	---	---	---	17300	9600	12200	19600	11400	14500
MONTH	22200	8800	14000	21700	11600	15700	20900	9600	15100	20500	9080	14000

DELAWARE RIVER BASIN

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.6	7.6
2	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.6
3	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
4	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
5	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.7	7.7
6	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.6	7.7
7	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.6	7.7
8	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
9	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
10	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
11	---	---	---	---	---	---	7.6	7.6	7.6	7.7	7.6	7.7
12	---	---	---	---	---	---	7.6	7.6	7.6	7.7	7.6	7.6
13	---	---	---	7.8	7.8	7.8	7.6	7.6	7.6	7.7	7.6	7.6
14	---	---	---	7.8	7.6	7.8	7.6	7.6	7.6	7.7	7.6	7.6
15	---	---	---	7.7	7.6	7.7	7.6	7.6	7.6	7.7	7.6	7.6
16	---	---	---	7.7	7.6	7.7	7.6	7.6	7.6	7.7	7.6	7.6
17	---	---	---	7.7	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.6
18	---	---	---	7.7	7.6	7.6	7.7	7.6	7.6	7.7	7.6	7.6
19	---	---	---	7.6	7.6	7.6	7.7	7.6	7.6	7.7	7.6	7.6
20	---	---	---	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7
21	---	---	---	7.6	7.6	7.6	7.7	7.6	7.6	7.7	7.6	7.7
22	---	---	---	7.6	7.6	7.6	7.7	7.7	7.7	7.7	7.6	7.6
23	---	---	---	7.6	7.6	7.6	7.8	7.5	7.6	7.7	7.6	7.6
24	---	---	---	7.6	7.6	7.6	7.5	7.5	7.5	7.7	7.6	7.6
25	---	---	---	7.7	7.6	7.6	7.5	7.5	7.5	7.7	7.6	7.7
26	---	---	---	7.6	7.6	7.6	7.5	7.5	7.5	7.7	7.6	7.6
27	---	---	---	7.6	7.6	7.6	7.6	7.5	7.5	7.7	7.6	7.6
28	---	---	---	7.6	7.6	7.6	7.6	7.5	7.5	7.7	7.6	7.6
29	---	---	---	7.6	7.6	7.6	7.6	7.5	7.5	7.7	7.6	7.6
30	---	---	---	7.6	7.6	7.6	7.7	7.6	7.6	7.7	7.6	7.6
31	---	---	---	---	---	---	7.7	7.6	7.6	7.7	7.6	7.6
MAX	---	---	---	7.8	7.8	7.8	7.8	7.7	7.7	7.7	7.7	7.7
MIN	---	---	---	7.6	7.6	7.6	7.5	7.5	7.5	7.7	7.6	7.6
	FEBRUARY			MARCH			APRIL			MAY		
1	7.6	7.5	7.6	7.8	7.6	7.7	7.6	7.4	7.4	7.3	7.2	7.2
2	7.6	7.6	7.6	7.8	7.6	7.7	7.5	7.3	7.4	7.3	7.2	7.3
3	7.6	7.6	7.6	7.9	7.7	7.8	7.4	7.3	7.3	7.3	7.1	7.2
4	7.6	7.6	7.6	7.8	7.6	7.7	7.3	7.2	7.3	7.3	7.1	7.2
5	7.7	7.6	7.6	7.8	7.6	7.7	7.4	7.3	7.3	7.2	7.0	7.2
6	7.7	7.6	7.6	7.8	7.6	7.7	7.4	7.3	7.3	7.2	7.1	7.2
7	7.7	7.6	7.6	7.8	7.6	7.7	7.5	7.3	7.4	7.2	7.0	7.1
8	7.7	7.6	7.6	7.9	7.6	7.8	7.5	7.3	7.4	7.2	7.0	7.1
9	7.7	7.6	7.7	7.9	7.6	7.8	7.5	7.3	7.3	7.2	7.1	7.1
10	7.7	7.6	7.7	7.8	7.6	7.7	7.3	7.2	7.2	7.1	7.0	7.1
11	7.7	7.6	7.7	8.0	7.6	7.6	7.3	7.2	7.2	7.2	7.0	7.2
12	7.7	7.6	7.7	8.0	7.6	7.7	7.3	7.1	7.2	7.2	7.1	7.2
13	7.7	7.6	7.7	8.0	7.6	7.7	7.2	7.0	7.1	7.2	7.1	7.1
14	7.7	7.6	7.7	8.0	7.6	7.8	7.1	7.0	7.0	7.3	7.1	7.2
15	7.7	7.6	7.7	7.9	7.6	7.7	7.1	7.0	7.1	7.3	7.1	7.2
16	7.7	7.6	7.7	7.9	7.5	7.6	7.2	7.0	7.1	7.3	7.2	7.2
17	7.7	7.6	7.7	7.8	7.5	7.7	7.2	7.0	7.1	7.2	7.2	7.2
18	7.8	7.6	7.7	7.8	7.6	7.7	7.1	6.9	7.0	7.3	7.2	7.2
19	7.8	7.7	7.8	7.8	7.6	7.7	7.3	6.9	7.0	7.3	7.2	7.3
20	7.8	7.7	7.7	7.8	7.6	7.7	7.2	6.9	7.0	7.3	7.2	7.2
21	7.8	7.7	7.7	7.7	7.6	7.6	7.2	6.9	7.1	7.3	7.1	7.2
22	7.8	7.6	7.7	7.7	7.5	7.6	---	---	---	7.3	7.1	7.2
23	7.8	7.6	7.7	7.7	7.5	7.6	---	---	---	7.3	7.1	7.2
24	7.9	7.7	7.8	7.7	7.5	7.6	---	---	---	7.3	7.1	7.2
25	7.9	7.7	7.8	7.8	7.4	7.6	---	---	---	7.3	7.1	7.2
26	7.8	7.7	7.7	7.9	7.6	7.8	---	---	---	7.2	7.1	7.2
27	7.8	7.7	7.7	7.8	7.6	7.7	7.4	7.3	7.3	7.2	7.0	7.1
28	7.8	7.6	7.7	7.8	7.6	7.7	7.4	7.2	7.3	7.1	7.0	7.1
29	---	---	---	7.8	7.6	7.6	7.3	7.2	7.3	7.1	7.0	7.0
30	---	---	---	7.7	7.5	7.6	7.3	7.2	7.3	7.1	7.0	7.0
31	---	---	---	7.6	7.4	7.5	---	---	---	7.1	7.0	7.0
MAX	7.9	7.7	7.8	8.0	7.7	7.8	7.6	7.4	7.4	7.3	7.2	7.3
MIN	7.6	7.5	7.6	7.6	7.4	7.5	7.1	6.9	7.0	7.1	7.0	7.0

DELAWARE RIVER BASIN

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
1	7.0	6.9	7.0	7.3	7.2	7.3	7.3	7.1	7.2	7.3	7.2	7.2
2	7.0	6.9	7.0	7.3	7.2	7.2	7.3	7.1	7.2	7.3	7.2	7.2
3	7.1	7.0	7.0	7.3	7.2	7.2	7.2	7.1	7.2	7.2	7.1	7.2
4	7.2	7.0	7.0	---	---	---	7.4	7.1	7.2	7.2	7.1	7.1
5	7.2	7.1	7.1	---	---	---	7.3	7.2	7.2	7.2	7.1	7.1
6	7.2	7.0	7.1	---	---	---	7.3	7.1	7.2	7.2	7.0	7.1
7	7.3	7.1	7.1	---	---	---	7.4	7.2	7.3	7.1	7.0	7.1
8	7.3	7.1	7.2	7.5	7.1	7.3	7.3	7.2	7.3	7.1	7.0	7.1
9	7.2	7.0	7.1	7.3	7.1	7.2	7.3	7.2	7.2	7.2	7.1	7.1
10	7.2	7.1	7.1	7.3	7.1	7.2	7.3	7.2	7.2	7.2	7.1	7.1
11	7.2	7.0	7.1	7.4	7.2	7.3	7.5	7.1	7.4	7.3	7.1	7.1
12	7.2	7.0	7.1	7.4	7.3	7.3	7.4	7.3	7.4	7.3	7.2	7.3
13	7.2	7.1	7.1	7.3	7.2	7.3	7.3	7.2	7.3	7.3	7.2	7.3
14	7.3	7.1	7.2	7.3	7.2	7.2	7.2	7.1	7.2	7.3	7.2	7.2
15	7.3	7.1	7.2	7.2	7.1	7.2	7.2	7.1	7.2	7.2	7.1	7.2
16	7.3	7.2	7.3	7.2	7.0	7.1	7.2	7.1	7.2	7.2	7.1	7.2
17	7.3	7.2	7.2	7.1	7.0	7.0	7.2	7.1	7.2	7.3	7.1	7.2
18	7.2	7.2	7.2	7.1	7.0	7.0	7.3	7.2	7.2	7.3	7.2	7.2
19	7.2	7.2	7.2	7.2	6.9	7.1	7.3	7.1	7.2	7.3	7.2	7.2
20	7.2	7.2	7.2	7.1	7.0	7.1	7.3	7.2	7.2	7.3	7.2	7.3
21	7.2	7.2	7.2	7.2	7.0	7.1	7.4	7.2	7.2	7.3	7.2	7.3
22	7.2	7.1	7.2	7.3	7.0	7.1	7.4	7.2	7.3	7.3	7.2	7.2
23	7.2	7.1	7.2	7.2	7.0	7.2	7.3	7.2	7.3	7.2	7.1	7.2
24	7.2	7.0	7.2	7.2	7.0	7.1	7.4	7.3	7.3	7.3	7.1	7.3
25	7.2	7.1	7.2	7.2	7.0	7.2	7.3	7.2	7.2	7.3	7.2	7.2
26	7.2	7.1	7.2	7.2	7.1	7.1	7.2	7.2	7.2	7.3	7.2	7.2
27	7.2	7.1	7.2	7.2	7.0	7.1	7.2	7.1	7.2	7.4	7.2	7.2
28	7.2	7.1	7.2	7.2	7.0	7.1	7.3	7.2	7.2	7.3	7.2	7.3
29	7.3	7.2	7.2	7.2	7.1	7.2	7.4	7.2	7.3	7.5	7.3	7.4
30	7.3	7.2	7.3	7.2	7.1	7.1	7.2	7.2	7.2	7.4	7.3	7.3
31	---	---	---	7.2	7.1	7.2	7.2	7.1	7.2	---	---	---
MAX	7.3	7.2	7.3	7.5	7.3	7.3	7.5	7.3	7.4	7.5	7.3	7.4
MIN	7.0	6.9	7.0	7.1	6.9	7.0	7.2	7.1	7.2	7.1	7.0	7.1
YEAR	MAX			MAXIMUM 8.0	MINIMUM 7.0							
	MIN			MAXIMUM 7.8	MINIMUM 6.9							
	MEDIAN			MAXIMUM 7.8	MINIMUM 7.0							

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.0	18.5	18.5	14.5	14.0	14.5	13.0	13.0	13.0	5.0	4.0	4.5
2	19.0	18.0	18.5	15.0	14.5	14.5	13.0	12.5	13.0	4.5	3.5	4.0
3	19.5	18.5	19.0	15.0	14.5	15.0	13.0	12.0	12.5	4.0	3.5	4.0
4	19.5	18.5	19.0	15.0	14.5	15.0	13.0	12.5	12.5	4.0	3.5	3.5
5	19.5	19.0	19.5	15.0	13.5	14.5	13.0	12.5	12.5	4.0	3.5	3.5
6	19.5	19.0	19.5	14.0	13.0	13.5	13.0	12.5	12.5	4.0	3.5	3.5
7	19.0	17.5	18.5	13.5	13.0	13.5	13.0	12.5	13.0	4.0	3.0	3.5
8	18.0	17.0	17.5	13.5	13.0	13.0	13.0	12.0	12.5	4.0	3.0	3.5
9	17.5	17.0	17.0	13.5	12.5	13.0	12.5	11.5	12.0	3.5	3.0	3.5
10	17.5	16.5	17.0	13.5	12.5	13.0	12.0	11.5	11.5	3.5	3.0	3.5
11	17.5	17.0	17.0	12.5	12.0	12.5	12.0	11.5	11.5	4.0	3.5	3.5
12	18.0	17.0	17.5	12.5	12.0	12.0	11.5	11.0	11.5	4.0	3.5	3.5
13	18.5	17.5	18.0	12.5	11.5	12.0	11.5	11.0	11.5	4.0	3.5	4.0
14	18.5	17.5	18.0	12.0	11.5	12.0	11.5	11.5	11.5	4.0	3.5	3.5
15	18.5	18.0	18.0	12.5	11.5	12.0	11.5	10.5	11.0	4.0	3.5	4.0
16	18.5	18.0	18.0	12.5	12.0	12.0	11.0	10.0	10.5	4.0	4.0	4.0
17	18.0	16.5	17.5	12.0	12.0	12.0	11.0	10.5	10.5	4.0	4.0	4.0
18	17.0	16.0	16.5	12.5	12.0	12.0	11.0	10.0	10.5	4.0	4.0	4.0
19	16.5	15.5	16.0	12.5	12.0	12.0	10.5	10.0	10.0	4.0	3.5	4.0
20	16.5	16.0	16.0	12.5	11.5	12.0	10.5	9.0	10.0	4.0	3.5	3.5
21	17.0	16.0	16.5	12.0	11.0	11.5	10.0	8.0	9.0	4.0	3.5	3.5
22	17.0	16.5	17.0	11.5	11.0	11.5	9.0	8.0	8.5	4.0	3.5	4.0
23	17.0	16.5	17.0	11.5	11.0	11.5	8.5	8.0	8.5	4.0	3.5	4.0
24	18.0	17.0	17.5	11.5	11.0	11.5	8.5	8.0	8.5	4.5	4.0	4.0
25	18.0	17.0	17.5	12.0	11.5	12.0	8.5	7.5	8.0	5.0	4.0	4.5
26	17.0	16.0	17.0	12.5	12.0	12.0	8.0	7.5	7.5	5.0	4.0	4.5
27	16.0	15.0	16.0	12.5	12.0	12.0	7.5	7.0	7.0	5.0	4.0	4.5
28	15.5	14.5	15.0	12.5	12.0	12.5	7.0	6.5	6.5	5.5	4.5	5.0
29	15.0	14.0	14.5	12.5	12.5	12.5	7.0	6.0	6.5	5.5	5.0	5.0
30	15.0	14.5	14.5	13.0	12.5	13.0	6.5	5.5	5.5	6.0	5.5	5.5
31	14.5	14.0	14.5	---	---	---	6.0	4.5	5.0	6.0	5.5	6.0
MONTH	19.5	14.0	17.2	15.0	11.0	12.7	13.0	4.5	10.1	6.0	3.0	4.0

DELAWARE RIVER BASIN

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

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.4	6.9	7.2	---	---	---	9.6	8.8	9.2	10.3	9.7	10.0
2	7.4	7.0	7.2	---	---	---	9.7	8.8	9.3	10.2	9.6	10.0
3	7.4	7.1	7.2	---	---	---	9.5	8.7	9.1	10.3	9.8	10.1
4	7.7	7.1	7.3	9.7	8.7	9.2	9.4	8.5	9.0	10.1	9.7	9.9
5	7.5	7.1	7.3	9.9	8.8	9.4	9.4	8.2	8.9	10.0	9.7	9.9
6	7.9	7.2	7.5	9.9	8.9	9.3	9.3	8.2	8.8	10.0	9.7	9.9
7	8.0	7.2	7.5	10.0	9.2	9.6	9.3	7.8	8.8	10.0	9.6	9.9
8	8.2	7.3	7.7	10.0	8.5	9.2	9.2	7.0	8.7	10.2	9.8	10.0
9	8.2	7.3	7.8	9.9	8.3	9.1	9.2	7.7	8.7	10.3	9.8	10.1
10	8.3	7.5	7.8	9.6	7.5	9.0	9.1	7.7	8.6	10.3	9.9	10.1
11	8.3	7.5	7.9	9.7	7.8	8.8	8.9	7.7	8.5	10.2	9.9	10.1
12	8.3	7.5	7.9	---	---	---	9.1	8.0	8.6	10.3	9.9	10.2
13	8.8	7.5	8.2	---	---	---	8.9	7.4	8.4	10.4	10.1	10.2
14	8.5	7.5	8.0	---	---	---	8.9	7.4	8.5	10.6	10.2	10.4
15	8.4	7.3	7.8	---	---	---	9.2	7.0	8.5	10.6	10.1	10.4
16	8.5	7.6	8.0	---	---	---	---	---	---	10.6	10.1	10.4
17	8.7	7.5	8.0	---	---	---	---	---	---	10.6	10.2	10.4
18	8.8	7.9	8.5	---	---	---	---	---	---	10.5	10.1	10.3
19	8.7	7.4	8.3	8.6	8.0	8.3	---	---	---	10.6	10.2	10.4
20	8.6	7.4	8.1	8.6	8.2	8.3	---	---	---	10.7	10.2	10.4
21	---	---	---	8.6	7.6	8.2	---	---	---	10.6	9.7	10.3
22	---	---	---	8.5	7.3	8.2	---	---	---	10.6	10.2	10.4
23	---	---	---	8.6	7.6	8.4	---	---	---	10.9	9.2	10.4
24	---	---	---	8.8	8.1	8.4	9.9	9.5	9.7	10.8	9.5	10.3
25	---	---	---	8.8	8.3	8.6	9.9	9.0	9.6	10.8	9.3	10.3
26	---	---	---	9.1	8.3	8.6	10.0	9.4	9.8	10.7	9.3	10.2
27	---	---	---	9.1	8.5	8.8	9.9	9.2	9.7	10.7	9.6	10.1
28	---	---	---	9.0	8.3	8.8	9.9	9.3	9.7	10.3	9.7	10.1
29	---	---	---	9.2	8.7	8.9	10.0	9.4	9.8	10.4	9.9	10.2
30	---	---	---	9.4	8.8	9.1	10.1	9.6	9.9	10.6	10.1	10.4
31	---	---	---	---	---	---	10.2	9.6	10	10.8	10.4	10.6
MONTH	8.8	6.9	7.8	10.0	7.3	8.8	10.2	7.0	9.1	10.9	9.2	10.2
	FEBRUARY			MARCH			APRIL			MAY		
1	10.8	10.4	10.7	---	---	---	12.0	10.9	11.6	8.5	7.8	8.3
2	11.1	10.7	10.9	---	---	---	11.9	11.3	11.6	8.4	7.9	8.3
3	11.2	10.8	11.0	---	---	---	11.5	10.9	11.3	8.5	7.6	8.2
4	11.4	10.5	10.9	---	---	---	11.3	10.4	11.0	8.4	8.1	8.2
5	11.4	10.5	11.0	---	---	---	11.1	9.6	10.6	8.3	7.6	8.1
6	11.3	10.3	11.0	---	---	---	10.7	9.7	10.2	8.3	7.7	8.1
7	11.3	10.6	11.0	---	---	---	10.2	8.9	9.7	8.1	7.5	7.9
8	11.3	10.5	11.0	---	---	---	9.4	8.5	9.0	8.2	7.2	7.9
9	11.3	10.7	11.0	---	---	---	9.4	8.5	9.0	8.0	7.2	7.8
10	11.0	10.7	10.9	---	---	---	9.8	8.9	9.5	7.9	6.8	7.6
11	11.1	10.6	10.8	---	---	---	10.0	8.9	9.7	8.4	6.3	7.6
12	10.9	10.3	10.6	---	---	---	9.4	8.6	9.2	7.8	7.1	7.6
13	10.7	10.2	10.5	---	---	---	10.2	8.5	9.3	7.6	7.1	7.4
14	10.6	10.1	10.5	---	---	---	10.1	8.5	9.7	7.6	7.0	7.4
15	10.4	10.0	10.2	---	---	---	9.7	8.4	9.1	7.7	7.2	7.5
16	10.2	9.7	10.0	---	---	---	8.5	8.0	8.3	7.6	7.2	7.4
17	---	---	---	---	---	---	8.4	7.7	8.2	7.4	7.1	7.3
18	---	---	---	---	---	---	8.4	7.1	8.1	---	---	---
19	---	---	---	---	---	---	8.4	7.7	8.2	---	---	---
20	---	---	---	---	---	---	8.4	7.0	8.1	---	---	---
21	---	---	---	---	---	---	8.4	7.7	8.2	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	11.1	8.8	9.9	---	---	---	---	---	---
26	---	---	---	10.1	8.7	9.2	---	---	---	---	---	---
27	---	---	---	10.2	8.8	9.5	8.6	7.8	8.3	---	---	---
28	---	---	---	11.4	9.5	10.5	8.4	7.9	8.3	---	---	---
29	---	---	---	11.3	10.4	10.9	8.5	7.3	8.2	---	---	---
30	---	---	---	11.6	10.4	10.9	8.5	7.7	8.3	---	---	---
31	---	---	---	12.0	10.7	11.5	---	---	---	---	---	---
MONTH	11.4	9.7	10.8	12.0	8.7	10.3	12.0	7.0	9.3	8.5	6.3	7.8

DELAWARE RIVER BASIN

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

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	6.8	6.0	6.4	6.1	4.8	5.4	7.0	6.1	6.7
2	6.8	6.3	6.6	6.9	5.9	6.5	6.2	4.2	5.5	7.3	6.4	6.9
3	6.9	6.3	6.7	6.6	5.0	6.2	6.1	5.0	5.6	7.2	6.3	6.9
4	7.1	6.0	6.7	---	---	---	6.2	5.0	5.7	7.2	6.5	6.9
5	7.0	6.4	6.8	---	---	---	6.5	5.0	5.6	7.2	6.4	6.9
6	6.9	5.2	6.6	---	---	---	6.6	4.8	5.4	7.4	6.4	7.0
7	7.1	6.4	6.9	---	---	---	6.6	5.2	5.8	7.1	6.4	6.9
8	7.0	5.9	6.7	6.7	5.1	6.2	6.8	5.3	5.8	---	---	---
9	6.9	6.3	6.7	6.6	5.4	6.2	6.8	5.5	6.1	---	---	---
10	6.9	6.3	6.7	6.8	5.7	6.3	7.0	5.7	6.3	---	---	---
11	6.8	6.2	6.5	6.8	5.1	6.4	7.2	6.0	6.5	---	---	---
12	6.8	6.2	6.6	7.6	6.5	7.1	7.5	6.0	6.6	---	---	---
13	6.8	6.2	6.5	7.6	7.0	7.3	7.5	6.0	6.5	---	---	---
14	6.8	6.3	6.6	7.4	6.5	7.1	7.3	5.9	6.4	---	---	---
15	6.8	6.3	6.5	7.2	5.3	6.3	7.1	5.8	6.3	---	---	---
16	6.7	6.2	6.5	6.4	5.0	5.8	6.7	5.5	6.0	---	---	---
17	6.7	6.3	6.5	6.1	4.9	5.5	6.1	4.7	5.5	---	---	---
18	6.7	6.3	6.5	5.9	4.9	5.5	6.4	5.1	5.5	---	---	---
19	6.8	5.9	6.6	7.0	5.3	6.2	6.8	5.2	5.7	---	---	---
20	6.9	6.3	6.6	6.5	4.5	5.9	6.8	5.5	5.9	---	---	---
21	6.9	6.3	6.6	5.9	4.7	5.5	6.7	5.7	6.1	---	---	---
22	6.9	6.3	6.6	5.7	4.3	5.3	6.9	5.9	6.2	---	---	---
23	6.9	6.3	6.6	5.7	4.3	5.3	7.0	6.0	6.3	7.0	6.5	6.8
24	6.8	6.3	6.6	5.8	4.5	5.2	8.4	6.1	7.0	7.0	6.6	6.8
25	6.6	5.9	6.4	5.7	4.4	5.1	8.0	6.0	6.8	7.0	6.3	6.8
26	6.5	5.5	6.2	5.6	3.8	5.1	7.9	6.1	6.8	7.0	6.4	6.9
27	6.6	5.5	6.2	5.6	4.4	5.2	7.8	6.1	6.7	7.1	6.6	6.9
28	6.6	6.0	6.4	5.9	4.6	5.2	7.6	5.9	6.6	7.2	6.7	7.0
29	6.8	5.9	6.5	5.7	4.5	5.2	7.3	6.0	6.6	7.0	6.5	6.8
30	6.8	5.9	6.4	5.8	4.4	5.3	7.4	4.4	6.3	6.8	6.5	6.7
31	---	---	---	6.1	4.9	5.4	6.9	5.6	6.4	---	---	---
MONTH	7.1	5.2	6.6	7.6	3.8	5.9	8.4	4.2	6.1	7.4	6.1	6.9

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 2002

Station name and number	Location and drainage area	Period of Record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
DELAWARE RIVER BASIN								
LACKAWAXEN RIVER BASIN								
Dyberry Creek above Reservoir near Honesdale, Pa. (01429300)	Lat 41°39'26", long 75°17'12", Wayne County, Hydrologic Unit 02040103, on right bank 955 ft downstream from bridge on West Branch Dyberry Creek at Tanners Falls, Pa., 0.2 mi downstream from confluence of the East and West Branches of Dyberry Creek, and 6 mi north of Dyberry, Pa. Datum of gage is 1,023.43 ft above sea level. Drainage area is 45.8 mi ² .	1975-2002	5-14-02	8.85	1,500	9-27-85	11.75	5,140
VANDERMARK CREEK BASIN								
Vandermark Creek at Milford, Pa. (01438300)	Lat 41°19'35", long 74°47'50", Pike County, Hydrologic Unit 02040104, at stone bridge on Broad Street in Milford, Pa., and 0.4 mi upstream of mouth. Datum of gage is 490.50 ft above sea level. Drainage area is 5.36 mi ² .	1962-2002	2002	<2.15 ^a	<69 ^a	9-16-99	3.36 ^b	566
BRODHEAD CREEK BASIN								
Mill Creek at Mountainhome, Pa. (01440300)	Lat 41°09'50", long 75°16'00", Monroe County, Hydrologic Unit 02040104, at concrete bridge on macadam road, 0.5 mi east of Mountainhome, Pa., and 1.5 mi upstream of mouth. Drainage area is 5.84 mi ² .	1961-2002	3-27-02	7.72	163	7-28-69	12.65	1,650

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 2002—Continued

Station name and number	Location and drainage area	Period of Record	Water year 2002 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
DELAWARE RIVER BASIN --Continued								
LEHIGH RIVER BASIN								
Lehigh River at Allentown, Pa. (01451192)	Lat 40°36'23", long 75°27'17", Lehigh County, Hydrologic Unit 02040106, on upstream side of bridge on Hamilton Street in Allentown, Pa., 200 ft downstream from lock and dam, and 0.7 mi upstream from Little Lehigh Creek. Datum of gage, 200 ft above sea level. Drainage area is 1,033 mi ² .	1977-81* 1982-94 1995-2002	5-29-02	40.50	8,520	1-20-96	48.25	45,600
NESHAMINY CREEK BASIN								
Neshaminy Creek near Penns Park, Pa. (01465200)	Lat 40°15'06", long 75°00'31", Bucks County, Hydrologic Unit 02040201, on left bank at bridge over main stem of Neshaminy Creek on Second Street Pike (Rt. 232) at Penns Park, Pa. Drainage area is 157 mi ² .	2002	5-18-02	11.20	4,150	5-18-02	11.20	4,150
SCHUYLKILL RIVER BASIN								
Schuylkill River at Birdsboro, Pa. (01471660)	Lat 40°16'05", long 75°48'40", Berks County, Hydrologic Unit 02040203, on railroad bridge, on right bank 1,000 ft upstream from bridge on SR 82 in Birdsboro, Pa. Datum of gage, sea level. Drainage area is 976 mi ² .	1981-94 1996 1999-2002	2002	<47.30 ^a	<5,820 ^a	4-16-83	158.72	30,700
Schuylkill River at Phoenixville, Pa. (01472162)	Lat 40°08'07", long 75°30'32", Chester County, Hydrologic Unit 02040203, on the downstream end of the left bank wingwall of Reading Railroad bridge across the mouth of French Creek at Phoenixville, Pa. (station 014721612). Datum of gage, sea level. Drainage area is 1,280 mi ² .	1971-94 1996 1999-2002	2002	<81.53 ^a	<16,400 ^a	6-23-72	100.58	79,100
CHRISTINA RIVER BASIN BRANDYWINE CREEK BASIN WEST BRANCH BRANDYWINE CREEK BASIN								
Sucker Run near Coatesville, Pa. (01480610)	Lat 39°58'20", long 75°51'03", Chester County, Hydrologic Unit 02040205, at concrete bridge on South Park Avenue on SR 372, 1.6 mi upstream of mouth, and 2.0 mi west of Coatesville, Pa. Drainage area is 2.57 mi ² .	1964-2002	2002	<4.81 ^a	<140 ^a	7-21-79	8.49	1,500

- * Operated as a low-flow partial-record station.
^a Annual maximum did not reach minimum recording range of gage.
^b Peak gage height for period of record is 3.65 ft, Sept. 25, 1975.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 2002

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
EQUINUNK CREEK BASIN						
01427200 Equinunk Creek	Delaware River	Lat 41°50'15", long 75°13'55", Wayne County, Hydrologic Unit 02040101, at highway bridge 700 ft downstream from South Branch Equinunk Creek, and 1.4 mi above mouth and Equinunk, Pa.	56.3	1946-57* 1978-91* 1992-2001	7-08-02	12
					7-18-02	4.3
					8-16-02	2.7
LACKAWAXEN RIVER BASIN						
01431600 Wallenpaupack Creek	Lackawaxen River	Lat 41°20'10", long 75°20'25", Wayne County, Hydrologic Unit 02040103, at bridge on dirt road 2.6 mi south of intersection of State Routes 84 and 191, 0.2 mi upstream from Rock Port Creek, and at East Sterling, Pa.	69.5	1944-57 1978-81 1989-2001	10-17-01	23
					12-05-01	70
					2-27-02	59
					4-10-02	149
					5-08-02	155
01432110 Lackawaxen River	Delaware River	Lat 41°28'33", long 75°02'12", Pike County, Hydrologic Unit 02040103, at mouth, and downstream from bridge on SR 590, at Rowland, Pa. Regulated by lakes and reservoirs upstream.	588	1949 ^a 1989-2001	6-26-02	82
					8-07-02	18
					10-17-01	62
					12-05-01	85
					2-27-02	234
01432500 Shohola Creek	Delaware River	Lat 41°27'20", long 74°55'25", Pike County, Hydrologic Unit 02040104, 1.7 mi upstream from mouth, and 1.4 mi south of Shohola, Pa. Prior to 1959 at highway bridge 0.4 mi upstream.	83.6	1920-28≠ 1957-80 1981-91* 1992-2001	4-10-02	44
					7-25-02	72
					8-20-02	12
					4-23-02	32
					6-04-02	27
0143839602 Sawkill Creek	Delaware River	Lat 41°19'00", long 74°47'59", Pike County, Hydrologic Unit 02040104, at bridge on River Road, 1,000 ft upstream from mouth, at Milford, Pa.	24.7	----	7-15-02	7.7
					8-29-02	9.2
					4-23-02	30
					6-04-02	29
01438700 Raymondskill Creek	Delaware River	Lat 41°18'11", long 74°51'21", Pike County, Hydrologic Unit 02040104, at bridge on SR 2009, 2.0 mi upstream from mouth, and 2.4 mi southwest of Milford, Pa.	20.4	1947-57	7-15-02	3.5
					8-28-02	1.0
					4-23-02	7.1
					6-04-02	7.7
01438754 Adams Creek	Delaware River	Lat 41°15'40", long 74°53'24", Pike County, Hydrologic Unit 02040104, at bridge on SR 2001, 3.0 mi upstream from mouth, and near Edgemere, Pa.	3.71	----	7-15-02	0.92
					8-28-02	0.28
					4-23-02	22
					6-04-02	16
01438892 Dingmans Creek	Delaware River	Lat 41°13'47", long 74°53'50", Pike County, Hydrologic Unit 02040104, at bridge on Doodle Hollow Road, 2.3 mi upstream from mouth, and near Dingmans Ferry, Pa.	13.9	----	7-15-02	1.4
					8-28-02	0.63
					4-23-02	22
					6-04-02	16
01439092 Hornbecks Creek	Delaware River	Lat 41°11'45", long 74°54'36", Pike County, Hydrologic Unit 02040104, at culvert on Emery Road 2.0 mi upstream from mouth, and near Dingmans Ferry, Pa.	6.43	----	4-24-02	9.0
					6-05-02	5.0
					7-15-02	0.12
					7-15-02	0.13
					8-28-02	0.10

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2002—Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements						
					Date	Discharge (ft ³ /s)					
DELAWARE RIVER BASIN--Continued											
SHOHOLA CREEK BASIN											
01439400 Toms Creek	Delaware River	Lat 41°07'33", long 74°57'20", Pike County, Hydrologic Unit 02040104, at bridge on Toms Creek Road, 0.4 mi upstream from mouth, at Egypt Mills, Pa.	9.34	1970-72	4-22-02	18					
					6-05-02	12					
					7-16-02	1.8					
					8-28-02	1.1					
01439570 Sand Hill Creek	Bush Kill	Lat 41°05'06", long 75°00'32", Monroe County, Hydrologic Unit 02040104, at abandoned footbridge, 0.3 mi upstream from mouth, at Bushkill, Pa.	3.46	----	4-22-02	2.5					
					6-05-02	0.64					
					7-16-02	0.0					
					8-28-02	0.0					
01439680 Little Bush Kill	Bush Kill	Lat 41°05'52", long 75°00'15", Pike County, Hydrologic Unit 02040104, at bridge on East Sugar Mountain Road, 0.7 mi upstream from mouth, at Bushkill, Pa.	32.6	----	4-24-02	55					
					6-05-02	53					
					6-05-02	58					
					7-16-02	5.4					
					8-28-02	2.8					
BRODHEAD CREEK BASIN											
POHOPOCO CREEK BASIN											
01450020 Pohopoco Creek	Lehigh River	Lat 40°49'05", long 75°40'27", Carbon County, Hydrologic Unit 02040106, 200 ft upstream of Parryville Dam, at Parryville, Pa., and 0.25 mi above mouth.	111	1992-1998 ^{≠c} 1999-2001	10-03-01	47					
					12-10-01	34					
					1-31-02	76					
					3-13-02	163					
					4-24-02	129					
					6-12-02	128					
NESHAMINY CREEK BASIN											
01465460 Iron Works Creek	Mill Creek	Lat 40°11'54", long 75°00'40", Bucks County, Hydrologic Unit 02040201, at lower Holland Road bridge 300 ft east of Bustleton Pike, and 1.3 mi south of Richboro, Pa.	3.69	1981* 1982-86 1991-2001	10-03-01	.34					
					1-10-02	.42					
					4-04-02	1.75					
					6-25-02	1.84					
					9-30-02	.91					
SCHUYLKILL RIVER BASIN											
†01472190 Pickering Creek	Schuylkill River	Lat 40°06'33", long 75°31'42", Chester County, Hydrologic Unit 02040203, at bridge on Creek Road at SR 29, 0.3 mi downstream from Conrail bridge, 1.0 mi south of Phoenixville, Pa., and 2.6 mi upstream from Pickering Creek Dam.	31.4	1967-68 [≠] 1975-2001 1981-84*	10-19-01	10.6					
					10-24-01	11.3					
					12-11-01	14.6					
					1-16-02	15.3					
					3-22-02	30.5					
					4-23-02	20.0					
					6-04-02	13.5					
					7-31-02	6.77					
					01473110 Skeppack Creek	Perkiomen Creek	Lat 40°10'17", long 75°25'52", Montgomery County, Hydrologic Unit 02040203, at bridge on State Route 363, and 0.4 mi east of Evansburg, Pa.	52.9	1995-2001	10-25-01	8.88
										12-12-01	13.3
1-17-02	23.4										
3-22-02	119										
4-24-02	18.4										
6-06-02	14.4										

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2002—Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
CHRISTINA RIVER BASIN						
01478230	White Clay Creek	Lat 39°45'02", long 75°46'19", Chester County, Hydrologic Unit 02040205, at bridge on Sharpless Road, 2.0 mi south of Landenberg, Pa., and 6.0 mi south of Avondale, Pa. Formerly published as "White Clay Creek".	25.5	1989-2001	10-15-01	14.7
Middle Branch					11-09-01	9.7
White Clay Creek					12-19-01	15.9
					1-31-02	25.2
					3-21-02	39.6
					4-30-02	22.6
					6-20-02	10.8
					7-30-02	3.9
					7-30-02	3.6
					9-02-02	3.5
01480424	Brandywine Creek	Lat 40°01'19", long 75°50'53", Chester County, Hydrologic Unit 02040205, on downstream side of concrete bridge on Wagontown Road, .75 mi northwest of Wagontown, Pa.	31.9	----	1-25-02	47.3
West Branch					3-08-02	13.2
Brandywine					4-26-02	16.1
Creek					5-21-02	22.0
					6-24-02	10.5
					8-07-02	4.3
					9-19-02	5.3
BIG ELK CREEK BASIN						
01494990	Elk River	Lat 39°43'50", long 75°50'55", Chester County, Hydrologic Unit 02060002, at bridge on Lewisville Road, 1.5 mi east of Lewisville, Pa., and 9.2 mi north of Elkton, Md.	41.0	1989-2001	10-15-01	18.4
Big Elk Creek					11-08-01	16.0
					12-18-01	27.3
					1-31-02	30.4
					3-20-02	44.6
					4-29-02	45.0
					6-19-02	18.6
					8-07-02	4.0
		9-10-02	5.9			

* Operated as a low-flow partial-record station.

≠ Operated as a continuous-record gaging station.

† Operated as a water-quality partial-record station since 1974.

‡ Prior to October 1988 at latitude 41°28'19", longitude 75°02'25".

b Operated as a rated vertical staff gage September 21, 1994 to April 17, 2001; converted to a continuous-record daily discharge gage April 18, 2001.

c The results of discharge measurements made from 1992 through 1998 water years are available in office files.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Low-flow partial record sites

Measurements of streamflow made at low-flow partial-record stations located in the area covered by this report are provided in the following table. The measurements were made during a period of base flow when streamflow is primarily the result of ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where historical continuous-record streamflow data are available, will give an indication of the low-flow status of the measured stream. The column headed "Period of Record" shows the water years in which measurements were made at the same, or practically the same, site.

The column headed "Unit Area Discharge" shows the result of the measured discharge divided by the drainage area at the low-flow site. This value is commonly used to make hydrologic comparisons among drainage basins and shows the relative discharge per square mile at each site. A unit area discharge value of 0.10 cubic feet per second per square mile ($\text{ft}^3/\text{s}/\text{mi}^2$) is sometimes used as a rule of thumb to estimate the 7-day, 10-year (Q7,10) flow value. The 7-day, 10-year flow value is often used to develop limits for permitted withdrawals or discharges to streams. To compare these measured low-flow values to the computed 7-day, 10-year flow value, visit the USGS-PA Flow Statistics web site at <http://pa.water.er.usgs.gov/flowstats/> or, for stream data not available at the web site, refer to methods described in *Comparison of Methods for Computing Streamflow Statistics for Pennsylvania Streams* (USGS Water-Resources Investigations Report 99-4068), authored by Ehlke and Reed, to determine the 7-day, 10-year flow value.

Discharge measurements made at low-flow partial-record sites during water year 2002

Station Number	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	<u>Measurements</u>	
						Unit Area Discharge ($\text{ft}^3/\text{s}/\text{mi}^2$)	Discharge (ft^3/s)
DELAWARE RIVER BASIN--Continued							
LEHIGH RIVER BASIN							
01451110	Hokendauqua Creek near Northampton	Lat 40°42'50", long 75°29'45", Northampton County, Hydrologic Unit 02040106, at bridge on county road, 1.7 mi north of Northampton, and 3.3 mi upstream from mouth.	38.1	1970-78, 1981-91, 2002	9-10-02	.09	3.58
01451165	Catasauqua Creek at Catasauqua	Lat 40°38'52", long 75°28'06", Lehigh County, Hydrologic Unit 02040106, at bridge on North Daulphin Street, Catasauqua, 0.1 mi upstream from mouth.	15.7	1970-78, 1981-91, 2002	9-10-02	.12	1.90
01451900	Jordan Creek near Stetlersville	Lat 40°37'46", long 75°33'13", Lehigh County, Hydrologic Unit 02040106, at covered bridge on rural road, 0.5 mi north of Stetlersville.	70.4	1967-69 ^a , 1981-91, 2002	9-10-02	0	no flow
01452300	East Branch Monocacy Creek near Bath	Lat 40°43'10", long 75°22'10", Northampton County, Hydrologic Unit 02040106, on left bank 25 ft downstream from bridge on LR 40863, 1.5 mi southeast of Bath, and 2.5 mi upstream from mouth.	5.35	1962-69 ^z , 1969-81 ^b , 1982-88, 2002	9-10-02	0	no flow
01457790	Cooks Creek at Durham Furnace	Lat 40°34'56", long 75°12'20", Bucks County, Hydrologic Unit 02040105, on east side of Red Brick Road, 0.1 mi north of State Highway 212, 0.5 mi upstream from mouth and Durham Furnace.	29.4	1934, 1944, 1949-50, 1970-78, 1981-87, 1990-93 ^z , 2002	9-09-02	.19	5.61
01458900	Tinicum Creek near Ottsville	Lat 40°28'14", long 75°08'13", Bucks County, Hydrologic Unit 02040105, at concrete bridge on gravel road, 0.9 mi below confluence of Rapp Creek and Beaver Creek, 1.5 mi east of Ottsville, and 5.3 mi above mouth.	14.7	1971-81 ^b , 1982-88, 1990-93 ^z , 2002	9-09-02	.03	0.38

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record sites during water year 2002—Continued

Station Number	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	Measurements	
						Unit Area Discharge (ft ³ /s)/mi ²)	Discharge (ft ³ /s)
TOHICKON CREEK BASIN							
01459100	Beaver Run tributary at Quakertown	Lat 40°26'37", long 75°19'42", Bucks County, at concrete weir upstream from twin concrete-arch culvert on Erie Avenue at intersection with Elm Street in Quakertown, 0.2 mi upstream from mouth.	2.42	1961-68, 1981-91, 2002	9-09-02	0	no flow
01459150	Tohickon Creek near Quakertown	Lat 40°26'33", long 75°18'33", Bucks County, Hydrologic Unit 02040105, 1,000 ft downstream from county highway bridge and 1.0 mi east of Quakertown.	27.5	1970-78, 1981-91, 2002	9-09-02	.12	3.43
JERICHO CREEK BASIN							
01462300	Jericho Creek at Washington Crossing	Lat 40°18'40", long 74°54'23", Bucks County, Hydrologic Unit 02040105, at bridge on State Highway 32, 0.3 mi upstream from mouth, and 2.5 mi northwest of Washington Crossing.	9.52	1971-91, 2002	9-10-02	0	no flow
NESHAMINY CREEK BASIN							
01464900	Park Creek near Warrington	Lat 40°13'24", long 75°08'42", Bucks County, at mouth, 0.3 mi upstream from bridge on State Highway 611 cross Little Neshaminy Creek, and 2.0 mi southwest of Warrington.	11.8	1946-57, 1981-91, 2002	9-10-02	.07	0.84
01465100	Mill Creek at Rushland	Lat 40°15'30", long 75°01'06", Bucks County, Hydrologic Unit 02040201, at bridge on L.R. 09047 at Rushland.	21.6	1950, 1981-91, 2002	9-10-02	.03	0.58
POQUESSING CREEK BASIN							
01465790	Byberry Creek at Chalfont Road, Philadelphia	Lat 40°04'54", long 74°58'57", Philadelphia County, Hydrologic Unit 02040202, on right bank 200 ft downstream from Chalfont Road Bridge, 0.2 mi downstream from Walton Run, at Philadelphia.	5.34	1964-78 [≠] , 1981-91, 2002	9-10-02	.07	0.35
FRANKFORD CREEK BASIN							
01467084	Rock Creek above Curtis Arboretum near Philadelphia	Lat 40°04'54", long 75°09'03", Montgomery County, Hydrologic Unit 02040202, on right bank 60 ft upstream from stone-arch bridge, 1,600 ft upstream from Washington Lane, Cheltenham Township, and about 1.2 mi upstream from mouth.	1.15	1971-78 [≠] , 1981-91, 2002	9-10-02	.24	0.28
SCHUYLKILL RIVER BASIN							
01467470	Schuylkill River at Port Carbon	Lat 40°41'40", long 76°09'50", Schuylkill County, Hydrologic Unit 02040203, at bridge 550 ft upstream from Mill Creek, at Port Carbon.	27.1	1949-50, 1963-64 ^a , 1981-91, 2002	9-10-02	.22	6.02
01469090	Bear Creek at Jefferson	Lat 40°35'09", long 76°08'03", Schuylkill County, at bridge on T662, 2.0 mi west of Auburn.	10.4	1965 ^a , 1981-91, 2002	9-09-02	.09	0.91

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record sites during water year 2002—Continued

Station Number	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	Measurements	
						Unit Area Discharge ((ft ³ /s)/mi ²)	Discharge (ft ³ /s)
SCHUYLKILL RIVER BASIN--Continued							
01469290	Pine Creek at Barnesville	Lat 40°49'09", long 76°01'06", Schuylkill County, 0.1 mi south of State Highway 45, and 0.8 mi east of Barnesville.	7.33	1964 ^a , 1981-91, 2002	9-09-02	.15	1.11
01470700	Maiden Creek near Lenhartsville	Lat 40°35'10", long 75°53'40", Berks County, Hydrologic Unit 02040203, at Zettlemoyers bridge, 1.0 mi north of Lenhartsville.	75.7	1943-57, 1981-91, 2002	9-11-02	.07	5.60
01470720	Maiden Creek tributary at Lenhartsville	Lat 40°34'23", long 75°52'34", Berks County, Hydrologic Unit 02040203, at bridge on U.S. Highway 22, 0.5 mi east of Lenhartsville, and 0.5 mi upstream from mouth.	7.46	1961-65 ^b , 1965-91, 2002	9-11-02	.05	0.37
01470758	Moselem Creek near Shoemakersville	Lat 40°30'10", long 75°52'47", Berks County, Hydrologic Unit 02040203, at bridge on county road, 0.35 mi upstream from mouth, 2.8 mi west of Moselem Springs, and 5 mi east of Shoemakersville.	13.5	1970-78, 1981-91, 2002	9-11-02	.76	10.3
01470760	Maiden Creek near East Berklely	Lat 40°25'57", long 75°56'19", Berks County, Hydrologic Unit 02040203, at bridge on SR 61, 1.7 mi northwest of Temple.	192	1908, 1909 2002	9-12-02	.06	12.4
01470763	Willow Creek near Temple	Lat 40°25'37", long 75°56'21", Berks County, Hydrologic Unit 02040203, 800 ft upstream from mouth at bridge on SR 61 near Temple.	21.6	2002	9-11-02	.22	4.75
01470800	Tulpehocken Creek at Bernville	Lat 40°25'32", long 75°06'49", Berks County, at a single-span concrete highway bridge on L.R. 06047, 600 ft upstream from confluence with Northkill Creek, and 0.5 mi south of Bernville.	84.8	1944, 1951, 1955, 1957, 1972-77 ^a , 1981-91, 2002	9-10-02	.31	26.6
01471520	Wyomissing Creek at West Reading	Lat 40°19'41", long 75°56'41", Berks County, at West Reading, and 180 ft upstream from mouth.	15.6	1948-53 ^c , 1981-91, 2002	9-10-02	.42	6.61
01471620	Allegheny Creek at Gibraltar	Lat 40°17'06", long 75°52'25", Berks County, 600 ft upstream from Schuylkill Canal, at Gibraltar.	17.9	1967 ^a , 1981-91, 2002	9-11-02	.20	3.57
01471800	Pine Creek near Manatawny	Lat 40°24'43", long 75°44'02", Berks County, Hydrologic Unit 02040203, at steel bridge on macadam road, at Lobachsville, 0.5 mi upstream from mouth, 0.5 mi below West Branch Pine Creek and 2 mi north of Manatawny.	9.61	1970-81 ^b , 1982-91, 2002	9-11-02	.10	0.95
01471900	Manatawny Creek at Earlville	Lat 40°19'05", long 75°44'01", Berks County, Hydrologic Unit 02040203, at bridge on State Highway 562 at Earlville, and 2.7 mi south of Spangsville.	61.6	1947-57, 1981-91, 2002	9-11-02	.21	13.0
01472100	Pigeon Creek at Parker Ford	Lat 40°11'48", long 75°35'13", Chester County, Hydrologic Unit 02040203, 50 ft downstream from bridge on State Highway 724, at Parker Ford	13.9	1944-57, 1981-91, 2002	9-11-02	.13	1.85

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record sites during water year 2002—Continued

Station Number	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	Measurements	
						Unit Area Discharge (ft ³ /s)/mi ²)	Discharge (ft ³ /s)
SCHUYLKILL RIVER BASIN--Continued							
01472130	French Creek near St. Peters	Lat 40°11'03", long 75°45'10", Chester County, at highway bridge, 1.2 mi northwest of St. Peters.	11.8	1932-33, 1981-91, 2002	9-09-02	.07	0.82
01472150	French Creek at Coventryville	Lat 40°11'03", long 75°45'10", Chester County, at highway bridge, 0.1 mi south of State Highway 23, at Coventryville, 0.3 mi downstream from South Branch, 0.6 mi southwest of Pottstown.	36.9	1951-69, 1981-91, 2002	9-10-02	.13	4.91
01472175	Unnamed tributary to Pickering Creek near Ludwigs Corner	Lat 40°06'06", long 75°39'32", Chester County, at bridge on rural road, 2.1 mi southeast of Ludwigs Corner.	1.87	1967-68 ^a , 1981-91, 2002	9-10-02	.12	0.23
01472280	Macoby Creek at Green Lane	Lat 40°20'22", long 75°28'20", Chester County, at bridge on State Highway 29, at Green Lane, and 0.1 mi upstream from mouth.	17.4	1949, 1981-91, 2002	9-11-02	.02	0.30
01472450	Unami Creek at Sumneytown	Lat 40°19'34", long 75°27'00", Montgomery County, at bridge on State Highway 63, at Sumneytown.	47.0	1946 ^a , 1951 ^a , 1981-91, 2002	9-11-02	.03	1.56
01472800	East Branch Perkiomen Creek near Harleyville	Lat 40°16'25", long 75°24'55", Montgomery County, Hydrologic Unit 02040203, at bridge on LR 46023, and 1.5 mi southwest of Harleyville.	56.4	1958-69, 1981-88, 2002	9-11-02	1.15	64.8 ^d
01473100	Zacharias Creek near Skippack	Lat 40°12'26", long 75°21'57", Montgomery County, at concrete weir, 1.2 mi southeast of Skippack.	7.27	1960-80 ^b , 1981-91, 2002	9-11-02	.04	0.27
01473200	Trout Creek near Valley Forge	Lat 40°05'30", long 75°25'22", Chester County, at bridge on Richard Road, 750 ft upstream from bridge on State Highway 23, and 2.2 mi east of Valley Forge.	6.55	1946-57, 1981-91, 2002	9-11-02	0	no flow
CHRISTINA RIVER BASIN							
01478150	East Branch White Clay Creek at Landenberg	Lat 39°46'40", long 75°46'28", Chester County, Hydrologic Unit 02040205, at county highway bridge at Landenberg, 1.4 mi downstream from Egypt Run and 4 mi southeast of West Grove.	25.6	1970-78, 1981-91, 2002	9-10-02	.21	5.46
01479700	West Branch Red Clay Creek near Kennett Square	Lat 39°48'39", long 75°45'18", Chester County, Hydrologic Unit 02040205, at county highway bridge on Kaolin Road, 1 mi upstream from East Branch Red Clay Creek, 1.4 mi east of Kaolin and 2.5 mi south of Kennett Square.	16.9	1970-78, 1980-91, 2002	9-10-02	.29	4.85
01480630	Buck Run near Doe Run	Lat 39°55'46", long 75°48'36", Chester County, Hydrologic Unit 02040205, 1,300 ft downstream from bridge on county road, 0.65 mi upstream from Doe Run, and 2.0 mi southwest of Mortonville.	24.4	1949, 1955, 1981-91, 2002	9-10-02	.16	3.85

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record sites during water year 2002—Continued

Station Number	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	Measurements	
						Unit Area Discharge ((ft ³ /s)/mi ²)	Discharge (ft ³ /s)
CHRISTINA RIVER BASIN--Continued							
01480665	East Branch Bradywine Creek at Dorlan	Lat 40°03'08", long 75°43'28", Chester County, Hydrologic Unit 02040205, 300 ft upstream from bridge on private road, 0.3 mi upstream from Marsh Creek, and 0.5 mi northwest of Dorlan.	33.4	1967-68 [≠] , 1981-91, 2002	9-09-02	.14	4.56

- [≠] Operated as a continuous-record gaging station.
^a Operated as a miscellaneous station.
^b Operated as a crest-stage partial-record station.
^c Published as Wyomissing Creek near Reading.
^d Includes Distributary from Bradshaw Reservoir (pumpage from Delaware River).

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

The Pennsylvania Water-Quality Network (WQN) is a statewide, fixed station water-quality sampling system currently operated by the Department of Environmental Protection (PaDEP), Bureau of Water Supply and Wastewater Management in cooperation with the United States Geological Survey (USGS). It is designed to assess both the quality of Pennsylvania's surface waters and the effectiveness of the water quality management program by accomplishing three basic objectives:

- * Monitor temporal water-quality trends in major surface streams throughout the Commonwealth of Pennsylvania.
- * Monitor temporal water-quality trends in selected reference waters.

Major streams are defined as interstate waters and intrastate streams with drainage areas of roughly 200 mi² or greater. These waters are sampled at or near their mouths to measure overall quality before flows enter the next higher order stream or before exiting the Commonwealth. In this way, trends can be established and the effectiveness of water-quality management programs can be assessed by watershed. Samples are collected on fixed time intervals resulting in coverage of a range of flow regimes. All samples collected from April 1, 2002 through September 30, 2002 were collected by the USGS and analyzed by the PaDEP laboratory in Harrisburg.

Most of the current WQN standard sites are co-located with USGS gage stations and others are equipped with a wire weight gage. Currently the network consists of 123 standard stream sites, and 27 reference stream sites distributed across the Commonwealth. This report contains only those sites in the Delaware River basin. The locations of these sites can be found in figures 6-9. Other data for the WQN can be found in the annual Water Data Reports PA-02-2 and PA-02-3.

Standard stations are sampled bimonthly for physical and chemical parameters and stream discharge or a stage reading. Reference stations are sampled monthly for physical and chemical parameters and stream discharge or a stage reading.

For additional information, contact Andrew Reif at the U.S. Geological Survey, 111 Great Valley Parkway, Malvern, PA 19355; 610-647-9008, (email: agreif@usgs.gov).

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

TABLE 3.--Pennsylvania Water-Quality Network (WQN) station list.

Station number	WQN No.	Location	Latitude	Longitude	Drainage area (mi ²)
01426500	104	West Branch Delaware River at Hale Eddy, NY	42° 00' 11"	75° 23' 02"	595
^a 01427510	185	Delaware River at Callicoon, NY	41° 45' 24"	75° 03' 28"	1,820
01429301	336	Dyberry Creek at Tanners Falls near Dyberry, PA	41° 39' 11"	75° 16' 55"	46.4
01431600	141	Wallenpaupack Creek at East Sterling, PA	41° 20' 10"	75° 20' 25"	69.5
01432119	147	Lackawaxen River at mouth at Lackawaxen, PA	41° 29' 12"	74° 59' 31"	597
^a 01434000	103	Delaware River at Port Jervis, NY	41° 22' 14"	74° 41' 52"	3,070
01438760	192	Adams Creek near Dingmans Ferry, PA	41° 14' 22"	74° 52' 02"	8.2
^a 01439500	139	Bush Kill at Shoemakers, PA	41° 05' 17"	75° 02' 17"	117
01440650	138	Brodhead Creek near East Stroudsburg, PA	41° 02' 10"	75° 12' 34"	121
^a 01442500	137	Brodhead Creek at Minisink Hills, PA	40° 59' 55"	75° 08' 35"	259
^a 01446500	148	Delaware River at Belvidere, NJ	40° 49' 36"	75° 05' 02"	4,535
01447300	190	Choke Creek near Thornhurst, PA	41° 09' 40"	75° 36' 10"	8.06
^a 01447500	126	Lehigh River at Stoddartsville, PA	41° 07' 49"	75° 37' 33"	91.7
^a 01447720	142	Tobyhanna Creek near Blakeslee, PA	41° 05' 05"	75° 36' 21"	118
01449375	191	Wild Creek above Penn Forest Reservoir near Kresgeville, PA	40° 56' 24"	75° 35' 04"	5.4
01451070	125	Lehigh River at Treichlers, PA	40° 44' 03"	75° 32' 28"	928
01452040	130	Jordan Creek at mouth at Allentown	40° 36' 06"	75° 27' 43"	82.3
^a 01454700	123	Lehigh River at Glendon, PA	40° 40' 09"	75° 14' 12"	1,359
01457790	187	Cooks Creek at Durham Furnace, PA	40° 34' 56"	75° 12' 20"	29.4
01458900	186	Tinicum Creek near Ottsville, PA	40° 28' 14"	75° 08' 13"	14.7
^a 01463500	101	Delaware River at Trenton, NJ	40° 13' 18"	74° 46' 42"	6,780
^a 01465500	121	Neshaminy Creek near Langhorne, PA	40° 10' 26"	74° 57' 26"	210
^a 01470500	113	Schuylkill River at Berne, PA	40° 31' 21"	75° 59' 55"	355
^a 01471000	117	Tulpehocken Creek near Reading, PA	40° 22' 08"	75° 58' 46"	211
^a 01472000	111	Schuylkill River at Pottstown, PA	40° 14' 30"	75° 39' 07"	1,147
01472150	156	French Creek at Coventryville, PA	40° 10' 16"	75° 41' 26"	36.9
01473030	116	Perkiomen Creek at Arcola near Collegeville, PA	40° 09' 11"	75° 27' 21"	300
01473170	154	Valley Creek at Wilson Road near Valley Forge, PA	40° 04' 53"	75° 27' 25"	22.0
^a 01473900	193	Wissahickon Creek at Fort Washington, PA	40° 07' 26"	75° 13' 13"	40.8
^a 01474000	115	Wissahickon Creek at Mouth at Philadelphia, PA	40° 00' 55"	75° 12' 26"	64.0
01474010	110	Schuylkill River at Falls Bridge at Philadelphia, PA	40° 00' 30"	75° 11' 52"	1,893
^a 01478245	149	White Clay Creek near Strickersville, PA	39° 44' 51"	75° 46' 15"	59.2
^a 01479820	150	Red Clay Creek near Kennett Square, PA	39° 49' 00"	75° 41' 31"	28.3
^a 01481000	105	Brandywine Creek at Chadds Ford, PA	39° 52' 11"	75° 35' 37"	287
01494990	256	Big Elk Creek near Lewisville, PA	39° 43' 48"	75° 50' 54"	41.0

^aOther water-quality data for this station can be found in the continuous station records section of this report.

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
01426500 West Branch Delaware River at Hale Eddy, NY (LAT 42 00 11N LONG 075 23 02W)													
APR 2002 23...	1015	9813	177	--	40	12.2	7.6	82	6.2	25	6.54	6.9	1.83
JUN 06...	1115	9813	775	--	40	9.3	7.3	64	17.7	23	6.15	6.5	1.67
AUG 06...	1000	9813	845	--	40	11.5	8.1	88	10.7	27	7.91	7.7	2.02
01429301 Dyberry Creek at Tanners Falls near Dyberry, PA (LAT 41 39 11N LONG 075 16 55W)													
APR 2002 23...	1430	9813	54	5.0	30	11.9	7.8	60	8.3	26	--	9.1	--
MAY 14...	1400	9813	338	<1.0	30	12.3	7.1	45	10.4	16	--	5.4	--
JUN 18...	1400	9813	94	1.0	30	10.4	7.5	54	16.2	24	--	8.1	--
JUL 15...	1400	9813	9.7	35	30	10.6	8.1	74	20.9	31	--	10.9	--
AUG 06...	1300	9813	6.4	37	30	9.7	8.1	80	21.3	34	--	12.0	--
SEP 05...	1430	9813	6.4	3.0	30	10.6	7.9	92	18.9	36	--	12.5	--
01431600 Wallenpaupack Creek at East Sterling, PA (LAT 41 20 10N LONG 075 20 25W)													
APR 2002 04...	1440	9813	190	--	30	12.4	7.2	65	7.4	19	6.08	6.0	.93
JUN 05...	1450	9813	128	--	30	9.8	7.4	67	18.9	20	6.55	6.4	.95
AUG 07...	1430	9813	17	--	30	9.7	8.1	102	20.2	30	9.16	9.6	1.30
01432119 Lackawaxen River at mouth at Lackawaxen, PA (LAT 41 29 12N LONG 074 59 31W)													
APR 2002 04...	1220	9813	2000	--	30	12.9	7.5	78	7.0	21	--	6.8	--
JUN 05...	1400	9813	1410	--	30	10.6	8.8	90	18.1	24	--	7.8	--
AUG 07...	1200	9813	56	--	30	9.8	7.8	108	19.4	28	--	8.9	--
01438760 Adams Creek near Dingmans Ferry, PA (LAT 41 14 22N LONG 074 52 02W)													
APR 2002 15...	1400	9813	24	4.0	30	10.5	7.0	89	14.4	19	4.71	4.7	1.75
MAY 15...	1330	9813	44	<1.0	30	10.8	6.7	78	11.6	15	--	3.8	--
JUN 06...	0900	9813	12	<1.0	30	9.3	6.6	68	18.1	18	--	4.6	--
JUL 02...	1430	9813	3.4	<1.0	30	9.1	7.2	72	20.9	19	--	4.8	--
AUG 06...	0840	9813	1.1	29	30	9.0	7.4	83	19.1	22	--	5.7	--
SEP 05...	1230	9813	.63	3.0	30	9.9	8.1	754	17.2	25	--	6.3	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)
01426500 West Branch Delaware River at Hale Eddy, NY (LAT 42 00 11N LONG 075 23 02W)													
APR 2002 23...	1.9	.0	15	--	--	8.2	56	10	<.020	.26	<.040	.55	<.01
JUN 06...	1.8	1.4	16	--	--	7.4	54	12	<.020	.24	<.040	.47	.02
AUG 06...	2.0	.0	16	--	--	7.7	56	<2	<.020	.59	<.040	.70	.01
01429301 Dyberry Creek at Tanners Falls near Dyberry, PA (LAT 41 39 11N LONG 075 16 55W)													
APR 2002 23...	.8	--	22	4.2	<.2	7.5	32	<2	<.020	.07	<.040	.28	.01
MAY 14...	.6	--	11	2.3	<.2	6.5	44	30	<.020	.08	<.040	.42	.02
JUN 18...	.8	--	16	2.4	<.2	6.2	54	6	<.020	.10	<.040	.34	.01
JUL 15...	.9	--	26	3.8	<.2	6.8	52	12	<.020	.06	<.040	.15	<.01
AUG 06...	1.1	--	28	4.2	<.2	6.4	44	4	<.020	.05	<.040	.18	<.01
SEP 05...	1.1	--	32	4.9	<.2	7.1	76	<2	.070	.05	<.040	.18	<.01
01431600 Wallenpaupack Creek at East Sterling, PA (LAT 41 20 10N LONG 075 20 25W)													
APR 2002 04...	.9	513	9	--	--	7.6	54	2	<.020	.27	<.040	.46	<.01
JUN 05...	.9	.0	11	--	--	6.7	56	<2	<.020	.22	<.040	.37	<.01
AUG 07...	1.4	.0	18	--	--	7.0	76	6	.060	.24	<.040	.28	.02
01432119 Lackawaxen River at mouth at Lackawaxen, PA (LAT 41 29 12N LONG 074 59 31W)													
APR 2002 04...	1.1	--	14	--	--	9.3	94	6	<.020	.21	<.040	.52	.01
JUN 05...	1.2	--	16	--	--	8.2	58	<2	<.020	<.04	<.040	.25	.01
AUG 07...	1.3	--	17	--	--	8.0	30	4	.060	.04	<.040	.23	.01
01438760 Adams Creek near Dingmans Ferry, PA (LAT 41 14 22N LONG 074 52 02W)													
APR 2002 15...	1.7	.0	7	17.3	<.2	8.6	126	<2	<.020	.06	<.040	.26	.01
MAY 15...	1.5	--	7	11.8	<.2	7.8	98	<2	<.020	.05	<.040	.24	.01
JUN 06...	1.6	--	8	10.4	<.2	6.9	758	4	<.020	.12	<.040	.26	<.01
JUL 02...	1.7	--	11	11.5	<.2	6.8	68	<2	<.020	.18	<.040	.25	<.01
AUG 06...	1.9	--	15	8.5	<.2	8.2	50	<2	<.020	.27	<.040	.42	.01
SEP 05...	2.2	--	16	9.0	<.2	8.4	58	<2	<.020	.18	<.040	.45	<.01

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM- ICAL, 5 DAY (MG/L) (00310)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)
01426500 West Branch Delaware River at Hale Eddy, NY (LAT 42 00 11N LONG 075 23 02W)													
APR 2002 23...	.015	--	.8	--	--	--	<4	<4	30	90	<1.0	<1.0	20
JUN 06...	.024	--	.5	--	--	--	<4	<4	70	320	<1.0	<1.0	60
AUG 06...	.012	--	.9	--	--	--	<4	<4	<20	320	<1.0	<1.0	10
01429301 Dyberry Creek at Tanners Falls near Dyberry, PA (LAT 41 39 11N LONG 075 16 55W)													
APR 2002 23...	.017	--	.8	<20	--	--	<4	<4	60	80	<1.0	<1.0	20
MAY 14...	.030	--	1.4	550	--	--	<4	<4	60	360	<1.0	<1.0	10
JUN 18...	.020	--	.9	40	<4.0	<.20	<4	<4	90	180	<1.0	<1.0	10
JUL 15...	.013	--	.5	100	<4.0	<.20	<4	<4	80	140	<1.0	<1.0	20
AUG 06...	.014	--	.8	180	<4.0	<.20	<4	<4	40	100	<1.0	<1.0	20
SEP 05...	.023	--	.7	80	<4.0	<.20	<4	<4	40	100	<1.0	<1.0	30
01431600 Wallenpaupack Creek at East Sterling, PA (LAT 41 20 10N LONG 075 20 25W)													
APR 2002 04...	.011	--	2.1	--	--	--	<4	<4	40	100	<1.0	<1.0	10
JUN 05...	.014	--	1.1	--	--	--	<4	<4	50	140	<1.0	<1.0	20
AUG 07...	.012	--	1.2	--	--	--	<4	<4	30	160	<1.0	<1.0	30
01432119 Lackawaxen River at mouth at Lackawaxen, PA (LAT 41 29 12N LONG 074 59 31W)													
APR 2002 04...	.020	3.3	--	--	--	--	--	<10	--	80	--	<1.0	--
JUN 05...	.020	3.8	--	--	--	--	--	<10	--	150	--	<1.0	--
AUG 07...	.010	3.8	--	--	--	--	--	<10	--	120	--	<1.0	--
01438760 Adams Creek near Dingmans Ferry, PA (LAT 41 14 22N LONG 074 52 02W)													
APR 2002 15...	.010	--	.6	<20	--	--	<4	<4	20	110	<1.0	<1.0	<2.0
MAY 15...	.014	--	1.5	20	--	--	<4	<4	30	180	<1.0	<1.0	3.8
JUN 06...	.016	--	.3	40	<4.0	<.20	<4	<4	40	120	<1.0	<1.0	<2.0
JUL 02...	.020	--	1.4	<20	<4.0	<.20	<4	<4	20	90	<1.0	<1.0	<2.0
AUG 06...	.015	--	1.0	<20	<4.0	<.20	<4	<4	<20	70	<1.0	<1.0	<2.0
SEP 05...	<.010	--	.7	60	<4.0	<.20	<4	<4	<20	<20	<1.0	<1.0	<2.0

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
01426500	West Branch Delaware River at Hale Eddy, NY (LAT 42 00 11N LONG 075 23 02W)					
APR 2002 23...	30	<4.0	<4.0	<5.0	<5.0	--
JUN 06...	100	<4.0	<4.0	<5.0	<5.0	--
AUG 06...	50	<4.0	<4.0	<5.0	<5.0	--
01429301	Dyberry Creek at Tanners Falls near Dyberry, PA (LAT 41 39 11N LONG 075 16 55W)					
APR 2002 23...	30	<4.0	<4.0	<5.0	<5.0	<5
MAY 14...	60	<4.0	<4.0	<5.0	<5.0	<5
JUN 18...	30	<4.0	<4.0	<5.0	<5.0	<5
JUL 15...	40	<4.0	<4.0	<5.0	<5.0	<5
AUG 06...	40	<4.0	<4.0	<5.0	<5.0	<5
SEP 05...	40	<4.0	<4.0	<5.0	<5.0	<5
01431600	Wallenpaupack Creek at East Sterling, PA (LAT 41 20 10N LONG 075 20 25W)					
APR 2002 04...	30	<4.0	<4.0	<5.0	<5.0	--
JUN 05...	50	<4.0	<4.0	130	--	--
AUG 07...	40	<4.0	<4.0	<5.0	<5.0	--
01432119	Lackawaxen River at Mouth at Lackawaxen, PA (LAT 41 29 12N LONG 074 59 31W)					
APR 2002 04...	20	--	<50	--	<10	--
JUN 05...	40	--	<50	--	<10	--
AUG 07...	30	--	<50	--	<10	--
01438760	Adams Creek near Dingmans Ferry, PA (LAT 41 14 22N LONG 074 52 02W)					
APR 2002 15...	10	<4.0	<4.0	6.1	6.8	<5
MAY 15...	20	<4.0	<4.0	<5.0	<5.0	<5
JUN 06...	10	<4.0	<4.0	<5.0	<5.0	<5
JUL 02...	<10	<4.0	<4.0	<5.0	<5.0	<5
AUG 06...	20	<4.0	<4.0	<5.0	<5.0	<5
SEP 05...	<10	<4.0	<4.0	<5.0	<5.0	<5

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
01440650 Brodhead Creek near East Stroudsburg, PA (LAT 41 02 10N LONG 075 12 34W)													
APR 2002 15...	1540	9813	267	--	30	10.7	7.3	87	15.1	22	5.82	6.0	1.50
JUN 04...	0000	9813	180	--	30	10.3	7.2	82	15.2	21	5.86	5.8	1.55
AUG 06...	1400	9813	21	--	30	9.3	8.6	121	23.8	26	7.17	7.3	1.86
01447300 Choke Creek near Thornhurst, PA (LAT 41 09 40N LONG 075 36 10W)													
APR 2002 01...	1400	9813	22	3.0	30	11.3	4.6	31	9.6	6	1.17	1.2	.64
MAY 14...	0940	9813	83	<1.0	30	10.3	4.3	42	9.5	5	1.13	1.1	.57
JUN 18...	1120	9813	14	1.0	30	9.9	4.9	24	13.4	5	.97	1.0	.52
JUL 10...	1210	9813	2.4	20	30	8.1	5.1	17	20.0	4	.82	.9	.44
AUG 08...	1040	9813	.99	<1.0	30	9.4	5.5	16	16.1	4	.84	.9	.45
SEP 04...	1350	9813	.94	2.0	30	10.7	5.5	16	21.1	4	.85	.9	.46
01449375 Wild Creek above Penn Forest Reservoir near Kresgeville PA (LAT 40 56 24N LONG 075 35 04W)													
APR 2002 15...	1030	9813	28	5.0	30	11.2	5.6	42	11.1	7	1.73	1.8	.63
MAY 15...	0940	9813	20	<1.0	30	11.0	4.9	73	9.4	8	1.93	1.9	.75
JUN 06...	1210	9813	13	2.0	30	9.2	6.1	60	14.0	9	2.09	2.2	.80
AUG 05...	1300	9813	2.3	20	30	8.5	6.8	65	21.0	10	2.25	2.3	.86
SEP 04...	1040	9813	1.6	3.0	30	11.0	6.9	61	18.7	9	2.25	2.2	.86
01451070 Lehigh River at Treichlers, PA (LAT 40 44 03N LONG 075 32 28W)													
APR 2002 23...	1010	9813	1950	--	30	12.6	7.0	105	8.0	26	--	6.8	--
JUN 26...	1040	9813	919	--	30	8.8	7.2	113	22.6	33	--	8.4	--
AUG 27...	0910	9813	335	--	30	8.4	7.3	135	22.4	42	--	11.0	--
01452040 Jordan Creek at mouth at Allentown, PA (LAT 40 36 06N LONG 075 27 43W)													
APR 2002 23...	1210	9813	106	--	30	13.3	8.5	284	11.2	110	--	29.0	--
JUN 26...	1220	9813	43	--	30	10.0	8.2	417	23.8	160	--	42.3	--
AUG 27...	1050	9813	7.4	--	30	9.0	8.0	802	20.0	290	--	72.5	--

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORTH TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)
01440650 Brodhead Creek near East Stroudsburg, PA (LAT 41 02 10N LONG 075 12 34W)													
APR 2002 15...	1.6	.0	10	--	--	8.1	120	10	<.020	.17	<.040	.35	.02
JUN 04...	1.5	.0	11	--	--	7.8	72	<2	<.020	.16	<.040	.39	<.01
AUG 06...	1.9	.0	16	--	--	7.4	40	<2	<.020	.19	<.040	.28	.01
01447300 Choke Creek near Thornhurst, PA (LAT 41 09 40N LONG 075 36 10W)													
APR 2002 01...	.6	27	1	4.0	<.2	5.4	42	<2	<.020	<.04	<.040	.17	<.01
MAY 14...	.6	19	0	4.4	<.2	5.6	34	18	<.020	<.04	<.040	.39	.01
JUN 18...	.5	23	1	2.1	<.2	4.0	52	2	<.020	<.04	<.040	.14	.01
JUL 10...	.5	29	2	1.4	<.2	3.4	12	8	<.020	<.04	<.040	.20	<.01
AUG 08...	.5	32	2	1.2	<.2	3.3	22	4	<.020	<.04	<.040	.19	<.01
SEP 04...	.5	28	2	1.3	<.2	3.5	22	<2	.040	<.04	<.040	.16	<.01
01449375 Wild Creek above Penn Forest Reservoir near Kresgeville, PA (LAT 40 56 24N LONG 075 35 04W)													
APR 2002 15...	.7	15	3	8.4	<.2	3.6	66	4	<.020	<.04	<.040	.31	.02
MAY 15...	.8	3.0	3	13.8	<.2	2.8	52	<2	<.020	<.04	<.040	<.06	.01
JUN 06...	.8	3.4	4	13.8	<.2	2.1	62	2	<.020	.04	<.040	.12	.01
AUG 05...	.9	8.6	5	15.3	<.2	1.2	60	4	<.020	.05	<.040	.08	<.01
SEP 04...	.8	11	5	14.4	<.2	1.6	442	<2	.030	.04	<.040	.10	.01
01451070 Lehigh River at Treichlers, PA (LAT 40 44 03N LONG 075 32 28W)													
APR 2002 23...	2.3	--	11	--	--	13.0	102	<2	<.020	.61	<.040	.76	<.01
JUN 26...	2.9	--	13	--	--	16.5	64	4	<.020	.50	<.040	.61	.01
AUG 27...	3.6	--	18	--	--	20.1	108	8	<.020	.45	<.040	.78	.01
01452040 Jordan Creek at mouth at Allentown, PA (LAT 40 36 06N LONG 075 27 43W)													
APR 2002 23...	8.3	--	62	--	--	29.8	176	<2	<.020	3.70	<.040	4.0	.04
JUN 26...	14.0	--	112	--	--	48.4	252	<2	<.020	3.00	<.040	3.2	.03
AUG 27...	26.3	--	226	--	--	124	552	8	<.020	1.80	<.040	2.1	.05

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MISCELLANEOUS STATION ANALYSES

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)
01440650 Brodhead Creek near East Stroudsburg, PA (LAT 41 02 10N LONG 075 12 34W)													
APR 2002 15...	.022	--	.8	--	--	--	<4	<4	50	150	<1.0	<1.0	<10
JUN 04...	.013	--	1.0	--	--	--	<4	<4	30	70	<1.0	<1.0	<10
AUG 06...	.020	--	.7	--	--	--	<4	<4	<20	40	<1.0	<1.0	<10
01447300 Choke Creek near Thornhurst, PA (LAT 41 09 40N LONG 075 36 10W)													
APR 2002 01...	<.010	--	.8	<20	--	--	<4	<4	50	70	<1.0	<1.0	80
MAY 14...	.012	--	1.0	70	--	--	<4	<4	120	210	<1.0	<1.0	120
JUN 18...	.010	--	.8	20	<4.0	<.20	<4	<4	150	190	<1.0	<1.0	90
JUL 10...	<.010	--	1.2	<20	<4.0	<.20	<4	<4	150	200	<1.0	<1.0	40
AUG 08...	.010	--	2.0	40	<4.0	<.20	<4	<4	230	290	<1.0	<1.0	20
SEP 04...	<.010	--	1.1	<20	<4.0	<.20	<4	<4	110	140	<1.0	<1.0	20
01449375 Wild Creek above Penn Forest Reservoir near Kresgeville, PA (LAT 40 56 24N LONG 075 35 04W)													
APR 2002 15...	.010	--	1.1	420	--	--	<4	<4	70	190	<1.0	<1.0	40
MAY 15...	<.010	--	.8	20	--	--	<4	<4	<20	50	<1.0	<1.0	10
JUN 06...	.010	--	.5	140	<4.0	<.20	<4	<4	40	100	<1.0	<1.0	<10
AUG 05...	.013	--	1.7	10	<4.0	<.20	<4	<4	20	60	<1.0	<1.0	<10
SEP 04...	<.010	--	.9	<20	<4.0	<.20	<4	<4	20	60	<1.0	<1.0	<10
01451070 Lehigh River at Treichlers, PA (LAT 40 44 03N LONG 075 32 28W)													
APR 2002 23...	.010	2.0	--	--	--	--	--	<10	--	130	--	<1.0	--
JUN 26...	.020	2.7	--	--	--	--	--	<10	--	370	--	<1.0	--
AUG 27...	.020	2.3	--	--	--	--	--	<10	--	190	--	<1.0	--
01452040 Jordan Creek at mouth at Allentown, PA (LAT 40 36 06N LONG 075 27 43W)													
APR 2002 23...	.070	2.2	--	--	--	--	--	<10	--	140	--	<1.0	--
JUN 26...	.050	2.3	--	--	--	--	--	<10	--	180	--	<1.0	--
AUG 27...	.100	3.2	--	--	--	--	--	<10	--	110	--	2.5	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
01440650 Brodhead Creek near East Stroudsburg, PA (LAT 41 02 10N LONG 075 12 34W)						
APR 2002 15...	30	<4.0	<4.0	7.0	5.2	--
JUN 04...	10	<4.0	<4.0	<5.0	<5.0	--
AUG 06...	10	<4.0	<4.0	<5.0	<5.0	--
01447300 Choke Creek near Thornhurst, PA (LAT 41 09 40N LONG 075 36 10W)						
APR 2002 01...	80	<4.0	<4.0	20	20	5
MAY 14...	130	<4.0	5.5	20	20	13
JUN 18...	90	<4.0	<4.0	20	20	<5
JUL 10...	40	<4.0	<4.0	8.7	8.4	<5
AUG 08...	30	<4.0	<4.0	7.5	8.2	<5
SEP 04...	20	<4.0	<4.0	6.7	5.6	<5
01449375 Wild Creek above Penn Forest Reservoir near Kresgeville, PA (LAT 40 56 24N LONG 075 35 04W)						
APR 2002 15...	60	<4.0	<4.0	50	60	<5
MAY 15...	20	<4.0	<4.0	30	30	<5
JUN 06...	20	<4.0	<4.0	20	20	<5
AUG 05...	10	<4.0	<4.0	10	10	<5
SEP 04...	<10	<4.0	<4.0	10	10	<5
01451070 Lehigh River at Treichlers, PA (LAT 40 44 03N LONG 075 32 28W)						
APR 2002 23...	60	--	<50	--	80	--
JUN 26...	50	--	<50	--	70	--
AUG 27...	70	--	<50	--	50	--
01452040 Jordan Creek at mouth at Allentown, PA (LAT 40 36 06N LONG 075 27 43W)						
APR 2002 23...	10	--	<50	--	<10	--
JUN 26...	10	--	<50	--	<10	--
AUG 27...	40	--	<50	--	10	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
01457790 Cooks Creek at Durham Furnace, PA (LAT 40 34 56N LONG 075 12 20W)													
APR 2002 30...	1330	9813	37	8.0	30	12.9	8.6	219	11.6	94	--	22.3	--
MAY 23...	0840	9813	36	73	30	11.4	7.6	243	10.4	100	--	22.7	--
JUN 24...	1110	9813	19	7.0	30	9.9	8.2	280	19.3	130	--	29.9	--
JUL 23...	1020	9813	9.9	3.0	30	9.2	8.2	307	20.2	160	--	35.1	--
AUG 26...	0920	9813	6.6	7.0	30	8.8	7.9	310	17.0	160	--	33.1	--
01458900 Tinicum Creek near Ottsville, PA (LAT 40 28 14N LONG 075 08 13W)													
APR 2002 30...	1040	9813	41	5.0	30	12.6	7.9	145	10.4	58	--	12.4	--
MAY 23...	1140	9813	9.0	73	30	11.6	7.8	253	12.6	100	--	23.4	--
JUN 24...	1350	9813	4.2	6.0	30	10.5	8.5	258	23.0	110	--	27.4	--
JUL 23...	1230	9813	.39	3.0	30	13.4	8.8	475	26.6	220	--	52.9	--
AUG 26...	1200	9813	.60	8.0	30	11.9	8.4	501	21.0	240	--	56.8	--
01472150 French Creek at Coventryville, PA (LAT 40 10 16N LONG 075 41 26W)													
APR 2002 11...	1120	9813	17	6.0	30	13.2	7.8	165	11.2	61	--	15.6	--
MAY 15...	1220	9813	60	<1.0	30	11.0	7.4	125	13.4	47	--	12.0	--
JUN 11...	1220	9813	15	30	30	10.6	7.9	161	21.0	21	--	<.03	--
JUL 11...	1230	9813	7.4	2.0	30	10.5	8.3	166	20.8	60	--	16.0	--
AUG 14...	1050	9813	3.8	15	30	9.1	8.0	172	23.2	65	--	17.6	--
SEP 03...	1250	9813	9.5	5.0	30	10.8	8.4	181	19.8	66	--	17.7	--
01473030 Perkiomen Creek at Arcola near Collegetown, PA (LAT 40 09 11N LONG 075 27 21W)													
APR 2002 09...	1300	9813	157	--	40	15.4	8.8	405	13.2	120	--	29.4	--
JUN 27...	1140	9813	165	--	40	7.5	7.7	308	28.2	82	--	21.0	--
AUG 27...	1140	9813	118	--	40	8.4	7.9	397	23.6	100	--	26.0	--
01473170 Valley Creek at Wilson Road near Valley Forge, PA (LAT 40 04 53N LONG 075 27 25W)													
APR 2002 10...	1030	9813	16	--	30	13.3	8.4	661	13.2	260	--	55.6	--
JUN 12...	1235	9813	16	--	30	10.2	8.3	666	20.4	260	--	56.3	--
AUG 14...	1400	9813	7.3	--	30	11.1	8.5	633	24.0	260	--	49.4	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)
01457790 Cooks Creek at Durham Furnace, PA (LAT 40 34 56N LONG 075 12 20W)													
APR 2002 30...	9.3	--	68	12.4	<.2	16.3	130	<2	<.020	1.72	<.040	1.9	.02
MAY 23...	11.1	--	82	11.0	<.2	17.4	142	6	<.020	2.03	<.040	2.1	.02
JUN 24...	14.0	--	102	10.6	<.2	16.1	250	4	<.020	2.07	<.040	2.1	.02
JUL 23...	17.4	--	122	8.2	<.2	16.3	226	<2	<.020	1.77	<.040	2.0	.02
AUG 26...	17.6	--	128	8.8	<.2	16.2	208	<2	<.020	1.75	<.040	1.9	.01
01458900 Tinicum Creek near Ottsville, PA (LAT 40 28 14N LONG 075 08 13W)													
APR 2002 30...	6.5	--	40	8.0	<.2	17.1	118	4	<.020	.26	<.040	.72	.02
MAY 23...	11.1	--	56	9.0	<.2	51.2	158	2	<.020	.89	<.040	1.0	.01
JUN 24...	10.8	--	64	8.7	<.2	44.6	234	4	<.020	.67	<.040	.80	.01
JUL 23...	21.4	--	94	13.2	<.2	126	366	2	<.020	.12	<.040	.33	.01
AUG 26...	22.5	--	108	17.1	<.2	124	378	<2	<.020	.50	<.040	.50	<.01
01472150 French Creek at Coventryville, PA (LAT 40 10 16N LONG 075 41 26W)													
APR 2002 11...	5.3	--	42	12.9	<.2	13.0	148	10	<.020	1.05	<.040	1.3	.01
MAY 15...	4.2	--	30	8.5	<.2	11.8	98	--	<.020	.94	<.040	1.5	.02
JUN 11...	5.0	--	44	11.7	<.2	11.4	152	<2	<.020	1.22	<.040	1.7	.03
JUL 11...	4.9	--	48	11.1	<.2	11.3	136	<2	<.020	.85	<.040	1.0	.02
AUG 14...	5.1	--	56	9.7	<.2	10.9	110	10	<.020	.31	<.040	.56	.02
SEP 03...	5.3	--	44	13.3	<.2	18.1	124	<2	.110	.81	<.040	1.3	.02
01473030 Perkiomen Creek at Arcola near Collegeville, PA (LAT 40 09 11N LONG 075 27 21W)													
APR 2002 09...	11.1	--	68	--	--	35.5	284	4	<.020	1.40	<.040	1.8	.02
JUN 27...	7.3	--	56	--	--	26.7	190	4	<.020	1.37	<.040	1.6	.08
AUG 27...	9.0	--	64	--	--	34.4	294	6	<.020	1.12	<.040	1.6	.11
01473170 Valley Creek at Wilson Road near Valley Forge, PA (LAT 40 04 53N LONG 075 27 25W)													
APR 2002 10...	30.5	--	204	76.6	--	27.8	450	14	<.020	1.81	.010	1.9	--
JUN 12...	29.9	--	210	70.1	--	26.4	422	<2	<.020	1.78	.010	2.1	--
AUG 14...	32.6	--	206	59.4	--	24.9	370	14	<.020	1.54	.020	1.7	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)
01457790 Cooks Creek at Durham Furnace, PA (LAT 40 34 56N LONG 075 12 20W)													
APR 2002 30...	.024	--	1.1	280	--	--	<4	<4	30	190	<1.0	<1.0	3.4
MAY 23...	.018	--	<.2	260	<4.0	<.20	<4	<4	30	70	<1.0	<1.0	2.3
JUN 24...	.031	--	1.0	240	<4.0	<.20	<4	<4	<20	110	<1.0	<1.0	<2.0
JUL 23...	.016	--	.6	120	<4.0	<.20	<4	<4	50	50	<1.0	<1.0	<2.0
AUG 26...	.025	--	.7	<20	<4.0	<.20	<4	<4	<20	50	<1.0	<1.0	<2.0
01458900 Tinicum Creek near Ottsville, PA (LAT 40 28 14N LONG 075 08 13W)													
APR 2002 30...	.027	--	1.1	200	--	--	<4	<4	130	450	<1.0	<1.0	2.9
MAY 23...	.014	--	<.2	20	<4.0	<.20	<4	<4	50	150	<1.0	<1.0	<2.0
JUN 24...	.022	--	1.0	100	<4.0	<.20	<4	<4	20	50	<1.0	<1.0	3.0
JUL 23...	.015	--	1.2	10	<4.0	<.20	<4	<4	<20	<20	<1.0	<1.0	4.1
AUG 26...	.013	--	.4	50	<4.0	<.20	<4	<4	<20	20	<1.0	<1.0	10
01472150 French Creek at Coventryville, PA (LAT 40 10 16N LONG 075 41 26W)													
APR 2002 11...	.024	--	1.4	100	--	--	<4	<4	120	250	<1.0	<1.0	20
MAY 15...	.043	--	1.3	880	--	--	<4	<4	150	730	<1.0	<1.0	20
JUN 11...	.036	--	1.3	600	<4.0	<.20	<4	<4	90	400	<1.0	<1.0	20
JUL 11...	.034	--	1.8	200	<4.0	<.20	<4	<4	70	270	<1.0	<1.0	20
AUG 14...	.032	--	1.4	60	<4.0	<.20	<4	<4	40	160	<1.0	<1.0	20
SEP 03...	.025	--	1.1	180	<4.0	<.20	<4	<4	100	190	<1.0	<1.0	9.9
01473030 Perkiomen Creek at Arcola near Collegetown, PA (LAT 40 09 11N LONG 075 27 21W)													
APR 2002 09...	.050	3.9	--	--	--	--	--	<10	--	120	--	<1.0	--
JUN 27...	.100	3.3	--	--	--	--	--	<10	--	140	--	<1.0	--
AUG 27...	.160	3.8	--	--	--	--	--	<10	--	170	--	<1.0	--
01473170 Valley Creek at Wilson Road near Valley Forge, PA (LAT 40 04 53N LONG 075 27 25W)													
APR 2002 10...	.010	1.9	1.7	--	<4.0	<.20	<4	<4	30	80	<1.0	<1.0	4.5
JUN 12...	.030	1.7	1.5	--	<4.0	<.20	<4	<4	<20	160	<1.0	<1.0	6.4
AUG 14...	.020	1.5	1.4	--	<4.0	<.20	<4	<4	20	80	<1.0	<1.0	4.4

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
01457790	Cooks Creek at Durham Furnace, PA (LAT 40 34 56N LONG 075 12 20W)					
APR 2002						
30...	10	<4.0	<4.0	--	<5.0	<5
MAY						
23...	<10	<4.0	<4.0	<5.0	5.2	<5
JUN						
24...	<10	<4.0	<4.0	<5.0	<5.0	<5
JUL						
23...	<10	<4.0	<4.0	<5.0	<5.0	<5
AUG						
26...	<10	<4.0	<4.0	<5.0	<5.0	<5
01458900	Tinicum Creek near Ottsville, PA (LAT 40 28 14N LONG 075 08 13W)					
APR 2002						
30...	<10	<4.0	<4.0	6.2	8.4	<5
MAY						
23...	<10	<4.0	<4.0	5.7	7.7	<5
JUN						
24...	<10	<4.0	<4.0	<5.0	<5.0	<5
JUL						
23...	<10	<4.0	<4.0	<5.0	<5.0	15
AUG						
26...	20	<4.0	<4.0	<5.0	20	<5
01472150	French Creek at Coventryville, PA (LAT 40 10 16N LONG 075 41 26W)					
APR 2002						
11...	20	<4.0	<4.0	<5.0	<5.0	<5
MAY						
15...	40	<4.0	<4.0	<5.0	6.3	<5
JUN						
11...	30	<4.0	<4.0	<5.0	5.2	<5
JUL						
11...	20	<4.0	<4.0	<5.0	<5.0	<5
AUG						
14...	20	<4.0	<4.0	<5.0	<5.0	<5
SEP						
03...	10	<4.0	<4.0	10	10	<5
01473030	Perkiomen Creek at Arcola near Collegeville, PA (LAT 40 09 11N LONG 075 27 21W)					
APR 2002						
09...	20	--	<50	--	<10	--
JUN						
27...	30	--	<50	--	<10	--
AUG						
27...	30	--	<50	--	20	--
01473170	Valley Creek at Wilson Road near Valley Forge, PA (LAT 40 04 53N LONG 075 27 25W)					
APR 2002						
10...	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN						
12...	10	<4.0	<4.0	<5.0	<5.0	<5
AUG						
14...	<10	<4.0	<4.0	--	--	<5

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WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS-URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
01474010 Schuylkill River at Falls Bridge, Philadelphia, PA (LAT 40 00 30N LONG 075 11 52W)														
APR 2002	08...	1350	9813	1540	--	40	12.6	8.0	367	12.0	120	--	30.0	--
JUN	13...	1400	9813	1410	--	40	7.8	7.6	392	24.6	140	--	33.0	--
AUG	15...	1120	9813	73	--	40	8.2	8.1	690	29.2	210	--	45.3	--
01494990 Big Elk Creek near Lewisville, PA (LAT 39 43 48N LONG 075 50 54W)														
APR 2002	24...	0920	9813	7.8	--	30	12.2	7.5	173	9.6	61	--	14.3	--
JUN	25...	1030	9813	10	--	30	10.4	8.3	176	23.6	58	--	12.3	--
AUG	28...	0825	9813	5.2	--	30	7.3	7.4	175	22.2	53	--	12.0	--

MISCELLANEOUS STATION ANALYSES

Date	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	
01474010 Schuylkill River at Falls Bridge, Philadelphia, PA (LAT 40 00 30N LONG 075 11 52W)														
APR 2002	08...	12.2	--	60	--	.2	45.5	250	<2	.110	2.84	.080	3.6	.17
JUN	13...	13.7	--	74	--	<.2	49.7	310	4	.110	3.02	.120	3.9	.26
AUG	15...	22.8	--	102	--	.2	103	446	8	.030	4.24	.090	4.7	.61
01494990 Big Elk Creek near Lewisville, PA (LAT 39 43 48N LONG 075 50 54W)														
APR 2002	24...	6.2	--	32	--	--	10.0	120	<2	<.020	3.28	<.040	3.3	<.01
JUN	25...	6.6	--	36	--	--	8.9	134	10	<.020	2.63	<.040	2.8	.02
AUG	28...	5.6	--	40	--	--	10.3	92	10	.290	1.39	<.040	1.8	.03

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

MISCELLANEOUS STATION ANALYSES

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)
01474010 Schuylkill River at Falls Bridge, Philadelphia, PA (LAT 40 00 30N LONG 075 11 52W)													
APR 2002 08...	.220	3.0	--	--	--	--	--	<10	--	160	--	<1.0	--
JUN 13...	.270	3.9	--	--	--	--	--	<10	--	200	--	<1.0	--
AUG 15...	.720	4.7	--	--	--	--	--	<10	--	80	--	<1.0	--
01494990 Big Elk Creek near Lewisville, PA (LAT 39 43 48N LONG 075 50 54W)													
APR 2002 24...	.030	2.6	--	--	--	--	--	<10	--	320	--	<1.0	--
JUN 25...	.030	2.2	--	--	--	--	--	<10	--	300	--	<1.0	--
AUG 28...	.060	3.9	--	--	--	--	--	<10	--	410	--	<1.0	--

MISCELLANEOUS STATION ANALYSES

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
01474010 Schuylkill River at Falls Bridge, Philadelphia, PA (LAT 40 00 30N LONG 075 11 52W)						
APR 2002 08...	90	--	<50	--	<10	<5
JUN 13...	80	--	<50	--	10	<5
AUG 15...	60	--	<50	--	<10	<5
01494990 Big Elk Creek near Lewisville, PA (LAT 39 43 48N LONG 075 50 54W)						
APR 2002 24...	50	--	<50	--	<10	--
JUN 25...	30	--	<50	--	<10	--
AUG 28...	140	--	<50	--	<10	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT**

Traditionally, wastewater has been treated and discharged to streams. However, a rapidly growing suburban population in southeastern Pennsylvania is generating an increasing quantity of wastewater. Discharge to streams often degrades stream-water quality. A government-wide move is underway to limit the quantity of nutrients discharged to streams. In addition, many streams are being designated as high or exceptional value streams. An alternative to stream discharge is land application of treated effluent. An increasing number of communities in Pennsylvania are implementing land-treatment systems to dispose of treated sewage effluent. Disposal of treated effluent by spraying onto the land surface recharges the ground-water system and provides an extra purifying step in the wastewater treatment process and does not directly degrade stream-water quality.

The USGS, in cooperation with the Chester County Water Resources Authority and the Pennsylvania Department of Environmental Protection (PaDEP), conducted a study on the effects of treated sewage effluent sprayed on the land surface in New Garden Township, Chester County, Pennsylvania. New Garden Township did not contribute funding to the study, but graciously allowed the use of their spray-irrigation site as a study site. The New Garden Township site lies west of Kennett Square Borough just north of Baltimore Pike (fig. 10). The site covers approximately 58 acres. The PaDEP issued a permit for a maximum application rate of 300,000 gallons of effluent per day. Application began in May of 1999. The USGS collected data at the site through December 2001.

The objectives of this study were to determine the percentage of applied effluent that recharges the ground-water system and the percentage that was lost to evapotranspiration using a monthly water-budget approach, to characterize the effect of land treatment on ground-water and surface-water quality, and to determine the fate and transport of nitrogen as it moved from effluent into soil, soil water, ground water, crops and the atmosphere by determining and quantifying a nitrogen budget.

The site was intensively instrumented in order to reach project objectives. The USGS drilled 6 shallow (CH5173, CH5175, CH5177, CH5179, CH5180, and CH5181) and 4 bedrock wells (CH5172, CH5174, CH5176, and CH5178) at the New Garden Township site to monitor ground-water quality and ground-water-level fluctuations within the spray application area. A deep (CH5182) and shallow (CH5183) well pair acted as control wells outside the application area. Data for water year 2002 for these wells are presented in this report on pages 472-496. A system of suction lysimeters was installed at four locations in the application area with additional lysimeters installed as control lysimeters outside the application area (fig. 10). Lysimeters were installed at depths ranging from 3 to 15 feet. Lysimeter data are presented in this report, pages 428-435.

A surface-water flow-measuring station (01479678) was installed on the stream located downgradient in respect to ground-water-flow directions to measure the quantity of streamflow leaving the approximately 45 acre site (0.07 mi²). A stilling well was installed in a pond (station 01479677) downgradient of the spray fields to measure pond level fluctuations. A flume (station 01479676) was installed at the lowest elevation point of the field site above the pond. A swale directed overland flow from part of the study site (0.03 mi²) through the flume and stage was recorded electronically. Data for these surface-water sites can be found on pages 318-328.

Ground-water and surface-water sampling on a monthly basis were used to characterize changes in ground-water and surface-water quality. Storm samples were also collected using an automatic sampler at the flume station 01479676. Treated sewage effluent and precipitation were sampled on a monthly basis to quantify nutrient inputs to the site.

Other data collected electronically at the site included precipitation amounts, numerous other meteorological parameters such as wind speed and wind direction, soil moisture, and applied effluent. Soil and plant samples were collected in the application field and in control areas in order to determine the mass of nitrogen in the soil-plant system.

System design engineers and regulators are in need of data on monthly and seasonal variations in recharge and evapotranspiration for use in designing and managing spray irrigation systems. Quantifying monthly evapotranspiration rates will provide additional field data to assist regulators in permitting new spray irrigation systems. Results from the monthly water budgets could potentially change the present regulations regarding application rates. For water managers, the monthly water budgets could provide a ground-water recharge percentage for issuances of water-use credits. Assessments of nutrient loading to ground water and surface water would quantify the percentage of nutrients applied to the land surface that enters and moves through the ground-water system to the surface-water system.

For additional information, contact Curtis Schreffler at the U.S. Geological Survey, 215 Limekiln Road, New Cumberland, PA; 717-730-6900 (electronic mail: clschref@usgs.gov).

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
 NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued

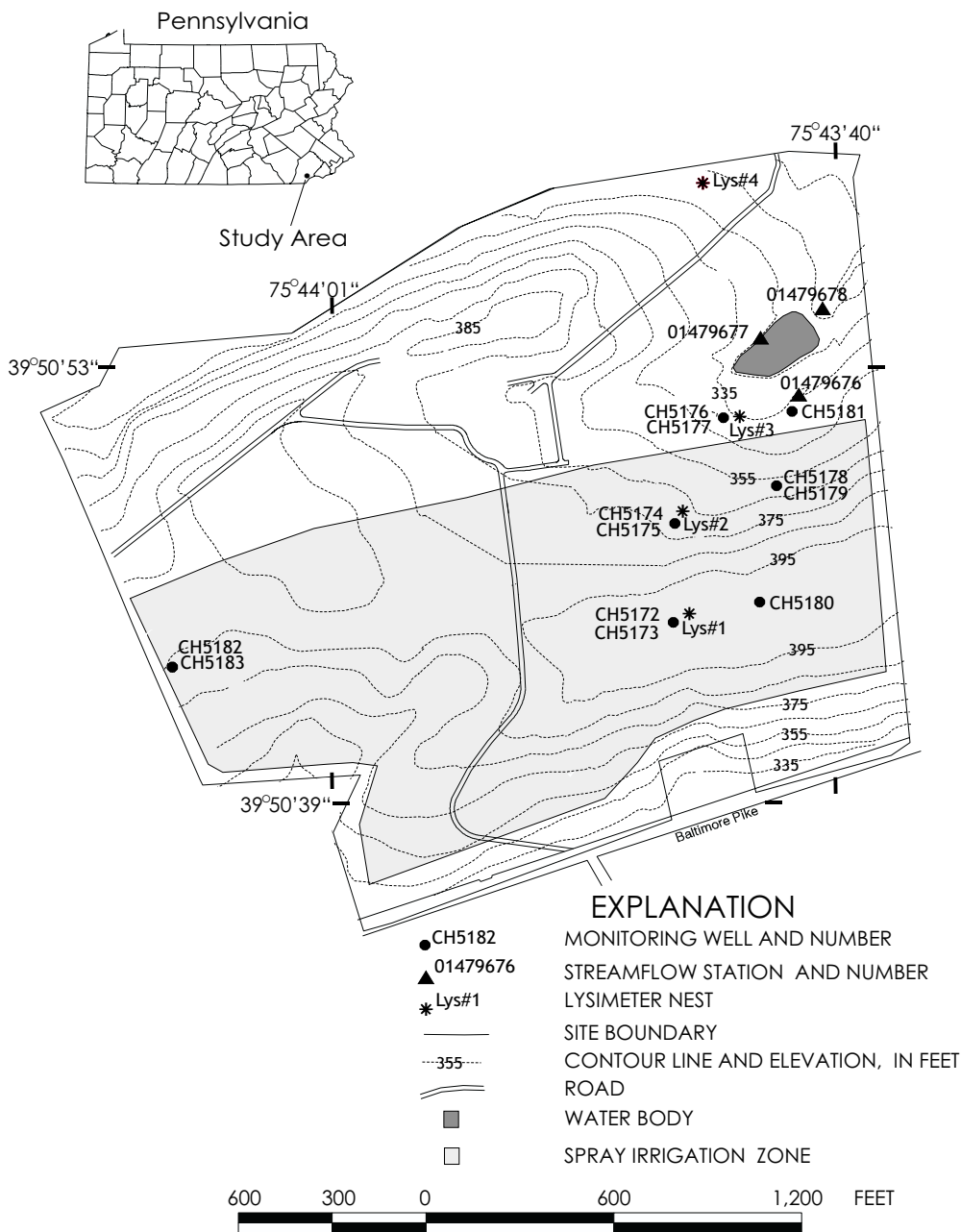


Figure 10.--Locations of ground-water wells, surface-water sites, and soil suction-lysimeter nests for the spray irrigation project in New Garden Township, Chester County.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued

TABLE 4.--Description of soil suction lysimeters located at the Spray Irrigation Project site.

REMARKS.--Lysimeter locations Lys#1 and Lys#2 are located in the spray field. Lysimeter locations Lys#3 and Lys#4 are located outside of the spray zones. See figure 10 for location of lysimeters at field site.

LYSIMETER		LOCAL ID	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH
NEST					OF WELL (FEET)
Lys#1	CH	5211	395045	0754347	3.0
	CH	5212	395045	0754347	7.0
	CH	5213	395045	0754347	11.0
Lys#2	CH	5215	395048	0754347	3.0
	CH	5216	395048	0754347	7.0
	CH	5217	395048	0754347	11.0
	CH	5218	395048	0754347	15.0
Lys#3	CH	5219	395052	0754345	3.0
	CH	5564	395052	0754345	6.0
	CH	5565	395052	0754345	9.5
	CH	5566	395052	0754345	13.0
Lys#4	CH	5568	395100	0754346	7.0
	CH	5570	395100	0754346	15.0

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395045075434703 -- CH 5211

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED-UCTIION POTEN-TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1015	9813	1028	--	6.2	437	--	53.6	<.020
NOV 29...	1030	9813	1028	--	--	--	--	58.7	<.020
DEC 12...	0800	9813	1028	227	--	--	7.3	63.4	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	BORON, DIS-SOLVED (µG/L AS B) (01020)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	.34	.23	<.040	1.4	--	--
NOV 29...	.55	.17	<.040	--	--	--
DEC 12...	.44	.23	<.040	--	200	30

395045075434704 -- CH 5212

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED-UCTIION POTEN-TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1020	9813	1028	--	--	--	--	71.8	<.020
NOV 29...	1040	9813	1028	275	6.0	374	13.6	55.1	<.020
DEC 12...	0820	9813	1028	247	5.8	--	8.0	52.1	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT 2001 11...	.78	.57	<.040
NOV 29...	.92	.67	<.040
DEC 12...	1.1	.71	<.040

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395045075434705 -- CH 5213

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED-UCTION POTENTIAL (MV) (00090)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCTANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1030	9813	1028	--	--	--	--	91.9	<.020
NOV 29...	1050	1028	1028	270	5.8	420	14.3	--	--
DEC 12...	0830	1028	1028	264	5.7	420	9.7	--	--

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT 2001 11...	1.6	1.30	<.040
NOV 29...	--	--	--
DEC 12...	--	--	--

395048075434703 -- CH 5215

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED-UCTION POTENTIAL (MV) (00090)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCTANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1045	9813	1028	--	6.2	633	--	104	<.020
NOV 29...	1115	9813	1028	258	6.3	577	12.5	101	<.020
DEC 12...	0845	9813	1028	239	6.4	563	8.5	103	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	1.3	.98	<.040	1.6	<200	30	<10	10
NOV 29...	2.0	1.57	<.040	--	<200	--	--	<10
DEC 12...	1.5	1.12	<.040	--	200	--	--	<10

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395048075434704 -- CH 5216

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	OXID-ATION RED-UCTIION POTEN-TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1050	9813	1028	--	6.5	741	--	99.0	<.020
NOV 27...	0900	1028	1028	--	--	--	--	--	--
29...	1125	9813	1028	--	--	--	--	94.5	<.020
DEC 12...	0855	9813	1028	223	6.9	--	8.5	101	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	BORON, DIS-SOLVED (µG/L AS B) (01020)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	N15/N14 NO3 FRAC WATER FLTRD 0.45 µ PER MIL (82690)
OCT 2001 11...	1.5	1.23	<.040	<200	<10	--
NOV 27...	--	--	--	--	--	14.50
29...	2.5	2.16	<.040	--	--	--
DEC 12...	3.2	2.60	<.040	200	10	--

395048075434705 -- CH 5217

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	OXID-ATION RED-UCTIION POTEN-TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1100	9813	1028	--	6.3	514	--	88.5	<.020
NOV 29...	1135	9813	1028	275	6.3	--	14.6	80.9	<.020
DEC 12...	0905	9813	1028	205	6.4	--	9.9	91.6	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT 2001 11...	2.2	1.93	<.040
NOV 29...	2.0	1.70	<.040
DEC 12...	1.9	1.49	<.040

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395048075434706 -- CH 5218

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED- UCTION POTEN- TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1150	9813	1028	--	--	--	--	63.1	<.020
NOV 29...	1150	9813	1028	280	6.0	--	14.3	59.4	<.020
DEC 12...	0915	9813	1028	238	6.0	327	10.8	58.4	<.020

Date	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	BORON, DIS- SOLVED (µG/L AS B) (01020)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	2.1	1.93	<.040	<200	<10
NOV 29...	2.3	1.93	<.040	--	--
DEC 12...	2.5	1.91	<.040	--	--

395052075434503 -- CH 5219

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED- UCTION POTEN- TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1230	9813	1028	--	6.1	304	--	.5	<.020
NOV 29...	1230	9813	1028	245	6.4	288	12.7	<.5	<.020
DEC 12...	0950	9813	1028	242	6.1	271	10.9	<.5	<.020

Date	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	BORON, DIS- SOLVED (µG/L AS B) (01020)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	.19	<.04	<.040	1.1	<200	<20	10	<10
NOV 29...	.20	<.04	<.040	--	<200	--	--	20
DEC 12...	.16	<.04	<.040	1.0	200	<20	<10	<10

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395052075434504 -- CH 5564

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	OXID-ATION RED-UCTION POTENTIAL (MV) (00090)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCTANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1245	9813	1028	--	5.8	233	--	10.2	<.020
NOV 27...	0840	1028	1028	--	--	--	--	--	--
29...	1245	9813	1028	263	6.0	231	13.4	11.7	<.020
DEC 12...	1000	9813	1028	264	5.7	228	11.3	12.2	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	BORON, DIS-SOLVED (µG/L AS B) (01020)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	N15/N14 NO3 FRAC WATER FLTRD 0.45 µ PER MIL (82690)
OCT 2001 11...	5.9	4.17	<.040	<1.0	<200	<20	<10	<10	--
NOV 27...	--	--	--	--	--	--	--	--	8.40
29...	3.4	3.05	<.040	<1.0	<200	<20	<10	<10	--
DEC 12...	3.7	2.96	<.040	<1.0	200	<20	<10	<10	--

395052075434505 -- CH 5565

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (00028)	AGENCY COL-LECTING SAMPLE NUMBER (00027)	OXID-ATION RED-UCTION POTENTIAL (MV) (00090)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCTANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1300	9813	1028	--	--	--	--	24.2	<.020
NOV 29...	1255	9813	1028	247	6.4	--	14.2	27.9	<.020
DEC 12...	1010	9813	1028	264	6.1	340	12.1	31.5	<.020

Date	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	BORON, DIS-SOLVED (µG/L AS B) (01020)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...		3.6	3.28	<.040	<10
NOV 29...		4.0	3.24	<.040	--
DEC 12...		4.1	3.28	<.040	200

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395052075434506 -- CH 5566

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED- UCTION POTEN- TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 2001 11...	1310	9813	1028	--	6.1	318	--	25.6	<.020
NOV 29...	1300	9813	1028	266	5.7	323	14.7	28.0	<.020
DEC 12...	1020	9813	1028	274	5.9	314	12.6	30.4	<.020

Date	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	BORON, DIS- SOLVED (µG/L AS B) (01020)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	3.6	3.20	<.040	<200	<10
NOV 29...	3.7	3.25	<.040	<200	<10
DEC 12...	4.1	3.25	<.040	200	<10

395100075434604 -- CH 5568

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXID-ATION RED- UCTION POTEN- TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 2001 11...	1330	9813	1028	--	--	--	--	.8
NOV 29...	1330	1028	1028	240	6.8	--	14.2	--
DEC 12...	1040	1028	1028	231	6.8	274	11.5	--

Date	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	BORON, DIS- SOLVED (µG/L AS B) (01020)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	3.6	3.20	<.040	<200	<10
NOV 29...	3.7	3.25	<.040	<200	<10
DEC 12...	4.1	3.25	<.040	200	<10

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
NEW GARDEN TOWNSHIP, CHESTER COUNTY, SPRAY IRRIGATION PROJECT--Continued**

395100075434606 -- CH 5570

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 2001 11...	1340	1028	1028	--	6.5	--	--
DEC 12...	1100	1028	1028	233	6.4	230	11.5

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK**

Water-quality and benthic macroinvertebrate samples were collected from selected streams in Chester County in October and November 2001 as part of the Stream Conditions of Chester County Biological Monitoring Network. The biological monitoring program was initiated in 1969 with the goals of evaluating stream quality and long-term changes in stream quality of selected streams in Chester County. Benthic macroinvertebrates are macroscopic animals that inhabit the bottoms of aquatic habitats. Freshwater forms include aquatic insects, clams, crustaceans, snails, and worms. Samples are collected annually from similar habitats of the selected streams. Benthic macroinvertebrate sampling was conducted following a single habitat approach. A cobble riffle habitat was used because macroinvertebrate diversity and abundance is usually highest there. Samples were collected using a Hess sampler with a mesh size of 500 mm. Four samples were collected from areas of various velocities from within the riffle. Samples were composited and the entire sample was sorted and identified. Identification were made to the lowest practical level (family or genus) by a U.S. Geological Survey biologist.

TABLE 5.--Stream conditions of Chester County biological monitoring network station list.

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DRAINAGE AREA (mi ²)
01472080	PIGEON CREEK NEAR SLONAKER, PA	40°12'03"	75°37'10"	12.0
^a 01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA	40°09'05"	75°36'06"	59.1
01472190	PICKERING CREEK NEAR PHOENIXVILLE, PA	40°06'33"	75°31'42"	31.4
^a 01473169	VALLEY CREEK AT PA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA	40°04'45"	75°27'40"	20.8
^a 01475850	CRUM CREEK NEAR NEWTOWN SQUARE, PA	39°58'35"	75°26'13"	15.8
01476450	RIDLEY CREEK AT PA ROUTE 3 NEAR WILLISTOWN, PA	39°58'01"	75°28'58"	13.9
01476835	EAST BRANCH CHESTER CREEK AT WESTTOWN, PA	39°56'26"	75°32'30"	10.4
01478120	EAST BRANCH WHITE CLAY CREEK AT AVONDALE, PA	39°49'42"	75°46'52"	11.3
01478230	MIDDLE BRANCH WHITE CLAY CREEK NEAR AVONDALE, PA	39°45'02"	75°46'19"	25.5
01479700	WEST BRANCH RED CLAY CR NR KENNETT SQUARE, PA	39°48'39"	75°42'18"	16.9
01479800	EAST BRANCH RED CLAY CREEK NEAR FIVE POINTS, PA	39°49'10"	75°41'29"	10.2
^a 01480300	WEST BRANCH BRANDYWINE CR NR HONEY BROOK, PA	40°04'22"	75°55'40"	18.7
^a 01480617	WEST BRANCH BRANDYWINE CREEK AT MODENA, PA	39°57'42"	75°48'06"	55.0
01480629	BUCK RUN AT DOE RUN, PA	39°55'46"	75°49'24"	22.6
01480636	BROAD RUN AT ROMANSVILLE, PA	39°57'06"	75°43'33"	2.86
0148063750	BROAD RUN AT MARSHALLTON, PA	39°56'48"	75°42'11"	5.45
01480638	BROAD RUN AT NORTHBROOK, PA	39°55'49"	75°41'06"	6.39
01480653	EAST BRANCH BRANDYWINE CR AT GLENMOORE, PA	40°05'48"	75°46'44"	16.5
01480743	BEAVER CREEK AT REECEVILLE, PA	40°01'59"	75°47'22"	2.63
01480745	BEAVER CREEK AT GUTHRIESVILLE, PA	40°01'45"	75°46'49"	3.19
01480750	BEAVER CREEK AT BONDSVILLE, PA	40°01'14"	75°46'03"	4.70
^a 01480870	EAST BRANCH BRANDYWINE CR BL DOWNINGTOWN, PA	39°58'07"	75°40'25"	89.9
01494953	BIG ELK CREEK AT MAPLE GROVE, PA	39°45'44"	75°55'16"	26.6

^a Other data for this station can be found in the continuous station records section of this report.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
 STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

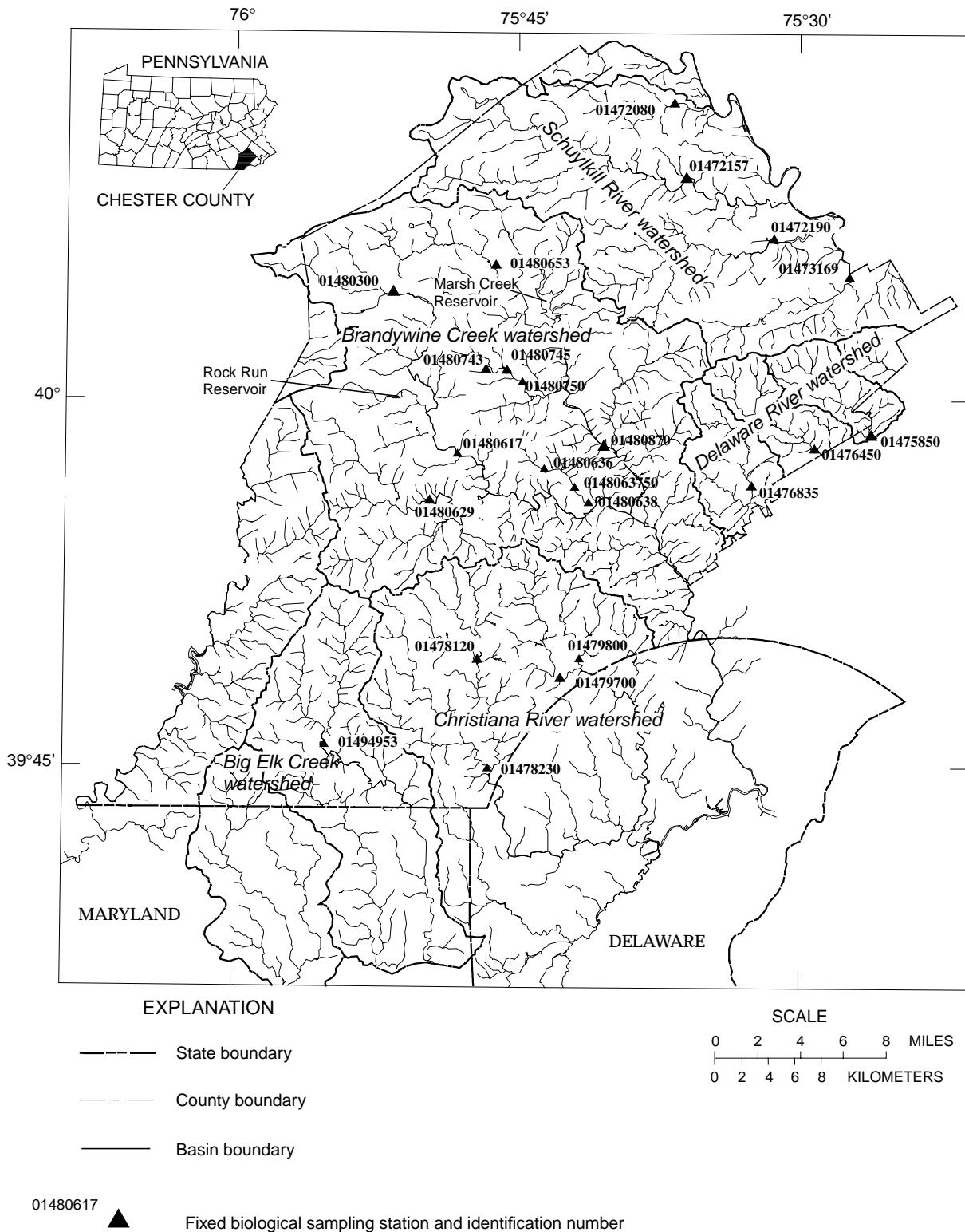


Figure 11.--Biological sampling locations and major drainage basin divides in Chester County.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)
		01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)											
OCT 2001	1100	80020	1028	3.0	10.0	7.3	169	13.1	15.5	5.01	1.94	8.47	49
		01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)											
OCT 2001	0845	80020	1028	11	8.7	7.6	272	7.9	26.5	8.06	2.62	11.5	69
		01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)											
OCT 2001	1115	80020	1028	4.7	10.8	7.6	325	12.2	22.8	12.0	2.91	20.8	55
		01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)											
OCT 2001	0845	80020	1028	2.3	8.7	7.2	426	10.5	32.4	14.4	3.69	22.9	68
		01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)											
OCT 2001	0915	80020	1028	5.4	9.6	7.9	394	14.0	41.3	17.6	2.75	8.88	113
		01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)											
OCT 2001	1230	80020	1028	12	10.9	7.6	225	15.5	19.1	7.70	3.34	10.1	42
		01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)											
OCT 2001	1215	80020	1028	7.9	9.3	7.8	467	14.5	40.5	16.9	8.75	20.4	118
		01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)											
OCT 2001	0930	80020	1028	3.4	8.8	7.5	394	13.0	38.5	14.7	4.32	13.0	95
		01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)											
OCT 2001	0915	80020	1028	8.5	9.8	7.3	249	15.0	24.3	8.43	2.35	9.35	42
		01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)											
OCT 2001	1230	80020	1028	.55	10.5	7.4	193	10.0	15.1	7.93	1.40	8.05	34
		0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)											
OCT 2001	1100	80020	1028	1.4	12.0	7.3	229	7.0	18.7	8.45	1.79	9.89	50
		01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)											
OCT 2001	0845	80020	1028	1.7	10.5	7.2	213	5.5	17.2	7.82	1.96	9.33	42
		01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)											
OCT 2001	0845	80020	1028	5.4	9.8	7.6	217	12.5	21.7	6.73	2.19	9.01	55

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BORON, DIS- SOLVED (µG/L AS B) (01020)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)
	01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)												
OCT 2001 12...	10.4	17.9	16.2	<.04	1.81	<.008	.02	--	--	20	--	--	--
	01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)												
OCT 2001 19...	27.9	18.1	19.0	<.04	.89	<.008	<.02	--	--	20	--	--	--
	01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)												
OCT 2001 11...	38.4	14.9	21.0	<.04	3.75	E.007	.23	--	--	60	--	--	--
	01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)												
OCT 2001 11...	58.9	15.3	27.2	<.04	4.09	.010	.37	--	--	60	--	--	--
	01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)												
OCT 2001 05...	22.9	14.0	26.8	E.02	4.77	.016	<.02	--	--	20	--	--	--
	01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)												
OCT 2001 05...	18.6	12.3	16.9	<.04	4.21	E.004	.06	--	--	30	--	--	--
	01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)												
OCT 2001 23...	41.6	12.3	42.7	<.04	4.65	.046	.80	20	<2	50	<.1	E.6	E1.3
	01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)												
OCT 2001 23...	35.8	14.3	36.1	<.04	2.75	.013	E.01	M	<2	20	<.1	<.8	1.7
	01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)												
OCT 2001 04...	20.4	9.2	15.9	E.03	4.50	.011	<.02	--	--	20	--	--	--
	01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)												
OCT 2001 29...	18.9	9.3	13.8	<.04	2.73	E.005	<.02	--	--	30	--	--	--
	0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)												
OCT 2001 29...	22.6	11.8	17.2	<.04	2.50	<.008	<.02	--	--	30	--	--	--
	01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)												
OCT 2001 29...	20.5	11.4	18.6	<.04	2.08	E.005	<.02	--	--	30	--	--	--
	01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)												
OCT 2001 03...	14.8	20.3	16.0	<.04	3.33	E.004	E.01	--	--	20	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MISCELLANEOUS STATION ANALYSES

Date	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (µG/L AS MO) (01060)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
01472080 Pigeon Creek near Slonaker, PA (LAT 40 12 03N LONG 075 37 10W)							
OCT 2001 12...	24	--	--	--	--	--	--
01472190 Pickering Creek near Phoenixville, PA (LAT 40 06 33N LONG 075 31 42W)							
OCT 2001 19...	24	--	--	--	--	--	--
01476450 Ridley Creek at Rt 3 near Willistown, PA (LAT 39 58 01N LONG 075 28 58W)							
OCT 2001 11...	28	--	--	--	--	--	--
01476835 East Branch Chester Creek at Westtown, PA (LAT 39 56 26N LONG 075 32 30W)							
OCT 2001 11...	26	--	--	--	--	--	--
01478120 East Branch White Clay Creek at Avondale, PA (LAT 39 49 42N LONG 075 46 52W)							
OCT 2001 05...	34	--	--	--	--	--	--
01478230 Middle Branch White Clay Creek near Avondale, PA (LAT 39 45 02N LONG 075 46 19W)							
OCT 2001 05...	16	--	--	--	--	--	--
01479700 West Branch Red Clay Creek near Kennett Square, PA (LAT 39 48 39N LONG 075 42 18W)							
OCT 2001 23...	30	<1	13.9	<.01	2.2	<2.0	<24
01479800 East Branch Red Clay Creek near Five Points, PA (LAT 39 49 10N LONG 075 41 29W)							
OCT 2001 23...	20	<1	11.9	<.01	1.9	<2.0	<24
01480629 Buck Run at Doe Run, PA (LAT 39 55 46N LONG 075 49 24W)							
OCT 2001 04...	73	--	--	--	--	--	--
01480636 Broad Run at Romansville, PA (LAT 39 57 06N LONG 075 43 33W)							
OCT 2001 29...	15	--	--	--	--	--	--
0148063750 Broad Run near Marshallton, PA (LAT 39 56 48N LONG 075 42 11W)							
OCT 2001 29...	23	--	--	--	--	--	--
01480638 Broad Run at Northbrook, PA (LAT 39 55 49N LONG 075 41 06W)							
OCT 2001 29...	27	--	--	--	--	--	--
01480653 East Branch Brandywine Creek at Glenmoore, PA (LAT 40 05 48N LONG 075 46 44W)							
OCT 2001 03...	40	--	--	--	--	--	--

**ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CAC03) (00419)
		01480743 Beaver Creek at Reeceville, PA (LAT 40 01 58N LONG 075 47 22W)											
NOV 2001 01...	1245	80020	1028	.49	10.2	7.1	272	11.0	23.6	8.90	3.65	10.2	34
		01480745 Beaver Creek at Guthriesville, PA (LAT 40 01 44N LONG 075 46 48W)											
NOV 2001 01...	1115	80020	1028	.81	11.6	7.5	257	11.0	22.8	8.75	3.96	9.81	48
		01480750 Beaver Creek at Bondsville, PA (LAT 40 01 14N LONG 075 46 03W)											
NOV 2001 01...	0915	80020	1028	.92	10.0	7.1	243	7.5	21.4	8.28	3.80	9.50	40
		01494953 Big Elk Creek at Maple Grove, PA (LAT 39 45 44N LONG 075 55 16W)											
OCT 2001 24...	1230	80020	1028	9.4	10.1	7.3	195	16.0	13.5	6.85	3.19	9.62	27

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MISCELLANEOUS STATION ANALYSES

Date	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (µG/L AS B) (01020)	IRON, DIS- SOLVED (µG/L AS FE) (01046)
	01480743 Beaver Creek at Reeceville, PA (LAT 40 01 58N LONG 075 47 22W)								
NOV 2001 01...	20.1	17.9	25.6	<.04	9.03	.017	<.02	20	E10
	01480745 Beaver Creek at Guthriesville, PA (LAT 40 01 44N LONG 075 46 48W)								
NOV 2001 01...	20.2	10.6	26.4	<.04	4.16	.067	<.02	20	75
	01480750 Beaver Creek at Bondsville, PA (LAT 40 01 14N LONG 075 46 03W)								
NOV 2001 01...	19.1	12.3	25.4	<.04	4.14	E.007	<.02	20	22
	01494953 Big Elk Creek at Maple Grove, PA (LAT 39 45 44N LONG 075 55 16W)								
OCT 2001 24...	20.1	8.1	8.9	<.04	4.91	.012	.02	20	20

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES

REMARKS:--Samples were collected using a Hess sampler with a mesh size of 500 μm . Each sample covered a total area of 3.2 m². A dash (--) indicates there were no observations of the organism in the sample.

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	--	29	13	16	76	6
Nematoda (NEMATODES)	60	26	134	33	20	39
Nemertea (PROBOSAS WORMS)						
Enopla						
Hoploneurata						
Tetrastemmatidae						
<u>Prostoma</u> sp	9	14	3	3	7	11
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<u>Ferrissia</u> sp	--	2	28	1	--	1
Lymnaeidae						
<u>Fossaria</u> sp	--	--	3	--	--	--
Planorbidae						
<u>Gyraulus</u> sp	--	--	--	--	--	--
Bivalvia (CLAMS)						
Veneroida						
Sphaeriidae	--	1	--	4	--	1
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Tubificida						
Naididae	--	--	--	--	--	2
Tubificidae	--	--	--	--	--	--
Hirudinea (LEECHES)						
Arhynchobdellida						
Erpobdellidae	--	--	--	--	--	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	135	153	67	4	32	122
Crustacea						
Amphipoda (SCUDS)						
Crangonyctidae						
<u>Crangonyx</u> sp	--	--	2	4	--	--
<u>Stygonectes</u> sp	--	--	--	--	--	1
Gammaridae						
<u>Gammarus</u> sp	--	2	--	--	--	--
Isopoda (AQUATIC SOWBUGS)						
Asellidae						
<u>Caecidotea</u> sp	--	--	--	--	--	--
Decapoda						
Cambaridae (CRAYFISH)	2	--	2	--	--	1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Platyhelminthes
					Turbellaria (FLATWORMS)
					Tricladida
34	1	40	--	26	Planariidae
28	8	50	1	61	Nematoda (NEMATODES)
					Nemertea (PROBOSAS WORMS)
					Enopla
					Hoplonemertea
					Tetrastemmatidae
--	9	--	1	10	<u>Prostoma</u> sp
					Mollusca
					Gastropoda (SNAILS)
					Basommatophora
					Ancyliidae
1	5	18	--	--	<u>Ferrissia</u> sp
					Lymnaeidae
--	--	--	--	--	<u>Fossaria</u> sp
					Planorbidae
1	--	1	--	--	<u>Gyraulus</u> sp
					Bivalvia (CLAMS)
					Veneroida
--	8	19	--	--	Sphaeriidae
					Annelida
4	5	7	9	9	Oligochaeta (AQUATIC EARTHWORMS)
					Tubificida
42	--	--	--	--	Naididae
35	--	--	--	--	Tubificidae
					Hirudinea (LEECHES)
					Arhynchobdellida
2	--	--	--	--	Erpobdellidae
					Arthropoda
					Acariformes
111	22	17	30	104	Hydrachnidia (WATER MITES)
					Crustacea
					Amphipoda (SCUDS)
					Crangonyctidae
--	--	--	--	--	<u>Crangonyx</u> sp
--	5	--	--	--	<u>Stygonectes</u> sp
					Gammaridae
--	7	--	--	--	<u>Gammarus</u> sp
					Isopoda (AQUATIC SOWBUGS)
					Asellidae
89	--	--	--	1	<u>Caecidotea</u> sp
					Decapoda
--	--	--	--	--	Cambaridae (CRAYFISH)

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<u>Baetis</u> sp	16	6	36	46	17	20
<u>Pseudocloeon</u> sp	10	32	--	3	5	25
Caenidae						
<u>Caenis</u> sp	--	--	10	--	--	1
Ephemerellidae						
<u>Eurylophella</u> sp	--	--	6	--	--	--
<u>Serratella</u> sp	171	207	86	--	210	34
Heptageniidae						
<u>Epeorus</u> sp	19	5	--	--	--	--
<u>Stenonema</u> sp	338	148	128	39	57	64
Isonychiidae						
<u>Isonychia</u> sp	128	28	23	--	--	73
Leptohyphidae						
<u>Tricorythodes</u> sp	--	--	19	--	2	2
Leptophlebiidae						
<u>Paraleptophlebia</u> sp	4	--	--	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
<u>Argia</u> sp	--	--	25	1	--	--
Gomphidae						
<u>Stylogomphus</u> sp	2	--	--	--	--	--
Plecoptera (STONEFLIES)						
Chloroperlidae						
Leuctridae	--	5	12	--	--	--
Perlidae						
<u>Acroneuria</u> sp	15	31	3	--	--	2
<u>Agnetina</u> sp	6	7	--	--	--	--
<u>Beloneuria</u> sp	--	--	--	--	--	--
<u>Paragnetina</u> sp	18	10	--	--	--	--
Taeniopterygidae						
<u>Strophopteryx</u> sp	--	--	--	--	--	--
<u>Taeniopteryx</u> sp	--	120	1	2	1	4
Hemiptera (TRUE BUGS)						
Velidae						
<u>Rhagovelia</u> sp	--	--	--	--	3	2
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<u>Corydalus</u> sp	--	1	--	--	--	4
<u>Nigronia</u> sp	--	--	--	--	--	--
Sialidae (ALDERFLIES)						
<u>Sialis</u> sp	5	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Insecta
					Ephemeroptera (MAYFLIES)
					Baetidae
7	2	9	77	12	<u>Baetis</u> sp
--	--	--	--	--	<u>Pseudocloeon</u> sp
					Caenidae
--	--	1	--	--	<u>Caenis</u> sp
					Ephemerellidae
3	2	--	41	13	<u>Eurylophella</u> sp
--	9	183	665	137	<u>Serratella</u> sp
					Heptageniidae
--	--	5	--	2	<u>Epeorus</u> sp
1	163	84	168	85	<u>Stenonema</u> sp
					Isonychiidae
--	2	59	--	16	<u>Isonychia</u> sp
					Leptohyphidae
--	--	--	--	5	<u>Tricorythodes</u> sp
					Leptophlebiidae
--	--	--	9	--	<u>Paraleptophlebia</u> sp
					Odonata (DRAGONFLIES AND DAMSELFLIES)
					Coenagrionidae
--	--	7	--	--	<u>Argia</u> sp
--	--	1	--	--	Gomphidae
--	--	--	11	--	<u>Stylogomphus</u> sp
					Plecoptera (STONEFLIES)
--	--	--	20	5	Chloroperlidae
--	4	--	--	--	Leuctridae
					Perlidae
--	--	1	--	5	<u>Acroneuria</u> sp
--	--	--	99	30	<u>Agneta</u> sp
--	1	--	--	--	<u>Beloneuria</u> sp
--	--	--	--	--	<u>Paragnetina</u> sp
					Taeniopterygidae
--	--	--	21	--	<u>Strophopteryx</u> sp
--	--	--	23	9	<u>Taeniopteryx</u> sp
					Hemiptera (TRUE BUGS)
					Velidae
--	--	--	1	--	<u>Rhagovelia</u> sp
					Megaloptera
					Corydalidae (FISHFLIES AND DOBSONFLIES)
--	2	14	--	1	<u>Corydalus</u> sp
1	2	--	5	6	<u>Nigronia</u> sp
					Sialidae (ALDERFLIES)
--	--	--	5	--	<u>Sialis</u> sp

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Trichoptera (CADDISFLIES)						
Apataniidae						
<u>Apatania</u> sp	18	12	--	--	--	--
Brachycentridae						
<u>Micrasema</u> sp	--	80	28	--	--	5
Glossosomatidae						
<u>Glossosoma</u> sp	--	15	--	--	--	3
Goeridae						
<u>Goera</u> sp	--	--	--	--	--	--
Hydropsychidae						
<u>Cheumatopsyche</u> sp	828	882	303	89	85	371
<u>Hydropsyche</u> sp	460	1673	307	335	323	685
Hydroptilidae						
<u>Hydroptila</u> sp	5	--	78	2	1	--
<u>Leucotrichia</u> sp	5	103	96	--	6	16
Lepidostomatidae						
<u>Lepidostoma</u> sp	--	--	--	--	--	--
Leptoceridae						
<u>Oecetis</u> sp	--	--	24	--	--	--
Philopotamidae						
<u>Chimarra</u> sp	493	173	76	296	251	66
<u>Dolophilodes</u> sp	42	--	--	--	--	--
Polycentropodidae						
<u>Polycentropus</u> sp	5	--	12	--	--	--
Psychomyiidae						
<u>Psychomyia</u> sp	7	--	34	1	--	8
Rhyacophilidae						
<u>Rhyacophila</u> sp	63	--	--	--	--	--
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
<u>Dubiraphia</u> sp	--	--	--	5	--	--
<u>Macronychus</u> sp	--	--	--	--	--	--
<u>Optioservus</u> sp	387	318	126	233	126	81
<u>Oulimnius</u> sp	119	64	48	24	48	48
<u>Promoresia</u> sp	26	1	--	--	--	--
<u>Stenelmis</u> sp	304	20	233	693	595	16
Hydrophilidae						
<u>Berosus</u> sp	--	--	3	2	--	--
<u>Helophorus</u> sp	--	--	--	--	--	--
Psephenidae (WATER PENNIES)						
<u>Ectopria</u> sp	3	--	--	--	--	--
<u>Psephenus</u> sp	50	37	40	59	51	1
Ptilodactylidae						
<u>Anchytarsus</u> sp	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Trichoptera (CADDISFLIES)
					Apataniidae
--	--	--	--	--	<u>Apatania</u> sp
			42	31	Brachycentridae
--	--	--			<u>Micrasema</u> sp
	5	--	69	35	Glossosomatidae
--					<u>Glossosoma</u> sp
			2	--	Goeridae
--	--	--			<u>Goera</u> sp
					Hydropsychidae
975	570	23	631	192	<u>Cheumatopsyche</u> sp
502	1100	213	537	551	<u>Hydropsyche</u> sp
					Hydroptilidae
6	--	4	--	87	<u>Hydroptila</u> sp
--	1	23	--	10	<u>Leucotrichia</u> sp
			5	7	Lepidostomatidae
--	--	--			<u>Lepidostoma</u> sp
		2	--	--	Leptoceridae
--	--				<u>Oecetis</u> sp
	35	329	81	47	Philopotamidae
--	1	--	92	3	<u>Chimarra</u> sp
--					<u>Dolophilodes</u> sp
	2	34	43	--	Polycentropodidae
--					<u>Polycentropus</u> sp
				9	Psychomyiidae
--	--	--	--		<u>Psychomyia</u> sp
			23	--	Rhyacophilidae
--	--	--			<u>Rhyacophila</u> sp
					Coleoptera (BEETLES)
					Elmidae (RIFFLE BEETLES)
--	1	--	6	--	<u>Dubiraphia</u> sp
1	--	--	1	--	<u>Macronychus</u> sp
18	247	53	660	477	<u>Optioservus</u> sp
3	25	27	133	59	<u>Oulimnius</u> sp
--	--	--	3	13	<u>Promoresia</u> sp
9	217	104	30	62	<u>Stenelmis</u> sp
					Hydrophilidae
1	--	--	--	--	<u>Berosus</u> sp
--	--	--	1	--	<u>Helophorus</u> sp
					Psephenidae (WATER PENNIES)
--	--	--	--	--	<u>Ectopria</u> sp
1	48	20	117	121	<u>Psephenus</u> sp
					Ptilodactylidae
--	1	--	23	--	<u>Anchytarsus</u> sp

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01472080	01472190	01476450	01476835	01478120	01478230
Date	10/12/01	10/19/01	10/11/01	10/11/01	10/05/01	10/05/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Diptera (TRUE FLIES)						
Athericidae						
<u>Atherix</u> sp	5	--	--	--	--	1
Ceratopogonidae	--	--	--	--	--	--
Chironomidae (MIDGES)	406	522	692	82	137	120
Empididae (DANCE FLIES)						
<u>Hemerodromia</u> sp	12	3	19	1	16	18
Simuliidae (BLACK FLIES)						
<u>Simulium</u> sp	10	4	3	25	19	1
Tipulidae (CRANE FLIES)						
<u>Antocha</u> sp	63	44	43	15	41	68
<u>Dicranota</u> sp	7	--	--	--	--	--
<u>Hexatoma</u> sp	--	--	--	1	--	--
<u>Tipula</u> sp	1	--	--	1	1	1
Total organisms	4257	4786	2769	2021	2131	1925
Total number of taxa	39	36	38	30	26	38

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

01479700	01479800	01480629	01480636	0148063750	Station Number
10/23/01	10/23/01	10/04/01	10/29/01	10/29/01	Date
Count	Count	Count	Count	Count	Benthic Macroinvertebrate
					Diptera (TRUE FLIES)
					Athericidae
--	12	--	--	--	<u>Atherix</u> sp
1	--	--	1	--	Ceratopogonidae
995	265	55	240	329	Chironomidae (MIDGES)
					Empididae (DANCE FLIES)
31	6	2	1	1	<u>Hemerodromia</u> sp
					Simuliidae (BLACK FLIES)
9	--	8	7	5	<u>Simulium</u> sp
					Tipulidae (CRANE FLIES)
9	32	6	39	71	<u>Antocha</u> sp
--	--	--	4	1	<u>Dicranota</u> sp
--	--	--	--	--	<u>Hexatoma</u> sp
2	3	--	3	--	<u>Tipula</u> sp
2922	2828	1482	3970	2647	Total organisms
29	36	32	43	39	Total number of taxa

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	12	22	3	7	--	1
Nematoda (NEMATODES)	46	6	2	257	12	60
Nemertea (PROBOSAS WORMS)						
Enopla						
Hoploneurata						
Tetrastemmatidae						
<u>Prostoma</u> sp	3	15	--	9	27	47
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancyliidae						
<u>Ferrissia</u> sp	--	14	--	2	56	13
Lymnaeidae	--	--	--	--	--	3
Physidae						
<u>Physa</u> sp	--	--	2	11	--	--
Planorbidae						
<u>Gyraulus</u> sp	--	--	--	4	--	--
<u>Helisoma</u> sp	--	--	--	--	--	2
Bivalvia (CLAMS)						
Veneroida						
Sphaeriidae	2	--	3	--	4	--
Unionidae	--	--	--	1	--	--
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Tubificida						
Tubificidae	--	--	--	153	--	--
Naididae	--	--	--	--	5	--
Hirudinea (LEECHES)						
Arhynchobdellida						
Erpobdellidae	--	--	1	2	--	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	58	177	15	19	10	18
Crustacea						
Amphipoda (SCUDS)						
Gammaridae						
<u>Hyalolella</u> sp	--	--	--	8	--	--
Decapoda						
Cambaridae (CRAYFISH)	--	--	--	--	1	--
Podocopa (SEED SHRIMP)	--	--	2	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
<u>Baetis</u> sp	5	6	40	--	6	--
<u>Pseudocloeon</u> sp	2	5	--	--	--	1
Caenidae						
<u>Caenis</u> sp	--	19	--	19	--	--
Ephemerellidae						
<u>Dannella</u> sp	29	--	--	--	--	--
<u>Eurylophella</u> sp	--	13	13	3	42	1
<u>Serratella</u> sp	16	51	183	2	176	--
Heptageniidae						
<u>Epeorus</u> sp	1	4	--	--	19	--
<u>Stenacron</u> sp	--	--	--	--	2	--
<u>Stenonema</u> sp	3	247	111	--	203	13
Isonychiidae sp						
<u>Isonychia</u> sp	--	210	6	--	20	17
Leptohyphidae						
<u>Tricorythodes</u> sp	--	8	--	--	--	--
Leptophlebiidae						
<u>Paraleptophlebia</u> sp	--	4	19	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Aeshnidae						
<u>Boyeria</u> sp	--	1	--	--	--	--
Calopterygidae						
<u>Calopteryx</u> sp	--	--	--	1	--	--
Coenagrionidae						
<u>Argia</u> sp	--	1	--	1	--	7
Gomphidae						
<u>Stylogomphus</u> sp	2	--	--	--	--	--
Plecoptera (STONEFLIES)						
Capniidae						
<u>Allocapnia</u> sp	2	--	--	--	5	--
Leuctridae						
<u>Paraleuctra</u> sp	--	--	13	--	--	--
Perlidae						
<u>Acroneuria</u> sp	11	9	--	--	13	--
<u>Agnetina</u> sp	3	--	--	--	--	--
<u>Beloneuria</u> sp	--	--	5	--	--	--
<u>Ecoperla</u> sp	--	--	2	--	--	--
<u>Paragnetina</u> sp	9	--	--	--	--	--
Taeniopterygidae						
<u>Strophopteryx</u> sp	5	--	--	--	15	--
<u>Taeniopteryx</u> sp	11	6	2	--	8	--
Hemiptera (TRUE BUGS)						
Velidae						
<u>Rhagovelia</u> sp	--	--	4	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
<u>Corydalus</u> sp	--	2	--	--	2	2
<u>Nigronia</u> sp	2	7	1	--	--	4
Sialidae (ALDERFLIES)						
<u>Sialis</u> sp	2	5	2	--	7	--
Trichoptera (CADDISFLIES)						
Apataniidae						
<u>Apatania</u> sp	--	17	2	--	--	--
Brachycentridae						
<u>Micrasema</u> sp	108	22	--	--	2	--
Glossosomatidae						
<u>Glossosoma</u> sp	5	--	21	--	20	--
Goeridae						
<u>Goera</u> sp	--	1	--	--	--	--
Hydropsychidae						
<u>Cheumatopsyche</u> sp	248	140	176	639	103	98
<u>Hydropsyche</u> sp	136	210	120	441	149	128
<u>Potamyia</u> sp	--	--	--	--	4	--
Hydroptilidae						
<u>Hydroptila</u> sp	--	--	2	3	2	7
<u>Leucotrichia</u> sp	--	6	--	--	--	47
Limnephilidae						
<u>Hydatophylax</u> sp	--	--	2	--	--	--
Lepidostomatidae						
<u>Lepidostoma</u> sp	2	--	--	--	--	--
Leptoceridae						
<u>Mystacides</u> sp	--	1	--	2	2	--
<u>Oecetis</u> sp	--	1	--	3	1	1
Philopotamidae						
<u>Chimarra</u> sp	56	51	--	--	3	--
<u>Dolophilodes</u> sp	4	--	19	--	--	--
Polycentropodidae						
<u>Neureclipsis</u> sp	--	--	--	--	--	1
<u>Polycentropus</u> sp	5	6	10	--	4	--
Psychomyiidae						
<u>Psychomyia</u> sp	--	5	--	1	60	--
Rhyacophilidae						
<u>Rhyacophila</u> sp	--	1	3	1	--	--
Uenoidae						
<u>Neophylax</u> sp	--	--	4	--	1	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
STREAM CONDITIONS OF CHESTER COUNTY BIOLOGICAL MONITORING NETWORK--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 BENTHIC MACROINVERTEBRATES--Continued

Station Number	01480638	01480653	01480743	01480745	01480750	01494953
Date	10/29/01	10/03/01	11/01/01	11/01/01	11/01/01	10/24/01
Benthic Macroinvertebrate	Count	Count	Count	Count	Count	Count
Coleoptera (BEETLES)						
Dryopidae						
<u>Helichus</u> sp	1	--	--	--	--	--
Elmidae (RIFFLE BEETLES)						
<u>Ancyronyx</u> sp	--	--	--	7	--	1
<u>Dubiraphia</u> sp	1	1	--	115	1	--
<u>Microcyllloepus</u> sp	--	--	--	--	3	--
<u>Optioservus</u> sp	222	126	279	46	173	6
<u>Oulimnius</u> sp	118	44	31	30	22	3
<u>Promoresia</u> sp	62	30	9	--	19	--
<u>Stenelmis</u> sp	127	70	41	1185	34	1
Hydrophilidae						
<u>Berosus</u> sp	--	2	--	--	--	--
Psephenidae (WATER PENNIES)						
<u>Ectopria</u> sp	--	--	1	--	1	--
<u>Psephenus</u> sp	15	6	26	4	173	--
Ptilodactylidae						
<u>Anchytarsus</u> sp	--	--	1	--	--	--
Diptera (TRUE FLIES)						
Athericidae						
<u>Atherix</u> sp	--	1	--	--	--	--
Ceratopogonidae						
Chironomidae (MIDGES)	320	124	135	1571	311	160
Empididae (DANCE FLIES)						
<u>Hemerodromia</u> sp	2	25	--	57	5	2
Simuliidae (BLACK FLIES)						
<u>Simulium</u> sp	1	--	--	13	1	--
Tabanidae						
Tipulidae (CRANE FLIES)	--	--	--	4	--	--
<u>Antocha</u> sp	19	17	24	7	89	45
<u>Dicranota</u> sp	--	--	86	--	--	--
<u>Hexatoma</u> sp	--	--	4	--	--	--
<u>Pedicia</u> sp	--	--	5	--	--	--
<u>Tipula</u> sp	1	--	--	4	--	1
Total organisms	1687	1761	1438	4637	1819	692
Total number of taxa	41	48	44	36	46	29

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

NOTES--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter($\mu\text{G/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{G/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols took place during the 1995 water year.

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

--In March 1989 a bias was discovered in the turbidimetric method for sulfate analysis for those samples analyzed by the U.S. Geological Survey National Water-Quality Laboratory indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989.

--**Methylene blue active substance (MBAS)** determinations made from January 1, 1970, through August 29, 1993, at the National Water Quality Laboratory in Denver (Analyzing Agency Code 80020) are positively biased. These data can be corrected on the basis of the following equation, if concentrations of dissolved nitrate plus nitrite, as nitrogen, and dissolved chloride, determined concurrently with the MBAS data are applied:

$$\text{MBASCOR} = \text{M} - 0.0088\text{N} - 0.00019\text{C}$$

where:

- MBASCOR = corrected MBAS concentration, in mg/L;
- M = reported MBAS concentration, in mg/L;
- N = dissolved nitrate plus nitrite, as nitrogen, in mg/L; and
- C = dissolved chloride concentration, in mg/L.

The detection limit of the new method is 0.02 mg/L, whereas the detection limit for the old method was 0.01 mg/L. A detection limit of 0.02 mg/L should be used with corrected MBAS data from January 1, 1970, through August 29, 1993.

Remark Codes--The following remark codes may appear with the data tables in this report:

PRINTED OUTPUT

REMARK

E,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.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

EXPLANATION OF CODES USED TO DEFINE SAMPLE COLLECTION PROCEDURES (partial listing)

(71999) SAMPLE PURPOSE CODES:

(84164) SAMPLER TYPE: (partial list)

- 10--Routine
- 15--NAWQA
- 20--NASQAN
- 30--Benchmark

- 110--Sewage sampler
- 3011--US D-77
- 3035--DH-76 Trace metal sampler with teflon gasket and nozzle

(82398) SAMPLE METHOD CODES:

- 10--Equal width increment
- 20--Equal discharge increment
- 30--Single vertical
- 40--Multiple verticals
- 50--Point sample
- 70--Grab sample
- 120--Velocity integrated
- 8010--Other

- 3039--D-77 Trace metal
- 3040--D-77 Trace metal modified teflon bag sampler
- 3045--DH-81 with Teflon cap and nozzle
- 8010--Other (other than a defined sampler type)

SPECIAL NOTES, REMARK CODES AND SELECTED CONSTITUENT DEFINITIONS--Continued**Explanation of selected abbreviations used in constituent definitions in water-quality tables:**

AC-FT	acre-feet
BOT MAT	bottom material (Unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.)
COLS/100 ML	colonies per 100 milliliters
DIS	dissolved
FET	fixed end-point titration
FLD	field (Measurement determined at field site.)
F/S	feet per second
G/M	gallons per minute
G/SQM; MG/M2	grams or milligrams per square meter
IT	incremental titration
KF AGAR	nutrient medium for growth of fecal streptococcal bacteria
µG/L	micrograms per liter
µS/CM	microsiemens per centimeter
MG/L	milligrams per liter
MG/M2	milligrams per square meter
MM OF HG	millimeters of mercury
NONCARB	noncarbonate
NTU	nephelometric turbidity unit
PCI/L	picocuries per liter
REC	recoverable
TOT	total
T/DAY	tons per day
WH IT	whole water, incremental titration (Alkalinity, bicarbonate, and carbonate as determined by incremental titration of unfiltered water at the field site.)
2 SIGMA	Counting statistic that represents error in the reported radon, uranium, or tritium value caused by variations in sample counting, background radiation, volume of sample, and decay since sample was collected.
0.7µ GF	0.7 micron glass-fiber filter (Water filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size.)

(00027) AGENCY COLLECTING SAMPLE CODES: (partial listing)

1028 --U.S. Geological Survey

(00028) AGENCY ANALYZING SAMPLE CODES: (partial listing)

1028 --U.S. Geological Survey
 80020 --U.S. Geological Survey, National Water-Quality Laboratory, Denver, Colorado
 9813 --Pennsylvania Department of Environmental Protection
 83613 --District Water-Quality Laboratory, Troy, New York

MEDIUM CODES: (partial listing)

9-- Surface water.
 R-- Quality-control sample. Surface water.
 Q-- Quality-control sample. Artificial.

GROUND-WATER-LEVEL STATION RECORDS

BERKS COUNTY

402615075530501. Local number, BE 623.

LOCATION.--Lat 40°26'15", long 75°53'05", Hydrologic Unit 02040203, at Wesner Road, Blandon.

Owner: Maiden Creek Township Water Authority.

AQUIFER.--Dolomite of Leithsville Formation of Early and Middle Cambrian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 385 ft, casing information not available.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 430 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 1.71 ft above land-surface datum. Prior to Apr. 30, 1981, top of casing, 1.30 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

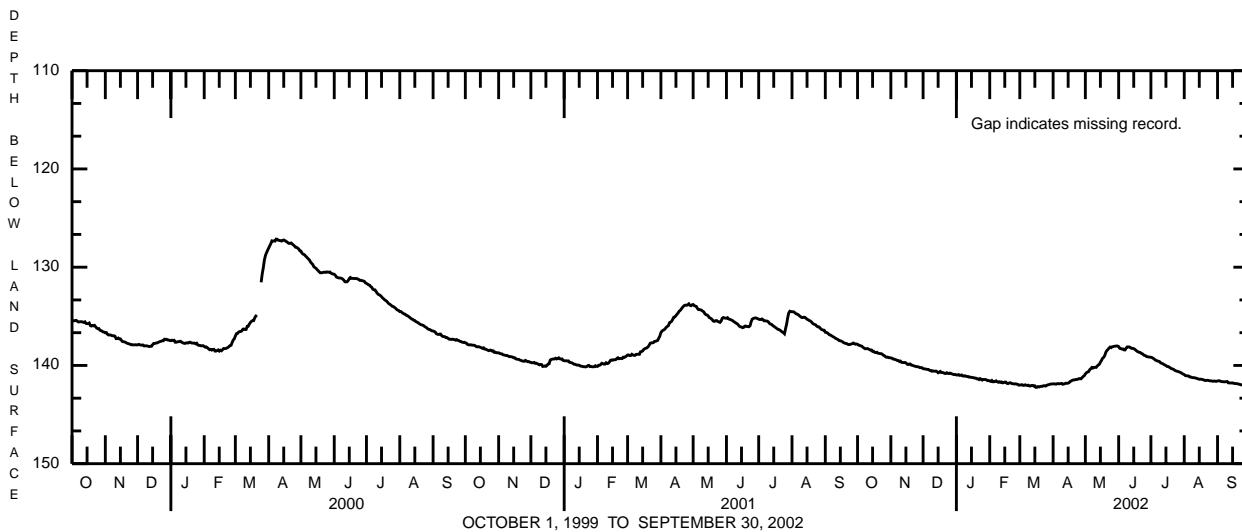
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 109.44 ft below land-surface datum, Apr. 19, 1994; lowest, 142.23 ft below land-surface datum, Mar. 16, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 137.74 ft below land-surface datum, Oct. 1; lowest, 142.23 ft below land-surface datum, Mar. 16.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137.84	139.24	140.33	140.97	141.58	142.00	141.88	140.87	138.08	139.17	140.93	141.58
2	137.94	139.26	140.35	140.98	141.62	141.98	141.87	140.74	138.26	139.20	141.03	141.56
3	137.96	139.35	140.36	140.93	141.53	141.96	141.90	140.68	138.29	139.27	141.06	141.57
4	138.01	139.35	140.38	141.01	141.66	142.03	141.90	140.63	138.33	139.34	141.06	141.62
5	138.04	139.41	140.41	141.00	141.66	142.02	141.85	140.44	138.32	139.45	141.07	141.65
6	138.15	139.43	140.41	140.97	141.61	141.97	141.86	140.34	138.42	139.49	141.17	141.65
7	138.23	139.50	140.50	141.07	141.57	142.02	141.87	140.21	138.42	139.55	141.17	141.67
8	138.30	139.50	140.51	141.09	141.67	142.04	141.84	140.27	138.23	139.57	141.22	141.67
9	138.30	139.60	140.59	141.05	141.71	142.01	141.84	140.21	138.11	139.61	141.24	141.65
10	138.28	139.56	140.55	141.10	141.66	142.09	141.92	140.19	138.12	139.74	141.25	141.64
11	138.32	139.69	140.58	141.14	141.72	142.09	141.89	140.20	138.12	139.78	141.26	141.77
12	138.38	139.70	140.59	141.13	141.68	142.04	141.85	140.07	138.19	139.82	141.30	141.78
13	138.44	139.71	140.57	141.20	141.77	142.03	141.81	139.96	138.26	139.90	141.33	141.78
14	138.43	139.70	140.63	141.19	141.75	142.11	141.82	139.88	138.26	139.96	141.37	141.79
15	138.57	139.74	140.75	141.21	141.69	142.08	141.80	139.67	138.29	140.01	141.41	141.78
16	138.56	139.86	140.70	141.24	141.69	142.23	141.74	139.49	138.36	140.10	141.40	141.82
17	138.67	139.91	140.61	141.24	141.82	142.22	141.62	139.27	138.45	140.11	141.41	141.84
18	138.69	139.86	140.71	141.29	141.85	142.15	141.58	139.18	138.55	140.17	141.44	141.85
19	138.66	139.85	140.73	141.29	141.79	142.19	141.50	139.00	138.61	140.25	141.46	141.86
20	138.76	139.97	140.74	141.36	141.76	142.15	141.48	138.67	138.66	140.32	141.52	141.87
21	138.77	139.98	140.81	141.36	141.81	142.12	141.47	138.49	138.68	140.36	141.54	141.92
22	138.80	140.03	140.82	141.44	141.86	142.13	141.43	138.38	138.77	140.39	141.51	141.93
23	138.80	140.07	140.74	141.34	141.87	142.07	141.43	138.24	138.81	140.48	141.52	141.98
24	138.86	140.09	140.79	141.40	141.89	142.07	141.40	138.13	138.91	140.54	141.54	141.99
25	138.96	140.13	140.83	141.49	141.87	142.10	141.34	138.19	138.98	140.58	141.57	142.00
26	139.01	140.13	140.78	141.43	141.90	142.03	141.36	138.10	139.01	140.61	141.57	141.96
27	139.12	140.16	140.82	141.43	141.92	141.98	141.36	138.08	139.10	140.65	141.60	141.94
28	139.17	140.22	140.87	141.43	142.00	141.96	141.24	138.05	139.12	140.69	141.61	142.06
29	139.15	140.22	140.91	141.47	---	141.91	141.12	138.04	139.14	140.74	141.58	142.03
30	139.21	140.23	140.93	141.55	---	141.90	141.04	138.02	139.15	140.82	141.61	141.99
31	139.21	---	140.92	141.54	---	141.88	---	138.03	---	140.88	141.62	---
MEAN	138.57	139.78	140.65	141.24	141.75	142.05	141.63	139.35	138.53	140.05	141.37	141.81
MAX	139.21	140.23	140.93	141.55	142.00	142.23	141.92	140.87	139.15	140.88	141.62	142.06
MIN	137.84	139.24	140.33	140.93	141.53	141.88	141.04	138.02	138.08	139.17	140.93	141.56



BUCKS COUNTY

402643075150501. Local number, BK 929.

LOCATION.--Lat 40°26'43", long 75°15'05", Hydrologic Unit 02040105, at Nockamixon State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Shale of Brunswick Formation of Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 116 ft, cased to 27 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 490 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.0 ft above land-surface datum. Prior to Mar. 17, 1980, top of casing, 1.05 ft above land-surface datum. Prior to June 1970, land surface datum was approximately 16 feet lower.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

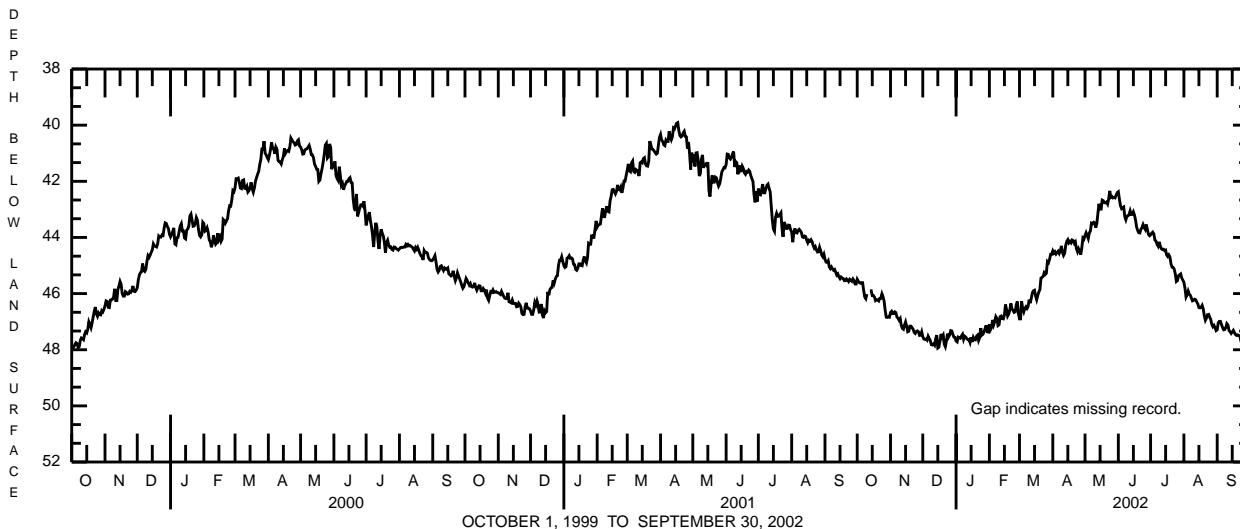
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 39.29 ft below land-surface datum, Mar. 28, 1991; lowest, 59.75 ft below land-surface datum, Nov. 26, 1968.

EXTREMES FOR CURRENT YEAR.--Highest water level, 42.16 ft below land-surface datum, May 31; lowest, 47.94 ft below land-surface datum, Dec. 15.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.49	46.67	47.53	47.69	47.10	46.90	44.48	43.93	42.37	43.91	45.60	47.29
2	45.56	46.63	47.62	47.72	47.29	46.90	44.56	43.83	42.64	43.85	45.80	47.04
3	45.61	46.71	47.63	47.55	47.21	46.27	44.51	43.93	42.87	43.81	46.12	46.99
4	45.63	46.71	47.62	47.57	46.94	46.54	44.59	44.04	42.97	43.87	46.04	46.99
5	45.61	46.65	47.66	47.59	47.11	46.65	44.54	43.84	42.93	44.09	45.91	47.10
6	45.61	46.68	47.52	47.51	46.99	46.53	44.49	43.77	42.91	44.13	46.02	47.21
7	45.89	46.84	47.60	47.45	46.82	46.47	44.57	43.49	43.26	44.24	46.06	47.29
8	46.12	46.88	47.67	47.63	46.88	46.53	44.48	43.51	43.37	44.31	46.16	47.28
9	46.18	46.95	47.82	47.52	47.14	46.46	44.30	43.46	43.24	44.16	46.26	47.21
10	46.02	46.89	47.83	47.55	47.11	46.22	44.53	43.48	43.23	44.30	46.24	47.07
11	---	47.13	47.79	47.61	46.82	46.34	44.64	43.65	43.18	44.40	46.20	47.12
12	---	47.24	47.84	47.64	46.80	46.16	44.57	43.50	43.05	44.43	46.22	47.32
13	45.91	47.27	47.62	47.63	46.89	45.97	44.29	43.14	43.18	44.42	46.30	47.36
14	45.90	47.12	47.48	47.74	46.90	45.90	44.14	42.80	43.18	44.47	46.37	47.42
15	46.07	47.01	47.94	47.56	46.76	45.88	44.08	42.99	43.09	44.45	46.50	47.37
16	46.07	47.16	47.91	47.72	46.39	46.09	44.19	42.99	43.20	44.63	46.51	47.31
17	46.12	47.36	47.70	47.56	46.57	46.22	44.14	42.67	43.38	44.68	46.49	47.39
18	46.25	47.34	47.44	47.64	46.80	46.07	44.19	42.69	43.63	44.62	46.42	47.46
19	46.22	47.16	47.55	47.65	46.73	45.94	44.09	42.76	43.75	44.69	46.54	47.49
20	46.22	47.16	47.48	47.52	46.58	45.86	44.11	42.77	43.83	44.94	46.79	47.47
21	46.26	47.21	47.80	47.48	46.35	45.45	44.21	42.74	43.84	45.06	46.95	47.49
22	46.17	47.27	47.89	47.67	46.54	45.42	44.16	42.81	43.71	45.07	46.87	47.50
23	46.17	47.38	47.70	47.57	46.60	45.39	44.40	42.63	43.65	45.13	46.75	47.69
24	46.01	47.42	47.43	47.23	46.67	45.26	44.51	42.34	43.54	45.30	46.74	47.77
25	46.11	47.35	47.55	47.48	46.65	45.32	44.40	42.57	43.64	45.57	46.84	47.82
26	46.26	47.33	47.48	47.45	46.40	45.28	44.48	42.54	43.71	45.54	46.92	47.74
27	46.59	47.36	47.32	47.36	46.28	44.86	44.61	42.59	43.54	45.36	47.10	47.53
28	46.84	47.49	47.33	47.25	46.71	44.90	44.37	42.57	43.71	45.33	47.18	47.70
29	46.85	47.48	47.45	47.13	---	44.78	44.02	42.59	43.89	45.30	47.13	47.78
30	46.83	47.36	47.55	47.36	---	44.60	44.06	42.49	43.94	45.44	47.21	47.74
31	46.84	---	47.56	47.37	---	44.60	---	42.40	---	45.52	47.32	---
MEAN	46.12	47.11	47.62	47.53	46.79	45.86	44.36	43.08	43.35	44.68	46.50	47.40
MAX	46.85	47.49	47.94	47.74	47.29	46.90	44.64	44.04	43.94	45.57	47.32	47.82
MIN	45.49	46.63	47.32	47.13	46.28	44.60	44.02	42.34	42.37	43.81	45.60	46.99



BUCKS COUNTY

401157075032001. Local number, BK 1020

LOCATION.--Lat 40°11'57", long 75°03'20", Hydrologic Unit 02040201, at Naval Air Development Center in Warminster Township.
Owner: United States Navy.

AQUIFER.--Sandstone and shale of Stockton Formation of Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 400 ft, cased to 57 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 370 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal shelf, 1.93 ft above land-surface datum.

REMARKS.--Operated by Bucks County Planning Commission September 1975 to March 1988. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

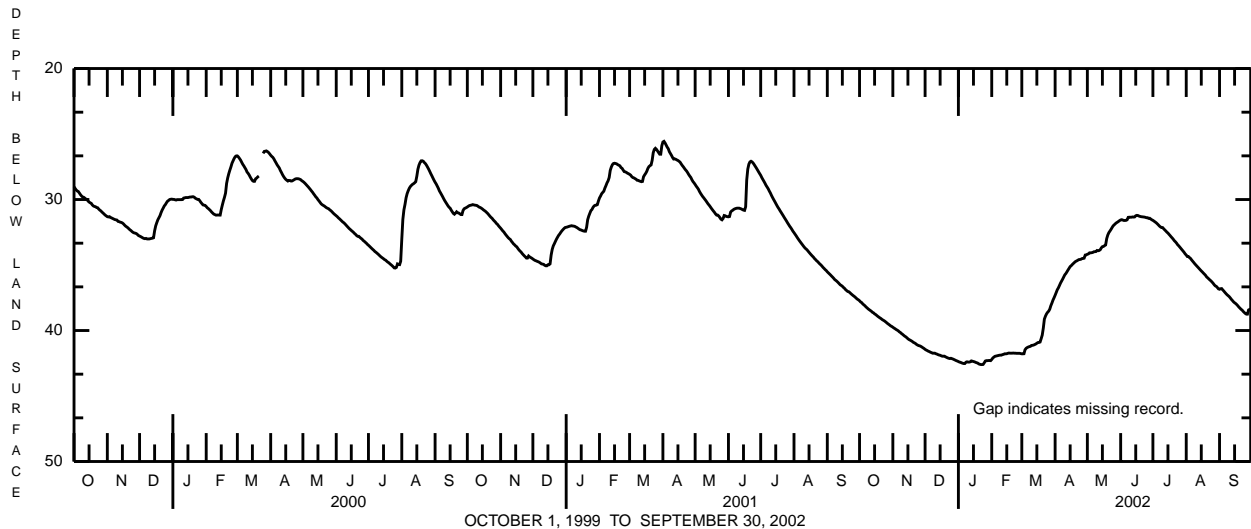
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 23.05 ft below land-surface datum, Dec. 18, 1996; lowest, 42.60 ft below land-surface datum, Jan. 22, 23, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 31.21 ft below land-surface datum, June 15-17; lowest, 42.60 ft below land-surface datum, Jan. 22, 23.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.73	39.75	41.44	42.37	42.21	41.78	37.31	34.18	31.56	31.59	34.24	36.85
2	37.82	39.81	41.49	42.41	42.10	41.78	37.10	34.15	31.54	31.65	34.35	36.81
3	37.87	39.86	41.53	42.43	42.03	41.77	36.89	34.07	31.57	31.71	34.35	36.80
4	37.97	39.92	41.58	42.47	41.97	41.47	36.75	34.07	31.60	31.77	34.43	36.90
5	38.04	39.97	41.61	42.50	41.95	41.36	36.57	34.06	31.60	31.85	34.50	36.99
6	38.11	40.02	41.66	42.52	41.93	41.30	36.38	34.04	31.59	31.93	34.61	37.09
7	38.20	40.10	41.69	42.52	41.91	41.26	36.23	33.99	31.55	32.02	34.71	37.18
8	38.27	40.15	41.73	42.42	41.89	41.23	36.08	33.98	31.36	32.09	34.81	37.27
9	38.35	40.23	41.73	42.39	41.88	41.21	35.91	33.97	31.35	32.14	34.91	37.34
10	38.41	40.29	41.73	42.41	41.88	41.14	35.75	33.89	31.35	32.14	35.00	37.41
11	38.47	40.36	41.77	42.41	41.84	41.13	35.65	33.91	31.35	32.23	35.09	37.51
12	38.53	40.43	41.80	42.39	41.82	41.11	35.52	33.89	31.33	32.32	35.18	37.62
13	38.61	40.48	41.84	42.32	41.78	41.07	35.38	33.83	31.34	32.40	35.27	37.71
14	38.65	40.55	41.87	42.34	41.78	41.03	35.25	33.69	31.33	32.49	35.36	37.81
15	38.73	40.63	41.89	42.37	41.77	40.97	35.12	33.60	31.24	32.56	35.45	37.88
16	38.78	40.69	41.93	42.39	41.74	40.92	35.05	33.58	31.21	32.66	35.53	37.94
17	38.85	40.73	41.96	42.43	41.72	40.91	34.96	33.52	31.22	32.75	35.62	38.02
18	38.92	40.78	41.96	42.46	41.73	40.88	34.88	33.47	31.26	32.85	35.70	38.11
19	38.98	40.83	41.96	42.49	41.73	40.63	34.80	32.98	31.29	32.94	35.79	38.21
20	39.04	40.90	42.01	42.55	41.73	40.35	34.73	32.71	31.31	33.04	35.91	38.29
21	39.09	40.94	42.05	42.58	41.72	39.82	34.69	32.53	31.32	33.15	35.98	38.38
22	39.16	40.99	42.09	42.60	41.73	39.13	34.64	32.41	31.33	33.23	36.06	38.44
23	39.21	41.06	42.12	42.60	41.73	38.90	34.59	32.28	31.34	33.33	36.14	38.54
24	39.26	41.11	42.14	42.59	41.74	38.73	34.58	32.14	31.36	33.45	36.21	38.62
25	39.32	41.15	42.12	42.47	41.74	38.61	34.56	32.01	31.39	33.53	36.30	38.70
26	39.39	41.17	42.15	42.33	41.74	38.52	34.51	31.93	31.39	33.63	36.39	38.75
27	39.46	41.21	42.18	42.30	41.74	38.37	34.50	31.85	31.44	33.73	36.50	38.75
28	39.52	41.26	42.22	42.30	41.76	38.11	34.48	31.78	31.43	33.83	36.59	38.43
29	39.58	41.32	42.26	42.29	---	37.91	34.24	31.73	31.49	33.93	36.63	38.39
30	39.65	41.37	42.30	42.29	---	37.68	34.22	31.67	31.55	34.03	36.72	38.44
31	39.69	---	42.33	42.30	---	37.50	---	31.61	---	34.15	36.82	---
MEAN	38.76	40.60	41.91	42.43	41.83	40.21	35.38	33.15	31.40	32.75	35.52	37.84
MAX	39.69	41.37	42.33	42.60	42.21	41.78	37.31	34.18	31.60	34.15	36.82	38.75
MIN	37.73	39.75	41.44	42.29	41.72	37.50	34.22	31.61	31.21	31.59	34.24	36.80



CARBON COUNTY

410123075425401. Local number, CB 104.

LOCATION.--Lat 41°01'23", long 75°42'54", Hydrologic Unit 02040106, at Hickory Run State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Shale of Lower Member of Mauch Chunk Formation of Late Mississippian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 125 ft, cased to 20 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,305 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.1 ft above land-surface datum. Prior to May 28, 1980, top of casing 3.00 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--September 1969 to current year.

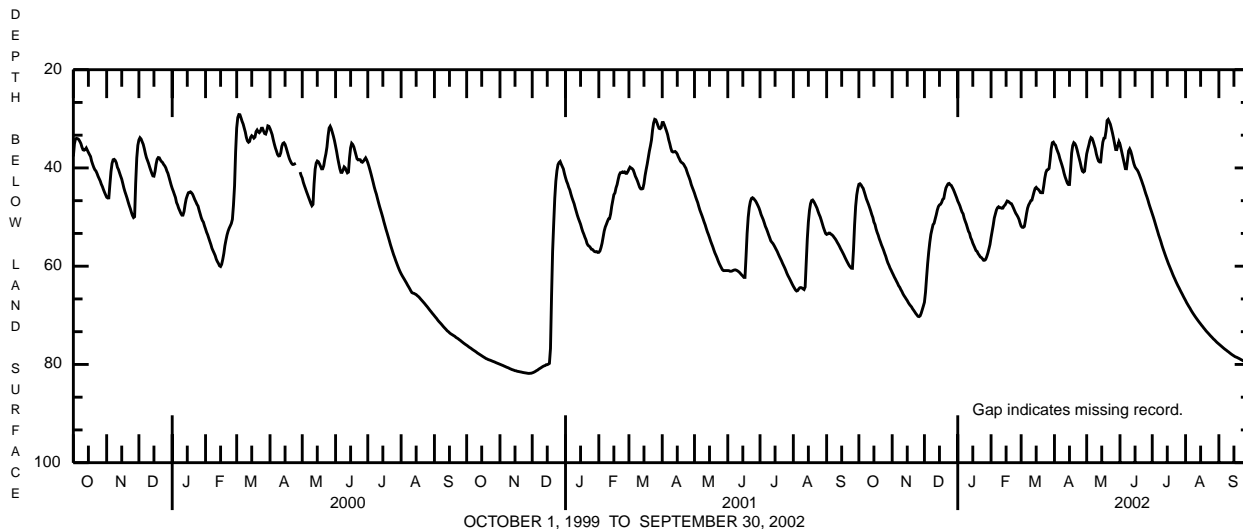
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 18.44 ft below land-surface datum, Apr. 17, 1983; lowest, 90.58 ft below land-surface datum, Jan. 31, 1981.

EXTREMES FOR CURRENT YEAR.--Highest water level, 29.84 ft below land-surface datum, May 21; lowest, 79.68 ft below land-surface datum, Sept. 28.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.33	61.29	67.35	46.74	54.16	51.85	35.14	37.14	35.16	49.33	66.99	75.85
2	43.22	61.74	65.28	47.20	52.92	52.08	35.38	36.21	36.13	50.01	67.43	76.04
3	43.45	62.22	62.28	47.72	51.67	52.10	36.09	35.34	37.13	50.71	67.80	76.22
4	43.84	62.62	59.46	48.38	50.20	51.91	36.67	34.39	38.13	51.45	68.17	76.42
5	44.15	63.07	57.06	48.99	49.38	50.70	37.23	33.81	39.13	52.21	68.52	76.61
6	44.86	63.49	55.10	49.34	48.57	49.30	38.08	33.99	40.15	52.92	68.92	76.79
7	45.58	63.98	53.52	50.23	48.10	48.18	38.75	34.57	40.17	53.67	69.28	76.96
8	46.32	64.29	52.53	50.87	47.91	47.53	39.44	35.33	38.37	54.30	69.63	77.12
9	46.88	64.76	51.55	51.45	48.10	47.13	40.21	36.09	36.53	54.98	69.95	77.30
10	47.45	65.13	51.27	52.18	48.09	46.68	41.13	37.17	36.13	55.73	70.28	77.45
11	48.08	65.61	50.39	52.89	48.21	46.56	41.87	37.96	36.60	56.40	70.58	77.64
12	48.76	66.00	49.53	53.30	48.18	45.73	42.47	38.58	37.42	57.04	70.89	77.81
13	49.50	66.32	48.56	54.17	47.75	44.88	43.09	38.79	38.34	57.67	71.19	77.97
14	50.08	66.67	47.86	54.64	47.55	44.17	43.38	38.79	39.19	58.28	71.48	78.12
15	51.03	67.00	47.53	55.31	47.14	43.95	43.37	36.54	39.81	58.86	71.76	78.26
16	51.52	67.41	47.40	55.80	46.73	44.21	40.28	34.76	40.15	59.47	72.05	78.41
17	52.43	67.75	47.03	56.30	46.81	44.38	36.98	33.96	40.41	59.99	72.31	78.50
18	53.12	68.03	46.41	56.83	47.01	44.66	35.43	33.90	40.82	60.53	72.60	78.59
19	53.70	68.29	46.22	56.99	47.19	45.02	34.86	32.49	41.36	61.06	72.86	78.71
20	54.43	68.68	45.03	57.46	47.29	45.05	35.05	30.36	41.94	61.62	73.15	78.81
21	55.01	68.98	44.08	57.76	47.74	45.04	35.51	30.12	42.53	62.13	73.39	78.94
22	55.65	69.31	43.62	58.12	48.23	43.69	36.27	30.58	43.19	62.60	73.63	79.06
23	56.19	69.65	43.23	58.24	48.75	42.08	37.18	31.11	43.82	63.11	73.87	79.18
24	56.75	69.92	43.15	58.50	49.24	40.93	38.03	31.97	44.55	63.57	74.12	79.31
25	57.40	70.20	43.42	58.80	49.58	40.42	38.89	32.90	45.25	64.02	74.35	79.43
26	57.99	70.27	43.57	58.79	49.97	40.33	39.91	33.96	45.87	64.43	74.58	79.54
27	58.72	70.11	43.99	58.61	50.47	40.11	40.66	35.11	46.55	64.89	74.82	79.65
28	59.34	69.57	44.42	58.05	51.23	38.25	40.84	36.26	47.33	65.31	75.01	79.68
29	59.81	68.84	44.97	57.35	---	36.09	40.66	36.27	48.02	65.73	75.24	79.35
30	60.38	68.11	45.53	56.49	---	34.88	38.86	35.41	48.67	66.17	75.47	78.93
31	60.81	---	46.09	55.59	---	34.75	---	34.65	---	66.58	75.66	---
MEAN	51.61	66.64	49.59	54.29	48.86	44.60	38.72	34.79	40.96	58.86	71.81	78.09
MAX	60.81	70.27	67.35	58.80	54.16	52.10	43.38	38.79	48.67	66.58	75.66	79.68
MIN	43.22	61.29	43.15	46.74	46.73	34.75	34.86	30.12	35.16	49.33	66.99	75.85



CHESTER COUNTY

395450075485401. Local number, CH 10.

LOCATION.--Lat 39°54'50", long 75°48'54", Hydrologic Unit 02040205, near intersection of SR 82 and 841, at Doe Run.
 Owner: Privately owned.

AQUIFER.--Cockeysville Marble of Paleozoic age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 34 ft, casing information not available.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 5.23 ft above land-surface datum. Prior to June 24, 1981, top of casing 1.00 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--August 1951 to April 1965, instantaneous water levels obtained several times per month. February 1966 to current year.

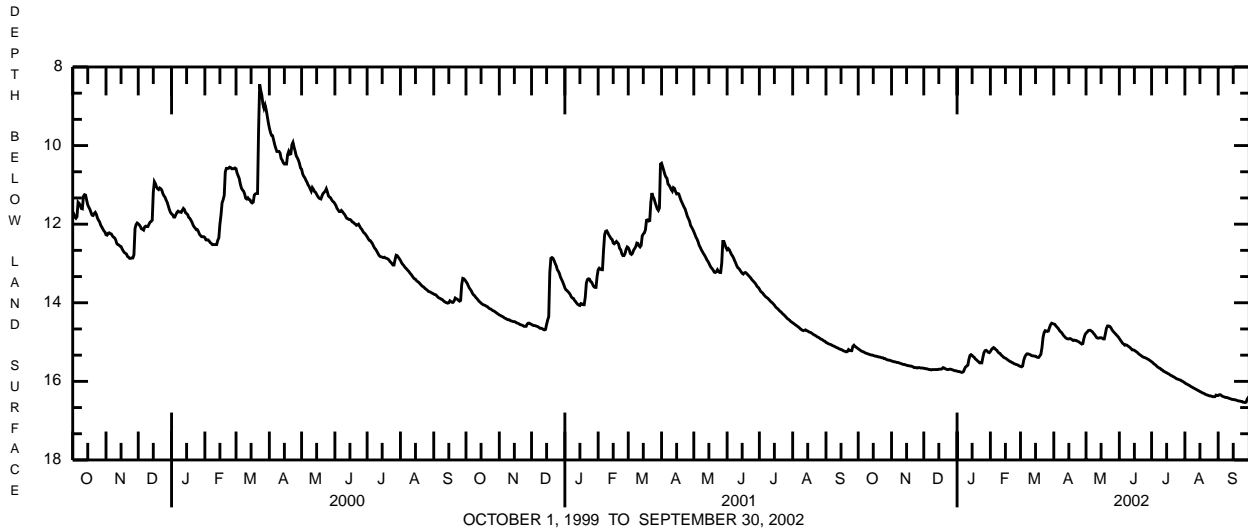
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 7.77 ft below land-surface datum, Mar. 25, 1993; lowest, 16.54 ft below land-surface datum, Sept. 26, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 14.51 ft below land-surface datum, Mar. 29, 30; lowest, 16.54 ft below land-surface datum, Sept. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.17	15.48	15.67	15.74	15.24	15.62	14.54	14.77	14.91	15.50	16.04	16.36
2	15.19	15.49	15.67	15.75	15.19	15.63	14.55	14.75	14.95	15.52	16.06	16.34
3	15.21	15.50	15.68	15.75	15.16	15.61	14.59	14.71	14.99	15.55	16.07	16.34
4	15.23	15.50	15.68	15.76	15.14	15.47	14.62	14.70	15.03	15.57	16.09	16.36
5	15.24	15.51	15.69	15.77	15.16	15.38	14.65	14.70	15.05	15.59	16.10	16.38
6	15.25	15.52	15.70	15.77	15.19	15.33	14.69	14.72	15.08	15.62	16.12	16.39
7	15.27	15.52	15.70	15.75	15.21	15.30	14.73	14.74	15.07	15.64	16.14	16.40
8	15.28	15.53	15.71	15.68	15.25	15.30	14.75	14.78	15.08	15.66	16.15	16.41
9	15.29	15.54	15.70	15.63	15.28	15.31	14.79	14.81	15.10	15.67	16.17	16.41
10	15.30	15.55	15.70	15.61	15.29	15.32	14.83	14.85	15.12	15.70	16.18	16.42
11	15.31	15.56	15.70	15.59	15.33	15.34	14.86	14.89	15.14	15.71	16.20	16.43
12	15.32	15.57	15.70	15.44	15.35	15.35	14.89	14.90	15.17	15.74	16.21	16.44
13	15.33	15.57	15.70	15.34	15.38	15.35	14.91	14.90	15.20	15.75	16.23	16.45
14	15.33	15.58	15.70	15.32	15.40	15.36	14.92	14.89	15.20	15.77	16.24	16.46
15	15.34	15.59	15.69	15.34	15.41	15.36	14.92	14.89	15.21	15.78	16.26	16.46
16	15.35	15.60	15.69	15.37	15.43	15.38	14.91	14.90	15.23	15.80	16.27	16.47
17	15.36	15.60	15.69	15.39	15.45	15.39	14.92	14.92	15.25	15.81	16.29	16.47
18	15.36	15.61	15.68	15.43	15.47	15.39	14.94	14.92	15.27	15.83	16.30	16.48
19	15.37	15.61	15.65	15.45	15.49	15.35	14.96	14.79	15.30	15.85	16.31	16.49
20	15.38	15.62	15.66	15.48	15.50	15.31	14.95	14.65	15.32	15.86	16.33	16.50
21	15.38	15.63	15.68	15.50	15.52	15.14	14.96	14.59	15.34	15.88	16.34	16.50
22	15.39	15.65	15.69	15.53	15.53	14.88	14.96	14.59	15.36	15.89	16.35	16.51
23	15.40	15.65	15.70	15.53	15.55	14.76	14.98	14.60	15.38	15.91	16.36	16.51
24	15.40	15.65	15.70	15.53	15.56	14.71	14.99	14.63	15.39	15.93	16.37	16.53
25	15.42	15.66	15.69	15.39	15.57	14.72	15.01	14.68	15.40	15.94	16.37	16.53
26	15.42	15.65	15.69	15.27	15.58	14.73	15.03	14.72	15.41	15.95	16.38	16.54
27	15.44	15.65	15.70	15.22	15.59	14.72	15.05	14.75	15.43	15.96	16.39	16.53
28	15.45	15.66	15.71	15.21	15.61	14.63	15.04	14.78	15.44	15.97	16.39	16.45
29	15.46	15.66	15.72	15.23	---	14.56	14.91	14.81	15.46	15.99	16.39	16.41
30	15.46	15.66	15.73	15.26	---	14.52	14.82	14.84	15.48	16.00	16.35	16.43
31	15.47	---	15.73	15.27	---	14.53	---	14.87	---	16.02	16.36	---
MEAN	15.34	15.59	15.69	15.49	15.39	15.15	14.86	14.78	15.23	15.79	16.25	16.45
MAX	15.47	15.66	15.73	15.77	15.61	15.63	15.05	14.92	15.48	16.02	16.39	16.54
MIN	15.17	15.48	15.65	15.21	15.14	14.52	14.54	14.59	14.91	15.50	16.04	16.34



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

CHESTER COUNTY

400650075514001. Local number, CH 2.

LOCATION.--Lat 40°06'55", long 75°51'20", Hydrologic Unit 02040205, at Morgantown Road, near Strubel Lake, Honeybrook Township.
Owner: Privately owned.

AQUIFER.--Felsic and intermediate gneiss, granulite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 36 in., depth 15 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of hole in concrete porch, 0.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.50 ft below land-surface datum, Mar. 11, 1952; lowest, 14.47 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 10.93 ft below land-surface datum, May 22; lowest, 14.47 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	12.55	DEC 19	13.17	FEB 14	12.53	APR 18	11.87	JUN 21	11.13	AUG 14	13.43
NOV 09	12.90	JAN 18	13.06	MAR 21	11.61	MAY 22	10.93	JUL 18	12.35	SEP 18	14.47

395717075392301. Local number, CH 12.

LOCATION.--Lat 39°57'17", long 75°39'23", Hydrologic Unit 02040205, at Deborah's Rock Farm at State Highway 162, at Copesville.
Owner: Privately owned.

AQUIFER.--Felsic and intermediate gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 29 in., depth 38.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 248 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of wooden cover, 2.0 ft above land surface datum.

REMARKS.--Well dry entire year. Well is dry at 38.50 ft. In past, well was at least 39.2 ft deep, but has since filled with silt to 38.5 ft. Measuring point changed Dec. 26, 1990.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.98 ft below land-surface datum, Apr. 20, 1993; lowest, 39.13 ft below land-surface datum, Oct. 18, 1951.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	38.50	DEC 19	38.50	FEB 15	38.50	APR 18	38.50	JUN 21	38.50	AUG 14	38.50
NOV 09	38.50	JAN 18	38.50	MAR 21	38.50	MAY 22	38.50	JUL 19	38.50	SEP 18	38.50

39522075423201. Local number, CH 28.

LOCATION.--Lat 39°52'22", long 75°42'32", Hydrologic Unit 02040205, at State Highway 926 and 82, at Willowdale.
Owner: Privately owned.

AQUIFER.--Cockeysville marble.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 54 in., depth 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 366 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.7 ft above land surface datum.

REMARKS.--Well is dry at 24.80 ft.

PERIOD OF RECORD.--January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.73 ft below land-surface datum, Dec 19, 1996; lowest, 24.80 ft below land-surface datum, July 13, 1995, Aug. 22, 1995, Sept. 14, 1995, Oct. 17, 1995, Nov. 21, 1995, and Jan. 17, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 18.93 ft below land-surface datum, Oct. 18; lowest, 24.80 ft below land-surface datum, Jan. 17.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	18.93	NOV 08	19.05	DEC 18	19.05	JAN 17	24.80

CHESTER COUNTY

394846075444901. Local number, CH 38.

LOCATION.--Lat 39°48'46", long 75°44'49", Hydrologic Unit 02040205, at New Garden Road and State Highway 41 at New Garden.

Owner: Privately owned.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Dug observation well, diameter 46 in., depth 18.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 440 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of concrete cover, 0.5 ft above land surface datum.

PERIOD OF RECORD.--September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.00 ft below land-surface datum, July 21, 1989; lowest, 16.52 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 12.54 ft below land-surface datum, May 21; lowest, 16.52 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	13.38	DEC 18	15.56	FEB 14	15.83	APR 17	13.23	JUN 20	12.96	AUG 13	15.46
NOV 08	14.29	JAN 17	15.58	MAR 20	15.16	MAY 21	12.54	JUL 18	13.90	SEP 18	16.52

400400075314401. Local number, CH 89.

LOCATION.--Lat 40°04'00", long 75°31'44", Hydrologic Unit 02040203, at quarry on Yellow Springs Road, near Devault.

Owner: U.S. Geological Survey/Warner Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 265 ft, cased to 112 ft.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 365 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.62 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 150.49 ft below land-surface datum, Dec. 18, 1996; lowest, 183.77 ft below land-surface datum, Feb. 21, 1989.

EXTREMES FOR CURRENT YEAR.--Highest water level, 161.63 ft below land-surface datum, Oct. 17; lowest, 168.10 ft below land-surface datum, Sept. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	161.63	JAN 17	165.76	MAR 20	167.14	MAY 21	165.14	JUL 18	166.81	SEP 19	168.10
NOV 08	163.15	FEB 14	166.35	APR 17	167.09	JUN 20	166.10	AUG 13	167.43		

400453075255601. Local number, CH 210.

LOCATION.--Lat 40°04'53", long 75°25'56", Hydrologic Unit 02040203, at Red Coat Lane, near Valley Forge Park.

Owner: Privately owned.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 12 in., depth 600 ft, cased to 26 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 150 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.00 ft below land-surface datum, Feb. 26, 1979; lowest, 28.20 ft below land-surface datum, Sept. 19, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 22.25 ft below land-surface datum, May 21; lowest, 28.20 ft below land-surface datum, Sept. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	26.29	DEC 18	27.65	FEB 14	27.57	APR 17	25.54	JUN 20	23.41	AUG 13	26.53
NOV 08	26.99	JAN 17	27.66	MAR 20	27.25	MAY 21	22.25	JUL 18	24.83	SEP 19	28.20

CHESTER COUNTY

400103075390101. Local number, CH 249.

LOCATION.--Lat 40°01'03", long 75°39'16", Hydrologic Unit 02040205, at Creamery Way at Oaklands Corporate Center, near Exton.
Owner: Oaklands Business Parks, Inc.

AQUIFER.--Ledger dolomite.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 8 in., depth 600 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 317 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.2 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.26 ft below land-surface datum, May 20, 1988; lowest, 26.61 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 21.47 ft below land-surface datum, May 22; lowest, 26.61 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	25.38	DEC 19	26.34	MAR 21	24.93	MAY 22	21.47	JUL 19	24.33	SEP 18	26.61
NOV 09	26.21	JAN 18	25.63	APR 18	24.07	JUN 21	22.04	AUG 14	25.88		

394457075581601. Local number, CH 254.

LOCATION.--Lat 39°44'57", long 75°58'16", Hydrologic Unit 02060002, at Mt. Pleasant Road, near Oxford.
Owner: Privately owned.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Drilled unused domestic well, diameter 6 in., depth 250 ft, cased to 102 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 517 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.35 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.16 ft below land-surface datum, April 21, 1997; lowest, 30.94 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 26.98 ft below land-surface datum, Oct. 18; lowest, 30.94 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	26.98	DEC 18	28.32	FEB 14	29.13	APR 17	29.82	JUN 20	29.86	AUG 13	30.33
NOV 08	27.51	JAN 17	28.80	MAR 20	29.53	MAY 21	29.69	JUL 18	30.06	SEP 18	30.94

395701075561601. Local number, CH 1201.

LOCATION.--Lat 39°57'01", long 75°56'46", Hydrologic Unit 02050306, at State Highway 372, near Atglen.
Owner: A Duie Pyle Inc.

AQUIFER.--Conestoga limestone.

WELL CHARACTERISTICS.--Drilled withdrawal commercial well, diameter 6 in., depth 83 ft, cased to 33 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 502 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.80 ft below land-surface datum, Dec. 19, 1996; lowest, 8.49 ft below land-surface datum, Sept. 18, 1985.

EXTREMES FOR CURRENT YEAR.--Highest water level, 5.54 ft below land-surface datum, May 21; lowest, 7.83 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	6.65	DEC 19	6.88	FEB 14	6.31	APR 17	5.84	JUN 20	5.96	AUG 13	7.48
NOV 09	6.91	JAN 17	7.07	MAR 20	5.86	MAY 21	5.54	JUL 18	6.67	SEP 18	7.83

CHESTER COUNTY

400412075404301. Local number, CH 1229.

LOCATION.--Lat 40°04'12", long 75°40'43", Hydrologic Unit 02040205, State Highway 100 and Pennsylvania Turnpike, near Eagle.

Owner: Privately owned.

AQUIFER.--Graphitic felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 165 ft, cased to 31 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.5 ft above land-surface datum.

PERIOD OF RECORD.--April 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.15 ft below land-surface datum, April 21, 1952; lowest, 44.09 ft below land-surface datum, Aug. 20, 1985.

EXTREMES FOR CURRENT YEAR.--Highest water level, 39.79 ft below land-surface datum, June 21; lowest, 42.93 ft below land-surface datum, Mar. 21.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	40.79	DEC 19	42.52	FEB 15	42.70	APR 18	41.93	JUN 21	39.79	AUG 14	41.57
NOV 09	41.63	JAN 18	42.85	MAR 21	42.93	MAY 22	40.06	JUL 19	40.56	SEP 19	42.66

400645075411501. Local number, CH 1247.

LOCATION.--Lat 40°06'45", long 75°41'15", Hydrologic Unit 020402053, at State Highway 401 and 100, at Ludwigs Corner.

Owner: Privately owned.

AQUIFER.--Felsic and intermediate gneiss, granulite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 4 ft., depth 75 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 610 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--December 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.61 ft below land-surface datum, April 21, 1983; lowest, 36.14 ft below land-surface datum, Jan. 22, 1996.

EXTREMES FOR CURRENT YEAR.--Highest water level, 32.33 ft below land-surface datum, Oct. 17; lowest, 34.70 ft below land-surface datum, Jan. 18, Feb. 15, Mar. 21, Apr. 18, May 22, Sept. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	32.33	DEC 19	34.38	FEB 15	34.70	APR 18	34.70	JUN 21	33.90	AUG 14	34.37
NOV 09	33.14	JAN 18	34.70	MAR 21	34.70	MAY 22	34.70	JUL 19	33.49	SEP 19	34.70

395540075332601. Local number, CH 1387.

LOCATION.--Lat 39°55'40", long 75°33'26", Hydrologic Unit 02040202, at State Highway 926 and Northgate Road, near Westtown.

Owner: Privately owned.

AQUIFER.--Felsic and intermediate gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 5 in., depth 159 ft, cased to 41 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 329 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.28 ft below land-surface datum, Dec. 19, 1996; lowest, 39.45 ft below land-surface datum, Oct. 21, 1977.

EXTREMES FOR CURRENT YEAR.--Highest water level, 35.99 ft below land-surface datum, Oct. 18; lowest, 38.43 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	35.99	DEC 18	37.36	FEB 14	37.02	APR 17	36.66	JUN 20	36.72	AUG 13	37.63
NOV 08	37.11	JAN 17	37.56	MAR 20	36.94	MAY 21	36.52	JUL 18	37.27	SEP 18	38.43

CHESTER COUNTY

400956075391501. Local number, CH 1571.

LOCATION.--Lat 40°09'56", long 75°39'15", Hydrologic Unit 02040203, at Pughtown Road and Bertolet School Road, near Pughtown, East Vincent Township.

Owner: Privately owned.

AQUIFER.--Stockton Formation.

WELL CHARACTERISTICS.--Dug unused observation well, diameter unknown, depth 16 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 282 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.2 ft above land-surface datum.

PERIOD OF RECORD.--June 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.86 ft below land-surface datum, May 20, 1988; lowest, 11.74 ft below land-surface datum, Dec. 23, 1998.

EXTREMES FOR CURRENT YEAR.--Highest water level, 6.27 ft below land-surface datum, May 22; lowest, 11.20 ft below land-surface datum, Dec. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	10.44	DEC 19	11.20	FEB 15	8.82	APR 18	7.32	JUN 21	7.27	AUG 14	10.60
NOV 09	10.76	JAN 18	10.32	MAR 21	6.77	MAY 22	6.27	JUL 19	9.69	SEP 19	11.17

394757075432101. Local number, CH 1921.

LOCATION.--Lat 39°47'57", long 75°43'21", Hydrologic Unit 02040205, at Ewart Road, at Kaolin.

Owner: Privately owned.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 65 ft, cased to 24 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 405 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.3 ft above land-surface datum.

PERIOD OF RECORD.--September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.93 ft below land-surface datum, April 21, 1997; lowest, 60.96 ft below land-surface datum, Jan. 21, 1986.

EXTREMES FOR CURRENT YEAR.--Highest water level, 45.31 ft below land-surface datum, Oct. 18; lowest, 50.50 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	45.31	DEC 18	47.22	FEB 14	48.51	APR 17	49.06	JUN 20	49.15	AUG 13	49.82
NOV 08	46.08	JAN 17	47.97	MAR 20	49.03	MAY 21	48.93	JUL 18	49.41	SEP 18	50.50

400242075484301. Local number, CH 2273.

LOCATION.--Lat 40°02'42", long 75°48'43", Hydrologic Unit 02040205, at Culbertson Run Road and State Highway 82, West Brandywine Township.

Owner: U. S. Geological Survey.

AQUIFER.--Felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 6 in., depth 298 ft, cased to 45 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 590 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of recorder platform, 4.55 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.49 ft above land-surface datum, Dec. 19, 1996; lowest, 4.91 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 2.36 ft below land-surface datum, June 21; lowest, 4.91 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	2.56	DEC 19	4.31	FEB 14	3.98	APR 18	3.57	JUN 21	2.36	AUG 14	2.98
NOV 09	3.56	JAN 18	4.65	MAR 21	4.00	MAY 22	2.48	JUL 18	2.39	SEP 18	4.91

CHESTER COUNTY

400325075332501. Local number, CH 2313.

LOCATION.--Lat 40°03'25", long 75°33'25", Hydrologic Unit 02040203, at Moores Road and Sidley Road, East Whiteland Township.

Owner: Philadelphia Suburban Water Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 8 to 20 in., depth 507 ft, cased to 22 ft with 20 in. diameter casing.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 330 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of inner casing, 2.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.50 ft above land-surface datum, April 21, 1983; lowest, 21.65 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 14.24 ft below land-surface datum, Oct. 17; lowest, 21.65 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	14.24	DEC 18	17.18	FEB 14	18.62	APR 17	19.18	JUN 20	17.42	AUG 13	20.21
NOV 08	15.58	JAN 17	18.07	MAR 20	19.15	MAY 21	17.21	JUL 18	19.13	SEP 18	21.65

400847075414701. Local number, CH 2328.

LOCATION.--Lat 40°08'47", long 75°41'47", Hydrologic Unit 02040203, at Prizer Road, near Coventryville.

Owner: U.S. Geological Survey.

AQUIFER.--Graphitic felsic gneiss, granulite facies.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 6 in., depth 323 ft, cased to 98 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 452 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, .30 ft above land-surface datum, Dec. 18, 1996; lowest, 7.38 ft below land-surface datum, Sept. 19, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 3.87 ft below land-surface datum, May 22; lowest, 7.38 ft below land-surface datum, Sept. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	4.66	DEC 19	5.65	FEB 15	5.37	APR 18	4.83	JUN 21	4.34	AUG 14	6.51
NOV 09	5.15	JAN 18	5.60	MAR 21	4.77	MAY 22	3.87	JUL 19	5.31	SEP 19	7.38

400133075450001. Local number, CH 2456.

LOCATION.--Lat 40°01'33", long 75°45'00", Hydrologic Unit 02040205, at State Highway 322, at Guthriesville.

Owner: East Brandywine Baptist Church.

AQUIFER.--Felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 225 ft, cased to 33 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.9 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.00 ft below land-surface datum, Jan. 22, 1996; lowest, 22.00 ft below land-surface datum, Jan. 21, 1986.

EXTREMES FOR CURRENT YEAR.--Highest water level, 19.14 ft below land-surface datum, May 22; lowest, 20.62 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	20.01	DEC 19	20.03	FEB 14	19.65	APR 18	19.50	JUN 21	19.47	AUG 14	20.13
NOV 09	20.41	JAN 18	19.78	MAR 21	19.41	MAY 22	19.14	JUL 18	19.73	SEP 18	20.62

CHESTER COUNTY

400039075335201. Local number, CH 2457.

LOCATION.--Lat 40°00'39", long 75°33'52", Hydrologic Unit 02040202, at Upton Circle and Green Hill Road, at Hersheys Mill.

Owner: Philadelphia Suburban Water Co.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 285 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.35 ft below land-surface datum, Dec. 18, 1996; lowest, 26.08 ft below land-surface datum, Oct. 20, 1986.

EXTREMES FOR CURRENT YEAR.--Highest water level, 20.87 ft below land-surface datum, May 21; lowest, 23.81 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	23.16	DEC 18	23.53	FEB 14	22.90	APR 17	22.20	JUN 20	21.11	AUG 13	23.19
NOV 08	23.56	JAN 17	23.32	MAR 20	22.72	MAY 21	20.87	JUL 18	22.18	SEP 18	23.81

400456075320301. Local number, CH 2561.

LOCATION.--Lat 40°04'27", long 75°32'03", Hydrologic Unit 02040203, at Yellow Springs Road and State Highway 29, at Devault.

Owner: Privately owned.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 240 ft, cased to 229 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel. Monthly measurements for July to Sept. made with electric tape.

DATUM.--Elevation of land-surface datum is 338 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--January 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 122.66 ft below land-surface datum, June 21, 1984; lowest, 178.32 ft below land-surface datum, Sept. 21, 1992.

EXTREMES FOR CURRENT YEAR.--Highest water level, 152.62 ft below land-surface datum, June 20; lowest, 162.79 ft below land-surface datum, Mar. 20.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	157.82	DEC 18	158.52	FEB 14	160.92	APR 17	159.28	JUN 20	152.62	AUG 13	154.23
NOV 08	158.74	JAN 17	160.49	MAR 20	162.79	MAY 21	153.36	JUL 18	154.89	SEP 19	155.28

395225075422001. Local number, CH 2584.

LOCATION.--Lat 39°52'25", long 75°42'20", Hydrologic Unit 02040205, at Walnut Road near intersection of Rt. 926 near Willowdale.

Owner: Privately owned.

AQUIFER.--Cockeysville marble.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 365 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--April 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.20 ft below land-surface datum, May 21, 2002; lowest, 24.66 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 20.20 ft below land-surface datum, May 21; lowest, 24.66 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 18	21.46	MAY 21	20.20	JUN 20	21.68	JUL 18	22.14	AUG 13	23.55	SEP 18	24.66

CHESTER COUNTY

394624075444001. Local number, CH 2663.

LOCATION.--Lat 39°46'24", long 75°44'40", Hydrologic Unit 02040205, at Broad Run Road and Newark Road, New Garden Township.

Owner: Privately owned.

AQUIFER.--Cockeysville marble.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 150 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 220 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.20 ft above land-surface datum. Prior to May 21, 2001 measuring point was 1.30 ft above land-surface datum.

PERIOD OF RECORD.--January 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.94 ft below land-surface datum, July 21, 1989; lowest, 11.67 ft below land-surface datum, July 18, 1985.

EXTREMES FOR CURRENT YEAR.--Highest water level, 10.31 ft below land-surface datum, Mar. 20; lowest, 11.25 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	10.84	DEC 18	10.92	FEB 14	10.94	APR 17	10.71	JUN 20	10.62
NOV 08	10.89	JAN 17	10.92	MAR 20	10.31	MAY 21	10.55	SEP 18	11.25

400358075311301. Local number, CH 3289.

LOCATION.--Lat 40°03'58", long 75°31'13", Hydrologic Unit 02040203, at Church Road, near Cedar Hollow.

Owner: Warner Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 8 in., depth 202 ft, cased to 40 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.44 ft below land-surface datum, Dec. 18, 1996; lowest, 33.18 ft below land-surface datum, Sept. 19, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 20.42 ft below land-surface datum, May 21; lowest, 33.18 ft below land-surface datum, Sept. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	30.06	DEC 18	30.01	FEB 14	27.45	APR 17	22.77	JUN 20	22.60	AUG 13	29.43
NOV 08	30.22	JAN 17	29.46	MAR 20	25.82	MAY 21	20.42	JUL 18	26.39	SEP 19	33.18

395141075525401. Local number, CH 5422.

LOCATION.--Lat 39°51'41", long 75°52'54", Hydrologic Unit 02060002, on Rt. 796 near intersection of Colton Drive at Daleville.

Owner: Privately owned.

AQUIFER.--Wissahickon schist.

WELL CHARACTERISTICS.--Drilled unused irrigation well, diameter 6 in., depth 49.4 ft.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 619 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.4 ft above land-surface datum.

PERIOD OF RECORD.--July 2000 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.37 ft below land-surface datum, Apr. 19, 2000; lowest, 26.38 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 23.35 ft below land-surface datum, Oct. 18; lowest, 26.38 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	23.35	AUG 13	24.77	SEP 18	26.38

CHESTER COUNTY

401405075400301. Local number, CH 6513.

LOCATION.--Lat 40°14'05", long 75°40'03", Hydrologic Unit 02040203, at Laurelwood Road near Rt. 724 at Pottstown Landing.

Owner: Privately owned.

AQUIFER.--Brunswick Formation.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 210 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--January 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.38 ft below land-surface datum, Jan. 18, 2002; lowest, 19.39 ft below land-surface datum, Feb. 15, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 11.38 ft below land-surface datum, Jan. 18; lowest, 19.39 ft below land-surface datum, Feb. 15.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 18	11.38	MAR 21	17.23	MAY 22	14.64	JUL 19	16.90	SEP 19	19.22
FEB 15	19.39	APR 18	17.19	JUN 21	15.66	AUG 14	18.20		

395201075363001. Local number, CH 6516.

LOCATION.--Lat 39°52'01", long 75°36'30", Hydrologic Unit 02040205, at Hillendale Road near Virginia Place near Chaddsford Junction.

Owner: Privately owned.

AQUIFER.--Felsic Gneiss, Hornblende-bearing.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 100 ft.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 295 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.20 ft above land-surface datum.

PERIOD OF RECORD.--November 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.32 ft below land-surface datum, Nov. 8, 2001; lowest, 7.75 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 3.32 ft below land-surface datum, Nov. 8; lowest, 7.75 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 08	3.32	JAN 17	5.24	MAR 20	6.10	MAY 21	6.06	JUL 18	6.65	SEP 18	7.75
DEC 18	4.52	FEB 14	5.74	APR 17	5.59	JUN 20	5.98	AUG 13	6.66		

400247075532401. Local number, CH 6517.

LOCATION.--Lat 40°02'47", long 75°53'24", Hydrologic Unit 02040205, at Telegraph Road near Sandy Hill Road west of Martins Corner.

Owner: Privately owned.

AQUIFER.--Chickies Quartzite.

WELL CHARACTERISTICS.--Drilled unused irrigation well, diameter 6 in.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 940 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--November 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 68.15 ft below land-surface datum, Nov. 9, 2001; lowest, 74.82 ft below land-surface datum, Sept. 18, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 68.15 ft below land-surface datum, Nov. 9; lowest, 74.82 ft below land-surface datum, Sept. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 09	68.15	JAN 18	71.02	MAR 21	73.05	MAY 22	73.32	JUL 18	73.32	SEP 18	74.82
DEC 19	69.83	FEB 14	72.05	APR 18	73.49	JUN 21	73.23	AUG 14	73.87		

CHESTER COUNTY

394903075581901. Local number, CH 6518.

LOCATION.--Lat 39°49'03", long 75°58'19", Hydrologic Unit 02050306, at Wyncote Golf Club on Rt. 10 near Hayesville.

Owner: Wyncote Golf Club.

AQUIFER.--Peters Creek Schist.**WELL CHARACTERISTICS.**--Drilled unused observation well, diameter 4 in., depth 37 ft.**INSTRUMENTATION.**--Monthly measurement with electric tape by U.S. Geological Survey personnel.**DATUM.**--Elevation of land-surface datum is 545 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.**PERIOD OF RECORD.**--November 2001 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 24.27 ft below land-surface datum, May 21, 2002; lowest, 27.25 ft below land-surface datum, Sept. 18, 2002.**EXTREMES FOR CURRENT YEAR.**--Highest water level, 24.27 ft below land-surface datum, May 21; lowest, 27.25 ft below land-surface datum, Sept. 18.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 08	25.52	JAN 17	25.74	MAR 20	24.88	MAY 21	24.27	JUL 18	26.05	SEP 18	27.25
DEC 18	25.91	FEB 14	25.07	APR 17	24.34	JUN 20	24.90	AUG 13	26.71		

395634075442601. Local number, CH 6519.

LOCATION.--Lat 39°56'34", long 75°44'26", Hydrologic Unit 02040205, at Youngs Road near Stargazer Road east of Laurel.

Owner: Privately owned.

AQUIFER.--Peters Creek Schist.**WELL CHARACTERISTICS.**--Drilled unused observation well, diameter 5 in., depth 400 ft.**INSTRUMENTATION.**--Monthly measurement with electric tape by U.S. Geological Survey personnel.**DATUM.**--Elevation of land-surface datum is 475 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.10 ft above land-surface datum.**PERIOD OF RECORD.**--January 2002 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 63.05 ft below land-surface datum, Aug. 14, 2002; lowest, 66.84 ft below land-surface datum, Feb. 15, 2002.**EXTREMES FOR CURRENT YEAR.**--Highest water level, 63.05 ft below land-surface datum, Aug. 14; lowest, 66.84 ft below land-surface datum, Feb. 15.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 18	65.91	MAR 21	66.05	MAY 22	64.94	JUL 19	63.14	SEP 19	66.10
FEB 15	66.84	APR 18	64.02	JUN 21	64.11	AUG 14	63.05		

CHESTER COUNTY

395045075434701. Local number, CH 5172.
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'45", long 75°43'47", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 125 ft, cased to 123 ft, closed end, screened from 96.5-121.5 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 401.0 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 2.5 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since May 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--May 29, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 31.05 ft below land-surface datum, May 21, 2000; lowest, 46.04 ft below land-surface datum, Jan. 13-15, 17, 18, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 35.13 ft below land-surface datum, Oct. 9; lowest, 41.58 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	35.13	NOV 6	38.31	DEC 3	40.29	JAN 10	41.58

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT 2001										
09...	1000	9813	1028	2.5	7.9	219	12.3	25.7	5.05	
NOV										
06...	1000	9813	1028	2.8	8.0	218	12.2	--	--	
DEC										
03...	1200	9813	1028	3.6	7.9	168	12.6	26.2	5.20	
		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001										
09...	4.03	7.35	55	<.2	6.6	<.20	19.4	37.7	146	
NOV										
06...	--	--	48	--	--	--	--	--	--	
DEC										
03...	4.19	6.66	48	<.2	7.3	<.20	18.8	38.3	178	
		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00610)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	
OCT 2001										
09...	<.020	--	.70	.57	<.040	<.010	<.010	<1.0		
NOV										
06...	<.020	<.020	.59	.52	<.040	.020	<.010	--		
DEC										
03...	<.020	--	.71	.53	<.040	<.010	<.010	<1.0		

CHESTER COUNTY

395045075434701. Local number, CH 5172--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 09...	<2	<4.0	6.9	<200	<10	<4	<4	<20
NOV 06...	--	--	--	--	--	--	--	--
DEC 03...	<2	<4.0	7.7	<200	<10	<4	<4	40

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 09...	<1.0	<20	<10	.21	M	<7	130	<10
NOV 06...	--	--	--	--	--	--	--	--
DEC 03...	<1.0	<20	<10	<.20	<4.0	<7	140	<10

CHESTER COUNTY

395045075434702. Local number, CH 5173.
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'45", long 75°43'47", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 62 ft, cased to 62 ft, closed end, screened from 42-62 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 401.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.9 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since July 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--July 31, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 23.83 ft below land-surface datum, May 22, 2000; lowest, 36.81 ft below land-surface datum, Feb. 9, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 28.74 ft below land-surface datum, Oct. 9; lowest, 33.58 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	28.74	NOV 6	31.01	DEC 3	32.63	JAN 10	33.58

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with disposable bailers from recovery water after well was bailed more than three times the casing volume.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE NUMBER (CODE NUMBER)	AGENCY COL-LECTING SAMPLE NUMBER (CODE NUMBER)	PH WATER WHOLE FIELD (STANDARD UNITS)	SPE-CIFIC CON-DUCTANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 2001	09...	9813	1028	6.0	109	13.2	12.3	3.34
NOV 06...	1100	9813	1028	6.1	141	12.3	--	--
DEC 03...	1100	9813	1028	6.1	107	13.0	15.0	3.97

Date	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SODIUM, DIS-SOLVED (MG/L AS NA)	ANC WATER UNFLTRD IT FIELD (MG/L AS CaCO3)	BROMIDE DIS-SOLVED (MG/L AS BR)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L SiO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT 2001	3.61	7.23	34	<.2	7.8	<.20	19.9	27.5	108
NOV 06...	--	--	14	--	--	--	--	--	--
DEC 03...	3.84	6.78	25	<.2	7.6	<.20	20.6	29.5	132

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 2001	<.020	--	1.2	.95	<.040	.012	.010	<1.0
NOV 06...	<.020	<.020	1.1	.89	<.040	.019	<.010	--
DEC 03...	<.020	--	1.2	.91	<.040	.015	<.010	<1.0

CHESTER COUNTY

395045075434702. Local number, CH 5173--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 09...	<2	<4.0	77.0	<200	<10	<4	<4	<20
NOV 06...	--	--	--	--	--	--	--	--
DEC 03...	<2	<4.0	83.3	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 09...	<1.0	<20	10	<.20	<4.0	<7	90	20
NOV 06...	--	--	--	--	--	--	--	--
DEC 03...	<1.0	<20	20	<.20	<4.0	<7	100	20

CHESTER COUNTY

395048075434701. Local number, CH 5174.
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'48", long 75°43'47", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 99.4 ft, cased to 99 ft, closed end, screened from 79-99 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 367.3 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.7 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since July 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--July 31, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 20.83 ft below land-surface datum, May 19, 2000; lowest, 33.70 ft below land-surface datum, Jan. 1, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 23.36 ft below land-surface datum, Oct. 11; lowest, 26.61 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	23.36	NOV 5	24.66	DEC 3	25.84	JAN 10	26.61

WATER-QUALITY RECORDS

REMARKS.--Samples collected with submersible pump from recovery water after well was pumped dry.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	
OCT 2001										
11...	1000	9813	1028	.7	8.2	219	12.3	35.1	3.45	
NOV										
05...	1200	9813	1028	.9	8.2	220	12.0	--	--	
DEC										
03...	1500	9813	1028	.3	8.2	167	12.1	33.0	3.48	
Date		POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) (00419)	BROMIDE DIS-SOLVED (MG/L) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001										
11...	2.62	4.32	60	<.2	3.6	<.20	14.7	29.0	150	
NOV										
05...	--	--	63	--	--	--	--	--	--	
DEC										
03...	2.71	4.47	65	<.2	3.6	<.20	14.3	28.7	154	
Date		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN DIS-SOLVED (MG/L) (00602)	NITRO-GEN NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN NITRITE DIS-SOLVED (MG/L) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) (00681)	
OCT 2001										
11...	<.020	--	.11	<.04	<.040	.013	<.010	<1.0		
NOV										
05...	<.020	<.020	<.06	<.04	<.040	.013	<.010	--		
DEC										
03...	<.020	--	<.06	<.04	<.040	<.010	<.010	<1.0		

CHESTER COUNTY

395048075434701. Local number, CH 5174--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 11...	<2	<4.0	16.7	<200	<10	<4	<4	40
NOV 05...	--	--	--	--	--	--	--	--
DEC 03...	<2	<4.0	17.2	<200	<10	<4	<4	60

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	<1.0	<20	20	<.20	<4.0	<7	60	<10
NOV 05...	--	--	--	--	--	--	--	--
DEC 03...	<1.0	<20	20	<.20	<4.0	<7	60	<10

CHESTER COUNTY

395048075434702. Local number, CH 5175
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'48", long 75°43'47", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 56.5 ft, cased to 56.5 ft, closed end, screened from 36.5-56.5 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 367.7 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.5 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since Sept. 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--September 11, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 8.65 ft below land-surface datum, May 19-21, 2000; lowest, 24.44 ft below land-surface datum, Jan. 13, 14, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 13.42 ft below land-surface datum, Oct. 11; lowest, 18.79 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	13.42	NOV 5	15.50	DEC 3	17.29	JAN 10	18.79

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with disposable bailer from recovery water after well was bailed more than three casing volumes. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 2001	11...	9813	1028	6.4	121	14.0	13.4	2.72
NOV 05...	1100	9813	1028	6.3	120	11.7	--	--
DEC 03...	1600	9813	1028	6.4	120	12.3	12.6	2.52

Date	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001	1.56	5.37	29	<.2	2.3	<.20	21.1	21.0	106
NOV 05...	--	--	23	--	--	--	--	--	--
DEC 03...	1.47	4.92	27	<.2	2.4	<.20	19.7	20.2	112

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 2001	<.020	--	1.1	.85	<.040	.037	.035	<1.0
NOV 05...	<.020	<.020	2.3	.86	<.040	.042	.035	--
DEC 03...	<.020	--	1.2	.86	<.040	.037	.038	<1.0

CHESTER COUNTY

395048075434702. Local number, CH 5175--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 11...	<2	<4.0	36.4	<200	<10	<4	<4	<20
NOV 05...	--	--	--	--	--	--	--	--
DEC 03...	<2	<4.0	38.8	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	<1.0	40	<10	<.20	<4.0	<7	60	<10
NOV 05...	--	--	--	--	--	--	--	--
DEC 03...	<1.0	<20	<10	<.20	<4.0	<7	50	<10

CHESTER COUNTY

395052075434501. Local number, CH 5176
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'52", long 75°43'45", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 89 ft, cased to 89 ft, closed end, screened from 69-89 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 338.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 3.2 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since July 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--July 14, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 7.83 ft below land-surface datum, Apr. 22, 2000; lowest, 13.47 ft below land-surface datum, Jan. 1-3, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 9.69 ft below land-surface datum, Oct. 18; lowest, 10.59 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	9.69	NOV 7	10.15	DEC 5	10.36	JAN 10	10.59

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--June 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)
OCT 2001 18...	1000	9813	1028	1.7	6.8	525	12.3	65.2	9.86
NOV 07...	1300	9813	1028	2.4	6.7	516	12.4	--	--
DEC 05...	1130	9813	1028	--	6.7	500	12.5	67.7	10.1

Date	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) (00419)	BROMIDE DIS-SOLVED (MG/L) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001 18...	4.89	11.0	97	<.2	40.5	<.20	24.4	26.4	470
NOV 07...	--	--	140	--	--	--	--	--	--
DEC 05...	<1.00	10.8	102	<.2	42.3	<.20	27.8	27.3	492

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN DIS-SOLVED (MG/L) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) (00681)
OCT 2001 18...	<.020	--	17	16.2	.310	.018	.010	<1.0
NOV 07...	<.020	<.020	16	14.7	.300	.016	<.010	--
DEC 05...	<.020	--	17	14.4	.270	.016	.013	<1.0

CHESTER COUNTY

395052075434501. Local number, CH 5176--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 18...	<2	<4.0	285	<200	<10	<4	<4	40
NOV 07...	--	--	--	--	--	--	--	--
DEC 05...	<2	<4.0	299	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 18...	<1.0	<20	<10	.51	<4.0	<7	240	10
NOV 07...	--	--	--	--	--	--	--	--
DEC 05...	<1.0	<20	<10	<.20	<4.0	<7	260	<10

CHESTER COUNTY

395052075434502. Local number, CH 5177
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'52", long 75°43'45", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 35 ft, cased to 33 ft, closed end, screened from 23-33 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 338.7 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.3 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since August 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--August 1, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 2.58 ft below land-surface datum, Apr. 22, 2000; lowest, 10.71 ft below land-surface datum, Jan. 1-3, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 4.64 ft below land-surface datum, Oct. 18; lowest, 6.16 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	4.64	NOV 7	5.35	DEC 5	5.68	JAN 10	6.16

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--June 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT 2001										
18...	1100	9813	1028	2.7	6.0	386	12.6	44.8	9.38	
NOV										
07...	1400	9813	1028	2.5	5.9	518	13.0	--	--	
DEC										
05...	1030	9813	1028	--	5.9	385	13.0	46.7	9.64	
Date		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001										
18...	2.07	11.2	56	<.2	27.4	<.20	23.1	62.5	350	
NOV										
07...	--	--	56	--	--	--	--	--	--	
DEC										
05...	2.15	11.1	62	<.2	29.1	<.20	23.3	62.3	292	
Date		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	
OCT 2001										
18...	<.020	--	7.6	6.75	<.040	.021	.020	1.4		
NOV										
07...	<.020	<.020	7.3	6.34	<.040	.023	.015	--		
DEC										
05...	<.020	--	7.0	6.16	<.040	.026	.023	1.4		

CHESTER COUNTY

395052075434502. Local number, CH 5177--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 18...	<2	<4.0	41.9	<200	<10	<4	<4	<20
NOV 07...	--	--	--	--	--	--	--	--
DEC 05...	<2	<4.0	42.1	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 18...	<1.0	<20	<10	<.20	<4.0	<7	110	<10
NOV 07...	--	--	--	--	--	--	--	--
DEC 05...	<1.0	<20	<10	<.20	<4.0	<7	110	<10

CHESTER COUNTY

395049075434301. Local number, CH 5178
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'49", long 75°43'43", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.
 Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 89.9 ft, cased to 89 ft, closed end, screened from 69-89 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 357.0 ft. above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.5 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since May 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--May 23, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 9.26 ft below land-surface datum, May 18, 2000; lowest, 23.01 ft below land-surface datum, Jan. 1, 2, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 12.10 ft below land-surface datum, Oct. 9; lowest, 15.89 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	12.10	NOV 5	13.68	DEC 4	14.96	JAN 10	15.89

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	
OCT 2001										
09...	1530	9813	1028	.4	8.5	242	12.3	30.5	3.93	
NOV 05...	1400	9813	1028	.7	8.3	239	12.2	--	--	
DEC 04...	1330	9813	1028	--	8.4	240	12.3	28.7	4.32	
Date		POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) (00419)	BROMIDE DIS-SOLVED (MG/L) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001										
09...	6.22	8.26	66	<.2	3.6	<.20	13.6	47.6	158	
NOV 05...	--	--	67	--	--	--	--	--	--	
DEC 04...	6.72	8.17	61	<.2	3.6	<.20	13.8	47.1	160	
Date		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA (MG/L) (00610)	NITRO-GEN DIS-SOLVED (MG/L) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) (00681)	
OCT 2001										
09...	.040	--	<.06	<.04	<.040	.015	.011	<1.0		
NOV 05...	.030	.030	<.06	<.04	<.040	.014	<.010	--		
DEC 04...	<.020	--	.14	<.04	<.040	<.010	<.010	<1.0		

CHESTER COUNTY

395049075434301. Local number, CH 5178--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 09...	<2	<4.0	35.2	<200	<10	<4	<4	100
NOV 05...	--	--	--	--	--	--	--	--
DEC 04...	<2	<4.0	34.7	<200	<10	<4	<4	30

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 09...	<1.0	<20	30	<.20	<4.0	<7	80	<10
NOV 05...	--	--	--	--	--	--	--	--
DEC 04...	<1.0	<20	20	<.20	<4.0	<7	80	<10

CHESTER COUNTY

395049075434302. Local number, CH 5179
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'49", long 75°43'43", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.
 Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 39 ft, cased to 39 ft, closed end, screened from 24-39 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 357.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.2 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since August 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--August 1, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 4.56 ft below land-surface datum, July 6, 2000; lowest, 20.19 ft below land-surface datum, Jan. 5, 6, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 8.08 ft below land-surface datum, Oct. 9; lowest, 13.30 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	8.08	NOV 5	10.54	DEC 4	12.17	JAN 10	13.30

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCTANCE (µS/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)
OCT 2001 09...	1430	9813	1028	3.0	6.0	346	12.6	35.5	13.6
NOV 05...	1500	9813	1028	5.3	6.1	359	12.7	--	--
DEC 04...	1430	9813	1028	--	6.0	316	13.1	34.0	13.3

Date	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) (00419)	BROMIDE DIS-SOLVED (MG/L) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001 09...	3.04	6.31	57	<.2	57.0	<.20	14.3	21.8	262
NOV 05...	--	--	40	--	--	--	--	--	--
DEC 04...	3.06	6.37	53	<.2	60.7	<.20	14.6	21.7	256

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN DIS-SOLVED (MG/L) (00602)	NITRO-GEN NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN NITRITE DIS-SOLVED (MG/L) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) (00681)
OCT 2001 09...	<.020	--	1.9	1.67	<.040	.020	.017	<1.0
NOV 05...	<.020	<.020	1.9	1.58	<.040	.022	.015	--
DEC 04...	<.020	--	1.8	1.54	<.040	.020	.019	<1.0

CHESTER COUNTY

395049075434302. Local number, CH 5179--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 09...	<2	<4.0	149	<200	<10	<4	<4	<20
NOV 05...	--	--	--	--	--	--	--	--
DEC 04...	<2	<4.0	161	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 09...	<1.0	<20	<10	<.20	<4.0	<7	170	10
NOV 05...	--	--	--	--	--	--	--	--
DEC 04...	<1.0	<20	<10	<.20	<4.0	<7	180	<10

CHESTER COUNTY

395046075434401. Local number, CH 5180
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°50'46", long 75°43'44", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 32 ft, cased to 30 ft, closed end, screened from 20-30 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 400.9 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.3 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since August 1999, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--August 9, 1999 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 16.85 ft below land-surface datum, Sept. 21, 1999; lowest, 30.00 ft below land-surface datum, Mar. 26, 2001.

EXTREMES FOR CURRENT YEAR.--Highest water level, 22.38 ft below land-surface datum, Oct. 9; lowest, 28.95 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	22.38	NOV 6	25.44	DEC 5	27.72	JAN 10	28.95

WATER-QUALITY RECORDS

REMARKS.--Samples collected with disposable bailer or a submersible pump from recovery water after well was bailed more than three casing volumes. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

PERIOD OF RECORD.--June 1999 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT 2001	11...	9813	1028	2.2	5.7	389	12.8	34.8	20.7
NOV	06...	9813	1028	3.4	5.8	400	13.0	--	--
DEC	05...	9813	1028	--	5.7	417	14.2	34.1	19.0

Date	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001	3.54	6.41	30	<.2	79.0	<.20	8.26	26.0	328
NOV	--	--	32	--	--	--	--	--	--
DEC	3.25	6.41	28	<.2	74.1	<.20	9.16	25.8	282

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
OCT 2001	.200	--	3.2	2.86	<.040	.031	.027	1.5
NOV	.520	.390	4.7	3.68	<.040	.056	.044	--
DEC	1.08	--	5.0	2.76	<.040	.137	.248	3.2

CHESTER COUNTY

395046075434401. Local number, CH 5180--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 11...	<2	<4.0	124	<200	<10	<4	<4	70
NOV 06...	--	--	--	--	--	--	--	--
DEC 05...	<2	<4.0	138	<200	<10	<4	<4	110

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	<1.0	30	<10	<.20	<4.0	<7	200	60
NOV 06...	--	--	--	--	--	--	--	--
DEC 05...	<1.0	<20	10	<.20	M	<7	240	240

CHESTER COUNTY

**395052075434201. Local number, CH 5181
(New Garden Township, Chester County, Spray Irrigation Project)**

LOCATION.--Lat 39°50'52", long 75°43'42", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 40 ft, cased to 40 ft, closed end, screened from 30-40 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 336.5 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 2.25 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since July 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--July 14, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 3.11 ft below land-surface datum, Mar. 28, 2000; lowest, 11.54 ft below land-surface datum, Jan. 1-3, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 6.64 ft below land-surface datum, Oct. 11; lowest, 7.66 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	6.64	NOV 6	7.16	DEC 4	7.52	JAN 10	7.66

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped dry.

PERIOD OF RECORD.--June 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
OCT 2001										
11...	1300	9813	1028	.7	6.6	241	12.8	27.3	6.19	
NOV										
06...	1300	9813	1028	1.1	6.7	240	12.5	--	--	
DEC										
04...	1230	9813	1028	--	6.7	238	12.8	25.6	6.39	
Date	Time	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001										
11...	5.38	8.73	55	<.2	6.7	<.20	16.8	34.1	162	
NOV										
06...	--	--	59	--	--	--	--	--	--	
DEC										
04...	5.09	7.59	62	<.2	7.0	<.20	15.7	31.9	174	
Date	Time	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	
OCT 2001										
11...	.020	--	3.3	3.11	<.040	<.010	<.010	<1.0		
NOV										
06...	.030	.020	3.5	2.91	<.040	<.010	<.010	--		
DEC										
04...	.020	--	3.0	2.67	<.040	<.010	<.010	<1.0		

CHESTER COUNTY

395052075434201. Local number, CH 5181--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 11...	<2	<4.0	65.5	<200	<10	<4	30	60
NOV 06...	--	--	--	--	--	--	--	--
DEC 04...	<2	<4.0	67.2	<200	<10	<4	110	80

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 11...	M	30	40	<.20	<4.0	<7	100	260
NOV 06...	--	--	--	--	--	--	--	--
DEC 04...	M	<20	50	<.20	<4.0	<7	110	950

CHESTER COUNTY

**395043075440701. Local number, CH 5182
(New Garden Township, Chester County, Spray Irrigation Project)**

LOCATION.--Lat 39°50'43", long 75°44'07", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 195 ft, cased to 195 ft, closed end, screened from 165-195 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 381.9 ft.above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.1 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since June 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--June 24, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 16.36 ft below land-surface datum, Aug. 30, 2000; lowest, 25.77 ft below land-surface datum, Mar. 19, 20, 22, 29-31, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 21.13 ft below land-surface datum, Oct. 10; lowest, 24.22 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	21.13	NOV 5	21.58	DEC 4	22.08	JAN 10	24.22

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--June 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG) (00925)
OCT 2001	10...	9813	1028	.6	8.3	190	13.3	29.3	3.51
NOV	07...	9813	1028	.6	8.4	190	12.1	--	--
DEC	04...	9813	1028	--	8.3	215	12.3	28.8	.02

Date	POTAS-SIUM, DIS-SOLVED (MG/L) AS K) (00935)	SODIUM, DIS-SOLVED (MG/L) AS NA) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) AS CACO3) (00419)	BROMIDE DIS-SOLVED (MG/L) AS BR) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F) (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L) AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001	2.60	4.38	73	<.2	3.3	<.20	16.8	14.0	140
NOV	--	--	77	--	--	--	--	--	--
DEC	2.57	4.22	93	<.2	3.6	<.20	16.3	14.4	124

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO-GEN DIS-SOLVED (MG/L) AS N) (00602)	NITRO-GEN NITRATE DIS-SOLVED (MG/L) AS N) (00618)	NITRO-GEN NITRITE DIS-SOLVED (MG/L) AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) AS P) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) AS C) (00681)
OCT 2001	<.020	--	.27	<.04	<.040	<.010	<.010	<1.0
NOV	<.020	<.020	<.06	<.04	<.040	.010	<.010	--
DEC	<.020	--	.12	<.04	<.040	<.010	<.010	<1.0

CHESTER COUNTY

395043075440701. Local number, CH 5182--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 10...	<2	<4.0	11.7	<200	<10	<4	<4	50
NOV 07...	--	--	--	--	--	--	--	--
DEC 04...	<2	<4.0	11.8	<200	<10	<4	<4	60

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 10...	<1.0	<20	20	<.20	<4.0	<7	60	<10
NOV 07...	--	--	--	--	--	--	--	--
DEC 04...	<1.0	<20	20	<.20	<4.0	<7	60	<10

CHESTER COUNTY

**395043075440702. Local number, CH 5183
(New Garden Township, Chester County, Spray Irrigation Project)**

LOCATION.--Lat 39°50'43", long 75°44'07", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 90 ft, cased to 90 ft, closed end, screened from 70-90 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 381.5 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood shelf, 1.95 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since May 1998, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--May 30, 1998 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land-surface for the period of record indicated above.

Highest water level, 17.29 ft below land-surface datum, Sept. 2-4, 2000; lowest, 26.72 ft below land-surface datum, Mar. 30, 31, Apr. 2, 3, 5, 6, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 21.63 ft below land-surface datum, Jan. 10; lowest, 22.98 ft below land-surface datum, Dec. 4.

**DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
INSTANTANEOUS VALUES**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	22.05	NOV 5	22.48	DEC 4	22.98	JAN 10	21.63

WATER-QUALITY RECORDS

REMARKS.-- Samples collected with submersible pump from recovery water after well was pumped more than three casing volumes.

PERIOD OF RECORD.--May 1998 to December 2001. (discontinued)

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)
OCT 2001	10...	9813	1028	2.3	7.0	213	12.8	32.4	3.95
NOV	07...	9813	1028	3.3	7.0	212	12.3	--	--
DEC	04...	9813	1028	6.8	7.1	215	12.1	31.5	4.15

Date	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	SODIUM, DIS-SOLVED (MG/L) (00930)	ANC WATER UNFLTRD IT FIELD (MG/L) (00419)	BROMIDE DIS-SOLVED (MG/L) (71870)	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SULFATE DIS-SOLVED (MG/L) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT 2001	2.10	4.72	73	<.2	7.3	<.20	21.8	3.5	138
NOV	--	--	90	--	--	--	--	--	--
DEC	2.08	4.66	84	<.2	7.5	<.20	21.8	3.2	136

Date	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO-GEN DIS-SOLVED (MG/L) (00602)	NITRO-GEN NITRATE DIS-SOLVED (MG/L) (00618)	NITRO-GEN NITRITE DIS-SOLVED (MG/L) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L) (00671)	CARBON, ORGANIC DIS-SOLVED (MG/L) (00681)
OCT 2001	<.020	--	3.8	3.47	<.040	.019	.014	<1.0
NOV	<.020	<.020	4.0	3.50	<.040	.016	<.010	--
DEC	<.020	--	3.8	3.43	<.040	.017	.012	<1.0

CHESTER COUNTY

395043075440702. Local number, CH 5183--Continued

WATER-QUALITY DATA, OCTOBER 2001 TO DECEMBER 2001

Date	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BORON, DIS-SOLVED (µG/L AS B) (01020)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (µG/L AS CR) (01030)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)
OCT 2001 10...	<2	<4.0	56.0	<200	<10	<4	<4	<20
NOV 07...	--	--	--	--	--	--	--	--
DEC 04...	<2	<4.0	58.1	<200	<10	<4	<4	<20

Date	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (µG/L AS MN) (01056)	MERCURY DIS-SOLVED (µG/L AS HG) (71890)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (µG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (µG/L AS SR) (01080)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)
OCT 2001 10...	<1.0	<20	<10	<.20	<4.0	<7	90	<10
NOV 07...	--	--	--	--	--	--	--	--
DEC 04...	<1.0	<20	<10	<.20	<4.0	<7	90	<10

CHESTER COUNTY

395100075434601. Local number, CH 5721
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°51'00", long 75°43'46", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 101 ft, cased to 101 ft, closed end, screened from 91-101 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 314.5 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of steel casing, 2.2 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since August 1999, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--August 6, 1999 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land-surface for the period of record indicated above.

Highest water level, 20.95 ft below land-surface datum, April 4, 2000; lowest, 24.90 ft below land-surface datum, January 10, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 24.20 ft below land-surface datum, Oct. 10; lowest, 24.90 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	24.20	NOV 6	24.55	DEC 6	24.82	JAN 10	24.90

395100075434602. Local number, CH 5722
(New Garden Township, Chester County, Spray Irrigation Project)

LOCATION.--Lat 39°51'00", long 75°43'46", Hydrologic Unit 02040205, at Spray Irrigation Site in New Garden Township.

Owner: New Garden Township Municipal Authority.

AQUIFER.--Felsic Gneiss of Precambrian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 42 ft, cased to 42 ft, screened from 25-42 ft.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land surface is 314.2 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of steel casing, 1.8 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels, since November 1999, are also available from the District Office. Other data for this project are presented in tables on pages 318-328 and 426-435.

PERIOD OF RECORD.--November 9, 1999 to current year. (discontinued)

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land-surface for the period of record indicated above.

Highest water level, 21.10 ft below land-surface datum, July 26, 27, 2000; lowest, 24.04 ft below land-surface datum, January 10, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 23.32 ft below land-surface datum, Oct. 18; lowest, 24.04 ft below land-surface datum, Jan. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	23.32	NOV 5	23.54	DEC 6	23.88	JAN 10	24.04

DELAWARE COUNTY

395512075293701, Local number, DE 723.

LOCATION.--Lat 39°55'12", long 75°29'37", Hydrologic Unit 02040203, at Glen Mills School, in Thornbury Township.
 Owner: Glen Mills School.

AQUIFER.--Felsic Hornblende bearing Gneiss of Precambian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 300 ft, casing information not available.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 2.66 ft above land-surface datum. Prior to May 11, 1984, top of plywood shelf 1.20 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

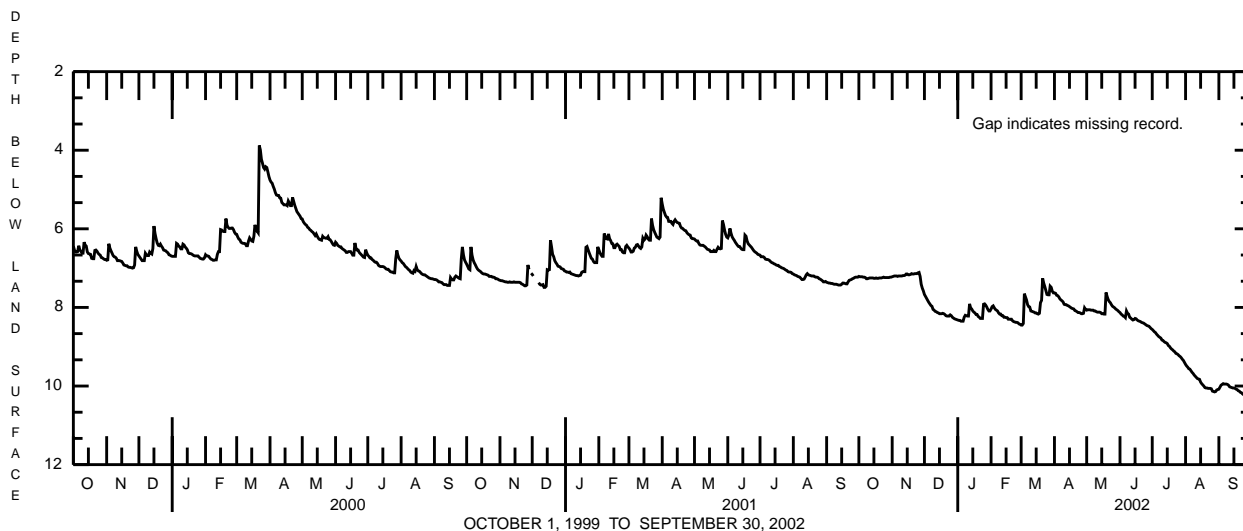
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 1.50 ft below land-surface datum, Dec. 15, 1996; lowest, 10.25 ft below land-surface datum, Sept. 26, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 7.08 ft below land-surface datum, Nov. 25, 26; lowest, 10.25 ft below land-surface datum, Sept. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.21	7.22	7.67	8.32	8.04	8.45	7.63	8.07	8.13	8.56	9.45	10.08
2	7.22	7.21	7.72	8.33	7.98	8.45	7.64	8.06	8.17	8.59	9.49	10.03
3	7.22	7.20	7.77	8.33	7.96	8.41	7.69	8.06	8.19	8.62	9.52	9.98
4	7.22	7.20	7.82	8.35	8.01	7.65	7.70	8.06	8.22	8.64	9.56	9.96
5	7.23	7.20	7.87	8.35	8.05	7.73	7.73	8.07	8.23	8.68	9.57	9.94
6	7.23	7.21	7.91	8.35	8.07	7.81	7.78	8.07	8.26	8.71	9.61	9.95
7	7.24	7.20	7.95	8.25	8.09	7.93	7.81	8.07	8.09	8.74	9.65	9.95
8	7.27	7.20	7.97	8.20	8.14	7.98	7.83	8.09	8.15	8.76	9.68	9.95
9	7.27	7.20	8.05	8.21	8.17	7.99	7.86	8.09	8.17	8.78	9.72	9.96
10	7.26	7.20	8.07	8.22	8.17	8.09	7.92	8.11	8.25	8.83	9.75	9.98
11	7.25	7.19	8.10	8.22	8.21	8.10	7.93	8.12	8.27	8.84	9.78	10.02
12	7.25	7.19	8.11	7.91	8.21	8.11	7.93	8.12	8.30	8.87	9.81	10.03
13	7.25	7.18	8.13	8.01	8.25	8.12	7.95	8.12	8.32	8.89	9.82	10.04
14	7.25	7.15	8.14	8.04	8.25	8.14	7.96	8.13	8.31	8.90	9.83	10.05
15	7.26	7.15	8.16	8.09	8.26	8.14	7.98	8.16	8.28	8.92	9.90	10.05
16	7.26	7.17	8.16	8.12	8.26	8.16	8.00	8.16	8.29	8.97	9.94	10.06
17	7.25	7.17	8.16	8.14	8.30	8.17	8.02	8.17	8.32	8.99	9.97	10.08
18	7.26	7.16	8.15	8.18	8.30	8.15	8.03	8.17	8.34	9.03	10.00	10.09
19	7.26	7.14	8.16	8.18	8.30	7.88	8.04	7.62	8.35	9.06	10.04	10.12
20	7.25	7.15	8.18	8.23	8.30	7.82	8.08	7.72	8.36	9.08	10.05	10.13
21	7.25	7.15	8.21	8.25	8.34	7.26	8.09	7.80	8.38	9.11	10.05	10.16
22	7.25	7.14	8.22	8.28	8.36	7.38	8.11	7.85	8.39	9.13	10.06	10.17
23	7.24	7.14	8.22	8.28	8.37	7.47	8.13	7.88	8.40	9.17	10.06	10.20
24	7.23	7.14	8.22	8.28	8.38	7.57	8.13	7.93	8.42	9.18	10.06	10.22
25	7.24	7.12	8.19	7.92	8.38	7.67	8.14	7.97	8.44	9.20	10.07	10.24
26	7.24	7.11	8.21	7.91	8.39	7.68	8.16	7.99	8.46	9.23	10.13	10.25
27	7.24	7.21	8.25	7.94	8.42	7.68	8.16	8.01	8.47	9.25	10.14	10.24
28	7.24	7.41	8.27	7.99	8.43	7.46	8.15	8.04	8.48	9.28	10.15	10.21
29	7.24	7.51	8.29	8.05	---	7.49	8.01	8.06	8.51	9.32	10.14	10.19
30	7.23	7.58	8.30	8.09	---	7.59	8.05	8.08	8.54	9.35	10.10	10.14
31	7.23	---	8.31	8.09	---	7.63	---	8.11	---	9.40	10.09	---
MEAN	7.24	7.21	8.09	8.16	8.23	7.88	7.95	8.03	8.32	8.97	9.88	10.08
MAX	7.27	7.58	8.31	8.35	8.43	8.45	8.16	8.17	8.54	9.40	10.15	10.25
MIN	7.21	7.11	7.67	7.91	7.96	7.26	7.63	7.62	8.09	8.56	9.45	9.94



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

LEBANON COUNTY

402207076180801. Local number, LB 372.

LOCATION.--Lat 40°22'07", long 76°18'08", Hydrologic Unit 02040203, at Myerstown.
 Owner: Kohl Brothers, Inc.

AQUIFER.--Dolomite of Ontelaunee Formation of Middle Ordovician age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 80 ft, casing information not available, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 444 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 2.7 ft above land-surface datum. Prior to Apr. 22, 1981, measuring point was 3.50 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--July 1973 to current year.

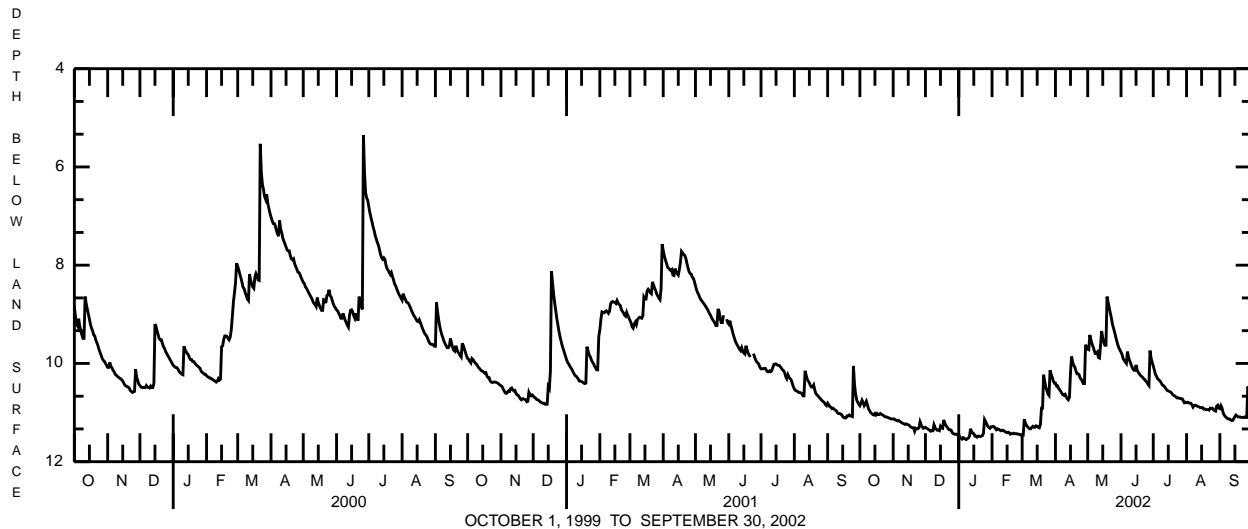
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 4.02 ft below land-surface datum, Jan. 27, 1976; lowest, 11.55 ft below land-surface datum, Jan. 8, 2002.

EXTREMES FOR CURRENT YEAR.--Highest water level, 8.41 ft below land-surface datum, May 18; lowest, 11.55 ft below land-surface datum, Jan. 8.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.86	11.13	11.30	11.46	11.29	11.46	10.40	9.71	9.77	10.05	10.80	10.92
2	10.81	11.13	11.32	11.50	11.28	11.46	10.46	9.72	9.82	10.13	10.79	10.86
3	10.75	11.15	11.33	11.52	11.29	11.14	10.46	9.42	9.90	10.22	10.80	10.91
4	10.80	11.16	11.35	11.54	11.32	11.21	10.51	9.52	9.94	10.26	10.81	11.00
5	10.86	11.17	11.36	11.51	11.35	11.26	10.54	9.60	9.97	10.31	10.81	11.05
6	10.82	11.16	11.38	11.52	11.33	11.29	10.57	9.66	10.00	10.33	10.84	11.08
7	10.77	11.18	11.37	11.54	11.34	11.31	10.61	9.73	9.76	10.35	10.89	11.10
8	10.84	11.19	11.37	11.55	11.35	11.33	10.64	9.80	9.87	10.38	10.86	11.12
9	10.92	11.21	11.25	11.53	11.37	11.33	10.65	9.80	9.94	10.42	10.85	11.13
10	10.96	11.22	11.31	11.52	11.37	11.30	10.63	9.77	10.00	10.45	10.86	11.13
11	11.00	11.23	11.34	11.48	11.36	11.28	10.68	9.88	10.06	10.46	10.87	11.15
12	11.02	11.24	11.36	11.33	11.37	11.30	10.72	9.89	10.11	10.49	10.88	11.16
13	11.04	11.23	11.36	11.39	11.39	11.30	10.74	9.62	10.14	10.52	10.89	11.16
14	11.05	11.24	11.37	11.42	11.40	11.27	10.69	9.34	10.14	10.55	10.90	11.12
15	11.02	11.25	11.28	11.43	11.41	11.28	10.19	9.48	10.03	10.56	10.90	11.08
16	11.05	11.26	11.31	11.48	11.40	11.30	9.86	9.57	10.13	10.57	10.90	11.05
17	11.02	11.29	11.32	11.48	11.41	11.31	9.97	9.63	10.18	10.58	10.93	11.07
18	11.04	11.30	11.15	11.50	11.44	11.24	10.04	9.63	10.21	10.60	10.93	11.09
19	11.04	11.31	11.21	11.48	11.43	10.91	10.07	8.64	10.24	10.63	10.94	11.09
20	11.02	11.31	11.26	11.48	11.43	10.91	10.15	8.75	10.26	10.65	10.94	11.09
21	11.03	11.38	11.29	11.49	11.42	10.23	10.21	8.86	10.28	10.66	10.94	11.10
22	11.05	11.32	11.32	11.48	11.43	10.37	10.21	8.97	10.31	10.68	10.95	11.10
23	11.06	11.33	11.35	11.47	11.43	10.48	10.23	9.07	10.33	10.70	10.91	11.10
24	11.08	11.33	11.35	11.42	11.43	10.55	10.30	9.20	10.36	10.70	10.92	11.09
25	11.09	11.31	11.36	11.14	11.44	10.62	10.32	9.28	10.38	10.71	10.91	11.10
26	11.09	11.19	11.41	11.18	11.44	10.65	10.37	9.36	10.42	10.71	10.94	11.10
27	11.10	11.25	11.43	11.23	11.45	10.14	10.41	9.45	10.45	10.72	10.96	10.47
28	11.11	11.29	11.44	11.28	11.46	10.23	10.41	9.54	9.74	10.72	10.97	10.54
29	11.12	11.32	11.44	11.30	---	10.28	9.62	9.62	9.89	10.76	10.87	10.70
30	11.13	11.31	11.44	11.32	---	10.36	9.67	9.68	9.98	10.80	10.85	10.78
31	11.13	---	11.46	11.29	---	10.40	---	9.73	---	10.79	10.91	---
MEAN	10.99	11.25	11.34	11.43	11.39	10.95	10.34	9.48	10.09	10.53	10.89	11.01
MAX	11.13	11.38	11.46	11.55	11.46	11.46	10.74	9.89	10.45	10.80	10.97	11.16
MIN	10.75	11.13	11.15	11.14	11.28	10.14	9.62	8.64	9.74	10.05	10.79	10.47



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

LEHIGH COUNTY

403429075392401. Local number, LE 644.

LOCATION.--Lat 40°34'29", long 75°39'24", Hydrologic Unit 02040106, at Haafsville.

Owner: Privately owned.

AQUIFER.--Beekmantown Group of Middle Ordovician age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 10 in., depth 184 ft, cased to 63 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 2.65 ft above land-surface datum. Prior to Mar. 18, 1981, top of casing, 1.45 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, and water-quality records for 1973-75 are also available from the District Office.

PERIOD OF RECORD.--January 1971 to current year.

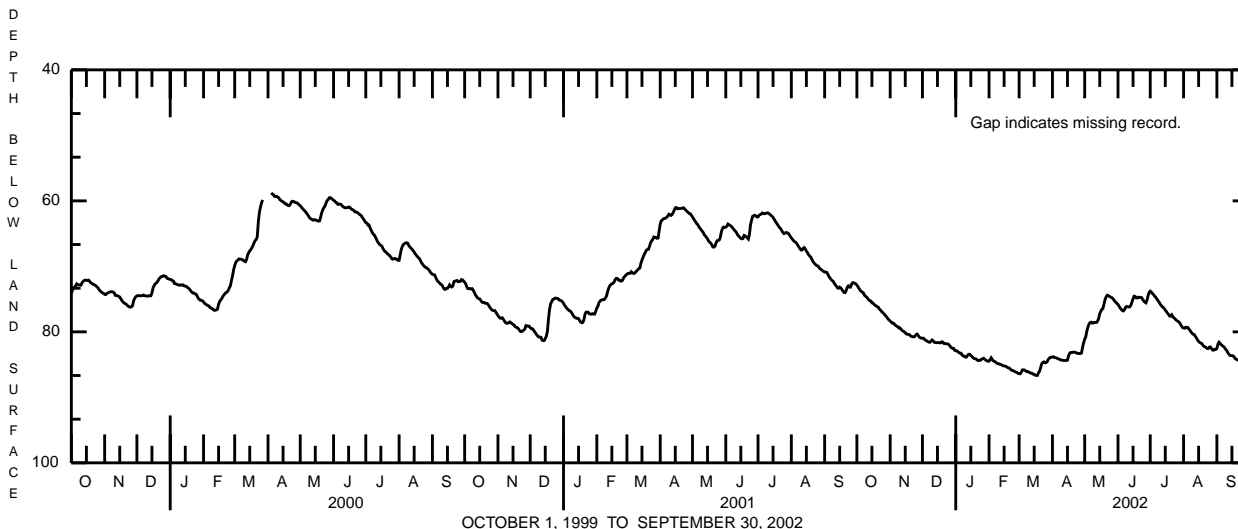
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 33.72 ft below land-surface datum, Apr. 3, 1994; lowest, 93.42 ft below land-surface datum, Feb. 6, 1971.

EXTREMES FOR CURRENT YEAR.--Highest water level, 72.59 ft below land-surface datum, Oct. 1; lowest, 86.65 ft below land-surface datum, Mar. 17, 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72.86	78.35	80.96	82.89	84.48	86.40	83.83	81.11	75.82	73.79	79.42	82.54
2	73.10	78.52	80.97	82.90	84.24	86.40	83.80	80.77	76.09	73.92	79.45	81.88
3	73.38	78.67	81.15	83.02	83.96	86.15	83.92	79.87	76.37	74.14	79.30	81.58
4	73.65	78.67	81.29	83.18	84.22	85.80	83.94	79.31	76.56	74.29	79.39	81.73
5	73.81	78.85	81.38	83.25	84.43	85.80	84.00	78.81	76.75	74.56	79.34	81.95
6	73.93	79.00	81.48	83.26	84.52	85.82	84.11	78.59	76.81	74.67	79.55	82.10
7	74.03	79.13	81.57	83.55	84.60	85.95	84.14	78.52	76.63	74.97	79.78	82.23
8	74.41	79.21	81.59	83.68	84.76	86.07	84.22	78.66	76.27	75.18	80.02	82.37
9	74.54	79.41	81.43	83.72	84.86	86.05	84.32	78.65	76.12	75.41	80.24	82.64
10	74.69	79.39	81.24	83.86	84.86	86.15	84.32	78.54	76.18	75.69	80.37	82.81
11	74.88	79.57	81.37	83.85	84.95	86.23	84.36	78.56	76.20	75.94	80.41	83.12
12	75.11	79.77	81.58	83.60	84.98	86.32	84.38	78.56	76.18	76.14	80.70	83.37
13	75.25	79.90	81.64	83.43	85.08	86.32	84.37	78.35	75.93	76.26	80.95	83.58
14	75.29	79.98	81.65	83.43	85.18	86.46	84.37	77.96	75.45	76.45	81.23	83.63
15	75.57	80.13	81.65	83.62	85.20	86.49	84.32	77.22	74.94	76.66	81.47	83.63
16	75.61	80.32	81.63	83.75	85.22	86.63	83.64	76.86	74.56	76.90	81.61	83.66
17	75.80	80.37	81.68	83.93	85.30	86.65	83.27	76.56	74.60	77.13	81.72	83.82
18	75.97	80.38	81.67	84.07	85.43	86.65	83.15	76.43	74.82	77.33	81.78	84.07
19	76.03	80.43	81.51	84.10	85.49	86.24	83.18	75.72	74.82	77.59	82.05	84.18
20	76.18	80.63	81.56	84.14	85.55	86.01	83.11	75.03	74.71	77.61	82.22	84.26
21	76.24	80.71	81.78	84.31	85.71	85.47	83.10	74.65	74.76	77.40	82.29	84.35
22	76.54	80.75	81.80	84.39	85.86	84.87	83.12	74.41	74.73	77.66	82.41	84.27
23	76.67	80.76	81.81	84.34	85.92	84.68	83.19	74.47	74.78	77.88	82.55	84.38
24	76.90	80.67	81.82	84.34	85.97	84.58	83.28	74.59	75.06	77.99	82.55	84.51
25	77.04	80.45	81.88	84.17	86.08	84.72	83.27	74.68	75.31	78.19	82.33	84.72
26	77.22	80.34	82.02	84.10	86.15	84.70	83.32	74.75	75.47	78.32	82.31	84.74
27	77.41	80.53	82.25	84.03	86.21	84.58	83.32	74.89	75.57	78.42	82.55	84.71
28	77.59	80.77	82.43	84.18	86.33	84.22	83.24	75.08	75.16	78.55	82.78	83.24
29	77.78	80.91	82.50	84.32	---	84.05	82.38	75.32	74.45	78.80	82.80	82.76
30	78.05	80.97	82.51	84.43	---	83.88	81.67	75.50	73.96	79.09	82.67	82.65
31	78.20	---	82.83	84.47	---	83.89	---	75.66	---	79.34	82.68	---
MEAN	75.60	79.92	81.70	83.82	85.20	85.62	83.62	77.03	75.50	76.65	81.26	83.32
MAX	78.20	80.97	82.83	84.47	86.33	86.65	84.38	81.11	76.81	79.34	82.80	84.74
MIN	72.86	78.35	80.96	82.89	83.96	83.88	81.67	74.41	73.96	73.79	79.30	81.58



MONROE COUNTY

411223075234901. Local number, MO 190.

LOCATION.--Lat 41°12'23", long 75°23'49", Hydrologic Unit 02040106, at Tobyhanna State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 98 ft, cased to 59 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,990 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.0 ft above land-surface datum. Prior to Mar. 28, 1980, top of plywood shelf, 2.6 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

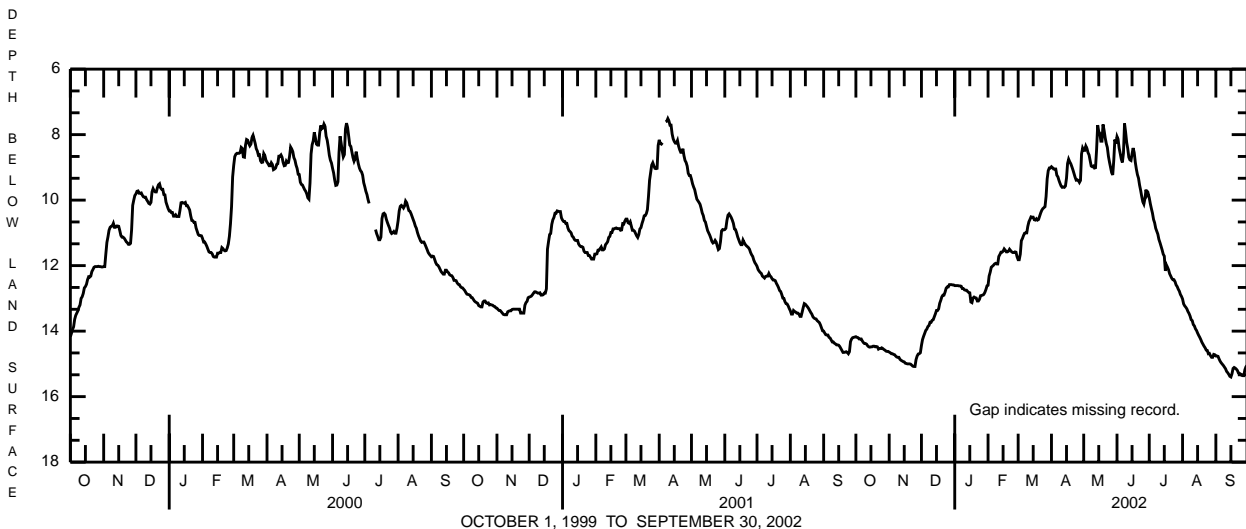
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 6.62 ft below land-surface datum, Apr. 13,14, 1994; lowest, 16.87 ft below land-surface datum, Oct. 24, 25, 1980.

EXTREMES FOR CURRENT YEAR.--Highest water level, 7.59 ft below land-surface datum, June 8; lowest, 15.40 ft below land-surface datum, Sept. 15.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.17	14.64	14.44	12.61	12.60	11.82	8.98	8.48	8.06	9.93	13.02	14.76
2	14.19	14.66	14.26	12.61	12.32	11.82	9.01	8.48	8.14	10.11	13.17	14.76
3	14.20	14.69	14.16	12.61	12.20	11.65	9.05	8.35	8.41	10.26	13.23	14.77
4	14.24	14.69	14.07	12.61	12.05	11.24	9.05	8.42	8.58	10.40	13.27	14.85
5	14.24	14.71	13.98	12.62	12.02	11.17	9.05	8.55	8.75	10.59	13.32	14.92
6	14.24	14.72	13.94	12.62	11.99	11.08	9.24	8.62	8.85	10.69	13.40	14.97
7	14.30	14.76	13.86	12.63	11.95	11.01	9.29	8.79	8.56	10.86	13.46	15.01
8	14.35	14.79	13.83	12.70	11.93	11.00	9.40	8.96	7.66	10.95	13.54	15.05
9	14.38	14.80	13.73	12.70	11.95	11.00	9.49	8.98	7.92	11.04	13.65	15.10
10	14.38	14.80	13.73	12.74	11.95	10.80	9.57	8.96	8.24	11.20	13.68	15.15
11	14.40	14.86	13.67	12.75	11.72	10.66	9.61	9.02	8.43	11.30	13.80	15.23
12	14.45	14.89	13.65	12.75	11.66	10.59	9.60	9.01	8.69	11.41	13.84	15.27
13	14.48	14.91	13.56	12.79	11.59	10.51	9.61	8.46	8.77	11.52	13.93	15.32
14	14.49	14.93	13.47	12.82	11.59	10.52	9.57	7.71	8.79	11.65	13.98	15.38
15	14.48	14.94	13.37	12.83	11.56	10.52	9.33	7.91	8.59	11.71	14.06	15.40
16	14.48	14.98	13.37	13.11	11.49	10.60	8.88	7.96	8.41	12.16	14.13	15.30
17	14.46	14.99	13.32	13.13	11.53	10.61	8.75	8.20	8.55	11.98	14.19	15.14
18	14.46	15.00	13.15	12.99	11.58	10.57	8.83	8.20	8.84	12.05	14.26	15.11
19	14.48	15.00	13.06	12.96	11.58	10.61	8.89	7.69	9.05	12.13	14.34	15.13
20	14.47	15.00	12.95	12.98	11.56	10.59	8.98	7.87	9.22	12.25	14.40	15.16
21	14.48	15.01	12.90	12.99	11.50	10.49	9.08	8.10	9.33	12.32	14.46	15.20
22	14.55	15.04	12.90	13.08	11.54	10.39	9.19	8.27	9.54	12.39	14.51	15.28
23	14.53	15.07	12.81	13.08	11.58	10.31	9.30	8.39	9.70	12.43	14.58	15.29
24	14.53	15.08	12.69	13.03	11.60	10.26	9.39	8.66	9.89	12.43	14.59	15.31
25	14.51	15.08	12.65	12.92	11.60	10.23	9.38	8.84	10.05	12.49	14.69	15.35
26	14.53	14.87	12.65	12.91	11.58	10.20	9.40	9.00	10.12	12.59	14.68	15.36
27	14.56	14.76	12.58	12.90	11.59	9.89	9.46	9.16	9.95	12.64	14.75	15.36
28	14.58	14.70	12.58	12.88	11.73	9.35	9.40	9.23	9.68	12.72	14.80	15.18
29	14.61	14.69	12.58	12.82	---	9.10	8.59	8.78	9.85	12.78	14.80	15.09
30	14.62	14.66	12.59	12.73	---	9.02	8.41	8.15	9.80	12.88	14.71	15.05
31	14.62	---	12.59	12.62	---	9.02	---	8.27	---	12.94	14.72	---
MEAN	14.43	14.86	13.33	12.82	11.77	10.54	9.19	8.50	8.95	11.70	14.06	15.14
MAX	14.62	15.08	14.44	13.13	12.60	11.82	9.61	9.23	10.12	12.94	14.80	15.40
MIN	14.17	14.64	12.58	12.61	11.49	9.02	8.41	7.69	7.66	9.93	13.02	14.76



MONTGOMERY COUNTY

401415075175101. Local number, MG 68.
(North Penn Project)

LOCATION.--Lat 40°14'15", long 75°17'49", Hydrologic Unit 02040203, on Towamencin Street southwest from Whites Road, Upper Gwynedd Township.

Owner: North Penn Water Authority.

AQUIFER.--Shale of Brunswick Group of Triassic Age.

WELL CHARACTERISTICS.--Drilled unused public supply well, diameter 14 in., depth 500 ft, cased to 9 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.

DATUM.--Elevation of land-surface datum is 321.7 ft above National Geodetic Vertical Datum of 1929, from survey. Measuring point: Top of plywood shelf, about 0.5 ft above land-surface datum. Horizontal datum is NAD83.

REMARKS.--In addition to the daily mean water-level table shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--August 1996 to January 2000; December 2000 to current year.

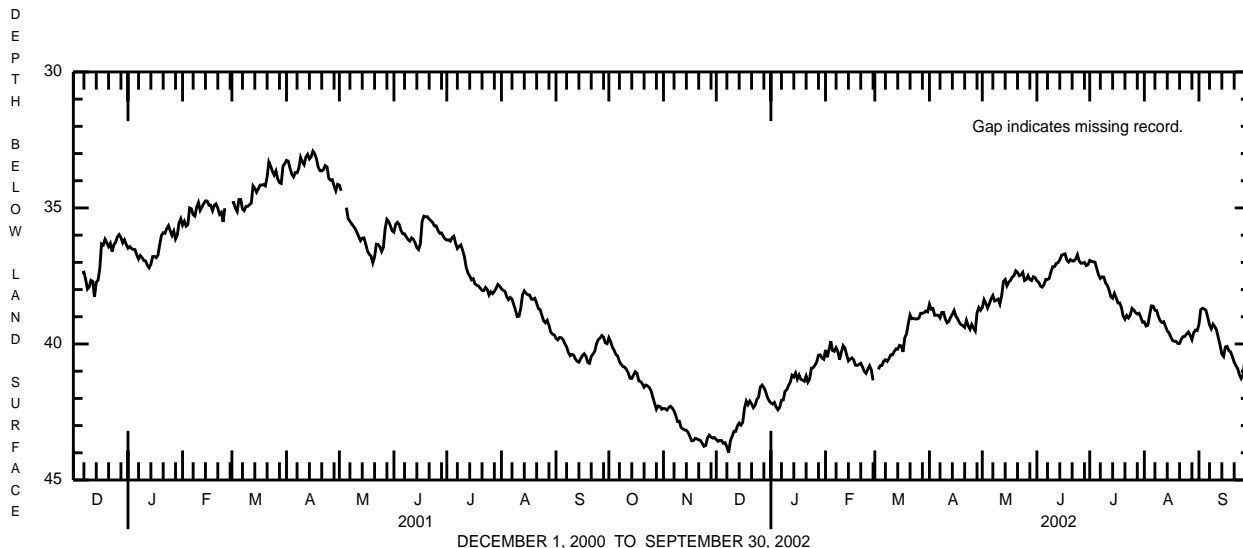
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 33.01 ft below land-surface datum, Apr. 17, 2001; lowest, 54.76 ft below below land-surface datum, Dec. 27, 1998.

EXTREMES FOR CURRENT YEAR.--Highest water level, 36.65 ft below land-surface datum, June 17; lowest, 44.06 ft below land-surface datum, Dec. 8.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.77	42.37	43.51	42.17	40.22	---	38.54	38.66	37.68	36.93	39.19	39.28
2	39.91	42.38	43.58	42.21	40.49	---	38.72	38.37	37.73	36.96	39.34	38.74
3	40.12	42.43	43.54	42.15	40.21	40.93	38.70	38.50	37.87	36.98	39.31	38.69
4	40.23	42.33	43.55	42.32	39.90	40.80	38.95	38.68	37.91	36.99	38.93	38.71
5	40.39	42.29	43.65	42.42	40.24	40.79	38.94	38.53	37.82	37.23	38.60	38.77
6	40.44	42.36	43.63	42.33	40.27	40.63	38.94	38.34	37.63	37.46	38.61	39.02
7	40.65	42.46	43.78	42.07	40.14	40.58	39.04	38.22	37.63	37.59	38.76	39.30
8	40.75	42.63	43.99	42.06	40.28	40.64	38.84	38.42	37.59	37.53	38.77	39.44
9	40.83	42.85	43.56	41.74	40.57	40.54	38.84	38.39	37.34	37.54	38.99	39.27
10	40.85	42.84	43.39	41.68	40.30	40.40	39.08	38.35	37.16	37.76	39.15	39.36
11	40.94	43.07	43.21	41.53	40.06	40.40	39.22	38.53	37.16	37.85	39.21	39.49
12	41.06	43.12	43.21	41.40	40.15	40.28	39.17	38.23	37.04	38.02	39.18	39.77
13	41.26	43.16	43.01	41.15	40.40	40.18	39.02	37.70	37.01	38.27	39.35	40.04
14	41.27	43.17	42.91	41.21	40.62	40.19	38.91	37.63	36.91	38.32	39.52	40.37
15	41.14	43.25	42.98	41.07	40.55	40.05	38.77	37.86	36.74	38.14	39.59	40.46
16	41.02	43.40	42.88	41.29	40.51	40.07	38.98	37.73	36.71	38.30	39.74	40.11
17	41.08	43.56	42.37	41.14	40.59	40.29	39.07	37.66	36.69	38.49	39.87	40.09
18	41.35	43.55	42.10	41.30	40.78	39.77	39.21	37.54	36.92	38.49	39.90	40.25
19	41.38	43.47	42.23	41.33	40.79	39.63	39.29	37.49	36.99	38.66	39.90	40.29
20	41.46	43.49	42.10	41.37	40.75	39.25	39.33	37.31	36.90	38.98	39.98	40.47
21	41.59	43.52	42.20	41.18	40.71	38.93	39.39	37.37	36.95	39.09	39.98	40.67
22	41.51	43.55	42.34	41.40	40.84	39.07	39.13	37.49	36.95	38.95	39.82	40.80
23	41.54	43.65	42.26	41.28	41.01	39.06	39.33	37.46	36.88	39.04	39.73	40.91
24	41.60	43.76	42.04	40.89	41.08	39.08	39.46	37.37	36.72	38.94	39.72	41.13
25	41.73	43.73	41.95	40.87	40.93	39.08	39.28	37.67	36.95	38.69	39.63	41.27
26	41.96	43.45	41.58	40.78	40.80	39.05	39.41	37.63	37.03	38.75	39.56	41.14
27	42.19	43.35	41.51	40.66	40.95	38.87	39.52	37.49	37.03	38.85	39.68	40.59
28	42.40	43.42	41.60	40.41	41.34	38.87	38.86	37.63	37.00	38.90	39.84	40.46
29	42.28	43.46	41.75	40.40	---	38.85	38.66	37.67	37.12	38.87	39.59	40.37
30	42.30	43.44	41.96	40.52	---	38.79	38.76	37.53	37.09	39.02	39.49	40.09
31	42.40	---	42.09	40.56	---	38.82	---	37.56	---	39.20	39.51	---
MEAN	41.21	43.12	42.72	41.38	40.55	39.79	39.05	37.90	37.17	38.22	39.43	39.98
MAX	42.40	43.76	43.99	42.42	41.34	40.93	39.52	38.68	37.91	39.20	39.98	41.27
MIN	39.77	42.29	41.51	40.40	39.90	38.79	38.54	37.31	36.69	36.93	38.60	38.69



MONTGOMERY COUNTY

401338075162801. Local number, MG 72.
(North Penn Project)

LOCATION.--Lat 40°13'38", long 75°16'27", Hydrologic Unit 02040203, on Hancock Street near Wissahickon Creek, Upper Gwynedd Township.
Owner: North Penn Water Authority.

AQUIFER.--Shale of Brunswick Group of Triassic Age.

WELL CHARACTERISTICS.--Drilled unused public supply well, diameter 10 in., depth 298 ft, cased to 41.5 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.

DATUM.--Elevation of land-surface datum is 355.1 ft above National Geodetic Vertical Datum of 1929, from survey. Measuring point: Top of concrete pad, about 0.85 ft above well-house floor and 1.47 ft above land-surface datum. Horizontal datum is NAD83.

REMARKS.--In addition to the daily mean water-level table shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--December 2000 to current year.

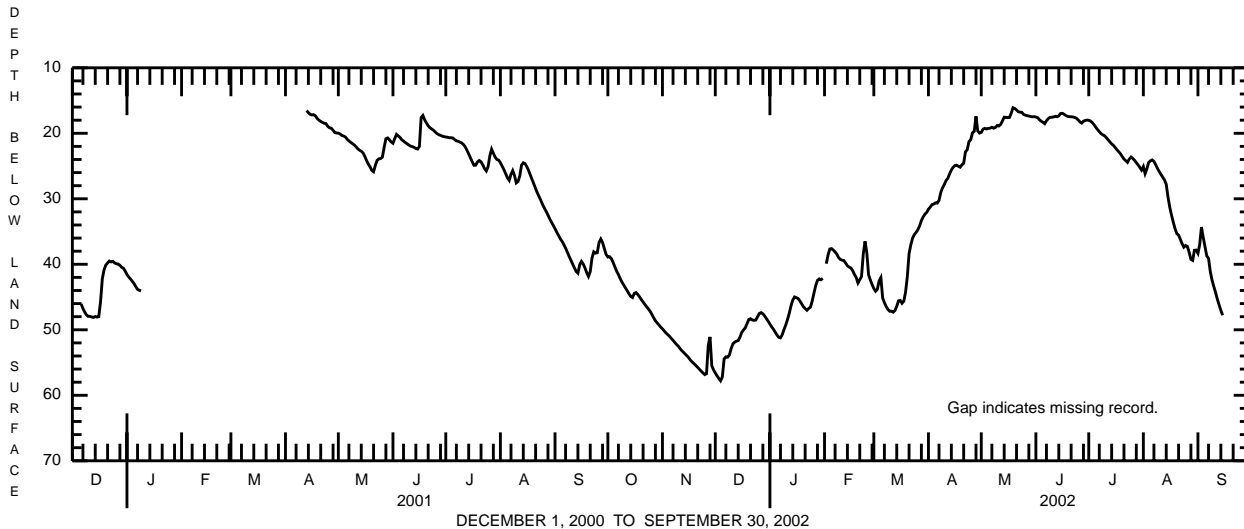
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 16.22 ft below land-surface datum, Apr. 28, 2002; lowest, 58.03 ft below land-surface datum, Dec. 4, 2001.

EXTREMES FOR CURRENT YEAR.--Highest water level, 16.22 ft below land-surface datum, Apr. 28; lowest, 58.03 ft below land-surface datum, Dec. 4.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.89	49.86	56.59	49.12	---	43.70	31.60	19.86	17.52	18.01	25.08	38.32
2	38.84	50.17	57.04	49.55	39.91	44.12	31.27	19.37	17.61	18.13	26.16	36.99
3	39.14	50.48	57.43	49.92	38.57	43.81	30.90	19.25	17.92	18.36	25.43	34.31
4	39.72	50.73	57.79	50.35	37.67	42.54	30.81	19.33	18.15	18.70	24.46	35.92
5	40.41	51.00	57.20	50.79	37.61	42.03	30.62	19.25	18.32	19.08	24.20	37.29
6	41.06	51.31	54.45	51.15	37.83	45.13	30.66	19.22	18.54	19.43	24.07	38.73
7	41.58	51.61	54.13	51.23	38.13	45.86	30.26	19.08	18.09	19.75	24.29	39.09
8	42.19	51.93	54.18	50.74	38.45	46.43	29.03	19.22	17.76	20.05	24.79	41.10
9	42.71	52.25	53.85	49.96	38.98	46.89	28.33	19.11	17.57	20.24	25.35	42.42
10	43.16	52.50	52.88	49.26	39.26	47.17	27.82	18.81	17.55	20.39	25.84	43.40
11	43.60	52.87	52.14	48.43	39.37	47.16	27.22	18.89	17.51	20.67	26.28	44.30
12	44.04	53.19	51.89	47.47	39.43	47.31	26.89	18.64	17.41	20.99	26.70	45.32
13	44.51	53.46	51.74	46.31	39.81	47.05	26.21	18.12	17.47	21.31	27.13	46.20
14	44.91	53.73	51.64	45.46	40.23	46.41	25.60	17.54	17.32	21.62	27.79	47.03
15	45.08	54.00	51.13	44.99	40.42	45.58	25.19	17.56	16.98	21.85	29.73	47.78
16	44.45	54.31	50.40	45.09	40.58	45.52	24.93	17.61	16.95	22.17	31.29	---
17	44.32	54.67	50.03	45.23	40.97	45.95	24.87	17.58	17.09	22.52	32.52	---
18	44.61	54.94	49.71	45.61	41.55	45.64	25.03	16.93	17.29	22.81	33.57	---
19	44.97	55.19	49.09	46.03	42.03	44.28	25.18	16.09	17.42	23.13	34.59	---
20	45.39	55.46	48.42	46.47	42.85	41.92	24.81	16.21	17.46	23.54	35.31	---
21	45.76	55.74	48.31	46.76	42.35	38.38	24.57	16.44	17.48	23.94	35.55	---
22	46.12	56.03	48.50	47.02	41.87	37.02	22.85	16.70	17.50	24.18	36.20	---
23	46.48	56.32	48.56	46.75	38.41	36.01	22.51	16.77	17.59	24.44	36.86	---
24	46.82	56.59	48.51	46.55	36.50	35.46	21.28	16.80	17.69	23.94	37.38	---
25	47.18	56.84	48.02	45.62	38.22	35.11	20.97	17.12	17.95	23.63	37.13	---
26	47.65	56.69	47.51	44.41	41.59	34.72	19.93	17.23	18.26	23.83	37.28	---
27	48.16	52.38	47.38	43.25	42.39	34.13	19.70	17.31	18.44	24.12	38.16	---
28	48.62	51.09	47.56	42.46	43.09	33.33	17.40	17.37	18.17	24.48	39.25	---
29	48.95	55.48	47.89	42.23	---	32.77	19.64	17.43	18.03	24.82	39.41	---
30	49.27	56.12	48.29	42.36	---	32.35	19.97	17.49	17.99	25.21	37.86	---
31	49.59	---	48.69	42.16	---	32.08	---	17.46	---	25.62	37.83	---
MEAN	44.46	53.56	51.32	46.86	39.93	41.48	25.54	17.93	17.70	21.97	31.21	41.21
MAX	49.59	56.84	57.79	51.23	43.09	47.31	31.60	19.86	18.54	25.62	39.41	47.78
MIN	38.84	49.86	47.38	42.16	36.50	32.08	17.40	16.09	16.95	18.01	24.07	34.31



MONTGOMERY COUNTY

400808075210401. Local number, MG 225.

LOCATION.--Lat 40°08'08", long 75°21'04", Hydrologic Unit 02040203, at Willow and Locust Streets, Norristown.

Owner: Norristown State Hospital.

AQUIFER.--Sandstone of Stockton Formation of Late Triassic age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 486 ft (previously reported as 300 ft), cased to 78 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land-surface datum is 165 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 2.35 ft above land-surface datum. Prior to Mar. 17, 1981, top of casing 0.8 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--September 1956 to current year.

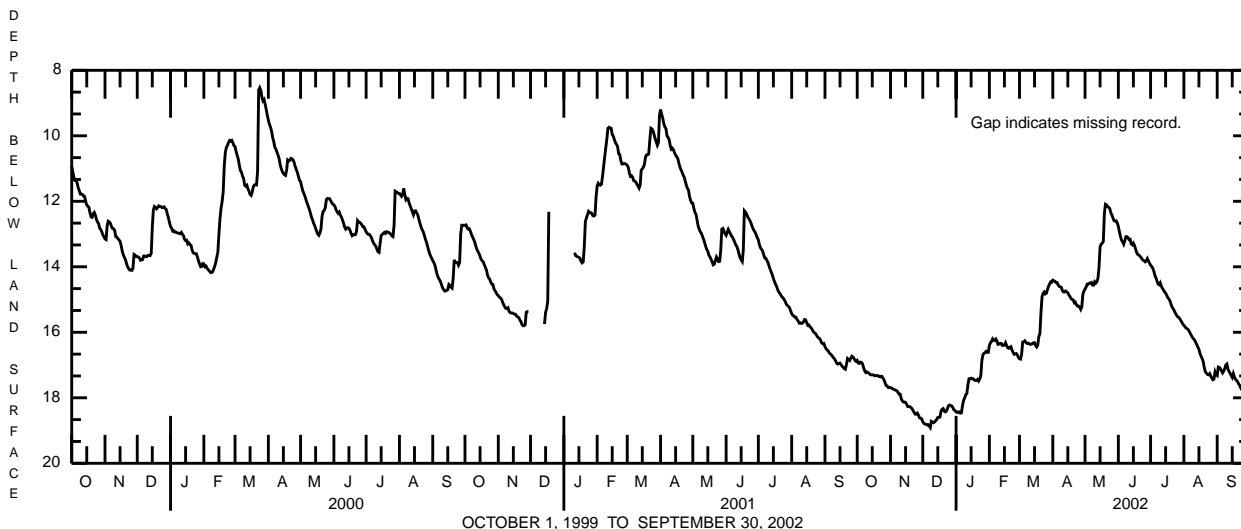
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 8.28 ft below land-surface datum, Dec. 15, 1996; lowest, 60.25 ft below land-surface datum, Nov. 5, 6, 1963.

EXTREMES FOR CURRENT YEAR.--Highest water level, 12.03 ft below land-surface datum, May 21; lowest, 18.91 ft below land-surface datum, Dec. 8.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.86	17.69	18.73	18.43	16.40	16.81	14.41	14.68	12.77	13.95	15.79	17.32
2	16.94	17.70	18.78	18.45	16.32	16.82	14.43	14.62	12.93	13.99	15.83	17.06
3	16.95	17.73	18.80	18.43	16.28	16.67	14.44	14.53	13.08	14.04	15.87	17.07
4	16.91	17.74	18.81	18.43	16.20	16.30	14.48	14.53	13.19	14.13	15.89	17.11
5	16.92	17.76	18.83	18.47	16.24	16.29	14.48	14.50	13.24	14.26	15.92	17.18
6	16.97	17.77	18.82	18.46	16.25	16.26	14.56	14.50	13.31	14.34	15.97	17.24
7	17.09	17.79	18.86	18.23	16.21	16.31	14.60	14.48	13.21	14.44	16.04	17.19
8	17.18	17.84	18.91	18.08	16.27	16.34	14.61	14.56	13.08	14.53	16.10	17.11
9	17.23	17.89	18.72	18.00	16.37	16.33	14.63	14.56	13.08	14.55	16.16	17.00
10	17.21	17.89	18.74	17.91	16.36	16.35	14.73	14.46	13.11	14.49	16.20	16.97
11	17.23	18.03	18.76	17.87	16.34	16.37	14.77	14.50	13.17	14.59	16.24	17.12
12	17.25	18.10	18.74	17.61	16.34	16.36	14.77	14.46	13.16	14.66	16.31	17.20
13	17.29	18.13	18.70	17.42	16.40	16.35	14.74	14.36	13.30	14.71	16.38	17.25
14	17.30	18.13	18.66	17.42	16.40	16.32	14.77	14.02	13.33	14.77	16.45	17.32
15	17.30	18.14	18.60	17.40	16.39	16.32	14.79	13.40	13.28	14.80	16.52	17.38
16	17.30	18.20	18.60	17.42	16.32	16.41	14.86	13.31	13.35	14.87	16.65	17.26
17	17.32	18.27	18.59	17.42	16.40	16.45	14.91	13.28	13.45	14.94	16.73	17.36
18	17.33	18.27	18.41	17.46	16.47	16.39	14.97	13.23	13.56	14.98	16.80	17.43
19	17.32	18.27	18.35	17.47	16.49	16.13	15.00	12.38	13.62	15.04	16.90	17.47
20	17.32	18.30	18.33	17.47	16.46	16.04	15.01	12.09	13.64	15.14	17.08	17.51
21	17.35	18.33	18.41	17.44	16.44	15.41	15.10	12.11	13.67	15.23	17.21	17.58
22	17.34	18.39	18.43	17.49	16.54	14.91	15.08	12.16	13.71	15.28	17.25	17.62
23	17.36	18.45	18.41	17.43	16.61	14.81	15.16	12.18	13.76	15.34	17.29	17.71
24	17.35	18.50	18.32	17.33	16.67	14.77	15.20	12.22	13.80	15.41	17.30	17.76
25	17.40	18.50	18.24	16.86	16.66	14.83	15.20	12.35	13.82	15.47	17.26	17.78
26	17.46	18.47	18.22	16.69	16.65	14.81	15.23	12.42	13.85	15.52	17.33	17.79
27	17.55	18.53	18.24	16.64	16.69	14.70	15.30	12.51	13.82	15.54	17.40	17.62
28	17.63	18.61	18.25	16.62	16.77	14.60	15.22	12.59	13.75	15.58	17.45	17.04
29	17.64	18.63	18.30	16.58	---	14.53	14.84	12.61	13.82	15.63	17.43	16.95
30	17.69	18.64	18.37	16.61	---	14.46	14.74	12.60	13.89	15.69	17.21	17.00
31	17.69	---	18.39	16.61	---	14.47	---	12.66	---	15.75	17.29	---
MEAN	17.28	18.16	18.56	17.55	16.43	15.80	14.83	13.45	13.43	14.89	16.65	17.31
MAX	17.69	18.64	18.91	18.47	16.77	16.82	15.30	14.68	13.89	15.75	17.45	17.79
MIN	16.86	17.69	18.22	16.58	16.20	14.46	14.41	12.09	12.77	13.95	15.79	16.95



MONTGOMERY COUNTY

401733075171401. Local number, MG 917.

LOCATION.--Lat 40°17'33", long 75°17'14", Hydrologic Unit 02040201, at North Penn Water Authority at Lansdale.

Owner: North Penn Water Authority.

AQUIFER.--Shale of Brunswick Formation of Late Triassic Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in, depth 500 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 350 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.39 ft above land-surface datum.

REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels, are also available from the District Office.

PERIOD OF RECORD.--August 1997 to current year.

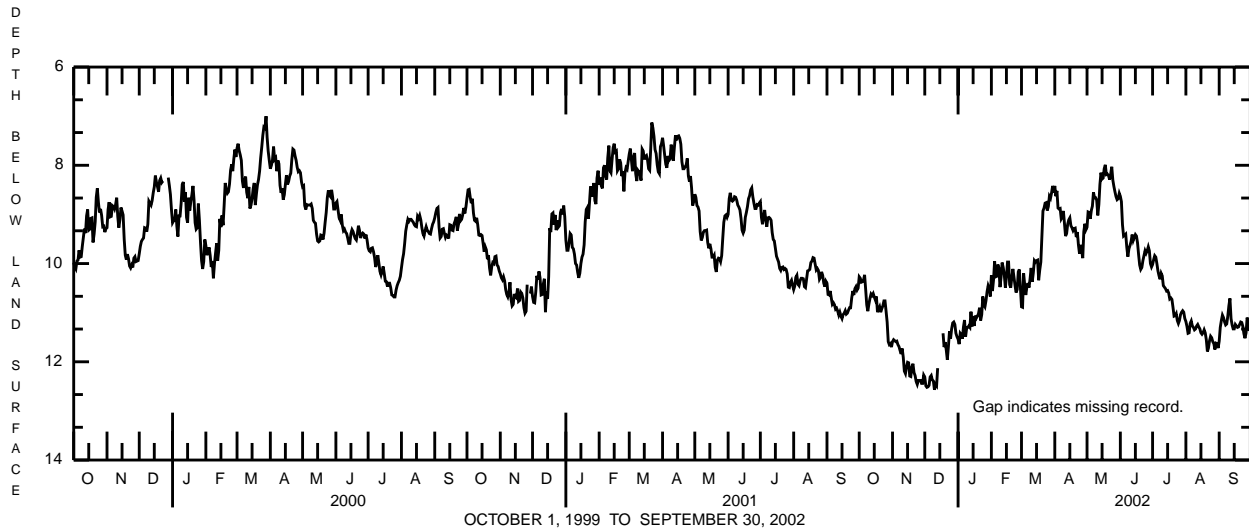
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 7.00 ft below land-surface datum, March 28, 2000; lowest, 12.66 ft below land-surface datum, Aug. 16, 1999.

EXTREMES FOR CURRENT YEAR.--Highest water level, 7.83 ft below land-surface datum, May 18; lowest, 12.64 ft below land-surface datum, Dec. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.27	11.59	12.31	11.54	10.24	10.88	8.42	9.26	8.63	10.02	11.18	11.58
2	10.30	11.55	12.49	11.64	10.56	10.89	8.63	8.95	8.74	9.92	11.28	11.30
3	10.38	11.57	12.52	11.42	10.33	10.20	8.52	8.96	9.21	9.84	11.42	11.16
4	10.37	11.59	12.51	11.45	9.95	10.43	8.87	9.09	9.44	9.87	11.41	11.05
5	10.34	11.58	12.48	11.53	10.27	10.64	8.89	8.92	9.42	10.0	11.22	11.10
6	10.23	11.65	12.31	11.29	10.26	10.48	8.88	8.83	9.40	10.15	11.17	11.19
7	10.53	11.69	12.28	11.15	10.02	10.40	9.09	8.55	9.67	10.25	11.27	11.25
8	10.84	11.77	12.37	11.49	10.09	10.49	9.05	8.66	9.86	10.32	11.30	11.23
9	10.97	11.84	12.39	11.31	10.48	10.31	8.93	8.66	9.70	10.20	11.35	11.07
10	10.83	11.73	12.57	11.30	10.28	10.09	9.18	8.71	9.63	10.25	11.33	10.86
11	10.71	11.91	12.46	11.27	9.98	10.37	9.44	9.02	9.55	10.45	11.27	10.71
12	10.62	12.19	12.49	11.30	10.08	10.19	9.39	8.80	9.41	10.48	11.24	11.12
13	10.65	12.24	12.13	10.98	10.23	9.94	9.20	8.39	9.53	10.51	11.29	11.25
14	10.61	12.10	---	11.28	10.49	9.97	9.11	8.15	9.47	10.56	11.33	11.33
15	10.68	12.01	---	11.07	10.28	9.94	9.07	8.28	9.41	10.55	11.41	11.33
16	10.74	12.02	---	11.27	9.97	9.93	9.23	8.26	9.44	10.60	11.44	11.24
17	10.67	12.29	---	11.06	9.97	10.34	9.27	8.07	9.58	10.72	11.41	11.27
18	10.99	12.30	11.42	11.11	10.43	10.13	9.33	7.99	9.82	10.70	11.35	11.30
19	10.93	12.10	11.70	11.07	10.49	9.97	9.29	8.19	10.03	10.73	11.41	11.29
20	10.88	12.04	11.60	11.02	10.28	9.45	9.28	8.18	10.12	10.89	11.55	11.24
21	10.99	12.22	11.76	10.90	10.11	8.93	9.46	8.21	10.08	11.07	11.79	11.19
22	10.92	12.28	11.96	11.16	10.27	8.87	9.36	8.29	9.94	11.06	11.72	11.20
23	10.86	12.40	11.69	11.04	10.45	8.77	9.62	8.18	9.84	11.02	11.57	11.28
24	10.76	12.46	11.38	10.67	10.59	8.76	9.80	8.03	9.74	11.16	11.48	11.43
25	10.76	12.38	11.53	10.84	10.53	8.92	9.62	8.30	9.79	11.22	11.51	11.52
26	10.97	12.38	11.33	10.88	10.17	8.84	9.73	8.43	9.74	11.16	11.59	11.41
27	11.19	12.38	11.21	10.75	10.12	8.63	9.89	8.54	9.66	11.04	11.63	11.10
28	11.59	12.44	11.19	10.57	10.49	8.67	9.35	8.64	9.74	10.99	11.75	11.20
29	11.65	12.44	11.24	10.45	---	8.56	9.19	8.70	10.0	10.96	11.62	11.37
30	11.63	12.27	11.42	10.51	---	8.42	9.31	8.68	10.07	10.99	11.63	11.30
31	11.70	---	11.49	10.67	---	8.56	---	8.57	---	11.12	11.72	---
MEAN	10.82	12.05	11.93	11.10	10.26	9.71	9.21	8.53	9.62	10.61	11.44	11.23
MAX	11.70	12.46	12.57	11.64	10.59	10.89	9.89	9.26	10.12	11.22	11.79	11.58
MIN	10.23	11.55	11.19	10.45	9.95	8.42	8.42	7.99	8.63	9.84	11.17	10.71



MONTGOMERY COUNTY

401318075171101. Local number, MG 1146.
(North Penn Project)

LOCATION.--Lat 40°13'19", long 75°17'11", Hydrologic Unit 02040203, on Church Road southwest from Wissahickon Avenue, Upper Gwynedd Township.
Owner: Teleflex Corporation.

AQUIFER.--Shale of Brunswick Group of Triassic Age.

WELL CHARACTERISTICS.--Drilled monitor well, diameter 6 in., depth 84 ft, cased to 19.5 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.

DATUM.--Elevation of land-surface datum is 350 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf on top of well casing, about 1.74 ft above land-surface datum. Horizontal datum is NAD27.

REMARKS.--In addition to the daily mean water-level table shown below, daily maximum and minimum water levels are also available from the District Office.

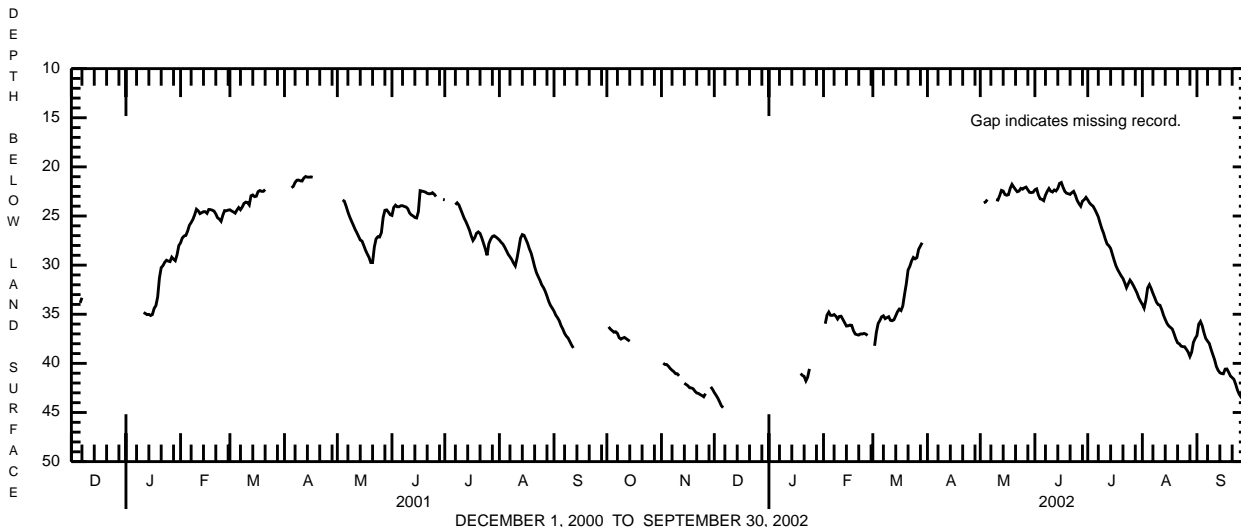
PERIOD OF RECORD.--December 2000 to current year.

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above. Highest water level, 20.98 ft below land-surface datum, Apr. 13, 2000; lowest, 44.95 ft below land-surface datum, Dec. 7, 2001.

EXTREMES FOR CURRENT YEAR.--Highest water level, 21.57 ft below land-surface datum, June 16; lowest, 44.95 ft below land-surface datum, Dec. 7.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	42.97	---	---	---	---	---	22.33	23.36	33.99	37.17
2	36.29	39.99	43.24	---	35.96	38.21	---	---	22.24	23.66	34.38	36.01
3	36.51	40.11	43.54	---	35.08	36.84	---	23.66	22.87	23.86	33.56	35.73
4	36.67	40.12	43.91	44.42	34.78	35.95	---	23.57	23.25	24.00	32.32	36.17
5	36.83	40.30	44.31	---	35.11	35.63	---	23.33	23.31	24.32	31.99	36.89
6	36.78	40.53	44.51	---	35.12	35.26	---	---	23.44	24.69	32.38	37.46
7	36.95	40.70	---	---	35.03	35.16	---	---	22.88	25.09	32.87	37.73
8	37.39	40.84	---	---	35.19	35.45	---	---	22.49	25.71	33.30	37.97
9	37.53	41.05	---	---	35.49	35.34	---	---	22.20	26.29	33.77	38.57
10	37.43	41.06	---	---	35.22	35.25	---	23.33	22.48	26.76	34.02	39.10
11	37.36	41.27	---	---	35.20	35.62	---	23.38	22.56	27.36	34.08	39.62
12	37.49	---	---	---	35.53	35.66	---	22.93	22.35	27.85	34.52	40.31
13	37.62	---	---	---	35.86	35.55	---	22.39	22.45	28.03	35.09	40.70
14	37.74	42.02	---	---	36.20	35.15	---	22.46	22.19	28.30	35.53	40.95
15	---	42.15	---	---	36.18	34.74	---	22.81	21.68	28.91	35.93	41.04
16	---	42.28	---	---	36.10	34.48	---	22.89	21.59	29.51	36.19	41.06
17	---	42.48	---	---	36.13	34.62	---	22.83	22.08	30.06	36.34	40.59
18	---	42.50	---	---	36.67	34.16	---	22.18	22.50	30.46	36.50	40.57
19	---	42.58	---	41.04	37.01	32.97	---	21.78	22.68	30.78	36.98	40.90
20	---	42.83	---	41.22	37.08	31.90	---	22.05	22.74	31.10	37.50	41.28
21	---	43.01	---	41.33	37.12	30.50	---	22.31	22.80	31.36	37.91	41.45
22	---	43.06	---	41.78	37.00	30.12	---	22.53	22.62	31.80	38.01	41.63
23	---	43.18	---	41.40	37.01	29.58	---	22.46	22.49	32.30	38.24	42.13
24	---	43.27	---	40.56	36.95	29.22	---	22.19	22.89	31.91	38.30	42.72
25	---	43.40	---	---	37.02	29.36	---	22.27	23.41	31.53	38.31	43.14
26	---	43.08	---	---	37.16	29.24	---	22.13	23.73	31.79	38.57	43.41
27	---	---	---	---	---	28.40	---	22.06	24.00	32.11	38.85	42.51
28	---	---	---	---	---	28.05	---	22.34	23.49	32.47	39.30	41.17
29	---	42.39	---	---	---	27.72	---	22.59	23.34	32.85	38.86	40.32
30	---	42.64	---	---	---	---	---	22.62	23.10	33.33	37.86	40.08
31	---	---	---	---	---	---	---	22.58	---	33.69	37.46	---
MEAN	37.12	41.87	43.75	41.68	36.05	33.22	---	22.63	22.74	28.88	35.90	39.95
MAX	37.74	43.40	44.51	44.42	37.16	38.21	---	23.66	24.00	33.69	39.30	43.41
MIN	36.29	39.99	42.97	40.56	34.78	27.72	---	21.78	21.59	23.36	31.99	35.73



NORTHAMPTON COUNTY

404745075184001. Local number, NP 820.

LOCATION.--Lat 40°47'45", long 75°18'40", Hydrologic Unit 02040105, at 0.75 mi east of Bushkill Center on SR 1010, at Jacobsburg State Park.
 Owner: Jacobsburg State Park.

AQUIFER.--Martinsburg Shale.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 218 ft, cased to 50 ft.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 578 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal shelf, 3.25 ft above land-surface datum.

REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels, are also available from the District Office.

PERIOD OF RECORD.--May 3, 2001 to current year.

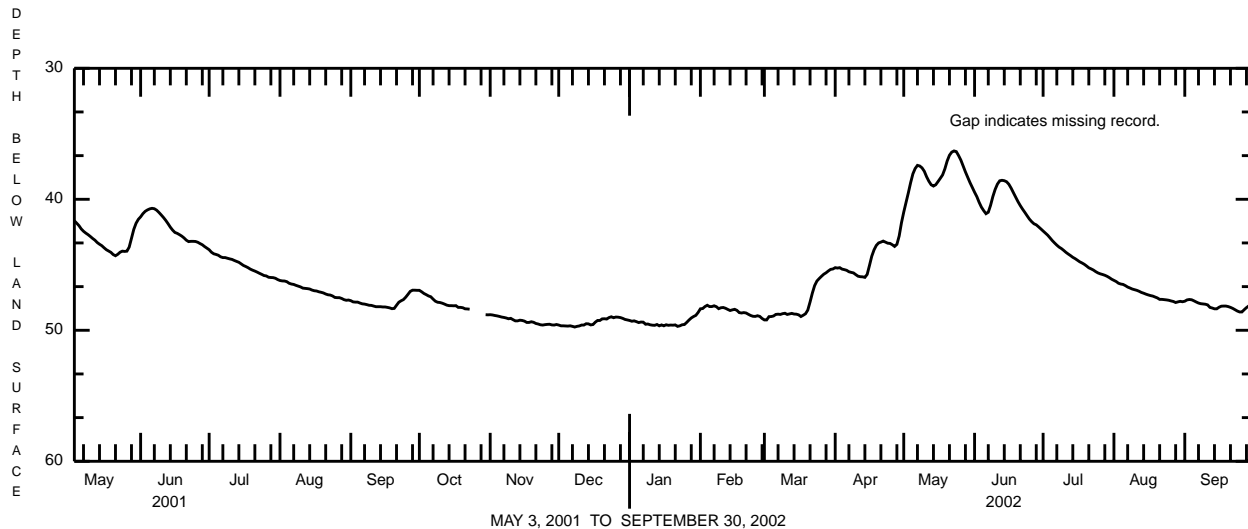
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land surface for the period of record indicated above.

Highest water level, 36.25 ft below land-surface datum, May 23, 2002; lowest, 49.79 ft below land-surface datum, Dec. 8, 2001.

EXTREMES FOR CURRENT YEAR.--Highest water level, 36.25 ft below land-surface datum, May 23; lowest, 49.79 ft below land-surface datum, Dec. 8.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.95	48.81	49.60	49.25	48.36	49.21	45.22	40.98	39.46	42.42	46.19	47.78
2	47.06	48.83	49.66	49.31	48.34	49.21	45.25	40.24	39.80	42.58	46.28	47.68
3	47.19	48.87	49.66	49.28	48.19	48.96	45.22	39.52	40.23	42.74	46.41	47.65
4	47.28	48.90	49.67	49.34	48.09	48.95	45.33	38.74	40.60	42.94	46.47	47.67
5	47.38	48.94	49.68	49.41	48.19	48.91	45.37	38.06	40.87	43.15	46.50	47.75
6	47.44	48.99	49.66	49.37	48.19	48.79	45.42	37.65	41.10	43.33	46.59	47.84
7	47.62	49.02	49.70	49.38	48.13	48.77	45.53	37.41	40.99	43.50	46.70	47.92
8	47.78	49.06	49.75	49.54	48.20	48.79	45.58	37.46	40.46	43.65	46.77	47.97
9	47.86	49.12	49.70	49.52	48.35	48.73	45.62	37.60	39.79	43.76	46.85	47.99
10	47.88	49.09	49.67	49.58	48.28	48.70	45.75	37.86	39.25	43.90	46.90	48.01
11	47.93	49.19	49.60	49.61	48.26	48.79	45.87	38.28	38.84	44.05	46.95	48.06
12	48.00	49.28	49.60	49.62	48.32	48.75	45.91	38.62	38.59	44.18	47.02	48.25
13	48.08	49.28	49.50	49.56	48.41	48.71	45.92	38.89	38.55	44.30	47.11	48.30
14	48.12	49.23	49.51	49.66	48.49	48.76	45.96	38.99	38.58	44.43	47.17	48.36
15	48.12	49.25	49.59	49.59	48.44	48.77	45.73	38.89	38.66	44.53	47.24	48.36
16	48.13	49.30	49.56	49.66	48.40	48.82	45.05	38.65	38.85	44.65	47.30	48.24
17	48.12	49.40	49.38	49.58	48.48	48.95	44.35	38.40	39.15	44.77	47.35	48.16
18	48.25	49.40	49.25	49.62	48.65	48.85	43.86	38.14	39.50	44.86	47.39	48.15
19	48.25	49.35	49.25	49.60	48.68	48.74	43.52	37.68	39.84	44.96	47.46	48.15
20	48.28	49.39	49.13	49.61	48.65	48.46	43.33	37.08	40.18	45.09	47.53	48.19
21	48.36	49.48	49.12	49.59	48.68	47.84	43.27	36.64	40.48	45.23	47.64	48.25
22	48.37	49.52	49.14	49.70	48.78	47.16	43.19	36.40	40.75	45.31	47.64	48.33
23	48.39	49.58	49.03	49.66	48.87	46.59	43.27	36.31	41.00	45.40	47.66	48.43
24	---	49.60	48.97	49.58	48.93	46.24	43.35	36.36	41.26	45.52	47.68	48.53
25	---	49.57	49.04	49.56	48.94	46.05	43.37	36.66	41.51	45.62	47.71	48.60
26	---	49.55	48.99	49.40	48.89	45.88	43.47	37.01	41.71	45.69	47.76	48.60
27	---	49.54	49.00	49.22	48.94	45.72	43.60	37.46	41.87	45.74	47.80	48.43
28	---	49.59	49.03	49.06	49.10	45.61	43.44	37.91	41.95	45.80	47.88	48.27
29	---	49.60	49.09	48.95	---	45.47	42.80	38.32	42.10	45.88	47.83	48.14
30	48.81	49.56	49.17	48.86	---	45.35	41.80	38.73	42.26	45.98	47.79	48.02
31	48.82	---	49.21	48.64	---	45.32	---	39.09	---	46.10	47.82	---
MEAN	47.94	49.28	49.38	49.43	48.51	47.87	44.51	38.07	40.27	44.52	47.21	48.14
MAX	48.82	49.60	49.75	49.70	49.10	49.21	45.96	40.98	42.26	46.10	47.88	48.60
MIN	46.95	48.81	48.97	48.64	48.09	45.32	41.80	36.31	38.55	42.42	46.19	47.65



PHILADELPHIA COUNTY

395342075102101. Local number, PH 12.

LOCATION.--Lat 39°53'42", long 75°10'21", Hydrologic Unit 02040202, at Barracks and East Fourth Streets, Philadelphia.
 Owner: U.S. Naval Base.

AQUIFER.--Middle Sand Unit of Potomac-Raritan-Magothy aquifer system of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 in., depth 101 ft, cased to 93 ft, screened from 93-101 ft.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 8.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.3 ft above land-surface datum. Prior to May 27, 1998, top of casing, 1.8 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office. Mean daily fluctuation caused by tidal loading, 0.20 ft.

PERIOD OF RECORD.--January 1952 to current year.

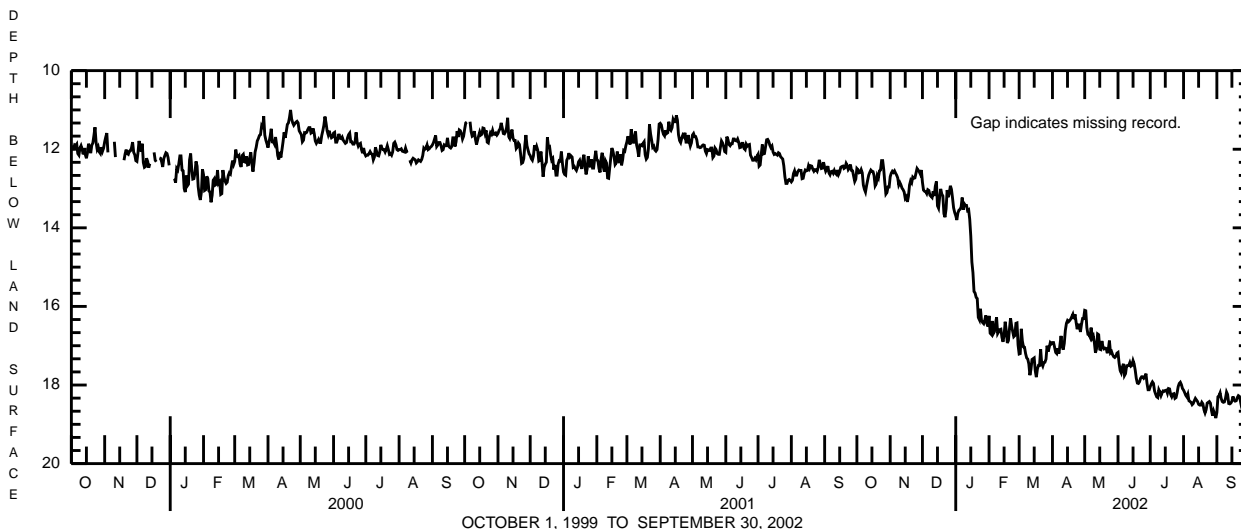
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 10.65 ft below land-surface datum, Dec. 17, 18, 1996; lowest, 39.60 ft below land-surface datum, July 20, 1955.

EXTREMES FOR CURRENT YEAR.--Highest water level, 12.12 ft below land-surface datum, Oct. 15; lowest, 18.84 ft below land-surface datum, Aug. 31.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.49	12.70	12.84	13.69	16.24	17.21	16.92	16.10	17.17	18.04	18.13	18.70
2	12.52	12.61	13.04	13.80	16.68	17.20	16.92	16.11	17.44	17.97	18.19	18.30
3	12.60	12.56	13.07	13.62	16.71	16.57	17.04	16.54	17.63	17.92	18.26	18.27
4	12.59	12.59	13.08	13.55	16.37	16.88	17.17	16.71	17.69	17.96	18.30	18.20
5	12.52	12.55	13.13	13.53	16.69	17.03	17.20	16.72	17.55	18.15	18.23	18.34
6	12.60	12.61	13.03	13.47	16.64	17.04	17.07	16.78	17.46	18.23	18.40	18.42
7	12.91	12.66	13.05	13.23	16.44	17.20	17.20	16.54	17.76	18.30	18.42	18.44
8	13.02	12.73	13.17	13.54	16.28	17.31	16.97	16.80	17.71	18.32	18.44	18.43
9	13.09	12.91	13.20	13.39	16.69	17.34	16.75	16.75	17.51	18.12	18.50	18.34
10	12.93	12.85	13.23	13.43	16.64	17.46	17.01	16.92	17.51	18.18	18.47	18.18
11	12.79	12.91	13.07	13.43	16.59	17.75	17.10	17.18	17.50	18.27	18.40	18.24
12	12.66	12.99	13.19	13.56	16.58	17.60	16.94	17.08	17.43	18.20	18.34	18.47
13	12.59	13.03	12.94	13.54	16.79	17.35	16.61	16.70	17.52	18.15	18.38	18.48
14	12.53	13.09	12.82	13.78	16.90	17.33	16.43	16.72	17.50	18.16	18.42	18.46
15	12.56	13.25	13.44	14.21	16.73	17.31	16.36	17.09	17.38	18.14	18.49	18.41
16	12.57	13.21	13.50	14.87	16.39	17.64	16.39	17.10	17.46	18.13	18.51	18.29
17	12.67	13.34	13.22	15.14	16.61	17.80	16.36	16.88	17.62	18.21	18.51	18.38
18	12.93	13.19	13.01	15.62	16.93	17.59	16.32	17.03	17.83	18.09	18.44	18.41
19	12.88	12.91	13.14	15.66	16.87	17.50	16.26	17.08	17.95	18.10	18.48	18.40
20	12.67	12.80	13.19	15.77	16.57	17.50	16.20	17.06	17.96	18.24	18.63	18.32
21	12.73	12.85	13.64	15.80	16.30	17.09	16.32	17.07	17.92	18.30	18.71	18.27
22	12.55	12.71	13.73	16.28	16.50	17.46	16.20	17.19	17.83	18.23	18.63	18.29
23	12.53	12.74	13.52	16.34	16.64	17.52	16.40	17.09	17.79	18.22	18.46	18.42
24	12.29	12.73	13.04	16.06	16.77	17.43	16.58	16.87	17.79	18.34	18.44	18.56
25	12.29	12.61	13.22	16.36	16.74	17.42	16.47	17.18	17.83	18.32	18.42	18.65
26	12.52	12.49	13.12	16.41	16.43	17.34	16.47	17.15	17.80	18.20	18.46	18.57
27	12.85	12.53	12.93	16.44	16.42	17.00	16.65	17.23	17.71	18.04	18.65	18.31
28	13.14	12.57	13.02	16.35	16.98	17.15	16.46	17.28	17.96	17.96	18.78	18.60
29	13.10	12.63	13.24	16.23	---	17.04	16.31	17.30	18.12	17.93	18.66	18.74
30	12.96	12.53	13.49	16.44	---	16.92	16.31	17.27	18.12	17.99	18.74	18.68
31	12.96	---	13.61	16.51	---	16.95	---	17.19	---	18.09	18.84	---
MEAN	12.71	12.80	13.19	14.84	16.61	17.29	16.65	16.93	17.68	18.15	18.48	18.42
MAX	13.14	13.34	13.73	16.51	16.98	17.80	17.20	17.30	18.12	18.34	18.84	18.74
MIN	12.29	12.49	12.82	13.23	16.24	16.57	16.20	16.10	17.17	17.92	18.13	18.18



PIKE COUNTY

410940074583401. Local number, PI 200.

LOCATION.--Lat 41°09'40", long 74°58'34", Hydrologic Unit 02040104, at Pocono Mountain Lake Estates.

Owner: Pocono Mountain Lake Estates.

AQUIFER.--Sandstone and siltstone of Towamensing Member of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 799 ft, cased to 86 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.3 ft above land-surface datum. Prior to October 1983, published as 1.4 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--July 1981 to current year.

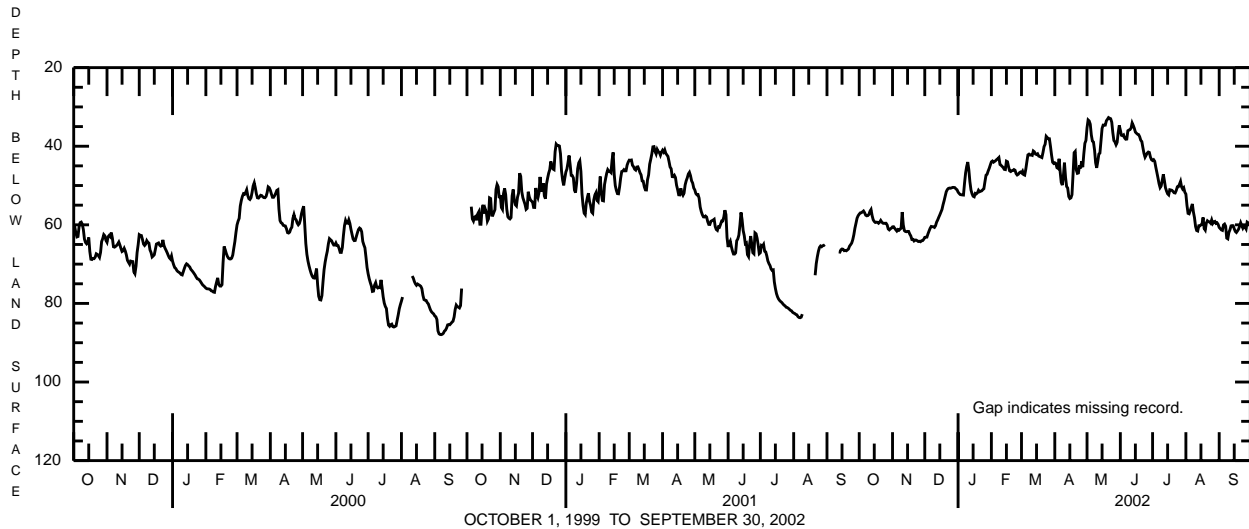
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 24.30 ft below land-surface datum, June 1, 1984; lowest recorded, 98.67 ft below land-surface datum, Sept. 10, 26-29, Oct. 1 1998.

EXTREMES FOR CURRENT YEAR.--Highest water level, 31.98 ft below land-surface datum, May 31; lowest, 64.30 ft below land-surface datum, Nov. 27.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57.27	60.51	63.19	51.67	43.97	46.79	44.21	35.30	35.89	43.64	52.19	60.67
2	56.96	60.48	63.15	52.02	43.76	46.35	44.39	33.31	37.21	43.43	55.01	60.97
3	56.92	60.88	63.13	52.30	44.06	47.22	45.46	33.57	37.32	43.84	57.08	61.29
4	56.70	61.26	62.28	52.35	43.87	47.35	45.64	34.40	37.11	45.35	57.20	61.41
5	56.48	61.59	61.57	52.40	43.66	45.86	43.19	37.14	37.90	46.68	56.45	60.03
6	56.91	61.21	60.88	52.43	43.37	43.97	46.49	38.70	38.22	48.04	55.57	59.81
7	57.54	61.38	60.41	49.41	43.16	42.20	49.21	38.94	38.18	49.52	54.70	60.36
8	57.71	61.10	60.47	46.81	42.87	42.01	49.89	40.98	36.06	50.53	56.74	63.38
9	57.65	60.89	60.51	45.17	44.65	42.25	47.51	44.22	35.88	50.10	58.17	63.56
10	57.37	56.76	60.66	44.03	44.86	42.23	44.19	45.50	35.77	48.70	60.42	61.95
11	56.55	60.00	60.24	45.96	45.13	42.33	47.94	43.86	35.37	47.15	61.44	61.27
12	56.11	61.46	59.32	49.03	45.43	41.21	50.24	42.01	34.07	48.74	61.57	60.27
13	57.64	61.70	58.77	51.13	45.89	41.43	50.63	41.73	34.69	50.56	60.25	60.20
14	58.72	61.76	58.09	52.11	45.95	41.98	52.81	38.66	35.45	51.43	60.27	60.22
15	59.15	61.67	57.47	52.72	43.81	42.11	53.31	35.47	36.40	52.11	60.03	61.02
16	59.40	61.68	56.79	52.87	43.96	41.93	53.14	34.62	36.69	52.38	59.82	61.69
17	59.32	62.35	56.10	52.00	45.27	42.50	52.34	34.64	36.94	51.07	58.12	61.95
18	59.36	62.82	54.90	52.12	46.27	42.62	47.11	34.63	37.04	51.13	60.93	61.56
19	59.60	63.72	53.88	51.87	46.44	42.75	41.67	33.53	37.58	51.22	61.34	61.11
20	59.33	63.70	52.69	51.21	46.22	42.89	41.34	33.15	38.47	51.50	59.56	60.35
21	58.87	64.10	51.57	51.58	46.17	41.63	46.03	32.71	38.82	51.84	58.97	59.47
22	59.30	63.87	51.03	51.46	45.94	40.10	46.90	32.88	40.37	51.90	59.20	60.17
23	59.57	63.88	50.74	51.35	46.11	39.51	46.80	33.00	41.82	51.29	59.25	60.85
24	59.63	64.05	50.64	51.05	46.97	37.48	44.86	33.89	42.79	50.35	59.57	60.34
25	59.60	64.25	50.69	50.81	47.32	37.79	45.65	36.55	42.29	50.31	58.75	60.57
26	59.60	64.19	50.59	49.05	47.14	38.09	43.83	38.55	41.76	49.68	59.66	61.05
27	60.03	64.30	50.48	47.37	46.76	38.10	45.33	38.91	41.48	48.95	59.27	59.31
28	61.05	64.05	50.48	47.13	46.58	40.10	41.96	39.62	41.59	50.38	59.14	59.50
29	61.29	64.02	50.54	46.31	---	42.28	39.26	39.03	42.76	50.90	59.63	59.85
30	61.02	63.69	50.85	45.61	---	44.08	38.53	36.58	43.43	50.57	59.49	60.01
31	60.83	---	51.08	44.76	---	44.39	---	34.71	---	51.70	59.89	---
MEAN	58.63	62.24	56.23	49.87	45.20	42.31	46.33	37.12	38.31	49.52	58.70	60.81
MAX	61.29	64.30	63.19	52.87	47.32	47.35	53.31	45.50	43.43	52.38	61.57	63.56
MIN	56.11	56.76	50.48	44.03	42.87	37.48	38.53	32.71	34.07	43.43	52.19	59.31



PIKE COUNTY

411833075133601. Local number PI 522.

LOCATION.--Lat 41°18' 33", long 75°13' 36", Hydrologic Unit 02040103, at Promised Land State Park.

Owner: U.S. Geological Survey.

AQUIFER.-- Catskill Formation.

WELL CHARACTERISTICS.--Drilled unused public supply well, diameter 6 in., depth 150 ft, cased to 28 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,730 ft above National Geodetic Vertical Datum of 1929, from survey. Measuring point: Top of casing, 3.64 ft above land-surface datum.

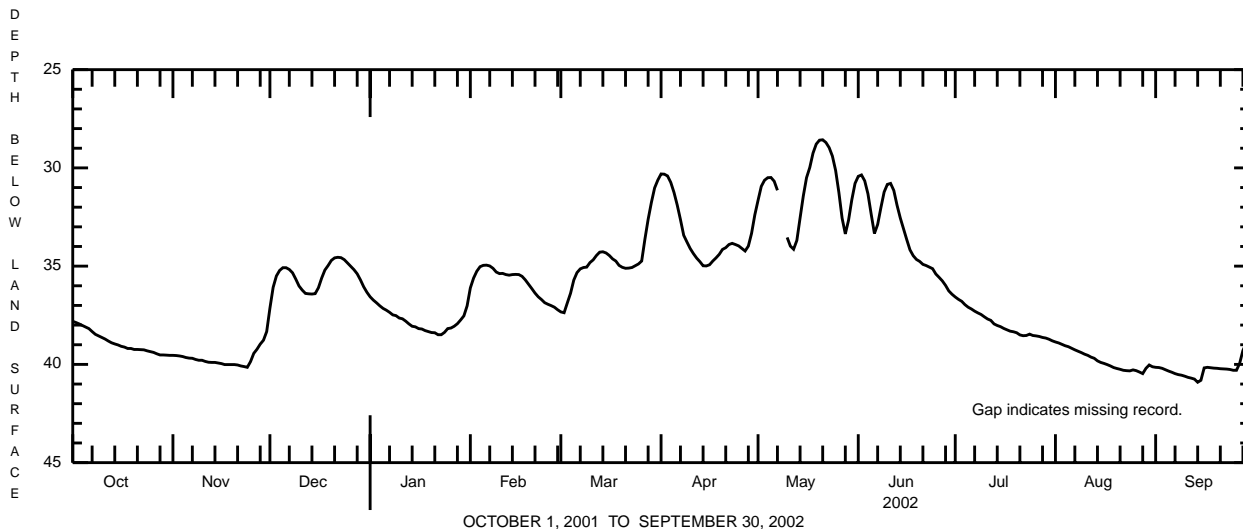
REMARKS.--In addition to the daily mean water-level table shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--October 2001 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 28.55 ft below land-surface datum, May 20, 21; lowest, 40.96 ft below land-surface datum, Sept. 15.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.81	39.54	37.14	36.56	36.11	37.33	30.31	31.65	30.43	36.57	38.86	40.15
2	37.87	39.55	36.08	36.73	35.61	37.37	30.32	30.94	30.36	36.69	38.91	40.16
3	37.94	39.57	35.50	36.87	35.26	36.87	30.41	30.63	30.66	36.79	38.98	40.20
4	38.02	39.60	35.22	37.02	35.03	36.38	30.74	30.50	31.32	36.96	39.05	40.27
5	38.10	39.65	35.08	37.15	34.96	35.71	31.25	30.49	32.36	37.09	39.10	40.34
6	38.18	39.68	35.08	37.24	34.95	35.33	31.89	30.68	33.34	37.18	39.18	40.40
7	38.33	39.69	35.17	37.35	34.99	35.14	32.63	31.14	32.88	37.29	39.26	40.47
8	38.47	39.75	35.34	37.48	35.11	35.07	33.43	---	32.03	37.38	39.33	40.52
9	38.55	39.79	35.66	37.52	35.30	35.05	33.77	---	31.23	37.46	39.40	40.55
10	38.63	39.79	36.01	37.64	35.38	34.82	34.10	33.54	30.84	37.58	39.48	40.60
11	38.71	39.85	36.22	37.68	35.37	34.68	34.36	33.98	30.79	37.69	39.54	40.66
12	38.81	39.89	36.39	37.80	35.43	34.46	34.59	34.14	31.15	37.76	39.63	40.70
13	38.90	39.90	36.41	37.94	35.46	34.29	34.77	33.69	31.90	37.94	39.69	40.75
14	38.96	39.90	36.42	38.06	35.43	34.27	34.98	32.55	32.55	38.02	39.82	40.91
15	39.01	39.93	36.40	38.09	35.42	34.33	34.99	31.43	33.10	38.08	39.90	40.81
16	39.08	39.96	36.10	38.18	35.43	34.46	34.93	30.50	33.65	38.17	39.95	40.18
17	39.12	40.01	35.61	38.20	35.52	34.63	34.74	29.98	34.17	38.24	40.01	40.15
18	39.19	40.01	35.20	38.28	35.70	34.74	34.58	29.25	34.47	38.31	40.08	40.17
19	39.19	40.01	34.97	38.33	35.92	34.96	34.40	28.79	34.66	38.34	40.16	40.19
20	39.24	40.01	34.71	38.38	36.14	35.06	34.15	28.59	34.76	38.39	40.21	40.20
21	39.24	40.03	34.58	38.39	36.37	35.11	34.06	28.57	34.91	38.50	40.25	40.22
22	39.25	40.08	34.55	38.49	36.56	35.10	33.90	28.71	34.97	38.54	40.30	40.23
23	39.26	40.11	34.57	38.49	36.70	35.07	33.84	28.97	35.05	38.53	40.32	40.24
24	39.31	40.15	34.67	38.37	36.86	34.98	33.90	29.40	35.13	38.46	40.33	40.26
25	39.35	39.86	34.84	38.18	36.94	34.89	33.97	30.13	35.40	38.53	40.28	40.30
26	39.39	39.44	35.01	38.15	37.01	34.74	34.10	31.25	35.57	38.55	40.32	40.30
27	39.46	39.23	35.18	38.06	37.09	33.63	34.23	32.56	35.75	38.58	40.39	39.94
28	39.52	38.97	35.39	37.93	37.22	32.62	33.98	33.36	35.98	38.63	40.47	39.29
29	39.52	38.77	35.70	37.74	---	31.76	33.33	32.66	36.26	38.66	40.20	38.93
30	39.53	38.33	36.05	37.53	---	31.02	32.39	31.63	36.43	38.72	40.03	38.68
31	39.54	---	36.33	37.02	---	30.62	---	30.79	---	38.80	40.12	---
MEAN	38.89	39.70	35.53	37.77	35.83	34.66	33.43	31.05	33.40	37.95	39.79	40.23
MAX	39.54	40.15	37.14	38.49	37.22	37.37	34.99	34.14	36.43	38.80	40.47	40.91
MIN	37.81	38.33	34.55	36.56	34.95	30.62	30.31	28.57	30.36	36.57	38.86	38.68



SCHUYLKILL COUNTY

404708076070701. Local number, SC 296.

LOCATION.--Lat 40°47'08", long 76°07'07", Hydrologic Unit 02040203, at Locust Lake State Park.
Owner: U.S. Geological Survey.

AQUIFER.--Mauch Chunk Formation of Early Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 242 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 2.8 ft above land-surface datum. Prior to June 26, 1980, top of casing 2.3 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

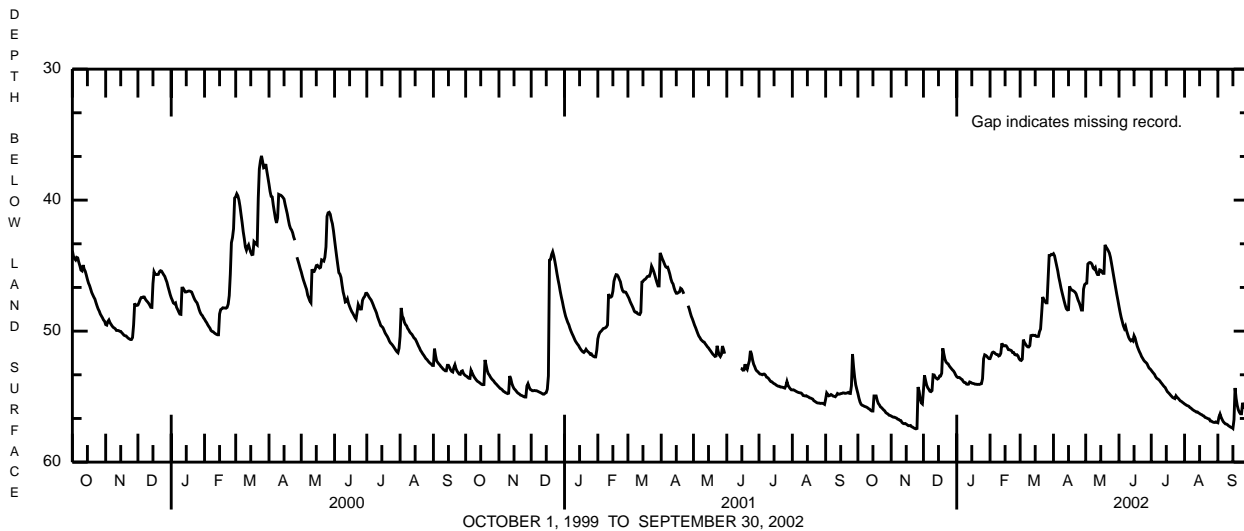
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 26.27 ft below land-surface datum, May 18, 1989; lowest, 57.46 ft below land-surface datum, Nov. 24, 2001.

EXTREMES FOR CURRENT YEAR.--Highest water level, 43.24 ft below land-surface datum, May 18, 19; lowest, 57.46 ft below land-surface datum, Nov. 24.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54.76	56.48	54.51	53.48	52.10	52.21	44.09	46.37	48.12	52.99	55.56	57.00
2	55.12	56.53	53.38	53.54	51.89	52.24	44.25	46.34	48.55	53.10	55.61	56.56
3	55.41	56.57	53.76	53.53	51.65	52.14	44.63	44.88	48.94	53.20	55.67	56.33
4	55.59	56.57	54.12	53.57	51.60	50.65	45.02	44.79	49.26	53.30	55.70	56.57
5	55.66	56.61	54.32	53.65	51.64	50.86	45.40	44.76	49.58	53.47	55.74	56.75
6	55.69	56.64	54.44	53.70	51.73	50.99	45.89	44.80	49.79	53.59	55.83	56.91
7	55.74	56.72	54.59	53.84	51.78	51.12	46.28	44.92	49.62	53.65	55.88	57.00
8	55.77	56.74	54.62	53.92	51.79	51.20	46.70	45.19	49.96	53.71	55.96	57.08
9	55.80	56.81	54.54	53.93	51.90	51.21	47.05	45.27	50.22	53.80	56.02	57.10
10	55.85	56.83	53.33	54.04	51.86	51.11	47.38	45.15	50.48	53.92	56.08	57.15
11	55.92	56.97	53.35	54.06	51.69	50.34	47.72	45.52	50.64	54.02	56.12	57.23
12	55.96	57.04	53.51	54.05	50.93	50.32	48.03	45.68	50.74	54.13	56.18	57.28
13	56.05	57.07	53.60	53.88	51.12	50.31	48.29	45.68	50.67	54.23	56.17	57.34
14	56.10	57.05	53.66	53.91	51.13	50.34	48.38	45.32	50.75	54.31	56.24	57.36
15	56.10	57.10	53.61	53.97	51.10	50.32	48.36	45.35	50.35	54.47	56.29	57.43
16	54.95	57.16	53.43	53.99	51.12	50.40	46.58	45.48	50.53	54.62	56.35	56.76
17	54.95	57.22	53.42	54.01	51.24	50.41	46.77	45.59	50.87	54.70	56.38	54.34
18	54.95	57.22	53.21	54.05	51.41	50.40	46.86	45.59	51.16	54.79	56.45	55.14
19	55.29	57.20	51.31	54.05	51.43	50.04	46.90	43.42	51.37	54.89	56.48	55.67
20	55.52	57.30	51.74	54.07	51.45	49.84	46.95	43.58	51.57	54.98	56.58	56.00
21	55.63	57.33	52.14	54.06	51.50	48.68	47.02	43.71	51.74	55.07	56.61	56.19
22	55.78	57.39	52.35	54.07	51.64	47.40	47.14	43.86	51.94	55.11	56.65	56.31
23	55.84	57.43	52.45	54.04	51.64	47.58	47.39	44.03	52.07	55.15	56.69	56.31
24	55.93	57.46	52.50	54.01	51.79	47.72	47.65	44.36	52.22	54.94	56.71	55.47
25	56.02	57.43	52.65	53.63	51.82	47.84	47.83	44.82	52.32	55.05	56.86	55.79
26	56.09	54.27	52.76	52.11	51.80	47.84	48.09	45.30	52.39	55.12	56.87	55.87
27	56.22	54.58	52.86	51.81	51.89	46.07	48.39	45.79	52.48	55.22	56.93	55.84
28	56.28	55.17	52.96	51.85	52.10	44.23	48.39	46.28	52.66	55.32	56.96	49.33
29	56.33	55.48	53.04	51.92	---	44.23	46.79	46.75	52.82	55.36	56.97	50.88
30	56.42	55.56	53.17	52.03	---	44.14	46.45	47.22	52.89	55.43	56.93	51.77
31	56.44	---	53.35	52.10	---	44.16	---	47.66	---	55.49	56.97	---
MEAN	55.75	56.66	53.31	53.51	51.60	49.24	46.89	45.27	50.89	54.42	56.34	55.89
MAX	56.44	57.46	54.62	54.07	52.10	52.24	48.39	47.66	52.89	55.49	56.97	57.43
MIN	54.76	54.27	51.31	51.81	50.93	44.14	44.09	43.42	48.12	52.99	55.56	49.33



WAYNE COUNTY

414333075153201. Local number, WN 64.

LOCATION.--Lat 41°43'33", long 75°15'32", Hydrologic Unit 02040103, at State Game Land Number 159.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Glacial Outwash of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 52 ft, cased to 52 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,350 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.9 ft above land-surface datum. Prior to May 7, 1987, top of plywood cover, measuring point above land-surface datum varied.

REMARKS.--Daily maximum water-level data collected prior to May 7, 1987 were referenced to an uncertain datum elevation that cannot be related to any datum after that date. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

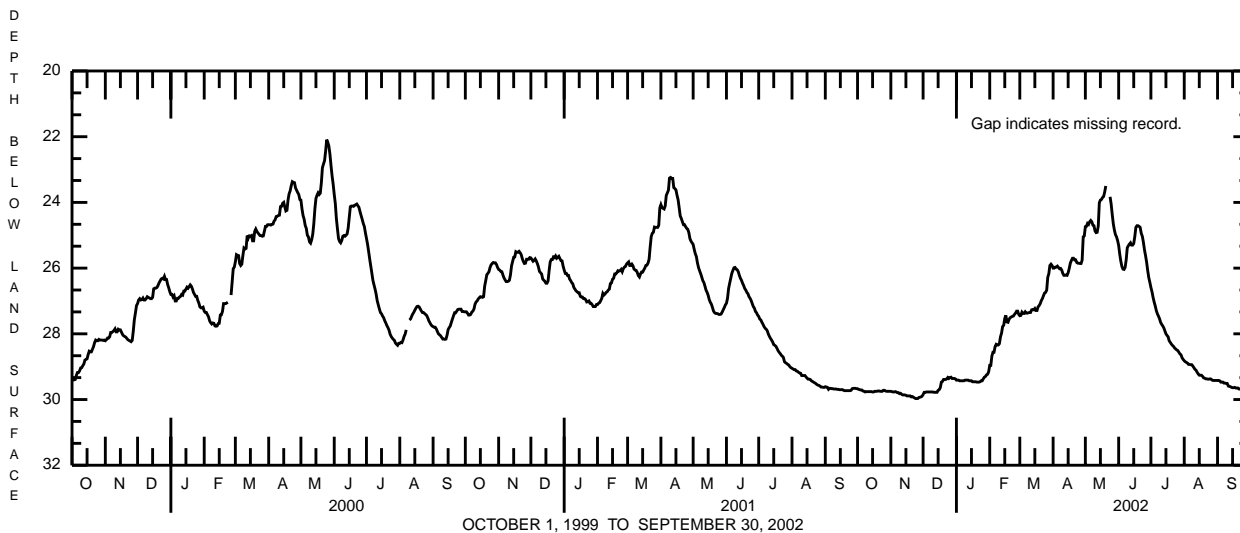
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.

Highest water level, 7.88 ft below land-surface datum, Nov. 17, 1972; lowest, 32.98 ft below land-surface datum, Nov. 9, 10, 11, 1991.

EXTREMES FOR CURRENT YEAR.--Highest water level recorded, 23.40 ft below land-surface datum, May 20, 21; lowest, 29.97 ft below land-surface datum, Nov. 24-26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.67	29.75	29.85	29.41	28.96	27.45	26.00	24.74	25.31	26.59	28.82	29.42
2	29.69	29.76	29.78	29.41	28.96	27.44	26.00	24.73	25.58	26.72	28.85	29.42
3	29.70	29.77	29.78	29.41	28.68	27.34	25.97	24.64	25.79	26.89	28.87	29.43
4	29.71	29.77	29.77	29.43	28.56	27.38	25.97	24.67	25.95	27.03	28.89	29.47
5	29.71	29.76	29.77	29.43	28.56	27.38	25.94	24.59	26.03	27.15	28.93	29.47
6	29.74	29.77	29.77	29.43	28.39	27.33	25.98	24.55	26.04	27.29	28.93	29.47
7	29.75	29.79	29.77	29.43	28.32	27.37	26.02	24.59	25.98	27.39	28.94	29.50
8	29.77	29.79	29.77	29.43	28.34	27.37	26.01	24.69	25.74	27.46	28.94	29.50
9	29.76	29.82	29.77	29.41	28.34	27.36	26.06	24.71	25.38	27.54	28.98	29.51
10	29.76	29.81	29.77	29.41	28.30	27.35	26.16	24.87	25.32	27.65	29.03	29.51
11	29.76	29.84	29.78	29.41	28.09	27.35	26.22	24.92	25.27	27.71	29.08	29.59
12	29.76	29.86	29.78	29.41	27.98	27.27	26.22	24.91	25.23	27.76	29.11	29.60
13	29.76	29.86	29.78	29.43	27.78	27.26	26.21	24.72	25.30	27.82	29.17	29.61
14	29.76	29.86	29.78	29.43	27.74	27.27	26.22	24.01	25.30	27.91	29.22	29.63
15	29.77	29.87	29.72	29.43	27.53	27.23	26.14	23.93	25.25	28.00	29.26	29.64
16	29.77	29.89	29.70	29.46	27.44	27.29	26.01	23.91	25.04	28.05	29.26	29.64
17	29.75	29.89	29.64	29.46	27.64	27.29	25.85	23.85	24.76	28.09	29.26	29.63
18	29.75	29.89	29.47	29.46	27.65	27.18	25.77	23.82	24.71	28.21	29.29	29.65
19	29.75	29.89	29.45	29.46	27.56	27.14	25.70	23.68	24.71	28.26	29.34	29.65
20	29.74	29.92	29.39	29.47	27.51	27.08	25.70	23.50	24.73	28.31	29.35	29.65
21	29.74	29.91	29.39	29.47	27.49	26.99	25.75	---	24.76	28.35	29.37	29.68
22	29.75	29.93	29.39	29.47	27.47	26.93	25.75	---	24.94	28.38	29.37	29.68
23	29.75	29.95	29.37	29.46	27.46	26.84	25.83	---	25.03	28.43	29.38	29.68
24	29.75	29.97	29.33	29.43	27.41	26.76	25.85	23.83	25.21	28.46	29.38	29.68
25	29.72	29.97	29.36	29.43	27.37	26.74	25.85	24.05	25.44	28.49	29.37	29.68
26	29.72	29.97	29.33	29.37	27.31	26.67	25.86	24.37	25.62	28.51	29.38	29.68
27	29.74	29.94	29.32	29.32	27.31	26.28	25.86	24.65	25.82	28.56	29.41	29.68
28	29.75	29.93	29.36	29.30	27.41	26.17	25.76	24.84	26.07	28.61	29.42	29.51
29	29.75	29.92	29.36	29.25	---	25.92	25.05	24.98	26.29	28.64	29.42	29.46
30	29.75	29.90	29.36	29.23	---	25.88	25.02	25.05	26.43	28.73	29.42	29.43
31	29.75	---	29.37	29.16	---	25.92	---	25.16	---	28.78	29.42	---
MEAN	29.74	29.86	29.59	29.40	27.91	27.01	25.89	24.46	25.43	27.93	29.19	29.57
MAX	29.77	29.97	29.85	29.47	28.96	27.45	26.22	25.16	26.43	28.78	29.42	29.68
MIN	29.67	29.75	29.32	29.16	27.31	25.88	25.02	23.50	24.71	26.59	28.82	29.42



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
CHESTER COUNTY WATER-QUALITY MONITORING PROJECT**

Ground-water samples were collected from selected wells in Chester County in July through August 2002 as part of the Chester County Ground-Water Quality Monitoring Program. The monitoring program began in 1980 with objectives that include providing data on ground-water quality (1) near suspected sources of contamination; (2) in areas of different land use or different underlying geology; (3) for specific contaminants or constituents countywide; and (4) in watersheds as part of regional assessment. Samples typically are collected each summer. In summer 2002, 6 wells were sampled in the county.

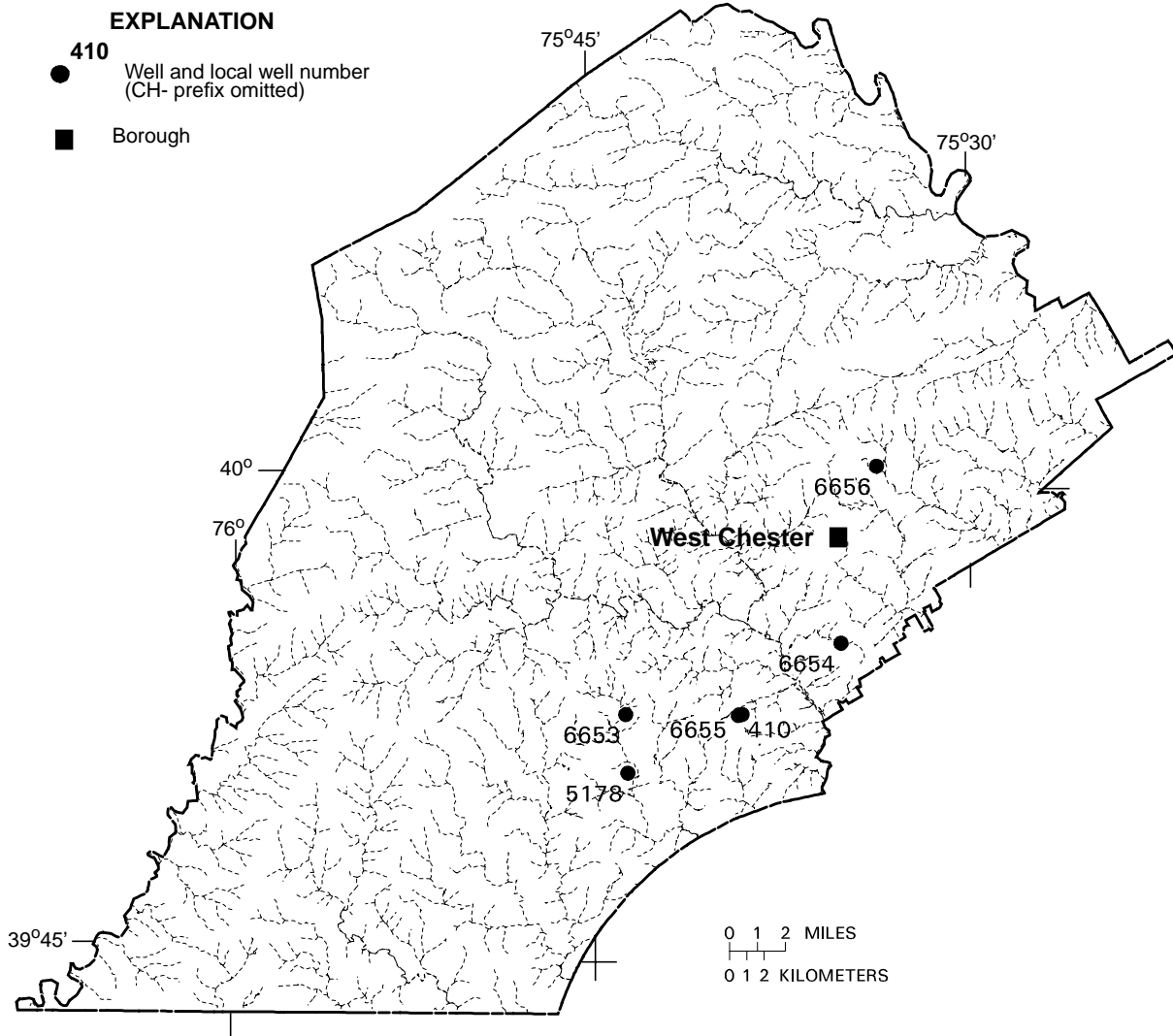


Figure 12.--Locations of selected ground-water well sites in the Chester County water-quality monitoring project.

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
CHESTER COUNTY WATER-QUALITY MONITORING PROJECT**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Local identifier	Station number	Latitude	Longitude	Date	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
CH 410	395240075390801	39 52 40 N	075 39 08 W	07-29-02	1028	80020	62.01	270	395
CH 5178	395049075434301	39 50 49 N	075 43 43 W	07-31-02	1028	80020	12.57	89.90	357.03
CH 6653	395239075434701	39 52 38 N	075 43 47 W	08-01-02	1028	80020	4.15	35.67	360
CH 6654	395454075350901	39 54 54 N	075 35 08 W	08-05-02	1028	80020	9.84	26.62	285
CH 6655	395238075391601	39 52 38 N	075 39 15 W	08-06-02	1028	80020	18.40	55.15	340
CH 6656	400024075334601	40 00 24 N	075 33 46 W	08-07-02	1028	80020	25.54	47.20	455

Local identifier	Date	FLOW RATE (G/M) (00059)	SAMPLING DEPTH (FEET) (00003)	BAROMETRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPECIFIC CONDUCTANCE (US/CM) (00095)	SPECIFIC CONDUCTANCE (US/CM) (90095)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)
CH 410	07-29-02	4.8	240	750	.5	6.5	6.5	449	433	33.0	13.5
CH 5178	07-31-02	.90	38.0	755	8.9	5.8	6.3	361	349	28.0	15.2
CH 6653	08-01-02	1.1	34.5	755	6.3	5.8	6.1	188	187	30.0	13.2
CH 6654	08-05-02	.80	25.0	754	8.0	5.5	5.6	539	529	29.5	13.5
CH 6655	08-06-02	.90	48.0	749	.9	6.3	6.4	523	517	21.5	14.0
CH 6656	08-07-02	.50	45.0	751	7.9	4.9	5.0	366	353	22.0	14.7

Local identifier	Date	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	IODIDE, DIS-SOLVED (MG/L AS I) (71865)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
CH 410	07-29-02	44.7	15.4	5.68	13.1	.10	47.0	<.1	.007	26.3	66.1
CH 5178	07-31-02	37.7	12.9	3.22	5.90	.07	65.5	<.1	.003	15.7	20.1
CH 6653	08-01-02	18.4	6.85	1.95	6.65	E.02	6.18	E.1	E.002	23.6	25.2
CH 6654	08-05-02	42.4	18.6	6.06	28.5	.07	90.8	E.1	.003	15.5	61.7
CH 6655	08-06-02	40.6	14.8	5.09	44.9	.09	62.1	<.1	.009	21.7	56.7
CH 6656	08-07-02	14.8	15.9	2.10	19.0	.06	87.5	<.1	.003	9.7	.3

Local identifier	Date	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	ORTHOPHOSPHATE, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COLIFORM, FECAL 0.7 UM-MF (COLS./100 ML) (31625)	ARSENIC DIS-SOLVED (MG/L AS AS) (01000)
CH 410	07-29-02	282	<.04	E.06	<.05	E.007	<.004	<.02	.8	0	<.2
CH 5178	07-31-02	245	<.04	<.10	1.61	<.008	.026	.02	E.3	0	<.2
CH 6653	08-01-02	125	<.04	<.10	3.46	<.008	.034	.04	<.6	0	<.2
CH 6654	08-05-02	368	<.04	E.10	7.79	<.008	.030	.02	.8	0	<.2
CH 6655	08-06-02	325	<.04	E.06	3.80	.142	<.004	<.02	.8	0	E.1
CH 6656	08-07-02	265	<.04	<.10	5.35	<.008	E.003	<.02	1.1	0	<.2

Local identifier	Date	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	1,4-DICHLORO-BENZENE DISSOLVED (UG/L) (34572)	1METHYL-NAPHTHALENE WATER, FILTERED REC (UG/L) (62054)	26DIMETHYL-NAPHTHALENE WATER, FILTERED REC (UG/L) (62055)
CH 410	07-29-02	106	30	2680	E.08	5	288	160	<.5	<.5	<.5
CH 5178	07-31-02	172	20	<10	.49	<4	<2.0	170	<.5	<.5	<.5
CH 6653	08-01-02	148	20	<10	.55	<4	<2.0	183	<.5	<.5	<.5
CH 6654	08-05-02	68.1	250	24	.81	7	4.6	520	<.5	<.5	<.5
CH 6655	08-06-02	86.1	90	19	.29	E3	205	178	<.5	<.5	<.5
CH 6656	08-07-02	250	20	E9	2.82	E3	27.0	175	<.5	<.5	<.5

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
CHESTER COUNTY WATER-QUALITY MONITORING PROJECT**

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Local identifier	Date	2METHYL-NAPHTHALENE, WATER, FLTRD REC (µG/L) (62056)	3-BETA-COPROSTANOL, WATER, FLTRD REC (µG/L) (62057)	3METHYL 1 (H)-INDOLE, WATER, FLTRD REC (µG/L) (62058)	3-TERT-BHA, WATER, FLTRD REC (µG/L) (62059)	4-CUMYL PHENOL, WATER, FLTRD REC (µG/L) (62060)	4-OCTYL PHENOL, WATER, FLTRD REC (µG/L) (62061)	4-TERT-OCTYL PHENOL, WATER, FLTRD REC (µG/L) (62062)	5METHYL 1HBENZO TRIAZLE, WATER, FLTRD REC (µG/L) (62063)	ACETO-PHENONE, WATER, FLTRD REC (µG/L) (62064)	AHT NAPH-THALENE, WATER, FLTRD REC (µG/L) (62065)
CH 410	07-29-02	<.5	<2	<1	<5	<1	<1	<1	<2	E.1	<.5
CH 5178	07-31-02	<.5	<2	<1	<5	<1	<1	<1	<2	<.5	<.5
CH 6653	08-01-02	<.5	<2	<1	<5	<1	<1	<1	<2	<.5	<.5
CH 6654	08-05-02	<.5	<2	<1	<5	<1	<1	<1	<2	<.5	E.1
CH 6655	08-06-02	<.5	<2	<1	<5	<1	<1	<1	<2	<.5	<.5
CH 6656	08-07-02	<.5	<2	<1	<5	<1	<1	<1	<2	<.5	<.5
Local identifier	Date	ANTHRA-CENE DISSOLV (µG/L) (34221)	ANTHRA-QUINONE, WATER, FLTRD REC (µG/L) (62066)	BENZO-A-PYRENE DISSOLV (µG/L) (34248)	BENZO-PHENONE, WATER, FLTRD REC (µG/L) (62067)	BETA-SITOS-TEROL, WATER, FLTRD REC (µG/L) (62068)	BISPHE-NOL A, WATER, FLTRD REC (µG/L) (62069)	BISPHE-OL A-D3 S2033/8033 WAT FLT PERCENT (99583)	BRO-MACIL, WATER, DISS, FORM REC (µG/L) (04029)	BROMO-DISSOLV (µG/L) (34288)	CAF-FEINE, WATER, FLTRD REC (µG/L) (50305)
CH 410	07-29-02	<.5	<.5	<.5	M	<2	<1	72.7	<.5	<.5	<.5
CH 5178	07-31-02	<.5	<.5	<.5	<.5	<2	<1	63.7	<.5	<.5	<.5
CH 6653	08-01-02	<.5	<.5	<.5	<.5	<2	<1	41.2	<.5	<.5	<.5
CH 6654	08-05-02	<.5	<.5	<.5	<.5	<2	<1	70.3	<.5	<.5	<.5
CH 6655	08-06-02	<.5	<.5	<.5	<.5	<2	<1	70.8	<.5	<.5	<.5
CH 6656	08-07-02	<.5	<.5	<.5	<.5	<2	<1	60.7	<.5	E.1	<.5
Local identifier	Date	CAFFE-INE-C13 SURRGTE S2033/8033 WAT FLT PERCENT (99584)	CAMPHOR, WATER, FLTRD REC (µG/L) (62070)	CAR-BARYL, WATER, FLTRD REC (µG/L) (82680)	CARBA-ZOLE, WATER, FLTRD REC (µG/L) (62071)	CHLOR-PYRIFOS, DIS-SOLVED (µG/L) (38933)	CHOLES-TEROL, WATER, FLTRD REC (µG/L) (62072)	COT-ININE, WATER, FLTRD REC (µG/L) (62005)	DCFLBI-PHENYL, SURRGTE S2033/8033 WAT FLT PERCENT (99585)	DI-AZINON, DIS-SOLVED (µG/L) (39572)	D-LIMO-NENE, WATER, FLTRD REC (µG/L) (62073)
CH 410	07-29-02	81.9	<.5	<1	<.5	<.5	<2	<1	75.6	<.5	<.5
CH 5178	07-31-02	87.8	<.5	<1	<.5	<.5	<2	<1	51.0	<.5	<.5
CH 6653	08-01-02	75.4	<.5	<1	<.5	<.5	<2	<1	38.5	<.5	<.5
CH 6654	08-05-02	74.0	<.5	<1	<.5	<.5	<2	<1	49.0	<.5	<.5
CH 6655	08-06-02	77.7	<.5	<1	<.5	<.5	<2	<1	61.8	<.5	<.5
CH 6656	08-07-02	70.5	<.5	<1	<.5	<.5	<2	<1	49.0	<.5	<.5
Local identifier	Date	FLUOR-ANTHENE DISSOLV (µG/L) (34377)	FLUORO-ANTHENE S2033/8033 WAT FLT PERCENT (99586)	HHMCP-BENZO-PYRAN, WATER, FLTRD REC (µG/L) (62075)	INDOLE, WATER, FLTRD REC (µG/L) (62076)	ISOBOR-NEOL, WATER, FLTRD REC (µG/L) (62077)	ISO-PHORONE DISSOLV (µG/L) (34409)	ISO-PROPYL BENZENE, WATER, FLTRD REC (µG/L) (62078)	ISO-QUIN-OLINE, WATER, FLTRD REC (µG/L) (62079)	MENTHOL, WATER, FLTRD REC (µG/L) (62080)	METAL-AXYL, WATER, FLTRD REC (µG/L) (50359)
CH 410	07-29-02	<.5	71.4	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
CH 5178	07-31-02	<.5	74.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
CH 6653	08-01-02	<.5	58.4	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
CH 6654	08-05-02	<.5	69.3	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
CH 6655	08-06-02	<.5	70.6	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5
CH 6656	08-07-02	<.5	67.8	<.5	<.5	<.5	<.5	<.5	<.5	<.5	M
Local identifier	Date	METHYL SALICY-LATE, WATER, FLTRD REC (µG/L) (62081)	METO-LACHLOR, WATER, DISSOLV (µG/L) (39415)	DEET, WATER, FLTRD REC (µG/L) (62082)	NAPHTH-ALENE, WATER, DISSOLV (µG/L) (34443)	NONYL-PHENOL, DIETHOX, WATER, FLTRD REC (µG/L) (62083)	DI-ETHOXY-OCTYL-PHENOL, WAT FLT REC (µG/L) (61705)	MONO-ETHOXY-OCTYL-PHENOL, WAT FLT REC (µG/L) (61706)	PARA-CRESOL, WATER, FLTRD REC (µG/L) (62084)	PARA-NONYL-PHENOL, WATER, FLTRD REC (µG/L) (62085)	PENTA-CHLORO-PHENOL, DISSOLV (µG/L) (34459)
CH 410	07-29-02	<.5	<.5	E.1	<.5	<5	<1	<1	<1	<5	<2
CH 5178	07-31-02	<.5	<.5	<.5	<.5	<5	<1	<1	<1	<5	<2
CH 6653	08-01-02	<.5	<.5	<.5	<.5	<5	<1	<1	<1	<5	<2
CH 6654	08-05-02	<.5	M	M	<.5	<5	<1	<1	<1	<5	<2
CH 6655	08-06-02	<.5	<.5	M	<.5	<5	<1	<1	<1	<5	<2
CH 6656	08-07-02	<.5	<.5	<.5	<.5	<5	<1	<1	<1	<5	<2

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
CHESTER COUNTY WATER-QUALITY MONITORING PROJECT**

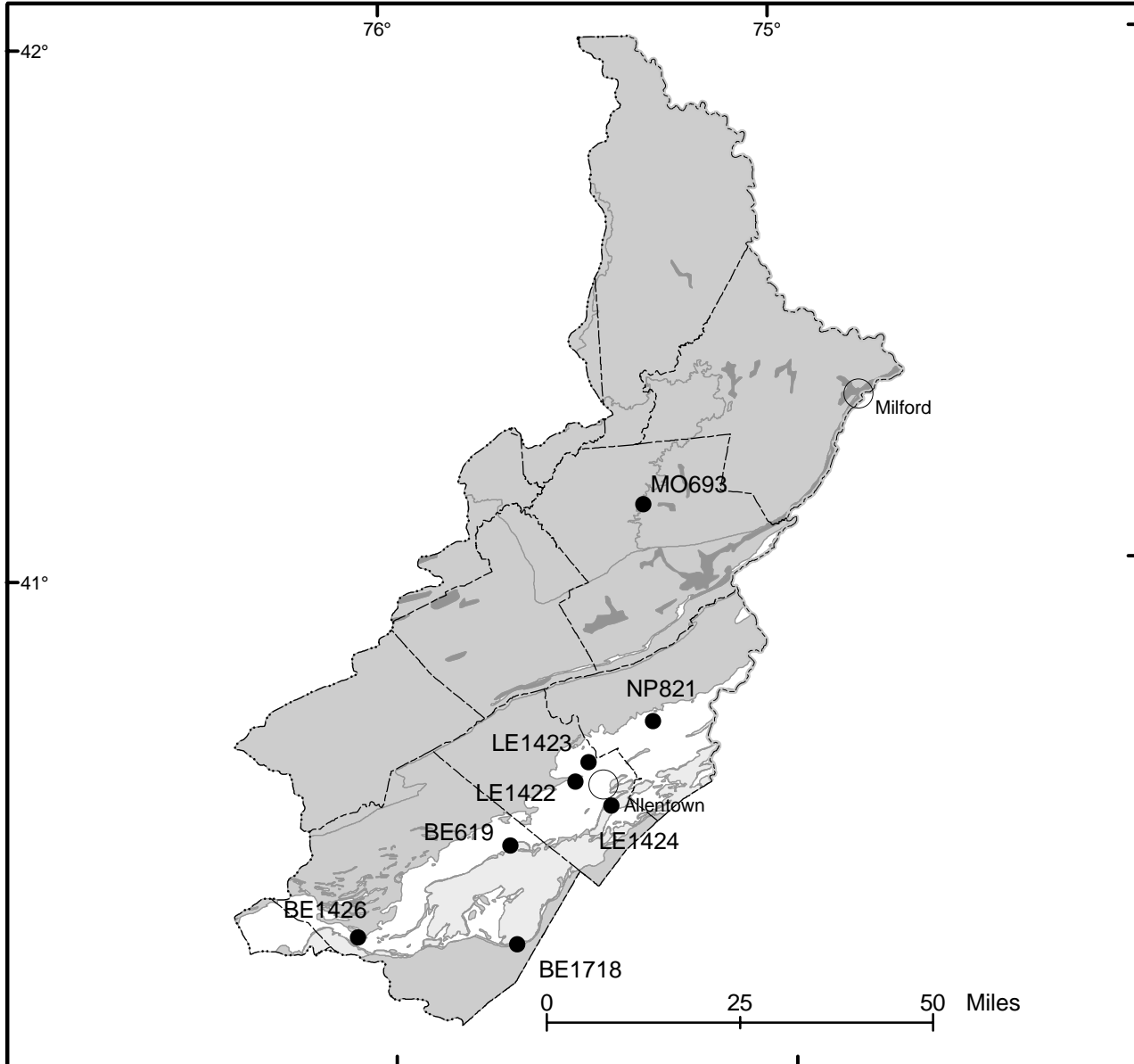
WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Local ident- i- fier	Date	PHENAN	PHENOL	PRO-		STIGMA-	TETRA-	FYROL	FYROL	TRIBUTL	TRICLO-
		- THREN EDISSOL V(µG/L) (34462)	WATER FILTRD (µG/L) (34466)	METON, WATER, DISS, REC (µG/L) (04037)	PYRENE DISSOLV (µG/L) (34470)	STANOL, WATER, FLTRD REC (µG/L) (62086)	CHLORO- ETHY- LENE DISSOLV (µG/L) (34476)	CEF, WATER, FLTRD REC (µG/L) (62087)	PCF, WATER, FLTRD REC (µG/L) (62088)	PHOS- PHATE, WATER, FLTRD REC (µG/L) (62089)	SAN, WATER, FLTRD REC (µG/L) (62090)
CH 410	07-29-02	<.5	.6	<.5	<.5	<2	<.5	<.5	<.5	<.5	<1
CH 5178	07-31-02	<.5	<.5	<.5	<.5	<2	<.5	<.5	<.5	<.5	<1
CH 6653	08-01-02	<.5	<.5	<.5	<.5	<2	<.5	<.5	<.5	<.5	<1
CH 6654	08-05-02	<.5	<.5	<.5	<.5	<2	<.5	E.1	E.2	<.5	<1
CH 6655	08-06-02	<.5	<.5	<.5	<.5	<2	<.5	M	M	<.5	<1
CH 6656	08-07-02	<.5	<.5	<.5	<.5	<2	<.5	<.5	<.5	<.5	M

Local ident- i- fier	Date	TRI-	TRIPHNL	TRIS(2-	DICHLOR	SAMPLE
		ETHYL CITRATE WATER, FLTRD REC (µG/L) (62091)	PHOS- PHATE, WATER, FLTRD REC (µG/L) (62092)	BUTOXE- PHOS- PHATE, WATER, FLTRD REC (µG/L) (62093)	WOS, WATER, FLTRD REC (µG/L) (38775)	WEIGHT, WASTE- WATER METHOD, WAT FLT (ML) (99587)
CH 410	07-29-02	<.5	E.1	E.1	<1.00	885
CH 5178	07-31-02	<.5	<.5	<.5	<1.00	956
CH 6653	08-01-02	<.5	<.5	<.5	<1.00	927
CH 6654	08-05-02	<.5	<.5	<.5	<1.00	925
CH 6655	08-06-02	<.5	<.5	<.5	<1.00	922
CH 6656	08-07-02	<.5	<.5	<.5	<1.00	945

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER**

The following table contains water-quality data from wells sampled as part of a study of MTBE in ground water in Pennsylvania. The U.S. Geological Survey, in cooperation with the Pennsylvania Department of Environmental Protection, conducted the study. The wells were sampled for MTBE, a gasoline additive, BTEX compounds (benzene, toluene, ethyl benzene, and xylene), pH, specific conductance, and temperature. Samples were collected from 86 wells in four geologic settings, and in various land use settings, across the state. Other data for the project can be found in the annual Water Data Reports PA-02-2, and PA-02-3. For additional information, contact Steve McAuley at the U.S. Geological Survey, 1000 Church Hill Road, Pittsburgh, PA 15025; 412-490-3801 (email: smcauley@usgs.gov).



EXPLANATION

● Sampled Wells

Aquifer Type

- | | |
|-------------|----------------|
| Carbonate | Siliciclastic |
| Crystalline | Unconsolidated |

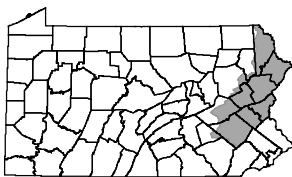
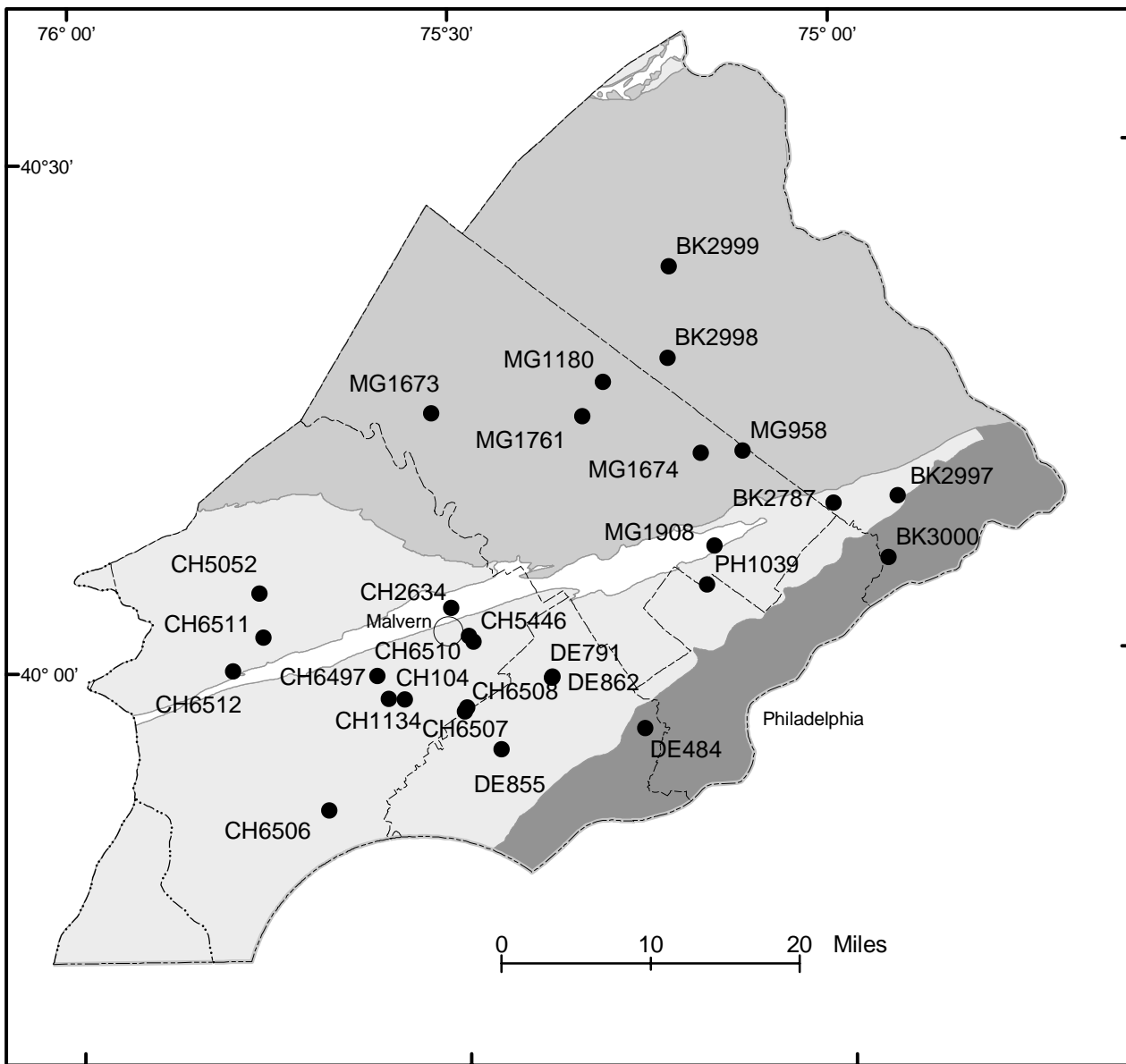


Figure 13.--Location of wells sampled as part of the MTBE in ground water project in the upper Delaware River Basin.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
 STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued



EXPLANATION

● Sampled Wells

Aquifer Type

- | | |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|  Carbonate |  Siliciclastic |
|  Crystalline |  Unconsolidated |

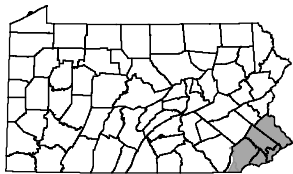


Figure 14.--Location of wells sampled as part of the MTBE in ground water project in the lower Delaware River Basin.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued

REMARKS.--Explanation of column headings--**SITE IDENTIFIER:** 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix; **ELEVATION OF LAND SURFACE:** land-surface at well site in feet above sea level; Sampling method code 4040 = submersible pump; Sampling condition code 8 = pumping; $\mu\text{S}/\text{CM}$: microsiemens per centimeter at 25 degrees Celsius; DEG C: degrees Celsius; $\mu\text{G}/\text{L}$: micrograms per liter; "<" = less than; "E" = estimated. Quality-control data for a replicate sample are shown for Local Well Number BE1426 on November 18, 2001 at 1306.

WATER-QUALITY DATA, WATER YEARS OCTOBER 2000 TO SEPTEMBER 2002

SITE IDENTIFIER	LOCAL WELL NUMBER	DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAMPLING METHOD, CODES (82398)	PH WATER (STANDARD FIELD METHOD, UNITS) (00400)	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$) (00095)	TEMPERATURE WATER (DEG C) (00010)
BERKS COUNTY												
401852075412201	BE 1718	12-18-01	1145	1028	80020	--	223	310	4040	7.5	465	13.4
401958076050201	BE 1426	11-08-01	1305	1028	80020	43.83	350	365	4040	7.0	666	13.2
401958076050201	BE 1426	11-08-01	1306	1028	80020	--	350	360	4040	--	--	--
402954075420701	BE 619	08-03-01	1137	1028	80020	--	248	520	4040	7.9	280	11.9
BUCKS COUNTY												
400547074570001	BK 3000	12-04-01	1615	1028	80020	--	90	80	4040	6.0	225	15.0
400902075010701	BK 2787	10-23-01	1105	1028	80020	17.00	37	255	4040	5.5	342	14.1
400920074561101	BK 2997	09-24-01	1325	1028	80020	37.52	180	115	4040	5.8	556	13.2
401740075133201	BK 2998	11-15-01	1210	1028	80020	15.11	110	335	4040	--	581	13.4
402257075131501	BK 2999	12-04-01	1230	1028	80020	79.93	100	475	4040	7.5	1010	13.9
CHESTER COUNTY												
394800075425801	CH 6509	12-14-01	1155	1028	80020	22.82	200	350	4040	6.3	311	12.4
395157075401802	CH 6506	08-23-01	1151	1028	80020	20.70	250	435	4040	6.6	336	13.6
395730075294401	CH 6508	12-11-01	1710	1028	80020	15.50	100	297	4040	6.6	140	13.3
395744075293301	CH 6507	12-10-01	1150	1028	80020	57.43	258	328	4040	9.5	223	12.4
395817075341901	CH 1134	12-19-01	1555	1028	80020	17.07	120	415	4040	6.1	391	12.9
395821075353201	CH 104	08-16-01	1120	1028	80020	12.85	55	445	4040	6.0	966	14.7
395940075362401	CH 6497	08-15-01	1230	1028	80020	--	100	470	4040	5.6	289	15.5
400007075472501	CH 6512	12-19-01	1110	1028	80020	27.51	100	610	4040	5.5	352	12.3
400133075285801	CH 5446	11-13-01	1310	1028	80020	42.88	285	450	4040	--	--	--
400152075291801	CH 6510	12-19-01	1215	1028	80020	36.82	260	445	4040	5.8	192	12.3
400202075450301	CH 6511	12-19-01	1510	1028	80020	41.12	85	560	4040	4.8	193	12.1
400330075303601	CH 2634	12-12-01	1240	1028	80020	--	110	270	4040	7.2	558	12.0
400436075451701	CH 5052	12-18-01	1500	1028	80020	4.86	120	360	4040	5.2	184	16.4
DELAWARE COUNTY												
395516075270101	DE 855	12-12-01	1540	1028	80020	29.05	100	350	4040	7.1	363	12.5
395618075160001	DE 484	12-11-01	1425	1028	80020	--	100	120	4040	6.9	460	12.3
395920075230301	DE 862	09-20-01	1615	1028	80020	29.14	--	330	4040	6.2	256	12.7
395925075225801	DE 791	09-20-01	1300	1028	80020	--	--	315	4040	8.3	361	12.4
LEHIGH COUNTY												
403408075265801	LE 1424	12-13-01	1210	1028	80020	9.86	100	590	4040	6.1	245	11.8
403654075321201	LE 1422	08-02-01	1137	1028	80020	37.65	152	430	4040	7.2	705	12.8
403902075301301	LE 1423	08-14-01	1125	1028	80020	--	150	365	4040	7.0	492	11.3
MONROE COUNTY												
410740075210101	MO 693	11-19-01	1120	1028	80020	135.19	300	1700	4040	7.0	264	10.8
MONTGOMERY COUNTY												
400645075102001	MG 1908	12-11-01	1440	1028	80020	14.30	400	240	4040	7.3	880	13.0
401206075111001	MG 1674	11-16-01	1225	1028	80020	--	285	244	4040	7.3	464	12.5
401211075075701	MG 958	08-16-01	1505	1028	80020	--	271	342	8010	7.1	391	12.9
401425075201201	MG 1761	11-29-01	1525	1028	80020	8.53	220	270	4040	7.7	492	13.7
401448075314901	MG 1673	10-22-01	1310	1028	80020	17.36	120	343	4040	7.2	461	13.2
401622075183401	MG 1180	11-14-01	1255	1028	80020	--	190	378	4040	7.6	692	13.3
NORTHAMPTON COUNTY												
404324075202601	NP 821	12-13-01	1535	1028	80020	59.05	110	400	4040	7.4	641	11.0
PHILADELPHIA COUNTY												
400429075105801	PH 1039	12-12-01	1015	1028	80020	23.60	26.6	380	4040	5.5	107	14.5

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	XYLENE WATER UNFLTRD REC (µG/L) (81551)	BENZENE 14BRFL- SURROG VOC UNFLTRD REC PERCENT (99834)	BENZENE TOTAL (µG/L) (34030)	ETHANE 12DICL SURROG VOC UNFLTRD REC PERCENT (99832)	ETHYL- BENZENE TOTAL (µG/L) (34371)	METHYL TERT- BUTYL ETHER WAT UNF REC (µG/L) (78032)	META/ PARA- XYLENE WATER UNFLTRD REC (µG/L) (85795)	O- XYLENE WATER WHOLE TOTAL (µG/L) (77135)	TOLUENE D8 SURROG VOC UNFLTRD REC PERCENT (99833)	TOLUENE TOTAL (µG/L) (34010)	SAM- PLING CONDI- TION (72006)	SET NUMBER VOC AN- ALYSIS (NO.) (99931)
BERKS COUNTY												
12-18-01	<.2	79.2	<.2	124	<.2	<.2	<.2	<.2	101	<.2	8.00	6.01
11-08-01	<.2	85.2	<.2	122	<.2	<.2	<.2	<.2	104	<.2	8.00	6.01
11-08-01	<.2	86.3	<.2	124	<.2	<.2	<.2	<.2	104	<.2	8.00	6.01
08-03-01	<.2	83.0	<.2	112	<.2	<.2	<.2	<.2	98.6	<.2	8.00	7.01
BUCKS COUNTY												
12-04-01	<.2	85.4	<.2	122	<.2	.6	<.2	<.2	103	<.2	8.00	6.01
10-23-01	<.2	94.7	<.2	112	<.2	5.6	<.2	<.2	103	<.2	8.00	6.01
09-24-01	<.2	93.6	<.2	92.2	<.2	.3	<.2	<.2	96.2	<.2	8.00	2.01
11-15-01	<.2	97.9	<.2	105	<.2	<.2	<.2	<.2	99.1	<.2	8.00	7.01
12-04-01	<.2	85.1	<.2	120	<.2	.4	<.2	<.2	103	<.2	8.00	6.01
CHESTER COUNTY												
12-14-01	<.2	75.3	<.2	131	<.2	<.2	<.2	<.2	100	<.2	8.00	6.01
08-23-01	<.2	103	<.2	103	<.2	.2	<.2	<.2	96.2	<.2	8.00	2.01
12-11-01	<.2	74.6	<.2	130	<.2	<.2	<.2	<.2	99.4	<.2	8.00	6.01
12-10-01	<.2	85.0	<.2	123	<.2	<.2	<.2	<.2	103	<.2	8.00	6.01
12-19-01	<.2	83.6	<.2	124	<.2	.3	<.2	<.2	105	<.2	8.00	6.01
08-16-01	<.2	103	<.2	97.0	<.2	<.2	<.2	<.2	91.3	<.2	8.00	2.01
08-15-01	<.2	106	<.2	98.6	<.2	.5	<.2	<.2	96.7	<.2	8.00	2.01
12-19-01	<.2	82.9	<.2	122	<.2	.3	<.2	<.2	99.6	<.2	8.00	6.01
11-13-01	<.2	84.8	<.2	125	<.2	<.2	<.2	<.2	102	<.2	8.00	6.01
12-19-01	<.2	88.6	<.2	126	<.2	<.2	<.2	<.2	99.6	<.2	8.00	6.01
12-19-01	<.2	79.5	<.2	121	<.2	.4	<.2	<.2	100	<.2	8.00	6.01
12-12-01	<.2	76.2	<.2	127	<.2	<.2	<.2	<.2	101	<.2	8.00	6.01
12-18-01	<.2	79.4	<.2	120	<.2	.6	<.2	<.2	96.6	<.2	8.00	6.01
DELAWARE COUNTY												
12-12-01	<.2	77.4	<.2	129	<.2	1.0	<.2	<.2	100	<.2	8.00	6.01
12-11-01	<.2	74.9	<.2	126	<.2	<.2	<.2	<.2	99.1	<.2	8.00	6.01
09-20-01	<.2	76.5	<.2	97.2	<.2	<.2	<.2	<.2	91.2	<.2	8.00	5.01
09-20-01	<.2	78.5	<.2	103	<.2	<.2	<.2	<.2	92.4	<.2	8.00	5.01
LEHIGH COUNTY												
12-13-01	<.2	73.7	<.2	127	<.2	.7	<.2	<.2	99.8	<.2	8.00	6.01
08-02-01	<.2	80.9	<.2	112	<.2	<.2	<.2	<.2	98.3	<.2	8.00	7.01
08-14-01	<.2	107	<.2	98.9	<.2	<.2	<.2	<.2	94.3	<.2	8.00	2.01
MONROE COUNTY												
11-19-01	<.2	98.9	<.2	102	<.2	E.1	<.2	<.2	98.3	<.2	8.00	7.01
MONTGOMERY COUNTY												
12-11-01	<.2	72.8	<.2	124	<.2	13.4	<.2	<.2	97.7	<.2	8.00	6.01
11-16-01	<.2	99.4	<.2	103	<.2	<.2	<.2	<.2	97.5	<.2	8.00	7.01
08-16-01	<.2	106	<.2	101	<.2	E.1	<.2	<.2	100	<.2	8.00	2.01
11-29-01	<.2	85.9	<.2	119	<.2	<.2	<.2	<.2	102	<.2	8.00	6.01
10-22-01	<.2	93.1	<.2	114	<.2	<.2	<.2	<.2	103	<.2	8.00	6.01
11-14-01	<.2	86.2	<.2	125	<.2	<.2	<.2	<.2	107	<.2	8.00	6.01
NORTHAMPTON COUNTY												
12-13-01	<.2	76.2	<.2	129	<.2	<.2	<.2	<.2	101	<.2	8.00	6.01
PHILADELPHIA COUNTY												
12-12-01	<.2	76.4	<.2	128	<.2	.2	<.2	<.2	99.3	<.2	8.00	6.01

**GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued**

REMARKS.--The following are quality control samples (blanks) processed during the 2001 water year and are defined in the explanation of records section entitled, "Water Quality-Control Data"; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2002

SITE IDENTIFIER	LOCAL WELL NUMBER	DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	XYLENE WATER UNFLTRD REC (µG/L) (81551)	BENZENE 14BRFL-SURROG UNFLTRD REC PERCENT (99834)	BENZENE TOTAL (µG/L) (34030)	ETHANE 12DICL-SURROG UNFLTRD REC PERCENT (99832)	ETHYL-BENZENE TOTAL (µG/L) (34371)	METHYL-TERT-BUTYL-ETHER WAT UNF REC (µG/L) (78032)
				(00027)	(00028)	(81551)	(99834)	(34030)	(99832)	(34371)	(78032)
402954075420701	BE 619	08-03-01	1138	1028	80020	<.2	99.2	<.2	117	<.2	<.2
403902075301301	LE 1423	08-14-01	1050	1028	80020	<.2	107	<.2	101	<.2	<.2

DATE	META/PARA-XYLENE WATER UNFLTRD REC (µG/L) (85795)	O-XYLENE WHOLE TOTAL (µG/L) (77135)	TOLUENE SURROG VOC UNFLTRD REC PERCENT (99833)	D8 TOLUENE TOTAL (µG/L) (34010)	BLANK, SOURCE OF TION (CODE) (99101)	BLANK, TYPE OF SAMPLE (CODE) (99102)	BLANK, TYPE OF SOLU-TION (CODE) (99100)	REF-ERENCE MA-TERIAL SPIKE LOT NUMBER (99104)	SET VOC AN-ALYSIS (NO.) (99931)
08-03-01	<.2	<.2	102	<.2	10.00	30.00	50.00	--	5.01
08-14-01	<.2	<.2	99.5	<.2	10.00	100.00	50.00	90217	2.01

REMARKS.--Concentrations of volatile organic (fuel) compounds in environmental sample and spiked replicate from site ID 400920074561101 (Local identifier BK 2997) and calculated recoveries, in percent; "<" = less than. Less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2002--Continued

Parameter code	Constituent	Concentration, in micrograms per liter				
		Laboratory results			a Calculated concentration in replicate C	Recovery in percent [(B-A)/C] x 100
		Environmental sample (not spiked) (09/24/01 @ 1325)	Replicate (spiked) (09/24/01 @ 1327)			
		A	B			
78032	Methyl-t-butyl ether, (MTBE)	0.3180 b	0.9571	.746	86%	
34030	Benzene	<0.2	0.3850	.465	83%	
34010	Toluene	<0.2	0.3522	.469	75%	
34371	Ethyl benzene	<0.2	0.3503	.469	75%	
77135	o-Xylene	<0.2	0.2414	.280	86%	
85795	m & p-Xylene	<0.2	0.4533	.559	81%	
81551	Xylenes (total)	<0.2	0.6947	.839	83%	
					Mean recovery	81%
					Standard deviation	4.64
					Median recovery	83%

- a** Calculated concentration of spike in sample equals the concentration of the spike solution, in micrograms per milliliter x amount of spike added, in milliliters, divided by the spiked sample volume, in liters.
- b** Unrounded value was used in recovery calculations.

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