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Water Resources Data Pennsylvania Water Year 2005

Volume 2. Susquehanna and Potomac River Basins

By R.R. Durlin, W.P. Schaffstall, and M.R. Beaver

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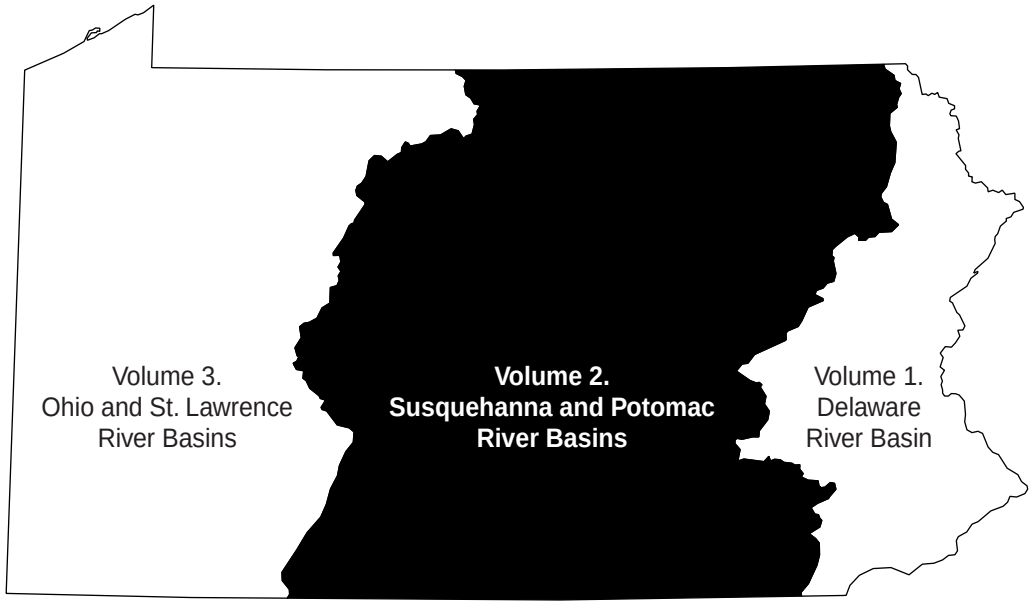

Prepared in cooperation with the Pennsylvania Department of Environmental Protection, the Baltimore District of the U.S. Army Corps of Engineers, and with other State, municipal, and Federal agencies.

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2006

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 2 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of Patricia L. Lietman, Director, USGS Pennsylvania Water Science Center; Robert A. Hainly, Assistant Director for Hydrologic Surveillance and Data Management; Mark R. Beaver, Chief of the Hydrologic Surveillance Program, New Cumberland; William P. Schaffstall, Chief (retired), Williamsport Office; and Randall R. Durlin, Chief, Williamsport 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 *(Maximum 200 words)*

Water resources data for the 2005 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 2 contains (1) discharge records for 89 continuous-record streamflow-gaging stations, 13 partial-record stations, 23 special study and miscellaneous streamflow sites; (2) elevation and contents for 12 lakes and reservoirs, and water-quality records for 12 lakes and reservoirs; (3) water-quality records for 33 gaging stations and 68 ungaged streamsites; (4) water-level records for 40 network observation wells; and (5) water-quality analyses at 35 special study ground-water wells. Site locations are shown in figures throughout the report. 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 1 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.

14. SUBJECT TERMS

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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, (b) biological, (t) water temperature, (sc) specific conductance, (turb) turbidity, (e) elevation, gage heights, or contents.]

NORTH ATLANTIC SLOPE BASINS

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

NORTH ATLANTIC SLOPE BASINS--Continued

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

NORTH ATLANTIC SLOPE BASINS--Continued

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)

GROUND-WATER RECORDS

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

GROUND-WATER RECORDS--Continued

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 USGS Pennsylvania Water Science Center 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)
SUSQUEHANNA RIVER BASIN			
Elk Run near Mainesburg	01517000	10.2	1955-78
Crooked Creek at Tioga	01518500	122	1954-74
N. Branch Sugar Creek trib. near Columbia Crossroads	01531250	8.83	1963-68
Middle Br. Wyalusing Creek trib. near Birchardsville	01532850	5.67	1965-79
North Branch Mehoopany Creek near Lovelton	01533500	35.2	1941-58
Butler Creek at Gibson	01533800	7.38	1974-79
South Branch Tunkhannock Creek near Montdale	01533950	12.6	1961-78
Lackawanna River at Moosic	01535500	264	1914-28
Toby Creek at Luzerne	01537000	32.4	1941-93
Solomon Creek at Wilkes-Barre	01537500	15.7	1940-90
Nescopeck Creek near St. Johns	01538500	49.0	1920-26
Little Nescopeck Creek tributary near Freeland	01538510	mine discharge	1974-79, 1996-98
Applemans Run above Light Street	01539200	1.72	1972-74
Applemans Run below Light Street	01539210	1.99	1972-74
Little Fishing Creek at Eyers Grove	01539500	56.5	1941-58
Fishing Creek at Bloomsburg	01540000	355	1914-28
Trexler Run near Ringtown	01540200	1.77	1963-81
Bradley Run near Ashville	01541308	6.77	1968-80
Moshannon Creek at Osceola Mills	01542000	68.8	1941-93
North Bald Eagle Creek at Milesburg	01546000	119	1911-28, 1934
Spring Creek near Bellefonte	01547000	136	1911-19
South Fork Beech Creek near Snow Shoe	01547800	12.2	1969-81
Bald Eagle Creek near Beech Creek Station	01548005*	562	1910-95
Wilson Creek above Sand Run near Antrim	01548408	12.6	1978-82
Mitchell Mine discharge #2 near Antrim	01548413	mine discharge	1978-81
Anna S mine discharge #1 near Antrim	01548416	mine discharge	1978-81

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS —Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Hunter Drift discharge near Antrim	01548418	mine discharge	1978-81
Pine Creek near Waterville	01549000	750	1909-20
Blockhouse Creek tributary at Liberty	01549100	1.08	1973-77
Blockhouse Creek at Buttonwood	01549300	22.3	1973-77
Steam Valley Run at Buttonwood	01549350	5.34	1973-77
Antes Creek near Jersey Shore	01549755	53.3	1974-77
Larrys Creek at Cogan House	01549780	6.80	1961-78
White Deer Cr. above Sand Spring Run near White Deer	01553120	17.8	1968-73
Sand Spring Run near White Deer	01553130	4.93	1968-81
White Deer Creek near White Deer	01553140	40.0	1968-73
East Branch Chillisquaque Creek near Washingtonville	01553600	9.48	1960-78
Shamokin Creek near Shamokin	01554500	54.2	1938-93
East Mahantango Creek at Klingerstown	01555400	44.7	1993-95, 1997-2000
Bear Creek (BC2) at Lykens	01555539	4.44	1999-2003
Little Juniata River at Tipton	01556500	93.7	1946-62
Little Juniata River near Tyrone	01557000	101	1940-45
Schell Run at Tyrone	01557100	1.68	1958-62
Shaver Creek near Petersburg	01558500	46.4	1930-38
Standing Stone Creek near Huntingdon	01559500	128	1930-58
Sulphur Springs Creek near Manns Choice	01559700	5.28	1962-78
Bobs Creek near Pavia	01559795	16.6	1993-1994, 1997-2000
Dunning Creek at Yount	01560500	191	1930-39
Brush Creek at Gapsville	01561000	36.8	1930-58
Great Trough Creek near Marklesburg	01562500	84.6	1930-57
Raystown Branch Juniata River near Huntingdon	01563000[a]	957	1947-71
Aughwick Creek near Orbisonia	01564000	174	1930-38
Little Lost Creek at Oakland Mills	01565700	6.52	1964-81
Cocalamus Creek near Millerstown	01566500	57.2	1931-58
Clark Creek near Carsonville	01568500	22.5	1937-96

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS —Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Stony Cr. above Pump-storage Reservoir near Dauphin	01568700	11.5	1974-80
Stony Creek at Water Tank Trail near Dauphin	01568750	21.9	1974-76, 1985-86
Stony Creek near Dauphin	01569000	33.2	1938-45, 1967-74
Conodoguinet Creek tributary No. 1 near Enola	01570100	.77	1969-76
Conodoguinet Creek tributary No. 2 near Enola	01570200	.76	1969-76
Conodoguinet Creek tributary No. 2A near Enola	01570230	.60	1969-76
Conodoguinet Creek tributary No. 2B near Enola	01570260	.65	1969-76
Conodoguinet Creek tributary No. 3 near Enola	01570300	.38	1969-76
Paxton Creek near Penbrook	01571000‡	11.2	1940-50, 1985-89, 1992-95
Cedar Run at Eberlys Mill	01571490	12.6	1993-95
Swatara Creek below Ravine	01571827	46.3	1985-87
Swatara Creek above highway bridge 895 at Pine Grove	01571919	72.6	1982-84
Lower Little Swatara Creek at Pine Grove	01572000	34.3	1920-32, 1981-84
Swatara Creek near Suedberg	01572030	124	1985-87
Beck Creek near Cleona	01573086	7.87	1963-81
Bachman Run at Annville	01573095	7.3	1993-95
Quittapahilla Creek near Bellegrove	01573160	74.2	1976-94
Manada Creek at Manada Gap	01573500	13.5	1938-58
Brush Run, Site 2, near McSherrystown	01573810	.38	1985-91
East Branch Codorus Creek tributary near Winterstown	01574800	5.17	1969-75
South Branch Codorus Creek near York	01575000	117	1928-95
Codorus Creek near York	01575500*	222	1940-96
Codorus Creek at Pleasureville	01575585	267	1985-90
Little Conestoga Creek, Site 3A, near Morgantown	0157608335	1.42	1984-91
Little Conestoga Creek near Churchtown	01576085	5.82	1982-95
Muddy Run at Weavertown	01576520	6.68	1993-97
Big Spring Run near Willow Street	01576521	1.77	1994-2001
North Fork Unnamed Tributary to Big Spring Run near Lampeter	015765265	.32	1995-2001
North Fork Unnamed Tributary to Big Spring Run at Lampeter	01576527	.36	1994-2001

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS —Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Unnamed Tributary to Big Spring Run near Lampeter	01576529	1.42	1994-2001
Mill Creek at Eshelman Mill Road near Lyndon	01576540	54.2	1992-99
Swarr Run near Landisville	01576697	8.67	1985-89
Pequea Creek tributary near Mt. Nebo	01576788	.20	1979-86
Susquehanna River near McCalls Ferry	01577000	26,800	1904-11
Bald Eagle Creek near Fawn Grove	01577400	.43	1986-89
Muddy Creek at Castle Fin	01577500	133	1929-38, 1968-71
Bowery Run near Quarryville	01578400	5.98	1963-81
POTOMAC RIVER BASIN			
Evitts Creek near Centerville	01603500	30.2	1933-82
Licking Creek near Sylvan	01613500*****	158	1930-41
Conococheague Creek near Fayetteville	01614090*****	5.05	1961-81
Dennis Creek near Chambersburg	01614137	13.2	1997-2001[b] 2001-2002

‡ Operated from October 1991 to September 1995 as a continuous-record surface-water discharge station and water-quality site.

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

[a] Records considered equivalent with station 01563200 Raystown Branch Juniata River below Raystown Dam near Huntingdon, published in this volume.

[b] Published as a partial record station, Apr. 1997 to May 2001.

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 USGS Pennsylvania Water Science Center Office at the address given on the back of the title page of this report.

The following are used to identify the record type: SC (specific conductance); pH; Temp (water temperature); DO (dissolved oxygen); Turb (turbidity, in NTU); Sed (sediment concentration and discharge).

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN				
Tioga River near Mansfield	01516350	153	SC[a], pH[a], Temp[a]	1977-88[c]
			DO[a]	1977-78
Corey Creek near Mainesburg	01516500	12.2	Temp[b]	1960-61
			Temp	1959, 1962
			Sed	1954-67[c]
Elk Run near Mainesburg	01517000	10.2	Temp[b]	1958-59
			Temp	1957, 1960-62
			Sed	1955-67
Tioga River at Tioga Junction	01518700	446	SC[a], pH[a], Temp[a], DO[a]	1977-88
Cowanesque River near Lawrenceville	01520000	298	Temp[a]	1972-86
Susquehanna River at Towanda	01531500	7,797	Sed	1951-54
Susquehanna River at Falls	01534090	9,440	SC	1945-51
			Temp	1947-53
Lackawanna River at Old Forge	01536000	332	Temp	1949-51
Fishing Creek near Bloomsburg	01539000	274	Sed	1967-69
Applemans Run above Light Street	01539200	1.72	Turb, Sed	1972-74
Applemans Run below Light Street	01539210	1.99	Turb, Sed	1972-74
Susquehanna River at Danville	01540500	11,220	SC	1946-52, 1963-76
			Temp	1948-53, 1957-70, 1975-76
			Sed	1974-76
West Branch Susquehanna River at Bower	01541000	315	Sed	1964-67

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

Station name	Station number	Drainage area (mi^2)	Type of Record	Period of record (water years)
West Branch Susquehanna River at Renovo	01545500	2,975	SC[a], pH[a], Temp[a] DO[a]	1967-88[c] 1975-78
West Branch Susquehanna River at Lock Haven	01545800	3,337	SC pH Temp	1946-51, 1959, 1964-72 1963-72 1946-51, 1958-72
Bald Eagle Creek below Spring Creek at Milesburg	01547200	265	Temp Temp[b] Sed	1956-58 1967-68 1956-58
Bald Eagle Creek near Milesburg	01547400	296	Temp[a]	1967-90
Bald Eagle Creek at Blanchard	01547500	339	Temp Temp[b] Temp[a] Sed	1957 1967-81 1982-85 1956-58
Marsh Creek at Blanchard	01547700	44.1	Temp Sed	1957 1956-58
Beech Creek at Monument	01547950	152	SC[a], pH[a], Temp[a] DO[a]	1969-80 1976-78
Wilson Creek above Sand Run near Antrim	01548408	12.6	Sed	1978-82
Basswood Run near Antrim	01548417	.57	Sed	1978-80
Blockhouse Creek tributary at Liberty	01549100	1.08	Temp[a], Turb, Sed	1973-77
Blockhouse Creek at Buttonwood	01549300	22.3	Temp[a], Turb, Sed	1973-77
Steam Valley Run at Buttonwood	01549350	5.34	Temp[a], Turb, Sed	1973-77
Blockhouse Creek near English Center	01549500	37.7	Temp[a], Turb, Sed	1973-77
West Branch Susquehanna River at Williamsport	01551500	5,682	SC[a], pH[a], Temp[a]	1980-88[c]
West Branch Susquehanna River at Lewisburg	01553500	6,847	SC, Temp Sed	1944-53[c], 1957-58, 1975-76 1975-76
Shamokin Creek near Shamokin	01554500	54.2	Temp	1959-61

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

Station name	Station number	Drainage area (mi^2)	Type of Record	Period of record (water years)
East Mahantango Creek at Klingerstown	01555400	44.7	SC[a] Temp	1993-95 1993-95, 1997-2000
Juniata River at Huntingdon	01559000	816	Temp	1948-51, 1981-86[c]
Bobs Creek near Pavia	01559795	16.6	SC[a] Temp[a]	1994-95 1994-95, 1997-2000
Raystown Branch Juniata River near Huntingdon	01563000	957	Temp	1947-50
Raystown Branch Juniata River below Raystown Dam near Huntingdon	01563200	960	Temp[a]	1978-86[c]
Bixler Run near Loysville	01567500	15.0	Temp Temp[a] Sed	1957-62 1963-65 1954-71
Sherman Creek at Shermans Dale	01568000	200	Temp[b]	1954-56
Stony Creek at Water Tank Trail near Dauphin	01568750	21.9	Temp[b]	1974-76
Conodoguinet Creek tributary No. 1 near Enola	01570100	.77	Turb Sed	1972-75 1969-76
Conodoguinet Creek tributary No. 2 near Enola	01570200	.76	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 2A near Enola	01570230	.70	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 2B near Enola	01570260	.65	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 3 near Enola	01570300	.38	Turb Sed	1972-75 1969-76
Susquehanna River at Harrisburg	01570500	24,100	SC[a], pH[a], Temp[a], DO[a] Sed	1974-79 1964-81[c]
Cedar Run at Eberlys Mill	01571490	12.6	SC[a], Temp[a]	1993-95
Swatara Creek above Highway bridge 895 at Pine Grove	01571919	72.6	SC Temp, Sed	1983-84 1982-84
Lower Little Swatara Creek at Pine Grove	01572000	34.3	SC Temp, Sed	1981, 1983-84 1981-84

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

Station name	Station number	Drainage area (mi^2)	Type of Record	Period of record (water years)
Swatara Creek at Harper Tavern	01573000	337	SC	1977-79
			Temp	1959-61, 1977-79
			Sed	1959-60, 1977-79
Conestoga River at Lancaster	01576500	324	SC	1948-50, 1964-70, 1974-75
			Temp	1948-50, 1959-70, 1974-75
			Sed	1974-75
Muddy Creek at Muddy Creek Forks	01577300	71.9	SC[a], Temp[a]	1993-95

[a] Max, Min, Mean values.

[b] Max, Min values.

[c] Most years.

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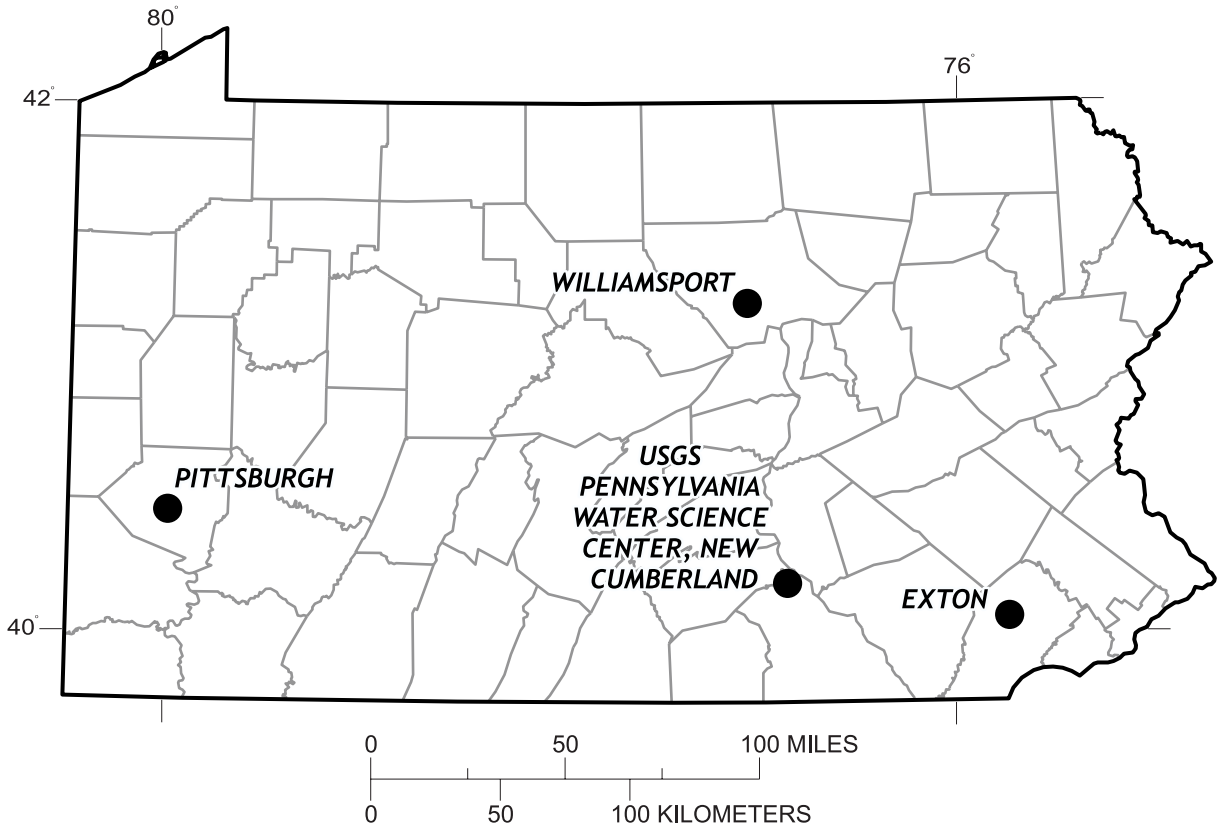

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INTRODUCTION

The USGS Pennsylvania Water Science Center, 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 2, contains: (1) discharge records for 89 continuous-record streamflow-gaging stations, 13 partial-record stations, and 23 special study and miscellaneous streamflow sites; (2) elevation and contents for 12 lakes and reservoirs, and water-quality records for 12 lakes and reservoirs; (3) water-quality records for 33 streamflow gaging stations and 68 partial-record and project stations; and (4) water-level records for 40 ground-water network observation wells; (5) water-quality analyses at 35 special study 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-05-2." 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 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 annually 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 USGS Pennsylvania Water Science Center at the address 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 USGS Pennsylvania Water Science Center 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, Kathleen A. McGinty, Secretary, through the following:
Office of Water Management, Cathleen C. Myers, Deputy Secretary;
- Bureau of Water Standards and Facility Regulation, Frederick A. Marrocco, Director;
- Bureau of Watershed Management, Stuart I. Gansell, Director;
- Bureau of Waterways Engineering, Michael D. Conway, Director;

Office of Mineral Resources Management, J. Scott Roberts, Deputy Secretary;
- Bureau of Mining and Reclamation, Joseph G. Pizarchik, Director;

Field Operations, Michael Sherman, Deputy Secretary;
- Bureau of Laboratories, Roger H. Carlson, Director;

Department of Military and Veterans Affairs, Major General Jessica L. Wright, Adjutant General

COOPERATION--Continued

Borough of Chambersburg, Thomas L. Newcomer, Mayor;
Borough of Patton, Stephen B Bakajza, Mayor;
City of Sunbury Municipal Authority, Danny W. Ramer, General Manager;
City of Williamsport, Mary B. Wolf, Mayor;
Letort Regional Authority, Brian L. Fischbach, Executive Director;
Luzerne County Emergency Management Agency, Albert Bardar, Director;
New Oxford Municipal Authority, Earl E. Mummert, Chairman;
Roaring Spring Municipal Authority, Fred L. Beers, Chairman;
Susquehanna River Basin Commission, Paul O. Swartz, Executive Director;
Town of Bloomsburg, Charles Coffman, Mayor;
Union County Commissioners, William Haas, Chairman;
University Area Joint Authority, Cory R. Miller, Executive Director;
Watershed Alliance of Adams County, Pat Naugle, President.

Federal Energy Regulatory Commission Licensees:
Susquehanna Electric Company.
Safe Harbor Water Power Corporation.

The following Federal agencies assisted in the data-collection program by providing funds or services: Corps of Engineers, U.S. Army, Baltimore District, and the National Weather Service, NOAA, U.S. Department of Commerce.

The following organizations aided in collecting records: City of Lancaster, City of Lebanon, Hershey Chocolate U.S.A., Mechanicsburg Water Co., P.H. Glatfelter Co., Pennsylvania American Water Co., Pennsylvania Gas and Water Co., and York Water Co.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The Susquehanna River flows generally southward from southern New York to the Chesapeake Bay in Maryland. At the point where the river enters Maryland, it drains 27,215 mi^2 (square miles). Most of this area, 20,962 mi^2, is in north- and southcentral Pennsylvania. Streams in the basin are located in the Appalachian Plateau, Valley and Ridge, and Piedmont Physiographic Provinces. The underlying geology includes rocks of Precambrian to Triassic age.

Precipitation and Streamflow

Data from 34 selected National Oceanic and Atmospheric Administration climatological sites, located within 5 climatic regions in the Susquehanna River Basin in Pennsylvania, indicated the annual precipitation for the Susquehanna River Basin in central Pennsylvania was slightly below normal. The basin generally received below-normal precipitation for the months of October, February, May, June, and September. The greatest deficit basinwide, with an average of about 2.2 inches below normal, occurred in May and September. The basin generally received above-normal precipitation for the months of December, January, March, and August. The greatest surplus basinwide, with an average of 2.5 inches above normal, occurred in January. Basinwide, precipitation totals for the water year averaged 37.1 inches compared to the historical average of 39.5 inches.

As an example, the 2005 monthly precipitation was compared with the 1971-2000 mean monthly and annual precipitation recorded at Lancaster and Williamsport, Pennsylvania (fig. 1). The precipitation data are from the National Oceanic and Atmospheric Administration (U.S. Department of Commerce, 2004-2005) and National Weather Service records.

Two U.S. Geological Survey streamflow-gaging stations within the basin were selected as indicators of basinwide streamflow conditions. Figure 2 compares the 2005 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 2005 water year annual mean streamflow was about 98 percent of the 1971-2000 median of the mean annual streamflows in the West Branch Susquehanna River at Williamsport, and about 122 percent of the 1971-2000 median of the mean annual streamflows in the Conestoga River at Lancaster.

Monthly mean streamflows in the West Branch Susquehanna River were above normal for the months of December and January. Monthly mean streamflows were below normal for the months of May through September (fig. 2). Normal streamflows are defined as those between the 25th and 75th percentiles as compared to the monthly mean streamflows for 1971-2000. In the Conestoga River, monthly mean streamflows were above normal for the period October through January and during April. Monthly mean streamflows were below normal in June and September. (fig. 2).

The Susquehanna River Basin and its tributaries experienced flooding at the end of the 2004 water year as a direct result of an active hurricane season. As the 2005 water year began, streamflows generally remained normal or above normal basinwide. In general, this trend continued through April. Heavy rain across the upper and eastern portions of the basin in early April, combined with the snowmelt and heavy precipitation at the end of March, caused major flooding in these areas. The Federal Emergency Management Agency (FEMA) declared the counties of Bradford, Luzerne, Wyoming and Columbia as Federal Disaster Areas as a direct result of the flooding.

Beginning in May, as a direct result of a basinwide precipitation deficit, streamflow levels dropped and were generally below normal at many locations through the remainder of the 2005 water year. There were no Drought Declarations affecting the Susquehanna River basin during the 2005 water year. All 67 Pennsylvania counties have been in normal status since June 18, 2003.

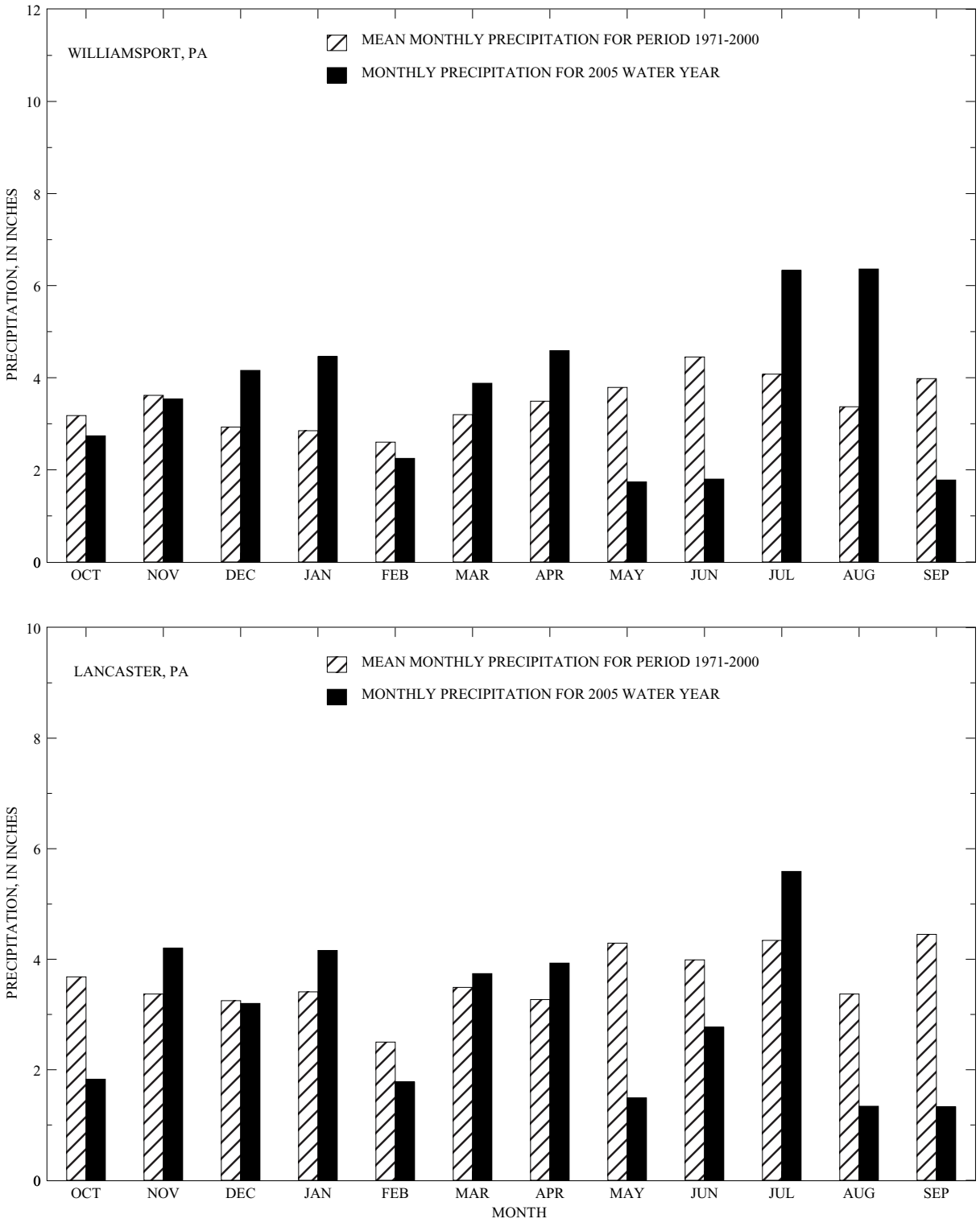

Figure 1.--Comparison of monthly precipitation at two National Oceanic and Atmospheric Administration climatological stations during the 2005 water year and mean monthly precipitation for the period 1971 through 2000.

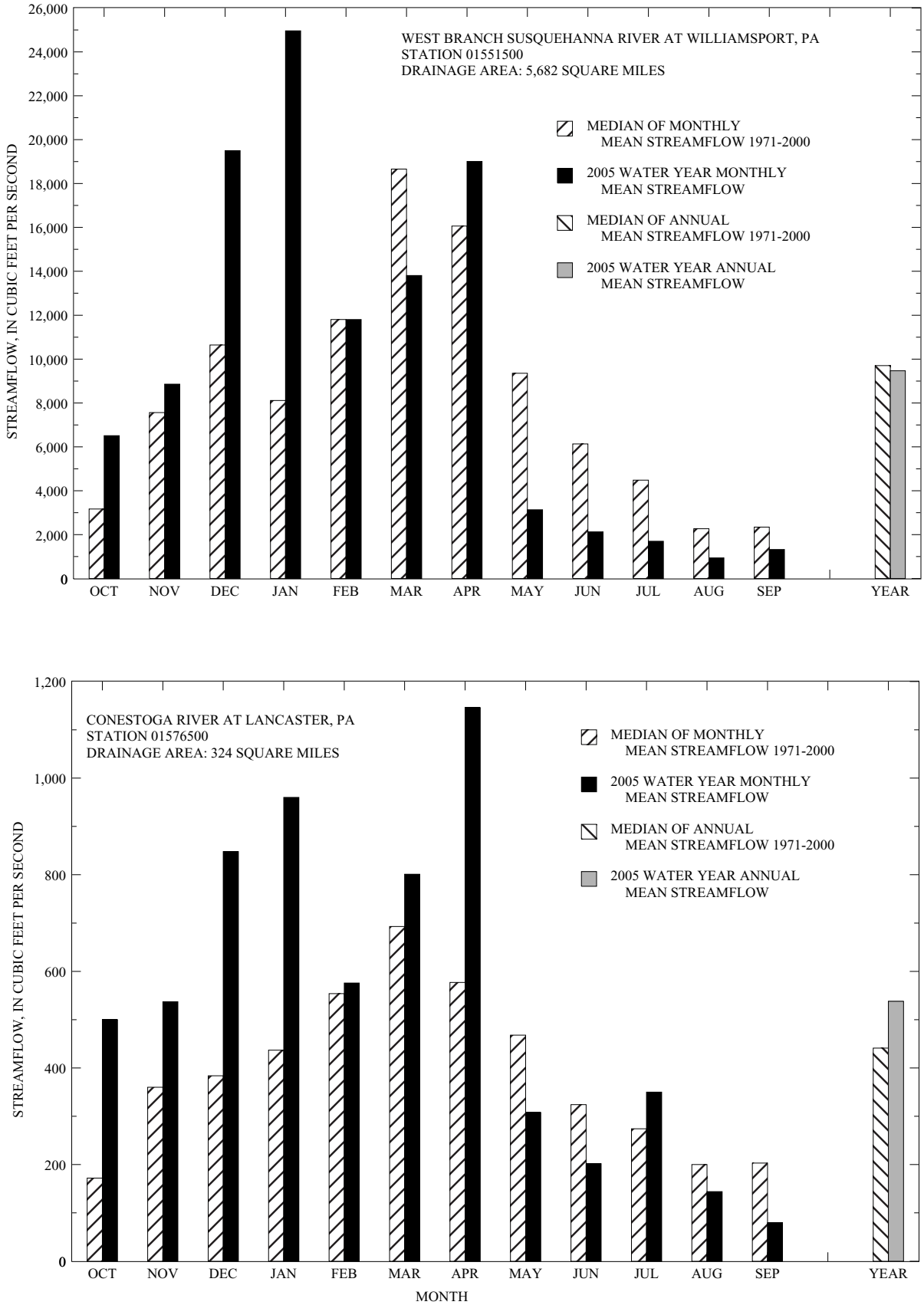

Figure 2.--Comparison of streamflow at two long-term streamflow-gaging stations during the 2005 water year and the median monthly and annual mean streamflow for the period 1971 through 2000.

Reservoirs

The combined storage of 12 major reservoirs in the Susquehanna River Basin decreased from 699,040 acre-feet (47.1 percent of total combined capacity) on September 30, 2004, to 660,495 acre-feet (44.5 percent of total combined capacity) on September 30, 2005. Maximum and minimum storage in individual reservoirs varied throughout the year depending on the purpose and capacity of each reservoir.

Ground Water

Ground-water levels were generally above normal throughout all of the Susquehanna River basin at the end of the 2004 water year (Durlin and Schaffstall, 2005). Ground-water levels during the water year reflected the seasonal precipitation variations (fig. 1). The 2005 water year began with 20 of the 21 indicator wells in an above-normal category (Durlin and Schaffstall, 2005). The water year ended with 20 of the 21 wells in a normal to below-normal category. The only well to remain above normal at the end of the 2005 water year was the Tioga County well (TI 100). A comparison between seasonal ground-water levels for the 2005 water year and long-term seasonal ground-water levels is shown in figure 3.

References

Durlin, R. R., and Schaffstall W. P., 2005, Water resources data, Pennsylvania, water year 2004: U.S. Geological Survey Water-Data Report PA-04-2, 565 p.

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Pennsylvania Department of Environmental Protection, 2005, Drought Information Center, accessed April 19, 2006, at URL *http://www.dep.state.pa.us/dep/subject/hotopics/drought/news.htm*

Susquehanna River Basin Commission, 2005 Flooding in the Susquehanna River Basin, accessed April 19, 2006, at URL *http://www.srbc.net/guardian/winter05/flooding.asp*

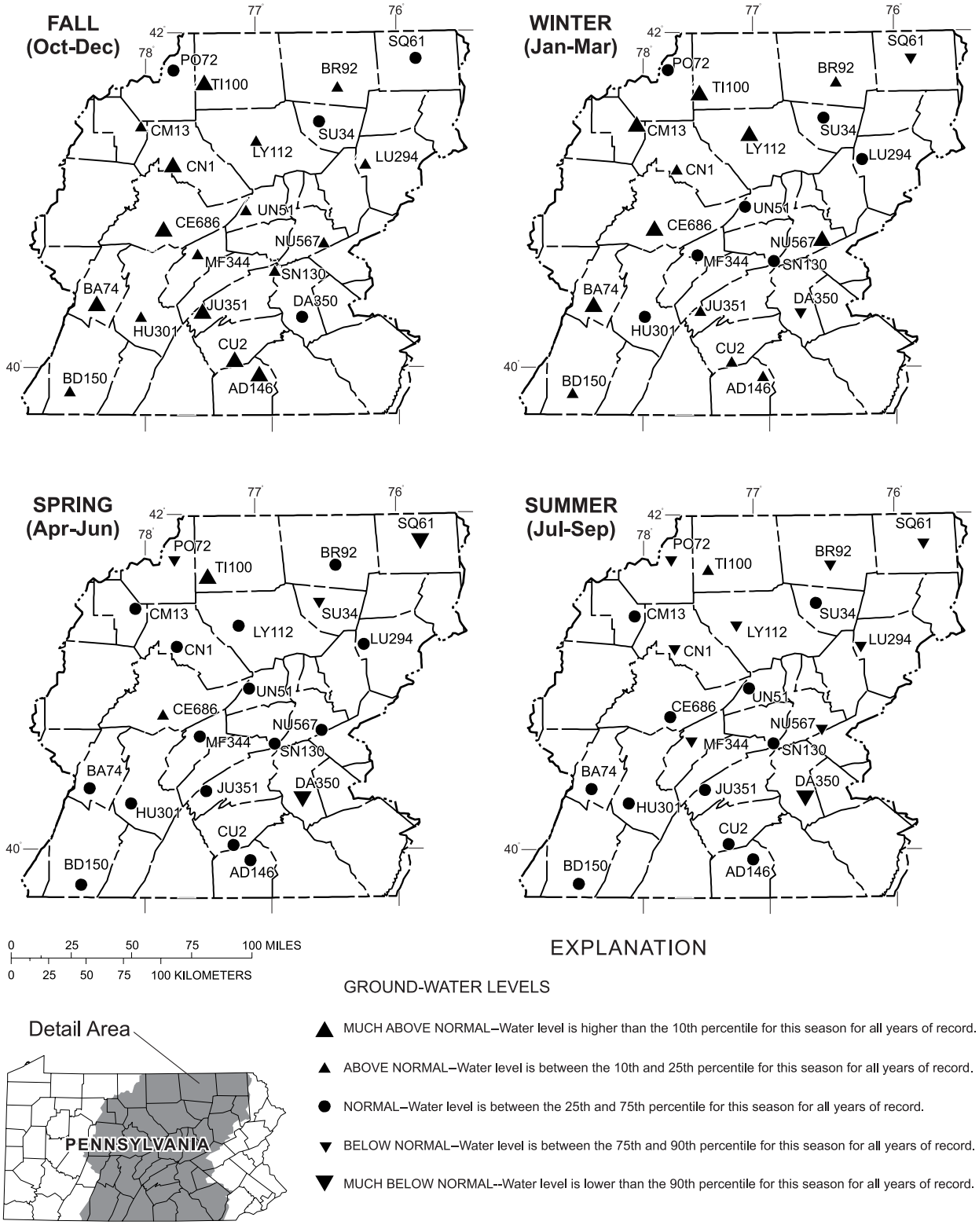


Figure 3.--Relation between 2005 seasonal ground-water levels and long-term ground-water levels *[Seasonal percentile values were determined by ranking the average monthly water levels for each month in the season from highest to lowest for all years of record and averaging the ranks for the three months. 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 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from *http://ny/cf/er.usgs.gov/hbn/*.

The **National Stream-Quality Accounting Network** (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nations's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling on the Colorado and Columbia Rivers was reduced to a few index stations so that a network of five 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 (NAWQA) Program; (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 determing 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) is a network of monitoring sites that 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 this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 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 data from the individual sites, may be accessed from *http://bqs.usgs.gov/acidrain/*.

The **USGS National Water-Quality Assessment Program** (NAWQA) 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; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 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 is 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 water-resources managers to use in making decisions 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 for collaboration among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

The **USGS National Streamflow Information Program** (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from *http://water.usgs.gov/nsip/*.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 2005 water year that began October 1, 2004, and ended September 30, 2005. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for streamflow stations, and ground-water-level data. The location of these stations and wells are shown in figures throughout the report. 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 indention in a list of stations in the front of the report. Each indention represents one rank. This downstream-order system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned in downstream order. In assigning station numbers, no distinction is made between partial-record stations 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. 4).

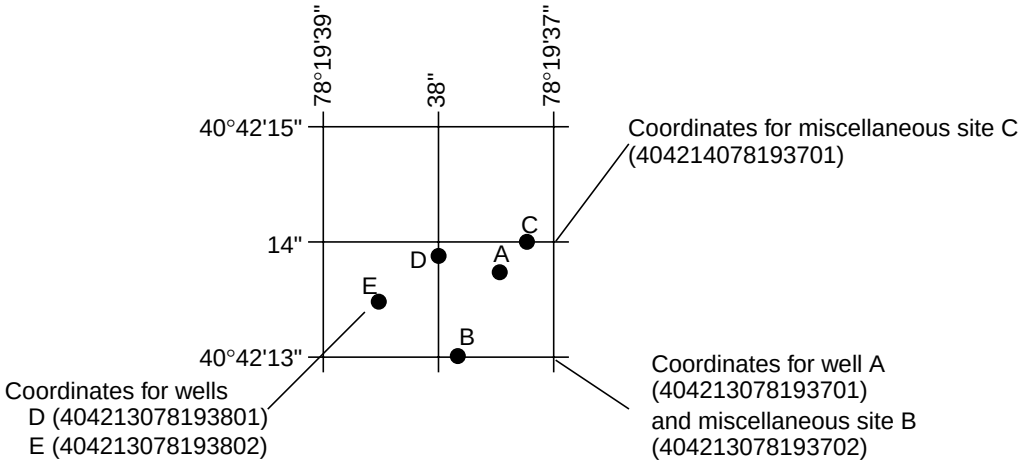


Figure 4.--System for numbering wells and miscellaneous sites (latitude and longitude).

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.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (fig. 5-13) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2, which may be accessed from *http://water.usgs.gov/pubs/twri/*. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standardization (ISO).

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

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence 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 at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations, and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, the stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

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

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

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

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator’s log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts; (1) the station manuscript or description; (2) the data table of daily mean values for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration; and (5) a hydrograph of discharge.

Station manuscript

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

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

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

PERIOD OF RECORD.--This term indicates the time 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 reasonably can be considered equivalent to the streamflow at the present station.

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

GAGE.--The type of gage in current use, the datum of the current gage referred to referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily discharge either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the 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.—Information here documents 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 USGS.

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.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based national data system, NWISWeb *(http://water.usgs.gov/nwis/nwis)*. Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations to document the revision in a REVISED RECORDS entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the USGS Pennsylvania Water Science Center (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

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

Peak discharge greater than base discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

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 arithmetic 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."). Values 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, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

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

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

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the SUMMARY STATISTICS table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year.

ANNUAL MEAN.--The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

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. Data reports may use any of the following units of measurement in presenting annual runoff data:

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

Cubic feet 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 table lists annual maximum stage and discharge at crest-stage stations, and the second table lists 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 often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

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

Accuracy of Field Data and Computed Results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The degree of accuracy of the records is stated in the REMARKS in the station description. "*Excellent*" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "*good*," within 10 percent; and "*fair*," within 15 percent. "*Poor*" indicates that daily discharges have less than "*fair*" accuracy. Different accuracies may be attributed to different parts of a given record.

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

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

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as observations of water temperature, discharge measurements, gage-height records, and rating tables is available from the USGS Pennsylvania Water Science Center. Also, most stream-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 USGS Pennsylvania Water Science Center (see address that is shown on the back of the title page of this report).

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

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

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

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

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data are useful in the interpretation of surface-water quality. Records of surface-water quality in this report 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 *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A *partial-record station* is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A *miscellaneous sampling site* is a location other than a continuous- or partial-record station, where 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 *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 5-13.

Accuracy of the records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

	Ratings of accuracy (Based on combined fouling and calibration drift corrections applied to the record)			
Measured field parameter	**Excellent**	**Good**	**Fair**	**Poor**
Water temperature	≤ ±0.2 °C	> ±0.2 - 0.5 °C	> ±0.5 - 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 - 10%	> ±10 - 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L or ≤ ±5%, whichever is greater	> ±0.3 - 0.5 mg/L or ≤ ±5% - 10%, whichever is greater	> ±0.5 - 0.8 mg/L or ≤ ±10% - 15%, whichever is greater	> ±0.8 mg/L or ≤ ±15%, whichever is greater
pH	≤ ±0.2 unit	> ±0.2 - 0.5 unit	> ±0.5 - 0.8 unit	> ±0.8 unit
Turbidity	≤ ±0.5 turbidity units or ≤ ±5%, whichever is greater	> ±0.5 – 1.0 turbidity units or > ±5 – 10%, whichever is greater	> ±1.0 - 15% turbidity units or > ±10 – 15%, whichever is greater	> ±1.5 turbidity units or > ±15%, whichever is greater

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.

Onsite measurements and sample collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made onsite when the samples are collected. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS Pennsylvania Water Science Center (see address that is shown on the back of title page in this report).

Water temperature

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

At stations where recording instruments are used, maximum, minimum, and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the USGS Pennsylvania Water Science Center.

Sediment

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

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

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

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

Laboratory measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. These methods are consistent with ASTM standards and generally follow ISO standards.

Data presentation

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

In the descriptive headings, if the location is identical to that of the streamflow-gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information 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 information in the "Records of Stage and Water Discharge" section of this report (same comments apply).

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge" section of this report (same comments apply).

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

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

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

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

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based national data system, NWISWeb (*http://waterdata.usgs.gov/nwis)*. Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are 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.

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

Remark codes

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

PRINTED OUTPUT	REMARK
E,e	Value is estimated.
>	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.

Water-Quality-Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a nondetection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte either was not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

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 USGS Water Science Center 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. These data are not presented in this report but are available from the USGS Pennsylvania Water Science Center.

Blank samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in 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. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this USGS Water Science Center are:

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

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

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

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

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

Splitter blank--A blank solution that is mixed and separated using a field 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.

Reference samples

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

Replicate samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are 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 USGS Water Science Center are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample 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.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See "Numbering System for Wells and Miscellaneous Sites" in this report for a detailed explanation)

Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the onsite Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure 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.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). 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 above sea level 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 daily.

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

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown and each well is identified by its local well or county well number on a map in this report (fig. XX-XX).

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.--This entry designates by name and geologic age of the aquifer that the well taps.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

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

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), 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 National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may affect the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-level tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display recorder data show a solid line representing the maximum or mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder’s float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS Pennsylvania Water Science Center (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed onsite. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from *http://water.usgs.gov*.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each USGS Water Science Center. (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from *http://water.usgs.gov/glossaries.html*.

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.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

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 purposely is placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is 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 a 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 primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles 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 also is called the Autotrophic Index.

Blue-green algae (Cyanophyta) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (mm^3/mL). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter (mm^3/cm^2). (See also "Phytoplankton"and "Periphyton")

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 the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently 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:

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

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 (μm^3/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.

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 generally are reported as cells or units per milliliter (mL) or liter (L).

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 the 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 chloroplatinate 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 bound-aries. 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, ft^3/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, [$(ft^3/s)/d$]) 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 numerically are 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, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted mean 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 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 usually are 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 Universal Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

Diatoms *(Bacillariophyta)* are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (mm^3/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter (mm^3/cm^2). (See also "Phytoplankton" and "Periphyton")

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, and so forth, 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 0.4917 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) 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 commonly are 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 feacalis, Streptococcus feacium, 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 generally are 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) value of a concentration 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 identified qualitatively 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 (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are 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 microcoulometrimc 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")

Filtered pertains to constituents in a water sample passed through a filter of specified pore diameter, most commonly 0.45 micrometer or less for inorganic analytes and 0.7 micrometer for organic analytes.

Filtered, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that has passed through a filter has been extracted. Complete recovery is not achieved by the extraction procedure and thus the analytical determination represents something less than 95 percent of the total constituent concentration in the sample. To achieve comparability of analytical data, equivalent

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

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 exceeded. For example, the 90th percentile of river flow is the streamflow exceeded 90 percent of the time in the period of interest.

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 is not an actual physical object, the datum is usually 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 *(Chlorophyta)* are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating "moss" in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (mm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

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 typically are 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 ($CaCO_3$).

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.csc.noaa.gov/text/glossary.html* (see "High water")

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:

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

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.), in reference to streamflow, 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 distributed uniformly on it. (See also "Annual runoff")

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

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

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) generally is 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. The LRL replaces the term 'non-detection value' (NDV).

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 Website: *http://www.csc.noaa.gov/text/glossary.html* (see "Low water")

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.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

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 code is a one-character code that identifies the analytical or field method used to determine a value stored in the National Water Information System (NWIS).

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.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). 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, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/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, µg/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, µS/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 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was 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.

Nonfilterable refers to the portion of the total residue retained by a filter.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) 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 (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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 uses 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 usually are 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 photo-synthetic 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 [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/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 [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/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 conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable is the amount of a given constituent that is in solution after a representative water sample has been extracted or digested. Complete recovery is not achieved by the extraction or digestion and thus the determination represents something less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different 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")

Salinity is the total quantity of dissolved salts, measured by weight in parts per thousand. Values in this report are calculated from

specific conductance and temperature. Seawater has an average salinity of about 35 parts per thousand (for additional information, refer to: Miller, R.L., Bradford, W.L., and Peters, N.E., 1988, Specific conductance: theoretical considerations and application to analytical quality control: U.S. Geological Survey Water-Supply Paper 2311, 16 p.)

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) 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 (<2 mm, 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.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended is the amount (concentration) of undissolved material in a water-sediment mixture. Most commonly refers to that material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer filter has been extracted or digested. Complete recovery is not achieved by the

extraction or digestion procedures and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also "Suspended")

Suspended sediment is sediment carried in suspension by the turbulent components of the fluid or by the Brownian movement (a law of physics). (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 (ft^3/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 hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata,* is the following:

Kingdom:	Animal
Phylum:	Arthropeda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

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 ton 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 an expression of the optical properties of a liquid that causes light rays to be scattered and absorbed rather than transmitted in straight lines through water. Turbidity, which can make water appear cloudy or muddy, is caused by the presence of suspended and dissolved matter, such as clay, silt, finely divided organic matter, plankton and other microscopic organisms, organic acids, and dyes (ASTM International, 2003, D1889–00 Standard test method for turbidity of water, *in* ASTM International, Annual Book of ASTM Standards, Water and Environmental Technology, v. 11.01: West Conshohocken, Pennsylvania, 6 p.). The color of water, whether resulting from dissolved compounds or suspended particles, can affect a turbidity measurement. To ensure that USGS turbidity data can be understood and interpreted properly within the context of the instrument used and site conditions encountered, data from each instrument type are stored and reported in the National Water Information System (NWIS) using parameter codes and measurement reporting units that are specific to the instrument type, with specific instruments designated by the method code. The respective measurement units, many of which also are in use internationally, fall into two categories: (1) the designations NTU, NTRU, BU, AU, and NTMU signify the use of a broad spectrum incident light in the wavelength range of 400-680 nanometers (nm), but having different light detection configurations; (2) The designations FNU, FNRU, FBU, FAU, and FNMU generally signify an incident light in the range between 780-900 nm, also with varying light detection configurations. These reporting units are equivalent when measuring a calibration solution (for example, formazin or polymer beads), but their respective instruments may not produce equivalent results for environmental samples. Specific reporting units are as follows:

NTU (Nephelometric Turbidity Units): white or broadband [400-680 nm] light source, 90 degree detection angle, one detector.

NTRU (Nephelometric Turbidity Ratio Units): white or broadband [400-680 nm] light source, 90 degree detection angle, multiple detectors with ratio compensation.

BU (Backscatter Units): white or broadband [400-680 nm] light source, 30 ± 15 degree detection angle (backscatter).

AU (Attenuation Units): white or broadband [400-680 nm] light source, 180 degree detection angle (attenuation).

NTMU (Nephelometric Turbidity Multibeam Units): white or broadband [400-680 nm] light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

FNU (Formazin Nephelometric Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, one detector.

FNRU (Formazin Nephelometric Ratio Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, multiple detectors, ratio compensation.

FBU (Formazin Backscatter Units): near infrared [780-900 nm] or monochrome light source, 30 15degree detection angle.

FAU (Formazin Attenuation Units): near infrared [780-900 nm] light source, 180 degree detection angle.

FNMU (Formazin Nephelometric Multibeam Units): near infrared [780-900 nm] or monochrome light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

For more information please see http://water.usgs.gov/owq/FieldManual/Chapter6/6.7_contents.html.

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 path length 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")

Unfiltered pertains to the constituents in an unfiltered, representative water-suspended sediment sample.

Unfiltered, recoverable is the amount of a given constituent in a representative water-suspended sediment sample that has been extracted or digested. Complete recovery is not achieved by the extraction or digestion treatment and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

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 often are 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.

Watershed (See "Drainage basin")

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. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton")

Techniques of Water-Resources Investigations of the U.S. Geological Survey

The USGS publishes a series of manuals, the Techniques of Water-Resources Investigations, describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

Reports in the Techniques of Water-Resources Investigations series, which are listed below, are online at *http://water.usgs.gov/pubs/twri/*. Printed copies are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office), telephone 1-888-ASK-USGS. Please telephone 1-888-ASK-USGS for current prices, and refer to the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Products can then be ordered by telephone, or online at http://www.usgs.gov/sales.html, or by FAX to (303)236-469 of an order form 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.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

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

Section D. Surface Geophysical Methods

2–D1.*Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, 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.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3–A1.*General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, 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.
3–A3.*Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
3–A4.*Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.
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–Al0.*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.
3–A14.*Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
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.
3–A18.*Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
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.

3–B4.*Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
3–B5.*Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction,* by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.
3–B6.*The principle of superposition and its application in ground-water hydraulics,* by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
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

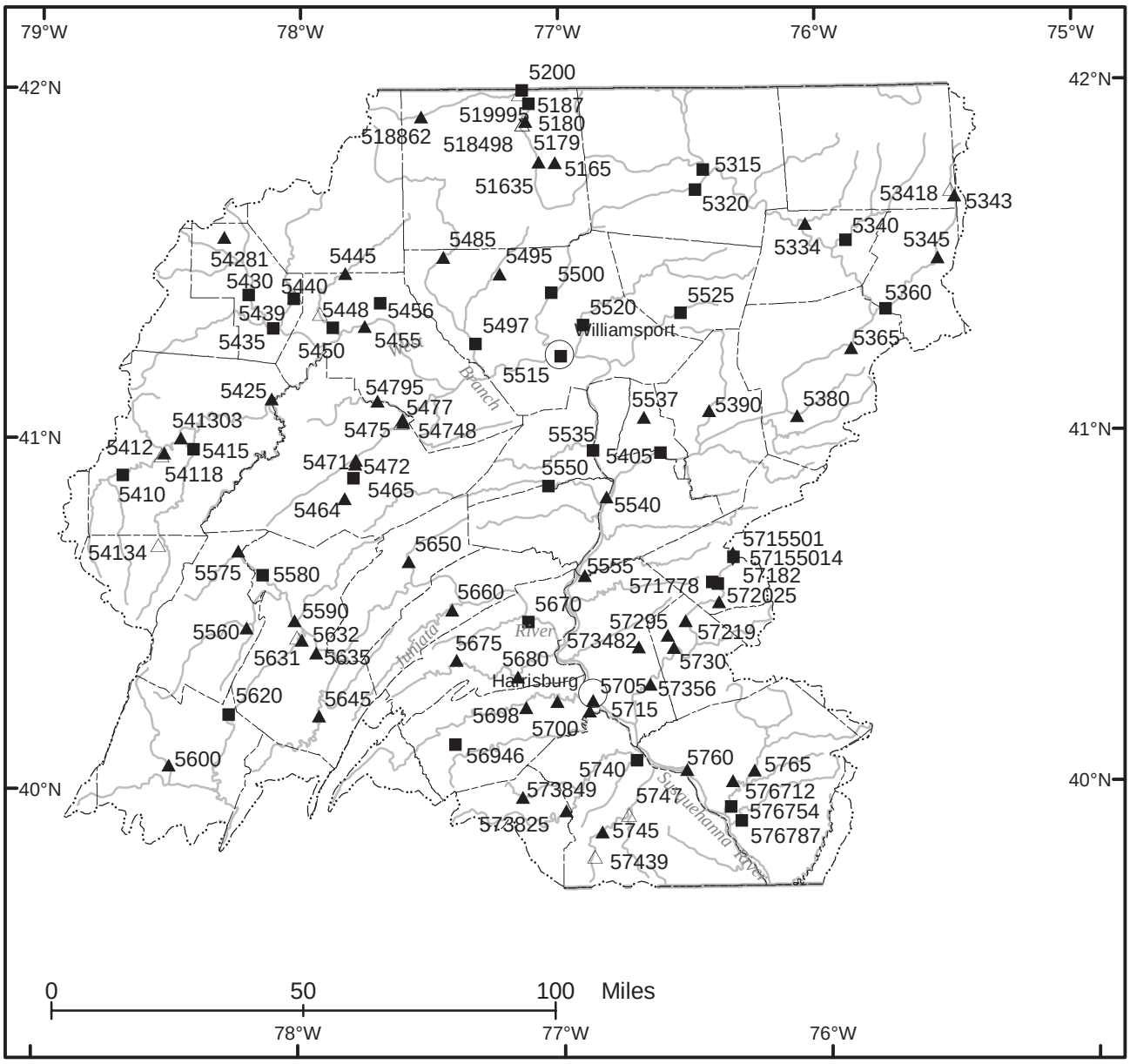
8–B2.*Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

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.

SUSQUEHANNA RIVER BASIN



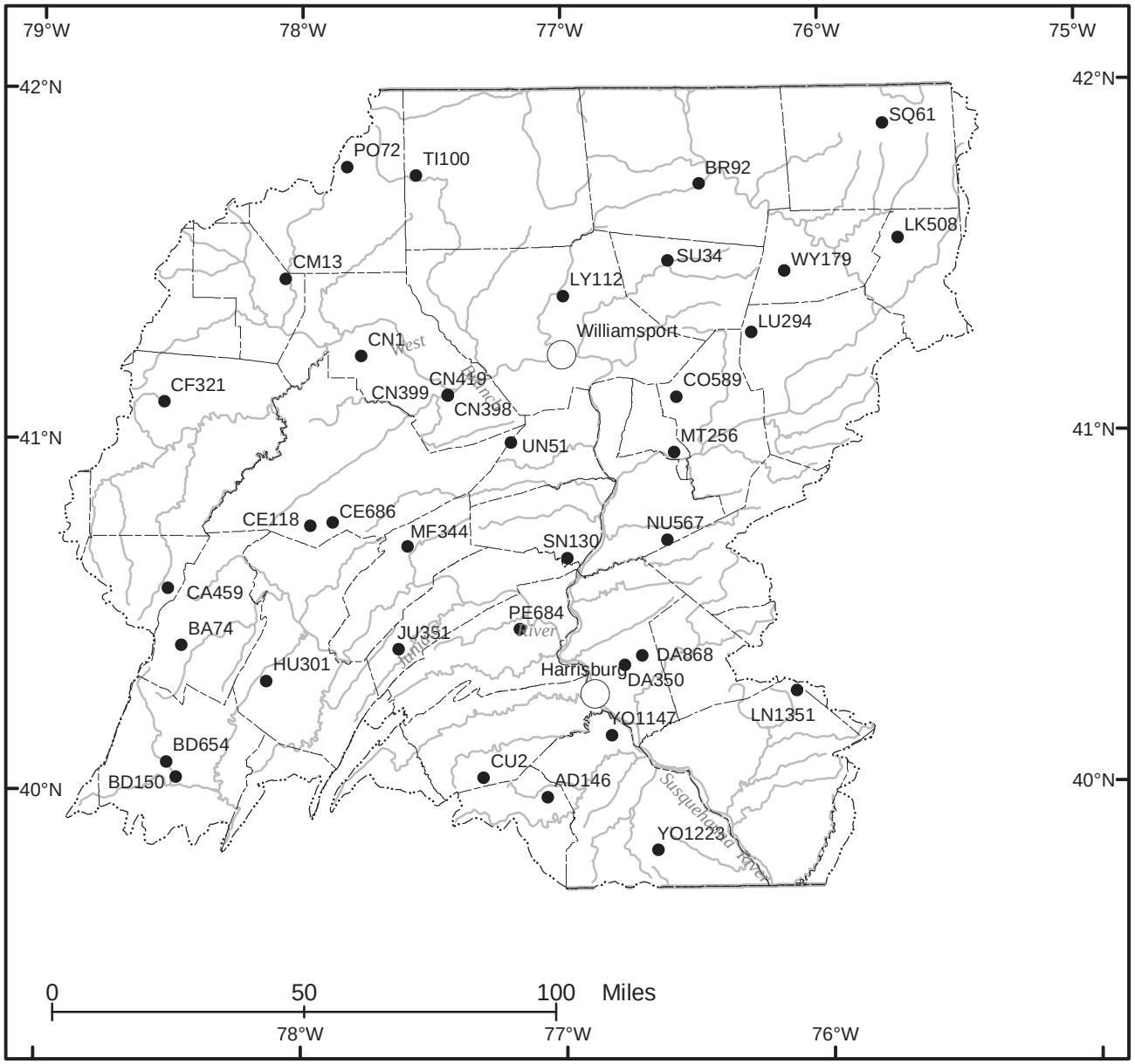
EXPLANATION

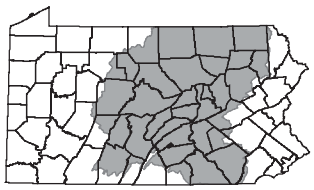
- ▲ Streamflow station
- △ Lake
- ■ Streamflow and water−quality station
- ♦ Water−quality station

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 01570280 is shown as 57028, and station number 01577500 is shown as 5775).

Figure 5.--Location of continuous-record data-collection stations, Susquehanna River Basin.

SUSQUEHANNA RIVER BASIN





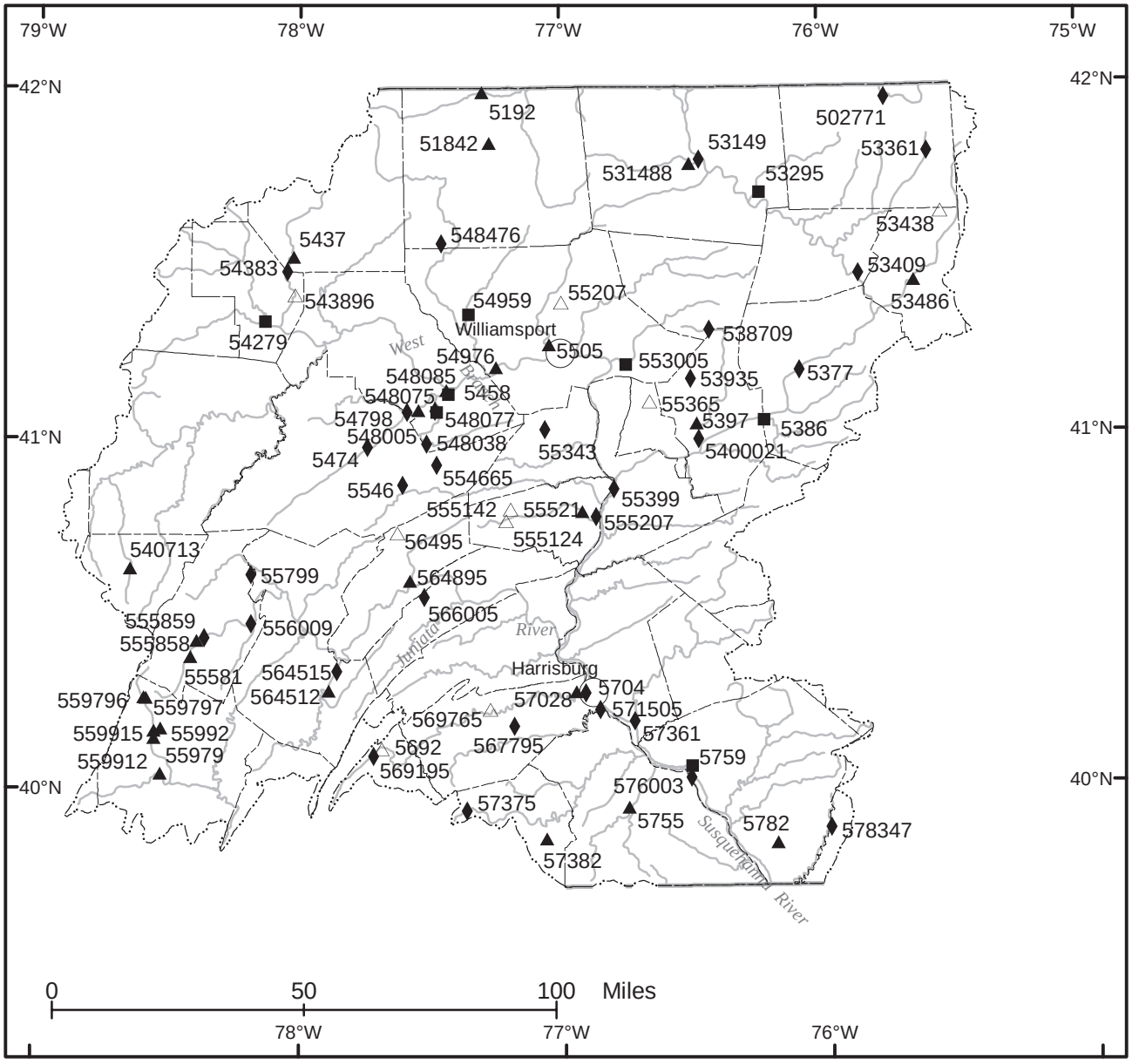
EXPLANATION

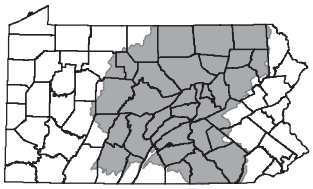
● Observation wells

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 01570280 is shown as 57028, and station number 01577500 is shown as 5775).

Figure 6.--Location of continuous-record network observation wells, Susquehanna River Basin.

SUSQUEHANNA RIVER BASIN





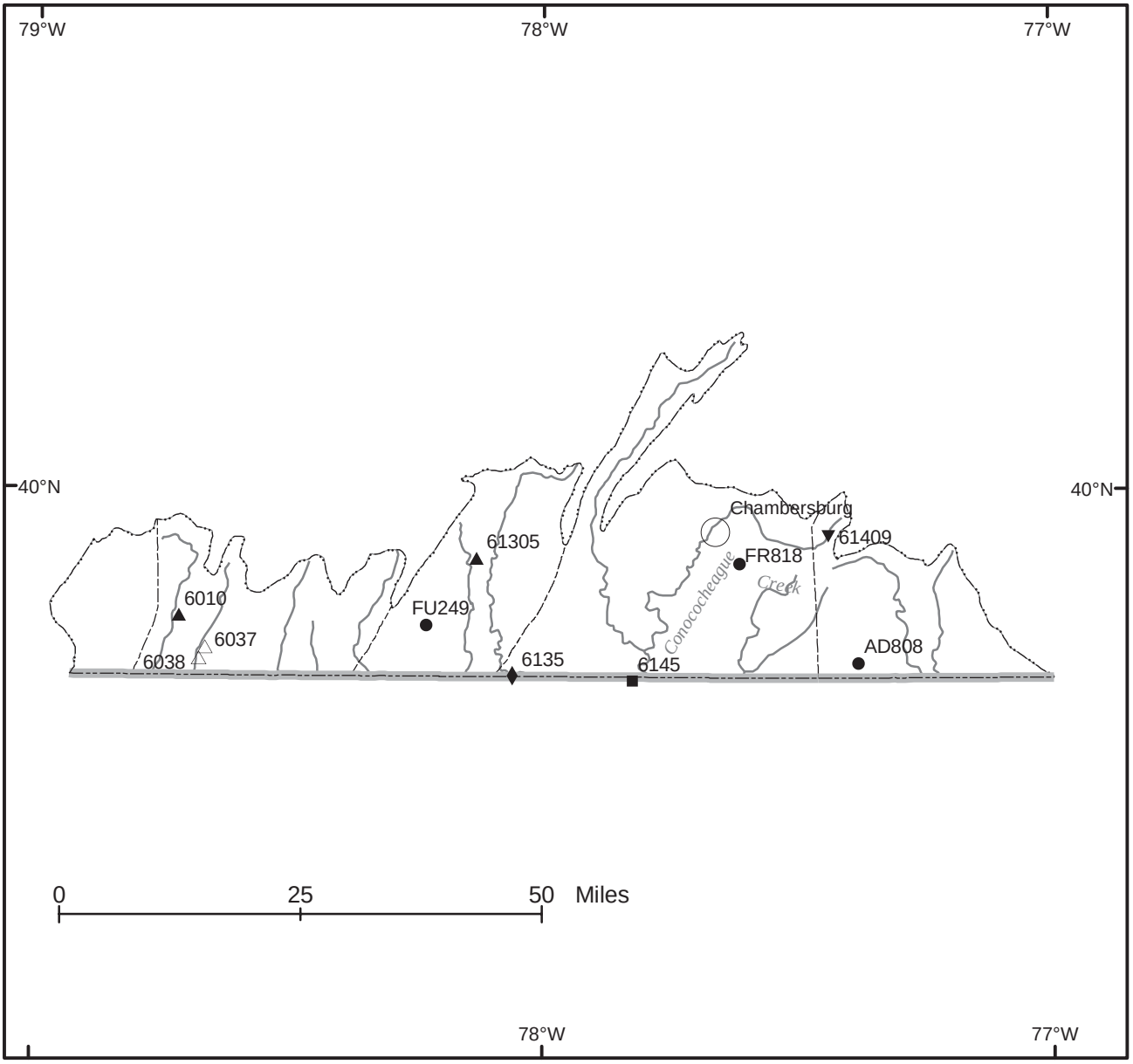
EXPLANATION

- ▲ Streamflow station
- △ Lake
- ■ 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 01570280 is shown as 57028, and station number 01577500 is shown as 5775).

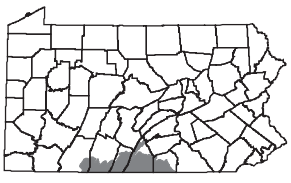
Figure 7.--Location of partial-record data-collection stations, Susquehanna River Basin.

POTOMAC RIVER BASIN



EXPLANATION

- ▲ Continuous-record streamflow station
- ▼ Partial-record streamflow station
- ♦ Partial-record streamflow and water-quality station
- ■ Water-quality station
- ● Observation well
- △ Lake



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 01613050 is shown as 61305, and station number 01613500 is shown as 6135).

Figure 8.--Location of continuous- and partial-record data-collection stations, Potomac River Basin.

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

****

NOTES--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter(µG/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 µG/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:

MBASCOR = M - 0.0088N - 0.00019C

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:

10--Routine
15--NAWQA
20--NASQAN
30--Benchmark
50--GW Network

(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
4040--Submersible pump

(84164) SAMPLER TYPE: (partial list)

110--Sewage sampler
3011--US D-77
3035--DH-76 Trace metal sampler with teflon gasket and nozzle
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 --USGS Water Science Center, Water-Quality Laboratory, Troy, New York

MEDIUM CODES: (partial listing)

9-- Surface water.
6--Ground water.
R-- Quality-control sample. Surface water.
S--Quality-control sample, Ground water.
Q-- Quality-control sample. Artificial.

SURFACE-WATER RECORDS

NORTH ATLANTIC SLOPE BASINS

SUSQUEHANNA RIVER BASIN

CHEMUNG RIVER BASIN

01516350 TIOGA RIVER NEAR MANSFIELD, PA

LOCATION.--Lat 41°47'49", long 77°04'50", Tioga County, Hydrologic Unit 02050104, on left bank on Township Route 754, 0.9 mi downstream from Slate Creek, and 0.7 mi south of Mansfield.

DRAINAGE AREA.--153 mi^2.

PERIOD OF RECORD.--July 1976 to current year.

REVISED RECORDS.--WDR PA-84-2: 1980-83 (P).

GAGE.--Water-stage recorder. Datum of gage is 1,121.28 ft above National Geodetic Vertical Datum of 1929. Prior to May 25, 1999, at site 0.3 mi 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1975 reached an approximate stage of 20.1 ft, from floodmarks, site then in use, from original site 0.3 mi upstream, discharge, about 18,000 ft^3/s.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	0545	6,080	9.09	Apr. 2	1815	*13,000	*12.30
Mar. 28	0815	3,390	7.42				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	112	964	218	e130	160	1410	142	47	80	70	201
2	133	102	618	194	e110	152	5340	129	43	58	25	78
3	122	127	470	289	e120	138	4250	126	44	46	21	47
4	111	133	381	668	e120	131	1780	119	56	39	19	35
5	102	171	332	384	e110	127	1170	111	53	37	18	29
6	95	144	291	405	e110	127	881	104	63	42	17	26
7	89	127	350	420	e130	266	736	100	144	40	16	23
8	84	116	391	467	335	450	609	94	72	44	17	21
9	81	108	306	402	576	224	484	88	52	59	20	20
10	81	102	998	352	808	182	406	84	48	63	22	e18
11	75	101	1000	327	409	180	347	80	74	42	16	17
12	71	106	657	500	329	169	303	75	53	34	15	17
13	67	103	515	1730	273	160	275	71	44	32	16	17
14	73	95	409	3500	278	148	248	70	49	32	42	16
15	86	93	332	1160	467	140	223	78	43	30	36	15
16	97	94	289	719	616	139	202	74	52	27	26	16
17	83	96	270	544	452	143	186	68	58	27	22	42
18	73	99	232	e370	314	155	173	63	66	30	19	28
19	271	97	223	e320	256	158	159	60	52	26	19	22
20	284	103	e160	e290	258	191	148	57	44	25	20	20
21	210	107	e200	e250	247	227	143	56	40	23	19	18
22	180	98	e210	e200	229	208	133	55	36	23	18	17
23	160	91	764	e190	212	240	153	54	34	28	15	16
24	147	140	559	e190	191	233	236	58	31	21	14	17
25	141	481	324	e180	185	255	204	62	29	21	13	16
26	133	353	296	e170	172	313	165	59	30	20	12	20
27	129	276	242	e150	155	350	145	53	32	22	12	36
28	120	1150	207	e170	160	2270	133	61	28	21	12	28
29	114	673	243	e157	---	2360	125	61	235	19	18	29
30	114	478	215	e150	---	1390	132	56	156	18	78	30
31	124	---	214	e140	---	1290	---	52	---	54	191	---
TOTAL	3801	6076	12662	15206	7752	12676	20899	2420	1808	1083	878	935
MEAN	123	203	408	491	277	409	697	78.1	60.3	34.9	28.3	31.2
MAX	284	1150	1000	3500	808	2360	5340	142	235	80	191	201
MIN	67	91	160	140	110	127	125	52	28	18	12	15
CFSM	0.80	1.32	2.67	3.21	1.81	2.67	4.55	0.51	0.39	0.23	0.19	0.20
IN.	0.92	1.48	3.08	3.70	1.88	3.08	5.08	0.59	0.44	0.26	0.21	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2005, BY WATER YEAR (WY)

MEAN	133	207	241	230	243	418	502	243	169	84.1	81.7	93.6
MAX	653	620	666	943	682	832	1968	630	550	375	839	836
(WY)	1991	1978	1997	1996	1996	1978	1993	1978	1989	1994	1994	2004
MIN	13.3	17.5	20.5	36.2	57.2	148	156	77.9	25.1	17.5	12.5	12.6
(WY)	1983	1999	1999	1981	1987	1981	1988	2001	1991	1999	1999	1980

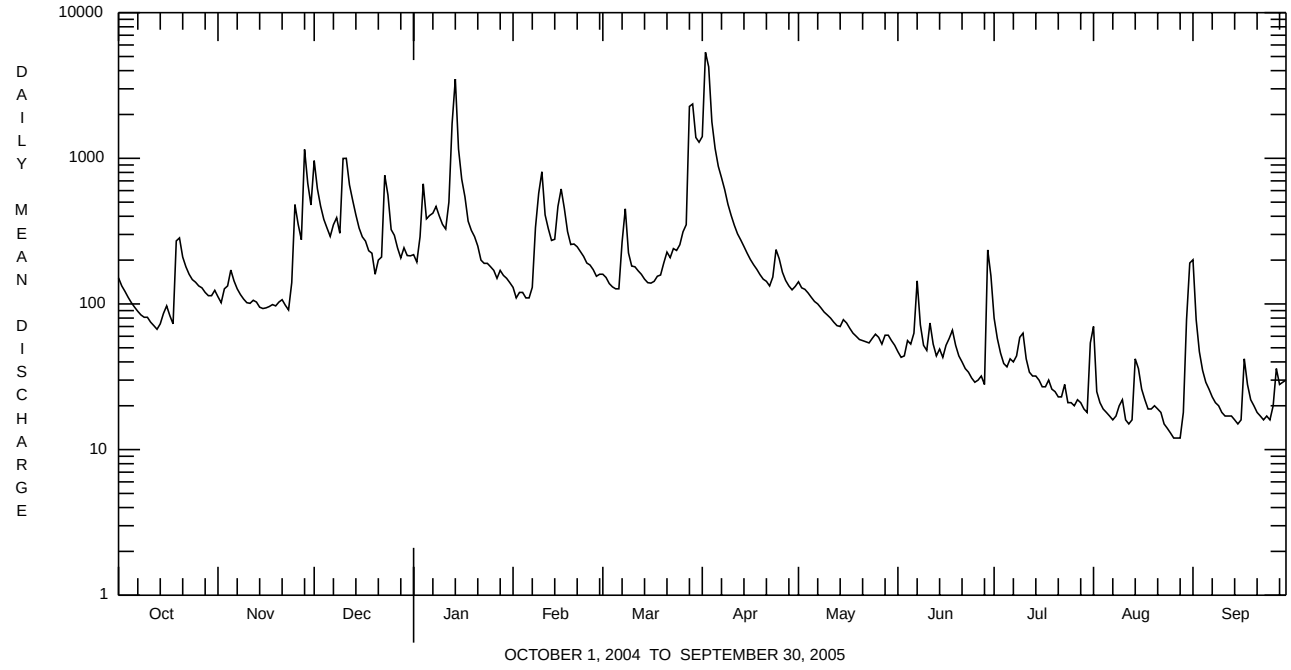
e Estimated.

CHEMUNG RIVER BASIN

01516350 TIOGA RIVER NEAR MANSFIELD, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1976 - 2005	
ANNUAL TOTAL	118353		86196			
ANNUAL MEAN	323		236		220	
HIGHEST ANNUAL MEAN					388	1978
LOWEST ANNUAL MEAN					125	2001
HIGHEST DAILY MEAN	10100	Sep 18	5340	Apr 2	12200	Aug 18 1994
LOWEST DAILY MEAN	32	Jul 4	12	Aug 26-28	8.1	Sep 3 1999
ANNUAL SEVEN-DAY MINIMUM	41	Jun 30	14	Aug 22	8.7	Aug 31 1999
MAXIMUM PEAK FLOW			13000	Apr 2	**a**38900	Jan 19 1996
MAXIMUM PEAK STAGE			12.30	Apr 2	**b**18.87	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.11		1.54		1.44	
ANNUAL RUNOFF (INCHES)	28.78		20.96		19.53	
10 PERCENT EXCEEDS	605		468		479	
50 PERCENT EXCEEDS	176		119		102	
90 PERCENT EXCEEDS	65		20		21	

a From rating curve extended above 16,000 ft^3/s.
b From floodmark, at site then in use.



CHEMUNG RIVER BASIN

01516500 COREY CREEK NEAR MAINESBURG, PA

LOCATION.--Lat 41°47'27", long 77°00'54", Tioga County, Hydrologic Unit 02050104, on right bank 30 ft upstream from bridge on Township Route 818, 500 ft upstream from small left-bank tributary, 1.1 mi west of Mainesburg, 3.5 mi east of Mansfield, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--12.2 mi^2.

PERIOD OF RECORD.--May 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,337.50 ft above National Geodetic Vertical Datum of 1929. Prior to June 28, 1954, nonrecording gage at site 30 ft downstream 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 a base discharge of 280 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0915	409	3.90
Dec. 23	1500	284	3.40
Jan. 14	0515	555	4.39
Mar. 28	0700	644	4.66
Apr. 2	1645	*1,250	*6.26

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.1	60	12	e3.4	e10	74	6.6	1.8	1.2	0.48	7.3
2	5.8	4.9	32	9.7	e2.1	e10	447	5.6	1.7	e1.7	0.25	3.1
3	5.3	6.5	25	27	e3.4	e9.1	266	5.4	1.7	e0.70	0.21	1.8
4	4.8	6.3	20	51	e3.4	e8.7	143	5.2	2.1	e0.64	0.18	1.4
5	4.1	7.7	17	23	e3.0	11	78	4.7	1.8	e0.62	0.13	1.1
6	3.9	6.3	15	34	e3.0	13	54	5.5	3.4	1.1	0.09	0.88
7	3.6	5.7	21	34	e7.4	32	45	4.1	2.8	0.95	0.06	0.78
8	3.5	5.3	20	45	e23	e40	37	3.7	1.8	1.3	0.07	0.81
9	3.3	5.0	18	34	e43	e21	29	3.3	1.5	1.4	0.15	0.87
10	3.2	4.7	104	30	60	e11	23	3.5	1.6	1.3	0.21	0.80
11	3.2	4.7	70	25	e28	e11	19	5.1	2.5	0.81	0.16	0.80
12	3.1	4.9	43	68	e21	e9.9	16	3.7	1.6	0.61	0.12	0.78
13	3.3	4.6	33	233	e16	e9.7	14	3.1	1.3	0.55	0.21	0.74
14	4.2	4.2	23	263	25	e8.5	12	3.1	1.3	0.48	0.52	0.56
15	5.3	4.0	18	79	42	e8.1	11	4.1	1.2	0.44	0.33	0.47
16	6.0	3.8	e17	48	60	e7.9	9.7	3.0	1.7	0.40	0.23	0.37
17	5.4	3.8	15	37	31	e8.1	8.9	2.7	2.4	0.45	0.27	0.77
18	4.7	4.0	e12	e23	e22	9.8	8.1	2.1	2.4	0.97	0.21	1.3
19	18	3.9	e11	e20	e16	9.9	7.2	2.0	1.7	0.56	0.20	0.59
20	13	4.2	e8.0	e17	e17	13	6.7	2.0	1.5	0.63	0.31	0.29
21	8.9	4.2	14	e13	e15	15	6.6	1.9	1.3	0.43	0.24	0.24
22	8.1	3.9	13	e8.8	13	13	5.7	2.0	1.1	0.38	0.18	0.20
23	7.2	3.6	82	e8.4	12	13	7.9	1.9	1.0	0.40	0.11	0.19
24	6.8	6.3	28	e8.0	e10	16	15	2.7	0.84	0.24	0.08	0.21
25	6.5	30	e17	e8.0	e9.9	18	9.4	2.6	e0.70	0.24	0.06	0.21
26	6.3	15	e14	e6.3	e8.9	27	7.2	2.1	e0.80	0.22	0.05	0.51
27	5.8	13	e11	e5.0	e7.6	38	6.2	2.6	0.86	0.46	0.04	1.5
28	5.7	123	e9.3	e6.7	e9.9	322	5.5	2.5	e0.70	0.53	0.03	0.66
29	5.5	42	e12	e5.9	---	228	5.2	2.4	2.2	0.28	0.04	0.83
30	5.5	30	11	e5.5	---	93	6.5	2.0	1.7	0.21	5.1	1.2
31	5.7	---	12	e4.2	---	79	---	1.9	---	0.32	9.8	---
TOTAL	182.1	370.6	805.3	1192.5	516.0	1123.7	1383.8	103.1	49.00	20.52	20.12	31.26
MEAN	5.87	12.4	26.0	38.5	18.4	36.2	46.1	3.33	1.63	0.66	0.65	1.04
MAX	18	123	104	263	60	322	447	6.6	3.4	1.7	9.8	7.3
MIN	3.1	3.6	8.0	4.2	2.1	7.9	5.2	1.9	0.70	0.21	0.03	0.19
CFSM	0.48	1.01	2.13	3.15	1.51	2.97	3.78	0.27	0.13	0.05	0.05	0.09
IN.	0.56	1.13	2.46	3.64	1.57	3.43	4.22	0.31	0.15	0.06	0.06	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2005, BY WATER YEAR (WY)

MEAN	6.39	10.7	14.6	12.6	16.2	28.8	29.0	14.0	9.89	3.35	3.08	4.03
MAX	51.0	45.4	42.7	52.4	52.4	60.4	118	42.7	114	19.9	55.2	51.4
(WY)	1956	1978	1974	1996	1984	1964	1993	1989	1972	1994	1994	2004
MIN	0.15	0.48	0.80	0.75	1.71	4.88	8.19	2.88	0.69	0.10	0.07	0.00
(WY)	1964	1965	1999	1961	1963	1965	1955	1999	1991	1966	1964	1964

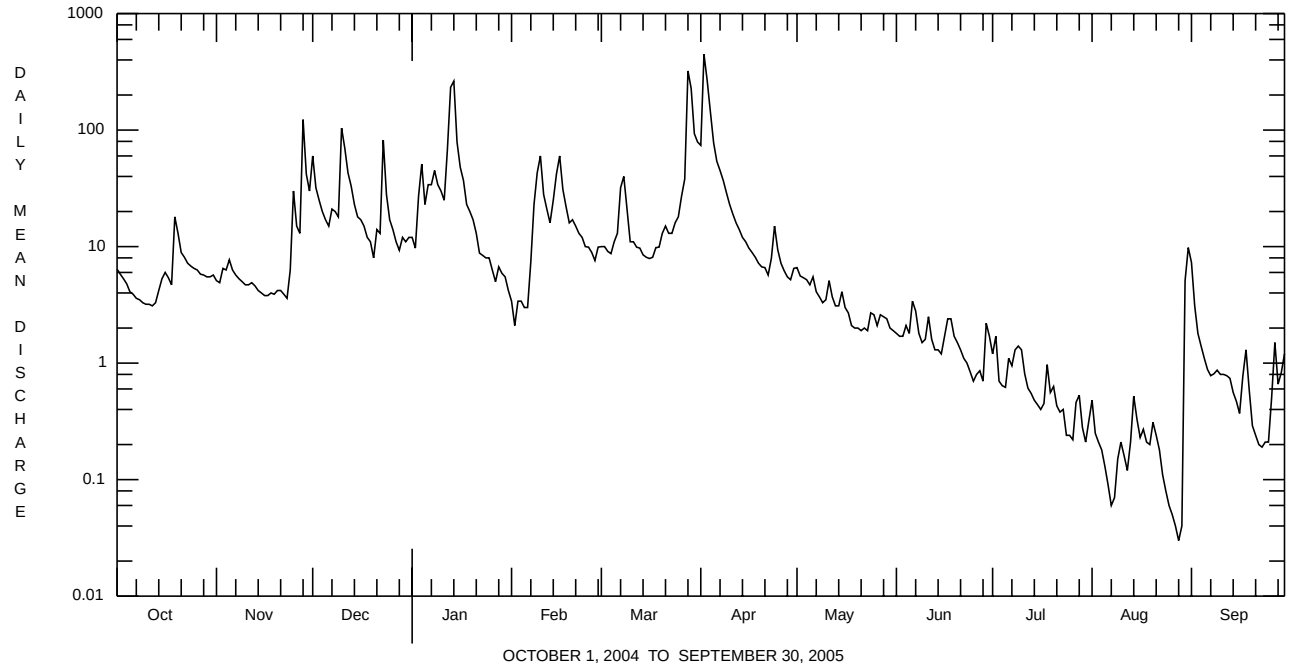
e Estimated.

CHEMUNG RIVER BASIN

01516500 COREY CREEK NEAR MAINESBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1954 - 2005	
ANNUAL TOTAL	7042.46		5798.00			
ANNUAL MEAN	19.2		15.9		12.7	
HIGHEST ANNUAL MEAN					24.9	1978
LOWEST ANNUAL MEAN					4.82	1965
HIGHEST DAILY MEAN	705	Sep 18	447	Apr 2	1910	Jun 22 1972
LOWEST DAILY MEAN	0.92	Jul 4	0.03	Aug 28	0.00	Jul 11 1955
ANNUAL SEVEN-DAY MINIMUM	1.1	Jun 30	0.06	Aug 23	0.00	Aug 17 1959
MAXIMUM PEAK FLOW			**a**1250	Apr 2	**a**5580	Jun 23 1972
MAXIMUM PEAK STAGE			6.26	Apr 2	**b**10.44	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.58		1.30		1.04	
ANNUAL RUNOFF (INCHES)	21.47		17.68		14.15	
10 PERCENT EXCEEDS	37		33		28	
50 PERCENT EXCEEDS	8.4		5.1		4.5	
90 PERCENT EXCEEDS	2.9		0.30		0.51	

a From rating curve extended above 490 ft^3/s on basis of slope-area measurement at gage height 7.88 ft and at peak flow.
b From floodmark.



CHEMUNG RIVER BASIN

01518000 TIOGA RIVER AT TIOGA, PA

LOCATION.--Lat 41°54'30", long 77°07'47", Tioga County, Hydrologic Unit 02050104, on left bank l30 ft upstream from highway bridge on Township Route 667 at Tioga, 0.8 mi upstream from Crooked Creek, and 0.9 mi downstream from Tioga Dam.

DRAINAGE AREA.--282 mi^2.

PERIOD OF RECORD.--June 1938 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 871: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,021.07 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1953, at site 20 ft upstream at datum 2.11 ft higher. Sept. 9, 1953, to Aug. 10, 1954, at site 130 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Record good. Discharges include flow diverted from Crooked Creek into Tioga River since Oct. 1, 1977. Flow regulated since November 1979 by Tioga Dam (station 01517900). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	197	2360	403	265	349	3610	277	99	175	30	842
2	188	230	1490	450	246	361	1870	293	88	66	30	168
3	222	230	1050	612	263	288	154	285	66	66	30	47
4	191	230	795	1740	235	247	2220	245	66	66	30	47
5	150	248	726	1120	202	247	5000	207	86	65	30	47
6	150	289	786	938	215	285	5170	180	121	65	30	56
7	150	273	868	1210	258	403	5180	173	171	64	30	65
8	150	232	795	1260	689	855	5130	156	173	64	30	65
9	150	215	662	1310	1370	720	4940	177	134	64	30	64
10	141	206	1830	1000	2610	437	3160	190	88	89	30	64
11	125	190	2720	961	848	369	1220	179	202	108	30	64
12	125	190	1710	1310	819	410	462	142	249	91	30	64
13	135	190	1220	3460	692	414	466	127	138	56	29	64
14	151	190	966	1680	700	367	424	127	95	41	30	64
15	172	182	705	4390	851	303	450	127	76	41	60	65
16	195	163	589	4580	1560	288	449	127	64	41	61	64
17	195	163	556	3930	1120	313	448	127	64	41	50	63
18	185	164	521	1830	696	373	357	127	64	41	51	63
19	249	164	490	745	575	461	263	127	64	41	51	48
20	459	164	363	652	534	556	286	118	64	41	51	37
21	551	177	288	532	570	830	322	99	80	41	52	37
22	459	186	280	458	549	609	322	99	164	40	42	37
23	287	186	1430	440	481	611	322	99	81	39	29	37
24	287	186	1310	452	416	637	382	99	51	39	30	37
25	287	461	559	452	406	646	450	135	34	39	30	37
26	266	609	467	429	329	848	457	210	34	40	30	37
27	215	547	491	391	330	1200	342	145	34	40	29	37
28	215	2270	444	304	329	3160	194	85	33	40	28	38
29	197	1870	458	241	---	4580	194	93	127	40	29	38
30	177	963	484	308	---	4810	216	99	322	33	185	38
31	178	---	412	314	---	4270	---	100	---	30	931	---
TOTAL	6833	11565	27825	37902	18158	30247	44460	4774	3132	1747	2158	2434
MEAN	220	386	898	1223	648	976	1482	154	104	56.4	69.6	81.1
MAX	551	2270	2720	4580	2610	4810	5180	293	322	175	931	842
MIN	125	163	280	241	202	247	154	85	33	30	28	37

CHEMUNG RIVER BASIN

01518000 TIOGA RIVER AT TIOGA, PA--Continued

REMARKS.--Those data in the first set of statistics (1978-2005) represent flow past the gage including streamflow diverted into Tioga River from the adjacent Crooked Creek Basin since October 1977, and are not equivalent to natural streamflow conditions prior to this date.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	251	421	515	519	532	943	1087	531	384	178	182	197
MAX	1454	1684	1377	1709	1716	2161	4544	1433	1404	825	1747	1992
(WY)	1991	1978	1997	1996	1981	1979	1993	1989	1989	2004	1994	2004
MIN	34.5	31.2	36.2	22.7	111	238	323	136	41.5	32.5	28.4	20.8
(WY)	1999	1981	1999	1981	1989	1981	1988	2001	1991	1991	1980	1980

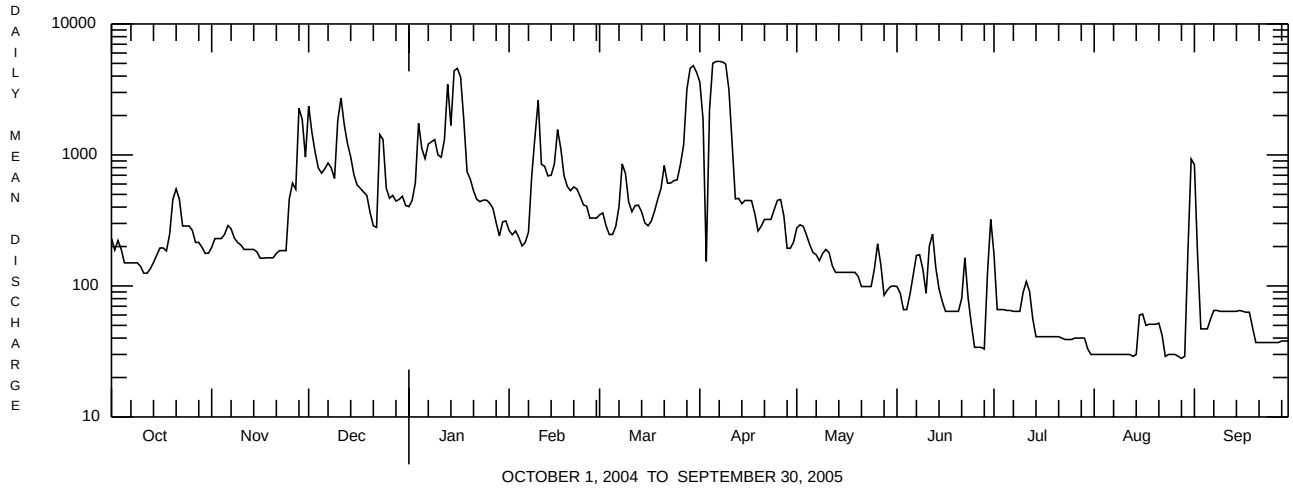
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1978 - 2005	
ANNUAL TOTAL	274182		191235			
ANNUAL MEAN	749		524		477	
HIGHEST ANNUAL MEAN					862	1978
LOWEST ANNUAL MEAN					241	2001
HIGHEST DAILY MEAN	5960	Sep 22	5180	Apr 7	8360	Jan 9 1978
LOWEST DAILY MEAN	57	Jul 3	28	Aug 28	16	Aug 26-28 1980
ANNUAL SEVEN-DAY MINIMUM	79	Jul 1	29	Aug 23	16	Jan 15 1981
MAXIMUM PEAK FLOW			6320	Jan 15	14300	Nov 4 1977
MAXIMUM PEAK STAGE			7.07	Jan 15	8.84	Nov 4 1977
INSTANTANEOUS LOW FLOW					**a**0.00	Mar 6 1979**b**
10 PERCENT EXCEEDS	1800		1220		1100	
50 PERCENT EXCEEDS	396		207		195	
90 PERCENT EXCEEDS	150		38		39	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1977, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	145	291	350	271	346	790	753	516	254	93.4	77.0	89.9
MAX	1084	1061	978	787	814	1694	2124	1534	2397	471	380	1083
(WY)	1956	1971	1974	1952	1976	1964	1958	1946	1972	1972	1947	1975
MIN	9.26	12.8	22.0	37.9	59.2	169	132	87.6	44.3	16.5	12.2	6.68
(WY)	1964	1965	1965	1961	1963	1969	1946	1941	1962	1955	1966	1964

SUMMARY STATISTICS	WATER YEARS 1939 - 1977	
ANNUAL MEAN	331	
HIGHEST ANNUAL MEAN	583	1972
LOWEST ANNUAL MEAN	138	1965
HIGHEST DAILY MEAN	26900	Jun 23 1972
LOWEST DAILY MEAN	5.0	Sep 11 1964
ANNUAL SEVEN-DAY MINIMUM	5.3	Sep 8 1964
MAXIMUM PEAK FLOW	**c**59000	Jun 22 1972
MAXIMUM PEAK STAGE	**d**19.70	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.5	Aug 10,11 1955
ANNUAL RUNOFF (CFSM)	1.17	
ANNUAL RUNOFF (INCHES)	15.95	
10 PERCENT EXCEEDS	780	
50 PERCENT EXCEEDS	130	
90 PERCENT EXCEEDS	23	

a Result of shutoff at Tioga Dam.
b Also Aug. 29, 1980.
c From rating curve extended above 8,000 ft^3/s on basis of slope-area and contracted-opening measurement at gage height 15.47 ft, and slope-area measurement of peak flow.
d From floodmark.



CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°57'09", long 77°06'56", Tioga County, Hydrologic Unit 02050104, on left bank 0.3 mi upstream from bridge on Township Route 722 at Tioga Junction, 3.3 mi downstream from Crooked Creek, and 5.0 mi downstream from Tioga and Hammond Dams.

DRAINAGE AREA.--446 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 990.43 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1979 by Tioga Dam (station 01517900) and Hammond Dam (station 01518498). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 1975 reached a stage of about 22.1 ft, from floodmarks, discharge, about 48,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	306	244	2700	464	e340	417	4560	335	117	238	42	992
2	235	279	1890	506	e310	428	3710	350	109	81	41	256
3	277	289	1280	632	321	365	1310	341	80	79	41	70
4	251	285	941	2310	301	314	2760	306	80	78	41	64
5	192	322	826	1350	259	e320	6290	265	96	78	40	61
6	190	346	872	1170	275	e330	6470	230	151	80	40	66
7	190	338	1010	1480	318	488	6430	224	213	77	40	78
8	190	290	929	1550	803	1080	6320	199	217	78	41	78
9	187	270	764	1670	1760	863	6040	218	169	79	40	78
10	180	262	2050	1200	3470	550	4020	235	136	97	39	78
11	155	240	3640	1140	1090	446	1540	227	275	124	39	78
12	155	241	2230	1620	992	486	588	182	306	109	43	77
13	163	240	1520	4950	805	492	554	157	192	74	41	77
14	187	237	1160	2940	799	448	e490	157	120	52	41	77
15	207	232	831	5560	1010	378	e520	160	102	52	61	78
16	245	208	679	5900	1970	358	514	158	90	52	77	78
17	241	207	635	4820	1490	382	509	156	90	52	60	78
18	231	208	596	2460	804	439	437	157	86	51	59	78
19	322	208	563	865	691	537	329	156	82	51	60	66
20	516	209	439	768	614	642	344	148	79	51	60	50
21	605	221	356	e610	656	993	382	119	78	50	59	50
22	538	233	347	e540	637	763	384	119	205	50	54	50
23	351	230	1450	e520	565	728	384	119	96	49	38	50
24	345	242	1790	e530	490	758	460	121	75	49	37	49
25	343	526	662	522	486	799	516	149	47	51	37	48
26	327	673	530	503	403	1040	512	252	45	53	37	51
27	269	601	550	e460	398	1490	425	196	46	55	36	49
28	266	2380	508	e380	399	4560	257	105	47	53	37	48
29	251	2440	510	e320	---	6690	257	111	121	53	37	51
30	227	1220	545	363	---	6500	273	119	367	48	246	49
31	228	---	484	377	---	5720	---	118	---	43	1050	---
TOTAL	8370	13921	33287	48480	22456	39804	57585	5889	3917	2187	2614	3053
MEAN	270	464	1074	1564	802	1284	1920	190	131	70.5	84.3	102
MAX	605	2440	3640	5900	3470	6690	6470	350	367	238	1050	992
MIN	155	207	347	320	259	314	257	105	45	43	36	48

e Estimated.

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	254	427	570	539	635	1013	1311	601	443	209	210	234
MAX	1515	1626	1632	1975	1837	2009	5667	1723	1619	976	1836	2534
(WY)	1991	1997	1997	1996	1981	1994	1993	1989	1989	2004	1994	2004
MIN	41.4	49.0	41.5	29.5	127	259	352	151	51.4	38.4	29.6	26.3
(WY)	1992	1981	1999	1981	1989	1981	1988	2001	1980	1991	1980	1980

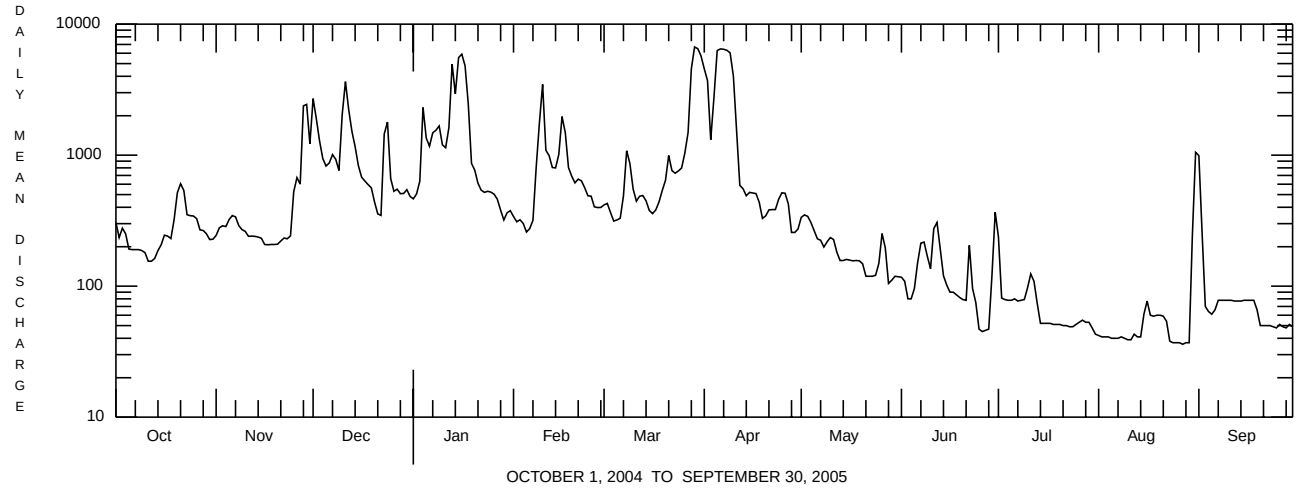
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	333876		241563			
ANNUAL MEAN	912		662		536	
HIGHEST ANNUAL MEAN					1014	2004
LOWEST ANNUAL MEAN					297	2001
HIGHEST DAILY MEAN	7490	Sep 22	6690	Mar 29	7490	Sep 22 2004
LOWEST DAILY MEAN	59	Jul 3	36	Aug 27	16	Aug 26-28 1980
ANNUAL SEVEN-DAY MINIMUM	83	Jul 1	37	Aug 23	21	Jan 23 1981
MAXIMUM PEAK FLOW			**a**8340	Jan 15	**a**11200	Aug 18 1994
MAXIMUM PEAK STAGE			14.35	Jan 15	15.42	Aug 18 1994
10 PERCENT EXCEEDS	2350		1500		1230	
50 PERCENT EXCEEDS	451		266		217	
90 PERCENT EXCEEDS	188		50		50	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	581	746	635	963	453	1993	1010	663	210	123	177	160
MAX	838	1764	1324	1484	597	2355	1404	1365	318	181	288	278
(WY)	1978	1978	1978	1979	1977	1979	1978	1978	1978	1976	1976	1977
MIN	198	181	229	97.2	380	1478	807	311	153	78.3	65.2	80.3
(WY)	1979	1979	1977	1977	1978	1977	1979	1979	1977	1979	1979	1976

SUMMARY STATISTICS	WATER YEARS 1976 - 1979	
ANNUAL MEAN	643	
HIGHEST ANNUAL MEAN	955	1978
LOWEST ANNUAL MEAN	429	1977
HIGHEST DAILY MEAN	8510	Jan 9 1978
LOWEST DAILY MEAN	28	Sep 11 1977
ANNUAL SEVEN-DAY MINIMUM	32	Sep 7 1977
MAXIMUM PEAK FLOW	**bc**17900	Feb 25 1977
MAXIMUM PEAK STAGE	**d**17.20	Jan 26 1978
INSTANTANEOUS LOW FLOW	26	Feb 13, Sep 12, 1977; Feb 3, 1979.
ANNUAL RUNOFF (CFSM)	1.44	
ANNUAL RUNOFF (INCHES)	19.59	
10 PERCENT EXCEEDS	1520	
50 PERCENT EXCEEDS	232	
90 PERCENT EXCEEDS	69	

a From rating curve extended above 6,000 ft^3/s.
b From rating curve extended above 4,000 ft^3/s.
c Gage height 16.70 ft.
d Backwater from ice.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recover-able, mg/L (00916)
OCT 2004													
27...	0900	1028	9813	270	30	10.8	7.2	7.2	178	176	9.6	68	18.7
NOV													
30...	1130	1028	9813	266	30	13.2	7.2	7.6	151	147	6.1	59	17.0
DEC													
28...	1015	1028	9813	538	30	14.7	7.1	7.4	139	143	.5	52	14.0
JAN 2005													
26...	0945	1028	9813	525	30	14.8	7.1	7.1	139	142	.9	51	13.9
FEB													
08...	0830	1028	9813	381	30	13.8	7.1	7.3	147	143	1.6	56	15.1
MAR													
09...	1150	1028	9813	787	30	15.3	7.3	7.4	153	147	1.4	54	15.5
APR													
07...	1230	1028	9813	6360	30	15.0	6.9	6.6	82	83	5.7	31	8.0
MAY													
17...	1140	1028	9813	156	30	11.8	7.7	7.6	174	168	12.9	65	17.6
JUN													
23...	1130	1028	9813	97	30	9.2	7.3	7.6	205	206	17.6	77	21.1
JUL													
07...	1800	1028	9813	76	30	8.7	7.7	7.7	211	214	22.2	86	24.0
AUG													
11...	1000	1028	9813	40	30	7.6	7.5	7.0	237	243	24.6	97	27.8
SEP													
13...	1120	1028	9813	78	30	9.3	7.7	7.9	238	244	20.9	95	26.8

Date	Magnesium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
OCT 2004											
27...	5.1	31	36.9	130	10	<.020	<.020	.470	.520	<.010	.03
NOV											
30...	4.1	36	22.2	108	38	.050	.030	.390	.380	<.010	.13
DEC											
28...	4.0	26	25.4	96	18	.060	.060	.480	.480	<.010	.01
JAN 2005											
26...	3.9	19	33.8	74	22	.060	.140	.650	.660	<.010	<.01
FEB											
08...	4.3	24	33.1	138	<2	.090	.090	.660	.650	<.010	<.01
MAR											
09...	3.7	27	28.8	106	8	.070	.060	.600	.610	<.010	.02
APR											
07...	2.7	12	16.1	74	94	.050	.070	.430	.430	<.010	.02
MAY											
17...	5.0	28	42.4	138	<2	<.020	<.020	.440	.440	<.010	.02
JUN											
23...	5.9	35	44.3	162	6	.050	.060	.420	.400	.013	.02
JUL											
07...	6.3	37	45.6	148	<2	.030	.030	.480	.460	.014	.03
AUG											
11...	6.8	43	51.0	168	<2	<.020	.020	.410	.400	<.010	.03
SEP											
13...	6.7	43	52.3	200	<2	.020	.020	.330	.310	.011	.01

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT 2004												
27...	<.010	.021	.72	.70	2.3	350	<10	440	<1.0	640	<50	20
NOV												
30...	<.010	.064	.53	.66	3.0	2400	<10	2520	1.7	420	<50	10
DEC												
28...	<.010	.031	.78	1.0	2.3	1900	<10	1690	<1.0	390	<50	30
JAN 2005												
26...	<.010	.026	.74	.88	1.8	1200	<10	1120	<1.0	490	<50	60
FEB												
08...	<.010	.016	.95	1.2	2.2	1000	<10	900	<1.0	510	<50	40
MAR												
09...	<.010	.016	.70	1.2	1.8	280	<10	390	<1.0	430	<50	30
APR												
07...	<.010	.114	--	--	3.0	2400	<10	4300	3.8	420	<50	60
MAY												
17...	<.010	.013	.64	.52	1.9	<200	<10	190	<1.0	520	<50	10
JUN												
23...	.012	.034	.62	.57	2.0	270	<10	340	<1.0	390	<50	<10
JUL												
07...	<.010	.023	.64	.58	2.5	<200	<10	260	<1.0	270	<50	<10
AUG												
11...	.020	.040	.92	.47	2.3	<200	<10	270	<1.0	250	<50	<10
SEP												
13...	<.010	.015	.62	.43	2.5	<200	<10	130	<1.0	80	<50	<10

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/04/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	6
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	4
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Sphaerium	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	3
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	10
Crustacea	
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
Caecidotea	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	2
Caenidae	
Caenis	1
Heptageniidae	
Leucrocuta	1
Stenonema	6
Isonychiidae	
Isonychia	4
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	8
Hydropsyche	17
Macrostemum	2
Hydroptilidae	
Hydroptila	2
Philopotamidae	
Chimarra	7
Psychomyiidae	
Psychomyia	4

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	08/04/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Stenelmis	2
Psephenidae (WATER PENNIES)	
Psephenus	10
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	8
Empididae (DANCE FLIES)	
Hemerodromia	4
Tipulidae (CRANE FLIES)	
Antocha	4
Total Organisms	108
Total Taxa	23

CHEMUNG RIVER BASIN

01518862 COWANESQUE RIVER AT WESTFIELD, PA

LOCATION.--Lat 41°55'23", long 77°31'56", Tioga County, Hydrologic Unit 02050104, on left bank at Westfield, 800 ft downstream from Mill Creek, and 0.5 mi upstream from bridge on State Highway 49.

DRAINAGE AREA.--90.6 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,337.58 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 a base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 23	1415	2,380	4.75	Apr. 2	1645	*3,080	*5.38
Jan. 14	0445	2,930	5.26				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	37	592	119	e73	e65	519	68	14	12	1.7	62
2	39	36	328	92	e65	e55	1620	61	12	14	1.5	24
3	36	100	273	178	e67	e55	1420	58	14	10	1.4	15
4	32	81	218	334	e68	e54	700	54	20	8.2	1.3	11
5	29	160	182	191	e65	e54	463	50	15	8.3	1.2	9.2
6	26	109	150	221	e65	e61	363	46	15	11	1.1	7.5
7	24	91	195	222	e72	135	317	44	35	9.9	1.0	6.1
8	22	79	182	222	e140	379	272	41	17	37	1.1	5.3
9	21	71	152	199	e230	e140	224	37	13	31	1.4	4.6
10	20	64	585	177	e300	e110	191	34	12	19	1.2	4.0
11	20	60	663	157	e170	e100	160	31	12	12	1.1	3.4
12	18	58	401	299	e150	e93	135	29	11	10	1.7	3.1
13	18	51	329	1330	e120	e80	115	27	10	8.6	2.5	2.9
14	18	45	253	1500	114	e75	96	27	9.6	7.2	3.9	2.5
15	36	44	200	536	226	e72	80	31	10	6.4	3.3	2.4
16	44	42	167	361	253	e69	69	27	16	6.0	1.9	2.6
17	30	40	146	279	174	e72	63	25	14	7.2	1.5	8.1
18	25	40	e120	e200	e120	79	59	23	14	6.4	1.3	4.9
19	159	38	112	e180	e110	90	54	21	11	5.3	1.7	3.8
20	94	53	e95	e170	e110	153	53	21	10	4.0	2.1	3.6
21	60	49	e110	e150	102	166	63	21	9.7	3.3	1.7	3.5
22	63	41	e200	e140	94	161	49	22	8.5	3.2	1.3	2.8
23	50	38	813	e130	84	156	67	21	7.7	3.0	1.2	2.8
24	44	87	310	e130	79	134	123	24	6.6	2.4	1.2	2.9
25	43	175	e210	e120	e73	166	85	24	5.9	2.8	1.1	2.6
26	38	106	e170	e110	e65	214	69	19	7.1	2.3	1.1	8.1
27	34	92	e140	e100	e56	221	61	17	14	3.0	1.1	15
28	32	612	e120	e110	e60	650	58	16	15	3.3	1.3	7.9
29	31	304	e120	e100	---	625	56	17	20	2.5	1.5	16
30	48	244	107	e92	---	500	72	17	20	2.1	7.7	16
31	50	---	114	e80	---	514	---	15	---	1.9	141	---
TOTAL	1247	3047	7757	8229	3305	5498	7676	968	399.1	263.3	194.1	263.6
MEAN	40.2	102	250	265	118	177	256	31.2	13.3	8.49	6.26	8.79
MAX	159	612	813	1500	300	650	1620	68	35	37	141	62
MIN	18	36	95	80	56	54	49	15	5.9	1.9	1.0	2.4
CFSM	0.44	1.12	2.76	2.93	1.30	1.96	2.82	0.34	0.15	0.09	0.07	0.10
IN.	0.51	1.25	3.18	3.38	1.36	2.26	3.15	0.40	0.16	0.11	0.08	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2005, BY WATER YEAR (WY)

MEAN	54.6	102	122	120	127	199	244	121	80.4	39.8	51.9	51.5
MAX	323	353	278	444	281	405	618	382	361	182	372	521
(WY)	1991	1997	1991	1996	1984	2003	1993	1996	1989	2003	1994	2004
MIN	4.36	6.14	8.99	13.6	21.4	91.2	91.3	17.3	5.18	3.19	1.93	2.40
(WY)	1992	1999	1999	1989	1987	1990	1988	1985	1999	1993	1999	1991

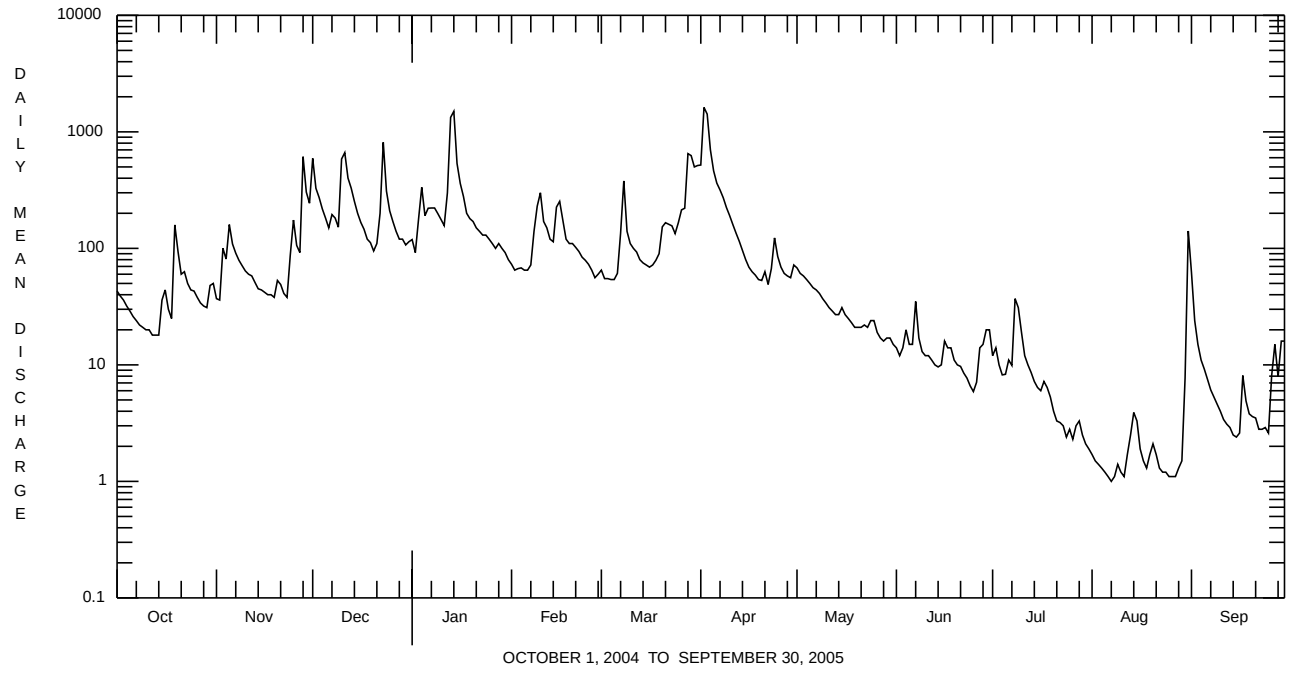
e Estimated.

CHEMUNG RIVER BASIN

01518862 COWANESQUE RIVER AT WESTFIELD, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1983 - 2005	
ANNUAL TOTAL	65164.2		38847.1			
ANNUAL MEAN	178		106		110	
HIGHEST ANNUAL MEAN					200	2004
LOWEST ANNUAL MEAN					58.4	1999
HIGHEST DAILY MEAN	**e**4400	Sep 9	1620	Apr 2	**e**5400	Jan 19 1996
LOWEST DAILY MEAN	8.1	Jul 12	1.0	Aug 7	0.53	Sep 16 1991
ANNUAL SEVEN-DAY MINIMUM	9.5	Jul 1	1.2	Aug 5	0.78	Sep 10 1991
MAXIMUM PEAK FLOW			3080	Apr 2	**a**13000	Jan 19 1996
MAXIMUM PEAK STAGE			5.38	Apr 2	**b**11.10	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.97		1.17		1.21	
ANNUAL RUNOFF (INCHES)	26.76		15.95		16.43	
10 PERCENT EXCEEDS	346		228		255	
50 PERCENT EXCEEDS	92		49		46	
90 PERCENT EXCEEDS	25		2.7		5.2	

a From rating curve extended above 4,000 ft^3/s.
b From floodmark.
e Estimated.



CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 4l°59'48", long 77°08'25", Tioga County, Hydrologic Unit 02050104, on left bank on SR 4022, 0.5 mi downstream from Cowanesque Dam, 0.8 mi upstream from highway bridge on U.S. Route 15 in Lawrenceville, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--298 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1951 to current year. Prior to October 1951 monthly discharge only, published in WSP 1722.

REVISED RECORDS.--WDR PA-72-1: 1971(M).

GAGE.--Water-stage recorder. Datum of gage is 983.96 ft above National Geodetic Vertical Datum of 1929. Prior to July 1976 at site 1.1 mi upstream at datum 14.07 ft higher.

REMARKS.--No estimated daily discharges. Records good except those for May 1 to Sept. 30, which are fair. Flow regulated since December 1979 by Cowanesque Dam (station 01519995). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	110	1590	493	168	205	1920	202	45	33	20	467
2	111	127	1250	498	127	205	1240	171	38	33	21	105
3	114	230	846	500	121	171	102	135	38	33	21	60
4	89	372	761	1090	127	129	1940	114	38	31	21	53
5	79	432	604	979	129	129	5110	114	36	31	20	45
6	78	466	552	736	129	129	5120	114	38	30	19	36
7	77	420	646	762	161	250	3490	112	41	29	20	30
8	77	291	683	822	364	1060	1380	98	41	113	19	31
9	79	226	559	822	928	768	640	91	40	192	18	31
10	71	226	1600	804	1700	415	596	91	40	92	18	29
11	66	224	2630	680	743	366	481	88	44	40	17	29
12	68	192	1240	833	531	366	405	75	51	40	18	30
13	70	176	994	3080	503	323	339	71	44	37	19	31
14	71	130	828	1350	467	272	271	70	38	29	17	30
15	139	107	651	4060	629	186	251	69	40	30	16	31
16	195	107	531	3910	883	153	220	69	41	31	16	31
17	121	124	445	1800	768	219	194	67	40	31	15	31
18	86	133	336	708	527	269	173	60	40	32	14	30
19	517	133	375	415	337	327	158	56	40	32	14	21
20	553	154	389	505	315	466	168	55	40	33	14	16
21	236	151	232	497	342	777	180	55	95	32	13	16
22	191	142	304	343	360	588	187	50	203	31	14	16
23	215	143	1050	231	307	676	223	48	32	31	15	16
24	155	237	1400	225	222	649	281	52	32	30	16	16
25	149	518	689	282	172	746	350	61	33	29	16	14
26	148	515	568	315	206	813	294	61	35	30	14	15
27	142	393	456	315	212	1030	162	62	31	24	17	16
28	133	1540	264	191	205	2480	127	61	29	20	17	15
29	133	1390	260	150	---	2770	138	60	36	21	17	15
30	119	863	404	167	---	1730	197	60	33	20	15	14
31	110	---	477	176	---	1600	---	55	---	20	484	---
TOTAL	4498	10272	23614	27739	11683	20267	26337	2547	1372	1240	995	1320
MEAN	145	342	762	895	417	654	878	82.2	45.7	40.0	32.1	44.0
MAX	553	1540	2630	4060	1700	2770	5120	202	203	192	484	467
MIN	66	107	232	150	121	129	102	48	29	20	13	14

CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	149	276	345	318	377	640	744	378	278	124	124	152
MAX	1122	1114	864	1198	1027	1527	2773	1115	1222	628	889	1724
(WY)	1991	1997	1991	1996	1981	1994	1993	1996	1989	2003	1994	2004
MIN	13.9	14.3	19.1	23.3	57.6	158	231	48.9	17.4	14.1	11.9	5.09
(WY)	1989	1992	1999	1981	1980	1981	1997	1985	1991	1991	1983	1980

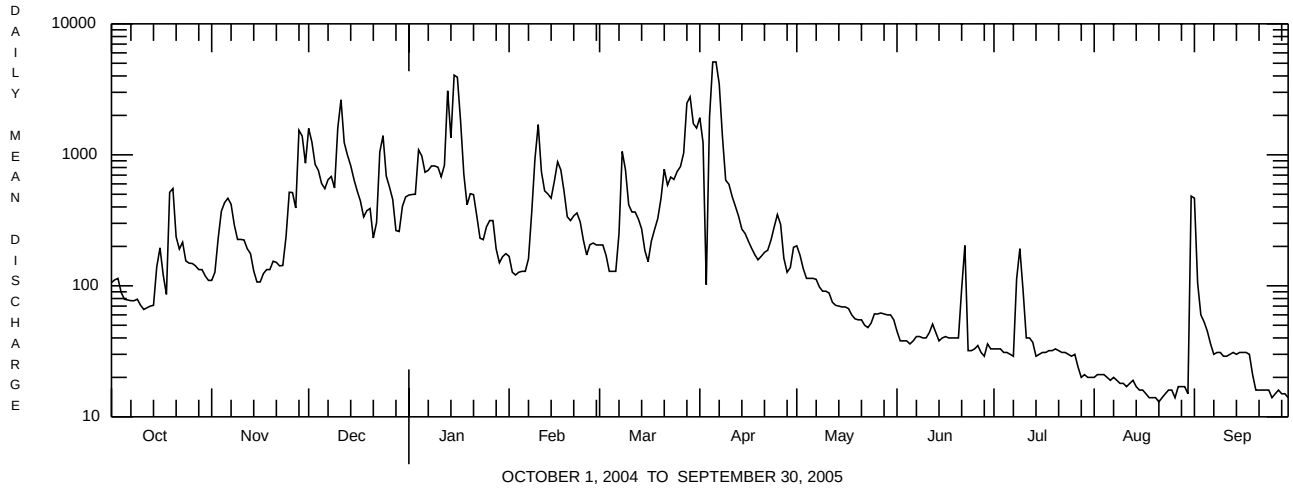
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	211050		131884			
ANNUAL MEAN	577		361		325	
HIGHEST ANNUAL MEAN					632	2004
LOWEST ANNUAL MEAN					165	1999
HIGHEST DAILY MEAN	6140	Sep 12	5120	Apr 6	6140	Sep 12 2004
LOWEST DAILY MEAN	34	Jun 26	13	Aug 21	3.4	Sep 13 1980
ANNUAL SEVEN-DAY MINIMUM	38	Jul 4	14	Aug 17	3.9	Sep 10 1980
MAXIMUM PEAK FLOW			5470	Apr 5	6580	Jan 23 1996
MAXIMUM PEAK STAGE			11.94	Apr 5	12.41	Jan 23 1996
10 PERCENT EXCEEDS	1280		830		794	
50 PERCENT EXCEEDS	290		133		110	
90 PERCENT EXCEEDS	75		20		18	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	121	203	297	288	345	808	707	359	220	61.0	39.1	87.9
MAX	809	826	860	886	1173	1909	1934	797	1366	223	125	1054
(WY)	1956	1978	1973	1952	1976	1964	1958	1960	1972	1977	1977	1975
MIN	3.33	7.95	12.2	13.9	45.6	230	167	55.5	13.8	7.00	3.11	2.52
(WY)	1965	1965	1961	1961	1963	1965	1955	1955	1955	1966	1954	1964

SUMMARY STATISTICS	WATER YEARS 1952 - 1979	
ANNUAL MEAN	294	
HIGHEST ANNUAL MEAN	514	1978
LOWEST ANNUAL MEAN	135	1965
HIGHEST DAILY MEAN	21500	Jun 23 1972
LOWEST DAILY MEAN	.00	Aug 22 1978
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 22 1964
MAXIMUM PEAK FLOW	**a**43700	Sep 26 1975
MAXIMUM PEAK STAGE	**b**18.13	Sep 26 1975
INSTANTANEOUS LOW FLOW	**c**0.8	Aug 31, Sep 1, 27, 1964
ANNUAL RUNOFF (CFSM)	.99	
ANNUAL RUNOFF (INCHES)	13.41	
10 PERCENT EXCEEDS	694	
50 PERCENT EXCEEDS	95	
90 PERCENT EXCEEDS	10	

a From rating curve extended above 6,000 ft^3/s, on basis of slope-area measurement of peak flow.
b From floodmark; site and datum then in use.
c No flow Aug. 22, 1978, during dam construction.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, 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 348-412. Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
OCT 2004													
27...	1115	1028	9813	141	30	11.6	7.8	7.9	164	162	12.5	60	17.8
NOV													
30...	1400	1028	9813	1030	30	13.5	7.6	7.9	181	177	7.0	75	21.9
DEC													
28...	1230	1028	9813	260	30	14.3	7.4	7.6	136	140	1.9	56	15.1
JAN 2005													
26...	1130	1028	9813	315	30	14.4	7.5	7.6	151	120	2.3	48	13.3
FEB													
08...	1200	1028	9813	402	30	14.0	7.6	7.8	134	127	2.5	52	15.1
MAR													
09...	1000	1028	9813	632	30	15.9	7.5	7.7	149	143	1.6	55	16.3
APR													
07...	1520	1028	9813	2810	30	15.7	7.4	7.0	107	107	4.1	42	11.4
MAY													
17...	0930	1028	9813	66	30	13.3	9.1	8.6	141	137	16.2	55	16.3
JUN													
23...	1000	1028	9813	33	30	10.0	8.1	8.1	175	176	20.3	66	19.7
JUL													
06...	1700	1028	9813	29	30	11.1	8.9	9.0	172	175	25.2	70	21.4
AUG													
11...	0830	1028	9813	17	30	7.8	7.5	7.2	194	201	23.3	82	24.6
SEP													
13...	0930	1028	9813	31	30	8.3	7.6	7.9	189	194	19.6	78	23.2

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
OCT 2004											
27...	3.9	57	10.3	112	12	.020	.030	.550	.550	.016	.08
NOV											
30...	4.9	59	12.0	118	32	.040	.020	.450	.460	.010	.14
DEC											
28...	4.5	40	10.3	132	98	.050	.060	.550	.570	.018	.05
JAN 2005											
26...	3.5	32	10.1	108	64	.060	.170	.570	.600	.024	.04
FEB											
08...	3.6	39	11.7	114	14	.080	.080	.640	.690	.017	.03
MAR											
09...	3.5	42	12.4	104	10	.060	.040	.810	.800	.012	.02
APR											
07...	3.2	30	9.8	72	64	.070	.060	.590	.570	<.010	.02
MAY											
17...	3.4	43	12.4	102	4	.040	.030	.400	.400	.016	.02
JUN											
23...	4.2	57	12.9	122	20	.060	.050	.230	.230	.028	.03
JUL											
06...	4.0	58	13.2	1390	<2	.040	.040	.220	.230	.030	.04
AUG											
11...	5.0	67	13.5	148	<2	.030	.030	.210	.210	.021	.03
SEP											
13...	4.9	66	13.8	132	<2	.030	.030	.120	.100	.016	.02

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT 2004												
27...	.014	.053	.97	.92	4.1	1200	<10	1080	1.6	40	<50	<10
NOV												
30...	<.010	.061	.74	.71	3.6	1400	<10	2550	1.7	90	<50	<10
DEC												
28...	.016	.127	.98	1.0	3.7	15600	<10	7410	4.0	150	<50	20
JAN 2005												
26...	.021	.123	.74	.79	3.0	5200	<10	5570	3.7	110	<50	20
FEB												
08...	.016	.055	.96	.90	3.0	3000	<10	2190	1.1	100	<50	<10
MAR												
09...	.013	.044	.93	.91	2.4	1100	<10	980	<1.0	60	<50	<10
APR												
07...	.017	.077	--	--	3.2	2300	<10	4090	2.8	100	<50	10
MAY												
17...	.022	.036	.73	.68	3.2	310	<10	320	<1.0	60	<50	<10
JUN												
23...	.030	.036	.61	.61	3.3	<200	<10	150	<1.0	70	<50	<10
JUL												
06...	.036	.055	.58	.43	3.5	<200	<10	70	<1.0	40	<50	<10
AUG												
11...	.029	.037	.87	.37	3.5	<200	<10	100	<1.0	90	<50	<10
SEP												
13...	.014	.038	.45	.42	3.6	<200	<10	120	<1.0	60	<50	<10

CHEMUNG RIVER BASIN

LAKES AND RESERVOIRS IN CHEMUNG RIVER BASIN

01517900 TIOGA LAKE.--Lat 41°53'57", long 77°08'21", Tioga County, Hydrologic Unit 02050104, at Tioga Dam on Tioga River, 0.8 mi south of Tioga, and 1.7 mi upstream from Crooked Creek. DRAINAGE AREA, 280 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam. Flood flows are routed to Hammond Lake through a connecting channel with weir at elevation 1,101.0 ft and to Hammond Dam spillway with crest at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation l,l31.0 ft is 62,000 acre-ft. Recreation lake elevation is 1,081.0 ft, capacity 9,500 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,090 acre-ft, Apr. 3, 1993, elevation, 1,123.21 ft; minimum, 2,210 acre-ft, Oct. 25, 1980, elevation, 1,060.05 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,200 acre-ft, Apr. 4, elevation, 1,107.24 ft; minimum, 9,040 acre-ft, Apr. 2, elevation, 1,079.98 ft.

01518498 HAMMOND LAKE.--Lat 41°53'56", long 77°08'52", Tioga County, Hydrologic Unit 02050104, at Hammond Dam on Crooked Creek, 3.0 mi upstream from mouth, and 0.8 mi southwest of Tioga. DRAINAGE AREA, 122 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation l,l31.0 ft. Storage began in November 1979. Capacity at elevation 1,131.0 ft is 63,000 acre-ft. Recreation lake elevation is l,086.0 ft, capacity 8,850 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two gates through a connecting channel that discharges into Tioga Lake, and a low-flow outlet to Crooked Creek. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,650 acre-ft, Apr. 3, 1993, elevation, 1,123.55 ft; minimum, 2,430 acre-ft, Oct. 24, 1980, elevation, 1,074.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,100 acre-ft, Apr. 4, elevation, 1,107.12 ft; minimum, 8,100 acre-ft, Sept. 30, elevation, 1,085.00 ft.

01519995 COWANESQUE LAKE.--Lat 41°59'05", long 77°09'05", Tioga County, Hydrologic Unit 02050104, at Cowanesque Dam on Cowanesque River, 1.8 mi southwest of Lawrenceville, and 2.5 mi upstream from mouth. DRAINAGE AREA, 298 mi^2. PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,117.0 ft. Storage began in December 1979. Capacity at elevation 1,117.0 ft is 89,110 acre-ft. Recreation lake elevation is 1,080.0 ft since May 1990, capacity 32,600 acre-ft. Reservoir is used for flood control, recreation, and water supply. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 84,560 acre-ft, Apr. 2, 1993, elevation, 1,114.78 ft; minimum, 65 acre-ft, June 23, 1980, elevation, 1,011.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 53,760 acre-ft, Apr. 4, elevation, 1,096.91 ft; minimum, 31,550 acre-ft, Aug. 29, elevation, 1,079.05 ft.

CHEMUNG RIVER BASIN

Lakes and Reservoirs in Chemung River Basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	01517900 Tioga Lake			01518498 Hammond Lake		
	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)
Sept. 30	1,081.03	9,510	---	1,086.44	9,120	---
Oct. 31	1,081.25	9,620	+1.8	1,086.62	9,230	+1.8
Nov. 30	1,083.57	10,800	+19.8	1,087.61	9,910	+11.4
Dec. 31	1,083.17	10,600	-3.2	1,087.61	9,910	0
CAL YR 2004	--	--	-0.1	--	--	+0.4
Jan. 31	1,082.40	10,200	-6.5	1,087.44	9,790	-2.0
Feb. 28	1,082.14	10,100	-1.8	1,087.36	9,730	-1.1
Mar. 31	1,083.55	10,800	+11.4	1,086.61	9,220	-8.3
Apr. 30	1,081.56	9,770	-17.3	1,086.59	9,210	-0.2
May 31	1,081.32	9,660	-1.8	1,086.40	9,090	-2.0
June 30	1,081.56	9,770	+1.8	1,086.47	9,140	+0.8
July 31	1,081.47	9,730	-0.7	1,086.11	8,920	-3.6
Aug. 31	1,081.35	9,670	-1.0	1,086.71	9,280	+5.9
Sept. 30	1,081.49	9,740	+1.2	1,085.01	8,110	-19.7
WTR YR 2005	--	--	+0.3	--	--	-1.4

Date	01519995 Cowanesque Lake		
	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
Sept. 30	1,080.09	32,690	---
Oct. 31	1,080.18	32,780	+1.5
Nov. 30	1,080.31	32,910	+2.2
Dec. 31	1,080.19	32,790	-2.0
CAL YR 2004	--	--	-0.2
Jan. 31	1,080.07	32,670	-2.0
Feb. 28	1,080.14	32,740	+1.3
Mar. 31	1,080.37	32,970	+3.7
Apr. 30	1,080.10	32,700	-4.5
May 31	1,080.08	32,680	-0.3
June 30	1,080.19	32,790	+1.8
July 31	1,079.59	32,150	-10.4
Aug. 31	1,080.39	32,990	+13.7
Sept. 30	1,080.00	32,600	-6.6
WTR YR 2005	--	--	-0.1

SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 4l°45'55", long 76°26'28", Bradford County, Hydrologic Unit 02050106, on right bank at Bridge Street in Towanda, and 1.8 mi upstream from Towanda Creek.

DRAINAGE AREA.--7,797 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year. Gage-height records collected at same site since October 1892 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1922, 1929.

GAGE.--Water-stage recorder. Datum of gage is 694.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 18, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. 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 a base discharge of 68,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 15	0100	110,000	17.37
Mar. 29	1400	96,900	15.90
Apr. 4	0030	*162,000	*23.05

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9660	6380	34000	11900	e7700	8930	70800	12100	3420	3710	1110	7820
2	8360	5840	50200	12100	e7600	8620	79000	12200	3310	3240	1080	7850
3	7590	5700	40400	12000	e7400	8160	144000	11600	3180	2760	1050	5350
4	7170	6670	31200	19900	7250	7900	146000	10700	2990	2340	1000	3430
5	6700	8380	23400	22600	7080	7400	113000	9760	2830	2120	974	2480
6	6120	10000	19500	19600	6930	7120	88300	8960	2720	2230	928	1900
7	5540	10000	18000	20600	7070	7220	64000	8300	2850	2120	887	1580
8	5020	9340	21600	20000	7570	12400	49700	7690	2900	2390	848	1390
9	4660	8330	21900	20400	12700	16600	41600	7180	2740	5020	819	1270
10	4390	7580	24000	17500	27800	13800	35100	6770	2660	6260	830	1180
11	4150	7070	54600	16000	26200	12000	28400	6360	5680	4750	920	1100
12	3920	6810	57700	15900	20900	11000	23600	5820	4450	3610	947	1040
13	3760	6590	42800	33500	17400	10600	20600	5350	4330	2880	931	988
14	3680	6320	32600	89300	14600	9970	18300	5050	3810	2720	993	950
15	3650	5900	25200	90200	16300	9060	16200	4920	4320	2510	1170	915
16	3810	5530	20200	62100	26500	8600	14000	5050	5510	2430	1230	900
17	5300	5340	17500	45900	31200	8250	12000	4980	4580	2330	1010	906
18	5690	5200	15700	32200	24700	8440	11000	4820	4030	2800	960	882
19	6810	5100	13900	e21000	18300	8850	10100	4550	4330	2640	883	882
20	11800	4970	12500	e17000	16000	9410	8790	4240	4520	2190	829	924
21	11500	4990	9960	e14000	14400	12300	8460	4010	3970	1930	788	991
22	11900	5030	e9400	e12000	13500	13000	8320	3870	3430	1730	751	989
23	12100	5020	10800	e9200	12900	14500	8240	3760	3120	1570	729	953
24	10400	5030	28000	e8500	11600	14400	15000	3730	2640	1480	718	893
25	8960	7970	24900	e8000	10800	14400	22100	3820	2360	1430	694	856
26	7980	15100	18400	e7900	9780	15600	20300	3920	2180	1400	689	854
27	7300	15200	14800	e7800	9050	16700	16400	3950	2010	1420	671	885
28	6710	24600	11200	e7800	8850	42800	14000	4140	1930	1390	662	971
29	6230	54600	10100	e7800	---	93200	12800	3920	1910	1260	650	1440
30	6070	37800	10800	e7700	---	87800	12200	3740	2420	1180	808	1720
31	6780	---	11600	e7700	---	73700	---	3580	---	1140	1510	---
TOTAL	213710	312390	736860	698100	402080	592730	1132310	188840	101130	76980	28069	54289
MEAN	6894	10410	23770	22520	14360	19120	37740	6092	3371	2483	905	1810
MAX	12100	54600	57700	90200	31200	93200	146000	12200	5680	6260	1510	7850
MIN	3650	4970	9400	7700	6930	7120	8240	3580	1910	1140	650	854
CFSM	0.88	1.34	3.05	2.89	1.84	2.45	4.84	0.78	0.43	0.32	0.12	0.23
IN.	1.02	1.49	3.52	3.33	1.92	2.83	5.40	0.90	0.48	0.37	0.13	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	5396	9439	11360	10750	11760	23580	25330	13160	7304	4185	3126	3541
MAX	31270	28940	32550	31200	35700	60780	76640	34770	41150	23840	16210	27940
(WY)	1978	1928	1997	1996	1976	1936	1993	1943	1972	1915	1915	2004
MIN	507	495	1459	1273	1821	8417	4975	3297	1381	783	571	432
(WY)	1965	1965	1931	1931	1920	1981	1946	1985	1999	1962	1964	1964

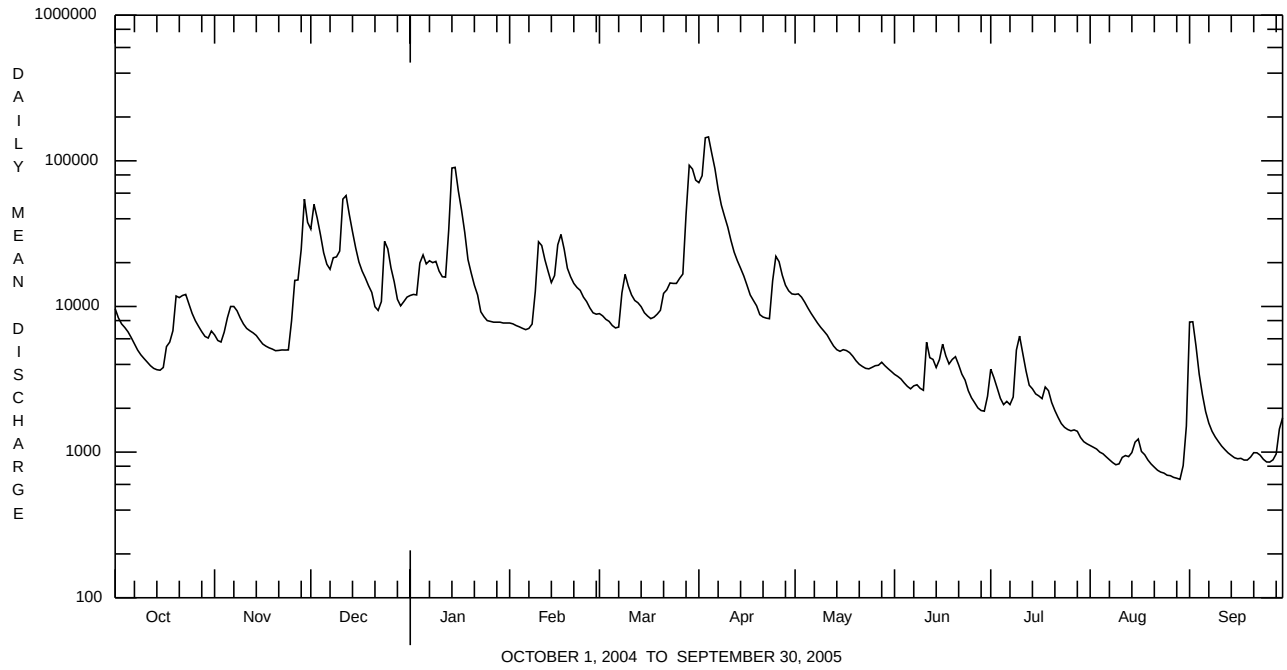
e Estimated.

SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	5599510		4537488			
ANNUAL MEAN	15300		12430		10730	
HIGHEST ANNUAL MEAN					16720	2004
LOWEST ANNUAL MEAN					5104	1965
HIGHEST DAILY MEAN	127000	Sep 18,19	146000	Apr 4	283000	Jun 23 1972
LOWEST DAILY MEAN	2140	Jul 7	650	Aug 29	340	Sep 23 1964
ANNUAL SEVEN-DAY MINIMUM	2410	Jul 1	688	Aug 23	348	Sep 18 1964
MAXIMUM PEAK FLOW			162000	Apr 4	**a**320000	Jun 24 1972
MAXIMUM PEAK STAGE			23.05	Apr 4	**b**33.43	Jun 24 1972
INSTANTANEOUS LOW FLOW					334	Sep 23,24 1964
ANNUAL RUNOFF (CFSM)	1.96		1.59		1.38	
ANNUAL RUNOFF (INCHES)	26.72		21.65		18.70	
10 PERCENT EXCEEDS	31500		25600		26000	
50 PERCENT EXCEEDS	11000		7120		5590	
90 PERCENT EXCEEDS	4470		989		1250	

a From rating curve extended above 180,000 ft^3/s.
b From floodmark.



01531500 SUSQUEHANNA RIVER AT TOWANDA, PA--Continued
(Pennsylvania Water-Quality Network Station)

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/27/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	24
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
Serratella	4
Heptageniidae	
Stenonema	4
Isonychiidae	
Isonychia	11
Potamanthidae	
Anthopotamus	10
Plecoptera (STONEFLIES)	
Capniidae	1
Perlidae	
Agnetina	17
Taeniopterygidae	
Taenionema	5
Taeniopteryx	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	3
Hydropsyche	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	2
Stenelmis	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	13
Total Organisms	100
Total Taxa	14

TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 4l°42'25", long 76°29'06", Bradford County, Hydrologic Unit 02050106, on left bank on Township Route 406, 0.8 mi southwest of Monroeton, and 1.0 mi upstream from South Branch Towanda Creek.

DRAINAGE AREA.--215 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1914 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1051: 1943-44(M). WSP 1302: 1922(M), 1924, 1925-26(M), 1928, 1929(M), 1930-31. WSP 1432: 1921(M), 1932(M), 1933, 1934-35(M), 1936, 1938(M), 1940. WDR PA-78-2: 1972(M). WDR PA-87-2: 1978-79.

GAGE.--Water-stage recorder. Datum of gage is 765.53 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1942, nonrecording gage at present site at datum 8.62 ft higher. Water-stage recorder Oct. 1, 1942, to Sept. 25, 1975, 0.6 mi downstream at datum 11.82 ft lower. Nonrecording gage Sept. 26, 1975, to Aug. 26, 1976, at bridge 0.6 mi downstream at datum 11.82 ft lower. Nonrecording gage Aug. 27, 1976, to Oct. 20, 1977, at present 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 and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,300 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1130	4,830	11.75	Mar. 29	0530	6,420	12.80
Jan. 14	0745	7,760	13.65	Apr. 2	2000	*11,800	*15.81

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	458	166	1830	270	e130	165	1780	187	50	72	10	613
2	358	148	1350	227	e120	157	5450	166	47	54	9.7	186
3	353	168	951	353	e110	137	6350	164	44	45	8.9	109
4	274	163	700	1360	108	134	2300	150	51	38	8.8	79
5	216	217	557	736	e100	126	1410	138	53	34	9.3	62
6	183	187	450	807	e100	127	1040	128	49	39	8.5	51
7	162	157	542	1010	114	307	846	121	65	37	7.6	44
8	142	143	625	1080	e170	952	689	114	67	42	7.1	38
9	129	128	443	945	e360	370	527	106	51	64	7.0	34
10	117	117	1500	735	e1300	262	428	101	100	50	6.8	35
11	106	114	2470	647	647	240	344	96	536	39	6.6	30
12	96	118	1350	909	466	211	288	90	170	32	6.3	25
13	89	123	979	2720	350	193	255	84	107	28	12	22
14	98	111	720	5110	343	174	225	82	83	26	20	20
15	140	106	526	1950	1400	160	199	83	65	24	13	18
16	201	109	422	1160	1340	156	178	81	63	23	12	18
17	157	108	380	839	1010	157	165	76	80	29	11	22
18	123	105	304	503	628	183	156	71	81	34	9.4	23
19	967	103	285	e370	421	192	146	66	68	34	8.5	19
20	1240	101	e170	e350	378	230	137	63	58	28	8.2	17
21	812	108	e160	e270	336	349	131	61	51	25	7.7	15
22	640	101	e160	e200	296	291	122	68	47	22	6.8	14
23	486	94	1090	e190	259	381	162	63	42	21	6.4	13
24	399	164	1100	e180	217	346	467	64	38	18	6.1	13
25	345	1310	e500	e170	205	393	315	70	34	17	5.8	12
26	295	859	e380	e170	190	548	244	66	31	16	5.5	15
27	254	576	e350	e160	167	741	213	61	43	16	5.2	25
28	222	2370	e320	e150	168	3290	193	69	42	16	5.2	21
29	199	1520	e300	e150	---	4800	175	68	110	14	5.5	21
30	195	990	e280	e150	---	2260	176	62	121	13	106	22
31	191	---	251	e140	---	1780	---	55	---	11	658	---
TOTAL	9647	10784	21445	24011	11433	19812	25111	2874	2447	961	1008.9	1636
MEAN	311	359	692	775	408	639	837	92.7	81.6	31.0	32.5	54.5
MAX	1240	2370	2470	5110	1400	4800	6350	187	536	72	658	613
MIN	89	94	160	140	100	126	122	55	31	11	5.2	12
CFSM	1.45	1.67	3.22	3.60	1.90	2.97	3.89	0.43	0.38	0.14	0.15	0.25
IN.	1.67	1.87	3.71	4.15	1.98	3.43	4.34	0.50	0.42	0.17	0.17	0.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	152	277	319	293	342	656	622	365	191	97.9	84.0	96.9
MAX	1092	1326	1117	1542	1169	2287	1838	1262	1922	1376	986	1011
(WY)	1991	1927	1997	1996	1984	1936	1993	1946	1972	1915	1915	2004
MIN	6.46	7.84	16.8	10.1	40.4	135	110	54.5	16.0	7.72	3.71	1.76
(WY)	1965	1931	1932	1931	1931	1965	1946	1926	1991	1955	1966	1964

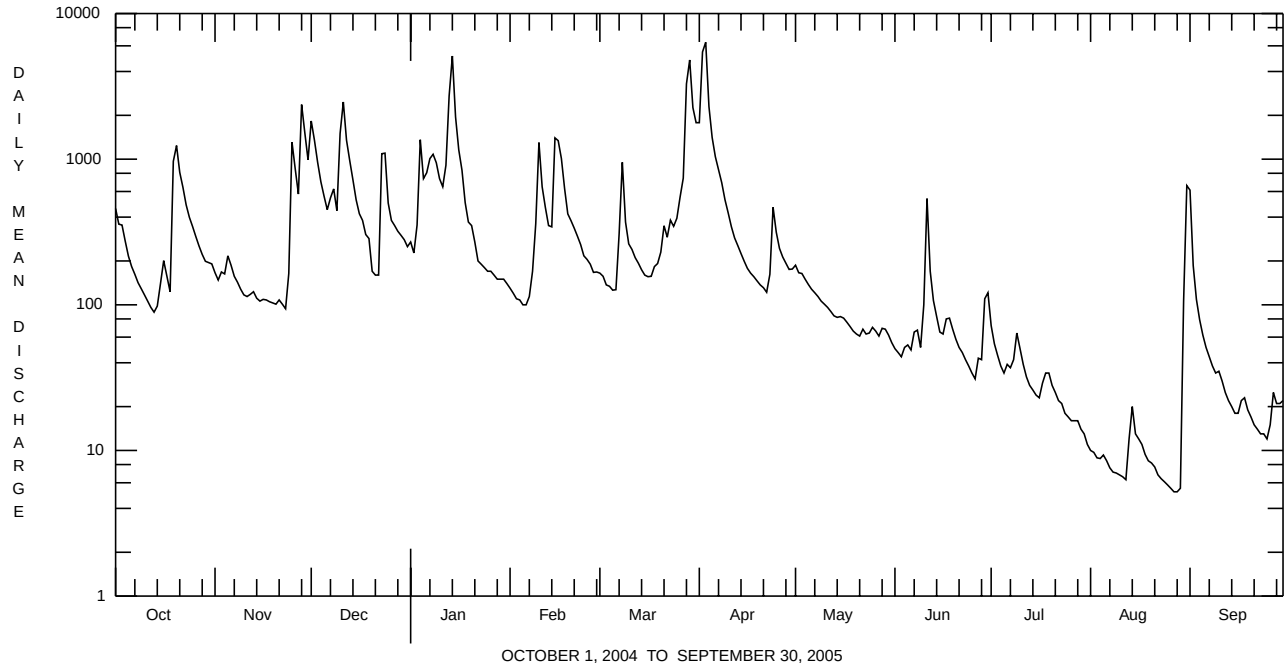
e Estimated.

TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	158706		131169.9			
ANNUAL MEAN	434		359		290	
HIGHEST ANNUAL MEAN					502	1978
LOWEST ANNUAL MEAN					111	1965
HIGHEST DAILY MEAN	13900	Sep 18	6350	Apr 3	28700	Jun 22 1972
LOWEST DAILY MEAN	31	Jul 4,5	5.2	Aug 27,28	0.70	Sep 21 1932
ANNUAL SEVEN-DAY MINIMUM	36	Jul 1	5.7	Aug 23	0.87	Sep 16 1932
MAXIMUM PEAK FLOW			11800	Apr 2	74000	Jun 22 1972
MAXIMUM PEAK STAGE			15.81	Apr 2	**a**20.86	Jan 19 1996
INSTANTANEOUS LOW FLOW			5.0	Aug 27,28	0.70	Sep 15 1932**b**
ANNUAL RUNOFF (CFSM)	2.02		1.67		1.35	
ANNUAL RUNOFF (INCHES)	27.46		22.70		18.35	
10 PERCENT EXCEEDS	956		951		661	
50 PERCENT EXCEEDS	216		142		118	
90 PERCENT EXCEEDS	69		15		14	

a From floodmark.
b Also Sept. 17, 21, 22, 1932.



TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
02...	1215	1028	9813	148	30	12.6	8.1	7.4	107	104	10.6	40	11.7
JAN 2005													
25...	1015	1028	9813	E170	30	14.9	7.4	7.0	97	94	.1	37	11.1
MAR													
08...	1100	1028	9813	1020	30	14.9	7.5	7.3	94	119	.2	34	9.6
MAY													
18...	0930	1028	9813	72	30	11.3	7.7	7.7	106	103	13.1	38	11.0
JUL													
06...	1430	1028	9813	39	30	9.0	7.6	7.9	109	110	22.8	41	12.3
SEP													
14...	1000	1028	9813	20	30	9.2	7.5	6.8	102	105	18.8	40	11.9

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
02...	2.7	30	11.7	72	<2	<.020	.17	<.040	<.01	.012	.28	1.8	<200
JAN 2005													
25...	2.2	21	14.2	50	<2	.110	.88	<.040	.01	<.010	.90	1.2	<200
MAR													
08...	2.6	22	10.6	68	62	.120	.67	<.040	.04	.114	1.1	3.5	1800
MAY													
18...	2.5	29	13.5	94	2	<.020	.20	<.040	<.01	<.010	.25	--	<200
JUL													
06...	2.5	31	11.8	78	4	.020	.13	<.040	<.01	<.010	.20	--	<200
SEP													
14...	2.5	28	12.7	74	10	.020	.14	<.040	<.01	<.010	.59	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
02...	<10	80	<1.0	20	<50	<10
JAN 2005						
25...	<10	200	<1.0	50	<50	<10
MAR						
08...	<10	3110	2.0	120	<50	10
MAY						
18...	<10	30	<1.0	<10	<50	<10
JUL						
06...	<10	50	<1.0	10	<50	10
SEP						
14...	<10	30	<1.0	20	<50	<10

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/03/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	6
Baetis	10
Caenidae	
Caenis	4
Ephemerellidae	
Serratella	7
Heptageniidae	
Epeorus	1
Leucrocuta	7
Stenacron	3
Stenonema	4
Isonychiidae	
Isonychia	8
Plecoptera (STONEFLIES)	
Perlidae	
Acroneuria	2
Paragnetina	2
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	5
Hydropsyche	10
Philopotamidae	
Chimarra	3
Psychomyiidae	
Psychomyia	1
Coleoptera (BEETLES)	
Dryopidae	
Helichus	1
Elmidae (RIFFLE BEETLES)	
Optioservus	1
Stenelmis	11
Hydrophilidae	
Helophorus	1
Psephenidae (WATER PENNIES)	
Psephenus	7
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	8
Simuliidae (BLACK FLIES)	
Prosimulium	1
Simulium	3
Total Organisms	107
Total Taxa	24

SUSQUEHANNA RIVER BASIN

01533400 SUSQUEHANNA RIVER AT MESHOPPEN, PA

LOCATION.--Lat 4l°36'26", long 76°03'02", Wyoming County, Hydrologic Unit 02050106, on right bank 0.3 mi south of Meshoppen, 0.3 mi downstream from Meshoppen Creek, 2.3 mi upstream from bridge on State Highway 87, and 2.4 mi upstream from Mehoopany Creek.

DRAINAGE AREA.--8,720 mi^2.

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 599.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of 43.51 ft, from floodmark information by local resident, discharge, about 331,000 ft^3/s, from rating curve extended above 220,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 70,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 12	0730	71,300	22.13	Mar. 29	1500	126,000	28.49
Jan. 15	0445	123,000	28.18	Apr. 4	0730	*175,000	*34.06

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13100	7700	39000	13600	e9500	10200	79200	13700	3480	2960	1230	6390
2	11000	7010	54100	13800	e9500	10200	83900	13800	3240	3930	1150	10200
3	9750	6650	48000	13900	e9000	9470	154000	13300	3120	3160	1100	7250
4	8980	6870	37600	21100	e8500	9190	168000	12500	2990	2690	1060	5080
5	8280	8340	28400	27100	8400	8620	132000	11300	2820	2370	993	3550
6	7610	10400	22900	23900	8110	8230	105000	10300	2730	2270	959	2660
7	6940	11200	20500	24800	8070	8280	76800	9510	2740	2340	925	2150
8	6320	10700	22700	24300	8330	12500	58000	8860	2990	2330	897	1830
9	5840	9710	24600	25900	11600	19300	47600	8160	3000	3090	869	1620
10	5490	8690	26500	22400	27000	17200	40100	7720	2860	6530	835	1470
11	5180	7990	53700	19900	32600	15100	33500	7250	4040	5710	837	1340
12	4900	7670	68200	18900	25300	13000	27500	6760	6910	4580	923	1220
13	4650	7470	51900	28800	21000	12400	23700	6130	4650	3580	990	1150
14	4560	7180	39200	93400	17700	11900	21000	5780	5090	2950	1080	1070
15	4530	6820	30500	113000	18700	10900	18600	5660	4220	2830	1150	1020
16	4930	6380	24100	75000	27600	10100	16600	5530	5620	2710	1300	978
17	5450	6120	20500	56000	37400	9770	14100	5510	5760	2590	1300	960
18	6540	5950	18400	39100	31100	9840	12800	5300	4910	2670	1040	952
19	8870	5840	16500	29300	24400	10400	11800	5040	4700	3140	971	923
20	15200	5720	14600	22100	19400	11000	10300	4700	5040	2690	910	923
21	15900	5660	e12000	e18000	17200	13500	9560	4380	4850	2330	856	938
22	14400	5670	11100	e16000	16100	15900	9390	4150	4260	2110	807	981
23	14900	5660	11900	e13000	15300	16600	9300	3980	3660	1930	769	973
24	13400	5640	24900	e10000	14200	17600	15300	3890	3300	1770	753	933
25	11500	7770	31000	e10000	12700	17100	23900	3890	2750	1700	747	885
26	9980	16900	24200	e9900	11700	18300	23900	4020	2510	1630	729	849
27	9020	17500	18600	e9800	10700	20200	19800	4040	2310	1620	715	857
28	8230	27400	15200	e9700	10200	36700	16600	4110	2210	1610	717	878
29	7600	60900	12300	e9600	---	115000	14900	4200	2080	1540	709	1020
30	7200	48000	12100	e9600	---	107000	14100	3910	2230	1400	1020	1680
31	7490	---	12900	e9500	---	86300	---	3710	---	1300	1860	---
TOTAL	267740	355510	848100	831400	471310	691800	1291250	211090	111070	84060	30201	62730
MEAN	8637	11850	27360	26820	16830	22320	43040	6809	3702	2712	974	2091
MAX	15900	60900	68200	113000	37400	115000	168000	13800	6910	6530	1860	10200
MIN	4530	5640	11100	9500	8070	8230	9300	3710	2080	1300	709	849
CFSM	0.99	1.36	3.14	3.08	1.93	2.56	4.94	0.78	0.42	0.31	0.11	0.24
IN.	1.14	1.52	3.62	3.55	2.01	2.95	5.51	0.90	0.47	0.36	0.13	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

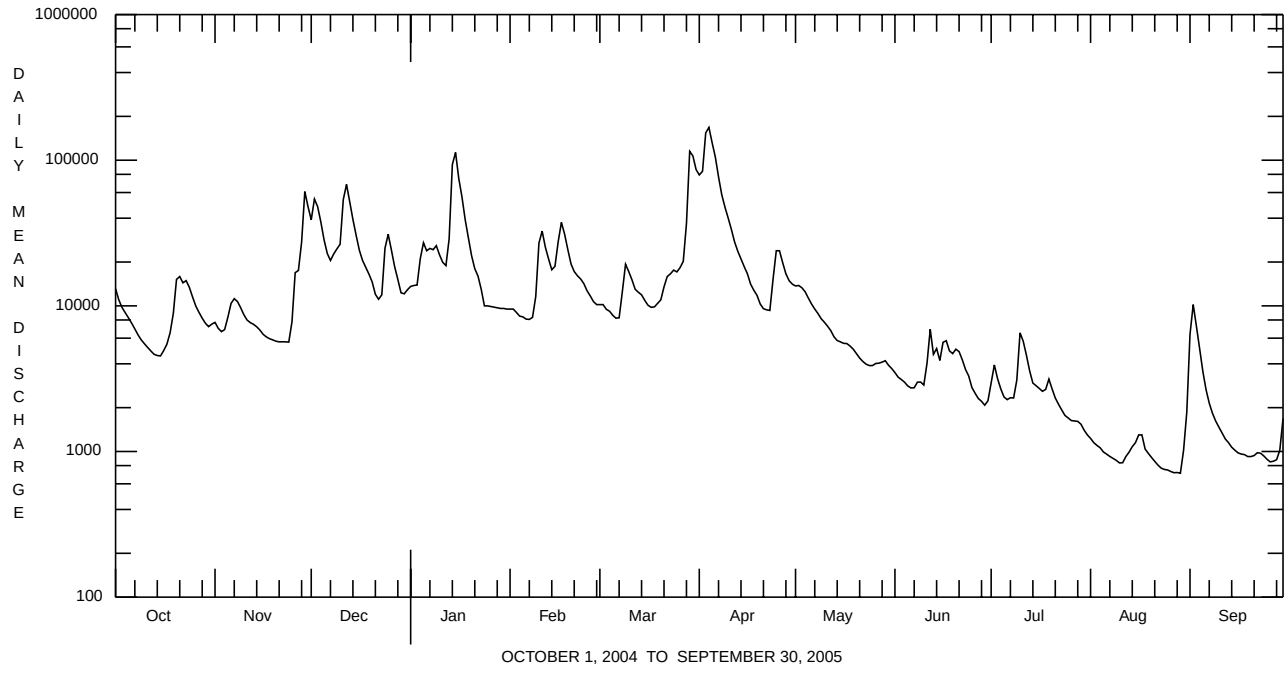
MEAN	7509	11150	14630	13120	14070	25150	28660	14270	8276	4465	3829	4753
MAX	35100	25890	38090	33960	36100	48830	86470	33200	22140	13480	17530	32460
(WY)	1978	1997	1997	1996	1981	1979	1993	1996	2003	2004	1994	2004
MIN	1045	1380	2382	2168	2702	9955	9638	4027	1610	1100	765	882
(WY)	1983	1999	1999	1981	1980	1981	1981	1985	1999	1991	1999	1995

e Estimated.

SUSQUEHANNA RIVER BASIN

01533400 SUSQUEHANNA RIVER AT MESHOPPEN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1977 - 2005	
ANNUAL TOTAL	6389970		5256261			
ANNUAL MEAN	17460		14400		12470	
HIGHEST ANNUAL MEAN					18930	1978
LOWEST ANNUAL MEAN					7230	1985
HIGHEST DAILY MEAN	160000	Sep 19	168000	Apr 4	216000	Jan 20 1996
LOWEST DAILY MEAN	2250	Jul 7	709	Aug 29	557	Aug 31 1995
ANNUAL SEVEN-DAY MINIMUM	2500	Jul 2	734	Aug 23	593	Aug 29 1995
MAXIMUM PEAK FLOW			175000	Apr 4	226000	Jan 20 1996
MAXIMUM PEAK STAGE			34.06	Apr 4	36.34	Jan 20 1996
ANNUAL RUNOFF (CFSM)	2.00		1.65		1.43	
ANNUAL RUNOFF (INCHES)	27.26		22.42		19.43	
10 PERCENT EXCEEDS	35500		29000		29200	
50 PERCENT EXCEEDS	12900		8230		6740	
90 PERCENT EXCEEDS	5200		1030		1450	



TUNKHANNOCK CREEK BASIN

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°33'30", long 75°53'42", Wyoming County, Hydrologic Unit 02050106, on left bank 300 ft upstream from bridge on U.S. Highway 6 at Dixon, 3.0 mi northeast of Tunkhannock, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--383 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1914 to current year. Prior to October 1965, published as "*at Dixon*".

REVISED RECORDS.--WSP 756: Drainage area. WSP 1051: 1921(M), 1932, 1934-35(M), 1936, 1938(M), 1939-40, 1942-44, l945(M). WSP 1302: 1922, 1923(M), 1924-25, 1927-28. WSP 1432: 1919(M), 1920, 1933, 1934(P). WDR PA-85-2: 1954(P), 1955(M), 1956(P), 1957(M), 1958-64(P), 1967-71(P), 1977(M), 1978(P), 1981(M), 1982-84(P). WDR PA-96-2: 1947(M), 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 610.10 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation bench mark). Prior to Aug. 10, 1938, 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 and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,700 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1845	10,000	9.67	Mar. 29	1045	15,500	12.08
Jan. 14	1345	18,500	13.22	Apr. 3	0630	*22,000	*14.46

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	373	2870	593	e470	e460	2800	423	127	65	53	113
2	883	341	2390	520	e430	e440	5070	374	118	63	46	100
3	754	358	1740	719	e420	e380	14300	356	112	57	42	73
4	635	352	1410	2310	e410	e350	5340	323	116	53	39	58
5	549	517	1180	1450	e400	e320	2960	292	116	54	37	51
6	482	445	997	1460	e400	e320	2100	270	152	68	35	45
7	442	388	972	1590	e390	387	1650	252	434	78	34	40
8	407	362	1140	1630	388	1020	1410	232	205	135	32	36
9	379	338	910	1680	481	848	1120	214	152	123	31	34
10	352	325	1650	1320	2050	677	932	200	134	136	37	31
11	330	317	2140	1200	1230	609	791	191	140	111	39	29
12	309	336	1980	1250	922	575	680	181	196	90	36	27
13	291	382	1560	2670	771	533	616	164	143	74	47	26
14	286	331	1310	12600	693	488	551	159	118	65	80	25
15	306	307	1060	4880	2070	441	483	253	103	60	66	26
16	857	300	910	2630	2580	447	431	230	93	78	57	25
17	565	292	840	1910	2210	440	396	185	105	76	49	24
18	438	285	724	1330	1460	504	364	163	110	66	44	24
19	1790	280	671	978	1020	563	336	152	101	62	41	23
20	1690	273	471	1050	929	631	310	143	93	56	38	23
21	1090	285	e410	805	856	899	306	137	85	51	37	24
22	926	268	e440	e670	762	840	286	136	80	48	35	23
23	733	255	941	e740	690	1020	329	136	77	46	32	21
24	641	263	1820	e670	575	940	858	135	72	43	30	21
25	578	759	936	e690	570	900	689	137	67	45	30	20
26	527	881	750	e680	e470	980	520	138	64	43	30	21
27	484	600	668	e610	e440	1210	452	132	61	43	28	28
28	446	4760	e460	e540	442	4240	451	147	63	43	29	36
29	412	3790	606	e550	---	12200	396	186	60	48	28	25
30	412	2190	561	e550	---	5170	370	158	59	44	57	24
31	427	---	532	e510	---	3410	---	140	---	42	158	---
TOTAL	19581	20953	35049	50785	24529	42242	47297	6339	3556	2066	1377	1076
MEAN	632	698	1131	1638	876	1363	1577	204	119	66.6	44.4	35.9
MAX	1790	4760	2870	12600	2580	12200	14300	423	434	136	158	113
MIN	286	255	410	510	388	320	286	132	59	42	28	20
CFSM	1.65	1.82	2.95	4.28	2.29	3.56	4.12	0.53	0.31	0.17	0.12	0.09
IN.	1.90	2.04	3.40	4.93	2.38	4.10	4.59	0.62	0.35	0.20	0.13	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	327	540	630	572	654	1167	1111	636	355	213	175	221
MAX	1772	1934	1919	1978	1682	2910	3202	1806	1939	1007	841	1793
(WY)	1956	1973	1997	1979	1925	1936	1993	1989	1972	1947	1994	2004
MIN	21.4	25.9	51.6	59.0	76.3	288	235	122	48.4	23.9	19.0	12.4
(WY)	1965	1965	1923	1981	1980	1915	1946	1941	1962	1962	1930	1964

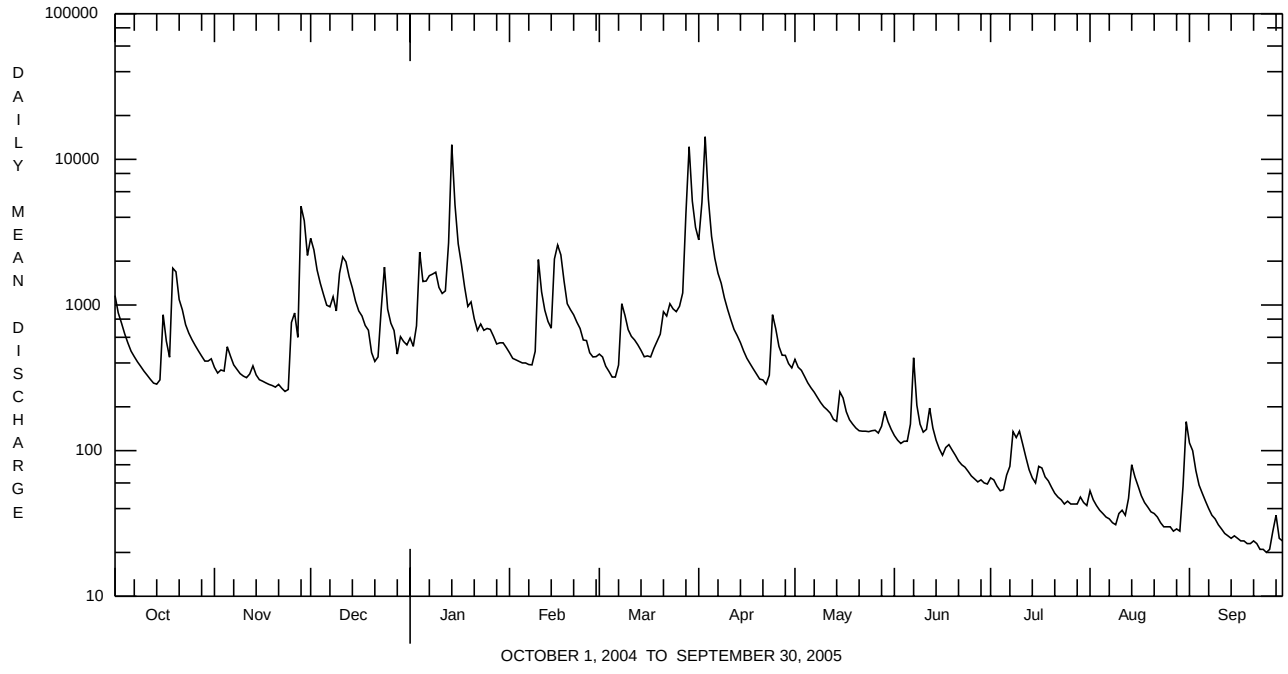
e Estimated.

TUNKHANNOCK CREEK BASIN

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	279630		254850			
ANNUAL MEAN	764		698		548	
HIGHEST ANNUAL MEAN					897	1928
LOWEST ANNUAL MEAN					220	1965
HIGHEST DAILY MEAN	23400	Sep 18	14300	Apr 3	23400	Sep 18 2004
LOWEST DAILY MEAN	66	Jul 12	20	Sep 25	6.9	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	88	Jul 6	22	Sep 20	7.9	Sep 18 1964
MAXIMUM PEAK FLOW			**a**22000	Apr 3	**a**36500	Sep 18 2004
MAXIMUM PEAK STAGE			14.46	Apr 3	**b**19.97	Jan 19 1996
INSTANTANEOUS LOW FLOW					6.2	Sep 24 1964
ANNUAL RUNOFF (CFSM)	1.99		1.82		1.43	
ANNUAL RUNOFF (INCHES)	27.16		24.75		19.44	
10 PERCENT EXCEEDS	1600		1570		1250	
50 PERCENT EXCEEDS	450		362		267	
90 PERCENT EXCEEDS	200		37		50	

a Rating extended above 14,000 ft^3/s based on slope-area measurements at gage heights 15.77 ft and 19.69 ft.
b Gage height affected by backwater.



TUNKHANNOCK CREEK BASIN

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004 04...	0915	1028	9813	344	30	12.3	7.6	7.4	143	145	7.6	45	14.9
JAN 2005 10...	1200	1028	9813	1300	30	13.3	6.8	7.6	131	127	2.6	37	12.3
MAR 07...	1300	1028	9813	344	30	14.9	7.5	7.7	161	157	2.3	44	14.9
MAY 16...	1200	1028	9813	225	30	11.2	8.0	7.9	158	159	16.6	49	16.3
JUL 06...	0930	1028	9813	61	30	7.8	6.9	7.6	192	197	22.6	61	20.4
SEP 14...	1340	1028	9813	25	30	11.3	8.5	7.4	208	211	22.0	67	22.7

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004 04...	2.0	36	8.8	116	<2	<.020	.28	<.040	.02	.016	.46	2.2	<200
JAN 2005 10...	1.5	25	9.6	94	2	<.020	.57	<.040	.01	.017	.71	2.1	<200
MAR 07...	1.7	31	10.1	80	<2	<.020	.69	<.040	<.01	.012	.98	1.7	<200
MAY 16...	1.9	37	10.8	134	4	.020	.33	<.040	<.01	.025	.58	--	<200
JUL 06...	2.3	49	10.4	114	<2	.030	.12	<.040	<.01	.013	.52	--	<200
SEP 14...	2.5	51	12.7	160	4	.020	.16	<.040	.01	.015	.29	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004 04...	<10	200	<1.0	10	<50	<10
JAN 2005 10...	<10	190	<1.0	20	<50	60
MAR 07...	<10	80	<1.0	10	<50	<10
MAY 16...	<10	70	<1.0	10	<50	<10
JUL 06...	<10	50	<1.0	40	<50	10
SEP 14...	<10	90	<1.0	40	<50	<10

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/05/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	51
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	4
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	2
Ephemerellidae	
Ephemerella	1
Serratella	9
Heptageniidae	
Stenonema	5
Isonychiidae	
Isonychia	3
Trichoptera (CADDISFLIES)	
Apataniidae	
Apatania	2
Hydropsychidae	
Cheumatopsyche	2
Hydropsyche	1
Psychomyiidae	
Psychomyia	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	50
Stenelmis	3
Psephenidae (WATER PENNIES)	
Psephenus	15
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	3
Total Organisms	152
Total Taxa	15

LACKAWANNA RIVER BASIN

01534180 STILLWATER LAKE NEAR FOREST CITY, PA

LOCATION.--Lat 41°41'46", long 75°29'10", Susquehanna County, Hydrologic Unit 02050107, at Stillwater Dam on Lackawanna River, 0.3 mi downstream from confluence of East and West Branches, 1.4 mi south of Union Dale, and 3.5 mi north of Forest City.

DRAINAGE AREA.--37.1 mi^2.

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

GAGE.--Water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earthfill dam, rock faced, with ungated concrete spillway at elevation 1,621.00 ft (capacity, 12,000 acre-ft). Storage began December 1959. Reservoir is used for flood control and municipal water supply. Figures given herein represent total contents. Flood storage is regulated by power-operated slide gate; water supply storage is regulated by a weir formed by stop-logs. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 10,700 acre-ft, Apr. 2, 1993, elevation, 1,617.84 ft; minimum, 173 acre-ft, June 21, 1993, elevation, 1,569.69 ft; minimum elevation, 1,568.85 ft, Sept.10, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 10,100 acre-ft, Apr. 4, elevation, 1,616.27 ft; minimum, 375 acre-ft, Sept. 25, elevation, 1,572.36 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
Sept. 30	1,576.90	848	---
Oct. 31	1,573.53	484	-5.9
Nov. 30	1,579.57	1,190	+11.9
Dec. 31	1,573.86	516	-11.0
CAL YR 2004	--	--	-0.1
Jan. 31	1,573.46	478	-0.6
Feb. 28	1,573.54	485	+0.1
Mar. 31	1,588.28	2,510	+32.9
Apr. 30	1,573.81	512	-33.6
May 31	1,573.01	434	-1.3
June 30	1,572.75	410	-0.4
July 31	1,572.59	396	-0.2
Aug. 31	1,573.19	451	+0.9
Sept. 30	1,572.59	396	-0.9
WTR YR 2005	--	--	-0.6

LACKAWANNA RIVER BASIN

01534300 LACKAWANNA RIVER NEAR FOREST CITY, PA

LOCATION.--Lat 41°40'47", long 75°28'20", Susquehanna County, Hydrologic Unit 02050107, on left bank 1,600 ft upstream from bridge on State Highway 171, 1.3 mi downstream from Stillwater Dam, 1.6 mi downstream from confluence of East and West Branches, and 2.2 mi north of Forest City.

DRAINAGE AREA.--38.8 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,551.28 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1958, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since December 1959 by Stillwater Dam (station 01534180). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	48	391	79	53	57	689	72	26	11	6.2	31
2	132	46	394	75	51	58	84	70	23	12	5.7	26
3	99	49	307	81	45	54	95	70	21	11	5.2	19
4	80	50	205	159	44	52	85	59	20	9.5	4.5	13
5	67	62	145	178	43	48	929	32	19	8.9	3.6	9.6
6	60	66	114	151	42	47	1160	32	20	13	3.5	7.2
7	58	66	103	125	42	49	1090	83	61	16	4.1	5.8
8	53	53	120	115	43	76	1020	66	55	18	4.1	5.3
9	48	45	127	116	48	109	933	49	39	22	6.1	4.6
10	44	40	161	104	84	88	819	45	32	23	7.1	4.1
11	40	39	259	95	102	75	646	41	28	20	6.5	3.6
12	39	39	320	92	99	68	433	38	26	16	5.6	3.2
13	38	41	268	105	87	63	221	34	23	14	5.3	2.9
14	36	39	196	74	70	56	118	31	20	12	6.9	2.6
15	35	37	141	50	93	52	83	42	18	11	7.4	2.5
16	55	37	110	666	152	51	69	54	17	10	7.1	2.3
17	65	37	98	771	212	48	62	48	20	9.1	7.0	2.4
18	56	36	83	577	175	50	57	44	22	8.7	6.8	2.4
19	78	36	e75	335	e120	48	54	40	21	8.2	6.3	2.5
20	136	36	e65	e210	99	50	51	36	19	7.8	5.8	2.3
21	168	38	54	e130	91	51	49	34	17	6.8	5.2	2.3
22	117	37	57	e93	84	51	47	32	16	5.9	4.6	2.3
23	87	34	75	e78	78	57	48	31	14	5.8	4.0	2.2
24	74	34	184	e76	65	61	88	30	12	5.5	3.8	2.1
25	67	52	213	e76	66	60	147	30	11	5.3	3.4	1.9
26	61	85	150	75	59	55	129	30	9.8	4.4	3.0	2.5
27	56	80	101	69	58	58	93	29	8.7	4.2	2.6	6.3
28	51	84	73	67	57	84	85	30	8.4	5.5	2.4	8.2
29	48	414	73	66	---	47	77	31	8.3	7.4	2.3	8.0
30	48	538	76	62	---	373	70	31	9.3	7.1	11	7.2
31	52	---	73	54	---	817	---	29	---	6.5	32	---
TOTAL	2248	2298	4811	5004	2262	2913	9531	1323	644.5	325.6	189.1	195.3
MEAN	72.5	76.6	155	161	80.8	94.0	318	42.7	21.5	10.5	6.10	6.51
MAX	200	538	394	771	212	817	1160	83	61	23	32	31
MIN	35	34	54	50	42	47	47	29	8.3	4.2	2.3	1.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2005, BY WATER YEAR (WY)

MEAN	49.0	73.9	86.9	73.5	76.5	134	169	85.9	55.7	27.2	20.0	33.0
MAX	239	264	234	209	245	261	517	232	205	123	122	221
(WY)	1978	1973	1974	1996	1981	1979	1993	1989	1989	1973	1994	1977
MIN	2.45	2.48	14.7	9.64	13.2	40.5	58.8	21.5	11.1	4.67	2.80	1.17
(WY)	1965	1965	1999	1981	1980	1993	1968	2001	1980	1991	1999	1980

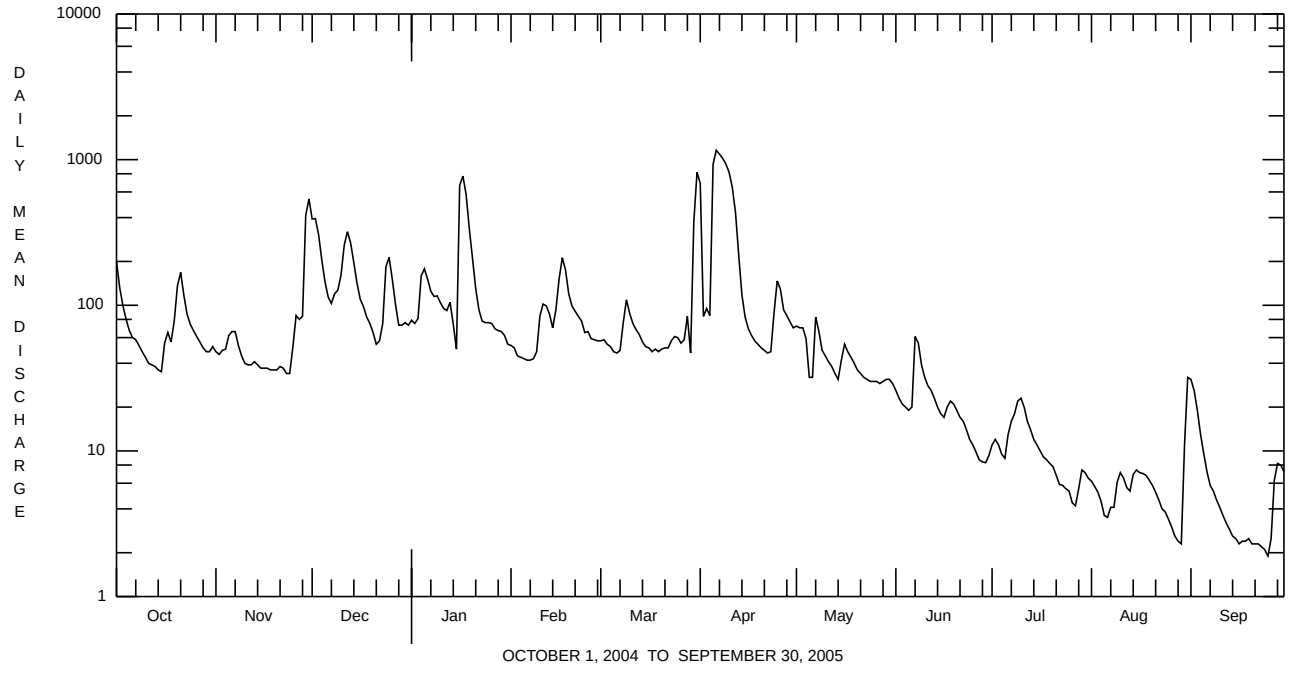
e Estimated.

LACKAWANNA RIVER BASIN

01534300 LACKAWANNA RIVER NEAR FOREST CITY, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1959 - 2005	
ANNUAL TOTAL	34073.7		31744.5			
ANNUAL MEAN	93.1		87.0		73.6	
HIGHEST ANNUAL MEAN					112	1973
LOWEST ANNUAL MEAN					36.3	1965
HIGHEST DAILY MEAN	855	Sep 21	1160	Apr 6	1160	Apr 4 1993
LOWEST DAILY MEAN	9.7	Jul 12	1.9	Sep 25	**a**0.00	Jul 21 1978
ANNUAL SEVEN-DAY MINIMUM	13	Jul 6	2.2	Sep 19	0.43	Sep 11 1980
MAXIMUM PEAK FLOW			**b**1200	Apr 5	**b**1390	Jan 22 1959
MAXIMUM PEAK STAGE			5.47	Apr 5	6.41	Jan 22 1959
INSTANTANEOUS LOW FLOW					**a**0.00	Jul 21 1978
10 PERCENT EXCEEDS	189		155		171	
50 PERCENT EXCEEDS	65		48		40	
90 PERCENT EXCEEDS	23		5.3		7.0	

a Result of shutoff at Stillwater Dam.
b From rating curve extended above 930 ft^3/s.



LACKAWANNA RIVER BASIN

01534500 LACKAWANNA RIVER AT ARCHBALD, PA

LOCATION.--Lat 4l°30'16", long 75°32'33", Lackawanna County, Hydrologic Unit 02050107, on right bank along County Road in Archbald, and 0.5 mi upstream from White Oak Run and Gilmartin Street bridge.

DRAINAGE AREA.--108 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Prior to February 1940 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 889.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Regulation at low flow by mine pumps upstream from station. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 17 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	465	139	948	195	162	179	1500	211	75	39	37	48
2	358	132	780	184	154	173	2350	200	70	39	32	44
3	301	138	627	236	150	162	2880	192	66	38	30	39
4	253	141	477	468	147	156	1310	182	66	36	29	35
5	217	184	381	402	142	148	1570	144	62	41	29	31
6	196	166	321	383	138	145	1740	134	66	41	28	29
7	186	163	301	335	139	156	1600	167	91	43	27	27
8	173	150	323	316	141	248	1450	169	101	50	34	25
9	159	137	309	306	156	236	1290	143	87	54	32	25
10	150	128	528	280	289	220	1110	133	73	52	31	24
11	139	123	739	263	257	205	894	125	70	48	30	23
12	132	131	741	255	237	194	678	118	63	45	45	23
13	126	132	595	422	218	182	466	111	59	42	39	22
14	122	124	466	2220	198	171	341	106	56	40	36	21
15	126	120	369	861	355	162	282	122	54	40	35	21
16	171	116	311	1020	467	159	247	130	53	39	34	21
17	162	113	284	1120	491	155	223	122	54	37	33	21
18	146	112	246	862	418	159	206	114	54	36	31	20
19	362	110	228	608	331	159	189	108	53	35	30	20
20	363	109	188	449	294	166	178	101	52	34	29	20
21	382	111	174	341	279	183	170	97	50	33	28	19
22	316	108	176	282	254	182	160	94	48	32	27	19
23	256	104	266	278	236	205	169	91	46	31	26	19
24	220	112	379	254	209	209	308	89	44	30	26	19
25	202	259	363	257	204	203	302	87	41	32	26	19
26	184	246	298	245	188	203	290	85	40	31	25	22
27	175	222	235	211	180	223	256	85	38	32	25	26
28	162	1460	190	191	174	643	238	89	38	30	25	24
29	153	1060	194	186	---	2120	215	90	39	30	25	28
30	149	954	187	186	---	1270	206	83	39	31	25	25
31	150	---	186	171	---	1570	---	80	---	35	42	---
TOTAL	6656	7304	11810	13787	6608	10546	22818	3802	1748	1176	951	759
MEAN	215	243	381	445	236	340	761	123	58.3	37.9	30.7	25.3
MAX	465	1460	948	2220	491	2120	2880	211	101	54	45	48
MIN	122	104	174	171	138	145	160	80	38	30	25	19

LACKAWANNA RIVER BASIN

01534500 LACKAWANNA RIVER AT ARCHBALD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	132	195	231	197	214	365	427	261	171	89.4	69.7	101
MAX	578	661	581	541	598	741	1111	610	605	278	234	622
(WY)	1978	1973	1974	1996	1981	1977	1993	1989	1972	1984	1994	2003
MIN	15.8	17.4	42.6	38.2	40.4	143	174	99.1	47.9	25.6	25.0	18.4
(WY)	1965	1965	1999	1981	1980	1981	1988	2001	1962	1965	1966	1964

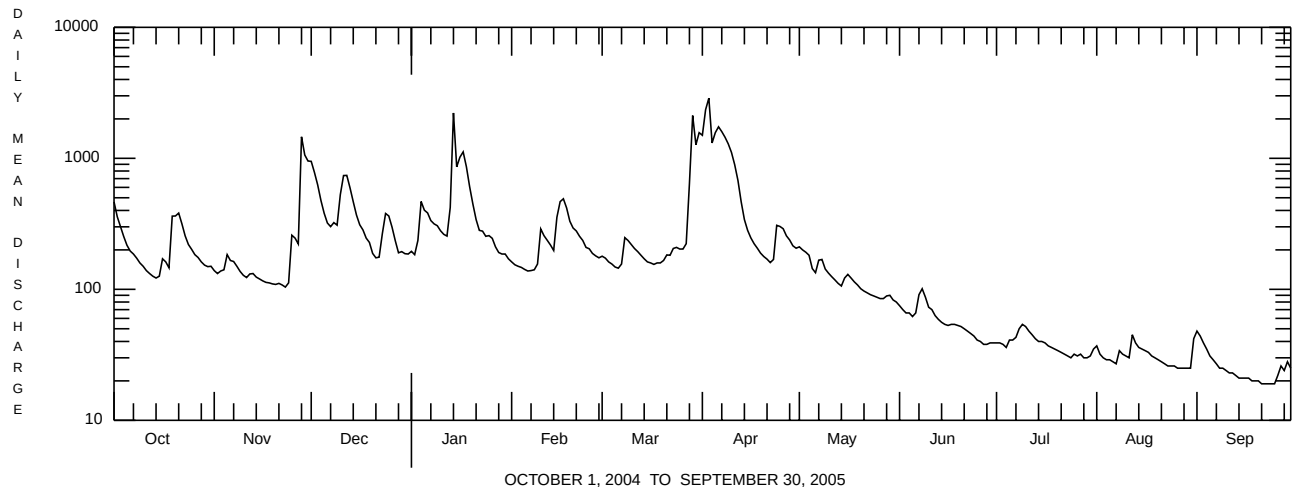
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1960 - 2005	
ANNUAL TOTAL	89741		87965			
ANNUAL MEAN	245		241		204	
HIGHEST ANNUAL MEAN					313	1973
LOWEST ANNUAL MEAN					101	1965
HIGHEST DAILY MEAN	3400	Sep 18	2880	Apr 3	3400	Sep 18 2004
LOWEST DAILY MEAN	44	Jul 11	19	Sep 21-25	13	Nov 1 1964
ANNUAL SEVEN-DAY MINIMUM	48	Jul 6	19	Sep 19	14	Oct 26 1964
MAXIMUM PEAK FLOW			**a**6330	Apr 2	**a**8800	Sep 4 2003
MAXIMUM PEAK STAGE			8.80	Apr 2	10.21	Sep 4 2003
10 PERCENT EXCEEDS	478		466		461	
50 PERCENT EXCEEDS	170		150		124	
90 PERCENT EXCEEDS	73		29		35	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1959, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	113	209	222	203	181	377	455	279	145	112	92.3	78.9
MAX	657	430	420	380	371	691	1113	553	284	373	443	187
(WY)	1956	1946	1951	1949	1951	1945	1940	1947	1946	1947	1955	1945
MIN	27.2	50.1	53.3	56.8	65.2	188	121	85.6	63.4	38.4	31.8	28.8
(WY)	1942	1942	1947	1948	1940	1941	1946	1941	1955	1955	1953	1953

SUMMARY STATISTICS	WATER YEARS 1940 - 1959	
ANNUAL MEAN	203	
HIGHEST ANNUAL MEAN	266	1956
LOWEST ANNUAL MEAN	153	1957
HIGHEST DAILY MEAN	4840	May 23 1942
LOWEST DAILY MEAN	17	Oct 12 1941
ANNUAL SEVEN-DAY MINIMUM	20	Oct 18 1953
MAXIMUM PEAK FLOW	**a**9510	May 22 1942
MAXIMUM PEAK STAGE	10.58	May 22 1942
INSTANTANEOUS LOW FLOW	3.0	Oct 9,11 1943
ANNUAL RUNOFF (CFSM)	1.88	
ANNUAL RUNOFF (INCHES)	25.54	
10 PERCENT EXCEEDS	439	
50 PERCENT EXCEEDS	123	
90 PERCENT EXCEEDS	42	

a From rating curve extended above 1,900 ft^3/s on basis of slope-area measurement of peak flow.



LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 4l°2l'33", long 75°44'41", Lackawanna County, Hydrologic Unit 02050107, on right bank 100 ft downstream from bridge on SR 3017, 150 ft upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, and 0.5 mi upstream from St. Johns Creek.

DRAINAGE AREA.--332 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1432: 1939(M), 1940, 1945. WDR PA-90-2: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 595.26 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, water-stage recorder at same site and datum. Oct. 1, 1974, to Aug. 17, 1975, nonrecording gage at site 150 ft upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 33 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	301	2340	502	313	377	2300	410	108	111	51	66
2	821	267	1880	469	292	363	4620	376	99	76	45	54
3	715	279	1420	560	283	314	9700	357	91	62	40	47
4	620	290	1120	1320	276	289	3980	332	113	56	37	41
5	526	406	919	1080	265	270	2810	283	89	71	78	37
6	480	343	779	1110	257	272	2630	247	165	127	55	36
7	406	315	751	1060	262	316	2310	249	129	138	40	34
8	330	290	816	1020	274	607	2070	276	135	193	38	31
9	294	260	731	980	343	519	1780	234	163	185	47	29
10	269	224	1250	839	769	460	1550	211	113	153	40	28
11	251	213	1890	779	613	425	1300	197	141	105	39	28
12	223	260	1550	797	520	407	1090	186	482	85	38	28
13	240	272	1280	1170	467	377	851	171	192	74	83	28
14	248	232	1040	6380	423	351	676	162	126	67	52	26
15	253	213	835	2930	735	326	573	208	99	110	43	26
16	446	213	712	1950	1010	319	502	190	161	121	41	26
17	367	204	654	1810	1100	303	456	179	189	84	42	32
18	303	212	579	1410	886	310	421	171	131	82	38	28
19	767	208	539	1110	686	327	385	161	110	82	38	27
20	770	212	445	934	618	352	353	150	98	58	37	26
21	738	214	392	723	596	447	343	133	88	52	35	26
22	681	205	395	e580	538	429	312	129	80	52	34	24
23	558	197	824	e570	514	510	369	126	74	50	33	25
24	497	214	1500	e530	453	569	722	123	68	44	35	25
25	439	545	992	546	434	537	603	120	64	61	34	25
26	375	526	781	525	384	534	546	115	61	48	33	35
27	358	443	668	e420	363	596	471	118	59	56	33	50
28	373	3600	539	e350	350	1650	451	163	60	44	36	29
29	350	2770	534	e350	---	5990	407	167	61	41	36	45
30	340	1880	501	386	---	3060	389	135	217	41	44	41
31	331	---	482	346	---	2640	---	121	---	39	51	---
TOTAL	14399	15808	29138	33536	14024	24246	44970	6200	3766	2568	1326	1003
MEAN	464	527	940	1082	501	782	1499	200	126	82.8	42.8	33.4
MAX	1030	3600	2340	6380	1100	5990	9700	410	482	193	83	66
MIN	223	197	392	346	257	270	312	115	59	39	33	24

e Estimated.

LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	281	410	507	449	494	817	934	596	383	186	150	220
MAX	1276	1223	1414	1521	1198	1767	2712	1658	1498	566	432	1319
(WY)	1978	1973	1997	1996	1981	1977	1993	1989	2003	1984	1994	2004
MIN	37.3	45.2	76.2	61.4	88.7	291	353	192	69.8	46.4	42.8	33.4
(WY)	1965	1965	1999	1981	1980	1981	1985	2001	1962	1965	2005	2005

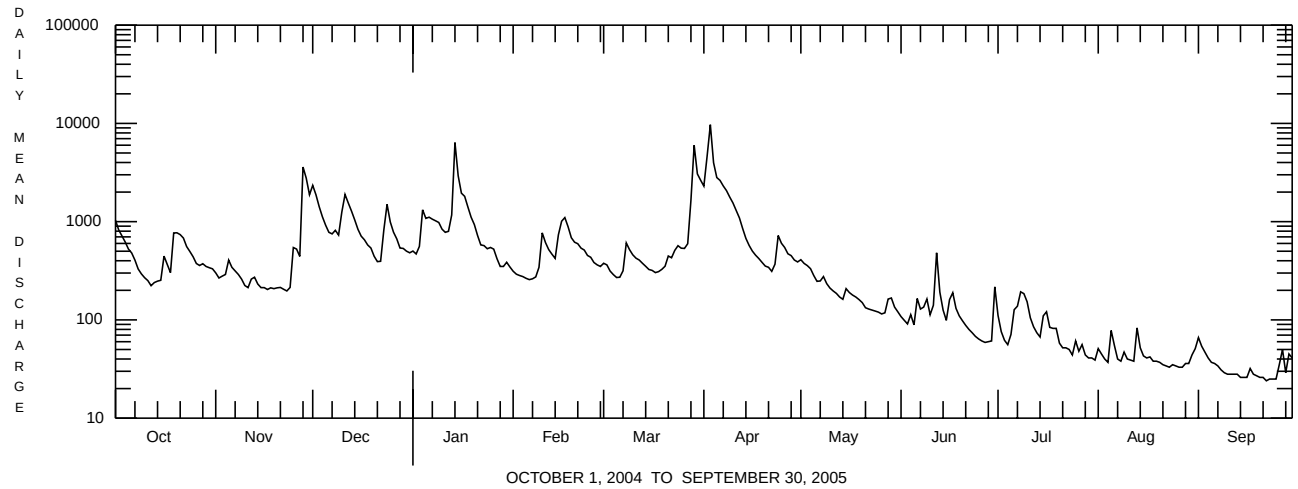
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1960 - 2005	
ANNUAL TOTAL	205118		190984			
ANNUAL MEAN	560		523		452	
HIGHEST ANNUAL MEAN					731	2003
LOWEST ANNUAL MEAN					194	1965
HIGHEST DAILY MEAN	15000	Sep 18	9700	Apr 3	15000	Sep 18 2004
LOWEST DAILY MEAN	63	Jul 11	24	Sep 22	23	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	76	Jul 5	25	Sep 19	25	Sep 19 2005
MAXIMUM PEAK FLOW			**a**14000	Apr 3	**ab**24000	Sep 27 1985
MAXIMUM PEAK STAGE			11.76	Apr 3	16.70	Sep 18 2004
10 PERCENT EXCEEDS	1100		1100		1070	
50 PERCENT EXCEEDS	370		290		250	
90 PERCENT EXCEEDS	137		38		64	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1959, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	305	503	600	512	531	986	1195	814	454	360	303	229
MAX	1618	1199	1260	1047	1263	1652	2614	1750	866	1375	1448	778
(WY)	1956	1956	1939	1949	1939	1945	1958	1947	1946	1947	1955	1945
MIN	106	122	169	166	160	526	368	262	188	125	130	116
(WY)	1942	1942	1942	1944	1940	1941	1946	1941	1955	1955	1954	1943

SUMMARY STATISTICS	WATER YEARS 1939 - 1959	
ANNUAL MEAN	566	
HIGHEST ANNUAL MEAN	781	1956
LOWEST ANNUAL MEAN	401	1944
HIGHEST DAILY MEAN	14000	Aug 19 1955
LOWEST DAILY MEAN	73	Sep 26 1943
ANNUAL SEVEN-DAY MINIMUM	87	Oct 8 1943
MAXIMUM PEAK FLOW	**a**31000	Aug 19 1955
MAXIMUM PEAK STAGE	**c**20.05	Aug 19 1955
INSTANTANEOUS LOW FLOW	54	Sep 1,2 1957
ANNUAL RUNOFF (CFSM)	1.70	
ANNUAL RUNOFF (INCHES)	23.16	
10 PERCENT EXCEEDS	1200	
50 PERCENT EXCEEDS	340	
90 PERCENT EXCEEDS	138	

a From rating curve extended above 3,800 ft^3/s on basis of slope-area measurements at gage heights 15.30 ft, 16.49 ft, and at peak flow.
b At gage height 16.49 ft, from floodmark.
c From floodmark.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
03...	1115	1028	9813	283	40	11.0	7.3	7.1	239	244	10.9	61	13.0
JAN 2005													
10...	1620	1028	9813	832	40	12.8	7.1	7.4	227	211	4.2	47	11.8
MAR													
07...	1700	1028	9813	347	40	13.8	7.9	7.6	355	342	6.1	65	16.0
MAY													
16...	1520	1028	9813	192	40	12.0	9.0	8.4	299	302	16.9	79	16.7
JUL													
28...	1530	1028	9813	46	40	9.6	8.1	8.2	444	441	26.0	120	22.0
SEP													
14...	1600	1028	9813	29	40	9.8	8.7	8.2	522	530	24.4	120	23.3

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
03...	7.0	23	39.5	152	<2	.030	1.61	<.040	.22	.253	2.1	3.1	<200
JAN 2005													
10...	4.2	18	24.7	172	6	.030	.73	.080	.06	.079	1.0	1.9	<200
MAR													
07...	6.1	25	37.6	176	<2	.150	.97	.300	.20	.229	1.7	2.5	210
MAY													
16...	8.9	29	55.3	194	<2	<.020	1.48	<.040	.24	.287	1.8	--	<200
JUL													
28...	14.9	43	62.5	330	8	.100	5.66	.140	.79	.958	6.0	--	<200
SEP													
14...	14.7	49	74.7	412	6	.030	7.86	<.040	1.92	2.00	8.4	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
03...	<10	150	<1.0	70	<50	20
JAN 2005						
10...	<10	240	1.2	110	<50	30
MAR						
07...	<10	220	1.1	110	<50	20
MAY						
16...	<10	130	<1.0	70	<50	20
JUL						
28...	<10	210	1.2	50	<50	40
SEP						
14...	<10	160	<1.0	30	<50	30

01536000 LACKAWANNA RIVER AT OLD FORGE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/13/04
Benthic macroinvertebrate	Count
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	2
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
Crangonyx	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	1
Heptageniidae	
Stenonema	1
Leptophlebiidae	
Paraleptophlebia	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	1
Hydropsychidae	
Cheumatopsyche	17
Hydropsyche	73
Coleoptera (BEETLES)	
Psephenidae (WATER PENNIES)	
Psephenus	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	28
Total Organisms	130
Total Taxa	13

SUSQUEHANNA RIVER BASIN

01536500 SUSQUEHANNA RIVER AT WILKES-BARRE, PA

LOCATION.--Lat 41°15'03", long 75°52'52", Luzerne County, Hydrologic Unit 02050107, on left bank at downstream side of North Street bridge in Wilkes-Barre, and 1.8 mi upstream from Toby Creek.

DRAINAGE AREA.--9,960 mi^2.

PERIOD OF RECORD.--April 1899 to current year. Gage-height records collected at same site since November 1890 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 109: 1900-1905. WSP 351: Drainage area. WSP 781: 1902(M). WSP 1302: 1916. WSP 1432: 1901-5, 1907, 1909, 1913, 1937(M). WDR PA-86-2: 1960(M), 1964(M), 1975(M), 1979(M). WDR PA-89-2: 1964(P). WDR PA-90-2: 1988(M) 1989(P).

GAGE.--Water-stage recorder. Datum of gage is 510.86 ft above North American Vertical Datum of 1988. See WSP 1722 for history of changes prior to Mar. 23, 1949. May 23, 1949 to Sept. 30, 1996, at site 800 ft downstream.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 8 flood-control reservoirs, which have a combined capacity of 368,800 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1899, 33.1 ft, Mar. 18, 1865, from floodmarks, discharge, about 232,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 82,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 15	0230	137,000	24.74	Apr. 4	0630	*189,000	*30.88
Mar. 29	2100	148,000	26.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17400	8850	47800	14700	e11000	11400	85500	14600	4100	2720	1620	2630
2	14400	8320	56100	14800	e11000	11500	87600	14500	3880	3520	1580	8540
3	12500	7800	56500	15200	e10000	10800	163000	14200	3660	3810	1510	8520
4	11200	7660	45000	22000	e9500	10200	187000	13500	3660	3280	1490	6220
5	10200	8810	35300	31100	e9300	9840	156000	12400	3470	3020	1470	4470
6	9410	10600	27800	29600	e9200	9370	119000	11300	3360	2830	1440	3390
7	8620	11900	24100	29500	e9200	9230	88800	10500	3570	2780	1340	2730
8	7860	11700	24600	29000	e9600	11400	66200	9790	3530	2990	1300	2310
9	7220	10900	27600	30900	e10000	19100	53600	9080	3620	3160	1280	2010
10	6750	9800	29400	27600	e14000	19400	45400	8490	3500	4580	1240	1800
11	6340	9000	47200	24000	e35000	17200	38800	8040	3370	6700	1200	1660
12	6000	8590	70800	22500	30600	14900	32300	7550	6540	5460	1200	1570
13	5710	8470	60600	27900	25000	13900	27300	6960	5970	4470	1300	1480
14	5580	8160	46400	93200	20900	13200	23900	6480	5010	3650	1440	1420
15	5560	7790	36700	132000	21600	12300	21100	6430	4980	3250	1460	1360
16	6600	7380	29200	92500	29700	11500	18600	6290	4740	3210	1490	1310
17	6840	7000	24100	66900	41700	11000	16200	6100	6270	3140	1600	1310
18	7300	6800	21200	48500	37800	10800	14100	5940	5620	2960	1600	1250
19	9230	6630	19000	35000	28200	11200	13000	5690	4960	3150	1410	1230
20	16900	6530	e18000	26000	23100	11800	12000	5380	4990	3350	1340	1210
21	19100	6440	e15000	e21000	20200	13300	10700	5030	5210	2900	1290	1200
22	16800	6390	12600	e17000	18300	16900	10200	4740	4800	2620	1210	1210
23	16800	6340	13000	e15000	17200	17600	10300	4530	4240	2400	1150	1250
24	15700	6380	25000	e12000	16000	19600	13100	4400	3810	2180	1110	1240
25	13700	8090	35700	e12000	14500	19000	23300	4350	3440	2090	1080	1190
26	11900	15600	27700	e11000	13300	19600	26500	4400	3040	1980	1070	1190
27	10700	19500	21900	e11000	12200	22100	22900	4500	2820	1940	1050	1200
28	9850	31000	17000	e11000	11400	31900	18800	4570	2670	1880	1050	1140
29	9080	64000	14300	e11000	---	121000	16400	4770	2600	1870	1060	1200
30	8580	61100	13500	e10000	---	129000	15100	4640	2600	1800	1060	1290
31	8460	---	13800	e10000	---	99400	---	4350	---	1680	1380	---
TOTAL	322290	397530	956900	953900	519500	759440	1436700	233500	124030	95370	40820	68530
MEAN	10400	13250	30870	30770	18550	24500	47890	7532	4134	3076	1317	2284
MAX	19100	64000	70800	132000	41700	129000	187000	14600	6540	6700	1620	8540
MIN	5560	6340	12600	10000	9200	9230	10200	4350	2600	1680	1050	1140
CFSM	1.04	1.33	3.10	3.09	1.86	2.46	4.81	0.76	0.42	0.31	0.13	0.23
IN.	1.20	1.48	3.57	3.56	1.94	2.84	5.37	0.87	0.46	0.36	0.15	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 2005, BY WATER YEAR (WY)

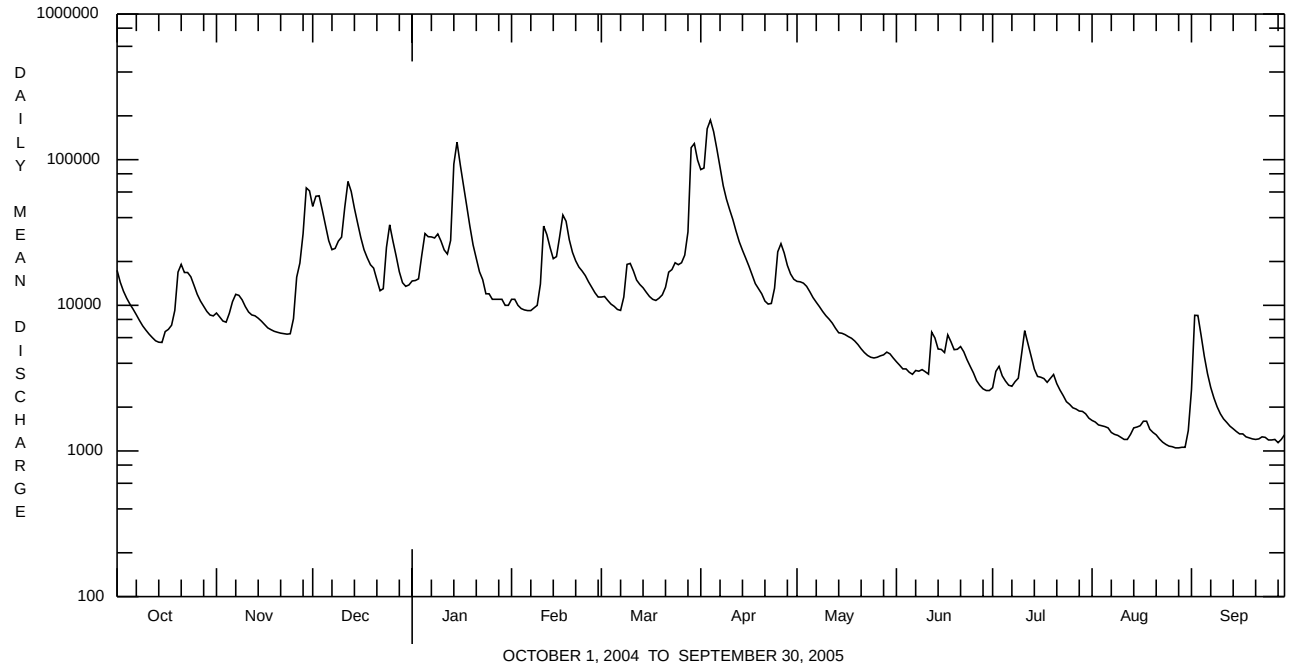
MEAN	7004	11240	14290	14120	14820	30260	31370	16520	9280	5468	4111	4619
MAX	39860	32130	44610	40740	43030	80560	100000	39590	54330	29010	19560	37600
(WY)	1978	1928	1997	1996	1976	1936	1993	1943	1972	1902	1994	2004
MIN	705	724	1357	1386	2710	10250	6918	3388	2137	1086	853	637
(WY)	1965	1965	1909	1931	1920	1965	1946	1903	1999	1962	1964	1964

e Estimated.

01536500 SUSQUEHANNA RIVER AT WILKES-BARRE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1899 - 2005	
ANNUAL TOTAL	7322140		5908510			
ANNUAL MEAN	20010		16190		13600	
HIGHEST ANNUAL MEAN					21990	1978
LOWEST ANNUAL MEAN					6186	1965
HIGHEST DAILY MEAN	204000	Sep 19	187000	Apr 4	329000	Jun 24 1972
LOWEST DAILY MEAN	2830	Jul 8	1050	Aug 27,28	532	Sep 27 1964
ANNUAL SEVEN-DAY MINIMUM	**a**3160	Jul 3	1070	Aug 24	546	Sep 21 1964
MAXIMUM PEAK FLOW			189000	Apr 4	**b**345000	Jun 24 1972
MAXIMUM PEAK STAGE			30.88	Apr 4	**c**40.91	Jun 24 1972
INSTANTANEOUS LOW FLOW					528	Sep 27 1964
ANNUAL RUNOFF (CFSM)	2.01		1.63		1.37	
ANNUAL RUNOFF (INCHES)	27.35		22.07		18.55	
10 PERCENT EXCEEDS	38300		33400		32500	
50 PERCENT EXCEEDS	14400		9230		7250	
90 PERCENT EXCEEDS	6330		1420		1670	

a Computed using estimated daily discharges.
b From slope-area measurement of peak flow near West Pittston and adjusted for flow from intervening area.
c From floodmark.



WAPWALLOPEN CREEK BASIN

01538000 WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA

LOCATION.--Lat 41°03'33", long 76°05'38", Luzerne County, Hydrologic Unit 02050107, on left bank 100 ft upstream from Harts Bridge on SR 3012, 2.2 mi southeast of Wapwallopen, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--43.8 mi^2.

PERIOD OF RECORD.--October 1919 to current year.

REVISED RECORDS.--WSP 1302: 1926(M), 1929(M), 1938(M). WSP 1432: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 752.41 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad bench mark). Prior to Mar. 15, 1930, 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 a base discharge of 580 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1330	1,330	6.01	Mar. 29	0345	1,350	6.06
Dec. 23	2000	826	4.76	Apr. 3	0030	*2,100	*7.38
Jan. 14	1115	1,480	6.36				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	48	379	80	e58	e60	234	49	27	15	8.7	13
2	100	46	266	70	e54	51	565	43	24	15	8.4	8.9
3	89	48	206	78	e52	e46	1360	42	23	12	8.4	6.9
4	75	52	166	204	e50	e44	569	39	39	10	8.1	6.4
5	65	86	141	144	e48	e42	349	36	29	10	9.5	6.1
6	58	56	124	286	48	e42	257	35	28	22	20	5.9
7	53	50	144	271	49	e48	206	34	67	15	8.0	5.9
8	50	47	137	263	56	e79	174	33	30	29	7.0	5.7
9	47	44	109	229	77	e74	141	32	22	26	9.2	5.8
10	45	42	267	183	135	e70	120	30	21	20	7.6	5.7
11	42	42	278	165	83	e69	104	29	20	15	6.5	5.5
12	40	59	192	186	69	67	92	28	19	13	6.1	5.3
13	39	61	163	220	62	64	84	26	17	40	12	5.4
14	48	48	137	889	60	61	76	27	17	19	8.0	5.4
15	51	46	115	485	98	59	69	43	15	15	8.3	5.6
16	93	45	102	316	104	60	63	32	19	13	7.3	5.8
17	62	44	95	240	106	60	59	28	27	12	6.7	6.2
18	48	43	83	e160	86	63	56	26	18	12	6.2	5.9
19	121	42	79	e140	e78	66	53	25	16	11	7.1	5.8
20	90	42	e70	e110	e70	77	50	26	15	10	13	6.0
21	75	45	e60	e100	74	96	47	26	14	9.7	7.9	5.9
22	112	41	e58	e90	69	84	44	25	14	9.4	6.5	5.9
23	80	39	276	e88	68	108	56	25	13	9.1	5.9	6.0
24	72	40	286	e86	63	126	104	23	13	8.8	5.8	5.6
25	67	98	e160	e82	60	128	66	23	12	20	5.6	5.7
26	61	76	e130	e80	e58	132	54	23	12	17	5.4	6.1
27	57	57	e110	e76	e54	142	55	22	15	13	5.7	9.4
28	53	628	e100	e74	51	429	48	23	12	17	6.9	7.9
29	50	341	e92	e68	---	877	44	34	11	11	9.3	7.3
30	57	231	85	e62	---	419	44	37	26	9.7	6.8	9.0
31	53	---	82	e60	---	298	---	38	---	8.9	8.1	---
TOTAL	2077	2587	4692	5585	1940	4041	5243	962	635	467.6	250.0	196.0
MEAN	67.0	86.2	151	180	69.3	130	175	31.0	21.2	15.1	8.06	6.53
MAX	124	628	379	889	135	877	1360	49	67	40	20	13
MIN	39	39	58	60	48	42	44	22	11	8.8	5.4	5.3
CFSM	1.53	1.97	3.46	4.11	1.58	2.98	3.99	0.71	0.48	0.34	0.18	0.15
IN.	1.76	2.20	3.98	4.74	1.65	3.43	4.45	0.82	0.54	0.40	0.21	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2005, BY WATER YEAR (WY)

MEAN	39.4	61.1	75.9	72.5	82.2	118	115	85.8	51.5	34.3	25.2	28.9
MAX	202	203	206	284	284	327	362	243	248	172	149	174
(WY)	1956	1927	1997	1979	1981	1936	1993	1947	1972	1947	1933	2004
MIN	4.95	5.35	5.90	6.39	14.9	48.7	47.0	25.8	10.9	5.21	4.46	3.37
(WY)	1964	1931	1931	1931	1940	1981	1955	1955	1962	1955	1953	1936

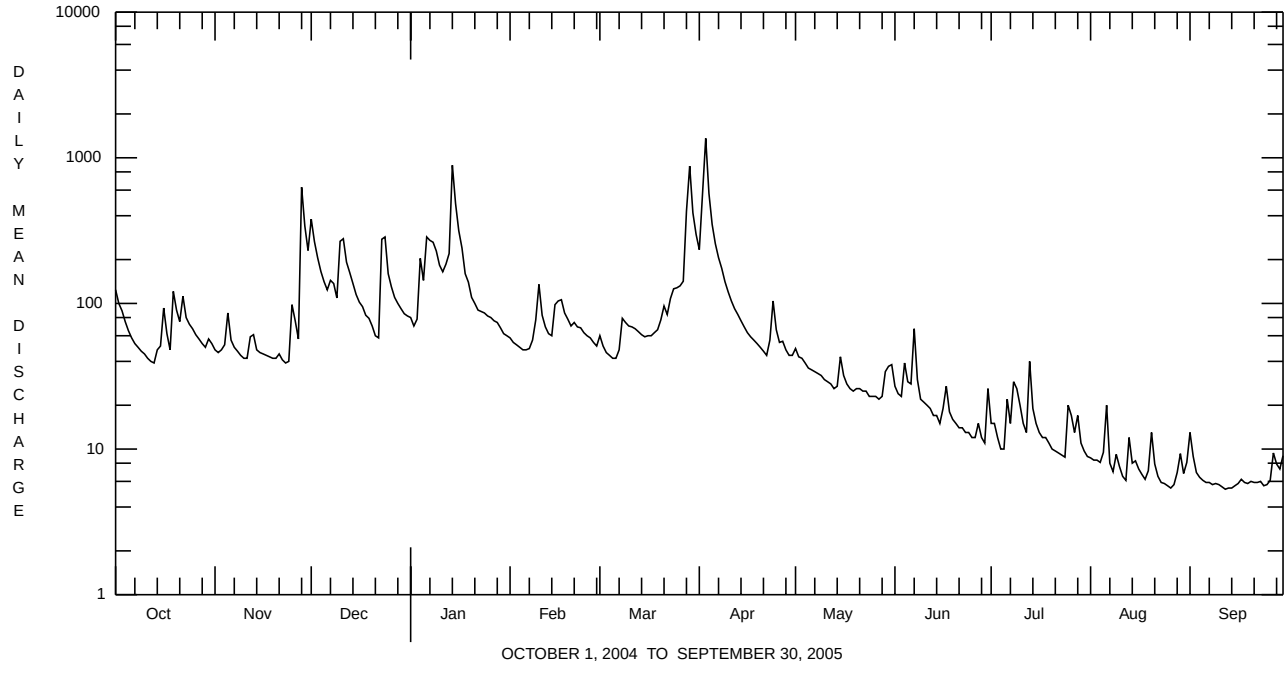
e Estimated.

WAPWALLOPEN CREEK BASIN

01538000 WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1920 - 2005	
ANNUAL TOTAL	33719		28675.6			
ANNUAL MEAN	92.1		78.6		65.7	
HIGHEST ANNUAL MEAN					108	1978
LOWEST ANNUAL MEAN					30.9	1965
HIGHEST DAILY MEAN	2370	Sep 18	1360	Apr 3	2370	Sep 18 2004
LOWEST DAILY MEAN	17	Jul 11	5.3	Sep 12	1.5	Aug 31 1953
ANNUAL SEVEN-DAY MINIMUM	20	Jul 5	5.5	Sep 9	1.8	Aug 27 1953
MAXIMUM PEAK FLOW			**a**2100	Apr 3	**a**5410	Jun 22 1972
MAXIMUM PEAK STAGE			7.38	Apr 3	11.04	Jun 22 1972
INSTANTANEOUS LOW FLOW					1.1	Aug 4 1955
ANNUAL RUNOFF (CFSM)	2.10		1.79		1.50	
ANNUAL RUNOFF (INCHES)	28.64		24.35		20.37	
10 PERCENT EXCEEDS	165		165		140	
50 PERCENT EXCEEDS	67		48		41	
90 PERCENT EXCEEDS	27		7.0		9.0	

a From rating curve extended above 1,400 ft^3/s on basis of contracted-opening measurement of peak flow.



FISHING CREEK BASIN

01539000 FISHING CREEK NEAR BLOOMSBURG, PA

LOCATION.--Lat 41°04'41", long 76°25'53", Columbia County, Hydrologic Unit 02050107, on left bank 10 ft downstream from Bowmans Mill bridge on SR 4034, 0.8 mi downstream from Green Creek, 0.9 mi west of Orangeville, and 5.5 mi north of Bloomsburg.

DRAINAGE AREA.--274 mi^2.

PERIOD OF RECORD.--June 1938 to current year.

REVISED RECORDS.--WSP 1202: 1939-42, 1948(P), 1950.

GAGE.--Water-stage recorder. Datum of gage is 543.84 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 a base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1515	5,810	7.04
Dec. 1	1615	5,830	7.05
Jan. 14	1315	11,500	9.68
Mar. 29	0945	14,000	10.55
Apr. 3	1000	*16,300	*11.33

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	452	367	3810	443	e320	372	2080	422	95	43	34	60
2	397	331	3390	406	e300	358	4390	362	88	40	33	58
3	423	321	1930	454	275	304	12800	331	86	38	31	50
4	370	322	1360	1220	272	271	5200	301	113	37	29	46
5	325	488	1070	1050	262	278	2800	276	107	44	28	41
6	293	398	873	1930	257	283	1930	255	98	125	32	38
7	273	355	929	2070	268	324	1470	238	121	69	30	36
8	254	326	1030	1690	293	811	1170	219	107	91	28	33
9	239	302	823	1510	383	621	932	200	93	98	27	30
10	227	288	1540	1220	875	527	785	186	89	82	27	28
11	212	281	1890	1080	631	508	666	175	83	71	26	27
12	198	336	1470	1170	544	478	577	160	83	66	25	25
13	189	369	1190	1410	486	445	521	149	78	62	25	23
14	225	303	961	7890	455	419	460	146	74	117	26	21
15	265	282	793	4470	993	398	404	238	69	72	24	21
16	404	275	688	2350	1010	420	358	192	71	63	23	20
17	379	268	629	1630	1070	433	324	156	76	71	24	21
18	297	262	560	1110	878	467	301	142	70	61	23	22
19	998	256	526	e900	679	492	280	131	67	56	24	21
20	1080	256	404	e800	646	527	261	131	65	67	26	20
21	907	269	e390	687	613	602	242	131	61	56	25	20
22	1070	247	414	e550	555	571	221	124	58	52	23	19
23	883	233	764	e500	518	702	383	118	54	48	22	19
24	756	311	1230	e490	469	899	888	115	52	43	21	18
25	649	1850	789	e470	439	941	656	118	50	42	20	18
26	568	1760	e620	e420	394	978	566	111	47	45	19	20
27	510	1180	597	e410	361	941	511	103	45	45	19	30
28	463	3480	504	e370	379	2480	458	98	42	46	21	27
29	427	3010	522	e350	---	10400	410	100	41	40	25	30
30	453	1740	488	e320	---	4370	388	102	47	37	25	35
31	424	---	461	e330	---	2640	---	103	---	35	33	---
TOTAL	14610	20466	32645	39700	14625	34260	42432	5633	2230	1862	798	877
MEAN	471	682	1053	1281	522	1105	1414	182	74.3	60.1	25.7	29.2
MAX	1080	3480	3810	7890	1070	10400	12800	422	121	125	34	60
MIN	189	233	390	320	257	271	221	98	41	35	19	18
CFSM	1.72	2.49	3.84	4.67	1.91	4.03	5.16	0.66	0.27	0.22	0.09	0.11
IN.	1.98	2.78	4.43	5.39	1.99	4.65	5.76	0.76	0.30	0.25	0.11	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

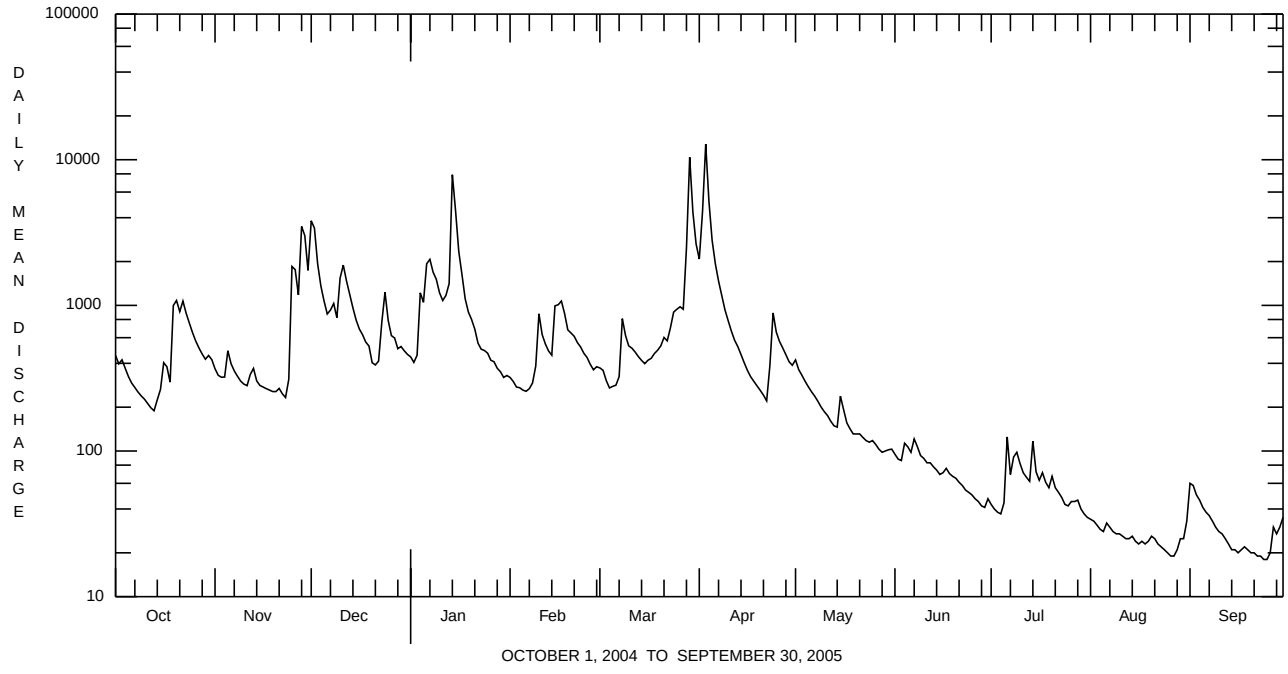
MEAN	306	462	617	523	560	901	896	609	348	200	167	223
MAX	1589	995	1867	1509	1456	1680	2518	1712	2230	835	548	1286
(WY)	1977	1946	1997	1979	1981	1977	1993	1989	1972	1947	2000	1975
MIN	12.5	16.4	87.4	53.5	128	293	221	127	74.3	30.3	15.5	9.96
(WY)	1965	1965	1999	1981	1940	1981	1946	1941	1939	1964	1964	1964

e Estimated.

01539000 FISHING CREEK NEAR BLOOMSBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	223347		210138			
ANNUAL MEAN	610		576		484	
HIGHEST ANNUAL MEAN					739	1960
LOWEST ANNUAL MEAN					229	1965
HIGHEST DAILY MEAN	8990	Sep 18	12800	Apr 3	18500	Jun 23 1972
LOWEST DAILY MEAN	100	Jul 11	18	Sep 24,25	8.4	Sep 12 1964
ANNUAL SEVEN-DAY MINIMUM	110	Jul 5	19	Sep 20	8.7	Sep 12 1964
MAXIMUM PEAK FLOW			**a**16300	Apr 3	**a**30900	Jun 22 1972
MAXIMUM PEAK STAGE			11.33	Apr 3	**b**15.18	Jun 22 1972
INSTANTANEOUS LOW FLOW					7.6	Jul 19 1939
ANNUAL RUNOFF (CFSM)	2.23		2.10		1.76	
ANNUAL RUNOFF (INCHES)	30.32		28.53		23.98	
10 PERCENT EXCEEDS	1170		1180		1080	
50 PERCENT EXCEEDS	421		293		277	
90 PERCENT EXCEEDS	171		27		54	

a From rating curve extended above 9,500 ft^3/s on basis of contracted-opening measurement at gage height 12.08 ft.
b From floodmark in gage.



SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°57'29", long 76°37'10", Montour County, Hydrologic Unit 02050107, on right bank 800 ft upstream from State Route 54 bridge at Danville, and 0.8 mi upstream from Mahoning Creek.

DRAINAGE AREA.--11,220 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1899 to current year. Prior to April 1905 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1904, 1914-17, 1923. WSP 1432: 1900-03, 1905-06, 1908-10, 1912-13, 1933.

GAGE.--Water-stage recorder. Datum of gage is 431.29 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1939, nonrecording gage at or near Mill Street bridge at same datum. Since Oct. 1, 1971, water-stage recorder for Susquehanna River at Sunbury (station 01553990), used as an auxiliary gage.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 8 flood-control reservoirs which have a combined capacity of 368,800 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1865, reached a stage of 28 ft, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22400	9890	61400	16100	e12000	12900	100000	16500	5050	e3000	1930	1340
2	18400	9920	63000	16600	e12000	12800	95800	15900	4760	e3400	1810	1900
3	15700	9270	67000	16800	11600	12500	155000	15700	4560	e4000	1770	8370
4	13800	8820	55800	20500	e11000	11600	199000	15100	4630	e5000	1710	7880
5	12400	9400	44600	30900	e11000	11000	188000	14200	4590	e4600	1650	6050
6	11300	10500	34600	38200	e11000	10600	148000	13000	4340	4270	1670	4640
7	10400	12200	29100	39500	10900	10300	113000	11900	4740	3630	1720	3680
8	9470	13000	27500	37400	10800	12600	82800	11100	4670	3760	1630	3030
9	8680	12400	29300	37500	11400	17200	64300	10300	4460	4210	1640	2570
10	8050	11400	32500	36000	15300	23000	54100	9570	4450	3940	1620	2240
11	7530	10300	42000	31100	39100	20700	46300	9030	4310	5280	1610	1990
12	7110	9970	70000	28700	36300	18600	38800	8560	4150	6700	1580	1820
13	6760	10000	73000	28600	29700	16300	32500	7970	7130	5760	1550	1700
14	6740	9500	56900	73400	25000	15400	28200	7420	6200	5110	1520	1630
15	6720	9030	44500	142000	23500	14600	25000	7390	5550	4240	1520	1620
16	7190	8640	35400	126000	27600	13600	22000	7220	5470	3760	1530	1610
17	8160	8220	29100	85600	38400	12800	19600	6900	5560	3790	1560	1600
18	7920	7860	25100	63500	43300	12400	17000	6680	6600	3720	1580	1570
19	9850	7660	22400	48100	35100	12500	15400	6460	5950	3410	1630	1540
20	15300	7530	20200	36900	28500	13100	14200	6300	5400	3490	1690	1420
21	21000	7470	17900	28500	24200	14200	12800	6010	5420	3710	1690	1360
22	21800	7320	15700	e22000	21500	16800	11600	5670	5550	3270	1660	1330
23	19400	7210	14800	e18000	20000	19800	11700	5390	5160	2960	1620	1310
24	19000	7170	24000	e14000	18700	22400	13200	5210	4650	2700	1570	1290
25	17100	9370	36500	13700	17300	23600	19300	5110	4250	2520	1520	1280
26	14900	13600	34700	13000	15600	23400	27700	5040	3890	2450	1470	1280
27	13100	21100	29300	e13000	14500	24700	27000	5020	3490	2420	1420	1280
28	11800	29400	23400	e13000	13400	29900	22800	5120	3240	2410	1390	1310
29	10900	62000	18700	e13000	---	103000	19200	5300	3070	2220	1360	1300
30	10700	74800	16000	12100	---	149000	17200	5460	3110	2140	1360	1280
31	10200	---	15500	e12000	---	124000	---	5380	---	2070	1340	---
TOTAL	383780	434950	1109900	1125700	588700	835300	1641500	265910	144400	113940	49320	71220
MEAN	12380	14500	35800	36310	21020	26950	54720	8578	4813	3675	1591	2374
MAX	22400	74800	73000	142000	43300	149000	199000	16500	7130	6700	1930	8370
MIN	6720	7170	14800	12000	10800	10300	11600	5020	3070	2070	1340	1280
CFSM	1.10	1.29	3.19	3.24	1.87	2.40	4.88	0.76	0.43	0.33	0.14	0.21
IN.	1.27	1.44	3.68	3.73	1.95	2.77	5.44	0.88	0.48	0.38	0.16	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2005, BY WATER YEAR (WY)

MEAN	7903	12930	16400	16310	16850	32640	35170	19370	10890	6374	4789	5489
MAX	43890	38540	49410	44410	46420	91900	106900	44980	62370	28490	23110	40630
(WY)	1978	1927	1997	1996	1976	1936	1993	1943	1972	1915	1915	2004
MIN	868	852	1602	1853	2841	11740	7664	5643	2427	1308	1087	740
(WY)	1965	1965	1909	1931	1920	1965	1946	1941	1999	1965	1999	1964

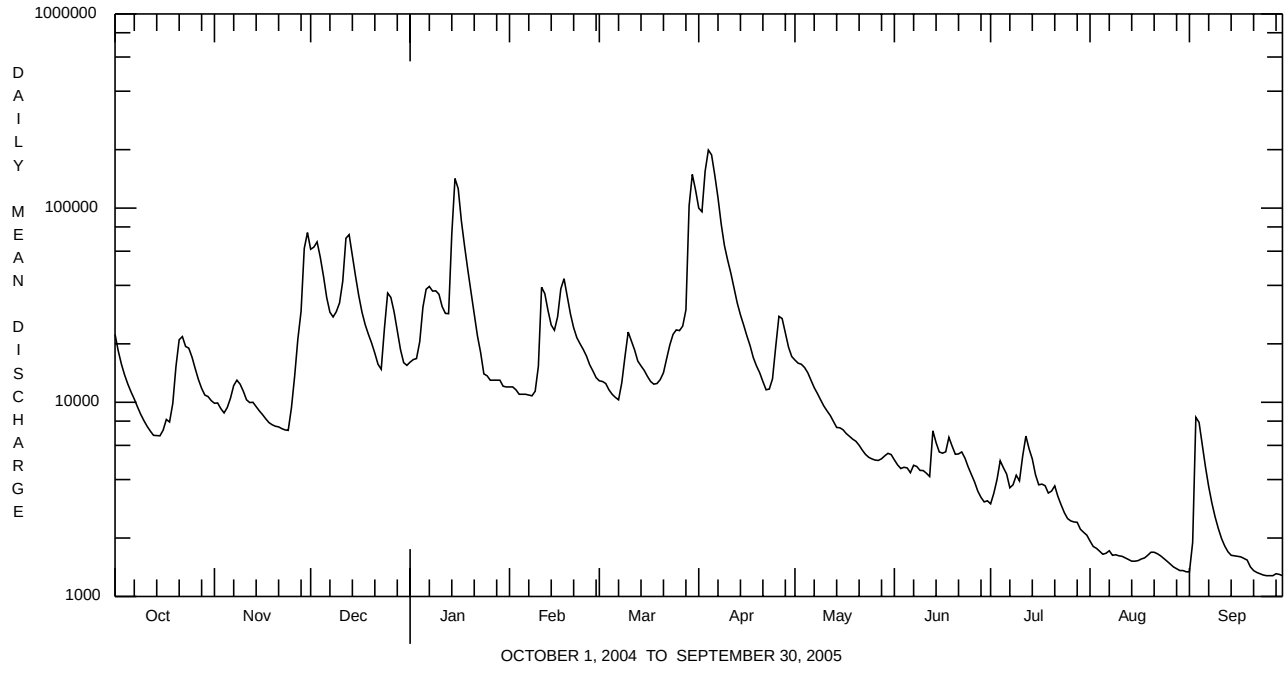
e Estimated.

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1905 - 2005	
ANNUAL TOTAL	7968020		6764620			
ANNUAL MEAN	21770		18530		15420	
HIGHEST ANNUAL MEAN					24670	1978
LOWEST ANNUAL MEAN					6948	1965
HIGHEST DAILY MEAN	205000	Sep 19	199000	Apr 4	335000	Jun 25 1972
LOWEST DAILY MEAN	3350	Jul 9	1280	Sep 25-27,30	558	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	3670	Jul 4	1290	Sep 24	579	Sep 21 1964
MAXIMUM PEAK FLOW			202000	Apr 4	**a**363000	Jun 25 1972
MAXIMUM PEAK STAGE			**b**24.28	Apr 4	**b**32.32	Jun 24 1972
INSTANTANEOUS LOW FLOW					508	Sep 27 1964
ANNUAL RUNOFF (CFSM)	1.94		1.65		1.37	
ANNUAL RUNOFF (INCHES)	26.42		22.43		18.67	
10 PERCENT EXCEEDS	42400		38600		36200	
50 PERCENT EXCEEDS	15800		10700		8600	
90 PERCENT EXCEEDS	7170		1630		2110	

a From rating curve extended above 250,000 ft^3/s.
b Adjusted for backwater from West Branch Susquehanna River.



01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	10/25/04
Benthic macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Physidae	
Physa	1
Pleuroceridae	
Elimia	2
Leptoxis carinata	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	8
Sphaeriidae	
Sphaerium	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Tubificidae	46
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	9
Decapoda	
Cambaridae (CRAYFISH)	
Orconectes	1
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
Serratella	1
Heptageniidae	1
Leucrocuta	1
Stenonema	5
Isonychiidae	
Isonychia	3
Potamanthidae	
Anthopotamus	1
Plecoptera (STONEFLIES)	
Perlidae	
Agnetina	1
Taeniopterygidae	
Taeniopteryx	10
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	7
Hydropsyche	2
Macrostemum	1

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/25/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Macronychus	1
Optioservus	2
Stenelmis	13
Diptera (TRUE FLIES)	
Simuliidae (BLACK FLIES)	
Simulium	1
Total Organisms	121
Total Taxa	23

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°53'49", long 78°40'38", Clearfield County, Hydrologic Unit 02050201, on right bank at downstream side of highway bridge on Township Route 418 at Bower, and 4.6 mi downstream from Chest Creek and Mahaffey.

DRAINAGE AREA.--315 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1302: 1914-17, 1918(M), 1922-23, 1924(M), 1925-29, 1930-31(M), 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 1,207.14 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1929, 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1913, about 18.5 ft, May 13, 1889, discharge, about 27,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,400 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	2100	*12,300	*13.91

Date	Time	Discharge ft^3/s	Gage Height (ft)
No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	279	2280	421	e400	561	1100	391	167	115	63	88
2	321	262	1920	383	e390	509	1130	341	146	136	60	72
3	475	340	1280	557	e390	450	1350	314	152	102	57	58
4	341	343	952	2310	e380	402	1210	292	201	83	55	53
5	295	541	763	2450	e380	431	1490	273	171	80	54	50
6	269	487	637	9330	e380	405	1200	259	161	84	54	48
7	253	421	656	8310	e390	603	1020	249	189	81	54	47
8	239	379	864	4200	e430	2310	887	242	144	132	91	45
9	227	340	728	2900	e920	1370	748	225	126	183	238	44
10	219	309	1250	1980	2390	1040	648	212	116	118	107	44
11	210	295	1580	1640	1360	875	572	199	111	88	e80	43
12	201	343	1280	3120	991	761	510	191	106	77	e75	42
13	196	412	1090	2360	792	645	462	178	100	71	e70	41
14	206	327	895	2320	988	548	422	180	97	69	e68	41
15	217	295	728	1740	2390	493	386	249	94	69	e66	40
16	264	283	615	1370	1940	471	350	222	94	73	66	40
17	234	275	575	1150	1570	445	325	185	108	203	107	42
18	207	271	507	886	1170	480	312	167	107	103	78	59
19	962	263	496	e790	880	530	298	155	93	82	69	51
20	640	288	376	e760	803	752	289	198	86	75	77	58
21	443	323	e400	e650	917	976	372	233	82	69	65	55
22	377	288	438	e510	1230	817	325	186	80	135	59	47
23	334	288	703	e520	983	1080	485	178	77	130	53	46
24	314	381	908	e500	843	1730	450	196	73	95	51	45
25	317	1100	e550	e520	759	1310	447	201	71	106	49	44
26	289	870	e500	e500	683	1110	429	197	71	107	48	49
27	265	661	e460	e430	580	968	379	164	75	143	49	87
28	249	928	e390	e410	584	2060	352	167	70	97	54	66
29	239	851	462	e420	---	2380	339	260	289	81	53	63
30	355	677	409	e420	---	1810	360	209	191	72	63	101
31	334	---	397	e400	---	1370	---	196	---	66	87	---
TOTAL	9827	13120	25089	54257	25913	29692	18647	6909	3648	3125	2220	1609
MEAN	317	437	809	1750	925	958	622	223	122	101	71.6	53.6
MAX	962	1100	2280	9330	2390	2380	1490	391	289	203	238	101
MIN	196	262	376	383	380	402	289	155	70	66	48	40
CFSM	1.01	1.39	2.57	5.56	2.94	3.04	1.97	0.71	0.39	0.32	0.23	0.17
IN.	1.16	1.55	2.96	6.41	3.06	3.51	2.20	0.82	0.43	0.37	0.26	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	253	446	624	720	803	1206	936	647	397	273	208	208
MAX	915	1707	1958	2136	1924	3369	2080	1480	2446	1522	850	1375
(WY)	1928	1998	1924	1937	1918	1936	1940	1919	1972	1977	2003	2004
MIN	22.5	27.2	51.0	32.9	120	271	202	116	82.0	49.7	25.7	24.1
(WY)	1931	1931	1931	1931	1934	1969	1925	1926	1949	1965	1930	1939

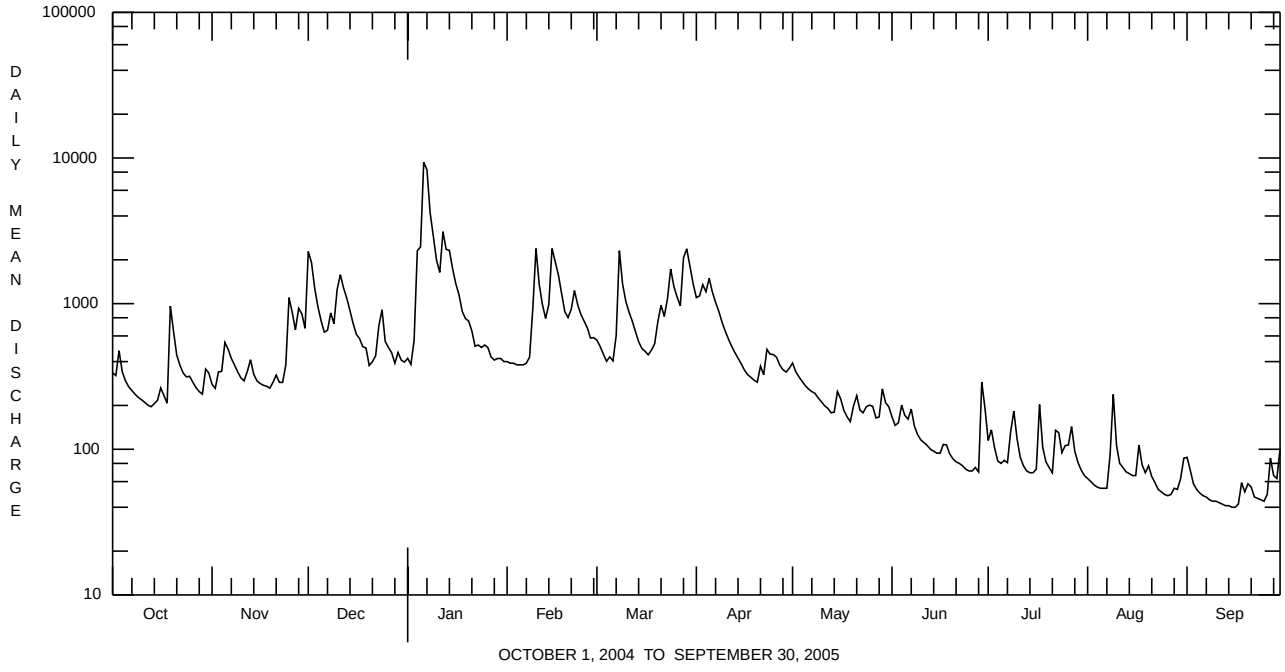
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	310351		194056			
ANNUAL MEAN	848		532		559	
HIGHEST ANNUAL MEAN					955	1928
LOWEST ANNUAL MEAN					294	1931
HIGHEST DAILY MEAN	15300	Sep 18	9330	Jan 6	23200	Jun 23 1972
LOWEST DAILY MEAN	156	Sep 7	40	Sep 15,16	16	Aug 29 1939**a**
ANNUAL SEVEN-DAY MINIMUM	192	Sep 1	41	Sep 11	17	Aug 28 1939
MAXIMUM PEAK FLOW			**b**12300	Jan 6	**b**31500	Mar 18 1936
MAXIMUM PEAK STAGE			13.91	Jan 6	**c**19.74	Mar 18 1936
INSTANTANEOUS LOW FLOW					14	Aug 29 1939
ANNUAL RUNOFF (CFSM)	2.69		1.69		1.78	
ANNUAL RUNOFF (INCHES)	36.65		22.92		24.12	
10 PERCENT EXCEEDS	1570		1200		1300	
50 PERCENT EXCEEDS	469		312		290	
90 PERCENT EXCEEDS	250		59		62	

a Also Aug. 31 to Sept. 2, 1939.
b From rating curve extended above 7,200 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmark in gage.



01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
17...	1310	1028	9813	273	30	12.8	7.7	7.2	364	354	5.3	147	37.9
JAN 2005													
04...	1245	1028	9813	2600	30	11.1	6.9	7.4	192	190	7.1	73	18.9
MAR													
22...	1015	1028	9813	816	30	11.6	7.3	7.0	260	260	2.7	97	25.4
MAY													
19...	1100	1028	9813	154	30	9.3	8.0	7.9	463	469	13.4	190	49.2
JUL													
05...	1440	1028	9813	80	30	7.5	8.2	8.2	506	503	24.2	270	81.3
SEP													
13...	1100	1028	9813	41	30	8.0	8.1	8.2	697	725	19.0	280	73.6

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
17...	12.8	44	107	296	18	<.020	.51	<.040	<.01	<.010	.60	1.2	<200
JAN 2005													
04...	6.3	22	49.8	120	124	.040	.65	<.040	.01	.097	1.2	3.7	3500
MAR													
22...	8.2	27	72.4	296	<2	.030	.80	<.040	.01	.011	.85	1.4	460
MAY													
19...	17.2	61	158	346	4	<.020	.23	<.040	<.01	<.010	.26	--	<200
JUL													
05...	16.5	68	176	370	<2	.020	.23	<.040	<.01	.017	.31	--	<200
SEP													
13...	23.9	94	253	528	<2	.040	.05	<.040	<.01	<.010	.11	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
17...	<10	320	<1.0	290	<50	<10
JAN 2005						
04...	<10	8050	4.1	500	<50	60
MAR						
22...	10	830	<1.0	240	<50	10
MAY						
19...	<10	250	<1.0	110	<50	<10
JUL						
05...	<10	160	<1.0	50	<50	20
SEP						
13...	<10	100	<1.0	20	<50	<10

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/21/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	3
Caenidae	
Caenis	5
Heptageniidae	
Stenonema	20
Isonychiidae	
Isonychia	8
Plecoptera (STONEFLIES)	
Chloroperlidae	
Sweltsa	1
Perlidae	
Acroneuria	1
Taeniopterygidae	
Taeniopteryx	42
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Corydalus	1
Trichoptera (CADDISFLIES)	
Brachycentridae	
Brachycentrus	1
Hydropsychidae	
Cheumatopsyche	1
Diplectrona	1
Hydropsyche	20
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	6
Empididae (DANCE FLIES)	
Hemerodromia	1
Tipulidae (CRANE FLIES)	
Antocha	2
Total Organisms	120
Total Taxa	18

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541200 WEST BRANCH SUSQUEHANNA RIVER AT CURWENSVILLE, PA

LOCATION.--Lat 40°57'41", long 78°31'10", Clearfield County, Hydrologic Unit 02050201, on left bank 30 ft downstream from bridge on State Highway 453, 0.8 mi downstream from Curwensville Dam, 1.1 mi south of Curwensville, and 1.8 mi upstream from Anderson Creek.

DRAINAGE AREA.--367 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,124.52 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 24, 1956, nonrecording gage and crest-stage gage 30 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair except those below 100 ft^3/s, which are poor. Flow regulated since November 1965 by Curwensville Dam (station 01541180). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	414	430	2590	666	463	654	1500	461	201	163	88	77
2	347	350	2700	623	376	647	1280	461	180	120	76	77
3	522	395	1760	721	376	551	229	405	213	111	71	79
4	480	472	1260	2280	376	445	1280	342	225	111	72	79
5	350	503	1060	3410	376	416	2790	296	201	111	74	68
6	350	592	940	3940	376	574	1760	277	188	89	64	58
7	323	643	833	4900	375	648	1320	278	213	79	57	58
8	273	507	982	5310	376	885	1070	277	199	120	60	58
9	269	430	1060	5400	694	1080	812	314	170	154	137	57
10	270	424	1560	5430	2080	1110	767	344	151	140	171	56
11	271	363	1930	5350	2310	1110	718	291	147	131	120	55
12	273	364	1550	5270	1430	1270	601	246	140	108	101	55
13	274	444	1330	5220	1050	2110	523	233	133	84	98	56
14	274	452	1280	4310	1030	1100	488	233	134	78	78	56
15	274	352	1010	2760	2220	662	490	259	133	78	56	56
16	275	309	832	1570	2670	627	431	324	125	78	73	56
17	277	309	735	1180	1880	550	375	294	105	174	97	57
18	303	309	658	1230	1440	526	375	245	89	185	98	57
19	950	309	658	1030	1060	618	376	230	100	116	99	57
20	996	309	534	949	887	749	377	212	109	102	97	59
21	643	333	376	885	949	1030	380	272	108	92	97	60
22	549	347	671	671	1110	1140	381	271	108	119	70	58
23	430	347	921	503	1200	1150	554	203	101	156	55	60
24	364	442	1080	461	1120	1910	595	219	90	119	55	60
25	415	832	857	555	902	1550	539	269	86	101	56	59
26	435	1050	566	697	789	1270	492	213	85	102	56	60
27	328	1070	524	572	714	1130	494	159	85	218	58	61
28	298	1070	529	429	662	2340	414	206	85	215	58	62
29	319	1070	530	381	---	2940	381	235	180	111	68	63
30	388	1460	628	382	---	2300	430	246	229	90	168	64
31	433	---	667	483	---	1640	---	245	---	89	147	---
TOTAL	12367	16287	32611	67568	29291	34732	22222	8560	4313	3744	2675	1838
MEAN	399	543	1052	2180	1046	1120	741	276	144	121	86.3	61.3
MAX	996	1460	2700	5430	2670	2940	2790	461	229	218	171	79
MIN	269	309	376	381	375	416	229	159	85	78	55	55

01541200 WEST BRANCH SUSQUEHANNA RIVER AT CURWENSVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	342	652	838	795	945	1317	1135	739	495	390	262	333
MAX	950	2010	1865	2180	1847	2532	2911	1593	2074	1650	1053	1735
(WY)	1980	1998	1973	2005	1986	1979	1993	1966	1972	1977	2003	2004
MIN	77.4	82.5	183	209	305	154	437	182	119	54.7	63.8	57.8
(WY)	1986	1999	1999	1977	1980	1969	1976	1986	1999	1966	1966	1968

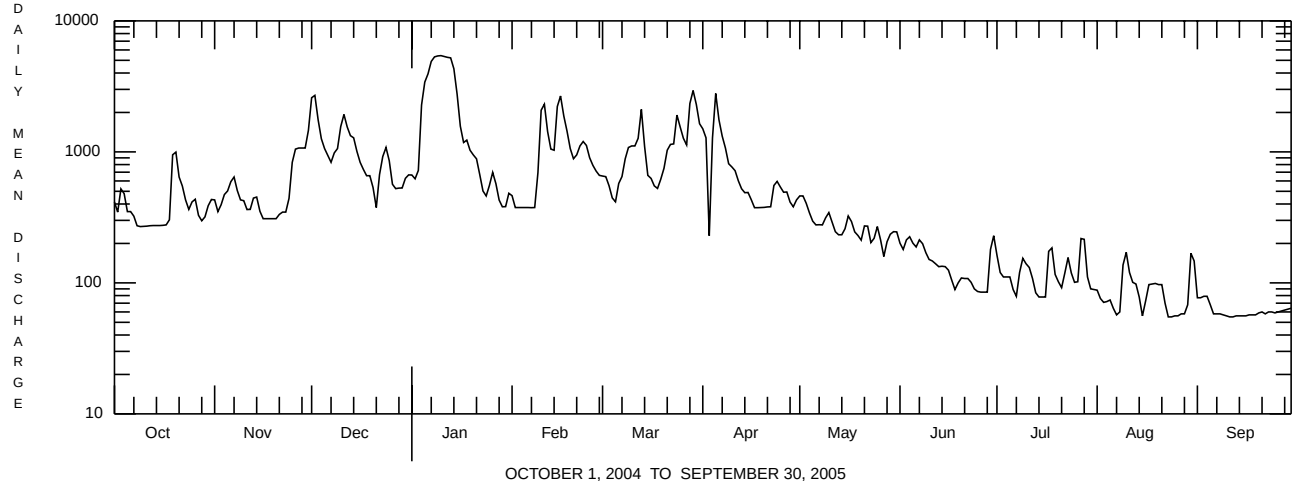
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966 - 2005	
ANNUAL TOTAL	374632		236208			
ANNUAL MEAN	1024		647		685	
HIGHEST ANNUAL MEAN					1106	2004
LOWEST ANNUAL MEAN					450	1999
HIGHEST DAILY MEAN	5520	Sep 23	5430	Jan 10	8420	Jun 26 1972
LOWEST DAILY MEAN	180	Jul 11**a**	55	Aug 23,24**b**	19	Aug 16,17 1966
ANNUAL SEVEN-DAY MINIMUM	217	Sep 2	56	Sep 10	36	Aug 11 1966
MAXIMUM PEAK FLOW			5710	Jan 13	8590	Jun 25 1972
MAXIMUM PEAK STAGE			8.51	Jan 13	11.40	Jun 25 1972
10 PERCENT EXCEEDS	2380		1430		1610	
50 PERCENT EXCEEDS	594		375		398	
90 PERCENT EXCEEDS	284		68		99	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1965, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	158	329	501	685	889	1446	1323	783	310	321	265	137
MAX	363	610	1152	1210	1792	2661	1968	1521	656	1487	1068	322
(WY)	1956	1956	1957	1965	1956	1964	1957	1956	1956	1956	1956	1956
MIN	29.5	80.1	83.6	126	188	690	625	351	89.4	48.9	49.0	33.2
(WY)	1965	1958	1961	1956	1963	1957	1963	1965	1965	1965	1965	1964

SUMMARY STATISTICS	WATER YEARS 1956 - 1965	
ANNUAL MEAN	594	
HIGHEST ANNUAL MEAN	938	1956
LOWEST ANNUAL MEAN	454	1965
HIGHEST DAILY MEAN	14000	Mar 10 1964
LOWEST DAILY MEAN	21	Nov 13,15,16 1964
ANNUAL SEVEN-DAY MINIMUM	22	Nov 10 1964
MAXIMUM PEAK FLOW	15700	Mar 10 1964
MAXIMUM PEAK STAGE	14.19	Mar 10 1964
ANNUAL RUNOFF (CFSM)	1.62	
ANNUAL RUNOFF (INCHES)	22.00	
10 PERCENT EXCEEDS	1450	
50 PERCENT EXCEEDS	270	
90 PERCENT EXCEEDS	56	

a Also Sept. 6.
b Also Sept. 11, 12.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01541303 WEST BRANCH SUSQUEHANNA RIVER AT HYDE, PA

LOCATION.--Lat 4l°00'16", long 78°27'25", Clearfield County, Hydrologic Unit 02050201, on right bank 60 ft downstream from bridge at intersection of SR 1001 and State Highway 879 at Hyde.

DRAINAGE AREA.--474 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,093.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1965 by Curwensville Dam (station 01541180) about 5 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 10, 1964, reached a stage of 18.1 ft, from floodmarks, discharge, about 19,400 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	577	478	3370	789	e650	787	2120	560	278	240	98	110
2	459	416	3490	745	e520	771	2070	549	232	168	95	90
3	578	434	2410	879	e500	684	860	500	269	140	84	83
4	630	544	1780	2920	447	e550	1440	425	310	135	82	80
5	422	613	1420	4020	426	e480	3330	356	282	143	82	77
6	414	666	1270	5600	414	630	2460	323	266	143	80	67
7	395	726	1150	5930	416	e770	1850	321	287	113	70	66
8	314	624	1350	6030	447	e1000	1590	321	276	143	76	64
9	309	498	1430	5840	831	e1200	1200	346	228	202	103	64
10	305	493	2080	5680	2350	e1200	1050	395	201	183	174	64
11	302	455	2580	5550	2700	e1200	970	351	192	161	137	64
12	298	452	2190	5760	1820	1330	819	288	191	146	104	64
13	297	546	1820	5720	1310	2320	698	259	178	114	104	64
14	298	561	1700	5150	1280	1450	623	262	171	98	100	63
15	307	472	1360	3610	2600	779	601	326	168	97	69	62
16	324	403	1110	2360	3210	752	538	374	186	109	77	62
17	311	402	987	1680	2490	674	444	359	178	229	105	63
18	311	400	851	1640	1880	644	436	287	137	244	104	62
19	1100	397	837	1420	1470	707	422	260	134	150	107	62
20	1260	407	e750	1260	1150	875	418	276	146	115	107	70
21	794	422	e600	e1100	1240	1220	418	320	141	109	103	67
22	656	439	728	e920	1360	1400	414	358	141	107	92	63
23	535	435	e1000	e740	1460	1440	602	275	133	156	65	63
24	423	567	e1200	e720	1360	2180	728	274	118	138	64	62
25	457	1070	e1100	e800	1130	1970	665	356	109	130	64	62
26	492	1280	e760	e950	945	1670	606	306	106	124	64	73
27	406	1280	687	e850	865	1460	594	205	106	240	66	75
28	325	1460	e670	e700	789	2930	531	245	104	278	75	67
29	355	1460	668	e600	---	3790	469	322	179	144	72	77
30	419	1690	731	e600	---	3180	513	321	294	105	163	77
31	486	---	788	e680	---	2440	---	322	---	100	240	---
TOTAL	14559	20090	42867	81243	36060	42483	29479	10442	5741	4704	3026	2087
MEAN	470	670	1383	2621	1288	1370	983	337	191	152	97.6	69.6
MAX	1260	1690	3490	6030	3210	3790	3330	560	310	278	240	110
MIN	297	397	600	600	414	480	414	205	104	97	64	62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2005, BY WATER YEAR (WY)

MEAN	391	866	1022	1046	1218	1667	1519	921	680	487	366	413
MAX	1264	2425	1944	2621	2302	3377	3648	1831	1663	1497	1487	2234
(WY)	1980	1998	1991	2005	1986	1979	1993	1989	1989	1996	2003	2004
MIN	97.0	97.2	216	289	392	647	590	307	154	130	97.6	69.6
(WY)	1983	1999	1999	2001	1980	1990	1997	1986	1999	1999	2005	2005

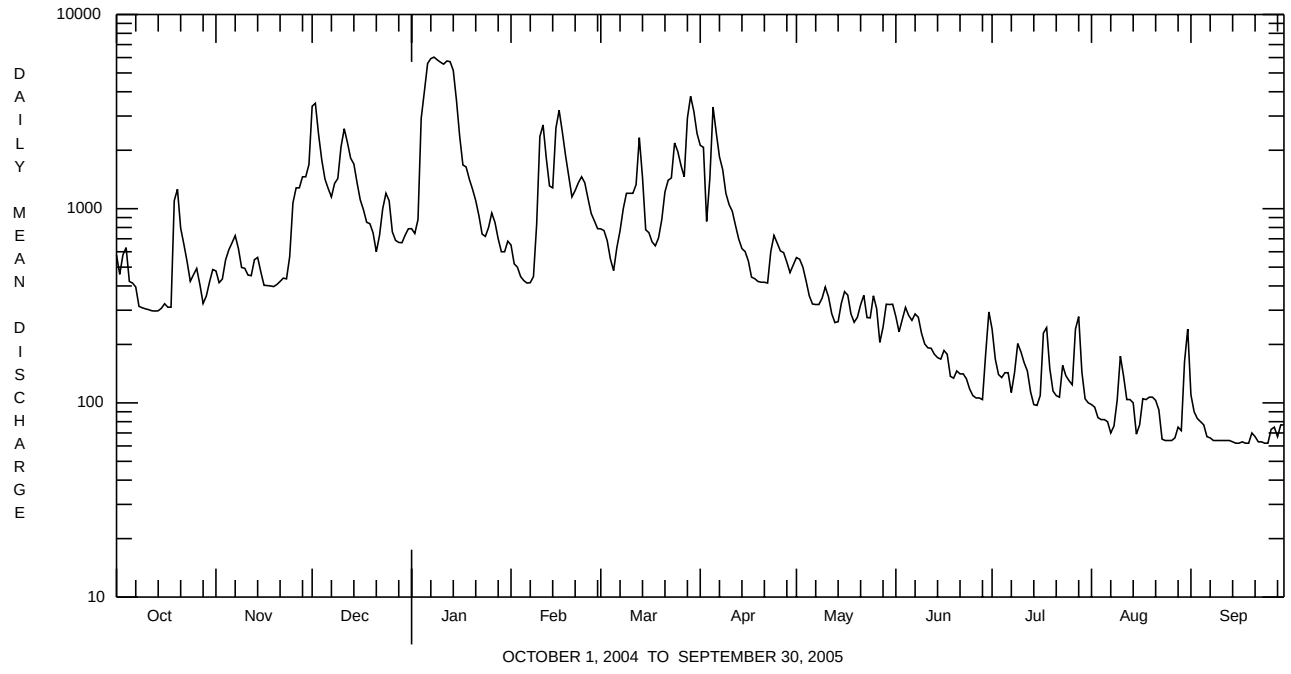
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541303 WEST BRANCH SUSQUEHANNA RIVER AT HYDE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1979 - 2005	
ANNUAL TOTAL	481653		292781			
ANNUAL MEAN	1316		802		881	
HIGHEST ANNUAL MEAN					1423	2004
LOWEST ANNUAL MEAN					576	1999
HIGHEST DAILY MEAN	6140	Mar 7	6030	Jan 8	6850	Mar 8 1979
LOWEST DAILY MEAN	218	Sep 7	62	Sep 15**a**	46	Sep 14 1982
ANNUAL SEVEN-DAY MINIMUM	288	Sep 1	63	Sep 13	53	Oct 6 1983
MAXIMUM PEAK FLOW			**b**6240	Jan 8	**b**10100	Sep 17 2004
MAXIMUM PEAK STAGE			9.96	Jan 8	12.63	Sep 17 2004
10 PERCENT EXCEEDS	3200		1860		2080	
50 PERCENT EXCEEDS	772		426		524	
90 PERCENT EXCEEDS	379		77		121	

a Also Sept. 16, 18, 19, 24, 25.
b From rating curve extended above 6,000 ft^3/s.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01541500 CLEARFIELD CREEK AT DIMELING, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°58'18", long 78°24'22", Clearfield County, Hydrologic Unit 02050201, on right bank at downstream side of highway bridge on SR 2024 at Dimeling, 600 ft downstream from Little Clearfield Creek, and 4.0 mi southeast of Clearfield.

DRAINAGE AREA.--371 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 891: 1936-39. WSP 1302: 1915-17, 1918-19(M). WSP 1502: 1939. WDR PA-87-2: 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 1,146.08 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1928, nonrecording gage, and Oct. 17, 1928, to Oct. 25, 1967, water-stage recorder at site 200 ft upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 25 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	602	347	2140	e470	e400	655	1550	324	193	110	e73	93
2	537	325	2220	e480	e400	617	1590	301	176	104	e69	84
3	575	373	1590	e620	380	e550	1830	278	176	127	e66	e70
4	501	392	1200	e1900	e370	e500	1680	265	188	97	e64	e63
5	438	517	986	e3000	e360	e530	1640	253	184	89	e63	e58
6	395	561	855	e7000	382	e500	1350	242	194	92	e62	e55
7	370	489	857	e5800	395	e650	1200	235	220	91	e64	e53
8	350	450	1000	4030	e430	e1700	1070	231	174	118	e100	e52
9	331	545	853	3330	828	e1000	869	221	155	232	e250	e50
10	315	674	1370	2460	2220	883	757	213	147	160	142	e50
11	299	682	1940	2140	1340	860	684	206	149	112	96	e49
12	284	738	1560	3050	999	785	622	199	385	93	e79	e47
13	274	879	1330	2780	832	707	553	191	221	85	e72	e46
14	298	752	1130	2740	879	632	500	189	173	80	e69	e46
15	317	701	946	e2300	1920	581	463	230	151	82	e68	e45
16	358	567	827	1930	1870	553	425	225	145	100	e74	e45
17	331	420	782	1720	1750	530	400	199	151	142	e92	e48
18	292	379	687	1440	e1400	538	385	184	147	123	99	e65
19	760	359	644	1180	e1200	537	355	173	142	103	90	e59
20	718	364	511	1070	e1100	624	337	197	127	92	101	e64
21	521	379	493	865	e1000	745	357	231	118	82	e83	e61
22	450	361	590	700	1090	681	356	211	118	103	e72	e54
23	408	358	709	749	1010	882	387	196	112	144	e66	e52
24	384	393	914	630	910	1900	404	222	105	103	e63	e50
25	372	880	615	686	839	1490	372	228	99	142	e61	e50
26	355	811	543	639	752	1310	352	223	97	141	e61	e58
27	333	651	534	495	668	1160	328	193	93	180	e61	e74
28	314	1040	440	403	670	2010	307	187	89	122	e65	e73
29	302	1310	561	e420	---	3070	299	250	101	103	e69	e71
30	355	1130	515	e410	---	2440	309	246	123	90	e80	e78
31	416	---	471	e400	---	1880	---	211	---	78	93	---
TOTAL	12555	17827	29813	55837	26394	31500	21731	6954	4653	3520	2567	1763
MEAN	405	594	962	1801	943	1016	724	224	155	114	82.8	58.8
MAX	760	1310	2220	7000	2220	3070	1830	324	385	232	250	93
MIN	274	325	440	400	360	500	299	173	89	78	61	45

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541500 CLEARFIELD CREEK AT DIMELING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	271	483	629	668	818	1274	1072	725	446	292	215	279
MAX	1024	1603	1693	1801	1708	2578	2786	1800	2522	1189	895	1801
(WY)	1980	1998	1973	2005	1976	1979	1993	1978	1972	1977	2003	2004
MIN	41.1	73.3	68.4	139	154	318	378	224	90.3	46.1	55.3	43.4
(WY)	1964	1965	1961	1961	1963	1969	1968	2005	1965	1965	1965	1964

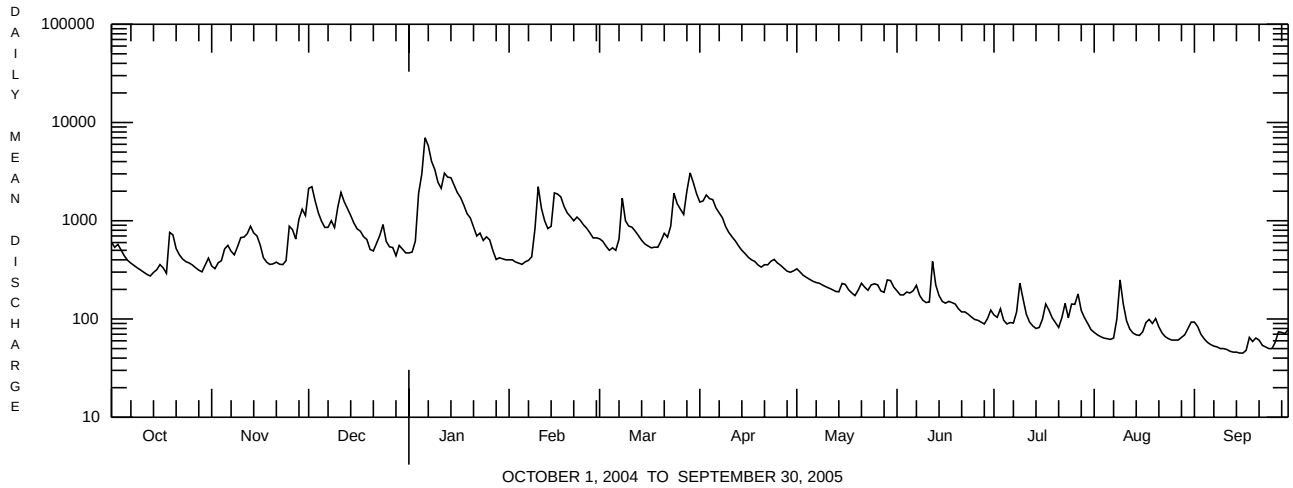
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1961 - 2005	
ANNUAL TOTAL	347710		215114			
ANNUAL MEAN	950		589		596	
HIGHEST ANNUAL MEAN					1016	2004
LOWEST ANNUAL MEAN					350	1969
HIGHEST DAILY MEAN	12600	Sep 18	**e**7000	Jan 6	21100	Jun 23 1972
LOWEST DAILY MEAN	162	Jul 11	**e**45	Sep 15,16	30	Aug 17 1988
ANNUAL SEVEN-DAY MINIMUM	218	Jun 28	**a**47	Sep 11	37	Aug 12 1988
MAXIMUM PEAK FLOW			**b**7500	Jan 6	**c**22400	Jun 23 1972
MAXIMUM PEAK STAGE			**b**10.60	Jan 6	17.56	Jun 23 1972
10 PERCENT EXCEEDS	1910		1420		1350	
50 PERCENT EXCEEDS	550		361		337	
90 PERCENT EXCEEDS	293		69		83	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	253	386	557	764	789	1284	1059	781	457	241	194	152
MAX	876	1355	1533	2152	1996	4153	2470	1656	1931	1233	901	1370
(WY)	1928	1922	1924	1937	1915	1936	1940	1960	1946	1956	1956	1926
MIN	16.9	26.0	55.1	34.3	103	390	245	121	102	68.7	24.9	22.3
(WY)	1931	1931	1931	1931	1934	1915	1925	1926	1949	1936	1930	1932

SUMMARY STATISTICS	WATER YEARS 1914 - 1960	
ANNUAL MEAN	576	
HIGHEST ANNUAL MEAN	921	1928
LOWEST ANNUAL MEAN	309	1931
HIGHEST DAILY MEAN	27100	Mar 18 1936
LOWEST DAILY MEAN	7.1	Oct 1 1925
ANNUAL SEVEN-DAY MINIMUM	13	Oct 4 1925
MAXIMUM PEAK FLOW	**c**30600	Mar 18 1936
MAXIMUM PEAK STAGE	**d**18.49	Mar 18 1936
INSTANTANEOUS LOW FLOW	6.0	Oct 1,9 1925
ANNUAL RUNOFF (CFSM)	1.55	
ANNUAL RUNOFF (INCHES)	21.08	
10 PERCENT EXCEEDS	1380	
50 PERCENT EXCEEDS	278	
90 PERCENT EXCEEDS	54	

a Computed using estimated daily discharges.
b About.
c From rating curve extended above 15,000 ft^3/s.
d From floodmark in gage.
e Estimated.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541500 CLEARFIELD CREEK AT DIMELING, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
17...	1210	1028	9813	406	30	12.6	7.0	6.6	360	358	5.8	160	35.4
JAN 2005													
04...	1430	1028	9813	E1900	30	11.5	6.8	7.2	339	335	6.0	140	37.7
MAR													
22...	0845	1028	9813	690	30	11.6	7.3	6.7	394	391	3.4	170	38.5
MAY													
19...	1215	1028	9813	173	30	9.2	7.6	7.4	643	651	15.6	310	69.4
JUL													
05...	1630	1028	9813	86	30	7.8	7.5	7.5	723	719	26.2	360	81.7
SEP													
13...	1245	1028	9813	E46	30	8.4	7.4	7.3	923	967	20.9	500	110

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
17...	16.4	19	131	294	<2	.070	.28	<.040	<.01	<.010	.56	1.8	500
JAN 2005													
04...	14.7	18	125	202	56	.060	.50	<.040	<.01	.032	.82	2.5	1900
MAR													
22...	18.6	12	152	194	10	.040	.61	<.040	<.01	.015	.92	1.3	1000
MAY													
19...	33.2	22	309	528	6	<.020	.19	<.040	<.01	<.010	.20	--	260
JUL													
05...	37.7	17	361	640	<2	<.020	.19	<.040	<.01	.011	.23	--	<200
SEP													
13...	53.4	10	515	730	<2	.030	.12	<.040	<.01	<.010	.13	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
17...	<10	1830	<1.0	1750	<50	50
JAN 2005						
04...	<10	4750	1.5	1480	<50	70
MAR						
22...	<10	2260	<1.0	1980	<50	80
MAY						
19...	<10	660	<1.0	2450	60	50
JUL						
05...	<10	280	<1.0	2530	<50	40
SEP						
13...	<10	160	<1.0	2430	50	40

01541500 CLEARFIELD CREEK AT DIMELING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/21/04
Benthic macroinvertebrate	Count
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	35
Entognatha	
Collembola (SPRINGTAILS)	
Isotomidae	
Isotomurus	2
Insecta	
Ephemeroptera (MAYFLIES)	
Heptageniidae	
Stenonema	2
Plecoptera (STONEFLIES)	
Taeniopterygidae	
Taeniopteryx	1
Hemiptera	
Mesoveliidae	
Mesovelia	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Hydropsyche	41
Hydroptilidae	
Leucotrichia	1
Leptoceridae	
Oecetis	1
Psychomyiidae	
Psychomyia	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	2
Diptera (TRUE FLIES)	
Empididae (DANCE FLIES)	
Hemerodromia	9
Tipulidae (CRANE FLIES)	
Antocha	1
Total Organisms	97
Total Taxa	12

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542500 WEST BRANCH SUSQUEHANNA RIVER AT KARTHAUS, PA

LOCATION.--Lat 41°07'03", long 78°06'33", Clearfield County, Hydrologic Unit 02050201, on left bank 900 ft upstream from bridge on State Highway 879 at Karthaus, 1,000 ft upstream from Mosquito Creek, and 3.3 mi upstream from Moshannon Creek. Records include flow of Mosquito Creek..

DRAINAGE AREA.--1,462 mi^2.

PERIOD OF RECORD.--February 1940 to September 1995 (discontinued as a continuous-record station; converted to a crest-stage partial-record station). October 2004 to current year. October 1918 to September 1920 (gage heights only, in reports of Water Supply Commission of Pennsylvania). October 1995 to September 2004 (annual maximum only).

GAGE.--Water-stage recorder. Datum of gage is 830.59 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1920, nonrecording gage at site 900 ft downstream at datum 20.88 ft lower. Feb. 21 to Sept. 30, 1940, nonrecording gage at site 900 ft downstream at present datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 70 mi upstream and since November 1965 by Curwensville Dam (01541180) about 50 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 24.5 ft., Mar. 18, 1936, from floodmarks at highway bridge, discharge, about 135,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2800	1540	7690	2200	1670	2450	7110	1480	980	711	389	778
2	2340	1450	10100	2140	1620	2350	6870	1460	892	650	348	526
3	2260	1480	7490	2140	1530	2190	6690	1410	853	550	362	412
4	2360	1610	6010	5860	1510	1900	5660	1320	950	513	343	357
5	2050	1880	4780	8810	1480	1720	7550	1230	956	523	325	328
6	1780	2010	4210	15700	1440	1700	7250	1150	914	600	320	312
7	1650	2060	3890	20400	1440	1970	5620	1100	994	569	315	298
8	1550	1970	4200	16300	1570	3550	5120	1090	981	524	306	288
9	1410	1730	4200	14800	2040	4350	4290	1050	878	548	333	273
10	1350	1790	5180	12400	5190	3540	3670	1050	801	715	345	238
11	1280	1880	7690	11300	6460	3390	3330	1070	794	623	546	261
12	1180	1910	7160	12700	4800	3240	2980	1010	902	521	463	248
13	1180	2110	5890	13400	3780	3650	2640	921	1080	489	360	240
14	1270	2140	5280	13900	3350	3810	2370	897	861	418	358	240
15	1290	1950	4590	11500	5090	2340	2170	996	782	411	350	247
16	1400	1780	3850	8800	7400	2140	1970	1070	795	411	329	246
17	1340	1560	3440	6800	6930	2020	1820	1050	799	759	289	263
18	1200	1440	3110	5910	5450	1930	1700	988	769	741	359	264
19	1970	1390	2830	5120	4720	1960	1640	896	692	678	419	251
20	3630	1380	2510	4540	3870	2240	1600	907	653	546	499	256
21	2670	1420	e1800	4030	3840	2730	1570	980	635	461	437	273
22	2090	1410	e2000	e3300	3760	3140	1550	1010	600	382	384	278
23	1880	1370	2970	e2700	3940	3360	1680	998	598	401	341	265
24	1680	1460	3670	e2300	3680	4980	1980	979	575	481	311	258
25	1560	2810	3380	e2200	3340	5730	1860	1080	537	525	285	244
26	1550	3660	2470	e2400	2870	4850	1710	1070	501	610	e260	262
27	1490	3360	2280	e2300	2650	4320	1600	969	483	668	e250	312
28	1320	4050	1970	e1800	2450	6420	1540	846	472	774	e260	352
29	1270	5080	2160	e1500	---	10800	1430	931	485	701	317	338
30	1420	4610	2260	e1600	---	10600	1410	1060	528	521	383	358
31	1570	---	2250	e1600	---	8510	---	1060	---	436	654	---
TOTAL	53790	64290	131310	220450	97870	117880	98380	33128	22740	17460	11240	9266
MEAN	1735	2143	4236	7111	3495	3803	3279	1069	758	563	363	309
MAX	3630	5080	10100	20400	7400	10800	7550	1480	1080	774	654	778
MIN	1180	1370	1800	1500	1440	1700	1410	846	472	382	250	238
CFSM	1.19	1.47	2.90	4.86	2.39	2.60	2.24	0.73	0.52	0.39	0.25	0.21
IN.	1.37	1.64	3.34	5.61	2.49	3.00	2.50	0.84	0.58	0.44	0.29	0.24

e Estimated.

01542500 WEST BRANCH SUSQUEHANNA RIVER AT KARTHAUS, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1194	2011	2803	2525	3283	5267	4673	3021	2153	1320	919	892
MAX	4107	5126	6771	7111	6878	10900	11600	6951	10810	4448	3537	4101
(WY)	1980	1987	1973	2005	1981	1964	1993	1978	1972	1977	1984	1975
MIN	162	259	281	474	706	1217	1882	1069	549	237	245	154
(WY)	1964	1965	1961	1961	1963	1969	1976	2005	1991	1965	1965	1964

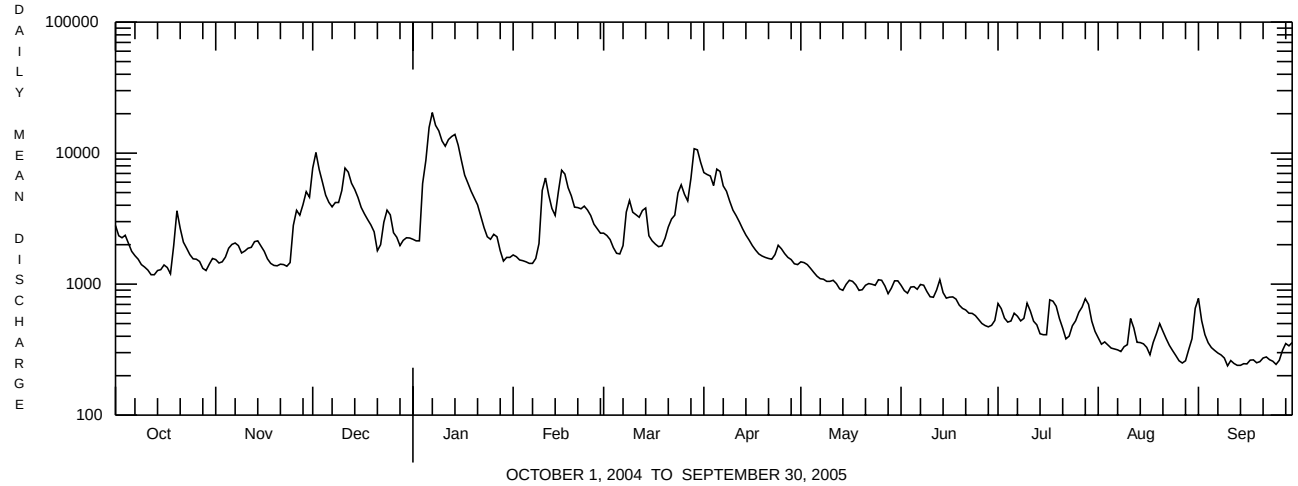
SUMMARY STATISTICS	FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	877804			
ANNUAL MEAN	2405		2500	
HIGHEST ANNUAL MEAN			3585	1972
LOWEST ANNUAL MEAN			1731	1969
HIGHEST DAILY MEAN	20400	Jan 7	79200	Jun 23 1972
LOWEST DAILY MEAN	238	Sep 10	120	Nov 11 1964
ANNUAL SEVEN-DAY MINIMUM	246	Sep 10	134	Sep 13 1964
MAXIMUM PEAK FLOW	22200	Jan 7	**a**84300	Jun 23 1972
MAXIMUM PEAK STAGE	9.91	Jan 7	18.57	Jun 23 1972
INSTANTANEOUS LOW FLOW			100	Sep 26 1964
ANNUAL RUNOFF (CFSM)	1.64		1.71	
ANNUAL RUNOFF (INCHES)	22.34		23.23	
10 PERCENT EXCEEDS	5640		5730	
50 PERCENT EXCEEDS	1510		1500	
90 PERCENT EXCEEDS	336		389	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	914	1593	2537	3364	3263	5145	5170	3754	2091	1063	816	559
MAX	2557	6463	5334	7957	6540	12120	11460	6528	6192	4565	4394	1891
(WY)	1951	1951	1951	1952	1951	1945	1940	1960	1946	1956	1956	1945
MIN	184	231	437	602	925	2418	1337	691	637	322	239	157
(WY)	1952	1954	1944	1956	1958	1947	1946	1941	1949	1952	1957	1943

SUMMARY STATISTICS	WATER YEARS 1940 - 1960	
ANNUAL MEAN	2499	
HIGHEST ANNUAL MEAN	3809	1951
LOWEST ANNUAL MEAN	1656	1954
HIGHEST DAILY MEAN	44600	Mar 31 1940
LOWEST DAILY MEAN	111	Sep 30 1943
ANNUAL SEVEN-DAY MINIMUM	116	Sep 24 1943
MAXIMUM PEAK FLOW	**a**50900	Apr 1 1940
MAXIMUM PEAK STAGE	13.90	Apr 1 1940
INSTANTANEOUS LOW FLOW	109	Sep 30 1943
ANNUAL RUNOFF (CFSM)	1.71	
ANNUAL RUNOFF (INCHES)	23.22	
10 PERCENT EXCEEDS	5890	
50 PERCENT EXCEEDS	1380	
90 PERCENT EXCEEDS	261	

a From rating curve extended above 50,000 ft^3/s.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542810 WALDY RUN NEAR EMPORIUM, PA

LOCATION.--Lat 41°34'44", long 78°17'34", Cameron County, Hydrologic Unit 02050202, on left bank 15 ft downstream from highway bridge on Township Route 318 at North Creek Chapel, 0.1 mi upstream from mouth, and 5.5 mi northwest of Emporium.

DRAINAGE AREA.--5.24 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements and annual maximum, water years 1963-64. September 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,263.62 ft above National Geodetic Vertical Datum of 1929. July 25, 1963, to Aug. 27, 1964, crest-stage 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 a base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	0645	*157	*4.69

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.7	67	3.9	e1.9	3.8	58	6.8	1.2	0.55	0.17	3.8
2	1.5	2.2	58	3.7	e1.8	e3.2	66	6.3	1.1	0.50	0.17	1.7
3	1.4	3.7	28	7.2	1.7	e2.8	77	5.7	1.6	0.39	0.15	1.00
4	1.3	5.1	16	47	1.7	e2.5	40	5.2	1.6	0.36	0.14	0.69
5	1.3	7.5	12	37	e1.6	e2.4	33	5.0	1.3	0.58	0.14	0.48
6	1.2	8.3	8.3	28	1.6	e2.7	26	5.0	1.4	4.4	0.12	0.38
7	1.1	7.1	8.5	27	1.9	3.3	21	5.0	1.3	2.1	0.12	0.31
8	1.1	5.6	10	22	2.8	8.2	15	4.6	1.0	1.3	0.12	0.26
9	1.1	4.4	13	21	7.0	10	11	4.2	0.95	1.1	0.12	0.25
10	1.1	3.7	16	16	24	e9.4	8.7	3.9	0.91	0.84	e0.12	0.22
11	1.1	3.5	34	13	20	8.4	7.3	3.7	1.0	0.66	e0.11	0.19
12	1.0	3.4	31	15	14	7.0	6.3	3.4	0.94	0.56	e0.11	0.17
13	1.0	2.9	20	46	10	e5.5	5.5	2.9	0.82	0.52	0.11	0.16
14	1.1	2.6	13	126	8.7	e5.0	4.9	3.0	0.84	0.44	0.12	0.16
15	1.3	2.4	9.1	48	10	e4.5	4.2	3.0	1.8	0.43	0.12	0.16
16	1.4	2.3	7.2	24	17	e4.0	3.7	2.7	1.6	0.51	0.10	1.9
17	1.2	2.3	6.3	16	23	e3.5	3.4	2.4	1.2	0.75	0.10	1.5
18	1.1	2.3	5.2	10	18	3.5	3.4	2.2	1.1	0.66	0.09	0.68
19	3.2	2.2	e4.8	8.5	13	3.7	3.2	2.0	0.99	0.46	0.22	0.46
20	1.8	2.4	e4.0	7.5	9.8	5.0	3.2	1.9	0.86	0.35	0.45	0.37
21	1.5	2.2	e4.0	e6.5	8.8	6.6	3.2	1.9	0.77	0.37	0.23	0.28
22	1.4	2.2	e4.0	e5.5	7.0	7.8	3.1	1.8	0.76	0.42	0.16	0.23
23	1.4	2.2	16	e5.0	5.7	13	5.7	1.9	0.67	0.33	0.14	0.21
24	1.4	4.0	35	e4.0	4.8	14	8.1	2.1	0.58	0.26	0.13	0.19
25	1.4	11	21	e3.7	e4.4	13	10	1.8	0.55	0.27	0.11	0.17
26	1.3	14	14	3.4	e4.0	13	11	1.5	0.65	0.26	0.11	3.0
27	1.4	12	9.2	e3.4	e3.8	13	11	1.4	0.65	0.41	0.14	2.3
28	1.3	34	6.4	e3.1	3.6	32	9.0	2.1	0.55	0.43	0.55	1.3
29	1.4	39	6.0	e2.9	---	66	7.9	1.7	0.94	0.27	0.56	2.4
30	1.8	22	4.8	e2.5	---	68	7.6	1.5	0.64	0.21	2.5	1.7
31	2.0	---	4.4	e2.0	---	58	---	1.4	---	0.19	10	---
TOTAL	43.2	218.2	496.2	568.8	231.6	402.8	477.4	98.0	30.27	20.88	17.53	26.62
MEAN	1.39	7.27	16.0	18.3	8.27	13.0	15.9	3.16	1.01	0.67	0.57	0.89
MAX	3.2	39	67	126	24	68	77	6.8	1.8	4.4	10	3.8
MIN	1.0	1.7	4.0	2.0	1.6	2.4	3.1	1.4	0.55	0.19	0.09	0.16
CFSM	0.27	1.39	3.05	3.50	1.58	2.48	3.04	0.60	0.19	0.13	0.11	0.17
IN.	0.31	1.55	3.52	4.04	1.64	2.86	3.39	0.70	0.21	0.15	0.12	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

MEAN	4.33	9.14	11.0	8.63	10.6	17.7	17.0	10.7	6.35	3.14	3.00	3.78
MAX	22.1	29.3	27.8	23.8	30.7	33.0	48.3	26.7	30.9	15.8	25.8	23.8
(WY)	1982	1986	1973	1996	1976	1979	1970	2002	1972	2004	1994	2004
MIN	0.10	0.31	2.02	0.83	0.98	4.25	5.34	1.95	0.50	0.26	0.19	0.08
(WY)	1965	1965	1990	1981	1980	1981	1976	1999	1999	1966	1991	1964

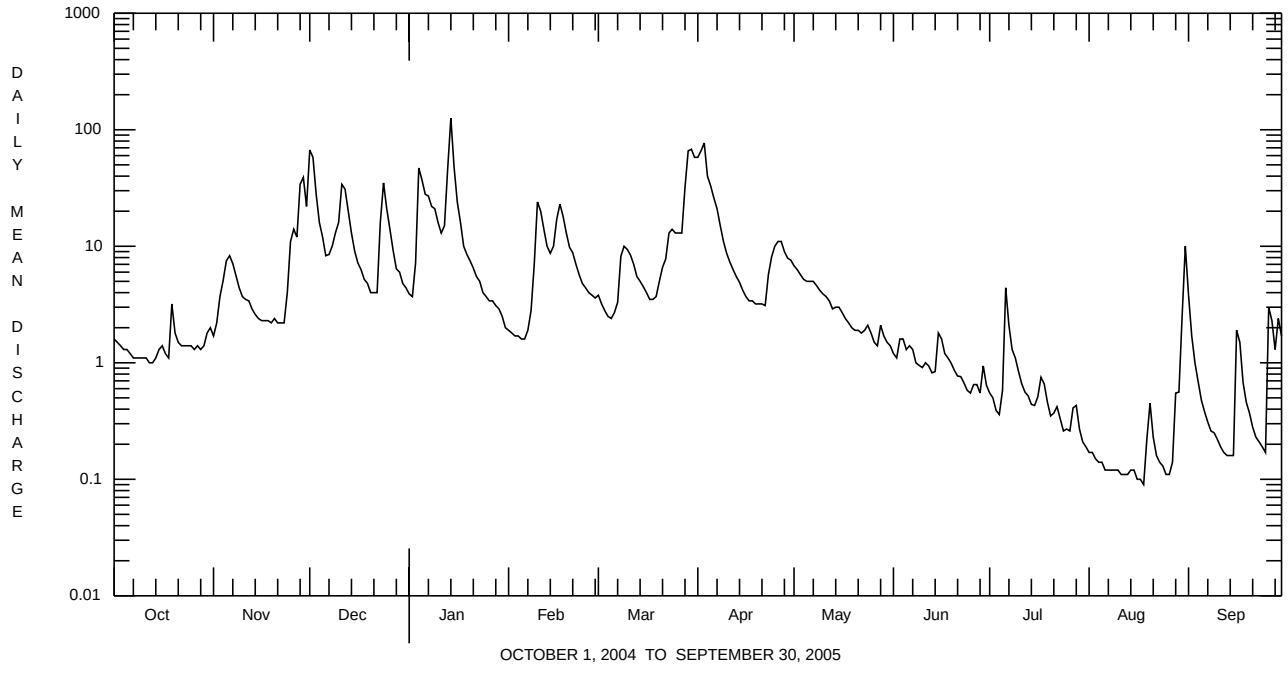
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542810 WALDY RUN NEAR EMPORIUM, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	4249.48		2631.50			
ANNUAL MEAN	11.6		7.21		8.77	
HIGHEST ANNUAL MEAN					14.5	1994
LOWEST ANNUAL MEAN					5.11	1965
HIGHEST DAILY MEAN	196	Sep 18	126	Jan 14	**e**300	Jan 19 1996
LOWEST DAILY MEAN	0.83	Jul 11	0.09	Aug 18	0.00	Sep 14 1964
ANNUAL SEVEN-DAY MINIMUM	**a**1.0	Jun 27	**a**0.11	Aug 12	0.01	Sep 13 1964
MAXIMUM PEAK FLOW			**b**157	Jan 14	**b**828	Sep 28 1967
MAXIMUM PEAK STAGE			4.69	Jan 14	6.32	Sep 28 1967
INSTANTANEOUS LOW FLOW					0.00	Sep 14 1964
ANNUAL RUNOFF (CFSM)	2.22		1.38		1.67	
ANNUAL RUNOFF (INCHES)	30.17		18.68		22.74	
10 PERCENT EXCEEDS	27		17		21	
50 PERCENT EXCEEDS	5.2		2.5		3.6	
90 PERCENT EXCEEDS	1.4		0.23		0.43	

a Computed using estimated daily discharges.
b From rating curve extended above 80 ft^3/s on basis of slope-area measurements at gage heights 5.09 ft, 5.86 ft, and at peak flow.
e Estimated.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°24'48", long 78°11'50", Cameron County, Hydrologic Unit 02050202, on left bank at downstream side of highway bridge on SR 3002 at village of Sterling Run, and 300 ft upstream from Sterling Run.

DRAINAGE AREA.--272 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year.

REVISED RECORDS.--WSP 1272: Drainage area. WSP 1502: 1933(M), 1934-38, 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 894.84 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1913, to Sept. 30, 1931, nonrecording gage, Oct. 1, 193l, to Sept. 30, 1932, and Oct. 1, 1942, to Oct. 3, 1991, water-stage recorder at site 50 feet upstream on steel-truss bridge 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,700 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	0900	*6,650	*5.73

Date	Time	Discharge ft^3/s	Gage Height (ft)
No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	148	2690	324	e180	242	2580	336	93	90	19	332
2	136	142	2940	282	e180	224	2740	303	80	73	16	145
3	127	249	1930	468	e170	189	3160	288	84	60	14	91
4	117	259	1250	2530	e160	e180	2410	265	129	48	13	66
5	111	490	899	2240	e160	e170	1910	245	104	55	12	52
6	103	469	676	2210	e160	182	1560	231	96	204	11	42
7	97	435	656	2250	e160	196	1280	223	143	257	10	35
8	93	373	795	1840	e190	656	1030	216	110	164	9.8	30
9	88	309	743	1630	e320	589	800	198	93	159	10	27
10	86	263	1110	1280	e1000	543	642	186	85	116	9.3	25
11	83	241	1850	1000	e950	481	526	177	89	91	8.9	21
12	80	240	1820	1160	e800	430	439	164	85	75	8.3	19
13	78	218	1390	2030	612	365	387	148	74	65	7.8	17
14	79	187	978	5510	530	294	338	151	70	58	13	16
15	83	169	718	3350	763	269	293	170	114	52	14	15
16	99	161	562	1950	1080	253	259	149	152	48	11	14
17	98	160	487	1280	1230	234	239	134	131	56	9.6	72
18	84	161	402	e840	1070	244	226	123	107	60	8.0	46
19	233	155	e360	e690	826	239	210	113	94	54	10	31
20	184	159	e250	e550	658	320	200	111	82	40	17	23
21	129	168	e280	e390	604	451	212	109	72	35	37	20
22	115	150	e330	e300	499	464	189	103	65	41	20	17
23	107	145	885	e300	403	726	308	101	59	35	13	15
24	103	183	1390	e290	336	876	354	113	52	28	10	14
25	104	634	1160	e280	297	830	366	122	46	25	8.6	14
26	100	678	902	e270	275	804	362	100	43	29	8.0	28
27	94	614	e670	e240	e220	809	370	89	42	47	7.4	170
28	90	1480	e500	e180	e240	1910	358	94	45	65	10	71
29	90	1800	e510	e180	---	3110	334	128	229	42	30	65
30	137	1350	382	e190	---	3140	344	112	131	29	118	100
31	191	---	337	e190	---	2710	---	107	---	22	632	---
TOTAL	3465	12190	29852	36224	14073	22130	24426	5109	2799	2223	1125.7	1633
MEAN	112	406	963	1169	503	714	814	165	93.3	71.7	36.3	54.4
MAX	233	1800	2940	5510	1230	3140	3160	336	229	257	632	332
MIN	78	142	250	180	160	170	189	89	42	22	7.4	14
CFSM	0.41	1.49	3.54	4.30	1.85	2.62	2.99	0.61	0.34	0.26	0.13	0.20
IN.	0.47	1.67	4.08	4.95	1.92	3.03	3.34	0.70	0.38	0.30	0.15	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	189	407	498	515	543	988	908	626	327	173	129	143
MAX	838	1918	1394	2027	2047	3366	2310	1758	1783	1308	1294	1406
(WY)	1918	1951	1928	1937	1918	1936	1940	1953	1972	1942	1994	2004
MIN	10.0	21.2	24.5	33.2	76.0	250	199	104	38.8	16.9	9.20	5.16
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1991	1966	1957	1964

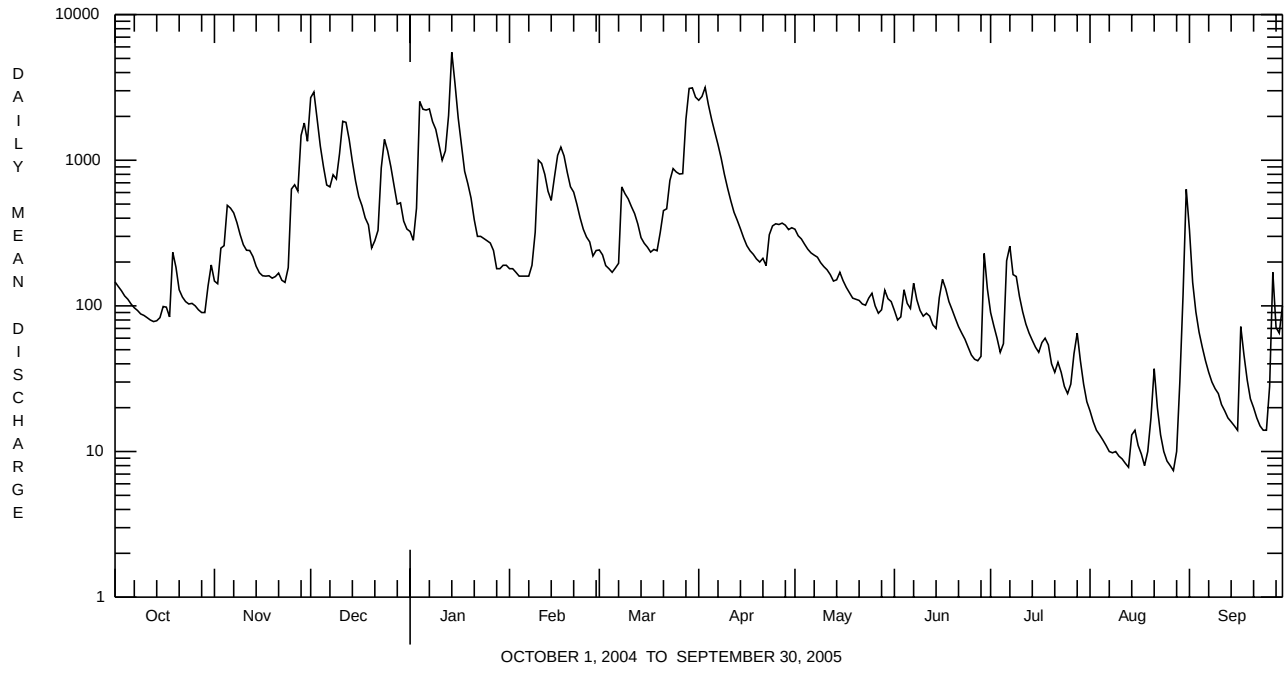
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	251461		155249.7			
ANNUAL MEAN	687		425		453	
HIGHEST ANNUAL MEAN					770	2004
LOWEST ANNUAL MEAN					235	1934
HIGHEST DAILY MEAN	13200	Sep 18	5510	Jan 14	18600	Jun 23 1972
LOWEST DAILY MEAN	42	Jul 4	7.4	Aug 27	0.40	Sep 13 1930
ANNUAL SEVEN-DAY MINIMUM	56	Jun 28	9.2	Aug 7	0.87	Aug 28 1939
MAXIMUM PEAK FLOW			6650	Jan 14	**a**47800	Jul 18 1942
MAXIMUM PEAK STAGE			5.73	Jan 14	**b**14.70	Jul 18 1942
INSTANTANEOUS LOW FLOW					0.40	Sep 12 1930**c**
ANNUAL RUNOFF (CFSM)	2.53		1.56		1.67	
ANNUAL RUNOFF (INCHES)	34.39		21.23		22.64	
10 PERCENT EXCEEDS	1590		1160		1090	
50 PERCENT EXCEEDS	349		177		208	
90 PERCENT EXCEEDS	105		20		26	

a From rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Also Sept. 13, 14, 1930.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-tance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-tance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 2004													
23...	1030	1028	9813	145	30	13.2	7.6	7.6	70	64	5.6	23	6.1
JAN 2005													
19...	1020	1028	9813	E690	30	15.0	5.8	7.2	56	51	.0	20	5.2
MAR													
23...	0900	1028	9813	667	30	12.7	6.4	7.2	68	62	3.4	22	5.6
MAY													
04...	1030	1028	9813	268	30	12.3	6.7	7.2	61	59	6.4	20	5.0
JUL													
26...	1430	1028	9813	32	30	9.3	8.8	8.6	104	102	28.2	33	10.2
SEP													
08...	0830	1028	9813	31	30	7.5	7.5	6.6	112	113	18.5	38	10.3

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)
NOV 2004													
23...	6.2	1.77	1.8	15	--	10.7	58	<2	<.020	.19	<.040	<.01	<.010
JAN 2005													
19...	5.1	1.69	1.7	10	6.0	11.2	44	<2	.030	.46	<.040	<.01	<.010
MAR													
23...	6.0	1.59	1.7	10	2.4	10.3	72	12	.030	.38	<.040	<.01	.011
MAY													
04...	5.3	1.51	1.6	11	.80	10.1	58	<2	<.020	.30	<.040	<.01	<.010
JUL													
26...	9.5	2.51	2.4	24	--	10.3	70	4	.030	.06	<.040	.01	.015
SEP													
08...	10.8	2.63	2.8	26	--	12.9	120	2	.030	.04	<.040	.01	.017

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Total nitro-gen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)
NOV 2004													
23...	.42	1.5	<10	20	<4	<4	30	60	<1.0	<1.0	<5.0	<5.0	<4.0
JAN 2005													
19...	.50	1.2	10	60	<4	<4	<20	100	<1.0	<1.0	20	19	<4.0
MAR													
23...	.39	.9	10	260	<4	<4	20	330	<1.0	<1.0	16	23	<4.0
MAY													
04...	.36	.5	20	20	<4	<4	20	50	<1.0	<1.0	7.8	9.1	<4.0
JUL													
26...	.13	.6	50	90	<4	<4	50	140	<1.0	<1.0	11	28	<4.0
SEP													
08...	.20	.8	30	90	<4	<4	40	150	<1.0	<1.0	9.0	17	<4.0

Date	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV 2004			
23...	<4.0	<5.0	<5.0
JAN 2005			
19...	<4.0	<5.0	<5.0
MAR			
23...	<4.0	<5.0	<5.0
MAY			
04...	<4.0	<5.0	<5.0
JUL			
26...	<4.0	<5.0	<5.0
SEP			
08...	<4.0	<5.0	<5.0

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/20/04
Benthic macroinvertebrate	Count
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	4
Ephemerellidae	
Dannella	1
Ephemerella	20
Eurylophella	1
Serratella	6
Heptageniidae	
Leucrocuta	1
Stenonema	9
Isonychiidae	
Isonychia	14
Leptophlebiidae	
Paraleptophlebia	3
Plecoptera (STONEFLIES)	
Chloroperlidae	
Sweltsa	3
Leuctridae	
Leuctra	5
Perlidae	
Paragnetina	1
Taeniopterygidae	
Taenionema	8
Taeniopteryx	18
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Hydropsyche	7
Lepidostomatidae	
Lepidostoma	1
Psychomyiidae	
Psychomyia	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	4
Psephenidae (WATER PENNIES)	
Psephenus	1
Diptera (TRUE FLIES)	
Athericidae	
Atherix	1
Chironomidae (MIDGES)	10
Simuliidae (BLACK FLIES)	
Simulium	1
Total Organisms	121
Total Taxa	23

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°19'02", long 78°06'12", Cameron County, Hydrologic Unit 02050202, on left bank 0.2 mi upstream from Grove Run, and 0.7 mi upstream from Penn Central Railroad bridge at Sinnemahoning.

DRAINAGE AREA.--685 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 769.36 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 21.94 ft, Mar. 18, 1936, from floodmark, discharge, 61,200 ft^3/s, from rating curve extended above 31,000 ft^3/s on basis of slope-area measurement at gage height 21.58 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 8,400 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	1645	8,970	7.35	Jan. 14	1045	*15,200	*9.68
Jan. 6	2300	9,290	7.48				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	486	647	5770	1000	e660	e770	5070	788	316	211	56	800
2	438	565	6670	877	e640	e730	5040	717	278	166	49	361
3	409	816	4520	1110	e620	667	5860	684	277	139	44	223
4	374	824	3140	6310	e600	613	4740	644	389	120	40	153
5	341	1220	2360	6060	e590	579	4240	596	358	120	37	118
6	317	1190	1850	6860	e590	593	3680	560	310	287	33	95
7	293	1120	1720	7690	e600	641	3120	546	361	469	31	80
8	278	1010	2260	5740	e650	e1500	2610	538	329	305	36	68
9	262	861	2120	4940	e950	e1300	2090	511	284	316	31	61
10	252	762	3250	3840	e2500	e1200	1720	480	280	239	29	55
11	242	705	4610	3080	e2400	e1100	1450	456	364	181	27	51
12	231	703	4260	3520	2080	e1000	1230	429	342	146	25	46
13	221	676	3420	5400	1690	e920	1100	386	302	126	26	42
14	228	571	2590	12800	1510	e850	984	388	266	110	28	39
15	240	515	1990	8470	2180	e770	865	477	363	102	39	37
16	289	491	1620	5080	2840	e760	768	445	473	100	47	36
17	286	478	1440	3550	3070	716	701	380	460	119	40	57
18	248	474	e1200	e2400	2700	743	664	349	369	153	32	82
19	566	462	e1100	e1900	2190	725	624	324	322	125	31	57
20	698	463	e900	e1600	1820	887	592	322	286	97	54	48
21	438	492	e910	e1300	1690	1200	610	343	253	81	86	42
22	363	450	e950	e1000	1530	1190	550	312	229	81	73	38
23	328	422	1870	e960	1270	1630	762	298	209	79	47	35
24	303	445	3230	e1000	1100	2240	907	330	185	67	35	32
25	301	1350	e2600	e950	e950	2170	850	387	163	64	29	31
26	286	1500	e2100	e900	e840	2110	829	334	148	99	25	39
27	266	1390	e1700	e800	e740	2010	807	290	139	140	23	195
28	251	2960	e1300	e700	e770	4510	789	288	134	199	28	161
29	246	3810	1430	e680	---	7350	753	368	274	130	50	104
30	668	3070	1140	e700	---	7110	763	342	298	88	210	152
31	826	---	1030	e680	---	5800	---	347	---	68	929	---
TOTAL	10975	30442	75050	101897	39770	54384	54768	13659	8761	4727	2270	3338
MEAN	354	1015	2421	3287	1420	1754	1826	441	292	152	73.2	111
MAX	826	3810	6670	12800	3070	7350	5860	788	473	469	929	800
MIN	221	422	900	680	590	579	550	288	134	64	23	31
CFSM	0.52	1.48	3.53	4.80	2.07	2.56	2.67	0.64	0.43	0.22	0.11	0.16
IN.	0.60	1.65	4.08	5.53	2.16	2.95	2.97	0.74	0.48	0.26	0.12	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2005, BY WATER YEAR (WY)

MEAN	467	972	1296	1282	1436	2448	2309	1591	842	438	337	382
MAX	2186	4836	2883	4349	3732	5608	5500	3771	4066	2134	2596	3736
(WY)	1991	1951	1973	1952	1976	1945	1940	1953	1972	1992	1994	2004
MIN	31.5	52.0	64.1	91.8	257	771	556	313	97.3	37.9	28.7	29.6
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1999	1966	1957	1939

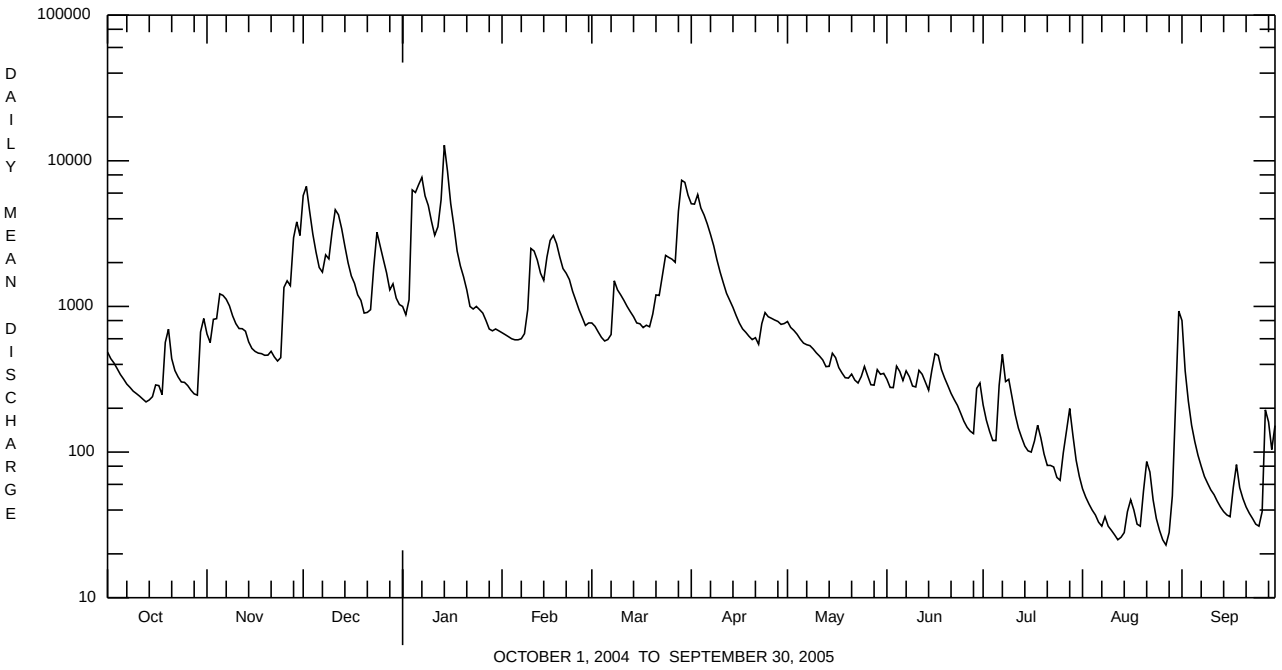
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	671181		400041			
ANNUAL MEAN	1834		1096		1148	
HIGHEST ANNUAL MEAN					1997	2004
LOWEST ANNUAL MEAN					705	1999
HIGHEST DAILY MEAN	**e**38000	Sep 18	12800	Jan 14	44000	Jun 23 1972
LOWEST DAILY MEAN	149	Jul 11	23	Aug 27	1.4	Sep 3 1939
ANNUAL SEVEN-DAY MINIMUM	215	Jun 28	29	Aug 8	4.2	Aug 29 1939
MAXIMUM PEAK FLOW			15200	Jan 14	**a**60800	Jun 23 1972
MAXIMUM PEAK STAGE			9.68	Jan 14	21.78	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.2	Sep 4 1939
ANNUAL RUNOFF (CFSM)	2.68		1.60		1.68	
ANNUAL RUNOFF (INCHES)	36.45		21.72		22.77	
10 PERCENT EXCEEDS	4150		3070		2780	
50 PERCENT EXCEEDS	1030		550		574	
90 PERCENT EXCEEDS	322		50		71	

a From rating curve extended above 31,000 ft^3/s on basis of slope-area measurement at gage height 21.58 ft.
e Estimated.



01543500 SINNEMAHONING CREEK AT SINNEMAHONING, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recover-able, mg/L (00916)
NOV 2004													
29...	1435	1028	9813	3750	40	12.4	7.0	6.8	61	60	6.5	21	5.5
JAN 2005													
26...	1230	1028	9813	E900	40	15.5	6.9	7.1	89	78	.1	29	7.2
MAR													
23...	0715	1028	9813	1570	40	12.2	6.8	7.1	83	82	4.4	27	7.0
MAY													
04...	1115	1028	9813	641	40	12.0	7.3	7.0	78	76	7.7	26	6.8
JUL													
27...	0830	1028	9813	113	40	6.8	7.5	7.6	123	128	26.0	41	10.3
SEP													
08...	1115	1028	9813	67	40	7.7	7.5	6.6	131	135	21.1	46	11.9

Date	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Alum-inum, water, unfltrd recover-able, µg/L (01105)
NOV 2004													
29...	1.9	9	13.2	56	10	<.020	.31	<.040	.01	.016	.47	1.5	360
JAN 2005													
26...	2.6	9	22.8	66	16	.150	.34	<.040	.02	<.010	.46	.7	<200
MAR													
23...	2.5	8	19.9	80	<2	.030	.28	<.040	<.01	<.010	.26	.8	200
MAY													
04...	2.3	8	19.4	86	4	<.020	.24	<.040	<.01	<.010	.30	--	<200
JUL													
27...	3.7	16	28.0	78	<2	<.020	.09	<.040	<.01	<.010	.14	--	<200
SEP													
08...	3.8	15	32.1	96	<2	.030	<.04	<.040	<.01	.010	.13	--	<200

Date	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV 2004						
29...	<10	560	<1.0	90	<50	<10
JAN 2005						
26...	<10	150	<1.0	120	<50	40
MAR						
23...	<10	220	<1.0	90	<50	10
MAY						
04...	<10	50	<1.0	60	<50	<10
JUL						
27...	<10	60	<1.0	40	<50	<10
SEP						
08...	<10	40	<1.0	30	<50	<10

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/25/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	2
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	5
Heptageniidae	
Epeorus	4
Leucrocuta	9
Stenonema	5
Isonychiidae	
Isonychia	47
Leptophlebiidae	
Paraleptophlebia	1
Plecoptera (STONEFLIES)	
Taeniopterygidae	
Taenionema	6
Taeniopteryx	3
Trichoptera (CADDISFLIES)	
Glossosomatidae	
Protoptila	2
Hydropsychidae	
Hydropsyche	18
Philopotamidae	
Chimarra	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	4
Diptera (TRUE FLIES)	
Ceratopogonidae (BITING MIDGES)	1
Chironomidae (MIDGES)	2
Total Organisms	111
Total Taxa	15

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°24'06", long 78°01'28", Cameron County, Hydrologic Unit 02050202, on right bank on Township Route 357, 350 ft downstream from Woodrock Run, 1,500 ft upstream from Roaring Run, 0.8 mi downstream from George B. Stevenson Dam (First Fork Sinnemahoning Creek Reservoir), and 7.5 mi northeast of Sinnemahoning.

DRAINAGE AREA.--245 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 878.71 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1954, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since Jan. 31, 1956 by George B. Stevenson Dam (station 01543900). Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known, 80,000 ft^3/s, July 18, 1942, by slope-area measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	148	1700	303	145	269	2290	321	62	94	54	344
2	62	177	2650	270	168	284	2040	312	79	89	35	140
3	62	187	1850	300	176	197	532	344	85	101	34	108
4	61	277	1220	819	176	104	1730	298	84	112	33	75
5	57	334	835	1520	161	127	3760	274	95	111	30	42
6	53	305	748	1420	129	237	3510	239	101	315	28	24
7	381	309	593	1430	114	252	2060	222	100	677	26	23
8	601	309	632	1180	161	241	1030	285	100	361	29	34
9	251	309	649	1180	207	385	881	226	100	533	27	39
10	78	306	799	1040	578	477	696	168	100	308	25	37
11	76	229	1660	856	848	413	583	194	102	266	23	31
12	74	187	1940	804	691	359	474	212	193	236	21	23
13	72	187	1480	1210	669	311	364	194	106	158	27	19
14	69	187	1030	3150	430	311	397	153	94	129	28	14
15	69	219	824	4450	591	254	375	137	99	128	26	13
16	70	215	579	3510	574	226	259	170	164	106	28	13
17	71	174	532	1380	801	267	251	203	191	54	24	15
18	76	142	538	1010	798	249	254	74	180	169	24	50
19	153	134	450	713	628	242	256	94	149	120	23	65
20	217	134	358	681	599	242	207	148	106	39	21	41
21	200	134	218	506	516	273	211	136	94	43	21	20
22	131	134	294	407	439	356	217	111	94	59	19	17
23	131	134	474	e310	343	426	227	111	92	55	18	17
24	131	171	1260	e280	288	562	344	109	67	48	17	17
25	131	363	1250	293	331	555	375	109	55	56	17	15
26	129	701	973	387	292	524	347	108	60	54	21	16
27	129	688	762	e270	224	573	418	106	64	44	21	54
28	125	923	493	e240	225	1130	434	106	64	35	21	99
29	103	1540	500	176	---	2500	397	104	329	51	21	68
30	103	1480	475	204	---	2830	380	104	244	51	108	40
31	126	---	375	207	---	2230	---	82	---	57	192	---
TOTAL	4058	10737	28141	30506	11302	17406	25299	5454	3453	4659	1042	1513
MEAN	131	358	908	984	404	561	843	176	115	150	33.6	50.4
MAX	601	1540	2650	4450	848	2830	3760	344	329	677	192	344
MIN	53	134	218	176	114	104	207	74	55	35	17	13

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

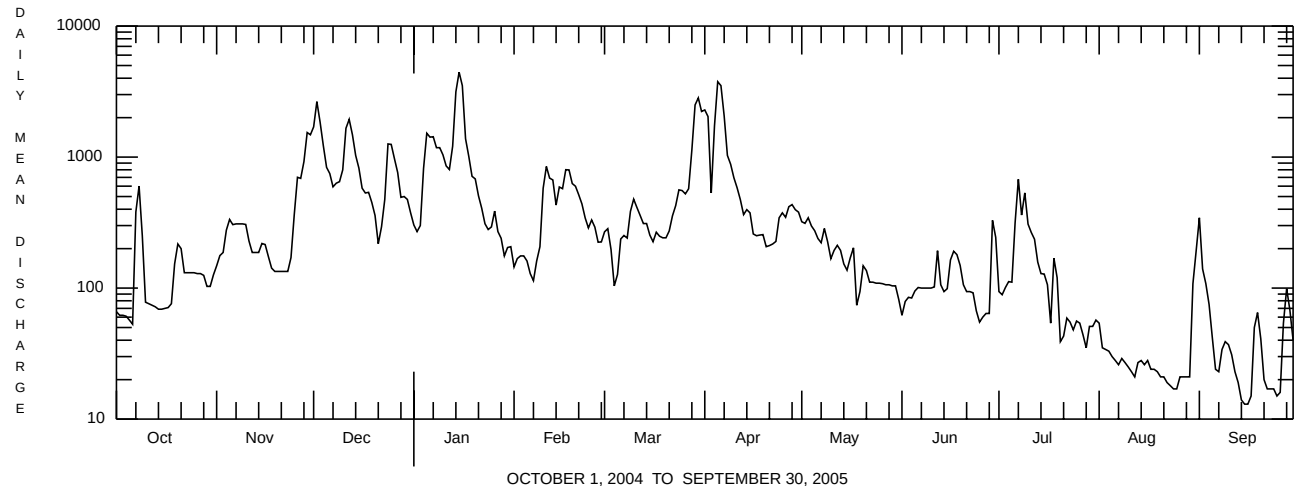
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	211	394	483	393	459	810	875	515	277	176	137	167
MAX	1033	1162	1051	1131	1452	1820	2300	1265	1334	808	977	1426
(WY)	1991	1986	1991	1996	1981	1964	1993	2002	1989	1992	1994	2004
MIN	9.76	17.6	21.3	16.6	77.9	171	320	103	39.5	14.5	14.2	5.31
(WY)	1964	1965	1961	1961	1963	1960	1976	1985	1999	1966	1962	1964

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1956 - 2005	
ANNUAL TOTAL	230767		143570			
ANNUAL MEAN	631		393		407	
HIGHEST ANNUAL MEAN					712	2004
LOWEST ANNUAL MEAN					236	1999
HIGHEST DAILY MEAN	4800	Sep 21	4450	Jan 15	7360	Mar 10 1956
LOWEST DAILY MEAN	30	Jul 11	13	Sep 15,16	0.10	Aug 8 1975
ANNUAL SEVEN-DAY MINIMUM	54	Jul 1	18	Sep 11	3.6	Oct 23 1963
MAXIMUM PEAK FLOW			4760	Jan 15	10200	Mar 1 1956
MAXIMUM PEAK STAGE			3.85	Jan 15	6.60	Mar 1 1956
10 PERCENT EXCEEDS	1490		943		970	
50 PERCENT EXCEEDS	364		194		198	
90 PERCENT EXCEEDS	90		28		28	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1955, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.2	101	374	394	467	1277	699	391	177	30.6	44.6	20.4
MAX	96.7	132	509	503	631	1672	936	626	260	38.9	74.4	23.4
(WY)	1955	1955	1955	1955	1954	1955	1954	1954	1954	1954	1955	1955
MIN	13.7	70.0	239	285	304	883	462	156	93.4	22.3	14.9	17.4
(WY)	1954	1954	1954	1954	1955	1954	1955	1955	1955	1955	1954	1954

SUMMARY STATISTICS	WATER YEARS 1954 - 1955	
ANNUAL MEAN	336	
HIGHEST ANNUAL MEAN	339	1955
LOWEST ANNUAL MEAN	332	1954
HIGHEST DAILY MEAN	5020	Mar 2 1954
LOWEST DAILY MEAN	5.6	Sep 22 1955
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 6 1954
MAXIMUM PEAK FLOW	7000	Mar 1 1954
MAXIMUM PEAK STAGE	5.64	Mar 1 1954
ANNUAL RUNOFF (CFSM)	1.37	
ANNUAL RUNOFF (INCHES)	18.63	
10 PERCENT EXCEEDS	980	
50 PERCENT EXCEEDS	103	
90 PERCENT EXCEEDS	14	



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-tance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
23...	1430	1028	9813	134	12.0	7.0	7.1	59	54	7.3	20	5.4	5.4
JAN 2005													
26...	1000	1028	9813	391	14.8	7.0	--	--	51	.3	18	4.7	4.8

Date	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)
NOV 2004													
23...	1.6	1.6	14	--	8.3	66	<2	.020	.32	<.040	<.01	<.010	.47
JAN 2005													
26...	1.4	1.4	--	7.6	16.5	36	6	.200	1.18	<.040	<.01	<.010	.75

Date	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)
NOV 2004													
23...	1.3	<10	40	<4	<4	50	140	<1.0	<1.0	40	50	<4.0	<4.0
JAN 2005													
26...	.7	<10	50	--	--	20	90	<1.0	<1.0	20	30	<4.0	<4.0

Date	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004		
23...	<5.0	<5.0
JAN 2005		
26...	<5.0	<5.0

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/25/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	4
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
Eurylophella	3
Serratella	4
Heptageniidae	12
Epeorus	17
Leucrocuta	6
Stenonema	11
Isonychiidae	
Isonychia	33
Plecoptera (STONEFLIES)	
Perlidae	
Paragnetina	3
Taeniopterygidae	
Taenionema	7
Taeniopteryx	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	5
Hydropsyche	3
Potamyia	1
Lepidostomatidae	
Lepidostoma	2
Philopotamidae	
Chimarra	1
Psychomyiidae	
Psychomyia	3
Uenoidae	
Neophylax	1

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/25/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	2
Stenelmis	1
Psephenidae (WATER PENNIES)	
Psephenus	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	14
Empididae (DANCE FLIES)	
Chelifera	1
Total Organisms	143
Total Taxa	26

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544500 KETTLE CREEK AT CROSS FORK, PA

LOCATION.--Lat 41°28'33", long 77°49'34", Clinton County, Hydrologic Unit 02050203, on right bank just upstream from abutment of former highway bridge on Township Route 318, 0.2 mi downstream from Potter-Clinton County line, and 0.7 mi southeast of Cross Fork.

DRAINAGE AREA.--136 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,027.12 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 14.0 ft, Mar. 18, 1936, from information by local residents, discharge, about 20,000 ft^3/s, from rating curve extended above 9,200 ft^3/s on basis of slope-area measurement of peak flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	1600	3,100	5.76	Apr. 3	0600	*3,280	*5.91

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	112	1170	199	e100	139	1360	142	46	74	16	316
2	103	108	1390	175	e100	125	1740	137	41	68	16	196
3	94	133	1030	198	e90	113	2830	134	44	53	15	138
4	85	138	728	403	e85	e110	1780	130	51	46	14	105
5	80	175	545	504	e80	e100	1090	124	44	47	14	82
6	73	197	426	589	e75	e100	801	123	68	69	13	66
7	68	217	399	593	e75	106	664	122	90	64	12	55
8	63	215	421	571	e80	163	553	119	71	57	12	47
9	60	202	444	533	e100	e150	444	113	66	64	13	42
10	57	187	583	476	e270	e150	364	108	62	52	12	37
11	53	178	854	412	e280	e140	306	105	69	44	11	32
12	50	173	893	408	e300	e140	262	98	57	39	11	29
13	48	153	743	554	305	e130	233	92	52	36	10	28
14	47	138	569	2390	281	e130	205	93	48	33	13	25
15	81	130	443	1720	305	e120	182	104	62	32	13	23
16	102	124	365	1030	335	e120	165	89	75	31	11	23
17	69	119	315	721	361	e120	153	82	59	36	11	30
18	60	116	269	521	364	128	144	77	57	74	9.8	24
19	146	109	245	e400	332	129	135	72	49	43	12	21
20	155	119	184	e320	300	147	128	71	44	38	17	20
21	154	112	199	e250	285	171	129	70	39	32	15	19
22	154	104	199	e210	243	186	117	67	37	31	11	17
23	148	103	253	e180	213	243	129	66	34	28	9.5	16
24	149	149	e330	e170	189	265	149	69	30	24	9.5	16
25	144	415	e300	e170	e160	267	135	65	29	24	9.3	16
26	137	631	e290	e160	156	278	128	58	28	23	8.6	26
27	129	600	e280	e120	e130	294	130	53	27	37	8.8	48
28	122	856	e270	e100	137	845	132	57	29	30	12	23
29	119	1090	e260	e100	---	1490	133	60	166	23	14	23
30	125	871	243	e110	---	1550	145	55	93	20	91	29
31	124	---	217	e110	---	1310	---	52	---	18	467	---
TOTAL	3112	7974	14857	14397	5731	9459	14866	2807	1667	1290	911.5	1572
MEAN	100	266	479	464	205	305	496	90.5	55.6	41.6	29.4	52.4
MAX	155	1090	1390	2390	364	1550	2830	142	166	74	467	316
MIN	47	103	184	100	75	100	117	52	27	18	8.6	16
CFSM	0.74	1.95	3.52	3.41	1.50	2.24	3.64	0.67	0.41	0.31	0.22	0.39
IN.	0.85	2.18	4.06	3.94	1.57	2.59	4.07	0.77	0.46	0.35	0.25	0.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

MEAN	109	214	252	227	253	480	500	317	165	87.5	64.6	79.6
MAX	700	868	552	663	800	1055	1303	721	797	436	581	872
(WY)	1991	1951	1973	1952	1981	1945	1993	1946	1972	1992	1994	2004
MIN	6.23	9.53	18.8	18.4	52.1	132	112	63.8	22.1	12.8	7.07	6.32
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1991	1962	1971	1964

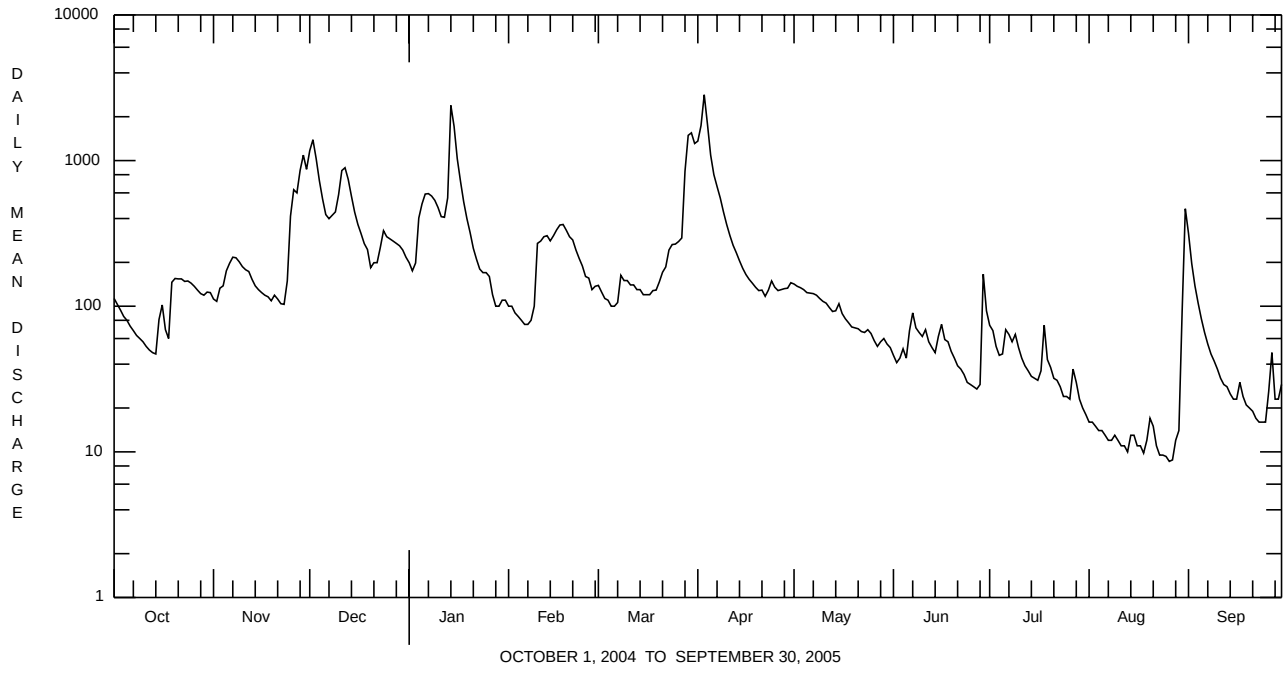
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544500 KETTLE CREEK AT CROSS FORK, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	131746		78643.5			
ANNUAL MEAN	360		215		229	
HIGHEST ANNUAL MEAN					396	2004
LOWEST ANNUAL MEAN					125	1941
HIGHEST DAILY MEAN	7010	Sep 18	2830	Apr 3	10500	Jun 23 1972
LOWEST DAILY MEAN	32	Jul 11	8.6	Aug 26	1.2	Sep 2-4 1971
ANNUAL SEVEN-DAY MINIMUM	44	Jul 6	9.8	Aug 22	1.4	Sep 1 1971
MAXIMUM PEAK FLOW			3280	Apr 3	**a**14300	Jun 23 1972
MAXIMUM PEAK STAGE			5.91	Apr 3	**b**11.76	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.65		1.58		1.68	
ANNUAL RUNOFF (INCHES)	36.04		21.51		22.86	
10 PERCENT EXCEEDS	785		526		541	
50 PERCENT EXCEEDS	201		116		110	
90 PERCENT EXCEEDS	76		20		17	

a From rating curve extended above 9,200 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark in gage.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°19'10", long 77°52'27", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4001, 0.4 mi upstream from Short Bend Run, 3.5 mi upstream from mouth and Westport, and 5.0 mi downstream from Alvin R. Bush Dam (Kettle Creek Lake).

DRAINAGE AREA.--233 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 728.24 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1956, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since February 1962 by Alvin R. Bush Dam (station 01544800). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	199	1970	317	e230	256	2510	230	89	139	32	441
2	189	185	2610	284	e220	231	2310	223	75	113	24	269
3	157	203	1860	301	e200	e190	278	210	77	93	18	178
4	138	235	1280	723	e190	e170	1600	205	91	84	18	147
5	132	287	971	1150	e220	e150	4270	203	84	77	23	112
6	120	324	747	1230	e140	e160	4640	198	73	105	24	104
7	114	366	648	1250	132	209	2290	194	126	130	18	85
8	99	385	683	1170	180	e270	1040	192	112	112	19	58
9	106	349	776	1080	218	e330	798	187	98	118	19	58
10	117	303	1140	950	491	313	616	177	96	118	19	54
11	118	292	1740	827	724	318	527	174	174	94	19	52
12	104	284	1780	777	715	340	463	161	183	84	19	44
13	50	245	1390	1020	623	e280	398	147	138	67	19	34
14	75	206	1040	3560	533	e220	349	147	124	68	19	28
15	128	195	765	3980	508	e230	317	159	113	66	19	28
16	187	194	609	2210	586	e210	275	152	141	65	19	28
17	141	194	527	1420	655	e200	248	139	150	65	19	29
18	93	195	444	950	682	210	237	134	142	109	13	30
19	188	188	389	727	592	220	237	117	129	116	14	31
20	295	185	318	636	536	237	232	112	104	73	15	31
21	288	185	264	e480	522	269	218	112	96	60	27	29
22	265	165	351	e370	452	290	214	112	94	61	21	28
23	247	152	431	e480	381	397	202	119	81	60	18	27
24	237	220	493	e530	324	473	211	120	65	58	14	27
25	233	509	681	e450	298	490	231	117	66	53	13	27
26	224	1000	713	e390	293	495	216	98	65	44	12	31
27	210	1040	e610	e350	e210	559	215	88	59	55	12	41
28	193	1240	e520	e270	225	1530	211	92	55	55	13	42
29	193	1840	462	e210	---	3120	214	102	177	49	14	43
30	198	1580	426	e310	---	3090	228	105	189	41	151	39
31	208	---	348	e350	---	2510	---	95	---	34	539	---
TOTAL	5238	12945	26986	28752	11080	17967	25795	4621	3266	2466	1223	2175
MEAN	169	432	871	927	396	580	860	149	109	79.5	39.5	72.5
MAX	295	1840	2610	3980	724	3120	4640	230	189	139	539	441
MIN	50	152	264	210	132	150	202	88	55	34	12	27

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	190	358	433	364	438	739	800	474	278	157	117	158
MAX	1096	1060	954	927	1330	1739	2453	992	1278	677	927	1390
(WY)	1991	1971	1973	2005	1981	1979	1993	2002	1972	1972	1994	2004
MIN	13.5	5.37	55.4	63.8	78.8	167	309	141	39.8	8.06	7.69	13.0
(WY)	1965	1965	1999	1981	1963	1968	1976	1999	1999	1962	1962	1991

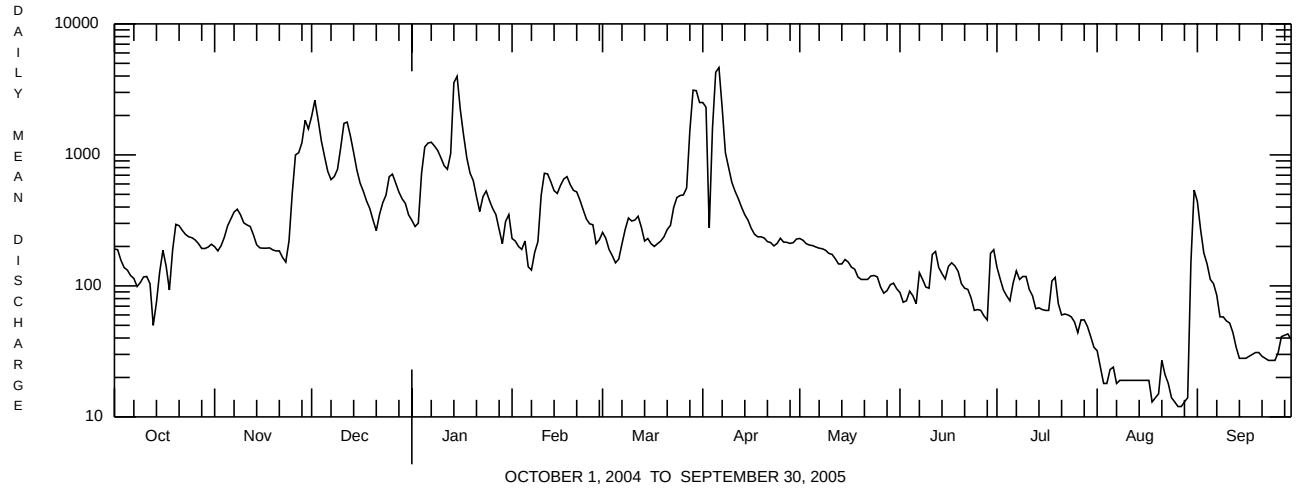
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1962 - 2005	
ANNUAL TOTAL	219919		142514			
ANNUAL MEAN	601		390		375	
HIGHEST ANNUAL MEAN					655	2004
LOWEST ANNUAL MEAN					203	2001
HIGHEST DAILY MEAN	4900	Sep 21	4640	Apr 6	7200	Apr 14 1970
LOWEST DAILY MEAN	50	Oct 13	12	Aug 26,27	4.4	Nov 3 1964**a**
ANNUAL SEVEN-DAY MINIMUM	81	Jul 5	14	Aug 23	4.6	Nov 2 1964
MAXIMUM PEAK FLOW			5210	Apr 5	7540	Apr 13 1970
MAXIMUM PEAK STAGE			8.26	Apr 5	10.17	Apr 13 1970
INSTANTANEOUS LOW FLOW					3.0	Dec 6 1964
10 PERCENT EXCEEDS	1380		958		881	
50 PERCENT EXCEEDS	321		195		186	
90 PERCENT EXCEEDS	129		29		30	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1961, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	247	373	297	387	837	1066	541	204	131	120	72.8
MAX	709	647	708	564	713	1373	1496	1103	631	318	276	177
(WY)	1956	1960	1957	1959	1961	1955	1958	1960	1960	1958	1956	1958
MIN	23.7	41.3	27.0	27.6	127	394	411	151	63.9	25.1	16.9	24.3
(WY)	1958	1961	1961	1961	1958	1960	1955	1955	1955	1955	1957	1957

SUMMARY STATISTICS	WATER YEARS 1955 - 1961	
ANNUAL MEAN	372	
HIGHEST ANNUAL MEAN	492	1956
LOWEST ANNUAL MEAN	266	1955
HIGHEST DAILY MEAN	5970	Mar 8 1956
LOWEST DAILY MEAN	8.9	Sep 10 1957
ANNUAL SEVEN-DAY MINIMUM	10	Sep 24 1959
MAXIMUM PEAK FLOW	**b**7970	Mar 8 1956
MAXIMUM PEAK STAGE	**c**13.31	Jan 22 1959
INSTANTANEOUS LOW FLOW	8.9	Sep 9,10 1957
ANNUAL RUNOFF (CFSM)	1.60	
ANNUAL RUNOFF (INCHES)	21.69	
10 PERCENT EXCEEDS	942	
50 PERCENT EXCEEDS	160	
90 PERCENT EXCEEDS	26	

a Also Nov. 6, 12, 1964, Sept. 14, 2002.
b Gage height 10.48 ft.
c Backwater from ice.



01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 2004													
29...	1145	1028	9813	2050	30	12.3	7.1	7.0	47	46	6.9	17	4.9
JAN 2005													
26...	1330	1028	9813	E390	30	15.4	7.1	7.2	51	48	.1	18	4.7
MAR													
23...	1230	1028	9813	442	30	13.2	7.4	7.2	54	51	3.3	19	5.1
MAY													
04...	1230	1028	9813	205	30	11.8	7.5	7.2	53	53	9.7	19	5.1
JUL													
27...	1215	1028	9813	76	30	9.3	7.8	8.0	67	70	25.1	28	7.5
SEP													
08...	1230	1028	9813	59	30	9.3	8.1	6.7	62	63	20.2	24	6.8

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)
NOV 2004													
29...	4.7	1.2	1.2	10	15	8.2	66	2	<.020	.42	<.040	.01	.019
JAN 2005													
26...	4.9	1.3	1.3	11	17	9.9	38	2	<.020	.48	<.040	.01	<.010
MAR													
23...	5.2	1.4	1.4	11	7.6	10.1	62	<2	.030	.29	<.040	<.01	<.010
MAY													
04...	5.2	1.4	1.4	10	11	9.3	52	<2	.030	.29	<.040	<.01	<.010
JUL													
27...	7.9	1.9	2.0	17	--	10.9	46	<2	<.020	.09	<.040	.01	.013
SEP													
08...	6.8	1.7	1.7	17	.40	10.0	58	<2	.030	.36	<.040	<.01	.014

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Total nitro-gen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)
NOV 2004													
29...	.57	.9	10	210	<4	<4	30	280	<1.0	<1.0	30	90	<4.0
JAN 2005													
26...	.51	.7	10	130	<4	<4	<20	120	<1.0	<1.0	30	40	<4.0
MAR													
23...	.27	.9	40	110	<4	<4	30	130	<1.0	<1.0	50	50	<4.0
MAY													
04...	.39	.6	30	60	<4	<4	60	120	<1.0	<1.0	40	80	<4.0
JUL													
27...	.09	.6	60	80	<4	<4	40	80	<1.0	<1.0	10	20	<4.0
SEP													
08...	.43	.8	70	80	<4	<4	60	100	<1.0	<1.0	10	10	<4.0

Date	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV 2004			
29...	<4.0	<5.0	<5.0
JAN 2005			
26...	<4.0	<5.0	<5.0
MAR			
23...	<4.0	<5.0	<5.0
MAY			
04...	<4.0	<5.0	<5.0
JUL			
27...	<4.0	<5.0	7.5
SEP			
08...	<4.0	<5.0	<5.0

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/20/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	3
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	5
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	3
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Sphaerium	14
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbricina	1
Lumbriculida	
Lumbriculidae	2
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	1
Ephemerellidae	
Ephemerella	2
Eurylophella	4
Serratella	1
Heptageniidae	
Stenonema	13
Isonychiidae	
Isonychia	9
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Gomphidae	1
Plecoptera (STONEFLIES)	
Perlidae	
Acroneuria	3
Taeniopterygidae	
Taeniopteryx	2
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Nigronia	2

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/20/04
Benthic macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Apataniidae	
Apatania	5
Brachycentridae	
Micrasema	1
Hydropsychidae	
Cheumatopsyche	3
Hydropsyche	27
Lepidostomatidae	
Lepidostoma	2
Leptoceridae	
Oecetis	2
Polycentropodidae	
Neureclipsis	3
Rhyacophilidae	
Rhyacophila	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	1
Stenelmis	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	6
Empididae (DANCE FLIES)	
Hemerodromia	4
Total Organisms	123
Total Taxa	29

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA

LOCATION.--Lat 41°19'28", long 77°45'03", Clinton County, Hydrologic Unit 02050203, on right bank at abandoned Eighth Street bridge abutment at South Renovo, and 1.0 mi upstream from Paddy Run.

DRAINAGE AREA.--2,975 mi^2.

PERIOD OF RECORD.--October 1907 to current year. Gage height records collected July 1895 to December 1903 and October 1905 to September 1974 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1908-10, 1912-13, 1914-15(M). WSP 2103: 1968 (monthly mean). WDR PA-88-2: 1987.

GAGE.--Water-stage recorder. Datum of gage is 634.19 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 17, 1930, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow slightly regulated by 4 flood-control reservoirs which have a combined capacity of 316,000 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 27.3 ft, June 1, 1889, from floodmark, discharge, about 211,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4380	3530	16400	4680	e2800	4300	19100	3220	1660	1040	541	2730
2	3750	3250	25400	4390	e2800	4180	18300	3100	1500	1060	473	1810
3	3400	3400	19000	4380	2720	3810	16400	3020	1390	920	390	1020
4	3290	3640	14200	12100	2710	e3300	15200	2900	1510	832	385	816
5	3210	4380	10800	19200	2630	e2900	20100	2660	1660	795	370	631
6	2710	4750	8900	24400	2490	2980	21100	2490	1540	962	352	547
7	2530	4740	7970	34600	2430	3310	15400	2330	1540	1710	338	476
8	2970	4620	8600	27800	2630	4940	11200	2300	1690	1620	328	407
9	2690	4210	8800	25500	3350	7180	9280	2310	1510	1430	333	386
10	2110	3830	10600	21200	7720	6360	7820	2070	1360	1370	351	382
11	2030	3810	17000	18300	11400	6100	6790	2080	1420	1240	362	328
12	1890	3700	17800	18400	9610	5800	6100	2060	1610	1060	554	340
13	1810	3740	14700	22500	7960	5470	5360	1890	1690	886	480	303
14	1840	3700	11900	35700	6770	5830	4900	1790	1540	764	382	274
15	2100	3440	9730	32600	7900	4720	4490	1880	1340	674	386	259
16	2270	3270	8070	22800	11700	3820	3970	2010	1500	672	382	260
17	2260	3030	7060	15500	12600	3730	3680	1960	1710	733	367	279
18	2030	2780	6450	11700	11100	3610	3400	1870	1570	1030	296	293
19	2520	2650	5880	9500	9300	3560	3270	1610	1430	1160	375	363
20	5210	2590	5140	8520	7910	3830	3160	1600	1230	901	454	353
21	4700	2650	e3900	7140	7450	4630	2990	1720	1100	685	545	327
22	3730	2610	e4200	e5600	6950	5320	3000	1700	1050	608	503	295
23	3290	2530	5130	e4800	6620	6080	3080	1720	982	564	443	300
24	3040	2630	9450	e4000	6070	8160	3790	1700	932	561	367	278
25	2810	4780	9120	e3900	5680	9990	3940	1770	862	622	313	274
26	2710	7510	e7700	e4300	5170	8990	3630	1840	800	655	274	275
27	2640	7540	e6400	e4400	4500	8430	3480	1670	758	828	259	335
28	2430	9130	e5200	e3200	4230	12800	3410	1520	729	905	274	534
29	2240	13900	5210	e2600	---	25700	3270	1530	784	970	286	589
30	2960	12700	5300	e3200	---	27000	3130	1700	1520	818	550	517
31	3630	---	4850	e3300	---	22200	---	1760	---	630	1660	---
TOTAL	89180	139040	300860	420210	175200	229030	232740	63780	39917	28705	13373	15981
MEAN	2877	4635	9705	13560	6257	7388	7758	2057	1331	926	431	533
MAX	5210	13900	25400	35700	12600	27000	21100	3220	1710	1710	1660	2730
MIN	1810	2530	3900	2600	2430	2900	2990	1520	729	561	259	259
CFSM	0.97	1.56	3.26	4.56	2.10	2.48	2.61	0.69	0.45	0.31	0.15	0.18
IN.	1.12	1.74	3.76	5.25	2.19	2.86	2.91	0.80	0.50	0.36	0.17	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 2005, BY WATER YEAR (WY)

MEAN	2197	3916	5068	5774	6166	10840	9842	7003	3933	2130	1483	1667
MAX	10330	16700	13570	19060	16640	34360	25010	16670	18840	8100	8734	16900
(WY)	1912	1951	1928	1937	1915	1936	1940	1919	1972	1928	2003	2004
MIN	139	174	307	196	1078	3141	2456	1436	659	368	166	166
(WY)	1931	1931	1931	1931	1934	1969	1925	1941	1999	1965	1930	1908

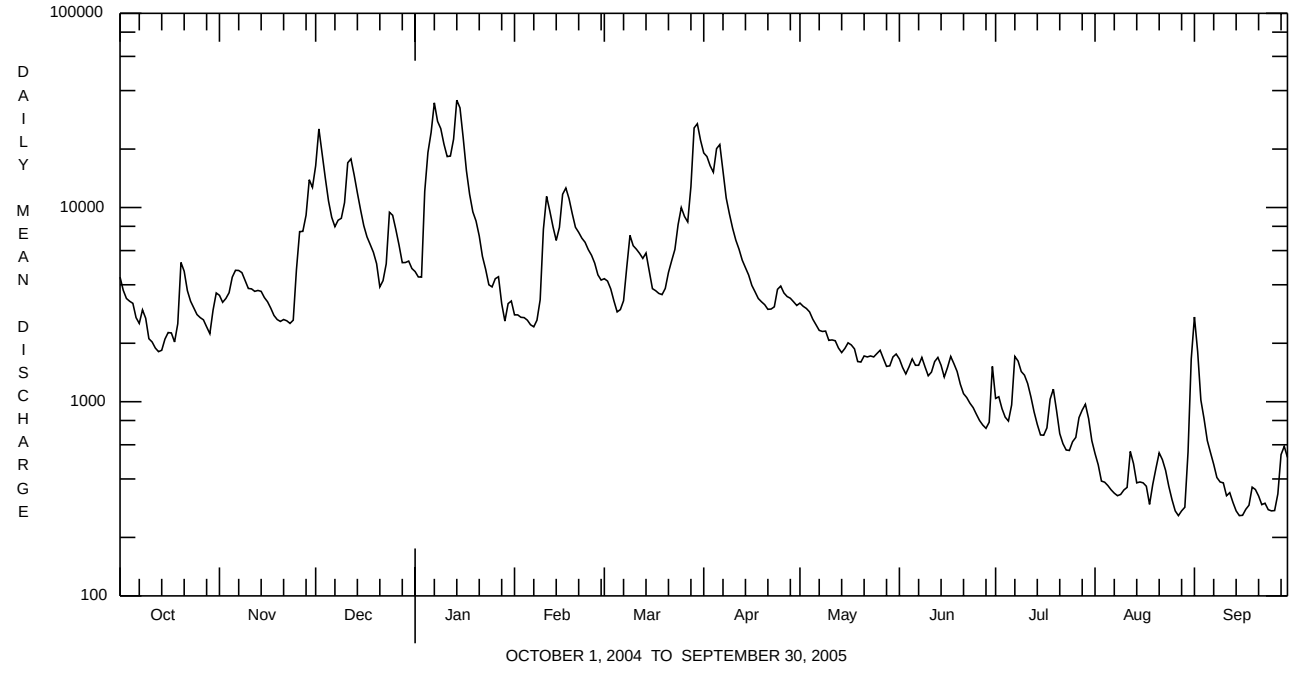
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1908 - 2005	
ANNUAL TOTAL	2935560		1748016			
ANNUAL MEAN	8021		4789		4995	
HIGHEST ANNUAL MEAN					8741	2004
LOWEST ANNUAL MEAN					2579	1934
HIGHEST DAILY MEAN	99100	Sep 18	35700	Jan 14	201000	Mar 18 1936
LOWEST DAILY MEAN	1190	Jul 4	259	Aug 27,Sep 15	80	Dec 6 1908
ANNUAL SEVEN-DAY MINIMUM	1450	Jun 29	287	Sep 12	104	Aug 29 1939
MAXIMUM PEAK FLOW			40900	Jan 14	**a**236000	Mar 18 1936
MAXIMUM PEAK STAGE			11.40	Jan 14	**b**29.39	Mar 18 1936
INSTANTANEOUS LOW FLOW					80	Dec 6 1908
ANNUAL RUNOFF (CFSM)	2.70		1.61		1.68	
ANNUAL RUNOFF (INCHES)	36.71		21.86		22.81	
10 PERCENT EXCEEDS	17300		11800		11800	
50 PERCENT EXCEEDS	5040		2810		2790	
90 PERCENT EXCEEDS	2100		384		480	

a From rating curve extended above 87,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark in gage.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA

LOCATION.--Lat 41°23'22", long 77°41'28", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4005, 0.3 mi downstream from Laurelly Fork, 1.5 mi upstream from Left Branch Young Womans Creek, 3.7 mi upstream from mouth, and 5.0 mi northeast of Renovo.

DRAINAGE AREA.--46.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 780.41 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 a base discharge of 460 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	2000	681	3.61	Apr. 3	1000	*933	*4.03

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	48	272	62	53	54	388	38	17	8.1	3.2	22
2	46	46	301	57	50	50	520	36	16	8.0	2.9	11
3	44	51	252	67	44	e45	871	35	18	7.2	2.6	7.5
4	40	53	194	108	40	e40	608	34	20	6.6	2.3	5.8
5	37	63	154	120	37	e35	386	33	17	7.9	2.1	4.8
6	34	63	127	146	36	e38	281	32	18	16	2.4	3.9
7	33	65	122	154	36	e40	223	32	19	13	2.5	3.5
8	31	64	125	157	41	e58	180	32	16	12	1.8	3.2
9	29	61	120	153	55	56	146	31	15	11	1.8	2.8
10	29	58	163	140	100	e55	124	31	14	9.6	1.7	2.4
11	27	56	226	124	103	55	107	30	14	7.8	1.4	2.1
12	26	56	234	126	102	e50	95	29	14	7.0	1.3	1.9
13	26	51	204	161	94	e47	85	28	13	6.5	1.3	1.8
14	26	47	164	585	89	e43	76	29	13	6.1	1.3	1.8
15	40	45	134	542	96	e42	68	31	12	6.2	1.3	1.7
16	44	44	114	335	105	e41	62	28	17	6.5	1.3	1.8
17	33	42	101	231	111	42	58	27	14	7.6	1.4	2.1
18	30	42	89	170	113	43	55	25	15	9.4	1.2	2.0
19	70	40	82	137	107	43	52	24	14	7.1	2.2	1.7
20	70	42	e66	117	99	48	50	25	12	5.7	3.5	1.6
21	68	40	e70	e92	94	52	48	25	12	5.2	2.4	1.5
22	66	38	66	e88	84	54	46	23	11	6.3	1.6	1.3
23	63	36	84	e85	75	67	48	23	11	5.4	1.2	1.3
24	63	49	88	e82	69	75	51	24	9.7	4.4	1.1	1.6
25	60	93	88	e80	64	79	46	23	9.2	4.6	0.98	1.6
26	56	113	90	72	59	84	43	22	8.7	4.4	0.88	3.6
27	54	113	85	e64	e56	85	40	20	8.3	6.2	0.92	7.3
28	51	189	e80	e62	53	248	38	21	8.4	7.6	2.3	3.5
29	50	226	e75	e60	---	416	37	21	9.5	5.2	2.6	4.7
30	54	202	70	e58	---	470	39	20	8.8	4.0	14	5.4
31	52	---	65	57	---	410	---	19	---	3.5	44	---
TOTAL	1401	2136	4105	4492	2065	2965	4871	851	404.6	226.1	111.48	117.2
MEAN	45.2	71.2	132	145	73.8	95.6	162	27.5	13.5	7.29	3.60	3.91
MAX	70	226	301	585	113	470	871	38	20	16	44	22
MIN	26	36	65	57	36	35	37	19	8.3	3.5	0.88	1.3
CFSM	0.98	1.54	2.87	3.14	1.60	2.07	3.51	0.59	0.29	0.16	0.08	0.08
IN.	1.13	1.72	3.31	3.62	1.66	2.39	3.92	0.69	0.33	0.18	0.09	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2005, BY WATER YEAR (WY)

MEAN	39.2	75.4	83.7	68.1	85.6	137	158	95.9	59.4	35.7	24.1	31.4
MAX	181	211	194	164	250	349	447	204	303	162	244	290
(WY)	1991	1997	1973	1996	1984	1979	1993	1996	1972	1992	1994	2004
MIN	4.05	4.65	8.63	8.25	19.6	44.7	60.9	27.5	9.09	4.64	2.47	2.17
(WY)	1983	1999	1999	1981	1987	1969	1988	2005	1991	1966	1999	1998

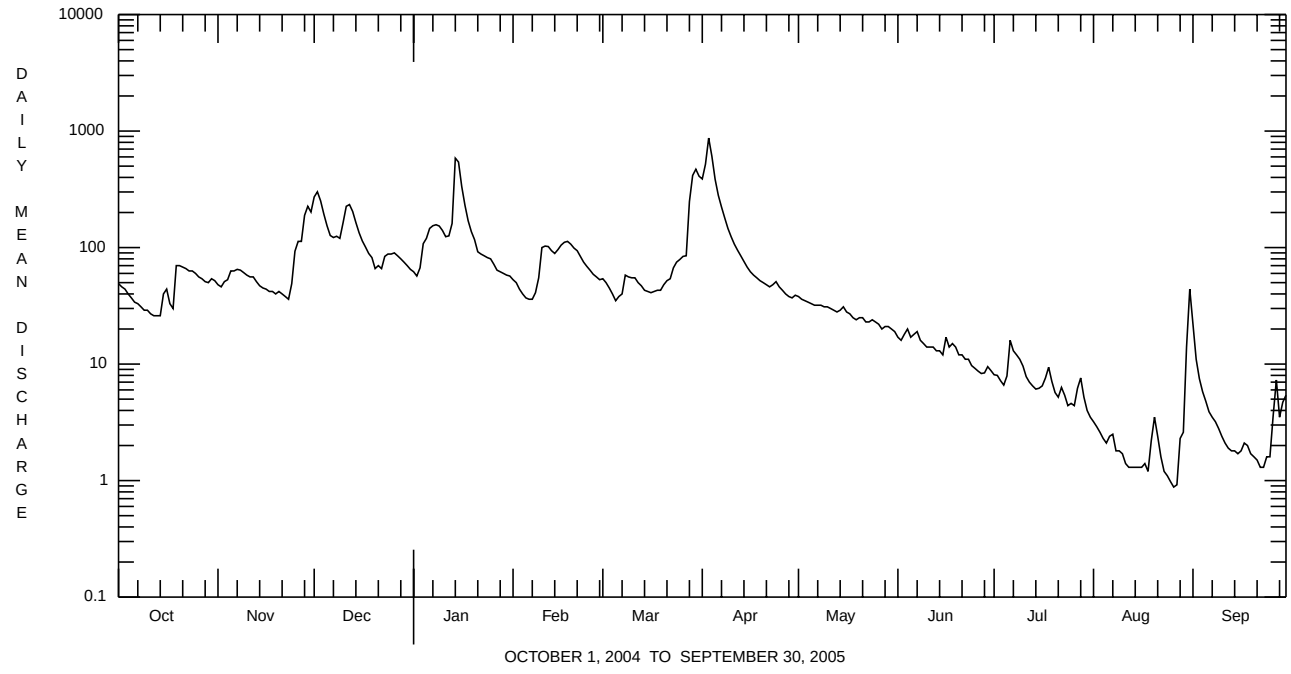
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1965 - 2005	
ANNUAL TOTAL	42466		23745.38			
ANNUAL MEAN	116		65.1		74.9	
HIGHEST ANNUAL MEAN					130	2004
LOWEST ANNUAL MEAN					37.4	2001
HIGHEST DAILY MEAN	**e**2300	Sep 18	871	Apr 3	3310	Jun 23 1972
LOWEST DAILY MEAN	16	Jul 3,4,11	0.88	Aug 26	0.53	Sep 4 1999
ANNUAL SEVEN-DAY MINIMUM	18	Jun 28	1.3	Aug 22	0.92	Aug 30 1999
MAXIMUM PEAK FLOW			933	Apr 3	**a**5370	Jun 23 1972
MAXIMUM PEAK STAGE			4.03	Apr 3	7.98	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.51		1.41		1.62	
ANNUAL RUNOFF (INCHES)	34.19		19.12		22.03	
10 PERCENT EXCEEDS	211		142		171	
50 PERCENT EXCEEDS	70		41		42	
90 PERCENT EXCEEDS	29		2.4		6.5	

a From rating curve extended above 1,000 ft^3/s on basis of slope-area measurement of peak flow.
e Estimated.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to 1999, 2004 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1980 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT 2004										
26...	0555	1028	83613	57	6.8	36	9.7	3.86	1.02	.72
NOV										
16...	0825	1028	83613	44	6.4	34	3.3	3.63	.91	.60
DEC										
14...	0830	1028	83613	170	6.1	34	4.8	3.19	.84	.63
JAN 2005										
11...	0645	1028	83613	126	6.0	34	-.4	3.36	.86	.60
FEB										
08...	0530	1028	83613	37	6.5	36	2.6	3.53	.89	.63
08...	0745	1028	83613	39	6.5	33	1.6	3.44	.85	.58
APR										
02...	1220	1028	83613	471	6.2	30	6.7	2.91	.76	.60
02...	2055	1028	83613	703	6.2	29	6.1	2.79	.71	.62
03...	1310	1028	83613	917	6.2	30	5.8	2.89	.74	.62
05...	0745	1028	83613	410	6.3	31	4.8	3.06	.79	.61
26...	0708	1028	83613	43	6.6	35	4.8	3.61	.89	.74
MAY										
04...	1308	1028	83613	35	6.1	35	--	3.75	.91	.69
31...	0600	1028	83613	19	6.2	38	8.8	4.25	.99	.73
JUN										
28...	0415	1028	83613	8.1	6.3	43	19.4	4.87	1.10	.88
29...	1619	1028	83613	11	6.2	42	22.2	4.91	1.10	1.01
30...	0354	1028	83613	9.1	6.5	47	19.9	5.26	1.16	.92
JUL										
05...	2319	1028	83613	13	6.5	47	19.6	5.75	1.15	.96
06...	0300	1028	83613	22	6.6	47	19.4	5.40	1.14	.96
17...	1535	1028	83613	7.1	6.3	44	22.9	4.87	1.09	.92
18...	2200	1028	83613	8.6	6.5	46	22.6	5.14	1.16	.93
26...	0540	1028	83613	4.5	6.8	49	19.5	5.26	1.20	.93
AUG										
08...	1235	1028	83613	1.8	6.4	54	--	6.07	1.24	1.00
23...	0740	1028	83613	1.4	6.9	53	16.9	5.76	1.31	.97
SEP										
20...	0730	1028	83613	1.6	6.7	52	17.0	5.68	1.31	.93

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Sodium, water, fltrd, mg/L (00930)	ANC, water, unfltrd Gran titr., ueq/L (00409)	Chlor-ide, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water, fltrd, mg/L as N (00618)	Organic carbon, water, fltrd, mg/L (00681)	Alum-inum, water, fltrd, µg/L (01106)	Organic mono-meric alum-inum, wat unf µg/L (49288)
OCT 2004										
26...	.76	125	1.0	2.08	8.2	<.028	.20	1.0	<27	<40
NOV										
16...	.76	93	1.0	1.90	7.3	<.028	.23	.9	<27	<40
DEC										
14...	.59	83	.8	2.03	8.2	<.028	.29	1.4	39	<40
JAN 2005										
11...	.65	76	.9	1.93	8.3	<.028	.37	.9	35	<40
FEB										
08...	.86	83	1.1	1.68	7.4	.078	.40	1.0	<27	<40
08...	.79	84	1.1	1.81	8.1	<.028	.34	1.0	<27	<40
APR										
02...	.64	57	.9	1.74	6.9	.048	.26	2.1	<27	<40
02...	.63	46	.9	1.64	6.8	.038	.27	2.2	<27	<40
03...	.55	45	.7	1.75	7.3	.047	.30	1.7	<27	<40
05...	.58	53	.8	1.88	7.6	.036	.31	.9	<27	<40
26...	.83	96	1.2	1.91	7.8	.067	.28	.8	<27	<40
MAY										
04...	.89	110	1.1	1.84	7.2	<.028	.21	3.3	<27	<40
31...	1.02	131	1.4	1.89	7.4	<.028	.24	1.0	<27	<40
JUN										
28...	1.26	186	1.4	1.80	7.1	<.028	.33	1.2	43	<40
29...	1.22	165	1.6	1.75	6.8	<.028	<.03	7.8	<27	<40
30...	1.28	219	1.5	1.81	6.9	.368	<.03	5.6	74	<40
JUL										
05...	1.27	207	1.4	1.64	6.8	.240	<.03	7.4	363	<40
06...	1.25	207	1.4	1.75	7.1	.305	<.03	5.2	233	<40
17...	1.31	203	1.6	1.47	6.4	<.028	<.03	8.2	<27	<40
18...	1.36	213	1.6	1.52	6.7	<.028	<.03	6.4	<27	<40
26...	1.47	235	2.0	1.35	7.7	.038	.27	1.0	<27	<40
AUG										
08...	1.71	242	2.5	1.17	6.9	.318	<.03	10.8	217	<40
23...	1.80	253	2.5	1.21	6.8	.053	<.03	1.0	<27	<40
SEP										
20...	1.78	242	2.6	1.07	7.6	<.028	.19	.9	<27	<40

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546400 SPRING CREEK AT HOUSERVILLE, PA

LOCATION.--Lat 40°50'01", long 77°49'40", Centre County, Hydrologic Unit 02050204, on right bank 15 ft upstream from bridge on Township Route 365, 0.7 mi north of Houserville, 1.3 mi downstream from Slab Cabin Run, and 3.3 mi northeast of State College.

DRAINAGE AREA.--58.5 mi^2.

PERIOD OF RECORD.--November 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 926.63 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 a base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	1015	402	5.41	Jan. 8	1015	435	5.54
Jan. 6	1300	542	5.97	Mar. 29	0615	*593	*6.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	69	303	83	69	76	213	62	39	29	26	29
2	146	67	228	80	66	71	277	59	38	29	25	25
3	137	67	195	101	66	69	269	58	42	29	25	23
4	124	71	164	131	66	66	229	56	39	28	24	23
5	116	71	145	167	63	64	198	55	38	35	24	22
6	108	66	132	479	61	65	179	53	47	33	24	22
7	102	64	134	390	62	82	166	53	43	30	23	22
8	97	62	123	347	73	129	155	51	39	39	26	22
9	94	60	118	270	126	96	140	50	38	31	25	22
10	91	58	186	234	182	91	131	50	38	29	24	24
11	87	58	171	219	121	92	123	49	39	28	25	24
12	85	85	155	238	111	87	116	48	38	27	24	22
13	83	70	148	214	101	83	110	46	37	27	23	21
14	84	64	135	309	121	77	104	47	36	27	23	21
15	98	62	121	254	151	73	99	49	35	27	23	23
16	89	62	112	235	133	71	95	45	35	30	31	22
17	81	61	106	210	123	70	91	44	34	49	24	22
18	76	61	98	177	112	68	86	43	34	28	23	22
19	121	60	94	164	104	67	83	43	33	27	30	22
20	89	61	90	154	100	69	80	50	33	26	23	22
21	90	59	88	136	102	70	79	44	32	26	22	22
22	84	60	83	124	97	67	78	43	32	25	22	22
23	80	59	142	118	93	85	84	46	32	25	21	22
24	79	93	e110	107	88	98	79	43	31	25	21	22
25	75	121	e100	103	86	106	75	42	31	42	21	22
26	73	104	e98	99	82	102	71	41	37	28	21	27
27	71	99	e96	89	77	101	68	40	31	27	21	23
28	69	169	e94	80	76	263	66	48	30	26	21	24
29	69	132	e90	77	---	519	64	42	30	25	21	28
30	81	125	86	76	---	338	64	41	30	25	21	23
31	71	---	84	72	---	259	---	40	---	25	e75	---
TOTAL	2898	2320	4029	5537	2712	3574	3672	1481	1071	907	782	690
MEAN	93.5	77.3	130	179	96.9	115	122	47.8	35.7	29.3	25.2	23.0
MAX	148	169	303	479	182	519	277	62	47	49	75	29
MIN	69	58	83	72	61	64	64	40	30	25	21	21
CFSM	1.60	1.32	2.22	3.05	1.66	1.97	2.09	0.82	0.61	0.50	0.43	0.39
IN.	1.84	1.48	2.56	3.52	1.72	2.27	2.34	0.94	0.68	0.58	0.50	0.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	46.8	57.1	75.6	78.5	71.4	113	121	80.1	63.4	43.8	40.3	54.2
MAX	210	142	240	191	151	263	404	161	152	94.1	112	274
(WY)	1997	1997	1997	1996	1998	1994	1993	1998	2002	1989	2003	2004
MIN	18.2	18.6	15.0	22.6	32.2	54.0	49.8	46.2	31.0	24.2	22.1	18.1
(WY)	1993	2002	1999	2002	1992	1990	1995	2001	1999	1999	1995	1995

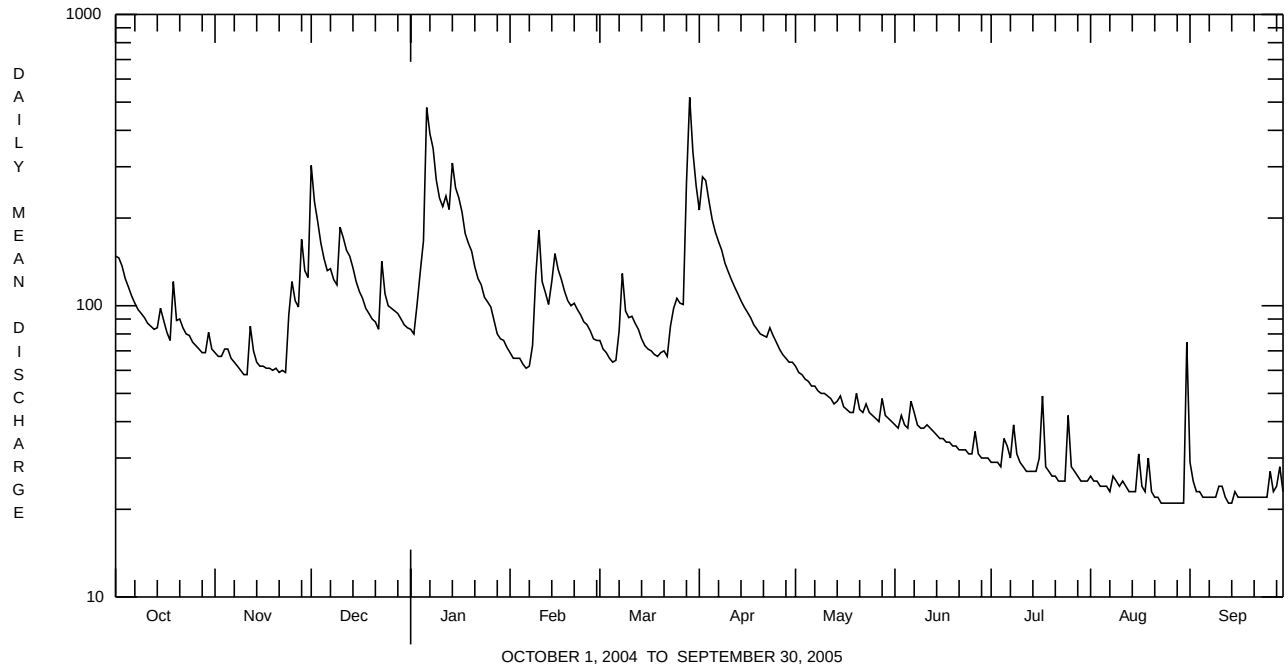
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546400 SPRING CREEK AT HOUSERVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	43236		29673			
ANNUAL MEAN	118		81.3		70.9	
HIGHEST ANNUAL MEAN					127	2004
LOWEST ANNUAL MEAN					38.9	2001
HIGHEST DAILY MEAN	1620	Sep 18	519	Mar 29	1620	Sep 18 2004
LOWEST DAILY MEAN	39	Jul 11	21	Aug 23**a**	13	Dec 31 1998**b**
ANNUAL SEVEN-DAY MINIMUM	44	Jun 28	21	Aug 23	**c**13	Jan 5 1999
MAXIMUM PEAK FLOW			593	Mar 29	2370	Jan 19 1996
MAXIMUM PEAK STAGE			6.47	Mar 29	10.05	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.02		1.39		1.21	
ANNUAL RUNOFF (INCHES)	27.49		18.87		16.46	
10 PERCENT EXCEEDS	192		154		135	
50 PERCENT EXCEEDS	90		67		51	
90 PERCENT EXCEEDS	54		23		22	

a Also Aug. 24-30, Sept. 13, 14.
b Also Jan. 1, 5-8, 10, 11, 1999.
c Computed using estimated daily discharges.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°53'23", long 77°47'40", Centre County, Hydrologic Unit 02050204, on right bank at upstream side of bridge on SR 3001, 1.6 mi west of Axemann, 1.8 mi southwest of Bellefonte, and 2.5 mi upstream from Logan Branch.

DRAINAGE AREA.--87.2 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 788.81 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 19, 1940, nonrecording gage at same site and datum. Nonrecording gage Mar. 6 to Sept. 30, 1995.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of 8.6 ft, from information by local residents, discharge not determined.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	1645	580	3.72	Mar. 29	0915	*735	*3.98

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	120	336	125	135	135	306	112	79	66	60	69
2	218	115	299	120	130	129	353	110	77	65	58	62
3	212	114	262	129	129	124	365	108	81	64	57	59
4	196	115	231	180	129	122	319	105	78	64	56	56
5	186	121	208	191	124	120	283	103	76	69	55	55
6	177	114	194	480	122	119	261	101	81	77	54	56
7	170	111	194	483	121	130	246	100	84	69	54	54
8	165	109	186	427	130	184	233	98	77	77	56	53
9	160	107	172	358	159	154	213	97	76	70	54	53
10	155	105	245	318	260	148	200	96	77	67	53	55
11	149	104	246	297	185	149	190	95	75	67	54	54
12	143	127	222	314	173	146	180	94	77	66	54	55
13	140	116	214	293	164	140	174	93	83	65	52	52
14	141	109	201	374	171	134	167	92	77	65	51	52
15	151	107	184	333	218	130	163	96	74	64	52	52
16	146	106	175	316	196	127	158	91	73	67	58	54
17	137	106	168	294	185	123	154	89	72	93	58	54
18	131	105	160	261	174	125	149	88	71	70	53	53
19	169	103	155	245	165	122	144	87	71	67	63	52
20	144	105	145	232	161	122	140	96	71	65	55	53
21	142	103	140	212	163	124	136	88	71	63	54	52
22	136	101	137	199	157	120	134	87	70	63	53	53
23	131	102	184	191	153	135	142	90	70	61	53	53
24	129	122	171	179	149	151	137	87	69	60	54	51
25	129	161	145	173	146	161	130	85	69	80	53	51
26	124	142	e140	168	141	159	125	83	74	65	54	54
27	121	137	e130	159	136	155	121	81	71	65	53	56
28	119	208	e130	148	135	284	117	88	69	62	55	52
29	118	187	e130	145	---	638	114	85	68	60	55	56
30	128	178	130	145	---	450	115	82	66	59	57	52
31	119	---	126	139	---	361	---	81	---	58	119	---
TOTAL	4714	3660	5760	7628	4411	5421	5669	2888	2227	2073	1767	1633
MEAN	152	122	186	246	158	175	189	93.2	74.2	66.9	57.0	54.4
MAX	228	208	336	483	260	638	365	112	84	93	119	69
MIN	118	101	126	120	121	119	114	81	66	58	51	51
CFSM	1.74	1.40	2.13	2.82	1.81	2.01	2.17	1.07	0.85	0.77	0.65	0.62
IN.	2.01	1.56	2.46	3.25	1.88	2.31	2.42	1.23	0.95	0.88	0.75	0.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

MEAN	61.9	71.4	87.5	95.8	108	150	156	121	98.8	71.5	62.6	64.3
MAX	216	206	251	246	257	335	475	257	369	216	145	392
(WY)	1997	1978	1997	2005	1984	1994	1993	1978	1972	1972	2003	2004
MIN	26.1	26.0	22.8	23.3	38.1	36.5	49.6	50.5	41.1	28.0	24.4	24.9
(WY)	1964	1966	1966	1966	1963	1969	1969	1969	1965	1965	1966	1965

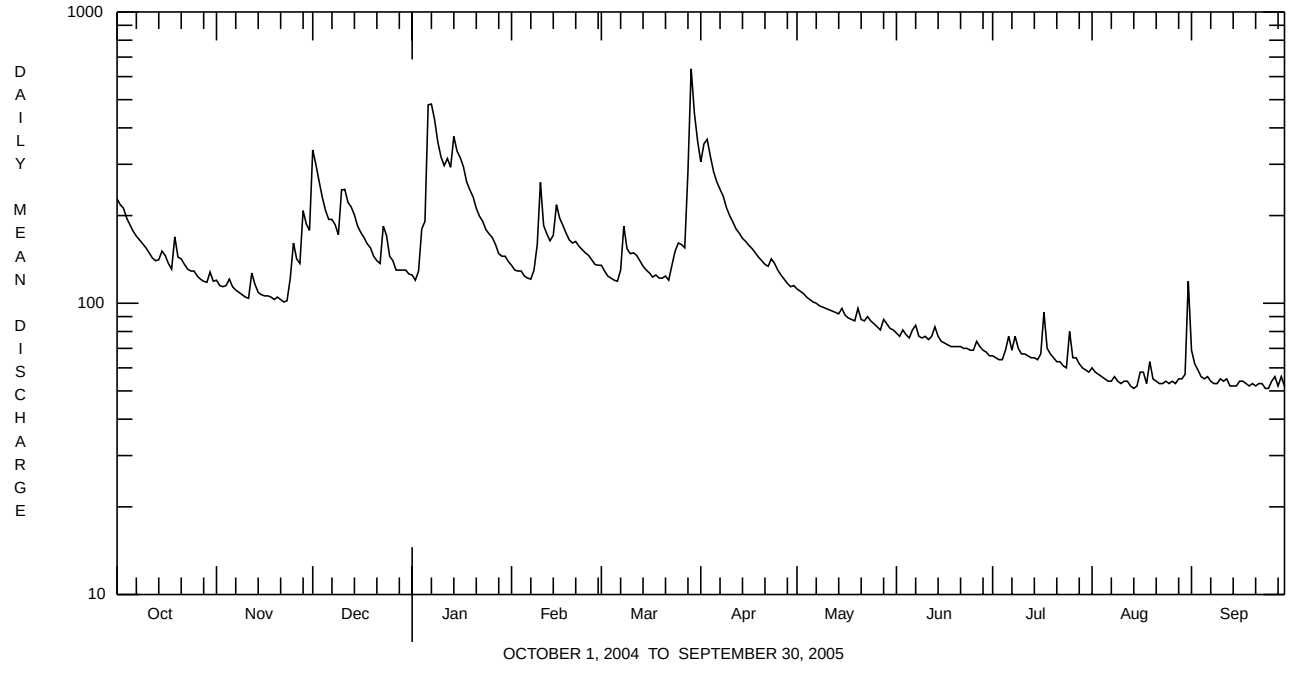
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	63104		47851			
ANNUAL MEAN	172		131		95.5	
HIGHEST ANNUAL MEAN					179	2004
LOWEST ANNUAL MEAN					43.5	1965
HIGHEST DAILY MEAN	2840	Sep 18	638	Mar 29	2910	Jun 23 1972
LOWEST DAILY MEAN	80	Jul 3	51	Aug 14**a**	20	Dec 20,30 1963**b**
ANNUAL SEVEN-DAY MINIMUM	82	Jun 28	52	Sep 19	21	Jan 28 1966
MAXIMUM PEAK FLOW			735	Mar 29	**c**5410	Jun 23 1972
MAXIMUM PEAK STAGE			3.98	Mar 29	**d**7.47	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.98		1.50		1.10	
ANNUAL RUNOFF (INCHES)	26.92		20.41		14.89	
10 PERCENT EXCEEDS	253		220		169	
50 PERCENT EXCEEDS	140		120		74	
90 PERCENT EXCEEDS	94		54		40	

a Also Sept. 24, 25.
b Also Jan 28, 29, 31, 1966.
c From rating curve extended above 1,400 ft^3/s on basis of contracted-opening measurement of peak flow.
d In gage; 8.75 ft from outside floodmark.



01546500 SPRING CREEK NEAR AXEMANN, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
16...	1400	1028	9813	111	30	11.9	8.5	8.3	568	513	8.0	270	65.9
JAN 2005													
05...	1045	1028	9813	178	30	11.2	8.1	8.2	511	506	7.7	230	59.4
MAR													
22...	0945	1028	9813	118	30	12.4	8.4	8.2	562	544	7.4	250	63.8
MAY													
18...	1115	1028	9813	85	30	13.7	8.5	8.5	575	577	12.6	260	62.1
JUL													
06...	0930	1028	9813	71	30	9.0	8.0	8.3	565	580	16.9	260	62.1
SEP													
14...	1115	1028	9813	49	30	12.4	8.4	8.5	608	635	15.6	260	60.7

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
16...	24.5	212	21.5	350	2	.070	4.18	<.040	.03	.029	4.2	1.5	<200
JAN 2005													
05...	19.9	192	26.4	312	4	.030	3.52	<.040	.02	.026	3.8	1.4	<200
MAR													
22...	22.6	205	23.5	342	4	.060	4.02	.040	.02	.022	4.3	1.6	<200
MAY													
18...	24.2	205	26.3	388	14	<.020	4.27	<.040	.01	.022	4.7	--	<200
JUL													
06...	24.2	206	24.2	352	12	.040	4.02	<.040	.03	.050	4.2	--	<200
SEP													
14...	25.2	205	29.7	454	2	.030	4.46	<.040	.02	.022	4.5	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
16...	<10	60	<1.0	<10	<50	<10
JAN 2005						
05...	<10	200	<1.0	<10	<50	10
MAR						
22...	<10	90	<1.0	<10	<50	<10
MAY						
18...	<10	70	<1.0	<10	<50	10
JUL						
06...	<10	160	<1.0	10	<50	10
SEP						
14...	<10	50	<1.0	<10	<50	<10

01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/26/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	10
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	
Fontigens nickliniana	1
Physidae	
Physa	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Sphaerium	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Tubificidae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	5
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	10
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
Lirceus	379
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	15
Ephemerellidae	
Ephemerella	1
Heptageniidae	
Stenonema	2
Tricorythidae	
Tricorythodes	1
Trichoptera (CADDISFLIES)	
Brachycentridae	
Micrasema	1
Hydropsychidae	3
Hydropsyche	36

01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	08/26/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	22
Stenelmis	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	35
Simuliidae (BLACK FLIES)	
Simulium	1
Total Organisms	531
Total Taxa	20

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547100 SPRING CREEK AT MILESBURG, PA

LOCATION.--Lat 40°55'54", long 77°47'13", Centre County, Hydrologic Unit 02050204, on left bank 60 ft downstream from privately-owned bridge, 400 ft west of State Highway 144, and 0.8 mi upstream from mouth and Milesburg.

DRAINAGE AREA.--142 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 696.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. 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 800 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	2015	1,010	5.61	Mar. 29	1030	*1,130	*5.92

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	476	276	575	263	286	281	612	249	186	159	e160	167
2	452	275	560	258	280	280	665	233	183	157	e150	154
3	436	278	497	277	279	264	702	234	191	156	e150	150
4	406	277	443	364	276	255	642	230	188	155	150	147
5	385	276	411	388	266	251	575	227	183	180	150	145
6	374	267	384	795	265	248	527	229	189	184	149	145
7	363	264	383	899	265	270	498	218	192	167	148	143
8	354	262	366	820	276	361	471	217	182	180	151	142
9	347	259	347	728	317	317	431	219	180	169	151	143
10	337	258	441	668	478	303	407	219	181	162	150	142
11	326	254	476	622	364	301	386	215	178	164	150	141
12	319	276	444	641	341	292	368	207	179	170	149	142
13	311	253	427	605	331	279	360	207	197	162	148	138
14	313	244	399	730	332	276	343	208	187	167	147	137
15	324	241	372	683	421	275	328	209	179	165	146	137
16	319	242	354	649	384	272	319	207	175	162	156	137
17	303	239	343	599	370	265	318	208	174	194	156	137
18	291	240	336	532	348	263	303	198	171	166	148	135
19	347	233	329	498	335	254	300	196	170	160	162	133
20	306	223	307	467	327	252	296	213	169	158	151	133
21	308	221	297	433	327	260	292	201	168	155	148	133
22	e290	228	289	409	322	257	287	198	168	154	147	131
23	e270	231	359	394	307	283	299	200	166	e150	145	131
24	e270	264	344	370	294	308	293	201	165	e150	145	131
25	e270	317	307	357	290	314	277	196	163	e170	144	130
26	e270	285	295	354	282	313	270	193	164	e160	146	136
27	e260	281	289	330	276	309	262	189	167	e160	144	138
28	e260	377	284	311	277	539	253	196	162	e150	147	131
29	e260	348	280	307	---	1040	251	196	161	e150	148	138
30	e270	347	274	307	---	837	252	191	158	e150	157	131
31	e270	---	264	296	---	707	---	189	---	e150	234	---
TOTAL	10087	8036	11476	15354	8916	10726	11587	6493	5276	5036	4727	4178
MEAN	325	268	370	495	318	346	386	209	176	162	152	139
MAX	476	377	575	899	478	1040	702	249	197	194	234	167
MIN	260	221	264	258	265	248	251	189	158	150	144	130
CFSM	2.29	1.89	2.61	3.49	2.24	2.44	2.72	1.48	1.24	1.14	1.07	0.98
IN.	2.64	2.11	3.01	4.02	2.34	2.81	3.04	1.70	1.38	1.32	1.24	1.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2005, BY WATER YEAR (WY)

MEAN	178	195	229	237	260	331	339	263	239	188	171	177
MAX	411	421	486	495	500	617	825	507	729	434	357	653
(WY)	1997	1978	1997	2005	1984	1994	1993	1978	1972	1972	1984	2004
MIN	102	107	121	118	128	104	149	147	123	118	110	108
(WY)	1970	2002	2002	2002	1969	1969	1969	1969	1969	1969	1968	1969

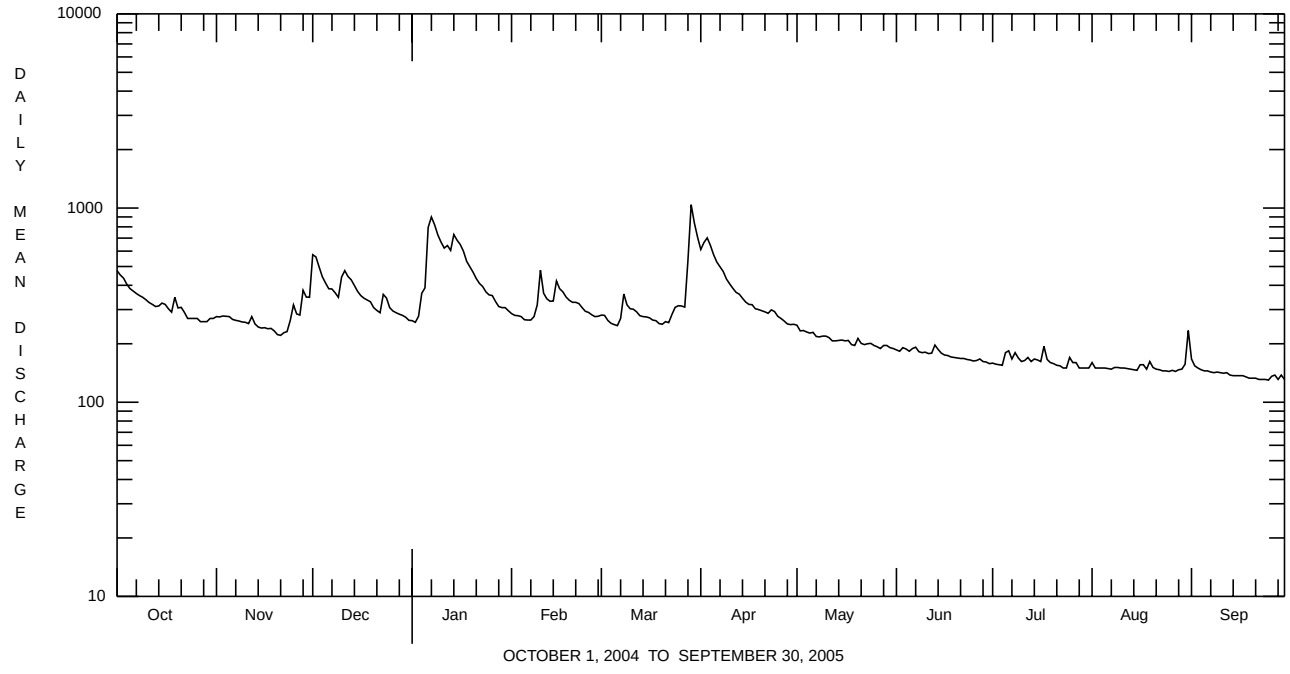
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547100 SPRING CREEK AT MILESBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1967 - 2005	
ANNUAL TOTAL	123440		101892			
ANNUAL MEAN	337		279		234	
HIGHEST ANNUAL MEAN					350	1978
LOWEST ANNUAL MEAN					128	1969
HIGHEST DAILY MEAN	4420	Sep 18	1040	Mar 29	6000	Jun 23 1972
LOWEST DAILY MEAN	169	Jul 3	130	Sep 25	82	Mar 24 1969
ANNUAL SEVEN-DAY MINIMUM	178	Jun 28	132	Sep 19	87	Mar 18 1969
MAXIMUM PEAK FLOW			1130	Mar 29	**a**8170	Jun 23 1972
MAXIMUM PEAK STAGE			5.92	Mar 29	**b**13.20	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.38		1.97		1.65	
ANNUAL RUNOFF (INCHES)	32.34		26.69		22.39	
10 PERCENT EXCEEDS	497		442		374	
50 PERCENT EXCEEDS	284		262		193	
90 PERCENT EXCEEDS	201		148		128	

a From rating curve extended above 1,570 ft^3/s on basis of flow-over-dam measurement of peak flow.
b From peak-stage indicator.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBURG, PA

LOCATION.--Lat 40°56'35", long 77°47'12", Centre County, Hydrologic Unit 02050204, on right bank 130 ft downstream from bridge on State Highway 144 at Milesburg, and 250 ft downstream from Spring Creek.

DRAINAGE AREA.--265 mi^2.

PERIOD OF RECORD.--October 1955 to current year. Prior to October 1967, published as North Bald Eagle Creek below Spring Creek at Milesburg.

GAGE.--Water-stage recorder. Datum of gage is 682.49 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 31, 1956, nonrecording gage at site 130 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 and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	1230	3,510	4.68
Jan. 6	1645	4,340	5.37
Mar. 29	0515	*4,490	*5.50

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	772	357	2340	399	378	432	1200	332	223	177	170	207
2	685	348	1630	378	367	418	1530	307	217	175	161	174
3	637	368	1120	460	365	381	1660	303	232	173	160	164
4	565	363	864	1270	364	360	1450	295	247	171	157	157
5	516	431	725	1350	356	365	1190	288	229	217	158	154
6	489	392	634	3330	358	375	1030	289	249	283	156	154
7	464	383	686	2720	370	563	904	277	291	202	154	152
8	443	370	721	2240	474	1150	802	274	236	222	157	150
9	430	355	640	1870	808	745	696	273	224	208	158	150
10	414	347	1220	1460	1590	614	630	272	223	189	155	150
11	398	334	1360	1220	916	569	579	267	239	185	154	148
12	384	427	1040	1480	736	518	536	256	232	190	154	149
13	371	409	865	1500	633	466	515	252	263	180	152	145
14	394	361	724	2130	605	437	482	255	295	184	152	145
15	447	350	628	1690	1010	422	453	264	227	185	150	145
16	468	351	570	1340	979	412	433	257	219	181	160	146
17	394	346	539	1110	865	403	423	254	214	223	163	145
18	364	347	503	868	724	418	404	240	208	186	156	145
19	716	337	486	782	620	431	397	235	203	178	172	143
20	554	332	390	747	581	467	390	272	200	174	162	143
21	509	335	e400	629	578	510	379	267	197	170	155	142
22	471	329	411	525	551	503	369	248	196	168	152	141
23	427	331	739	e540	532	672	411	245	193	167	150	142
24	414	631	662	e530	498	880	447	259	189	164	149	141
25	404	1170	503	e520	471	962	387	252	186	190	147	141
26	387	825	473	517	442	945	365	240	186	180	149	148
27	378	664	452	445	416	842	346	229	189	182	148	152
28	369	1380	413	e400	424	2130	332	236	182	174	151	148
29	361	1050	444	e410	---	3640	327	248	181	168	152	154
30	407	838	417	424	---	2120	332	235	178	164	172	148
31	380	---	397	398	---	1540	---	232	---	164	299	---
TOTAL	14412	14861	22996	33682	17011	24690	19399	8153	6548	5774	4985	4523
MEAN	465	495	742	1087	608	796	647	263	218	186	161	151
MAX	772	1380	2340	3330	1590	3640	1660	332	295	283	299	207
MIN	361	329	390	378	356	360	327	229	178	164	147	141
CFSM	1.75	1.87	2.80	4.10	2.29	3.01	2.44	0.99	0.82	0.70	0.61	0.57
IN.	2.02	2.09	3.23	4.73	2.39	3.47	2.72	1.14	0.92	0.81	0.70	0.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2005, BY WATER YEAR (WY)

MEAN	261	341	413	399	515	765	700	492	359	246	221	247
MAX	950	811	1035	1087	1227	1489	2001	1162	1689	804	643	1492
(WY)	1977	1978	1997	2005	1984	1994	1993	1978	1972	1972	1956	2004
MIN	89.8	94.3	103	141	147	255	276	235	131	102	101	84.3
(WY)	1964	1965	1966	1981	1963	1969	1968	2001	1965	1965	1965	1965

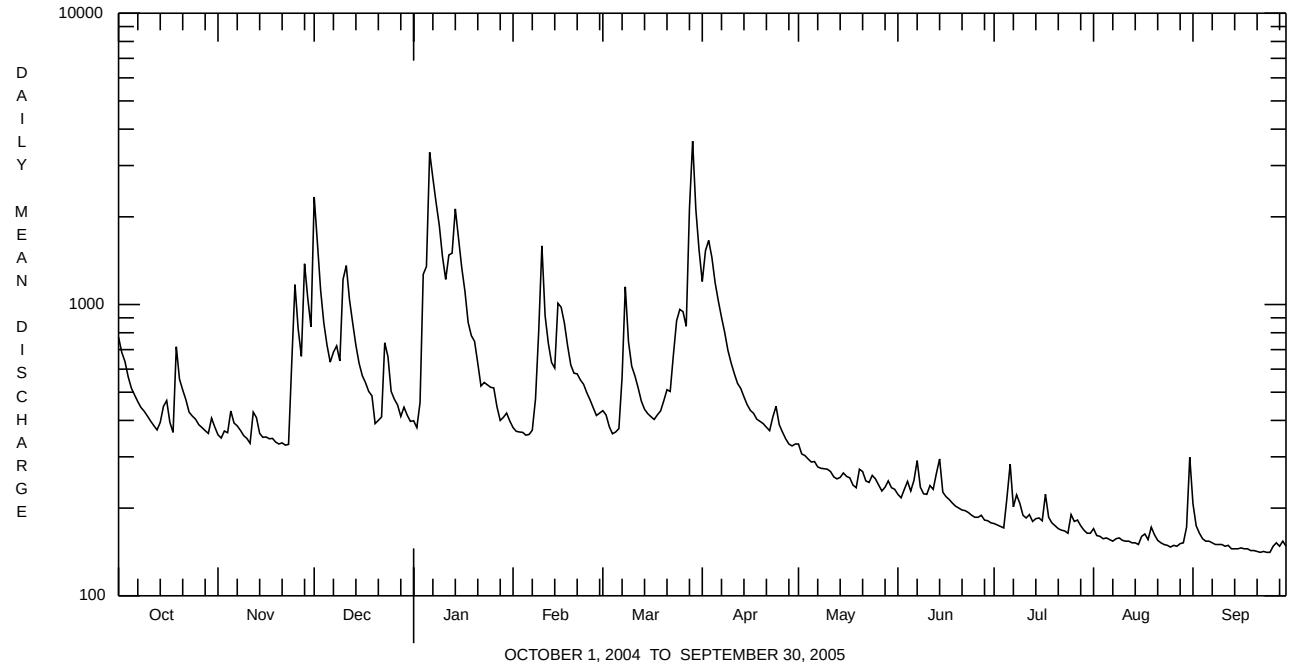
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1956 - 2005	
ANNUAL TOTAL	233627		177034			
ANNUAL MEAN	638		485		412	
HIGHEST ANNUAL MEAN					670	2004
LOWEST ANNUAL MEAN					213	1965
HIGHEST DAILY MEAN	13400	Sep 18	3640	Mar 29	15000	Jun 23 1972
LOWEST DAILY MEAN	189	Jul 3	141	Sep 22,24,25	79	Sep 11 1965
ANNUAL SEVEN-DAY MINIMUM	200	Jun 28	142	Sep 19	80	Sep 17 1965
MAXIMUM PEAK FLOW			4490	Mar 29	**ab**21300	Jun 23 1972
MAXIMUM PEAK STAGE			5.50	Mar 29	12.15	Sep 18 2004
ANNUAL RUNOFF (CFSM)	2.41		1.83		1.56	
ANNUAL RUNOFF (INCHES)	32.80		24.85		21.15	
10 PERCENT EXCEEDS	1130		991		800	
50 PERCENT EXCEEDS	428		367		266	
90 PERCENT EXCEEDS	263		154		134	

a From rating curve extended above 9,000 ft^3/s.
b At gage height 11.67 ft., from floodmark in gage.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01547500 BALD EAGLE CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'06", long 77°36'17", Centre County, Hydrologic Unit 02050204, on left bank 0.4 mi downstream from Foster Joseph Sayers Dam, 0.7 mi upstream from Marsh Creek, and 0.9 mi south of Blanchard.

DRAINAGE AREA.--339 mi^2.

PERIOD OF RECORD.--May 1954 to current year. Prior to October 1967, published as North Bald Eagle Creek at Blanchard.

REVISED RECORDS.--WSP 1903: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 579.79 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since March 1971 by Foster Joseph Sayers Dam (station 01547480). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3010	527	792	411	451	736	1860	253	174	258	170	164
2	2920	433	1300	411	366	681	1150	251	175	258	171	164
3	2840	339	2050	513	366	580	103	249	163	204	170	164
4	1470	468	2100	1290	418	355	1070	249	135	157	167	164
5	607	599	2050	1850	511	490	2000	209	135	197	168	164
6	548	442	1570	1480	507	455	2110	185	184	359	167	162
7	548	336	1060	1400	446	455	2160	185	203	244	167	160
8	548	341	988	1630	417	990	1980	185	167	224	167	160
9	549	376	849	2000	612	1200	1190	177	167	221	167	160
10	490	394	1340	2460	1450	1020	789	174	167	181	167	160
11	452	394	1610	2310	1670	715	789	174	167	155	170	160
12	452	515	1590	2120	1050	628	789	175	167	157	171	160
13	452	661	1580	2140	800	566	713	175	167	157	171	160
14	452	655	1300	809	603	516	385	177	224	159	171	160
15	521	651	851	1090	1130	470	232	177	334	194	171	160
16	649	690	707	1910	1610	470	235	178	260	216	170	160
17	493	769	668	2440	1590	466	236	178	218	276	167	160
18	382	707	611	2710	1570	587	240	178	220	255	167	160
19	889	651	610	2870	1540	602	240	178	220	191	167	146
20	785	647	547	1970	1520	510	241	178	174	170	165	132
21	499	644	417	907	1480	507	245	178	150	171	164	132
22	495	641	371	759	1450	577	246	178	151	171	165	132
23	493	637	822	607	1230	749	249	178	152	171	165	132
24	490	792	989	603	1120	1020	249	178	154	171	167	132
25	487	1210	660	602	1090	1350	249	178	154	170	167	130
26	487	1390	558	604	1060	1420	249	176	154	170	167	129
27	482	1380	558	547	881	1120	249	174	154	171	167	129
28	480	1790	556	390	758	1130	251	174	154	169	167	129
29	476	2120	553	431	---	634	253	174	221	167	167	129
30	550	1570	553	505	---	978	253	174	258	167	167	129
31	559	---	466	503	---	1360	---	174	---	168	164	---
TOTAL	24555	22769	30676	40272	27696	23337	21005	5821	5523	6099	5198	4483
MEAN	792	759	990	1299	989	753	700	188	184	197	168	149
MAX	3010	2120	2100	2870	1670	1420	2160	253	334	359	171	164
MIN	382	336	371	390	366	355	103	174	135	155	164	129

01547500 BALD EAGLE CREEK AT BLANCHARD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	413	582	584	542	661	744	681	557	450	319	278	360
MAX	1012	1291	1211	1299	1450	1664	2095	1328	1184	1580	867	1726
(WY)	1980	1978	1997	2005	1984	1979	1993	1978	1972	1972	1984	2004
MIN	159	188	160	133	275	238	208	188	167	139	140	120
(WY)	2002	1988	1999	1981	1993	1990	1976	2005	1999	1999	1995	1995

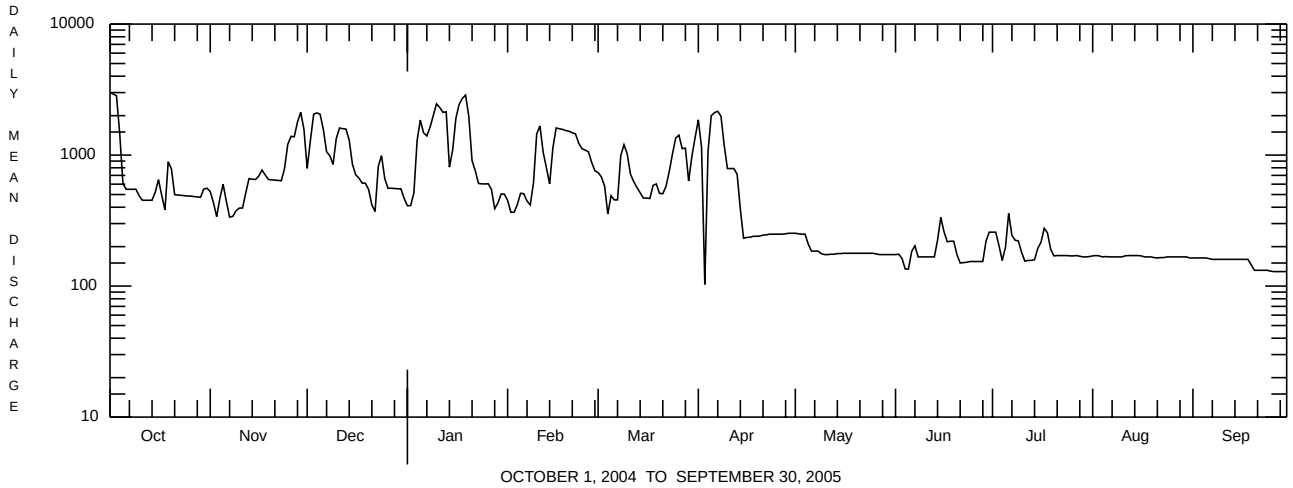
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1971 - 2005	
ANNUAL TOTAL	296709		217434			
ANNUAL MEAN	811		596		513	
HIGHEST ANNUAL MEAN					842	2004
LOWEST ANNUAL MEAN					300	2001
HIGHEST DAILY MEAN	3520	Sep 27	3010	Oct 1	4730	Jun 29 1972
LOWEST DAILY MEAN	131	Sep 19	103	Apr 3	5.3	Mar 29 1993**a**
ANNUAL SEVEN-DAY MINIMUM	213	Jun 28	130	Sep 24	71	Apr 20 1971
MAXIMUM PEAK FLOW			3060	Oct 1	**b**4890	Jun 28 1972
MAXIMUM PEAK STAGE			7.14	Oct 1	9.37	Jun 28 1972
INSTANTANEOUS LOW FLOW					0.00	May 12 1976**c**
10 PERCENT EXCEEDS	1820		1500		1070	
50 PERCENT EXCEEDS	558		394		332	
90 PERCENT EXCEEDS	290		160		160	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1970, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	224	287	330	318	506	855	797	547	289	212	201	178
MAX	534	557	686	547	909	1376	1392	1053	561	478	623	437
(WY)	1956	1960	1957	1960	1956	1964	1957	1960	1968	1956	1956	1956
MIN	105	102	109	161	158	304	318	289	137	105	100	99.8
(WY)	1965	1965	1966	1966	1963	1969	1968	1955	1965	1965	1966	1965

SUMMARY STATISTICS	WATER YEARS 1954 - 1970	
ANNUAL MEAN	395	
HIGHEST ANNUAL MEAN	555	1956
LOWEST ANNUAL MEAN	247	1965
HIGHEST DAILY MEAN	7010	Mar 10 1964
LOWEST DAILY MEAN	90	Sep 11,13 1966
ANNUAL SEVEN-DAY MINIMUM	93	Sep 7 1966
MAXIMUM PEAK FLOW	**b**10100	Mar 10 1964
MAXIMUM PEAK STAGE	11.59	Mar 10 1964
INSTANTANEOUS LOW FLOW	.00	Jun 16 1970**c**
ANNUAL RUNOFF (CFSM)	1.16	
ANNUAL RUNOFF (INCHES)	15.82	
10 PERCENT EXCEEDS	834	
50 PERCENT EXCEEDS	235	
90 PERCENT EXCEEDS	124	

a Also Mar. 31 and Apr. 1.
b From rating curve extended above 4,100 ft^3/s.
c No flow parts of June 16, Nov. 10, 1970, due to construction of dam; May 12, 18, 19, 1976; Mar. 6, 1979, result of shutoff at dam.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01547700 MARSH CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'34", long 77°36'22", Centre County, Hydrologic Unit 02050204, on right bank 20 ft downstream from highway bridge on SR 1002, 0.5 mi southwest of Blanchard, 0.6 mi downstream from bridge on State Highway 150, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WDR PA-72-1: 1971 (runoff in CFSM and inches).

GAGE.--Water-stage recorder. Datum of gage is 586.16 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 31, 1956, nonrecording gage at site 20 ft upstream at same datum.

REMARKS.--Records good except those below 20 ft^3/s and 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 450 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	1015	1,040	4.55	Jan. 14	0730	863	4.33
Dec. 10	1730	530	3.91	Mar. 29	0330	*1,210	*4.73
Jan. 6	1545	1,160	4.68	Apr. 2	1600	558	3.89

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	70	606	40	35	49	196	20	10	3.7	5.6	8.6
2	85	63	438	35	34	44	309	19	9.9	3.3	3.6	4.3
3	71	60	270	54	35	36	375	18	11	3.0	2.2	3.0
4	59	58	164	181	35	31	284	17	15	2.9	1.6	2.3
5	50	60	110	244	34	31	212	16	12	3.2	1.3	2.0
6	43	53	85	e800	33	34	168	16	11	9.4	1.2	1.7
7	38	50	93	605	34	51	137	15	12	5.6	1.1	1.4
8	36	45	95	489	47	110	110	15	10	5.5	1.1	1.3
9	33	42	96	383	e100	98	88	15	9.4	5.9	1.1	1.1
10	31	39	342	275	e230	89	74	14	9.0	4.4	1.2	1.0
11	29	38	410	209	152	83	64	14	8.8	3.5	1.1	0.97
12	27	46	274	287	123	74	57	13	8.4	3.1	0.91	0.89
13	25	41	184	315	98	64	52	12	7.6	2.9	0.82	0.82
14	25	37	120	727	88	57	46	13	7.9	2.8	0.77	0.78
15	31	37	87	511	106	52	41	14	7.1	2.9	0.72	0.73
16	33	37	72	313	104	48	37	13	9.7	3.8	1.0	0.73
17	25	36	64	213	100	47	34	12	8.1	4.9	1.4	0.81
18	23	37	56	148	93	49	33	12	8.2	5.5	1.6	0.89
19	91	36	53	116	86	51	31	11	7.1	4.0	3.8	1.1
20	62	36	38	100	78	57	30	16	6.5	3.2	6.0	1.1
21	71	35	41	82	77	63	28	15	6.0	2.7	2.9	0.96
22	68	33	40	60	69	67	27	13	5.6	2.6	1.8	0.84
23	65	32	71	67	64	93	31	12	5.3	2.4	1.2	0.82
24	64	94	60	50	59	146	31	14	4.9	2.1	1.0	0.82
25	59	206	53	e61	55	171	28	16	4.6	2.0	0.91	0.82
26	53	177	53	61	51	181	25	13	4.3	2.1	0.84	1.3
27	48	132	52	43	46	164	22	12	4.1	4.3	0.82	4.1
28	45	268	e43	32	46	448	21	12	4.0	3.9	0.92	2.9
29	43	221	51	40	---	910	20	13	3.9	2.5	1.1	2.3
30	113	179	44	46	---	487	21	11	4.0	2.0	6.3	3.5
31	83	---	41	40	---	293	---	11	---	1.8	23	---
TOTAL	1639	2298	4206	6627	2112	4178	2632	437	235.4	111.9	78.91	53.88
MEAN	52.9	76.6	136	214	75.4	135	87.7	14.1	7.85	3.61	2.55	1.80
MAX	113	268	606	800	230	910	375	20	15	9.4	23	8.6
MIN	23	32	38	32	33	31	20	11	3.9	1.8	0.72	0.73
CFSM	1.20	1.74	3.08	4.85	1.71	3.06	1.99	0.32	0.18	0.08	0.06	0.04
IN.	1.38	1.94	3.55	5.59	1.78	3.52	2.22	0.37	0.20	0.09	0.07	0.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2005, BY WATER YEAR (WY)

MEAN	27.8	52.6	70.0	59.3	82.9	136	114	71.9	46.4	22.3	17.5	25.7
MAX	154	151	252	214	267	283	337	181	344	170	98.9	355
(WY)	1991	1978	1973	2005	1984	1994	1993	2002	1972	1972	2003	2004
MIN	1.08	1.94	2.06	4.01	14.0	32.5	29.9	14.1	5.37	1.18	0.61	0.25
(WY)	1965	1965	1999	1981	1963	1969	1968	2005	1991	1965	1966	1964

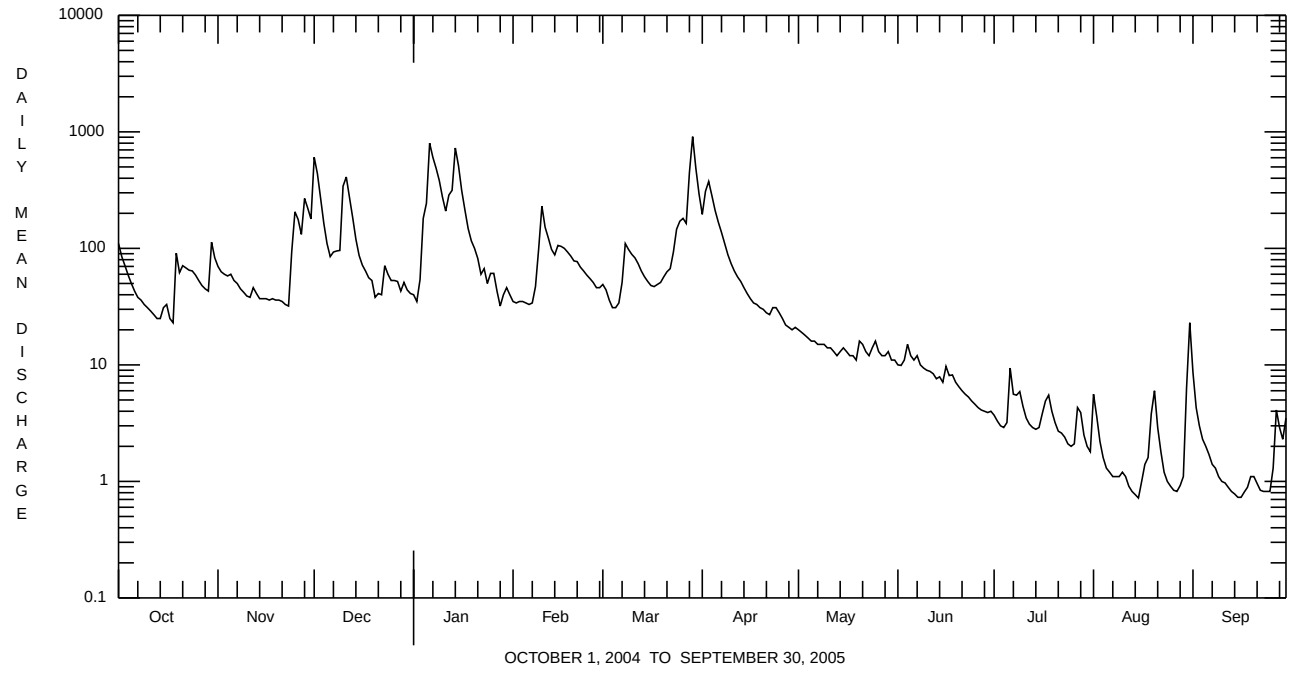
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547700 MARSH CREEK AT BLANCHARD, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1956 - 2005	
ANNUAL TOTAL	41948.1		24609.09			
ANNUAL MEAN	115		67.4		60.4	
HIGHEST ANNUAL MEAN					124	2004
LOWEST ANNUAL MEAN					28.6	1965
HIGHEST DAILY MEAN	4480	Sep 18	910	Mar 29	4480	Sep 18 2004
LOWEST DAILY MEAN	5.9	Jul 4	0.72	Aug 15	0.00	Aug 30 1966
ANNUAL SEVEN-DAY MINIMUM	7.5	Jun 28	0.81	Sep 12	0.07	Aug 27 1966
MAXIMUM PEAK FLOW			1210	Mar 29	**a**7080	Sep 18 2004
MAXIMUM PEAK STAGE			4.73	Mar 29	7.91	Sep 18 2004
ANNUAL RUNOFF (CFSM)	2.60		1.53		1.37	
ANNUAL RUNOFF (INCHES)	35.38		20.76		18.60	
10 PERCENT EXCEEDS	224		178		143	
50 PERCENT EXCEEDS	56		34		26	
90 PERCENT EXCEEDS	14		1.3		3.5	

a From rating curve extended above 4,900 ft^3/s.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA

LOCATION.--Lat 41°06'42", long 77°42'09", Centre County, Hydrologic Unit 02050204, on right bank 800 ft downstream from bridge at Monument, 850 ft downstream from Monument Run, 0.6 mi upstream from Twin Run, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--152 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 741.60 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 a base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	1430	*1,970	*8.91	Mar. 29	2130	1,650	8.51

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	421	1150	279	e150	202	965	143	77	39	23	50
2	472	401	1180	247	e140	188	984	135	74	38	21	30
3	436	409	987	273	e140	174	1050	132	82	36	20	24
4	384	382	793	565	144	165	935	127	94	36	19	21
5	345	398	657	640	140	157	826	122	83	44	18	19
6	309	371	559	e1100	135	154	733	118	77	83	19	18
7	273	361	554	1230	131	164	647	117	80	47	e18	e17
8	243	340	546	1190	154	268	559	116	73	46	e18	e17
9	224	315	498	1100	214	232	476	114	70	47	19	e17
10	208	287	688	957	481	224	416	111	67	40	e18	e16
11	190	269	830	833	413	229	366	108	68	36	e17	e16
12	174	284	833	876	403	225	327	104	67	34	e17	e16
13	164	263	764	963	367	212	299	100	64	32	e16	e15
14	163	231	650	1780	350	197	271	100	61	31	e16	e15
15	205	215	552	1650	434	185	245	108	59	34	e18	e15
16	253	204	487	1240	493	177	222	101	70	36	19	e15
17	184	196	445	968	491	172	207	96	64	34	19	e20
18	164	194	401	751	462	175	197	92	63	35	e18	22
19	337	186	375	613	420	180	186	88	59	33	e24	e17
20	342	184	e300	528	386	198	178	101	55	30	31	e16
21	373	180	e300	443	371	222	171	102	51	28	23	e16
22	368	168	281	e380	332	235	163	92	49	28	19	e15
23	356	161	396	e340	299	327	181	88	49	27	e18	e15
24	347	198	435	e310	274	438	191	95	47	25	e18	e14
25	335	339	392	e280	252	483	172	96	45	26	e17	e14
26	314	334	e390	e240	229	509	158	89	44	25	e17	e18
27	287	338	372	e220	212	503	149	83	43	32	e17	28
28	263	609	e350	e180	202	837	144	84	41	29	e17	20
29	251	689	336	e170	---	1500	141	90	40	25	18	e20
30	451	669	314	e160	---	1490	144	83	40	23	30	21
31	438	---	291	e160	---	1190	---	83	---	23	73	---
TOTAL	9373	9596	17106	20666	8219	11612	11703	3218	1856	1082	655	577
MEAN	302	320	552	667	294	375	390	104	61.9	34.9	21.1	19.2
MAX	520	689	1180	1780	493	1500	1050	143	94	83	73	50
MIN	163	161	281	160	131	154	141	83	40	23	16	14
CFSM	1.99	2.10	3.63	4.39	1.93	2.46	2.57	0.68	0.41	0.23	0.14	0.13
IN.	2.29	2.35	4.19	5.06	2.01	2.84	2.86	0.79	0.45	0.26	0.16	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2005, BY WATER YEAR (WY)

MEAN	147	252	311	261	318	495	492	330	246	150	98.8	130
MAX	620	673	656	667	809	949	1353	709	895	621	411	830
(WY)	1991	1971	1997	2005	1981	1979	1993	1978	1972	1972	2003	2004
MIN	21.0	17.3	19.3	54.9	73.8	167	213	104	48.0	27.8	17.8	16.0
(WY)	1999	1999	1999	1981	1980	1969	1988	2005	1991	1991	1991	1998

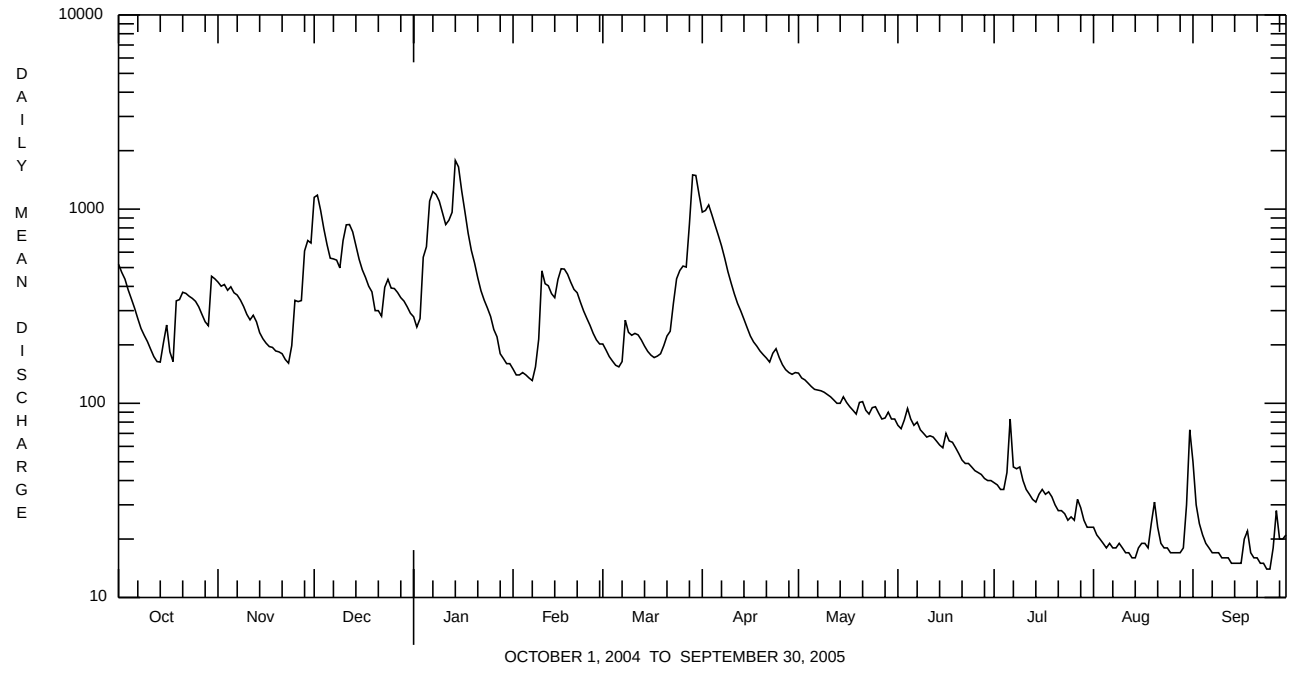
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1969 - 2005	
ANNUAL TOTAL	154976		95663			
ANNUAL MEAN	423		262		269	
HIGHEST ANNUAL MEAN					448	2004
LOWEST ANNUAL MEAN					147	1999
HIGHEST DAILY MEAN	5040	Sep 18	1780	Jan 14	7490	Jun 23 1972
LOWEST DAILY MEAN	65	Jul 3,4	**e**14	Sep 24,25	8.3	Sep 9 1991
ANNUAL SEVEN-DAY MINIMUM	73	Jun 28	**a**15	Sep 19	**a**9.8	Sep 8 2002
MAXIMUM PEAK FLOW			1970	Jan 14	**b**9740	Jun 23 1972
MAXIMUM PEAK STAGE			8.91	Jan 14	15.22	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.79		1.72		1.77	
ANNUAL RUNOFF (INCHES)	37.93		23.41		24.03	
10 PERCENT EXCEEDS	763		643		593	
50 PERCENT EXCEEDS	336		174		165	
90 PERCENT EXCEEDS	104		19		35	

a Computed using estimated daily discharges.
b From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow.
e Estimated.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01548500 PINE CREEK AT CEDAR RUN, PA

LOCATION.--Lat 41°31'18", long 77°26'52", Lycoming County, Hydrologic Unit 02050205, on left bank at upstream side of highway bridge on Township Route 762 at village of Cedar Run, 2,000 ft downstream from Cedar Run, and 1.2 mi upstream from Gamble Run.

DRAINAGE AREA.--604 mi^2.

PERIOD OF RECORD.--July 1918 to current year. Prior to October 1918 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 780.36 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 13, 1930, 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 and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,900 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	0730	12,500	7.67	Apr. 3	0045	*16,200	*8.58
Mar. 29	1930	6,410	5.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572	435	4080	913	e560	653	5550	579	192	184	78	1280
2	511	401	4100	803	e570	615	8910	525	172	146	70	491
3	470	470	3340	812	e530	546	14200	514	169	126	62	304
4	428	495	2510	1870	e490	e510	8050	494	209	112	64	220
5	396	641	1970	1590	e450	e530	5240	470	210	122	58	169
6	360	636	1600	1780	e410	528	3980	452	218	179	53	136
7	331	639	1540	2030	e410	521	3390	e430	747	165	49	112
8	310	645	1760	1930	e470	1160	2890	e420	380	218	47	98
9	295	617	1440	1900	e1300	872	2270	407	279	329	46	88
10	280	585	2330	1670	2390	819	1840	394	240	275	50	81
11	265	569	3740	1510	1630	860	1520	376	537	199	51	74
12	252	564	3500	1540	1500	772	1280	353	345	159	48	69
13	241	530	2950	2920	1330	716	1120	333	284	142	42	65
14	239	481	2280	10500	1190	627	975	323	266	275	55	62
15	256	454	1770	6920	1550	583	844	354	254	e200	66	59
16	419	444	1480	4500	1930	574	754	341	274	150	64	61
17	324	429	1310	3270	1860	554	689	305	300	135	63	117
18	268	422	1140	2320	1560	591	642	285	251	154	52	122
19	604	414	1060	1960	1330	620	604	270	227	143	51	83
20	773	421	e810	1780	1240	726	569	264	199	136	57	70
21	628	447	e800	1380	1180	898	571	261	178	110	60	66
22	577	405	e800	e1200	1060	852	504	251	162	100	56	67
23	548	386	1530	e1100	943	1100	536	242	149	117	49	61
24	514	496	2320	e930	827	1050	675	246	131	102	43	55
25	505	1520	1930	e930	782	1080	628	262	122	97	40	53
26	476	1590	1750	e860	727	1170	559	240	114	90	37	62
27	447	1500	1480	e670	639	1300	514	219	117	98	35	128
28	423	2950	e1300	e520	660	4280	496	226	143	106	38	136
29	410	3380	e1200	e550	---	6080	484	233	325	104	42	103
30	424	2840	1030	e550	---	5700	511	216	288	91	222	144
31	480	---	937	e560	---	5180	---	216	---	84	1420	---
TOTAL	13026	25806	59787	61768	29518	42067	70795	10501	7482	4648	3168	4636
MEAN	420	860	1929	1993	1054	1357	2360	339	249	150	102	155
MAX	773	3380	4100	10500	2390	6080	14200	579	747	329	1420	1280
MIN	239	386	800	520	410	510	484	216	114	84	35	53
CFSM	0.70	1.42	3.19	3.30	1.75	2.25	3.91	0.56	0.41	0.25	0.17	0.26
IN.	0.80	1.59	3.68	3.80	1.82	2.59	4.36	0.65	0.46	0.29	0.20	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2005, BY WATER YEAR (WY)

MEAN	366	756	859	841	899	1849	1970	1236	626	293	241	255
MAX	2910	3077	2260	2741	3090	6362	5678	3580	3601	1171	2712	3578
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	2004	1994	2004
MIN	28.9	41.3	65.4	47.6	119	590	374	238	90.4	50.2	32.6	19.3
(WY)	1965	1931	1961	1931	1920	1981	1946	1941	1991	1966	1939	1964

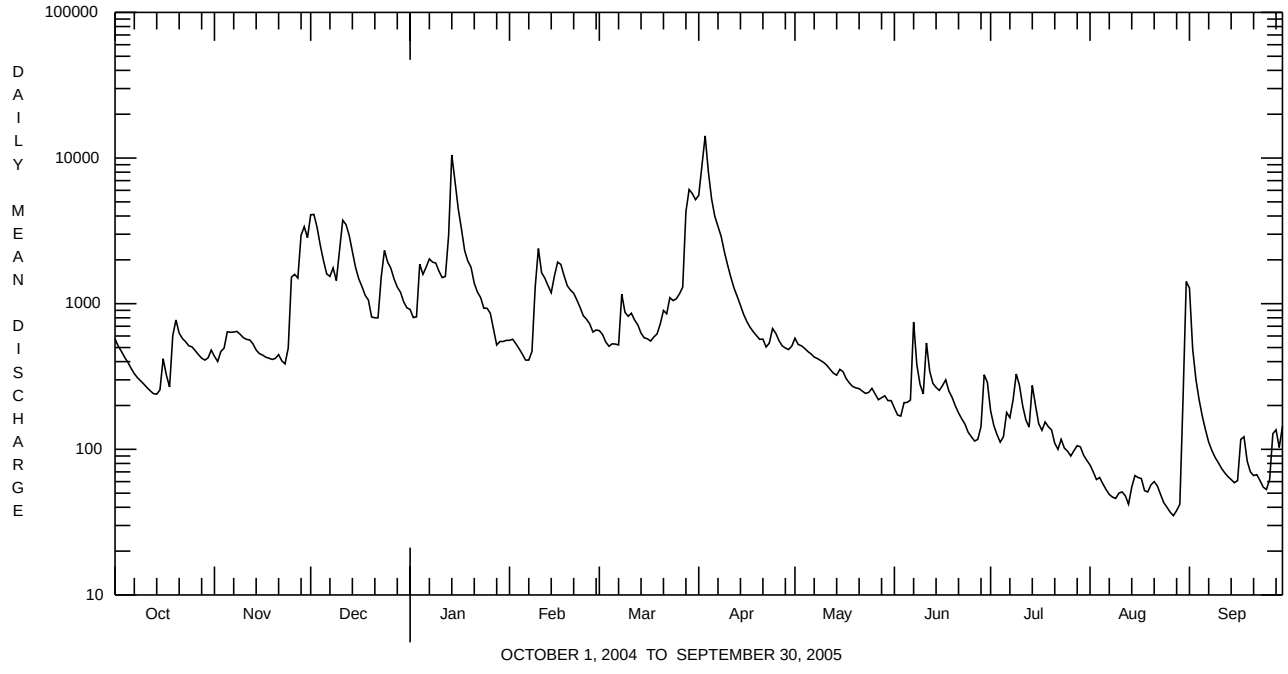
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01548500 PINE CREEK AT CEDAR RUN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1919 - 2005	
ANNUAL TOTAL	505515		333202			
ANNUAL MEAN	1381		913		848	
HIGHEST ANNUAL MEAN					1516	2004
LOWEST ANNUAL MEAN					444	1941
HIGHEST DAILY MEAN	27500	Sep 18	14200	Apr 3	42600	Jun 23 1972
LOWEST DAILY MEAN	141	Jul 11	35	Aug 27	8.0	Sep 2 1939
ANNUAL SEVEN-DAY MINIMUM	174	Jul 1	41	Aug 23	11	Aug 28 1939
MAXIMUM PEAK FLOW			**a**16200	Apr 3	**a**66000	Jun 23 1972
MAXIMUM PEAK STAGE			8.58	Apr 3	**b**16.00	Jun 23 1972
INSTANTANEOUS LOW FLOW			34	Aug 27	8.0	Sep 1 1939
ANNUAL RUNOFF (CFSM)	2.29		1.51		1.40	
ANNUAL RUNOFF (INCHES)	31.13		20.52		19.08	
10 PERCENT EXCEEDS	2950		1940		2040	
50 PERCENT EXCEEDS	770		481		400	
90 PERCENT EXCEEDS	314		67		65	

a From rating curve extended above 16,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01549500 BLOCKHOUSE CREEK NEAR ENGLISH CENTER, PA

LOCATION.--Lat 41°28'25", long 77°13'52", Lycoming County, Hydrologic Unit 02050205, on right bank just downstream from bridge on State Highway 284, 0.7 mi upstream from Blacks Creek, 1.7 mi upstream from confluence with Texas Creek, and 5.0 mi northeast of English Center.

DRAINAGE AREA.--37.7 mi^2.

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

REVISED RECORDS.--WSP 951: 1941. WSP 1031: 1942-44(M). WSP 1502: 1942. WDR PA-75-2: 1973(P), 1974(P).

GAGE.--Water-stage recorder. Datum of gage is 1,041.85 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 9.0 ft, from floodmark, discharge, 5,780 ft^3/s, from rating curve extended above 1,200 ft^3/s on basis of contracted-opening measurement at gage height 8.81 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	0700	1,430	5.23	Apr. 2	1830	*2,990	*6.87

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	33	325	51	e36	41	303	30	e10	e9.0	e4.0	e50
2	41	30	233	45	e28	38	1200	29	e8.3	e5.4	e4.3	e23
3	40	33	183	73	e30	e34	1150	28	e6.9	e3.3	e4.0	e12
4	35	34	140	141	e32	e32	496	27	e13	e2.0	e3.5	e8.2
5	32	41	114	101	e30	e30	302	26	e11	e3.6	e3.3	e6.2
6	29	34	93	122	e30	e32	224	24	e12	e9.2	e2.9	e3.6
7	26	32	97	122	e32	39	193	23	e17	e7.5	e2.9	e3.0
8	24	30	91	126	e60	92	157	22	e15	e26	e3.5	e2.5
9	23	29	77	114	e110	e54	121	22	e12	e20	e2.9	e2.2
10	22	27	215	105	166	e52	99	21	e11	e18	e2.2	e2.1
11	20	27	260	97	e100	50	83	21	e35	e13	e1.8	e2.1
12	18	28	203	112	89	e44	72	19	e22	e8.7	e1.4	e2.0
13	18	27	163	314	75	e42	65	18	e16	e5.3	e2.5	e2.1
14	20	24	127	916	72	e38	57	18	e13	e5.9	e3.4	e2.0
15	26	24	102	389	145	e36	50	20	e10	e5.2	e6.6	e1.7
16	29	24	84	231	151	e34	44	18	e11	e4.0	e3.4	e2.0
17	21	23	75	163	128	e36	41	17	e12	e13	e3.4	e8.1
18	19	25	63	e110	e100	40	39	16	e13	e18	e2.5	e6.0
19	82	24	e50	e98	e80	47	37	15	e10	e10	e2.9	e3.8
20	70	25	e40	e92	80	55	35	e15	e8.0	e8.7	e2.5	e2.9
21	68	26	e46	e82	74	67	33	e15	e7.2	e6.5	e2.5	e2.6
22	68	24	e52	e66	65	66	31	e13	e6.2	e4.8	e2.2	e1.8
23	64	22	e160	e62	58	77	37	e13	e5.2	e4.4	e1.9	e1.6
24	62	51	120	e62	51	78	48	e13	e3.9	e3.8	e1.4	e1.7
25	56	130	e90	e56	e46	76	38	e14	e3.2	e4.8	e1.0	e1.5
26	49	105	e80	e54	e40	77	33	e13	e2.2	e4.4	e1.0	e1.7
27	44	92	e70	e50	e38	83	31	e11	e10	e5.5	e1.1	e7.9
28	40	338	e60	e54	e40	418	29	e13	e3.2	e5.0	e1.6	e3.6
29	38	244	e66	e50	---	654	29	e14	e3.8	e4.0	e2.4	e4.2
30	40	180	58	e46	---	412	29	e13	e13	e3.8	e40	4.5
31	37	---	54	e44	---	318	---	e11	---	e3.6	e120	---
TOTAL	1207	1786	3591	4148	1986	3192	5106	572	324.1	246.4	239.0	176.6
MEAN	38.9	59.5	116	134	70.9	103	170	18.5	10.8	7.95	7.71	5.89
MAX	82	338	325	916	166	654	1200	30	35	26	120	50
MIN	18	22	40	44	28	30	29	11	2.2	2.0	1.0	1.5
CFSM	1.03	1.58	3.07	3.55	1.88	2.73	4.51	0.49	0.29	0.21	0.20	0.16
IN.	1.19	1.76	3.54	4.09	1.96	3.15	5.04	0.56	0.32	0.24	0.24	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

MEAN	33.5	61.7	68.4	57.6	67.3	124	124	76.3	40.6	19.2	15.9	20.0
MAX	194	195	184	182	268	260	429	211	303	75.1	204	178
(WY)	1991	1978	1974	1996	1981	1945	1993	1946	1972	2004	1994	2004
MIN	1.36	3.25	4.34	6.18	12.8	16.5	24.8	15.7	5.42	1.98	1.21	0.43
(WY)	1965	1999	1999	1981	1941	1969	1946	1941	1991	1955	1966	1964

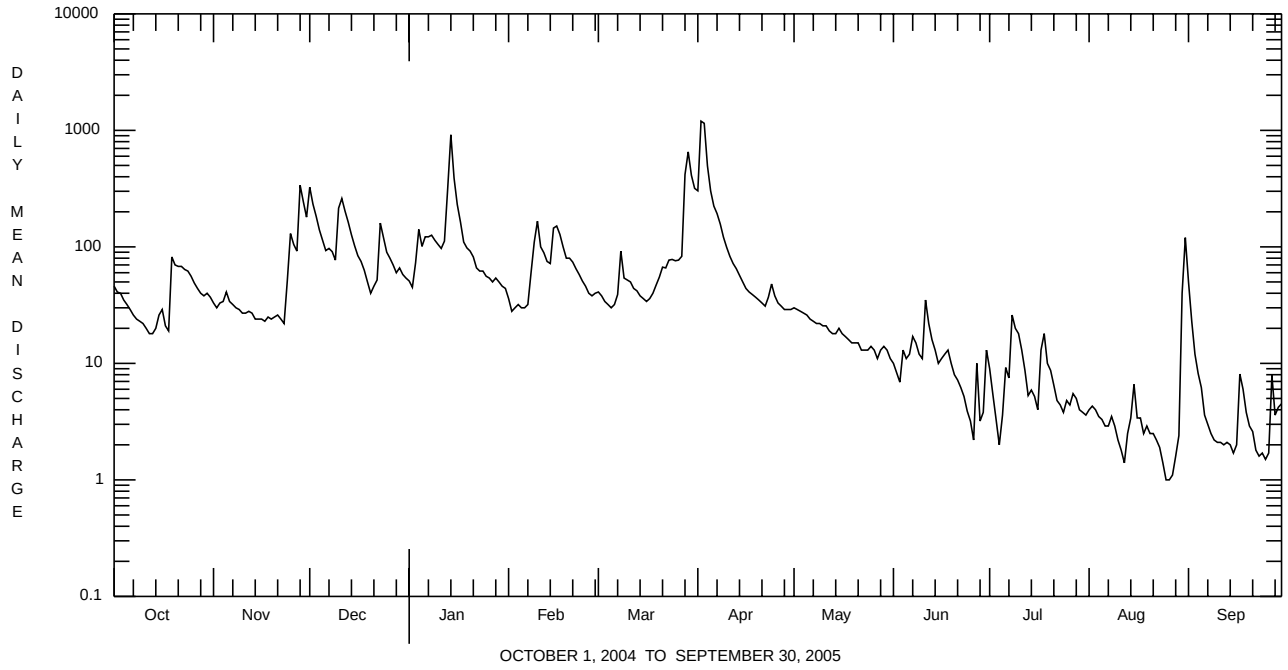
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01549500 BLOCKHOUSE CREEK NEAR ENGLISH CENTER, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	29828.6		22574.1			
ANNUAL MEAN	81.5		61.8		58.9	
HIGHEST ANNUAL MEAN					104	1978
LOWEST ANNUAL MEAN					26.3	1965
HIGHEST DAILY MEAN	2130	Sep 18	1200	Apr 2	3180	Jun 22 1972
LOWEST DAILY MEAN	8.0	Jul 4	**e**1.0	Aug 25,26	0.00	Aug 6 1962**c**
ANNUAL SEVEN-DAY MINIMUM	9.9	Jun 28	**a**1.5	Aug 22	0.19	Aug 29 1962
MAXIMUM PEAK FLOW			**b**2990	Apr 2	**b**6260	Jun 23 1972
MAXIMUM PEAK STAGE			6.87	Apr 2	9.34	Jun 23 1972
INSTANTANEOUS LOW FLOW					0.00	Aug 6 1962**c**
ANNUAL RUNOFF (CFSM)	2.16		1.64		1.56	
ANNUAL RUNOFF (INCHES)	29.43		22.27		21.23	
10 PERCENT EXCEEDS	181		126		133	
50 PERCENT EXCEEDS	44		30		28	
90 PERCENT EXCEEDS	16		2.9		3.8	

a Computed using estimated daily discharges.
b From rating curve extended above 1,200 ft^3/s on basis of contracted-opening measurement at gage height 8.81 ft.
c Also Aug. 31, Sept. 1, 2, 1962.
e Estimated.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°16'25", long 77°19'28", Lycoming County, Hydrologic Unit 02050205, on left bank on State Highway 44, on abutment of abandoned bridge 0.9 mi downstream from Ramsey Run, 4.0 mi downstream from Little Pine Creek, 4.0 mi south of Waterville, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--944 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-72-1: 1964(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 570.62 ft above National Geodetic Vertical Datum of 1929. Prior to June 16, 1982, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flood flows subject to regulation by Little Pine Dam 8.5 mi upstream, capacity 24,900 acre-ft. 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 a base discharge of 9,200 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	1145	18,800	8.69	Apr. 3	0815	*23,600	9.59
Feb. 10	1300	Ice jam	*10.68				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	818	5910	1360	e820	981	8600	808	294	284	101	1740
2	982	731	7080	1250	e820	944	11100	768	262	215	96	762
3	896	724	5470	1210	e760	e860	21700	728	247	187	82	427
4	806	832	4070	2450	e730	e770	14000	705	265	165	64	297
5	729	961	3180	2610	e660	e720	9310	673	295	204	62	228
6	664	1040	2580	2780	e630	e690	7180	642	282	377	62	183
7	608	996	2320	3340	e630	e690	6080	622	635	315	62	153
8	567	984	2630	3100	e690	e1300	5090	597	581	318	59	133
9	531	993	2270	3220	e2200	e1000	3380	572	385	390	61	119
10	498	969	3010	2810	e3900	e950	2710	554	318	440	61	107
11	469	914	5900	2560	5510	e1000	2290	535	510	e320	61	98
12	449	899	5620	2440	4480	e940	1970	497	545	276	63	90
13	433	868	4660	3520	2960	e890	1750	468	383	222	60	84
14	425	799	3650	15000	1900	e840	1560	451	341	277	57	79
15	449	746	2870	12100	2070	e820	1390	474	305	316	59	77
16	562	723	2380	7990	2680	e820	1240	492	328	235	76	74
17	604	712	2090	5490	2910	822	1120	442	374	198	71	77
18	481	685	1830	e3500	2500	848	1040	412	367	194	72	134
19	675	670	1660	e2900	2140	886	970	388	330	213	70	129
20	1370	663	e1500	e2600	1970	993	908	387	299	187	66	97
21	1170	693	e1100	e2200	1840	1210	869	376	270	177	69	81
22	1070	661	e1100	e1600	1660	1250	823	364	244	161	69	74
23	1040	622	1450	e1400	1480	1550	815	353	205	144	67	75
24	989	690	3450	e1200	1310	1670	957	357	195	153	62	71
25	962	2140	e2600	e1200	1200	1700	1030	363	184	133	58	66
26	913	2800	e2400	e1100	1100	1820	888	357	169	124	54	74
27	848	2540	e2100	e890	e1000	1920	795	323	166	117	51	93
28	799	4090	e1900	e730	979	5310	743	309	169	120	56	167
29	773	5640	e1800	e760	---	10100	713	327	238	122	58	177
30	805	4560	1590	e790	---	9970	722	321	389	137	166	145
31	830	---	1420	e820	---	8610	---	310	---	103	840	---
TOTAL	23517	41163	91590	94920	51529	62874	111743	14975	9575	6824	2915	6111
MEAN	759	1372	2955	3062	1840	2028	3725	483	319	220	94.0	204
MAX	1370	5640	7080	15000	5510	10100	21700	808	635	440	840	1740
MIN	425	622	1100	730	630	690	713	309	166	103	51	66
CFSM	0.80	1.45	3.13	3.24	1.95	2.15	3.95	0.51	0.34	0.23	0.10	0.22
IN.	0.93	1.62	3.61	3.74	2.03	2.48	4.40	0.59	0.38	0.27	0.11	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2005, BY WATER YEAR (WY)

MEAN	680	1275	1536	1330	1643	2885	3205	1828	1125	539	441	547
MAX	4597	4337	3860	4114	5148	6840	9683	3919	6070	2423	4096	5547
(WY)	1991	1978	1974	1996	1981	1964	1993	1960	1972	1972	1994	2004
MIN	46.7	66.3	107	93.7	410	850	1171	446	153	73.4	51.7	30.4
(WY)	1964	1965	1961	1961	1987	1969	1988	1985	1991	1964	1966	1964

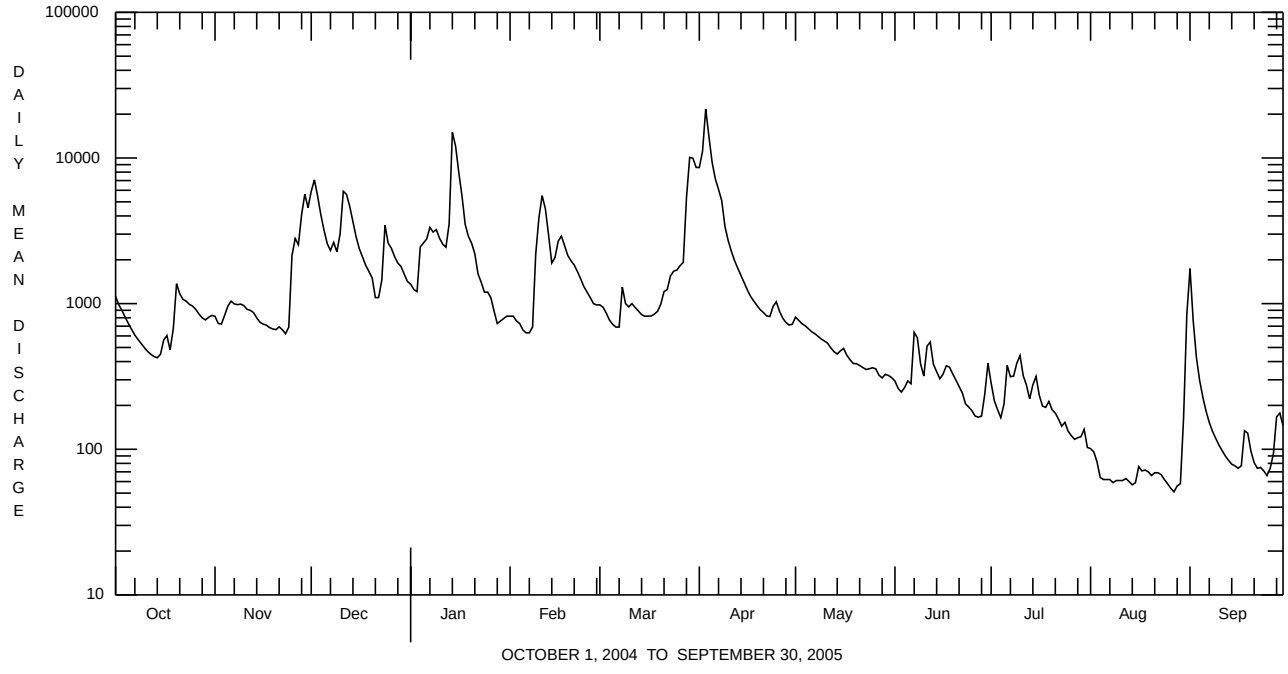
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1958 - 2005	
ANNUAL TOTAL	809945		517736			
ANNUAL MEAN	2213		1418		1417	
HIGHEST ANNUAL MEAN					2417	2004
LOWEST ANNUAL MEAN					739	1965
HIGHEST DAILY MEAN	39700	Sep 18	21700	Apr 3	75000	Jun 23 1972
LOWEST DAILY MEAN	252	Jul 4	51	Aug 27	23	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	294	Jul 1	58	Aug 23	26	Sep 21 1964
MAXIMUM PEAK FLOW			**ab**23600	Apr 3	**b**104000	Jun 23 1972
MAXIMUM PEAK STAGE			**c**10.68	Feb 10	**d**22.76	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.34		1.50		1.50	
ANNUAL RUNOFF (INCHES)	31.92		20.40		20.39	
10 PERCENT EXCEEDS	4570		3200		3360	
50 PERCENT EXCEEDS	1330		730		691	
90 PERCENT EXCEEDS	566		82		112	

a Gage height 9.59 ft.
b From rating curve extended above 22,000 ft^3/s on basis of slope-area measurement of peak flow.
c Ice jam.
d From floodmark.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 2004													
22...	1150	1028	9813	662	30	12.4	7.7	7.6	91	85	7.9	35	9.5
JAN 2005													
24...	1245	1028	9813	E1200	30	16.1	7.3	7.3	84	87	.0	32	8.4
MAR													
14...	1150	1028	9813	E840	30	15.7	7.5	6.9	83	72	1.1	29	8.2
MAY													
18...	1130	1028	9813	417	30	11.0	7.7	7.7	92	93	15.6	34	9.5
JUL													
20...	1200	1028	9813	182	30	8.8	8.0	7.9	124	132	27.1	49	14.1
SEP													
28...	1145	1028	9813	177	30	10.2	8.3	7.8	149	156	17.1	57	16.1

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)
NOV 2004													
22...	10.0	2.25	2.4	25	--	14.7	64	4	<.020	.22	<.040	<.01	<.010
JAN 2005													
24...	8.5	2.47	2.5	15	8.0	18.0	62	<2	.070	.48	<.040	<.01	<.010
MAR													
14...	8.2	2.11	2.1	17	--	13.2	52	<2	<.020	.29	<.040	<.01	<.010
MAY													
18...	9.6	2.36	2.4	22	--	17.1	76	2	<.020	<.04	<.040	<.01	<.010
JUL													
20...	14.3	3.12	3.2	32	--	19.3	106	<2	.030	.08	<.040	.01	.023
SEP													
28...	16.9	3.48	3.6	36	--	24.7	84	8	<.020	<.04	<.040	<.01	.010

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Total nitro-gen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)
NOV 2004													
22...	.39	.8	10	20	<4	<4	<20	30	<1.0	<1.0	10	10	<4.0
JAN 2005													
24...	.62	<.2	<10	80	<4	<4	80	110	<1.0	2.2	60	80	<4.0
MAR													
14...	.62	2.1	30	60	<4	<4	<20	70	<1.0	<1.0	20	30	<4.0
MAY													
18...	.14	.3	20	30	<4	<4	40	50	<1.0	<1.0	20	30	<4.0
JUL													
20...	.20	.8	30	100	<4	<4	60	170	<1.0	<1.0	30	60	<4.0
SEP													
28...	.24	.6	10	30	<4	<4	30	90	<1.0	<1.0	20	30	<4.0

Date	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV 2004			
22...	<4.0	<5.0	<5.0
JAN 2005			
24...	<4.0	<5.0	27
MAR			
14...	<4.0	<5.0	<5.0
MAY			
18...	<4.0	<5.0	<5.0
JUL			
20...	<4.0	8.4	14
SEP			
28...	<4.0	<5.0	<5.0

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/26/04
Benthic macroinvertebrate	Count
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	1
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	1
Ephemerellidae	
Ephemerella	4
Serratella	9
Heptageniidae	
Epeorus	7
Stenacron	2
Stenonema	18
Isonychiidae	
Isonychia	16
Plecoptera (STONEFLIES)	
Leuctridae	
Leuctra	3
Perlidae	
Acroneuria	3
Paragnetina	1
Taeniopterygidae	
Taenionema	1
Taeniopteryx	8
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	18
Hydropsyche	10
Macrostemum	1
Hydroptilidae	
Leucotrichia	1
Lepidostomatidae	
Lepidostoma	2
Psychomyiidae	
Psychomyia	1
Uenoidae	
Neophylax	5
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	5
Psephenidae (WATER PENNIES)	
Psephenus	5
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	9
Empididae (DANCE FLIES)	
Hemerodromia	1
Total Organisms	132
Total Taxa	24

WEST BRANCH SUSQUEHANNA RIVER BASIN

01550000 LYCOMING CREEK NEAR TROUT RUN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°25'06", long 77°01'59", Lycoming County, Hydrologic Unit 02050206, on right bank 150 ft upstream from bridge on Township Route 840, 0.5 mi downstream from Grays Run, and 2.6 mi northeast of Trout Run.

DRAINAGE AREA.--173 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1913 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 921: 1933, 1934(M), 1935-39. WSP 1302: 1914-16, 1922(M), 1932-25, 1926(M), 1927-28, 1930, 1931(M). WSP 1502: 1920-21(M), 1932(M), 1933.

GAGE.--Water-stage recorder. Datum of gage is 693.95 ft above National Geodetic Vertical Datum of 1929. Prior to June 1, 1939, nonrecording gage at site 150 ft downstream at same datum.

REMARKS.--Records good except for period June 8 to Sept. 30, which is fair, and 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 2,900 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1215	3,330	7.81	Mar. 29	0730	3,270	7.74
Jan. 14	0845	6,620	10.48	Apr. 2	2030	*12,600	*13.63

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	397	198	1590	280	e160	210	1590	189	54	47	16	825
2	344	182	1220	253	e150	199	5030	176	49	33	17	350
3	323	190	912	315	151	175	e4200	170	50	21	14	226
4	278	192	697	678	148	163	e2000	160	66	14	13	168
5	241	247	567	481	144	166	1440	150	65	23	11	131
6	213	213	477	531	142	162	1080	144	63	50	9.9	105
7	198	195	505	559	147	173	901	138	82	38	9.8	89
8	180	182	520	577	174	329	743	130	76	137	14	76
9	166	174	429	553	297	253	594	123	65	129	16	66
10	155	167	1000	492	759	230	497	118	58	104	14	57
11	144	162	1470	467	430	221	425	113	182	74	13	48
12	133	163	1040	537	375	205	371	106	150	47	13	41
13	125	161	809	1170	330	190	332	100	101	36	15	36
14	135	151	637	4340	314	179	297	97	79	40	18	31
15	160	145	512	1830	719	169	267	101	67	27	33	27
16	183	142	434	1120	757	169	241	96	69	21	23	36
17	153	141	394	819	657	169	224	89	81	e90	20	44
18	132	140	343	e560	510	182	210	84	82	e120	17	34
19	451	140	320	e460	405	199	197	79	70	75	18	26
20	474	139	e260	e400	383	236	184	77	51	55	18	22
21	421	145	e250	e350	364	285	175	75	44	41	16	21
22	392	139	248	e310	330	278	161	70	39	31	15	21
23	355	131	742	e300	296	365	201	67	36	26	14	23
24	330	272	704	e300	264	347	277	67	28	20	13	20
25	307	931	461	e280	249	341	242	67	22	24	12	17
26	280	720	400	e260	229	347	209	64	18	18	11	28
27	256	572	360	e240	206	368	196	60	65	21	11	70
28	239	1680	e310	e250	214	1620	184	62	42	18	13	46
29	223	1260	314	e230	---	2920	176	73	54	15	14	43
30	225	890	304	202	---	1950	179	66	68	13	300	54
31	220	---	289	180	---	1590	---	60	---	12	1430	---
TOTAL	7833	10164	18518	19324	9304	14390	22823	3171	1976	1420	2171.7	2781
MEAN	253	339	597	623	332	464	761	102	65.9	45.8	70.1	92.7
MAX	474	1680	1590	4340	759	2920	5030	189	182	137	1430	825
MIN	125	131	248	180	142	162	161	60	18	12	9.8	17
CFSM	1.46	1.96	3.45	3.60	1.92	2.68	4.40	0.59	0.38	0.26	0.40	0.54
IN.	1.68	2.19	3.98	4.16	2.00	3.09	4.91	0.68	0.42	0.31	0.47	0.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	163	301	315	276	293	590	623	382	205	116	93.6	115
MAX	983	1044	1003	1095	1082	1788	1783	979	1488	674	812	807
(WY)	1991	1927	1997	1996	1981	1936	1993	1919	1972	1915	1994	2004
MIN	7.65	13.4	26.4	20.5	37.8	160	132	74.8	18.0	16.0	10.3	6.25
(WY)	1965	1965	1965	1931	1931	1969	1946	1941	1991	1964	1964	1964

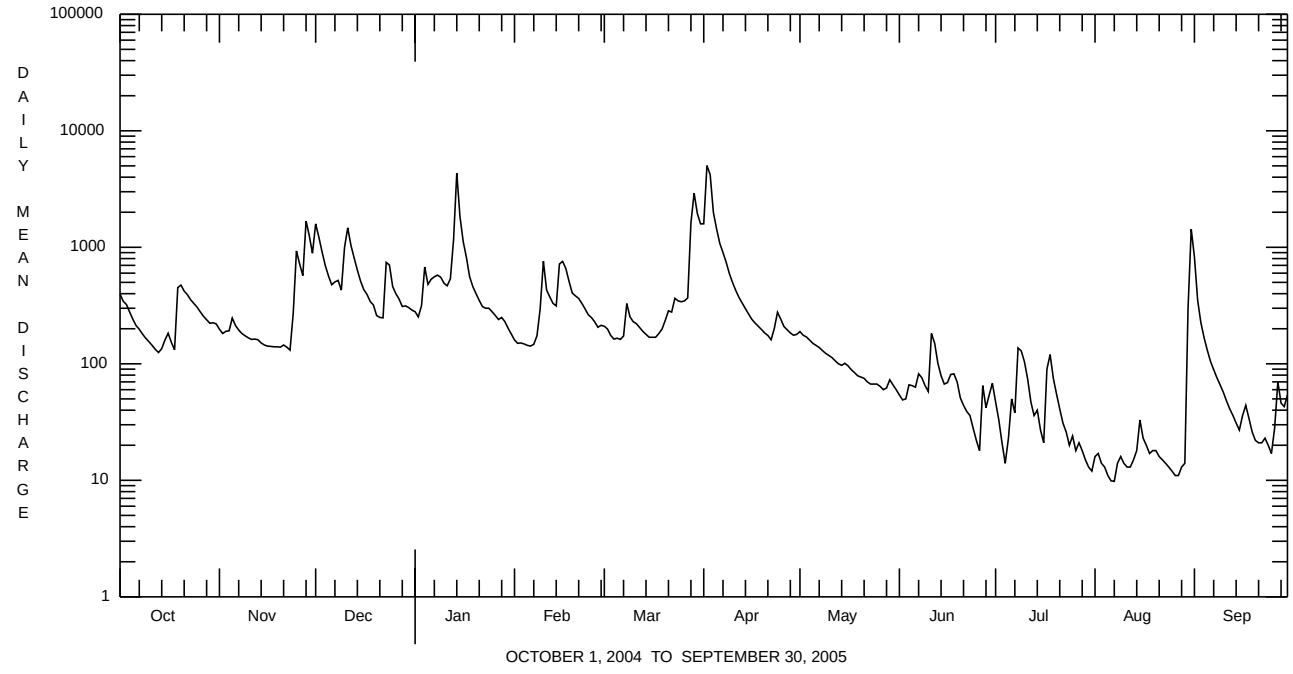
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	149963		113875.7			
ANNUAL MEAN	410		312		289	
HIGHEST ANNUAL MEAN					491	1978
LOWEST ANNUAL MEAN					124	1965
HIGHEST DAILY MEAN	10100	Sep 18	5030	Apr 2	15000	Jan 19 1996
LOWEST DAILY MEAN	31	Jul 4	9.8	Aug 7	4.0	Sep 19-24 1936**a**
ANNUAL SEVEN-DAY MINIMUM	50	Jun 30	13	Aug 3	4.1	Sep 18 1936
MAXIMUM PEAK FLOW			**b**12600	Apr 2	**b**32000	Jan 19 1996
MAXIMUM PEAK STAGE			13.63	Apr 2	**c**22.68	Jan 19 1996
INSTANTANEOUS LOW FLOW					3.2	Sep 27 1936
ANNUAL RUNOFF (CFSM)	2.37		1.80		1.67	
ANNUAL RUNOFF (INCHES)	32.25		24.49		22.69	
10 PERCENT EXCEEDS	814		700		665	
50 PERCENT EXCEEDS	260		173		142	
90 PERCENT EXCEEDS	86		20		25	

a Also Sept. 27, 28, 1936 and Sept. 1, 1968.
b From rating curve extended above 5,300 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmark in gage.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-tance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-tance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
OCT 2004													
20...	1130	1028	9813	484	30	11.1	7.0	6.9	60	56	9.8	23	6.6
NOV													
08...	1400	1028	9813	181	30	12.5	7.2	7.0	65	63	7.9	25	7.1
DEC													
14...	1345	1028	9813	622	30	13.3	6.8	7.1	53	50	4.2	18	4.9
JAN 2005													
25...	1620	1028	9813	E280	30	15.7	6.8	7.1	56	52	.3	19	5.2
MAR													
15...	0945	1028	9813	138	30	15.8	7.3	7.2	65	66	.7	23	6.9
MAY													
19...	0945	1028	9813	79	30	11.9	7.3	7.4	68	65	11.8	25	7.3
JUL													
21...	0945	1028	9813	42	30	8.8	7.4	7.3	73	76	20.5	30	9.0

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)
OCT 2004													
20...	6.7	1.44	1.4	16	--	8.2	46	12	<.020	.30	<.040	<.01	<.010
NOV													
08...	7.4	1.51	1.6	16	--	9.8	64	2	<.020	.33	<.040	<.01	<.010
DEC													
14...	5.2	1.14	1.2	10	2.0	9.3	44	2	.020	.50	<.040	<.01	<.010
JAN 2005													
25...	5.5	1.18	1.2	11	--	10.2	32	<2	<.020	.64	<.040	<.01	<.010
MAR													
15...	6.7	1.50	1.5	13	--	10.6	50	<2	<.020	.56	<.040	<.01	<.010
MAY													
19...	7.4	1.48	1.5	14	--	11.4	76	<2	<.020	.36	<.040	<.01	.021
JUL													
21...	9.1	1.67	1.7	18	--	11.1	60	6	<.020	.34	<.040	<.01	<.010

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Total nitro-gen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)
OCT 2004													
20...	.39	.5	40	90	<4	<4	20	90	<1.0	<1.0	20	30	<4.0
NOV													
08...	.44	1.1	30	40	<4	<4	<20	<20	<1.0	<1.0	10	10	<4.0
DEC													
14...	.61	.7	50	100	<4	<4	20	60	<1.0	<1.0	20	30	<4.0
JAN 2005													
25...	.73	.4	30	100	<4	<4	<20	40	<1.0	<1.0	20	30	<4.0
MAR													
15...	.63	2.6	30	60	<4	<4	<20	<20	<1.0	<1.0	20	20	<4.0
MAY													
19...	.36	.8	10	20	<4	<4	<20	<20	<1.0	<1.0	10	10	<4.0
JUL													
21...	.32	.6	<10	<10	<4	<4	<20	30	<1.0	<1.0	10	10	<4.0

Date	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT 2004			
20...	<4.0	5.7	6.2
NOV			
08...	<4.0	<5.0	<5.0
DEC			
14...	<4.0	7.0	7.1
JAN 2005			
25...	<4.0	7.0	8.0
MAR			
15...	<4.0	5.8	5.4
MAY			
19...	<4.0	<5.0	<5.0
JUL			
21...	<4.0	<5.0	<5.0

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 200 animal (approximate) subsamples.

Date	11/05/03
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	12
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	2
Baetis	2
Ephemerellidae	
Ephemerella	33
Eurylophella	2
Heptageniidae	
Epeorus	39
Leucrocuta	8
Rhithrogena	4
Stenonema	19
Isonychiidae	
Isonychia	12
Leptophlebiidae	
Paraleptophlebia	31
Plecoptera (STONEFLIES)	
Chloroperlidae	
Alloperla	1
Perlidae	
Acroneuria	2
Perlodidae	
Isoperla	9
Taeniopterygidae	
Taenionema	1
Taeniopteryx	2
Trichoptera (CADDISFLIES)	
Apataniidae	
Apatania	6
Brachycentridae	
Brachycentrus	1
Glossosomatidae	
Glossosoma	2
Hydropsychidae	
Cheumatopsyche	3
Hydropsyche	6
Leptoceridae	
Setodes	1
Philopotamidae	
Dolophilodes	3
Rhyacophilidae	
Rhyacophila	17
Uenoidae	
Neophylax	5

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	11/05/03
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Dubiraphia	1
Optioservus	2
Oulimnius	1
Psephenidae (WATER PENNIES)	
Psephenus	3
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	17
Empididae (DANCE FLIES)	
Chelifera	1
Tipulidae (CRANE FLIES)	
Antocha	1
Hexatoma	1
Total Organisms	252
Total Taxa	34

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°14'10", long 76°59'49", Lycoming County, Hydrologic Unit 02050206, on right bank 100 ft upstream from Market Street bridge at South Williamsport, and 350 ft upstream from Hagermans Run.

DRAINAGE AREA.--5,682 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1895 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1925-28. WSP 1502: 1895-1904, 1912-13, 1919.

GAGE.--Water-stage recorder. Datum of gage is 494.98 ft above National Geodetic Vertical Datum of 1929. Mar. 1, 1895, to Sept. 30, 1928, nonrecording gage at bridge 100 ft downstream at same datum. Prior to July 1980, 100 ft downstream on left bank at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow slightly regulated by 6 flood-control reservoirs which have a combined capacity of 440,200 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 32.4 ft, June 1, 1889, discharge, about 252,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14000	6920	30500	8120	e6300	7550	44100	4970	2330	2060	1290	6250
2	12000	6520	45600	7640	e5400	7300	48500	4960	2200	1780	1150	4850
3	10600	6120	42300	7320	e5100	6670	82000	4770	2050	1680	1010	2990
4	9530	6280	32000	11700	e5000	5900	55100	4600	2040	1550	916	2070
5	7260	7010	25000	26400	e5100	5170	44100	4380	2060	1680	856	1670
6	6430	7830	20200	33700	e5000	5090	43500	4040	2300	2240	811	1450
7	5700	7710	17100	48400	e4800	5090	37500	3810	2390	2070	785	1260
8	5370	7570	16800	47300	e4700	6800	29100	3610	2570	2590	794	1150
9	5490	7220	16700	42300	e5600	10700	22700	3510	2360	2680	789	1030
10	5090	6760	20000	37500	e12000	11300	18000	3470	2100	2360	766	947
11	4400	6390	33100	32600	e20000	10100	15100	3230	2020	2220	743	892
12	4140	6460	36900	30000	20400	9700	13000	3120	2400	1970	743	860
13	3930	6540	32200	35900	16600	8900	11400	3020	2340	1750	804	802
14	3880	6340	26300	67500	13700	8490	9920	2850	2340	1620	916	790
15	3930	6110	20900	78800	13500	8230	8590	2770	2330	1570	867	766
16	4550	5790	17100	54500	18800	6790	7680	2860	2380	1480	805	765
17	4750	5640	14400	39400	22800	6120	6830	2900	2880	1580	799	867
18	4220	5450	12600	28400	21700	6060	6330	2790	3380	1730	778	798
19	5070	5120	11200	23100	18800	6230	5890	2650	2720	1730	928	797
20	7990	4970	9750	20900	16400	6390	5570	2510	2450	1790	924	787
21	9560	4910	7820	e16000	14800	7060	5270	2470	2100	1610	875	760
22	8430	4870	7000	e12000	13700	8360	5010	2450	1930	1380	871	745
23	7370	4730	9240	e9500	12600	9870	5250	2420	1790	1260	895	712
24	6840	4870	16100	e7500	11400	13200	5820	2500	1640	1180	847	678
25	6450	9060	16900	e6800	10400	16900	6540	2520	1560	1170	791	671
26	6050	14800	14800	e7700	9560	18300	6200	2480	1490	1160	726	706
27	5710	16000	13100	e9000	8580	17200	5710	2470	1420	1260	689	766
28	5440	19400	10600	e7500	7580	22700	5340	2300	1400	1270	713	794
29	5110	29600	9510	e5300	---	54300	5140	2230	1380	1350	690	935
30	5620	28700	9810	e5000	---	60200	5010	2210	1520	1430	968	1060
31	6820	---	8880	e6000	---	51500	---	2340	---	1370	3530	---
TOTAL	201730	265690	604410	773780	330320	428170	570200	97210	63870	52570	29069	39618
MEAN	6507	8856	19500	24960	11800	13810	19010	3136	2129	1696	938	1321
MAX	14000	29600	45600	78800	22800	60200	82000	4970	3380	2680	3530	6250
MIN	3880	4730	7000	5000	4700	5090	5010	2210	1380	1160	689	671
CFSM	1.15	1.56	3.43	4.39	2.08	2.43	3.35	0.55	0.37	0.30	0.17	0.23
IN.	1.32	1.74	3.96	5.07	2.16	2.80	3.73	0.64	0.42	0.34	0.19	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2005, BY WATER YEAR (WY)

MEAN	4218	7113	9036	9881	10530	19910	18280	12250	7141	4076	2955	3086
MAX	20850	28330	24140	30210	29100	62970	51090	32030	37400	20080	16450	32070
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	1902	1994	2004
MIN	416	408	642	423	1965	5559	4633	2766	1501	847	592	425
(WY)	1931	1931	1931	1931	1931	1969	1946	1941	1999	1966	1910	1932

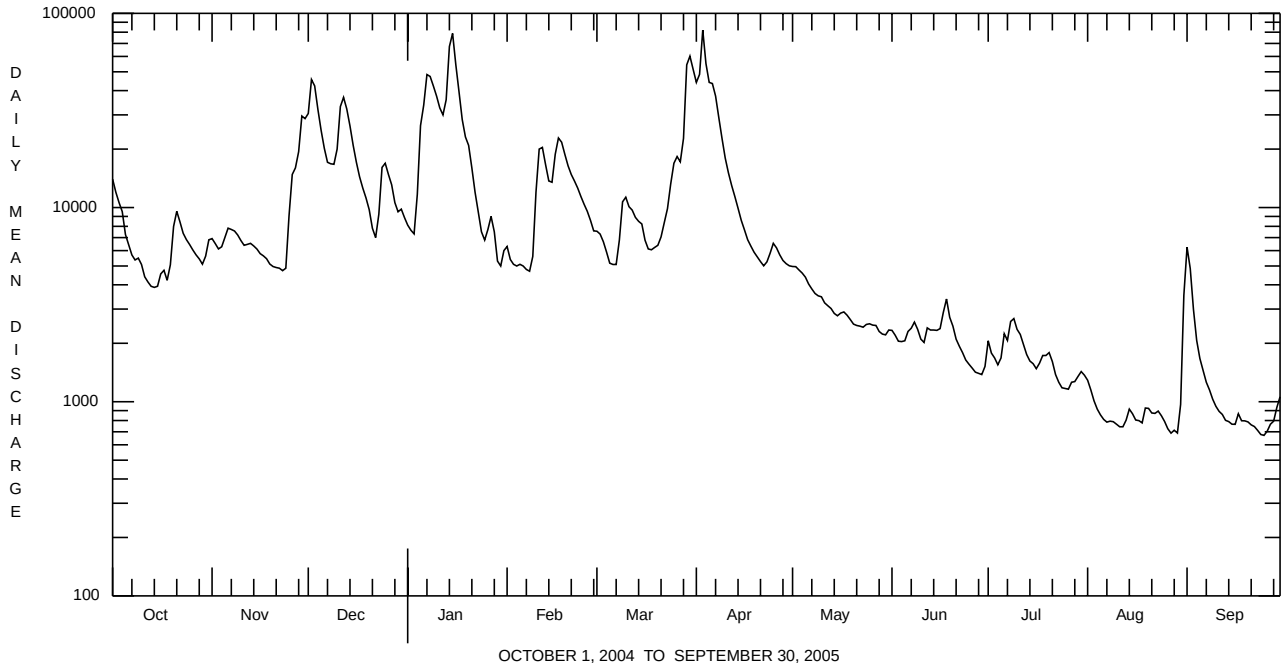
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1895 - 2005	
ANNUAL TOTAL	5265370		3456637			
ANNUAL MEAN	14390		9470		9039	
HIGHEST ANNUAL MEAN					15580	2004
LOWEST ANNUAL MEAN					5357	1934
HIGHEST DAILY MEAN	171000	Sep 19	82000	Apr 3	240000	Jun 23 1972
LOWEST DAILY MEAN	2170	Jul 4	671	Sep 25	251	Sep 13 1932
ANNUAL SEVEN-DAY MINIMUM	2550	Jun 29	720	Sep 21	328	Nov 25 1930
MAXIMUM PEAK FLOW			89400	Apr 3	**a**279000	Jun 23 1972
MAXIMUM PEAK STAGE			17.34	Apr 3	34.75	Jun 23 1972
INSTANTANEOUS LOW FLOW					162	Sep 17 1943
ANNUAL RUNOFF (CFSM)	2.53		1.67		1.59	
ANNUAL RUNOFF (INCHES)	34.47		22.63		21.61	
10 PERCENT EXCEEDS	30500		23900		21000	
50 PERCENT EXCEEDS	9010		5250		5100	
90 PERCENT EXCEEDS	4000		869		1060	

a From rating curve extended above 210,000 ft^3/s on basis of slope-area measurement at gage height 33.57 ft.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
22...	1400	1028	9813	4880	40	12.7	7.8	7.8	231	216	8.8	93	22.9
JAN 2005													
27...	0830	1028	9813	E9000	40	16.5	7.3	7.6	226	209	.0	85	19.6
MAR													
14...	1400	1028	9813	8340	40	15.5	7.4	7.0	200	177	2.1	76	18.6
MAY													
18...	1340	1028	9813	2790	40	10.9	7.7	7.7	245	244	18.3	93	22.2
JUL													
20...	1400	1028	9813	1800	40	8.4	7.2	8.0	307	317	28.3	120	29.6
SEP													
28...	1400	1028	9813	770	40	9.1	8.1	7.8	379	395	20.6	150	35.6

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
22...	8.6	38	55.8	150	8	<.020	.71	<.040	<.01	<.010	.92	1.2	<200
JAN 2005													
27...	8.6	22	72.1	160	<2	.230	.73	<.040	<.01	<.010	.85	.8	<200
MAR													
14...	7.0	21	53.6	140	<2	.030	.66	<.040	<.01	<.010	.83	.9	360
MAY													
18...	9.2	26	76.8	216	4	<.020	.48	<.040	<.01	<.010	.59	--	--
JUL													
20...	11.0	47	80.2	254	8	.030	.62	<.040	.01	.023	.73	--	<200
SEP													
28...	14.6	55	92.0	242	<2	.060	.76	<.040	.01	.012	.99	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
22...	<10	120	<1.0	390	<50	10
JAN 2005						
27...	<10	180	<1.0	600	<50	30
MAR						
14...	<10	460	<1.0	400	<50	30
MAY						
18...	--	50	<1.0	--	--	--
JUL						
20...	<10	60	<1.0	60	<50	10
SEP						
28...	<10	40	<1.0	80	<50	<10

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	10/27/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	2
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Sphaerium	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	36
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	2
Ephemerellidae	
Serratella	4
Heptageniidae	
Epeorus	4
Leucrocuta	3
Rhithrogena	2
Stenonema	20
Isonychiidae	
Isonychia	29
Leptophlebiidae	
Paraleptophlebia	1
Plecoptera (STONEFLIES)	
Capniidae	4
Perlidae	
Acroneuria	3
Taeniopterygidae	
Taenionema	1
Taeniopteryx	5
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	8
Hydropsyche	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	5
Total Organisms	135
Total Taxa	20

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°19'30", long 76°54'46", Lycoming County, Hydrologic Unit 02050206, on right bank 30 ft downstream from bridge on State Highway 973 at Loyalsockville, 2.5 mi downstream from Wallis Run, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--435 mi^2 .

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1925 to September 1974, October 1975 to current year. Prior to October 1925, monthly discharge only, published in WSP 1302. Prior to October 1969, published as "at Loyalsock".

REVISED RECORDS.--WSP 871: 1938(M). WSP 1051: 1926(M), 1933(M), 1936(M). WSP 1302: 1926-30. WSP 1502: 1932-33, 1935(M), 1937(M). WDR PA-99-2: Drainage area, 1972(M). WDR PA-02-2: 1926-95(M).

GAGE.--Water-stage recorder. Datum of gage is 586.33 ft above National Geodetic Vertical Datum of 1929 (revised). August 1925 to Sept. 16, 1926, nonrecording gage, and Sept. 17, 1926, to June 13, 1988, water-stage recorder at site 500 feet downstream on left bank 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 26, l975, reached a stage of 14.50 ft, from floodmark, discharge, 46,000 ft^3/s (revised), from rating curve extended above 16,000 ft^3/s on basis of slope-area measurement of peak flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 6,400 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1700	7,900	7.40	Mar. 29	1215	11,500	8.66
Dec. 1	1630	6,730	6.92	Apr. 3	0115	*19,400	*10.85
Jan. 14	1145	14,000	9.42				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	541	4290	778	e410	e530	3160	668	e209	205	72	2500
2	1210	491	3640	715	e390	507	7260	612	e190	155	59	1010
3	1080	485	2350	759	e400	e440	13500	574	e180	124	56	622
4	940	493	1790	1980	e390	e400	5270	539	e200	105	54	430
5	811	531	1480	1590	e380	e390	3000	504	e210	103	56	325
6	709	510	1260	1600	e350	e370	2170	462	e250	118	53	267
7	633	462	1260	1830	e360	416	1740	437	e230	128	47	214
8	570	421	1470	1670	427	e700	1510	412	e210	147	47	187
9	518	398	1250	1740	558	e750	1270	387	e170	277	63	168
10	481	375	2250	1460	e1500	e670	1120	367	e130	219	57	146
11	444	364	4810	1350	e1100	e630	993	349	e580	163	55	125
12	405	379	2800	1430	930	587	880	323	331	126	50	110
13	378	403	2070	2520	796	524	792	302	e270	111	52	100
14	384	371	1650	9830	728	481	734	288	e200	95	100	91
15	440	342	1360	4600	1390	435	650	321	158	88	154	85
16	718	330	1170	2650	1680	446	599	388	133	84	114	97
17	629	322	1070	1980	1730	437	557	317	146	173	84	117
18	504	320	942	e1500	e1300	468	524	285	168	372	68	101
19	1120	315	878	e1200	e1100	486	488	e290	155	269	66	88
20	1590	311	e720	e1000	e980	543	456	e280	137	200	59	80
21	1320	314	e670	e940	927	644	427	e270	123	157	54	75
22	1190	301	e690	e840	844	677	402	e260	115	131	49	72
23	1060	286	1560	e790	761	842	501	e250	109	112	44	66
24	953	432	3240	e780	659	914	1090	e250	100	95	42	62
25	872	1980	1690	e730	641	898	1030	e250	91	90	40	58
26	801	2110	e1300	e690	556	906	844	e230	85	82	38	64
27	733	1470	e1100	e640	518	965	758	e230	98	81	37	112
28	666	3920	e910	e660	537	3260	699	e220	180	82	44	132
29	615	3600	e920	e620	---	8890	640	e240	252	80	43	116
30	620	2190	894	e540	---	4920	627	e250	290	70	638	110
31	609	---	800	e480	---	3500	---	e227	---	65	3350	---
TOTAL	24483	24767	52284	49892	22342	36626	53691	10782	5700	4307	5745	7730
MEAN	790	826	1687	1609	798	1181	1790	348	190	139	185	258
MAX	1590	3920	4810	9830	1730	8890	13500	668	580	372	3350	2500
MIN	378	286	670	480	350	370	402	220	85	65	37	58
CFSM	1.82	1.90	3.88	3.70	1.83	2.72	4.11	0.80	0.44	0.32	0.43	0.59
IN.	2.09	2.12	4.47	4.27	1.91	3.13	4.59	0.92	0.49	0.37	0.49	0.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2005, BY WATER YEAR (WY)

MEAN	495	848	913	787	814	1472	1552	946	518	282	279	305
MAX	2512	2856	3033	3070	2961	4490	4236	2694	4327	1206	1797	2037
(WY)	1991	1951	1974	1996	1981	1936	1993	1946	1972	1928	1994	2004
MIN	20.2	28.4	80.5	34.1	108	449	363	220	92.4	41.6	31.5	13.8
(WY)	1965	1965	1931	1931	1931	1969	1946	1941	1991	1962	1964	1964

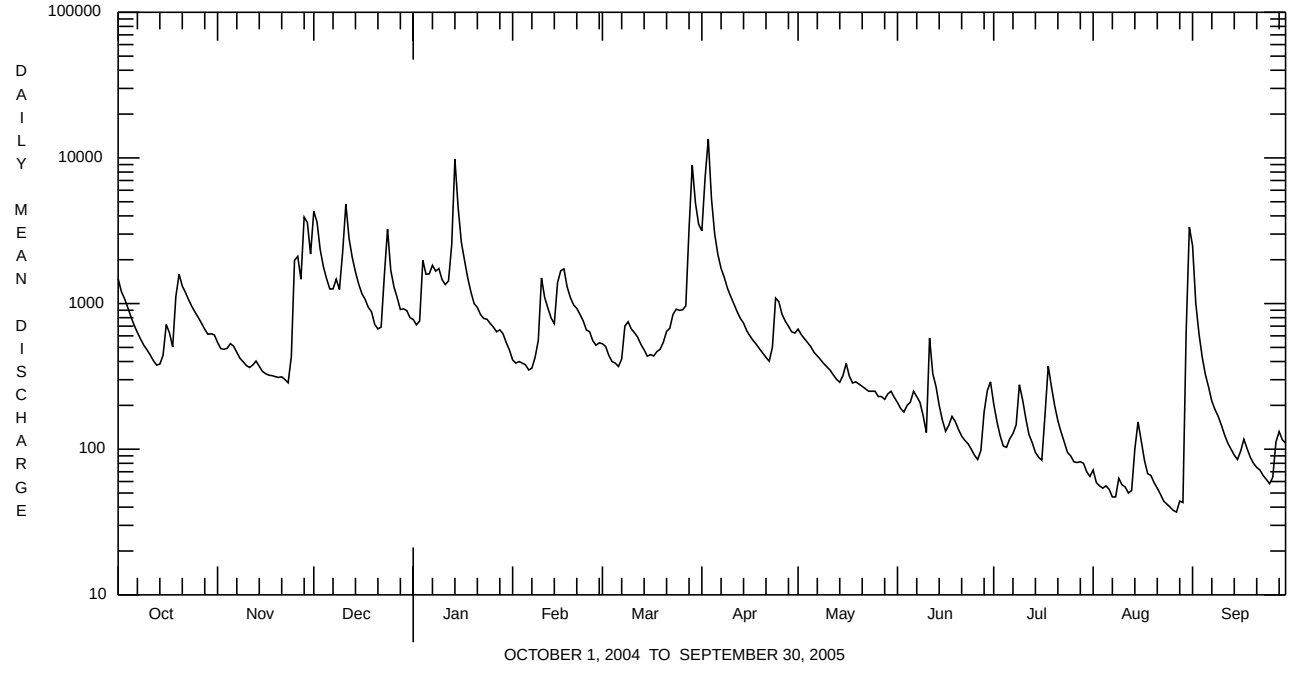
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1926 - 2005	
ANNUAL TOTAL	375751		298349			
ANNUAL MEAN	1027		817		767	
HIGHEST ANNUAL MEAN					1312	1978
LOWEST ANNUAL MEAN					332	1965
HIGHEST DAILY MEAN	28100	Sep 18	13500	Apr 3	45000	Jun 23 1972
LOWEST DAILY MEAN	122	Jul 7	37	Aug 27	11	Sep 25 1964
ANNUAL SEVEN-DAY MINIMUM	140	Jul 1	41	Aug 23	12	Sep 20 1964
MAXIMUM PEAK FLOW			**a**19400	Apr 3	**a**55800	Jan 19 1996
MAXIMUM PEAK STAGE			10.85	Apr 3	**b**17.93	Jan 19 1996
INSTANTANEOUS LOW FLOW					11	Sep 25,26 1964**c**
ANNUAL RUNOFF (CFSM)	2.36		1.88		1.76	
ANNUAL RUNOFF (INCHES)	32.13		25.51		23.94	
10 PERCENT EXCEEDS	1920		1710		1690	
50 PERCENT EXCEEDS	690		462		410	
90 PERCENT EXCEEDS	256		82		70	

a From rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark in gage.
c Also Nov. 24, 1964.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 2004													
09...	1145	1028	9813	399	30	13.4	7.8	7.0	59	56	6.3	22	6.4
JAN 2005													
25...	1430	1028	9813	E730	30	16.3	7.1	7.2	55	39	.0	19	5.5
MAR													
15...	1130	1028	9813	395	30	15.1	7.0	7.3	63	66	2.4	22	6.9
MAY													
19...	1145	1028	9813	E290	30	11.8	7.5	7.6	61	60	15.3	22	7.0
JUL													
21...	1200	1028	9813	158	30	9.6	8.3	7.8	70	74	25.2	29	9.0
SEP													
29...	1115	1028	9813	120	30	9.8	7.6	7.4	73	76	17.5	29	9.2

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)	Phos-phorus, water, unfltrd mg/L (00665)
NOV 2004												
09...	7.1	1.04	1.1	16	7.4	44	2	<.020	.16	<.040	<.01	<.010
JAN 2005												
25...	5.8	.93	1.0	12	8.7	--	<2	.150	.49	<.040	<.01	<.010
MAR												
15...	6.9	1.15	1.1	13	8.9	38	<2	<.020	.49	<.040	<.01	<.010
MAY												
19...	6.9	1.09	1.1	14	8.2	54	<2	<.020	.22	<.040	<.01	<.010
JUL												
21...	9.3	1.32	1.4	22	8.1	56	6	<.020	.11	<.040	<.01	<.010
SEP												
29...	9.2	1.45	1.4	22	8.3	48	<2	.020	.27	<.040	<.01	.013

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Total nitro-gen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)
NOV 2004													
09...	.25	1.7	<10	30	<4	<4	<20	40	<1.0	<1.0	<2.0	2.4	<4.0
JAN 2005													
25...	.58	.4	20	50	<4	<4	<20	50	<1.0	<1.0	5.1	9.3	<4.0
MAR													
15...	.50	2.3	10	30	<4	<4	<20	<20	<1.0	<1.0	3.0	3.7	<4.0
MAY													
19...	.18	.6	<10	10	<4	<4	<20	<20	<1.0	<1.0	3.5	4.0	<4.0
JUL													
21...	.10	.3	<10	10	<4	<4	<20	20	<1.0	<1.0	6.4	10	<4.0
SEP													
29...	.28	.4	<10	<10	<4	<4	<20	20	<1.0	<1.0	3.2	6.1	<4.0

Date	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV 2004			
09...	<4.0	<5.0	<5.0
JAN 2005			
25...	<4.0	<5.0	<5.0
MAR			
15...	<4.0	<5.0	<5.0
MAY			
19...	<4.0	<5.0	<5.0
JUL			
21...	<4.0	<5.0	<5.0
SEP			
29...	<4.0	<5.0	<5.0

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/04/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	2
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbricina	1
Lumbriculida	
Lumbriculidae	10
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	4
Heterocloeon	1
Plauditus	3
Ephemerellidae	
Ephemerella	1
Heptageniidae	
Epeorus	5
Leucrocuta	2
Stenonema	24
Isonychiidae	
Isonychia	19
Leptophlebiidae	
Paraleptophlebia	2
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Gomphidae	
Lanthus	2
Plecoptera (STONEFLIES)	
Chloroperlidae	
Sweltsa	1
Perlidae	
Acroneuria	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	2
Hydropsyche	4
Philopotamidae	
Chimarra	3

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	08/04/04
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	14
Stenelmis	2
Psephenidae (WATER PENNIES)	
Psephenus	7
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	6
Total Organisms	118
Total Taxa	24

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552500 MUNCY CREEK NEAR SONESTOWN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°21'25", long 76°32'06", Sullivan County, Hydrologic Unit 02050206, on right bank 150 ft downstream from Slip Run, 185 ft downstream from bridge on SR 2002, and 1.2 mi east of Sonestown.

DRAINAGE AREA.--23.8 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1502: 1941-42; WDR PA-00-2: 1942, 1946, 1951-52, 1959, 1964, 1972, 1975, 1977-79, 1984, 1986, 1988, 1991, 1993-94, 1996-97(P).

GAGE.--Water-stage recorder. Datum of gage is 1,025.01 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 31, 1941, 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 9.3 ft, discharge not determined.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0915	1,440	5.23	Mar. 29	0330	1,380	5.14
Dec. 23	1445	1,310	5.01	Apr. 2	1730	*2,070	*6.03
Jan. 14	0615	1,660	5.58				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	29	511	38	32	25	245	45	9.9	5.0	2.7	29
2	109	26	264	33	31	22	942	41	9.1	4.7	2.5	10
3	117	27	163	65	30	e23	1020	38	8.6	4.0	2.4	6.1
4	80	27	112	151	26	e23	357	34	13	3.8	2.3	4.3
5	62	34	85	93	21	e23	208	31	10	3.9	3.9	3.5
6	51	27	68	151	17	e23	148	30	14	6.4	5.4	3.0
7	43	25	81	129	16	23	120	29	14	4.6	3.0	2.7
8	37	24	83	137	17	55	100	27	9.8	32	3.0	2.5
9	33	22	69	108	33	e67	82	24	8.3	12	6.0	2.3
10	29	22	209	90	94	e65	68	23	7.7	8.3	3.5	2.2
11	26	21	252	76	e38	e50	57	22	16	6.0	2.8	2.0
12	24	25	159	103	35	e29	50	20	9.8	5.2	4.0	1.9
13	22	23	119	268	31	e18	45	19	7.7	4.7	6.8	1.8
14	26	20	89	851	42	e18	40	20	6.9	4.2	6.5	1.8
15	43	20	69	294	137	e23	35	33	6.3	4.2	3.9	1.8
16	57	19	57	172	142	e23	32	22	8.5	4.8	3.2	1.9
17	44	18	50	116	114	e21	30	19	11	6.8	3.1	2.6
18	35	18	43	e57	79	21	29	18	8.4	6.6	2.6	2.4
19	142	17	40	e57	e55	22	27	17	7.2	5.5	2.5	2.1
20	116	17	e39	e50	e50	27	25	17	6.4	4.7	2.6	1.9
21	108	17	e35	e44	48	36	24	16	5.9	4.0	2.4	1.9
22	95	16	e35	e38	39	34	23	16	5.4	3.8	2.1	1.7
23	78	15	335	e35	34	51	58	15	5.1	3.6	1.9	1.7
24	67	60	234	e35	e28	52	121	15	4.4	3.2	1.8	1.7
25	56	328	131	e38	e28	49	82	15	4.0	3.8	1.6	1.7
26	48	183	e80	e35	e27	50	69	14	20	3.5	1.6	5.7
27	43	114	e65	e35	e26	56	63	12	16	6.8	1.6	11
28	38	603	e60	e38	e24	400	54	12	7.0	4.1	2.7	3.8
29	35	276	e60	e38	---	852	48	12	6.0	3.2	2.9	4.7
30	36	160	45	39	---	332	46	12	6.2	2.9	3.0	5.0
31	33	---	41	35	---	250	---	12	---	2.8	71	---
TOTAL	1833	2233	3683	3449	1294	2763	4248	680	272.6	179.1	165.3	124.7
MEAN	59.1	74.4	119	111	46.2	89.1	142	21.9	9.09	5.78	5.33	4.16
MAX	142	603	511	851	142	852	1020	45	20	32	71	29
MIN	22	15	35	33	16	18	23	12	4.0	2.8	1.6	1.7
CFSM	2.48	3.13	4.99	4.67	1.94	3.74	5.95	0.92	0.38	0.24	0.22	0.17
IN.	2.87	3.49	5.76	5.39	2.02	4.32	6.64	1.06	0.43	0.28	0.26	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

MEAN	34.0	56.7	62.8	51.7	52.9	85.6	88.0	58.9	31.0	18.8	18.4	23.8
MAX	127	140	161	167	236	168	220	156	240	93.0	95.3	167
(WY)	1977	1973	1974	1976	1981	1964	1993	1946	1972	1972	1994	1975
MIN	1.44	2.62	8.57	6.60	7.70	25.4	20.9	11.9	4.93	2.21	1.60	0.73
(WY)	1965	1965	1999	1981	1987	1981	1946	1941	1991	1999	1957	1964

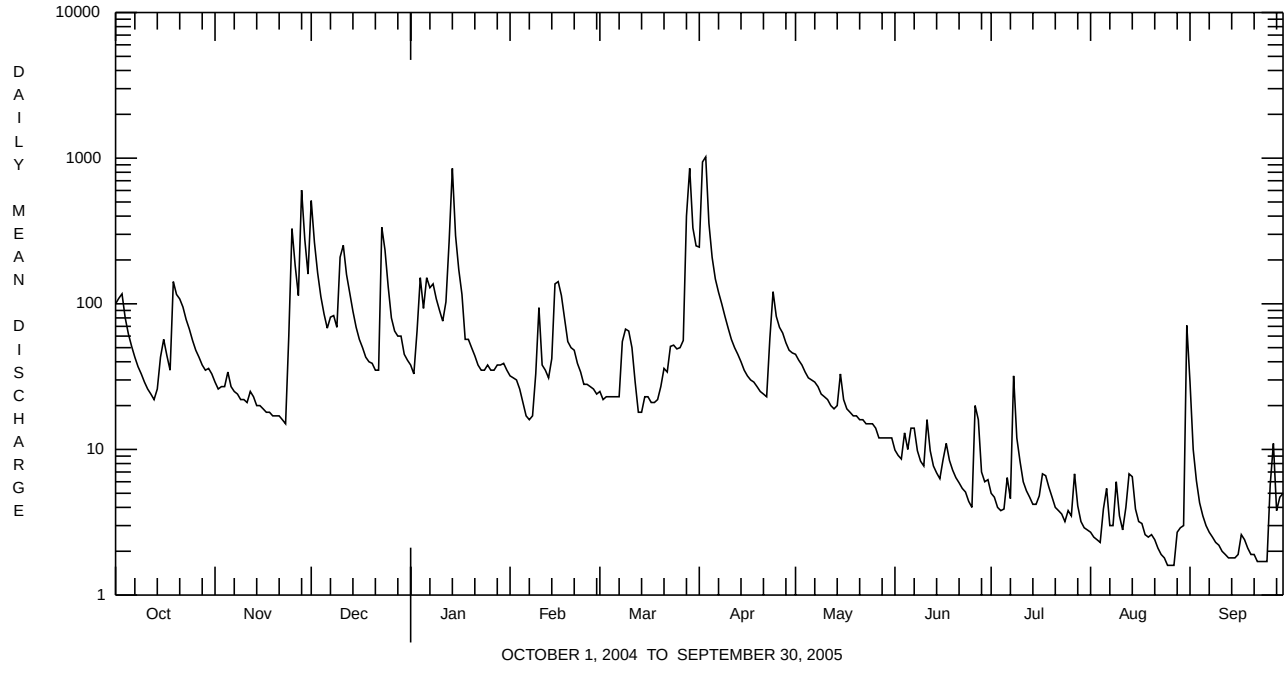
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552500 MUNCY CREEK NEAR SONESTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	24033.3		20924.7			
ANNUAL MEAN	65.7		57.3		48.5	
HIGHEST ANNUAL MEAN					77.3	1978
LOWEST ANNUAL MEAN					22.1	1965
HIGHEST DAILY MEAN	1400	Sep 18	1020	Apr 3	3910	Jun 22 1972
LOWEST DAILY MEAN	6.4	Jul 4	1.6	Aug 25-27	0.20	Sep 11 1964
ANNUAL SEVEN-DAY MINIMUM	7.5	Jun 30	1.8	Sep 19	0.31	Sep 8 1964
MAXIMUM PEAK FLOW			**a**2070	Apr 2	**a**4630	Jun 22 1972
MAXIMUM PEAK STAGE			6.03	Apr 2	8.94	Jun 22 1972
INSTANTANEOUS LOW FLOW					0.10	Sep 11 1964
ANNUAL RUNOFF (CFSM)	2.76		2.41		2.04	
ANNUAL RUNOFF (INCHES)	37.56		32.71		27.69	
10 PERCENT EXCEEDS	130		120		103	
50 PERCENT EXCEEDS	37		26		26	
90 PERCENT EXCEEDS	13		2.9		4.4	

a From rating curve extended above 2,000 ft^3/s.



01552500 MUNCY CREEK NEAR SONESTOWN, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--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 the Water-Quality Network can be found on pages 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Pressure, osmotic water, unfltrd mosm/kg (82550)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
OCT 2004													
20...	0915	1028	9813	121	1.0	11.3	7.2	6.9	50	48	9.3	20	6.6
NOV													
08...	1030	1028	9813	23	1.0	12.7	7.3	7.0	58	55	6.0	23	7.6
DEC													
14...	1100	1028	9813	91	<1.0	13.8	7.1	7.4	46	44	2.8	16	5.0
JAN 2005													
25...	1200	1028	9813	E38	2.0	14.9	7.1	--	49	45	.0	18	5.9

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)
OCT 2004												
20...	6.7	.87	.88	16	1.8	<.2	6.5	48	4	<.020	.18	<.040
NOV												
08...	7.7	.94	1.0	16	2.1	<.2	7.0	66	<2	<.020	.14	<.040
DEC												
14...	5.2	.70	.74	12	1.7	<.2	7.2	58	2	.020	.33	<.040
JAN 2005												
25...	5.9	.75	.76	--	2.2	<.2	7.5	42	<2	<.020	.40	<.040

Date	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coliform, M-FC 0.45µMF col/ 100 mL (31616)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recoverable, µg/L (01051)
OCT 2004													
20...	<.01	.032	.21	.6	<20	20	50	<4	<4	<20	60	<1.0	<1.0
NOV													
08...	<.01	<.010	.44	.9	<20	<10	<10	<4	<4	<20	<20	<1.0	<1.0
DEC													
14...	<.01	<.010	.42	.8	<20	10	30	<4	<4	<20	<20	<1.0	<1.0
JAN 2005													
25...	<.01	<.010	.66	.5	<20	10	20	<4	10	<20	40	<1.0	<1.0

Date	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)	Phenolic compounds, water, unfltrd µg/L (32730)
OCT 2004							
20...	3.4	5.2	<4.0	<4.0	<5.0	<5.0	<5
NOV							
08...	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
DEC							
14...	<2.0	2.5	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005							
25...	<2.0	2.0	<4.0	<4.0	<5.0	6.8	<5

01552500 MUNCY CREEK NEAR SONESTOWN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 200 animal (approximate) subsamples.

Date	11/05/03
Benthic macroinvertebrate	Count
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	8
Ephemerellidae	
Ephemerella	22
Serratella	3
Heptageniidae	
Epeorus	52
Rhithrogena	6
Isonychiidae	
Isonychia	7
Leptophlebiidae	
Paraleptophlebia	32
Plecoptera (STONEFLIES)	
Capniidae	
Paracapnia	4
Chloroperlidae	
Alloperla	1
Sweltsa	2
Perlidae	
Agnetina	2
Perlodidae	
Isoperla	24
Taeniopterygidae	
Taenionema	2
Taeniopteryx	2
Megaloptera	
Corydalidae	
Nigronia	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
Glossosoma	2
Hydropsychidae	
Cheumatopsyche	5
Hydropsyche	15
Lepidostomatidae	
Lepidostoma	8
Odontoceridae	
Psilotreta	3
Philopotamidae	
Dolophilodes	2
Rhyacophilidae	
Rhyacophila	1
Uenoidae	
Neophylax	1

01552500 MUNCY CREEK NEAR SONESTOWN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	11/05/03
Benthic macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	13
Tipulidae (CRANE FLIES)	
Antocha	2
Hexatoma	3
Total Organisms	223
Total Taxa	26

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°58'03", long 76°52'36", Northumberland County, Hydrologic Unit 02050206, at downstream side of left abutment of Market Street bridge on State Highway 45 at Lewisburg, 0.2 mi downstream from Buffalo Creek, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--6,847 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. September 1913 to August 1923 (gage heights only), are contained in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

GAGE.--Water-stage recorder. Datum of gage is 428.20 ft above National Geodetic Vertical Datum of 1929. Sept. 21, 1913, to Aug. 31, 1923, Dec. 7, 1939, to July 2, 1940, and Oct. 20, 1987, to Sept. 30, 1988, nonrecording gage at same site and datum. Since Oct. 1, 1942, water-stage recorder for Susquehanna River at Sunbury (station 01553990) used as an auxiliary gage.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 6 flood-control reservoirs, which have a combined capacity of 440,200 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 32.1 ft, from floodmarks (backwater from Susquehanna River), discharge, 287,000 ft^3/s from slope-area measurement at Watsontown, 8.0 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17400	8660	34100	10200	e7300	9140	51200	6540	3330	2120	1570	9910
2	15200	8260	46900	9650	e7200	9000	52900	6490	3260	2520	1500	7690
3	13800	7750	46900	9260	e6700	8350	102000	6280	3080	2080	1380	5090
4	12400	7540	36400	12800	6720	7650	67500	6020	3100	1980	1190	3480
5	10300	8410	28400	23700	6690	6880	47300	5810	3030	1860	1090	2540
6	8660	8980	22800	35500	6750	6580	46200	5480	3210	2980	1040	2120
7	7660	9200	19500	47100	6620	6670	44200	5210	3830	2790	994	1830
8	6970	8950	18900	51000	6470	8300	34300	4960	3620	3090	979	1600
9	6860	8620	18500	45100	7040	11300	26500	4800	3470	3880	1110	1450
10	6640	8170	21900	40400	12000	13000	21000	4710	3180	3380	1040	1310
11	5920	7680	36500	34900	19800	12100	17600	4560	2940	3100	954	1220
12	5420	7790	41300	32100	21900	11300	15200	4320	3270	2700	920	1170
13	5150	7970	37400	35400	18300	10800	13600	4200	3390	2400	903	1150
14	5120	7750	30300	66900	15600	9960	12100	4100	3210	2130	969	1100
15	5200	7470	24200	87300	15800	9910	10700	4190	3130	2080	1080	1070
16	5690	7130	19800	65000	18900	8990	9590	4060	2970	2020	1060	1040
17	6330	6870	17000	47600	24000	7860	8720	4070	2900	2390	992	1130
18	5820	6720	15000	33400	23600	7760	8090	3970	3030	2710	968	1160
19	6800	6420	13500	25800	20600	7900	7540	3840	3120	2550	1030	1080
20	10000	6170	e12000	22900	18100	8110	7150	3720	2930	2550	1250	1080
21	12100	6090	e10000	e19000	16500	8690	6760	3680	2700	2350	1100	1060
22	11600	6000	e9000	e15000	15400	9810	6450	3540	2430	2010	1040	1050
23	10100	5860	10600	e12000	14300	11400	6810	3500	2210	1730	1030	1030
24	9180	6360	18900	e10000	13200	16000	7900	3500	2120	1540	1020	1000
25	8630	12200	20000	9590	12100	18200	8700	3710	2010	1530	992	999
26	8000	18300	17400	e9900	11300	19900	8320	3590	1910	1490	913	1030
27	7510	18700	e15000	e11000	10400	18800	7680	3550	1790	1530	905	1090
28	7130	21600	e13000	e10000	9400	22300	7180	3420	1720	1560	905	1150
29	6760	33500	e11000	7940	---	65500	6820	3320	1730	1560	939	1220
30	7510	33300	11600	e6700	---	67800	6610	3250	1790	1640	947	1390
31	8360	---	11100	e7300	---	60200	---	3350	---	1700	3440	---
TOTAL	264220	318420	688900	854440	372690	500160	676620	135740	84410	69950	35250	59239
MEAN	8523	10610	22220	27560	13310	16130	22550	4379	2814	2256	1137	1975
MAX	17400	33500	46900	87300	24000	67800	102000	6540	3830	3880	3440	9910
MIN	5120	5860	9000	6700	6470	6580	6450	3250	1720	1490	903	999
CFSM	1.24	1.55	3.25	4.03	1.94	2.36	3.29	0.64	0.41	0.33	0.17	0.29
IN.	1.44	1.73	3.74	4.64	2.02	2.72	3.68	0.74	0.46	0.38	0.19	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2005, BY WATER YEAR (WY)

MEAN	5329	9142	11830	11600	12790	21840	22310	14780	8902	4801	3695	4171
MAX	24900	32000	28230	30740	33010	49200	62990	28750	46900	20120	18700	34920
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1972	1994	2004
MIN	659	762	1727	1752	2914	6169	5822	3353	1807	1032	983	601
(WY)	1964	1965	1961	1981	1940	1969	1946	1941	1999	1965	1966	1964

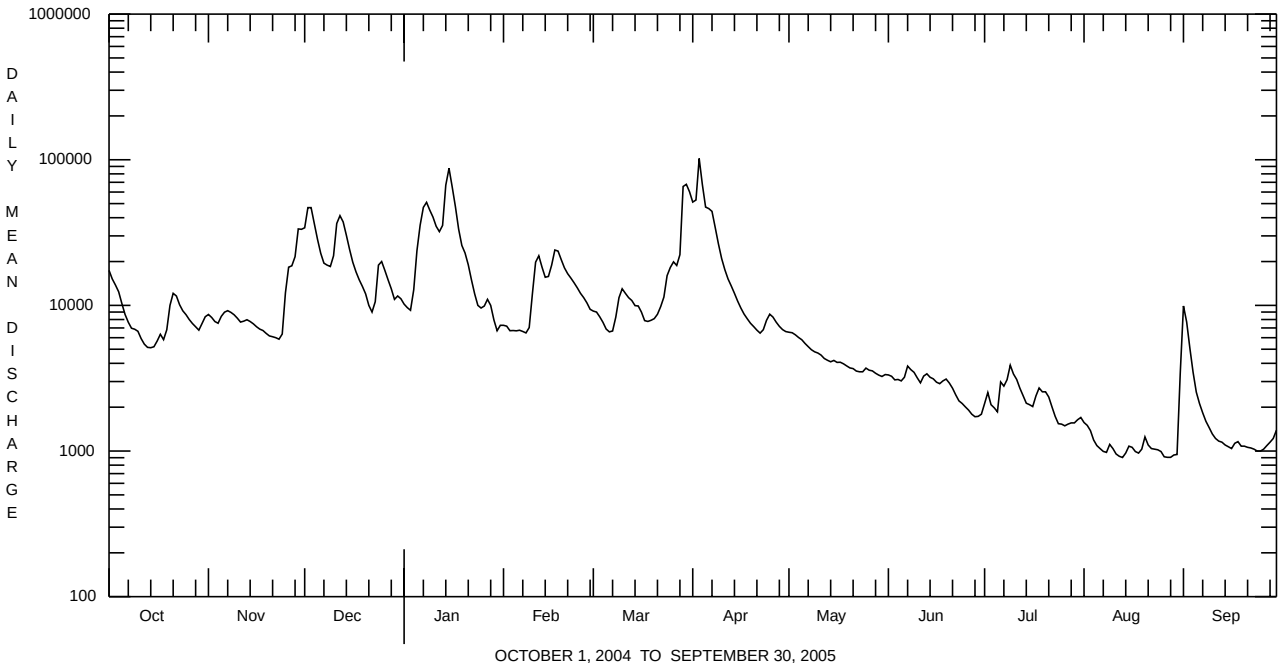
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1940 - 2005	
ANNUAL TOTAL	6028840		4060039			
ANNUAL MEAN	16470		11120		10920	
HIGHEST ANNUAL MEAN					17760	2004
LOWEST ANNUAL MEAN					6158	1965
HIGHEST DAILY MEAN	190000	Sep 19	102000	Apr 3	285000	Jun 24 1972
LOWEST DAILY MEAN	2830	Jul 4	903	Aug 13	417	Nov 16 1964
ANNUAL SEVEN-DAY MINIMUM	3190	Jun 30	946	Aug 24	511	Sep 15 1964
MAXIMUM PEAK FLOW			**a**113000	Apr 3	**b**300000	Jun 24 1972
MAXIMUM PEAK STAGE			19.40	Apr 3	**c**34.23	Jun 24 1972
INSTANTANEOUS LOW FLOW			892	Aug 13	390	Nov 16 1964
ANNUAL RUNOFF (CFSM)	2.41		1.62		1.59	
ANNUAL RUNOFF (INCHES)	32.75		22.06		21.66	
10 PERCENT EXCEEDS	33500		26100		24800	
50 PERCENT EXCEEDS	11200		6820		6490	
90 PERCENT EXCEEDS	4910		1110		1490	

a Gage height 18.79 ft, adjusted for backwater from Susquehanna River.
b About.
c From floodmarks (backwater from Susquehanna River).



01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	10/28/04
Benthic macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Hydrobiidae	
Amnicola	1
Planorbidae	
Planorbella	1
Pleuroceridae	
Elimia	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	2
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
Ephemerella	6
Heptageniidae	
Stenonema	43
Isonychiidae	
Isonychia	15
Tricorythidae	
Tricorythodes	1
Plecoptera (STONEFLIES)	
Taeniopterygidae	
Taenionema	20
Taeniopteryx	4
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	14
Hydropsyche	2
Leptoceridae	
Oecetis	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	4
Total Organisms	119
Total Taxa	16

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553700 CHILLISQUAQUE CREEK AT WASHINGTONVILLE, PA

LOCATION.--Lat 41°03'42", long 76°40'50", Montour County, Hydrologic Unit 02050206, on left bank 60 ft upstream from bridge on State Highway 54, and 0.7 mi north of U.S. Post Office in Washingtonville.

DRAINAGE AREA.--51.3 mi^2.

PERIOD OF RECORD.--May 1979 to current year.

REVISED RECORDS.--WDR PA-82-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.70 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Power and Light Co. benchmark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow includes diversion from West Branch Susquehanna River. 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 1,200 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	1700	1,360	6.59	Mar. 29	0745	2,650	9.28
Jan. 14	1200	1,760	8.01	Apr. 3	0800	*3,140	*9.74

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	50	586	43	e30	45	208	37	25	15	16	23
2	52	47	255	40	e28	43	870	34	24	15	16	17
3	52	46	132	98	e28	40	1740	32	24	15	15	16
4	47	50	87	292	e30	38	467	31	32	16	e16	16
5	44	79	70	290	e31	39	263	30	27	81	e16	15
6	41	51	59	854	e32	40	198	30	25	134	16	15
7	40	47	86	521	e33	61	153	28	29	37	17	15
8	38	45	83	433	e35	296	83	27	25	49	17	16
9	38	43	64	302	e50	e140	66	26	22	70	17	15
10	37	41	469	194	e170	e88	57	25	21	52	16	15
11	36	41	449	143	79	75	49	27	21	31	16	14
12	35	70	179	301	64	70	44	28	21	26	16	14
13	35	60	116	242	55	78	42	27	21	24	15	14
14	41	47	80	1200	66	82	37	27	20	25	15	14
15	48	45	63	396	231	80	35	46	19	22	15	14
16	50	44	54	e170	196	84	33	31	20	25	16	14
17	47	43	51	e100	134	86	32	28	19	29	16	14
18	40	42	46	e75	87	93	30	27	19	24	16	14
19	213	41	44	e60	70	87	30	26	19	21	19	14
20	124	42	43	e53	58	94	29	29	19	19	17	13
21	114	43	35	e45	57	105	29	29	18	18	16	12
22	131	40	34	e40	54	88	28	26	18	19	15	13
23	84	39	257	e38	58	185	64	26	17	18	14	13
24	71	146	171	e35	54	341	141	30	17	18	15	13
25	63	560	82	e32	49	195	73	30	17	19	14	13
26	55	261	62	e34	46	144	56	26	16	17	15	16
27	50	122	52	e32	43	112	48	25	16	18	15	15
28	47	443	44	e31	43	575	42	24	15	18	16	15
29	46	227	45	e30	---	1640	37	25	15	17	16	16
30	93	127	43	e30	---	417	37	26	16	16	17	15
31	64	---	43	e30	---	245	---	29	---	16	41	---
TOTAL	1935	2982	3884	6184	1911	5706	5021	892	617	924	517	443
MEAN	62.4	99.4	125	199	68.2	184	167	28.8	20.6	29.8	16.7	14.8
MAX	213	560	586	1200	231	1640	1740	46	32	134	41	23
MIN	35	39	34	30	28	38	28	24	15	15	14	12
CFSM	1.22	1.94	2.44	3.89	1.33	3.59	3.26	0.56	0.40	0.58	0.33	0.29
IN.	1.40	2.16	2.82	4.48	1.39	4.14	3.64	0.65	0.45	0.67	0.37	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2005, BY WATER YEAR (WY)

MEAN	51.2	84.1	95.4	85.4	95.6	132	110	69.7	57.7	33.0	32.2	39.9
MAX	211	149	274	269	243	336	286	228	221	102	88.0	159
(WY)	1991	1987	1997	1996	1981	1994	1993	1989	1982	1984	2004	2004
MIN	16.5	23.4	22.2	20.7	25.6	38.3	34.4	17.8	16.0	12.9	15.0	13.0
(WY)	1983	2001	1990	2001	1993	1981	1997	2001	1991	1999	2002	1995

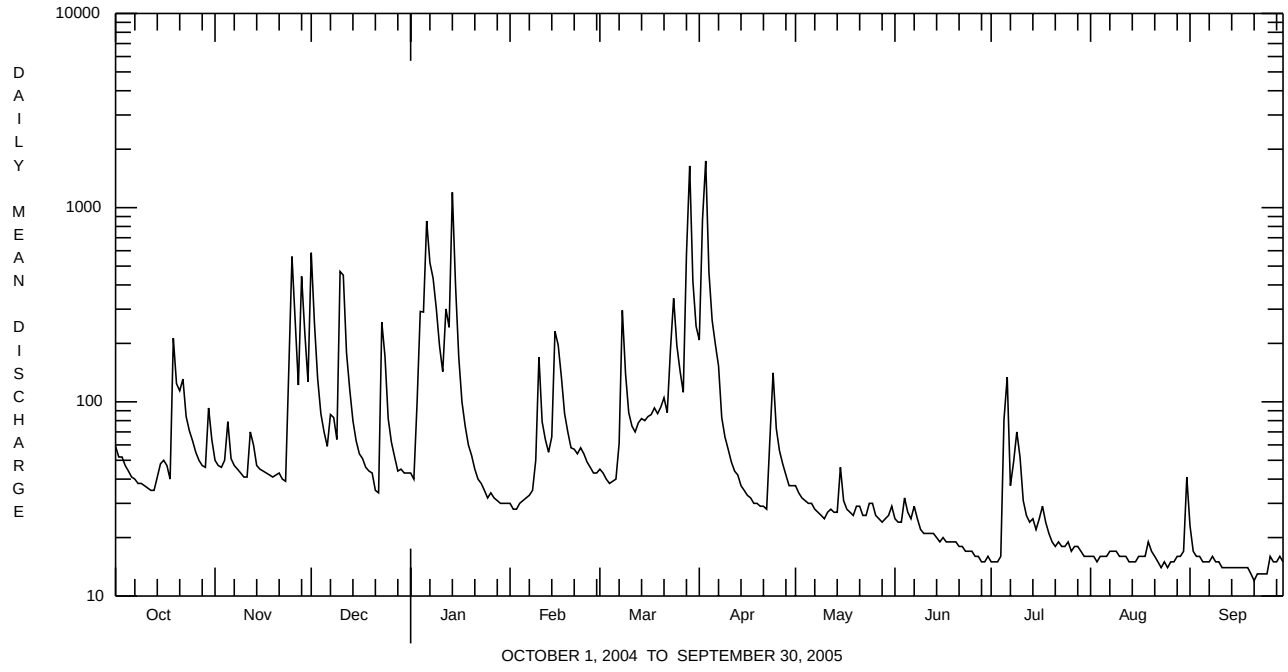
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553700 CHILLISQUAQUE CREEK AT WASHINGTONVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1979 - 2005	
ANNUAL TOTAL	34884		31016			
ANNUAL MEAN	95.3		85.0		73.6	
HIGHEST ANNUAL MEAN					108	1984
LOWEST ANNUAL MEAN					48.1	2001
HIGHEST DAILY MEAN	2910	Sep 18	1740	Apr 3	2910	Sep 18 2004
LOWEST DAILY MEAN	24	Jul 22,25,26	12	Sep 21	6.2	Jul 27 1991
ANNUAL SEVEN-DAY MINIMUM	25	Jul 20	13	Sep 19	7.6	Jul 27 1999
MAXIMUM PEAK FLOW			**a**3140	Apr 3	**ab**4600	Sep 18 2004
MAXIMUM PEAK STAGE			9.74	Apr 3	11.27	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.86		1.66		1.44	
ANNUAL RUNOFF (INCHES)	25.30		22.49		19.50	
10 PERCENT EXCEEDS	178		189		148	
50 PERCENT EXCEEDS	48		38		36	
90 PERCENT EXCEEDS	29		15		17	

a From rating curve extended above 2,600 ft^3/s.
b Gage height 10.86 ft.



WEST BRANCH SUSQUEHANNA RIVER BASIN

LAKES AND RESERVOIRS IN WEST BRANCH SUSQUEHANNA RIVER BASIN

01541180 CURWENSVILLE LAKE.--Lat 40°57'13", long 78°31'40", Clearfield County, Hydrologic Unit 02050201, at Curwensville Dam on West Branch Susquehanna River, 0.7 mi upstream from State Highway 453, 1.2 mi south of Curwensville, and 2.5 mi upstream from Anderson Creek. DRAINAGE AREA, 365 mi^2. PERIOD OF RECORD, November 1965 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by earthfill dam with excavated chute spillway and concrete control sill at elevation 1,228.00 ft. Storage began in November 1965. Capacity at elevation 1,228.00 ft is 124,200 acre-ft. Conservation pool elevation is 1,155.00 ft, capacity, 4,870 acre-ft. Reservoir is used for flood control, recreation and study of water quality. Figures given herein represent total contents. Flow regulated by three gates and low-flow bypass system. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 87,650 acre-ft, June 25, 1972, elevation, 1,214.11 ft; minimum, 252 acre-ft, Nov. 6, 1968, elevation, 1,136.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,640 acre-ft, Jan. 8, elevation, 1,183.67 ft; minimum, 9,080 acre-ft, Dec. 1, elevation, 1,161.39 ft.

01541340 GLENDALE LAKE.--Lat 40°41'50", long 78°32'15", Cambria County, Hydrologic Unit 02050201, at Glendale Dam on Beaverdam Run, 1.0 mi upstream from Dutch Run, 1.3 mi southwest of Flinton, 1.9 mi above mouth, and 3.4 mi south of Coalport. DRAINAGE AREA, 41.9 mi^2. PERIOD OF RECORD, January 1963 to current year. GAGE, water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 1,435.00 ft. Storage began Dec. 1, 1960. Capacity at elevation 1,435.00 ft is 41,200 acre-ft of which 15,900 acre-ft is controlled storage above elevation 1,427.00 ft. Dead storage is 25,300 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Outflow is controlled by 72-inch gate and an 8-inch bypass valve. Satellite telemetry at station.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 33,390 acre-ft, June 24, 1972, elevation, 1,431.63 ft; minimum, 10,640 acre-ft, Nov. 16, 1965, elevation, 1,415.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,360 acre-ft, Oct. 1, elevation, 1,427.66 ft; minimum, 20,220 acre-ft, Dec. 30, elevation, 1,423.40 ft

01543900 FIRST FORK SINNEMAHONING CREEK RESERVOIR.--Lat 41°24'25", long 78°01'10", Cameron County, Hydrologic Unit 02050202, at control tower of George B. Stevenson Dam on First Fork Sinnemahoning Creek, 8.0 mi northeast of Sinnemahoning, and 8.0 mi upstream from mouth. DRAINAGE AREA, 243 mi^2. PERIOD OF RECORD, January 1956 to current year. GAGE, water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Jan. 31, 1956. Capacity, 75,800 acre-ft between elevations 890.00 ft (sill of outlet gates) and 1,026.00 ft (crest of spillway). No dead storage. Ordinary minimum (conservation) pool elevation is 920.00 ft, capacity, 2,000 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Satellite telemetry at station.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,030 acre-ft, June 26, 1972, elevation, 1,015.87 ft; minimum, (after first filling), 37 acre-ft many days in October 1973, elevation, 891.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,150 acre-ft, Apr. 4, elevation, 955.70 ft; minimum, 1,380 acre-ft, Oct. 9, elevation, 914.76 ft.

01544800 KETTLE CREEK LAKE (formerly published as Alvin R. Bush Reservoir).--Lat 41°21'37", long 77°55'27", Clinton County, Hydrologic Unit 02050203, at control tower of dam on Kettle Creek, 1.1 mi downstream from Sugar Camp Run, and 8.5 mi upstream from mouth and Westport. DRAINAGE AREA, 226 mi^2. PERIOD OF RECORD, February 1962 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earthfill embankment, rock faced, with ungated concrete spillway at elevation 937.00 ft. Storage began Feb. 7, 1962; water in reservoir first reached conservation pool elevation in March 1962. Total capacity at elevation 937.00 ft is 75,000 acre-ft. No dead storage. Ordinary minimum (conservation) pool elevation is 840.00 ft, capacity, 1,590 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Storage is regulated by three gates and low-flow bypass system. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 52,960 acre-ft, Apr. 2, 1993, elevation, 920.23 ft; minimum, no storage, June 7, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,160 acre-ft, Apr. 4, elevation, 875.18 ft; minimum, 1,600 acre-ft, Dec. 23, elevation, 840.09 ft.

01547480 FOSTER JOSEPH SAYERS LAKE.--Lat 41°02'53", long 77°36'35", Centre County, Hydrologic Unit 02050204, at Foster Joseph Sayers Dam on Bald Eagle Creek, 1.0 mi upstream from Marsh Creek, and 1.2 mi south of Blanchard. DRAINAGE AREA, 339 mi^2. PERIOD OF RECORD, March 1971 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earthfill dam with ungaged concrete ogee weir at elevation 657.00 ft with abutting concrete gravity walls and partially paved exit channel. Storage began in March 1971. Capacity at elevation 657.00 ft is 99,100 acre-ft. Dead storage is 25 acre-ft. Ordinary minimum (conservation) pool elevation is 610.0 ft, capacity, 6,300 acre-ft. Reservoir used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by two gates. Satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,900 acre-ft, June 25, 1972, elevation, 658.41 ft; minimum, 3,250 acre-ft, Oct. 27, 1987, elevation, 604.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,820 acre-ft, Oct. 1, elevation, 636.73 ft; minimum, 5,900 acre-ft, Mar. 27, elevation, 609.34 ft.

WEST BRANCH SUSQUEHANNA RIVER BASIN

Lakes and Reservoirs in West Branch Susquehanna River Basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

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)
	01541180 Curwensville Lake			01541340 Glendale Lake		
Sept. 30	1,161.97	9,520	--	1,427.65	26,340	--
Oct. 31	1,162.37	9,850	+5.4	1,427.48	26,070	-4.4
Nov. 30	1,162.05	9,580	-4.5	1,423.87	20,830	-88.1
Dec. 31	1,162.26	9,760	+2.9	1,423.44	20,270	-9.1
CAL YR 2004	--	--	-0.2	--	--	-8.6
Jan. 31	1,162.17	9,680	-1.3	1,424.45	21,630	+22.1
Feb. 28	1,162.15	9,660	-0.4	1,424.74	22,040	+7.4
Mar. 31	1,162.41	9,880	+3.6	1,425.62	23,270	+20.0
Apr. 30	1,162.07	9,600	-4.7	1,425.24	22,740	-8.9
May 31	1,162.28	9,770	+2.8	1,425.81	23,530	+12.8
June 30	1,162.34	9,820	+0.8	1,425.88	23,630	+1.7
July 31	1,162.37	9,850	+0.5	1,426.04	23,860	+3.7
Aug. 31	1,162.13	9,650	-3.3	1,426.08	23,920	+1.0
Sept. 30	1,162.40	9,870	+3.7	1,425.84	23,580	-5.7
WTR YR 2005	--	--	+0.5	--	--	-3.8
	01543900 F.F. Sinnemahoning Cr. Reservoir			01544800 Kettle Creek Lake		
Sept. 30	923.90	2,680	--	841.40	1,810	--
Oct. 31	917.88	1,780	-14.6	841.19	1,770	-0.7
Nov. 30	921.90	2,390	+10.2	840.64	1,690	-1.3
Dec. 31	919.37	1,940	-7.3	840.69	1,700	+0.2
CAL YR 2004	--	--	-0.5	--	--	-0.1
Jan. 31	920.50	2,150	+3.4	841.17	1,770	+1.1
Feb. 28	921.29	2,330	+3.2	841.18	1,770	0
Mar. 31	921.78	2,380	+0.8	841.62	1,840	+1.1
Apr. 30	921.34	2,330	-0.8	840.99	1,740	-1.7
May 31	921.40	2,340	+0.2	840.96	1,740	0
June 30	920.88	2,260	-1.3	841.05	1,750	+0.2
July 31	921.33	2,330	+1.1	840.87	1,720	-0.5
Aug. 31	922.34	2,450	+2.0	840.85	1,720	0
Sept. 30	921.76	2,380	-1.2	841.10	1,760	+0.7
WTR YR 2005	--	--	-0.4	--	--	-0.1
	01547480 Foster Joseph Sayers Lake					
Sept. 30	636.73	41,820	--			
Oct. 31	630.14	29,050	-208			
Nov. 30	625.62	21,930	-120			
Dec. 31	624.96	21,000	-15.1			
CAL YR 2004	--	--	-0.3			
Jan. 31	624.82	20,810	+3.1			
Feb. 28	611.52	7,320	-243			
Mar. 31	623.56	19,100	+192			
Apr. 30	625.43	21,660	+43.0			
May 31	629.08	27,280	+91.4			
June 30	630.53	29,750	+41.5			
July 31	630.42	29,550	-3.3			
Aug. 31	630.27	29,280	-4.4			
Sept. 30	630.03	28,850	-7.2			
WTR YR 2005	--	--	-17.9			

SUSQUEHANNA RIVER BASIN

01554000 SUSQUEHANNA RIVER AT SUNBURY, PA

LOCATION.--Lat 40°50'04", long 76°49'37", Snyder County, Hydrologic Unit 02050301, on right bank in borough of Shamokin Dam, on grounds of Pennsylvania Power and Light Company generating plant, 1.0 mi downstream from Shamokin Creek, 1.5 mi downstream from Sunbury Fabridam, and 1.8 mi south of Sunbury.

DRAINAGE AREA.--18,300 mi^2, approximately (excluding that of Shamokin Creek).

PERIOD OF RECORD.--October 1937 to current year. June 1918 to September 1918 (gage heights only), in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 891: 1936(M). WDR PA-79-2: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 408.61 ft above National Geodetic Vertical Datum of 1929. See WSP 1903 for history of changes prior to Dec. 13, 1937. Dec. 13, 1937, to Mar. 23, 1967, water-stage recorder at site 1.7 mi upstream at datum 11.05 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 14 flood-control reservoirs which have a capacity of about 809,000 acre-ft, and during low flow by Fabridam. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43300	20100	100000	27700	e21000	23300	153000	24600	8430	5130	3770	10900
2	36700	19700	114000	27700	e20500	23100	148000	23800	8100	5530	3590	9950
3	31900	18500	119000	27300	e19500	22300	260000	23400	7740	5630	3310	13600
4	28300	17600	98800	33400	18700	20700	295000	22600	7740	6270	3080	12000
5	25100	18800	78800	53300	18300	19100	251000	21100	7710	5740	2920	8850
6	22000	20500	62800	75900	18800	18300	200000	20200	7520	6990	2820	6850
7	19900	22600	52600	92300	18300	18100	160000	18400	8410	6930	2890	5690
8	17700	23400	49600	94700	18100	22000	122000	17100	8280	6600	2810	4970
9	16600	22700	50200	88500	19000	29300	95900	16200	8060	8180	2780	4190
10	15700	21300	57000	82100	26400	38400	79300	15300	7650	7650	2750	3810
11	14600	19500	79700	71200	57600	35900	67600	14400	7460	7560	2590	3370
12	14100	19000	111000	65000	63200	32400	58100	13500	6870	9790	2490	3110
13	13600	19400	115000	66900	51700	29300	49900	12800	7850	8390	2330	2980
14	12300	18600	92900	130000	43800	27200	43600	12100	9270	7520	2640	2760
15	12500	17700	73800	242000	41600	26200	38900	12100	8240	6810	2750	2690
16	13100	16900	60000	201000	47400	24500	34600	11700	7880	5960	2860	2590
17	15100	16100	50000	139000	64400	22300	31000	11400	8260	6320	2850	2630
18	14800	15500	43300	103000	71600	21600	27400	10900	9460	6560	2820	2600
19	16600	14900	39000	77000	60400	21600	24900	10600	9330	6210	3040	2620
20	25200	14400	e34000	e63000	49800	22400	23100	10300	8330	6020	3240	2480
21	34700	14200	e29000	e51300	43700	23900	21300	9970	8120	6230	2960	2440
22	36500	13900	e26000	e40200	39700	27100	19600	9350	7950	5600	2720	2340
23	32100	13600	26400	e34000	37000	32500	19800	8870	7300	4880	2610	2380
24	30400	13800	43300	e26500	34300	40400	22600	8720	7010	4440	2480	2230
25	28000	22000	57300	e24000	31700	44900	27800	8790	6360	4390	2410	2310
26	25000	34400	56700	e24200	28800	46300	37600	8590	6010	4020	2250	2390
27	22400	42200	47900	e27000	26600	46200	37700	8520	5410	4190	2140	2490
28	20500	51000	38300	e26000	24400	52700	32800	8510	5130	4130	2320	2410
29	19000	96400	33300	e22000	---	164000	28400	8490	5000	3990	2260	2690
30	19800	112000	29800	e21000	---	236000	25800	8640	4970	3930	2340	2760
31	20100	---	28400	e20200	---	191000	---	8680	---	3860	4470	---
TOTAL	697600	790700	1897900	2077400	1016300	1403000	2436700	419630	225850	185450	87290	133080
MEAN	22500	26360	61220	67010	36300	45260	81220	13540	7528	5982	2816	4436
MAX	43300	112000	119000	242000	71600	236000	295000	24600	9460	9790	4470	13600
MIN	12300	13600	26000	20200	18100	18100	19600	8490	4970	3860	2140	2230
CFSM	1.23	1.44	3.35	3.66	1.98	2.47	4.44	0.74	0.41	0.33	0.15	0.24
IN.	1.42	1.61	3.86	4.22	2.07	2.85	4.95	0.85	0.46	0.38	0.18	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

MEAN	13550	22630	30090	28330	31690	54500	58910	35190	20620	10940	8408	9894
MAX	62760	54540	79050	77850	78120	115800	170900	69950	111600	38930	40040	78700
(WY)	1978	1978	1997	1996	1981	1945	1993	1989	1972	1972	1994	2004
MIN	1607	1673	4608	4510	7500	21370	14560	9826	4386	2390	2533	1372
(WY)	1965	1965	1999	1981	1980	1969	1946	1941	1999	1965	1939	1964

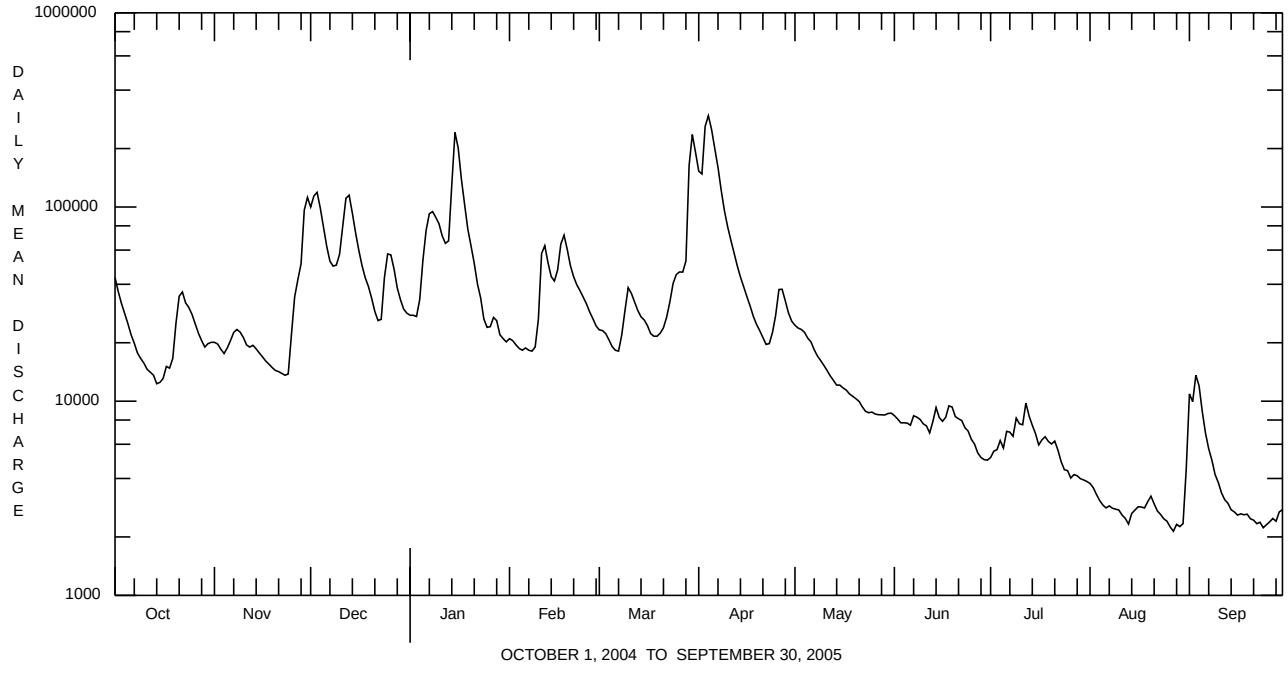
e Estimated.

SUSQUEHANNA RIVER BASIN

01554000 SUSQUEHANNA RIVER AT SUNBURY, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	14676220		11370900			
ANNUAL MEAN	40100		31150		27020	
HIGHEST ANNUAL MEAN					43380	2004
LOWEST ANNUAL MEAN					13420	1965
HIGHEST DAILY MEAN	406000	Sep 19	295000	Apr 4	609000	Jun 24 1972
LOWEST DAILY MEAN	6990	Jul 5	2140	Aug 27	1110	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	7290	Jul 2	2310	Aug 24	1140	Sep 22 1964
MAXIMUM PEAK FLOW			312000	Apr 4	620000	Jun 24 1972
MAXIMUM PEAK STAGE			26.15	Apr 4	35.80	Jun 24 1972
INSTANTANEOUS LOW FLOW			1790	Aug 27	**a**964	Oct 16 1971
ANNUAL RUNOFF (CFSM)	2.19		1.70		1.48	
ANNUAL RUNOFF (INCHES)	29.83		23.11		20.06	
10 PERCENT EXCEEDS	83200		72500		61000	
50 PERCENT EXCEEDS	29900		19000		16000	
90 PERCENT EXCEEDS	11500		2840		3780	

a Result of shutoff at Fabridam.



PENNS CREEK BASIN

01555000 PENNS CREEK AT PENNS CREEK, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°52'00", long 77°02'55", Union County, Hydrologic Unit 02050301, on left bank 200 ft downstream from bridge on State Highway 104, 2.9 mi upstream from Sweitzers Run, and 0.8 mi northeast of Penns Creek, Pa.

DRAINAGE AREA.--301 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1965, published as Penn Creek at Penns Creek.

REVISED RECORDS.--WSP 891: 1934(M). WSP 1502: 1933(M), 1934, 1936(M). WDR PA-72-1: 1933-34(M), 1936(M), 1940(M), 1951(M). WDR PA-79-2: 1978.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 506.72 ft, datum of 1912; 507.38 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1930, 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 and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 29	0715	*5,590	*7.96	Apr. 2	1730	5,500	7.89

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	764	394	1920	548	e400	428	1940	331	148	96	70	116
2	696	377	2060	519	e390	403	3210	312	141	92	68	88
3	688	374	1670	521	e385	e350	4380	301	147	89	67	72
4	611	373	1380	825	378	e340	3020	290	175	88	62	63
5	553	404	1180	826	371	e330	2290	280	153	89	60	59
6	513	387	1010	2060	362	e340	1880	272	144	130	59	56
7	481	364	1020	2440	360	447	1590	263	151	120	58	55
8	455	350	974	2020	383	797	1360	255	149	156	59	53
9	432	339	826	1840	459	660	1150	247	133	178	60	52
10	413	329	1600	1530	934	591	999	240	128	131	60	50
11	392	327	2020	1360	696	559	883	233	127	107	58	49
12	377	390	1620	1410	608	533	786	225	126	98	56	47
13	364	427	1380	1380	564	502	722	214	126	93	54	46
14	370	366	1180	2310	549	472	663	230	131	90	53	45
15	405	344	999	2280	775	444	607	269	127	94	51	45
16	428	342	879	1920	759	430	562	221	119	91	58	46
17	397	341	e800	1650	696	422	528	207	117	110	69	46
18	354	340	e720	1340	e625	426	502	199	115	103	66	46
19	597	337	e640	e1130	e560	435	476	190	113	107	73	45
20	595	349	e565	e980	554	450	456	213	110	105	73	45
21	490	345	e525	e850	559	477	432	221	107	86	73	45
22	471	331	e530	e750	533	474	411	198	106	87	63	44
23	438	325	946	e670	528	552	479	186	107	88	57	43
24	426	606	1230	e635	503	797	515	187	102	80	54	43
25	413	1000	800	e600	479	840	437	190	99	82	53	43
26	396	843	e700	e550	447	817	396	181	97	79	52	47
27	382	729	e635	e500	427	777	383	167	96	78	52	55
28	367	1310	e585	e450	422	1670	355	163	94	77	56	54
29	358	1390	e600	e420	---	4820	339	174	96	75	57	52
30	550	1180	576	e400	---	3440	337	164	101	72	60	52
31	460	---	553	e425	---	2490	---	156	---	71	99	---
TOTAL	14636	15313	32123	35139	14706	26513	32088	6979	3685	3042	1910	1602
MEAN	472	510	1036	1134	525	855	1070	225	123	98.1	61.6	53.4
MAX	764	1390	2060	2440	934	4820	4380	331	175	178	99	116
MIN	354	325	525	400	360	330	337	156	94	71	51	43
CFSM	1.57	1.70	3.44	3.77	1.74	2.84	3.55	0.75	0.41	0.33	0.20	0.18
IN.	1.81	1.89	3.97	4.34	1.82	3.28	3.97	0.86	0.46	0.38	0.24	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

MEAN	228	366	463	463	525	901	885	609	393	195	161	194
MAX	1355	1567	1359	1627	1697	3093	2855	1793	2845	759	684	1649
(WY)	1991	1978	1997	1996	1984	1936	1993	1978	1972	1989	1984	2004
MIN	35.9	34.1	46.3	76.0	108	195	278	179	107	57.2	37.0	36.4
(WY)	1931	1931	1999	1981	1940	1931	1995	1941	1962	1962	1966	1964

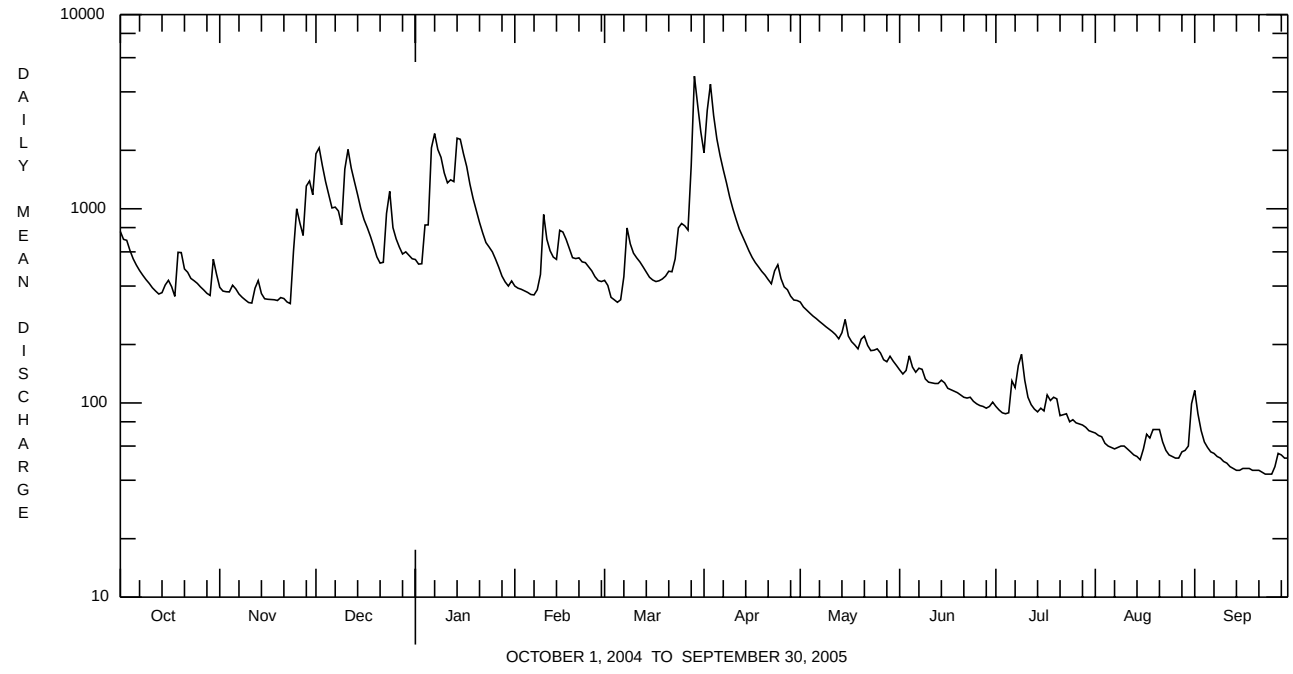
e Estimated.

PENNS CREEK BASIN

01555000 PENNS CREEK AT PENNS CREEK, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	260085		187736			
ANNUAL MEAN	711		514		448	
HIGHEST ANNUAL MEAN					878	1978
LOWEST ANNUAL MEAN					205	1965
HIGHEST DAILY MEAN	13000	Sep 18	4820	Mar 29	24600	Jun 23 1972
LOWEST DAILY MEAN	183	Jul 11	43	Sep 23-25	21	Aug 30 1966
ANNUAL SEVEN-DAY MINIMUM	204	Jul 1	44	Sep 19	24	Aug 28 1966
MAXIMUM PEAK FLOW			5590	Mar 29	**a**34600	Jun 23 1972
MAXIMUM PEAK STAGE			7.96	Mar 29	**b**14.85	Jun 23 1972
INSTANTANEOUS LOW FLOW			43	Sep 22-26	7.0	Sep 27 1932
ANNUAL RUNOFF (CFSM)	2.36		1.71		1.49	
ANNUAL RUNOFF (INCHES)	32.14		23.20		20.22	
10 PERCENT EXCEEDS	1310		1200		988	
50 PERCENT EXCEEDS	494		371		268	
90 PERCENT EXCEEDS	246		58		68	

a From rating curve extended above 6,800 ft^3/s on basis of contracted-opening measurement of peak flow.
b From floodmark in gage.



01555000 PENNS CREEK AT PENNS CREEK, 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 348-412. Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	09/15/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	3
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Hydrobiidae	
Amnicola	2
Pleuroceridae	
Leptoxis carinata	9
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Sphaerium	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Enchytraeidae	1
Tubificidae	3
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	1
Acentrella	3
Baetis	28
Heterocloeon	2
Plauditus	2
Caenidae	
Caenis	3
Ephemerellidae	7
Ephemerella	1
Serratella	12
Heptageniidae	2
Stenonema	30
Isonychiidae	
Isonychia	15
Leptophlebiidae	
Paraleptophlebia	1
Potamanthidae	
Anthopotamus	2

01555000 PENNS CREEK AT PENNS CREEK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/15/04
Benthic macroinvertebrate	Count
Plecoptera (STONEFLIES)	
Perlidae	
Acroneuria	1
Paragnetina	1
Trichoptera (CADDISFLIES)	
Brachycentridae	
Micrasema	2
Helicopsychidae	
Helicopsyche	6
Hydropsychidae	
Cheumatopsyche	12
Hydropsyche	2
Hydroptilidae	
Leucotrichia	1
Psychomyiidae	
Psychomyia	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	29
Stenelmis	15
Psephenidae (WATER PENNIES)	
Psephenus	10
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	26
Empididae (DANCE FLIES)	
Hemerodromia	2
Ephydridae	1
Simuliidae (BLACK FLIES)	
Simulium	2
Total Organisms	243
Total Taxa	38

EAST MAHANTANGO CREEK BASIN

01555500 EAST MAHANTANGO CREEK NEAR DALMATIA, PA

LOCATION.--Lat 40°36'40", long 76°54'44", Northumberland County, Hydrologic Unit 02050301, on right bank at bridge on SR 3017, 2.0 mi upstream from mouth, and 3.2 mi south of Dalmatia.

DRAINAGE AREA.--162 mi^2.

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1945, published as Mahantango Creek East near Dalmatia.

REVISED RECORDS.--WSP 891: 1933(M). WSP 1302: 1930(M), 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 401.22 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1929, to Feb. 11, 1930, nonrecording gage, and Feb. 12, 1930, to Nov. 18, 1973, water-stage recorder at present site at datum 0.72 ft lower. Nov. 19, 1973, to June 18, 1974, nonrecording gage at site 2 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Intermittent regulation evident during low flows. 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 1,900 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	2030	2,300	6.01	Mar. 29	0715	5,460	9.44
Jan. 14	1600	4,290	8.29	Apr. 3	1200	*5,800	*9.75

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	232	1270	250	e110	e130	744	138	66	80	47	40
2	426	191	1230	221	e100	e125	1590	126	63	60	46	30
3	436	165	857	213	e120	e110	4880	123	68	66	42	26
4	353	153	616	285	e155	e120	2480	115	92	46	40	22
5	295	206	491	294	e145	e135	1350	109	86	38	37	20
6	247	169	408	1310	e135	e150	951	106	78	60	34	18
7	218	155	381	1320	e145	192	685	103	121	65	34	18
8	193	147	368	1140	e165	605	569	101	109	272	32	16
9	176	132	318	1160	e175	706	443	96	89	287	32	16
10	159	121	536	849	244	472	374	93	87	162	43	15
11	143	119	855	636	226	381	326	90	80	118	40	14
12	130	168	654	595	197	330	286	87	77	94	32	14
13	123	246	522	511	179	290	262	80	71	82	33	13
14	143	210	429	2800	166	257	238	82	66	89	29	13
15	152	194	e350	2050	319	233	218	193	62	77	26	12
16	134	184	e300	1210	323	221	200	136	57	83	27	13
17	128	173	e250	e860	318	212	186	109	53	251	28	24
18	112	160	e220	e580	277	206	175	99	49	374	26	35
19	149	151	e200	e475	e230	199	166	92	47	227	37	24
20	175	147	e175	e420	e220	199	156	97	46	177	43	19
21	158	149	e140	e300	230	201	150	105	46	130	38	16
22	150	137	e150	e275	223	191	142	94	42	113	30	15
23	136	138	431	e290	234	228	177	89	38	126	25	14
24	126	151	1360	e230	224	574	254	86	36	93	23	14
25	120	616	747	e255	217	544	193	84	33	93	20	13
26	113	711	e500	e230	e180	464	164	81	34	93	20	13
27	105	487	e400	e195	e150	402	152	76	31	79	19	16
28	99	1240	e350	e135	e140	795	143	73	30	76	24	16
29	95	1490	e310	e100	---	4030	134	77	29	65	27	17
30	234	912	290	e100	---	1700	134	78	93	59	30	18
31	304	---	266	e130	---	1060	---	72	---	53	72	---
TOTAL	6076	9454	15374	19419	5547	15462	17922	3090	1879	3688	1036	554
MEAN	196	315	496	626	198	499	597	99.7	62.6	119	33.4	18.5
MAX	544	1490	1360	2800	323	4030	4880	193	121	374	72	40
MIN	95	119	140	100	100	110	134	72	29	38	19	12
CFSM	1.21	1.95	3.06	3.87	1.22	3.08	3.69	0.62	0.39	0.73	0.21	0.11
IN.	1.40	2.17	3.53	4.46	1.27	3.55	4.12	0.71	0.43	0.85	0.24	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

MEAN	129	212	290	282	303	428	370	275	178	101	81.4	108
MAX	1025	553	852	1259	831	1212	1160	986	2361	504	585	1112
(WY)	1977	1951	1997	1996	1981	1994	1993	1989	1972	1947	1933	1975
MIN	5.14	8.65	14.0	12.4	54.3	111	126	67.5	29.7	13.5	9.36	3.98
(WY)	1931	1931	1931	1981	1934	1931	1965	1941	1965	1965	1957	1932

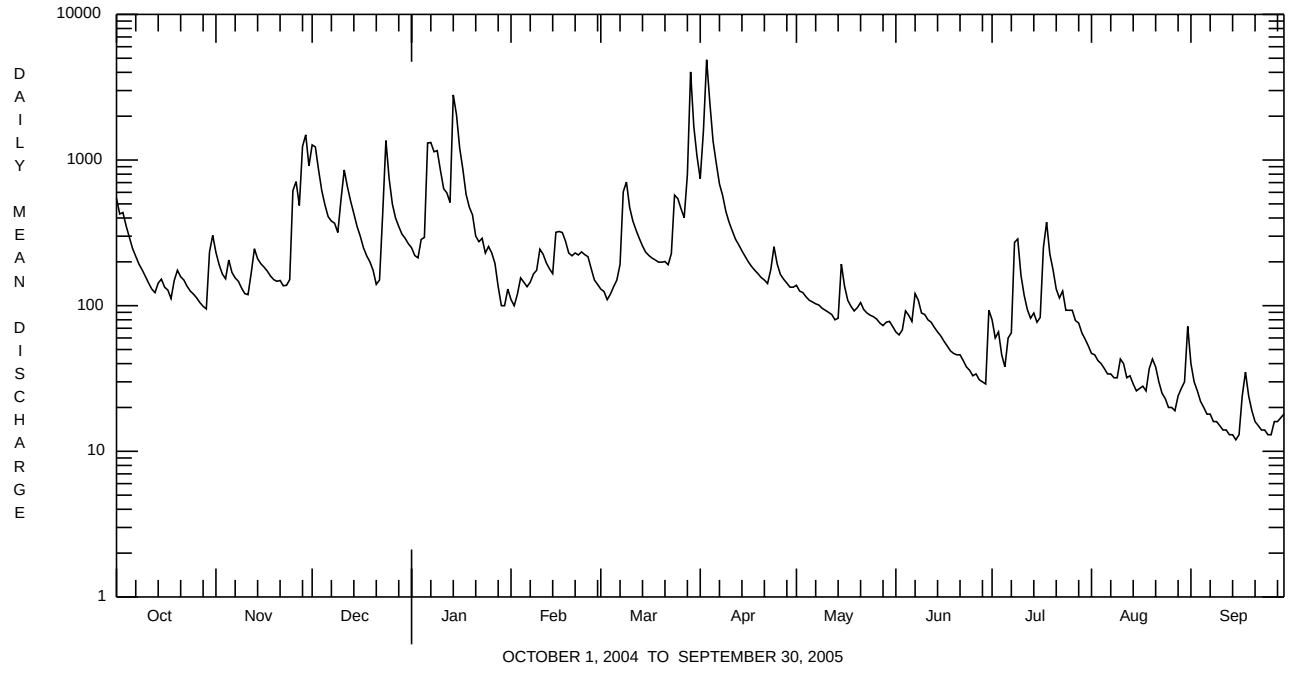
e Estimated.

EAST MAHANTANGO CREEK BASIN

01555500 EAST MAHANTANGO CREEK NEAR DALMATIA, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	121531		99501			
ANNUAL MEAN	332		273		229	
HIGHEST ANNUAL MEAN					454	1972
LOWEST ANNUAL MEAN					70.7	1931
HIGHEST DAILY MEAN	10300	Sep 18	4880	Apr 3	39000	Jun 22 1972
LOWEST DAILY MEAN	52	Sep 16	12	Sep 15	1.5	Sep 21 1932
ANNUAL SEVEN-DAY MINIMUM	61	Sep 11	13	Sep 10	1.7	Sep 16 1932
MAXIMUM PEAK FLOW			5800	Apr 3	**a**69900	Jun 22 1972
MAXIMUM PEAK STAGE			9.75	Apr 3	**b**26.62	Jun 22 1972
INSTANTANEOUS LOW FLOW			11	Sep 16	1.3	Oct 7 1957**c**
ANNUAL RUNOFF (CFSM)	2.05		1.68		1.42	
ANNUAL RUNOFF (INCHES)	27.91		22.85		19.23	
10 PERCENT EXCEEDS	546		599		497	
50 PERCENT EXCEEDS	224		143		121	
90 PERCENT EXCEEDS	104		27		23	

a From rating curve extended above 11,600 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark in gage.
c Also Nov. 3, 1964.



JUNIATA RIVER BASIN

01556000 FRANKSTOWN BRANCH JUNIATA RIVER AT WILLIAMSBURG, PA

LOCATION.--Lat 40°27'47", long 78°12'00", Blair County, Hydrologic Unit 02050302, on left bank 10 ft downstream from highway bridge on SR 2015 at Williamsburg, and 2.5 mi upstream from Clover Creek.

DRAINAGE AREA.--291 mi^2.

PERIOD OF RECORD.--October 1916 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WDR PA-71-1: 1954(M), 1960(M), 1961(M). WDR PA-77-2: 1936-39(M).

GAGE.--Water-stage recorder. Datum of gage is 831.78 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad bench mark). Prior to Aug. 14, 1928, nonrecording gage at same site and datum.

REMARKS.--Records good. Some regulation at low flow by mill upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 19.1 ft, from floodmark, discharge, about 35,500 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	2045	*5,650	*10.99	Mar. 29	0815	5,570	10.92

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	441	294	1940	338	284	470	1220	288	175	111	95	137
2	400	275	1490	318	264	432	1530	264	166	106	92	104
3	381	306	1170	329	261	391	1430	248	173	99	90	92
4	349	285	923	595	257	362	1160	233	194	98	87	87
5	322	384	772	1120	263	369	987	223	176	97	87	83
6	301	313	682	4510	269	406	856	218	163	97	88	82
7	282	296	839	3440	290	683	758	214	184	97	87	80
8	268	277	860	2390	410	1050	679	214	159	202	141	79
9	257	262	709	1770	564	748	586	208	149	196	190	78
10	251	252	1650	1410	1130	648	527	202	148	126	116	77
11	241	250	1660	1370	708	599	481	198	214	110	101	76
12	231	569	1210	1960	613	560	436	200	206	103	96	75
13	228	544	1030	1510	543	512	412	187	165	101	93	74
14	309	414	898	1770	647	456	387	185	166	105	89	73
15	278	393	755	1360	1180	412	359	228	144	121	87	72
16	321	371	677	1170	951	390	335	195	135	121	100	73
17	307	356	624	1030	854	372	322	180	134	153	142	90
18	251	345	512	800	723	364	313	174	131	202	103	79
19	506	331	485	658	612	356	299	168	125	146	94	75
20	382	430	400	631	559	363	288	285	122	122	92	75
21	341	400	e380	557	615	383	291	268	120	225	90	74
22	333	352	398	448	696	373	277	217	117	288	86	73
23	318	346	496	e390	667	1020	388	208	114	147	83	73
24	316	753	502	404	578	1540	379	228	111	121	81	74
25	326	1450	385	423	557	1170	319	236	109	173	79	74
26	301	906	360	413	516	997	292	209	107	141	77	77
27	284	726	354	370	470	884	274	191	105	115	79	97
28	269	1920	321	303	463	2380	261	201	103	114	99	82
29	262	1330	e310	e280	---	4500	261	231	107	104	97	79
30	394	1020	337	e290	---	2380	282	195	107	100	100	90
31	343	---	324	305	---	1630	---	188	---	98	213	---
TOTAL	9793	16150	23453	32662	15944	27200	16389	6684	4329	4139	3154	2454
MEAN	316	538	757	1054	569	877	546	216	144	134	102	81.8
MAX	506	1920	1940	4510	1180	4500	1530	288	214	288	213	137
MIN	228	250	310	280	257	356	261	168	103	97	77	72
CFSM	1.09	1.85	2.60	3.62	1.96	3.02	1.88	0.74	0.50	0.46	0.35	0.28
IN.	1.25	2.06	3.00	4.18	2.04	3.48	2.10	0.85	0.55	0.53	0.40	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2005, BY WATER YEAR (WY)

MEAN	184	287	381	427	544	897	768	523	312	184	147	164
MAX	969	1298	1268	1446	1340	3561	2194	1314	1743	824	738	1665
(WY)	1977	1998	1973	1937	1971	1936	1993	1924	1972	1989	1956	2004
MIN	45.9	48.0	52.4	61.3	86.0	263	215	127	83.0	49.7	46.9	45.9
(WY)	1931	1931	1931	1918	1934	1990	1925	1934	1965	1965	1966	1932

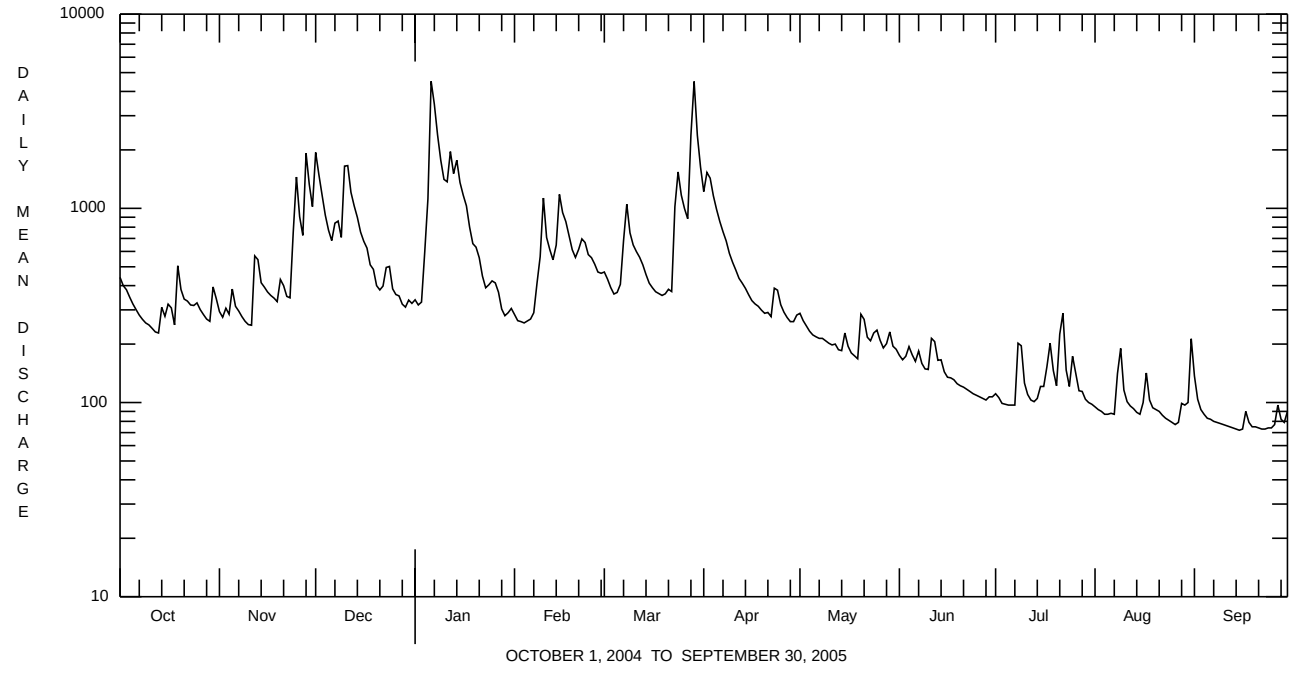
e Estimated.

JUNIATA RIVER BASIN

01556000 FRANKSTOWN BRANCH JUNIATA RIVER AT WILLIAMSBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1917 - 2005	
ANNUAL TOTAL	247121		162351			
ANNUAL MEAN	675		445		401	
HIGHEST ANNUAL MEAN					714	2004
LOWEST ANNUAL MEAN					200	1969
HIGHEST DAILY MEAN	15000	Sep 18	4510	Jan 6	25000	Mar 18 1936
LOWEST DAILY MEAN	136	Jul 11	72	Sep 15	31	Dec 24 1930
ANNUAL SEVEN-DAY MINIMUM	168	Jul 6	74	Sep 19	32	Dec 19 1930
MAXIMUM PEAK FLOW			5650	Jan 6	**ab**30000	Mar 18 1936
MAXIMUM PEAK STAGE			10.99	Jan 6	19.46	Sep 18 2004
INSTANTANEOUS LOW FLOW			70	Sep 14-16**c**	13	Jul 24 1934
ANNUAL RUNOFF (CFSM)	2.32		1.53		1.38	
ANNUAL RUNOFF (INCHES)	31.59		20.75		18.70	
10 PERCENT EXCEEDS	1420		1020		891	
50 PERCENT EXCEEDS	391		288		209	
90 PERCENT EXCEEDS	189		90		72	

a From rating curve in use at that time based on slope-area measurement at gage height 18.58 ft.
b Gage height 18.58 ft, from floodmark in gage shelter.
c Also Sept. 22, 23.



JUNIATA RIVER BASIN

01557500 BALD EAGLE CREEK AT TYRONE, PA

LOCATION.--Lat 40°41'01", long 78°14'02", Blair County, Hydrologic Unit 02050302, on left bank 0.2 mi upstream from highway bridge on SR 220 at Tyrone, 0.2 mi upstream from Laurel Run, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1967, published as South Bald Eagle Creek at Tyrone.

REVISED RECORDS.--WSP 1903: 1954(M). WDR PA-75-2: 1974.

GAGE.--Water-stage recorder. Datum of gage is 921.80 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1944, to Nov. 15, 1950, water-stage recorder, and Nov. 16, 1950, to Nov. 30, 1952, nonrecording gage at site 0.5 mi downstream at datum 17.99 ft lower.

REMARKS.--Records good Oct. 1 to May 31, fair June 1 to Sept. 30, except those for estimated daily discharges, which are poor. Prior to Nov. 30, 1952, daily discharges were affected by West Virginia Pulp and Paper Company diversion. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 15 ft, Mar. 17 or 18, 1936, site and datum in use prior to Dec. 1, 1952.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 940 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	0915	983	3.02
Jan. 6	1145	*1,190	*3.34
Mar. 29	0030	1,190	3.34

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	45	637	59	e61	e50	275	48	21	16	8.2	18
2	75	44	389	53	e66	e48	333	45	20	15	7.7	9.4
3	69	53	262	99	e56	e46	403	43	24	14	7.4	7.2
4	58	56	190	223	e50	e44	313	40	26	13	6.9	6.4
5	54	77	148	360	e44	e47	254	37	23	13	6.8	5.8
6	49	62	124	1020	38	52	217	36	31	17	6.8	5.4
7	44	62	148	573	42	111	189	36	29	13	6.8	5.1
8	42	58	131	465	76	211	157	35	26	17	9.2	4.9
9	39	54	118	331	178	127	131	33	26	14	8.7	4.7
10	38	51	241	245	228	101	114	32	39	12	7.3	4.7
11	36	49	257	218	132	87	103	31	94	11	6.8	4.4
12	33	84	203	304	108	77	92	30	49	11	6.6	4.0
13	33	65	171	291	92	67	88	28	39	11	6.0	3.9
14	43	56	135	392	108	61	81	28	37	13	5.2	3.8
15	51	55	111	325	223	57	74	34	35	14	4.9	3.7
16	44	54	100	253	191	53	66	28	34	12	12	3.9
17	35	52	93	194	154	53	62	26	31	20	12	4.3
18	32	52	79	145	122	58	59	25	29	14	6.9	4.2
19	132	49	e74	121	e92	64	57	24	27	11	6.6	3.9
20	73	54	e70	112	93	83	55	37	25	10	7.1	3.6
21	62	52	e68	98	93	91	54	29	23	9.5	6.6	3.6
22	57	48	66	e88	87	89	50	26	23	10	5.6	3.4
23	54	47	113	e80	82	169	80	29	21	10	5.2	3.3
24	54	201	83	e72	74	213	74	32	20	9.0	4.6	3.6
25	52	290	e77	e70	68	208	61	30	19	40	4.3	3.7
26	49	187	e58	e73	60	188	55	25	18	14	4.3	7.3
27	46	143	e50	76	e54	171	52	23	17	13	4.6	11
28	44	435	e46	e73	e50	575	49	27	16	11	6.3	5.4
29	43	271	e51	e58	---	866	48	28	18	9.6	5.4	6.5
30	66	201	58	e54	---	512	50	24	17	8.9	6.7	6.7
31	51	---	56	e57	---	365	---	23	---	8.5	81	---
TOTAL	1640	3007	4407	6582	2722	4944	3696	972	857	414.5	284.5	165.8
MEAN	52.9	100	142	212	97.2	159	123	31.4	28.6	13.4	9.18	5.53
MAX	132	435	637	1020	228	866	403	48	94	40	81	18
MIN	32	44	46	53	38	44	48	23	16	8.5	4.3	3.3
CFSM	1.20	2.27	3.22	4.81	2.20	3.62	2.79	0.71	0.65	0.30	0.21	0.13
IN.	1.38	2.54	3.72	5.55	2.30	4.17	3.12	0.82	0.72	0.35	0.24	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

MEAN	33.9	57.6	77.1	82.1	102	165	145	107	63.1	31.5	22.8	30.9
MAX	178	216	217	226	251	364	399	304	377	138	140	289
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1956	2003	2004
MIN	4.10	5.95	6.43	10.9	15.9	48.1	34.0	23.8	11.9	5.41	4.15	3.59
(WY)	1964	1954	1966	1981	1963	1990	1946	1976	1999	1965	1966	1965

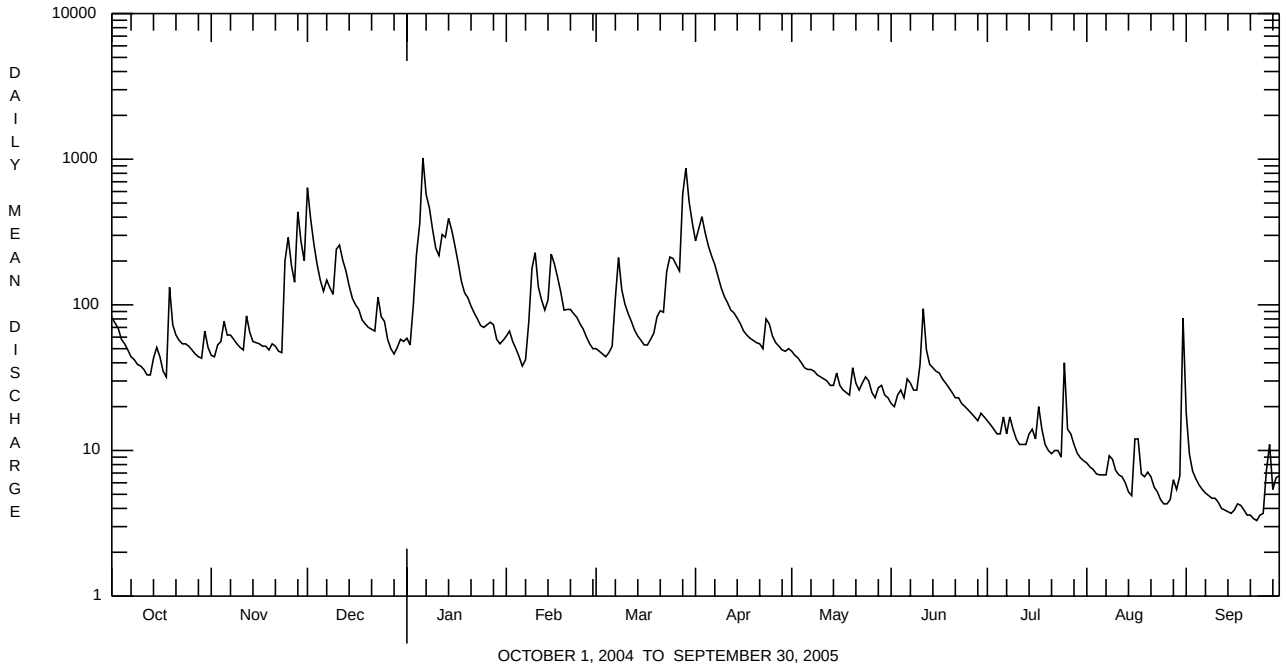
e Estimated.

JUNIATA RIVER BASIN

01557500 BALD EAGLE CREEK AT TYRONE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1945 - 2005	
ANNUAL TOTAL	44313.6		29691.8			
ANNUAL MEAN	121		81.3		76.3	
HIGHEST ANNUAL MEAN					133	1951
LOWEST ANNUAL MEAN					42.8	1999
HIGHEST DAILY MEAN	2040	Sep 18	1020	Jan 6	2800	Jun 23 1972
LOWEST DAILY MEAN	9.6	Jul 3	3.3	Sep 23	1.4	Sep 13 1973
ANNUAL SEVEN-DAY MINIMUM	11	Jun 27	3.6	Sep 19	1.7	Sep 7 1973
MAXIMUM PEAK FLOW			1190	Jan 6,Mar 29	**a**5140	Nov 25 1950
MAXIMUM PEAK STAGE			3.34	Jan 6	**b**7.50	Nov 25 1950
INSTANTANEOUS LOW FLOW			3.0	Sep 22	1.4	Sep 12 1973
ANNUAL RUNOFF (CFSM)	2.75		1.84		1.73	
ANNUAL RUNOFF (INCHES)	37.38		25.05		23.52	
10 PERCENT EXCEEDS	255		205		175	
50 PERCENT EXCEEDS	70		49		42	
90 PERCENT EXCEEDS	29		6.6		7.5	

a From rating curve extended above 2,100 ft^3/s on basis of contracted-opening measurement of peak flow.
b From floodmark, site and datum then in use.



JUNIATA RIVER BASIN

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°36'45", long 78°08'27", Huntingdon County, Hydrologic Unit 02050302, on right bank on SR 4006, 150 ft downstream from Penn Central Railroad bridge, 0.5 mi northwest of village of Spruce Creek, and 0.5 mi upstream from Spruce Creek.

DRAINAGE AREA.--220 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1938 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 751.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those less than 100 ft^3/s during Aug. and Sept., and 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 of Mar. 18, 1936 reached a stage of 19.1 ft, from floodmarks 175 ft downstream, discharge, 39,800 ft^3/s, from rating curve extended above 5,600 ft^3/s on basis of slope-area measurement of peak flow.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	1600	*4,790	*7.27	Mar. 29	0415	4,450	7.00

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	548	304	1900	332	e260	e340	1320	291	184	128	111	145
2	509	298	1440	311	e250	e320	1420	272	180	141	106	113
3	524	338	1140	360	e260	e290	1410	265	187	126	106	102
4	448	315	914	805	264	e270	1210	252	203	120	102	98
5	403	462	769	1160	260	e280	1050	243	187	120	101	95
6	367	370	673	4020	265	e290	930	236	185	141	101	93
7	344	358	749	2640	277	546	840	235	189	124	100	90
8	321	350	746	2100	378	922	752	231	172	199	115	90
9	302	325	620	1650	653	667	659	223	163	161	135	90
10	287	307	1080	1340	1090	e540	589	217	190	134	108	90
11	270	301	1160	1200	719	e480	535	215	299	119	102	89
12	253	489	999	1540	615	e430	485	208	276	115	101	87
13	243	441	882	1400	539	e390	451	200	208	111	98	88
14	297	364	755	1770	609	e360	420	199	189	113	96	87
15	301	352	665	1530	1060	e320	392	227	174	140	93	86
16	310	344	570	1270	919	e330	358	203	169	129	110	86
17	262	342	544	1050	814	337	339	194	165	179	142	92
18	233	336	491	844	698	335	324	186	164	159	108	87
19	540	319	e410	e650	597	340	315	181	153	129	98	85
20	393	340	e360	e600	e500	377	300	237	150	121	100	84
21	344	337	e320	e500	e520	407	321	230	144	174	99	83
22	328	305	e330	e440	e520	399	294	193	143	275	94	83
23	306	305	e430	e440	e520	675	411	197	139	178	90	83
24	306	598	e400	e390	e450	935	404	215	135	136	90	82
25	309	1030	e300	e400	e410	886	339	245	130	192	91	83
26	289	781	e290	e380	e380	838	317	202	127	147	89	91
27	278	677	e290	e300	e350	758	304	189	126	134	91	111
28	268	1600	e270	e260	e350	1820	290	195	126	139	98	92
29	258	1190	e290	e270	---	3410	287	234	142	124	97	91
30	425	969	e300	e290	---	2150	293	196	145	115	101	104
31	347	---	321	e270	---	1640	---	192	---	111	253	---
TOTAL	10613	14847	20408	30512	14527	22082	17359	6803	5144	4434	3326	2780
MEAN	342	495	658	984	519	712	579	219	171	143	107	92.7
MAX	548	1600	1900	4020	1090	3410	1420	291	299	275	253	145
MIN	233	298	270	260	250	270	287	181	126	111	89	82
CFSM	1.56	2.25	2.99	4.47	2.36	3.24	2.63	1.00	0.78	0.65	0.49	0.42
IN.	1.79	2.51	3.45	5.16	2.46	3.73	2.94	1.15	0.87	0.75	0.56	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2005, BY WATER YEAR (WY)

MEAN	190	283	369	385	480	781	716	517	337	190	146	178
MAX	816	1092	997	991	1128	1609	1928	1239	2022	623	462	1501
(WY)	1991	1951	1973	1949	1976	1979	1993	1978	1972	1956	2003	2004
MIN	64.7	71.3	73.2	90.5	138	261	228	150	104	70.4	56.9	50.8
(WY)	1964	1939	1966	1940	1963	1990	1946	1976	1965	1965	1966	1995

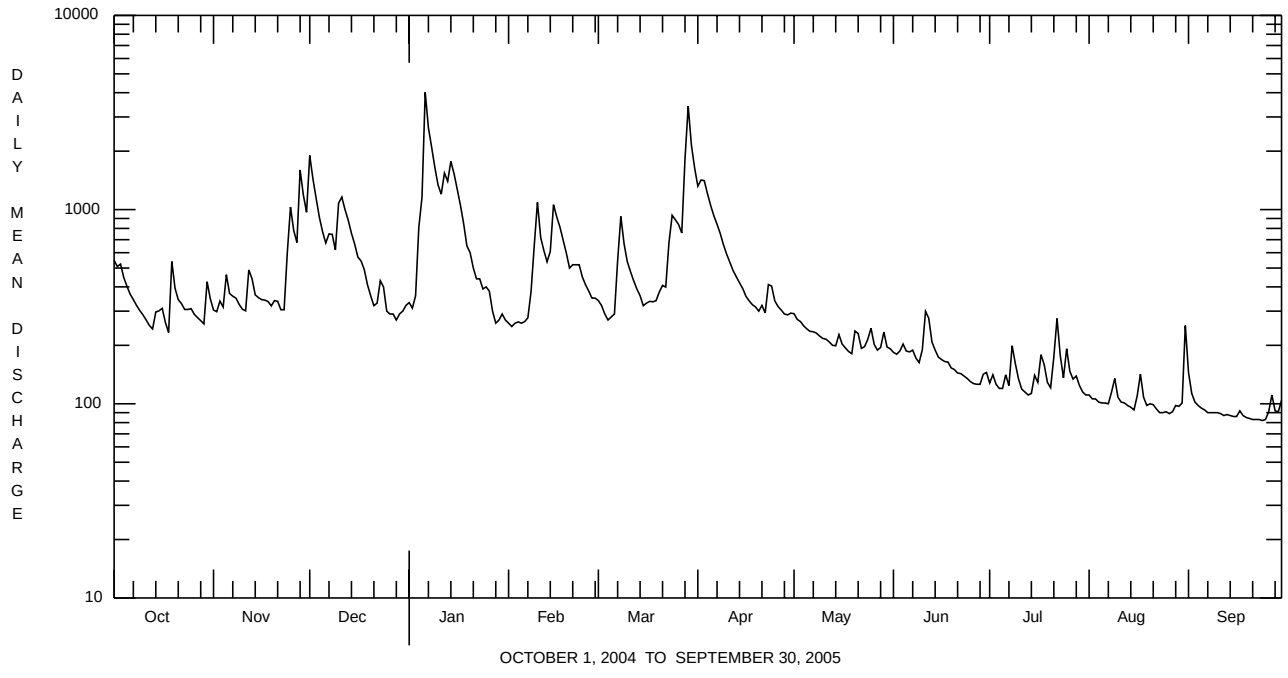
e Estimated.

JUNIATA RIVER BASIN

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	218422		152835			
ANNUAL MEAN	597		419		380	
HIGHEST ANNUAL MEAN					633	2004
LOWEST ANNUAL MEAN					248	1966
HIGHEST DAILY MEAN	13400	Sep 18	4020	Jan 6	21100	Jun 23 1972
LOWEST DAILY MEAN	116	Jul 11	82	Sep 24	31	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	131	Jun 28	83	Sep 19	34	Sep 7 1995
MAXIMUM PEAK FLOW			**a**4790	Jan 6	**a**28600	Jun 23 1972
MAXIMUM PEAK STAGE			7.27	Jan 6	16.98	Jun 23 1972
INSTANTANEOUS LOW FLOW			78	Sep 24	45	Sep 26 1943**b**
ANNUAL RUNOFF (CFSM)	2.71		1.90		1.73	
ANNUAL RUNOFF (INCHES)	36.93		25.84		23.47	
10 PERCENT EXCEEDS	1160		925		824	
50 PERCENT EXCEEDS	348		291		224	
90 PERCENT EXCEEDS	170		98		83	

a From rating curve, then in use, extended above 3,600 ft^3/s on basis of slope-area measurement at gage height 15.77 ft.
b Also Oct. 4, 1949.



01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, 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 348-412.

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 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)
NOV 2004													
03...	1230	1028	9813	362	30	11.5	8.3	8.1	269	271	12.2	110	29.6
JAN 2005													
11...	0830	1028	9813	1120	30	12.3	7.9	8.1	194	191	5.7	84	22.9
MAR													
21...	1300	1028	9813	395	30	11.5	9.0	8.8	243	238	6.3	91	24.0
MAY													
18...	1415	1028	9813	188	30	12.3	8.6	8.5	287	287	14.7	130	31.9
JUL													
06...	1330	1028	9813	157	30	8.2	8.2	8.3	353	358	17.9	160	39.4
SEP													
13...	1445	1028	9813	90	30	11.1	8.5	8.6	392	403	16.7	170	41.0

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)
NOV 2004													
03...	8.8	84	20.4	150	8	<.020	1.28	<.040	.21	.220	1.5	2.1	<200
JAN 2005													
11...	6.5	65	17.5	162	18	<.020	1.33	<.040	.03	.032	1.3	1.3	590
MAR													
21...	7.6	69	19.9	154	<2	<.020	1.14	<.040	.02	.026	1.3	1.9	<200
MAY													
18...	11.2	100	21.2	114	2	<.020	1.85	<.040	.06	.078	2.0	--	<200
JUL													
06...	14.1	120	30.4	212	2	.020	2.20	<.040	.29	.322	2.4	--	<200
SEP													
13...	15.5	133	30.6	286	<2	.050	2.53	<.040	.10	.100	2.7	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
NOV 2004						
03...	20	80	<1.0	<10	<50	10
JAN 2005						
11...	<10	680	1.8	30	<50	<10
MAR						
21...	<10	110	<1.0	10	<50	<10
MAY						
18...	<10	80	<1.0	20	<50	<10
JUL						
06...	<10	100	<1.0	10	<50	20
SEP						
13...	<10	60	<1.0	10	<50	<10

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	09/14/05
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	2
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
Pisidium	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	4
Tubificida	
Tubificidae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	31
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	3
Ephemerellidae	
Ephemerella	17
Serratella	7
Heptageniidae	
Stenonema	5
Trichoptera (CADDISFLIES)	
Brachycentridae	
Brachycentrus	25
Glossosomatidae	
Glossosoma	1
Hydropsychidae	
Hydropsyche	6
Rhyacophilidae	
Rhyacophila	1

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/14/05
Benthic macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	11
Stenelmis	21
Psephenidae (WATER PENNIES)	
Psephenus	3
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	2
Empididae (DANCE FLIES)	
Hemerodromia	1
Tipulidae (CRANE FLIES)	
Antocha	1
Total Organisms	146
Total Taxa	21

JUNIATA RIVER BASIN

01559000 JUNIATA RIVER AT HUNTINGDON, PA

LOCATION.--Lat 40°29'05", long 78°01'09", Huntingdon County, Hydrologic Unit 02050302, on right bank 170 ft downstream from Smithfield Bridge on State Highway 26 at Huntingdon, and 0.8 mi upstream from Standing Stone Creek.

DRAINAGE AREA.--816 mi^2.

PERIOD OF RECORD.--October 1941 to current year. Gage-height records collected in this vicinity for the period May 1895 to December 1938 are contained in reports of U.S. Weather Bureau. Prior to October 1950, published as Frankstown Branch Juniata River at Huntingdon.

REVISED RECORDS.--WDR PA-73-1: 1936(M). WDR PA-80-2: 1972(M). WDR PA-84-2: 1936(M) 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 599.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period Oct. 1 to Dec. 1, which are fair. Several measurements of water temperature were made during the year. Flow regulated September 1941 to June 1972, and since December 15, 1985 by Warrior Ridge Hydroelectric Plant 4 mi upstream (reservoir capacity 400 acre-ft). Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.87 ft, from floodmark, discharge, 81,000 ft^3/s, from rating curve extended on basis of computation of peak discharge at dam and runoff comparison with downstream station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1545	6,290	6.11	Jan. 8	1900	6,820	6.40
Dec. 1	1730	7,080	6.54	Jan. 14	1530	5,560	5.67
Jan. 6	1845	12,700	9.19	Mar. 29	0900	*12,800	*9.22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	929	5180	1070	973	1370	3820	954	593	413	300	572
2	1450	870	4580	1040	928	1290	4140	897	564	415	293	434
3	1440	912	3540	1030	914	1170	4390	823	572	399	281	297
4	1150	887	2870	1980	902	1070	3590	815	630	381	307	304
5	1170	1140	2430	2490	902	1110	3050	792	603	378	424	394
6	1070	1040	2110	10500	906	1130	2690	775	580	419	148	361
7	1000	951	2180	9040	935	1630	2430	763	616	396	250	272
8	934	912	2550	6260	1030	2790	2200	753	568	562	407	290
9	898	862	2010	5190	1680	2160	1940	738	524	641	412	275
10	865	826	3470	4080	3390	1890	1760	720	535	467	463	167
11	831	812	4270	3570	2230	1740	1630	706	728	405	448	284
12	797	1150	3360	4890	1880	1640	1500	685	785	383	367	394
13	778	1660	2870	4220	1700	1510	1410	669	630	374	175	265
14	917	1170	2530	4980	1680	1380	1310	652	581	385	316	207
15	907	1080	2170	4250	3210	1280	1260	715	550	413	432	249
16	993	1040	1940	3620	2740	1210	1170	699	512	411	364	286
17	923	1020	1830	3160	2480	1170	1110	648	500	502	385	261
18	818	1000	1630	2580	2130	1150	1080	604	495	575	357	295
19	1340	937	1520	2190	1840	1130	1050	601	478	549	376	359
20	1290	1010	1340	2070	1710	1160	1000	674	462	454	141	231
21	1060	1160	1240	1850	1740	1210	1010	875	453	462	353	270
22	1000	989	1260	1570	1850	1190	967	699	449	747	445	275
23	956	968	1390	e1500	1910	1770	1170	666	440	566	281	294
24	923	1420	1710	e1460	1710	3570	1310	712	427	453	247	99
25	947	3860	1270	1450	1590	2950	1100	756	421	492	321	290
26	901	2650	1150	1380	1480	2630	1010	688	408	539	335	313
27	855	2180	1130	1260	1380	2380	954	632	404	447	138	300
28	821	4480	1040	1050	1360	5220	921	619	399	456	324	321
29	782	3780	1110	1080	---	11200	899	731	411	449	432	260
30	1130	2990	1090	1090	---	6810	923	634	428	445	353	238
31	1080	---	1050	1040	---	4860	---	619	---	437	349	---
TOTAL	31646	44685	67820	92940	47180	72770	52794	22314	15746	14415	10224	8857
MEAN	1021	1490	2188	2998	1685	2347	1760	720	525	465	330	295
MAX	1620	4480	5180	10500	3390	11200	4390	954	785	747	463	572
MIN	778	812	1040	1030	902	1070	899	601	399	374	138	99
CFSM	1.25	1.83	2.68	3.67	2.06	2.88	2.16	0.88	0.64	0.57	0.40	0.36
IN.	1.44	2.04	3.09	4.24	2.15	3.32	2.41	1.02	0.72	0.66	0.47	0.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2005, BY WATER YEAR (WY)

MEAN	562	835	1101	1171	1421	2276	2033	1473	973	572	464	544
MAX	2114	3020	3100	2998	3059	4920	5739	3217	5562	1920	1447	4493
(WY)	1991	1998	1973	2005	1971	1994	1993	1978	1972	1989	1956	2004
MIN	146	233	232	265	379	693	747	528	312	201	163	143
(WY)	1964	1964	1966	1981	1963	1969	1946	1976	1965	1966	1966	1963

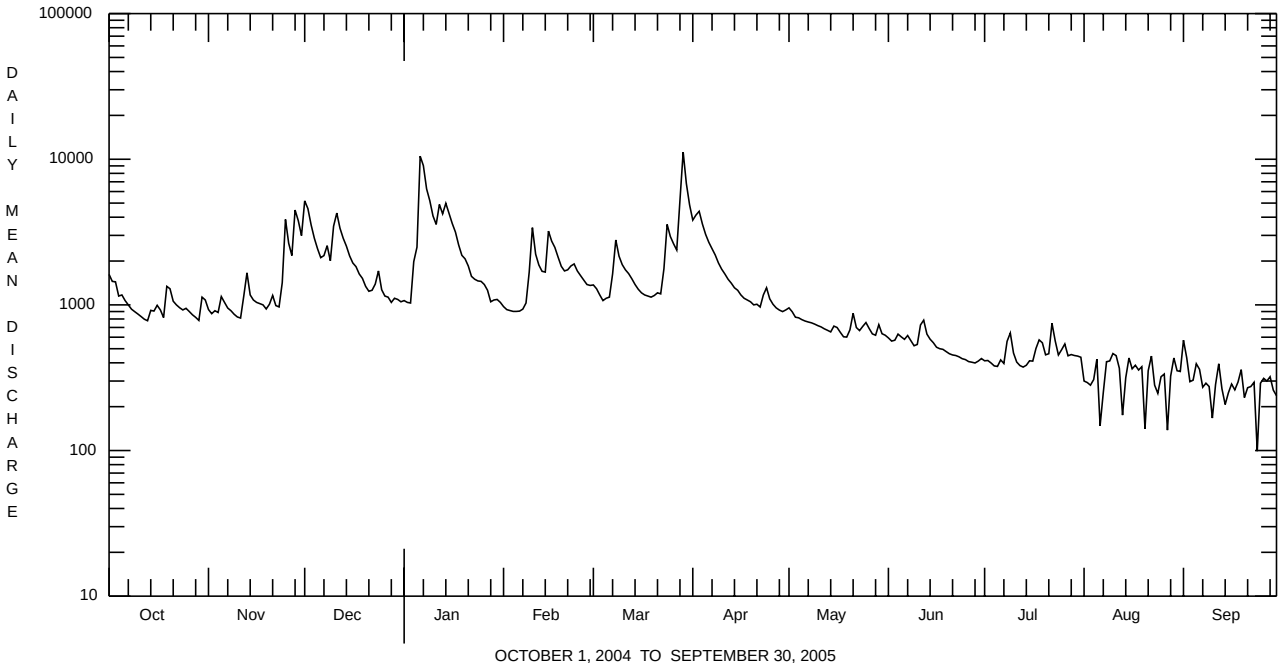
e Estimated.

JUNIATA RIVER BASIN

01559000 JUNIATA RIVER AT HUNTINGDON, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1942 - 2005	
ANNUAL TOTAL	678825		481391			
ANNUAL MEAN	1855		1319		1117	
HIGHEST ANNUAL MEAN					1957	2004
LOWEST ANNUAL MEAN					595	1969
HIGHEST DAILY MEAN	37700	Sep 18	11200	Mar 29	50400	Jun 23 1972
LOWEST DAILY MEAN	398	Jul 11	99	Sep 24	40	Sep 12 1963
ANNUAL SEVEN-DAY MINIMUM	454	Jun 28	253	Sep 20	117	Sep 10 1963
MAXIMUM PEAK FLOW			12800	Mar 29	**a**57000	Jun 23 1972
MAXIMUM PEAK STAGE			9.22	Mar 29	20.03	Jun 23 1972
INSTANTANEOUS LOW FLOW			87	Sep 25	**b**14	Feb 8 1948
ANNUAL RUNOFF (CFSM)	2.27		1.62		1.37	
ANNUAL RUNOFF (INCHES)	30.95		21.95		18.59	
10 PERCENT EXCEEDS	3640		2870		2390	
50 PERCENT EXCEEDS	1130		934		669	
90 PERCENT EXCEEDS	570		321		266	

a From rating curve extended above 26,000 ft^3/s on basis of computation of peak discharge at dam, slope-conveyance study, and Pennsylvania Department of Environmental Protection step-backwater study.
b Minimum recorded; Also Aug. 2, 1954.



JUNIATA RIVER BASIN

01560000 DUNNING CREEK AT BELDEN, PA

LOCATION.--Lat 40°04'18", long 78°29'34", Bedford County, Hydrologic Unit 02050303, on left bank 10 ft upstream from highway bridge on SR 1014, 0.8 mi southeast of Belden, 3.8 mi north of Bedford, and 4.3 mi upstream from mouth.

DRAINAGE AREA.--172 mi^2.

PERIOD OF RECORD.--May 1939 to current year. Prior to October 1939 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 971: 1940(M). WSP 1502: 1940-41. WDR PA-72-1: 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 1,051.16 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 17.8 ft, Mar. 18, 1936, from floodmarks (backwater from Raystown Branch Juniata River), discharge, about 16,900 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 6	2245	*3,530	*8.25	Jan. 12	0415	2,720	7.32
Jan. 8	1700	2,390	6.84	Mar. 29	0900	3,390	8.13

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	125	1290	149	e105	243	638	114	68	34	18	34
2	113	119	1040	142	e100	211	851	104	64	30	18	25
3	104	122	767	141	101	183	772	103	64	27	17	20
4	95	125	549	223	100	162	645	99	72	25	16	17
5	86	169	420	953	103	178	552	96	65	24	16	16
6	80	138	336	2880	110	202	479	95	61	24	16	15
7	76	132	475	2450	127	407	414	94	86	23	18	14
8	73	130	522	1840	241	665	364	92	67	56	102	14
9	73	122	464	1320	415	555	289	89	60	73	95	13
10	71	116	1610	899	768	448	245	86	68	41	41	13
11	69	112	1610	870	544	371	215	84	326	32	31	13
12	67	216	974	2050	444	317	191	80	186	28	25	12
13	69	268	682	1200	355	265	175	78	125	26	23	13
14	106	195	511	1070	406	215	160	75	98	26	21	13
15	97	195	390	709	700	185	144	77	81	32	19	13
16	123	191	314	594	638	169	132	76	70	30	22	15
17	99	177	286	507	599	160	124	71	65	31	28	17
18	83	166	244	392	496	154	120	66	58	42	25	15
19	161	151	226	326	e350	149	115	64	53	34	21	15
20	144	293	167	308	e300	152	111	99	49	32	19	18
21	134	254	e155	246	365	165	107	103	47	27	20	16
22	131	225	e170	180	429	177	105	79	46	24	18	15
23	130	237	213	e150	351	670	145	75	44	26	15	15
24	163	541	226	e140	321	1190	136	86	39	23	15	15
25	189	1130	152	e160	319	940	118	91	37	31	14	15
26	162	760	e145	e150	291	756	111	84	35	35	14	16
27	152	568	e135	e130	256	636	105	76	33	27	16	17
28	141	1280	e140	e115	249	1930	103	75	32	23	20	16
29	133	976	e145	e110	---	2940	104	85	31	21	25	20
30	158	713	151	e115	---	1570	110	76	32	20	23	19
31	152	---	143	e105	---	918	---	72	---	18	34	---
TOTAL	3561	9946	14652	20624	9583	17283	7880	2644	2162	945	805	489
MEAN	115	332	473	665	342	558	263	85.3	72.1	30.5	26.0	16.3
MAX	189	1280	1610	2880	768	2940	851	114	326	73	102	34
MIN	67	112	135	105	100	149	103	64	31	18	14	12
CFSM	0.67	1.93	2.75	3.87	1.99	3.24	1.53	0.50	0.42	0.18	0.15	0.09
IN.	0.77	2.15	3.17	4.46	2.07	3.74	1.70	0.57	0.47	0.20	0.17	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2005, BY WATER YEAR (WY)

MEAN	96.6	176	254	265	352	564	447	284	175	88.4	56.4	74.3
MAX	798	917	859	665	825	1408	1370	1013	1015	740	214	870
(WY)	1977	1998	1973	2005	1971	1994	1993	1998	1972	1989	1979	2004
MIN	14.0	18.3	18.8	45.8	65.2	129	112	45.7	25.6	8.96	8.05	9.86
(WY)	1970	1954	1999	1981	1963	1990	1946	1941	1965	1966	1966	1985

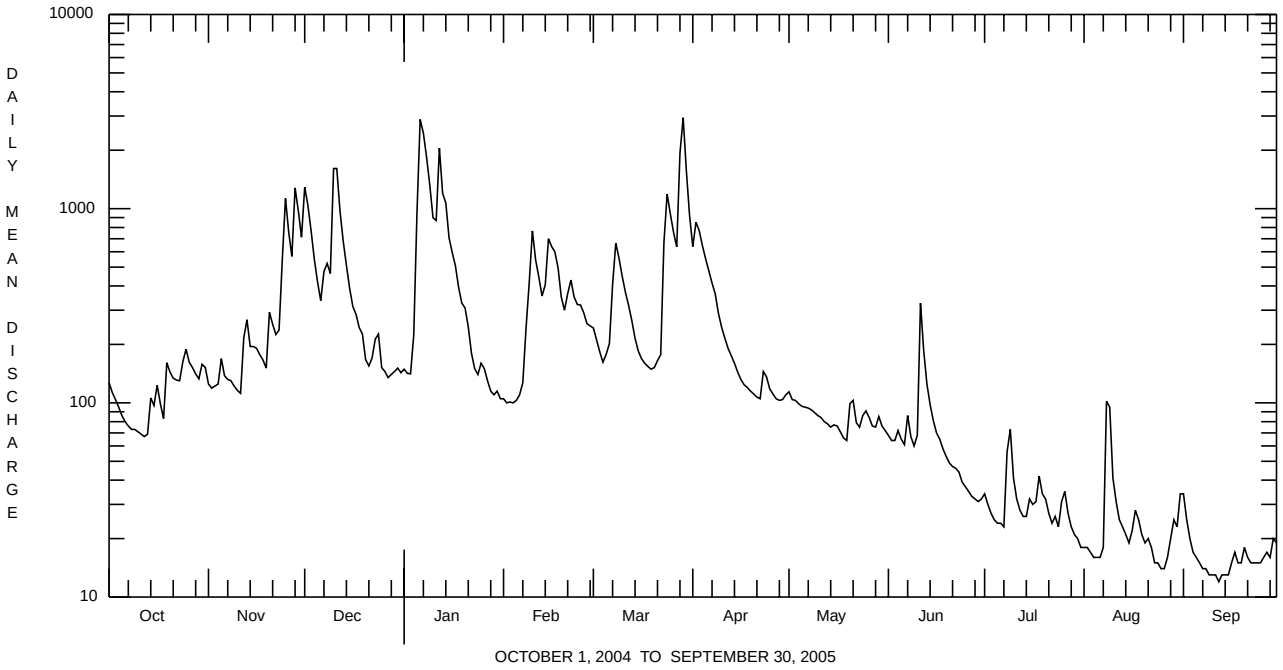
e Estimated.

JUNIATA RIVER BASIN

01560000 DUNNING CREEK AT BELDEN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1940 - 2005	
ANNUAL TOTAL	133006		90574			
ANNUAL MEAN	363		248		235	
HIGHEST ANNUAL MEAN					397	1998
LOWEST ANNUAL MEAN					107	1954
HIGHEST DAILY MEAN	6910	Sep 18	2940	Mar 29	9140	Jun 23 1972
LOWEST DAILY MEAN	31	Jul 10	12	Sep 12	6.4	Sep 6 1964
ANNUAL SEVEN-DAY MINIMUM	40	Jul 4	13	Sep 9	6.7	Aug 5 1966
MAXIMUM PEAK FLOW			3530	Jan 6	**a**19400	Jul 20 1977
MAXIMUM PEAK STAGE			8.25	Jan 6	14.15	Jul 20 1977
INSTANTANEOUS LOW FLOW			11	Aug 6**b**	2.6	Sep 6 1964
ANNUAL RUNOFF (CFSM)	2.11		1.44		1.37	
ANNUAL RUNOFF (INCHES)	28.77		19.59		18.60	
10 PERCENT EXCEEDS	760		653		575	
50 PERCENT EXCEEDS	154		114		100	
90 PERCENT EXCEEDS	58		18		20	

a From rating curve extended above 9,200 ft^3/s on basis of contracted-opening measurement at gage height 12.67 ft and contracted-opening and flow-over-road measurement at gage height 13.03 ft.
b Also Sept. 27.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°12'57", long 78°15'56", Bedford County, Hydrologic Unit 02050303, on left bank 500 ft downstream from bridge on State Highway 913, 0.5 mi west of Saxton, and 1.5 mi upstream from Shoup Run.

DRAINAGE AREA.--756 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to current year. Monthly discharge only for September 1911 published in WSP 1302.

REVISED RECORDS.--WSP 1302: 1912-13(M), 1914-15. WSP 1502: 1934, 1936.

GAGE.--Water-stage recorder. Datum of gage is 795.77 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, nonrecording gage at site 0.8 mi downstream at datum 4.82 ft lower.

REMARKS.--Records good 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 of June 1, 1889, reached a stage of 23.0 ft at present site and datum, from floodmarks, discharge, about 71,300 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 7,700 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 12	1615	8,230	8.23	Mar. 29	1145	*18,300	*13.13

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	507	3010	695	e490	e820	3340	533	345	169	136	141
2	1080	465	3770	686	e530	e800	3130	513	297	165	131	141
3	974	449	2920	604	e530	e780	4040	468	283	164	127	140
4	849	489	2300	648	534	e670	3100	452	283	163	121	133
5	749	486	1810	1120	525	e640	2490	437	293	160	121	123
6	673	597	1520	5570	533	e700	2070	449	346	157	121	116
7	620	523	1380	6770	548	e900	1800	402	459	157	119	111
8	581	521	1740	5090	625	1620	1590	399	356	210	170	108
9	548	474	1510	5460	975	1940	1380	392	332	206	182	106
10	522	479	2390	3890	1730	1600	1180	409	289	237	213	104
11	500	439	4680	3080	1810	1290	1080	375	298	236	213	104
12	500	481	3810	6030	1440	1250	927	370	487	193	166	102
13	459	869	2820	5690	1150	1110	880	350	481	174	147	e100
14	476	945	2170	4630	1130	991	809	339	401	165	139	99
15	519	827	1710	3940	1590	e800	724	343	319	167	132	99
16	515	727	1390	2960	1910	e650	685	359	277	172	134	100
17	531	732	1180	2390	1740	690	638	334	254	211	142	105
18	501	670	1140	e2000	1570	655	595	316	242	232	137	109
19	490	694	e1000	e1400	1330	625	567	301	231	259	136	114
20	541	685	e970	e1300	1140	605	570	340	219	225	138	112
21	606	1000	e650	e1100	1050	596	528	504	211	207	132	107
22	569	908	e730	e900	1320	595	533	516	204	183	125	105
23	527	869	e800	e950	1280	1030	586	387	198	169	119	102
24	537	977	e1000	e430	1150	4680	774	363	193	157	116	100
25	520	2930	e950	e440	1110	3710	662	429	187	159	115	99
26	640	3170	e500	e480	1210	2960	558	411	182	161	112	104
27	542	2390	e550	e520	967	2560	518	394	176	156	113	109
28	534	3260	e540	e460	e800	4070	530	395	172	156	120	103
29	500	4230	e550	e400	---	15000	484	362	171	152	121	104
30	495	3050	e640	e430	---	8950	490	359	172	144	121	106
31	547	---	e620	e460	---	4780	---	344	---	139	144	---
TOTAL	18975	34843	50750	70523	30717	68067	37258	12345	8358	5605	4263	3306
MEAN	612	1161	1637	2275	1097	2196	1242	398	279	181	138	110
MAX	1330	4230	4680	6770	1910	15000	4040	533	487	259	213	141
MIN	459	439	500	400	490	595	484	301	171	139	112	99
CFSM	0.81	1.54	2.17	3.01	1.45	2.90	1.64	0.53	0.37	0.24	0.18	0.15
IN.	0.93	1.71	2.50	3.47	1.51	3.35	1.83	0.61	0.41	0.28	0.21	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2005, BY WATER YEAR (WY)

MEAN	425	626	875	1028	1407	2121	1747	1233	745	396	268	324
MAX	3561	2897	3254	3477	4817	7669	5811	3425	4624	2847	851	4253
(WY)	1977	1998	1973	1937	1979	1936	1993	1924	1972	1989	1915	2004
MIN	59.5	65.3	93.6	132	138	459	338	211	134	66.6	55.1	57.6
(WY)	1964	1931	1931	1981	1934	1990	1915	1926	1965	1966	1966	1963

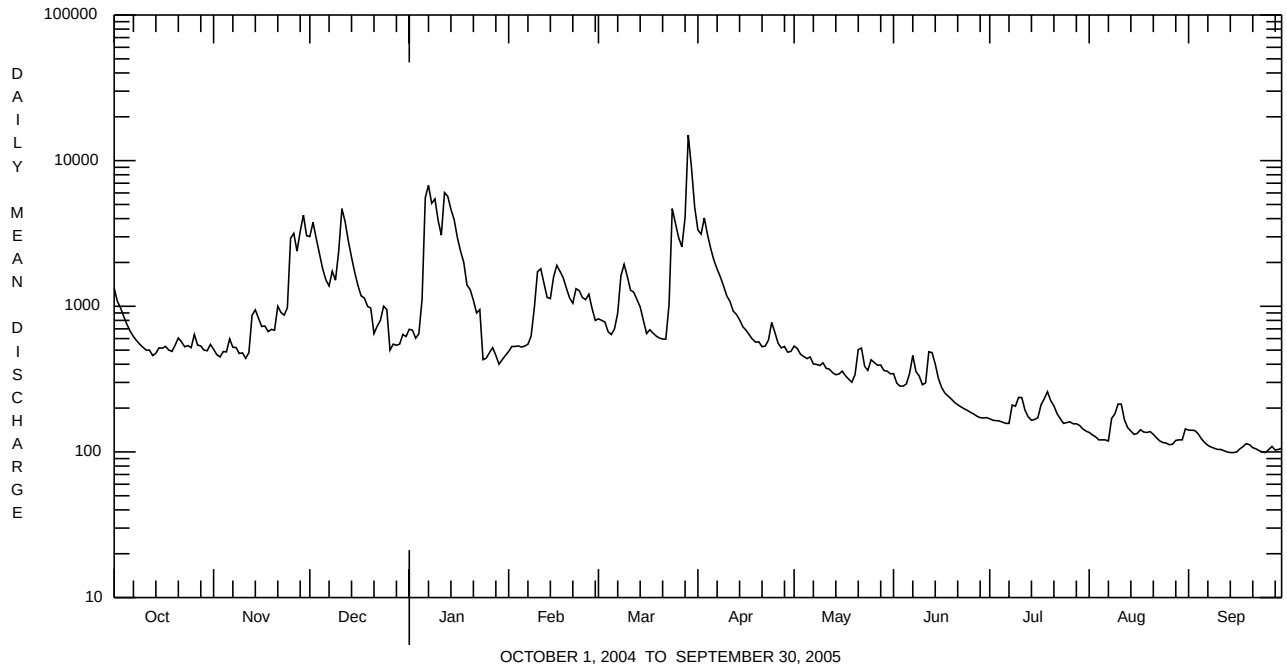
e Estimated.

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1912 - 2005	
ANNUAL TOTAL	555163		345010			
ANNUAL MEAN	1517		945		930	
HIGHEST ANNUAL MEAN					1637	2004
LOWEST ANNUAL MEAN					402	1969
HIGHEST DAILY MEAN	32800	Sep 18	15000	Mar 29	58300	Mar 18 1936
LOWEST DAILY MEAN	193	Jul 3	99	Sep 14,15,25	39	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	223	Jun 29	101	Sep 10	41	Sep 7 1966
MAXIMUM PEAK FLOW			18300	Mar 29	**a**80500	Mar 18 1936
MAXIMUM PEAK STAGE			13.13	Mar 29	**b**24.54	Mar 18 1936
INSTANTANEOUS LOW FLOW			97	Sep 16	39	Sep 6 1966**c**
ANNUAL RUNOFF (CFSM)	2.01		1.25		1.23	
ANNUAL RUNOFF (INCHES)	27.32		16.98		16.72	
10 PERCENT EXCEEDS	3030		2390		2200	
50 PERCENT EXCEEDS	800		519		429	
90 PERCENT EXCEEDS	313		121		118	

a From rating curve extended above 28,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmark in gage.
c Also Sept. 7, 12, 1966.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animals (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	09/14/04
Benthic macroinvertebrate	Count
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	1
Sphaeriidae	
Sphaerium	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
Crangonyx	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	66
Caenidae	
Caenis	6
Ephemerellidae	1
Ephemerella	3
Serratella	5
Ephemeridae	
Ephemera	1
Heptageniidae	2
Leucrocuta	5
Stenonema	21
Isonychiidae	
Isonychia	27
Potamanthidae	
Anthopotamus	2
Tricorythidae	
Tricorythodes	1
Plecoptera (STONEFLIES)	
Perlidae	
Agnetina	1

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/14/04
Benthic macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Glossosomatidae	
Protoptila	2
Hydropsychidae	
Cheumatopsyche	18
Diplectrona	1
Hydropsyche	14
Leptoceridae	
Triaenodes	1
Philopotamidae	
Chimarra	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Dubiraphia	2
Macronychus	1
Optioservus	1
Promoresia	2
Stenelmis	6
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	22
Simuliidae (BLACK FLIES)	
Simulium	2
Total Organisms	223
Total Taxa	31

JUNIATA RIVER BASIN

01563100 RAYSTOWN LAKE NEAR HUNTINGDON, PA

LOCATION.--Lat 40°26'06", long 78°00'25", Huntingdon County, Hydrologic Unit 02050303, at Raystown Dam on Raystown Branch Juniata River, 3.5 mi south of Huntingdon, and 5.7 mi upstream from mouth.

DRAINAGE AREA.--959 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum is given in feet above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with a gated spillway in right abutment at elevation 768.6 ft (capacity, 383,500 acre-ft), and an ungated spillway separate from embankment at elevation 812.0 ft (capacity, 762,000 acre-ft). Storage began November 1972. Conservation pool elevation is 786.0 ft, capacity 514,000 acre-ft. Lake is used for flood control, low-flow augmentation, and recreation. Figures given herein represent total contents. Satellite telemetry at station.

COOPERATION.--Records provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 667,010 acre-ft, Apr. 3, 1993, elevation, 802.89 ft; minimum, 2,240 acre-ft, March 2, 1973, elevation, 628.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 530,000 acre-ft, Mar. 30, elevation, 787.88 ft; minimum, 502,700 acre-ft, Sept. 30, elevation, 784.69 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
Sept. 30	786.82	521,000	---
Oct. 31	786.45	517,800	-52.0
Nov. 30	786.27	516,300	-25.2
Dec. 31	786.41	517,500	+19.5
CAL YR 2004	--	--	+1.4
Jan. 31	786.15	515,300	-35.8
Feb. 28	786.25	516,100	+14.4
Mar. 31	786.30	516,500	+6.5
Apr. 30	786.38	517,200	+11.8
May 31	786.69	519,900	+43.9
June 30	786.53	518,500	-23.5
July 31	786.38	517,200	-21.1
Aug. 31	785.71	511,500	-92.7
Sept. 30	784.69	502,700	-148
WTR YR 2005	--	--	-25.3

JUNIATA RIVER BASIN

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA

LOCATION.--Lat 40°25'44", long 77°59'29", Huntingdon County, Hydrologic Unit 02050303, on left bank 1.0 mi downstream from Raystown Dam on Township Route 430, 4.0 mi south of Huntingdon, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--960 mi^2.

PERIOD OF RECORD.--January 1946 to current year. Prior to October 1946 monthly discharge only, published in WSP 1302. Prior to Oct. 1, l969, published as Raystown Branch Juniata River near Huntingdon.

GAGE.--Water-stage recorder. Datum of gage is 597.36 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Oct. 1, 1969, water-stage recorder at site 4.3 mi upstream at datum 22.72 ft higher.

REMARKS.--No estimated daily discharges. Records fair except those for period Jan. to March, which are poor. Flow regulated since October 1972 by Raystown Dam (station 01563100). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 31.0 ft, discharge, 87,000 ft^3/s, at previous site and datum, by computation of peak discharge at dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	657	5350	755	1180	1280	5420	540	349	212	221	212
2	1930	656	4190	755	880	1260	4720	541	319	212	212	212
3	1980	657	3420	1210	587	1250	3370	541	306	212	206	212
4	1560	659	2750	1550	543	1080	2400	541	301	212	207	212
5	1560	659	2370	1960	557	942	3870	521	306	212	209	212
6	1090	659	1790	6030	557	924	4430	505	313	212	209	212
7	790	659	1570	8400	557	1170	3480	505	464	212	209	212
8	787	603	1890	8360	928	2120	2310	505	558	214	210	212
9	787	568	2120	7520	1220	2350	1880	505	557	212	213	212
10	787	568	3560	5090	1840	1900	1870	505	557	212	212	212
11	787	568	5170	4160	2640	1890	1480	506	748	212	212	212
12	549	569	5700	6850	2660	1890	1230	507	866	212	212	212
13	610	568	4760	8380	2390	1890	1240	505	647	212	212	210
14	513	718	2720	6270	1850	1880	984	506	505	213	212	229
15	519	819	2690	5070	1650	1440	819	508	377	214	212	209
16	541	953	2070	4240	2290	1050	819	334	310	211	213	205
17	582	1050	1570	2780	2760	1040	823	211	310	213	212	209
18	703	1050	1570	2580	2190	1030	825	209	310	212	212	209
19	755	1050	1560	2400	1660	1030	648	210	308	268	212	208
20	755	1050	1560	1710	1620	1030	530	254	242	308	212	210
21	747	1050	1220	1670	1610	917	528	289	203	258	212	209
22	755	1350	1020	1660	1610	821	943	401	206	218	212	208
23	755	1550	1330	1650	2230	1280	1030	538	207	218	212	213
24	755	1550	1550	1500	2480	4980	904	568	210	218	212	206
25	606	2540	1550	1330	2160	4880	905	529	209	218	212	206
26	516	4670	1550	1310	1890	4880	904	505	209	377	212	207
27	516	3800	1040	1300	1620	3870	904	503	208	220	212	206
28	601	3760	595	1300	1530	6160	904	422	209	221	212	226
29	655	5270	567	1310	---	11400	680	370	215	221	212	210
30	661	5710	693	1310	---	13700	538	370	213	221	212	223
31	659	---	755	1310	---	9990	---	358	---	221	213	---
TOTAL	26401	45990	70250	101720	45689	91324	51388	13812	10742	7008	6562	6347
MEAN	852	1533	2266	3281	1632	2946	1713	446	358	226	212	212
MAX	1980	5710	5700	8400	2760	13700	5420	568	866	377	221	229
MIN	513	568	567	755	543	821	528	209	203	211	206	205

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	735	1060	1333	1331	1670	2476	2298	1459	847	504	355	614
MAX	4616	3778	4204	4768	3999	7104	8605	3438	3548	3484	802	5526
(WY)	1977	1974	1973	1996	1984	1994	1993	1978	2003	1989	1979	2004
MIN	150	125	215	208	436	212	370	18.6	59.1	133	118	134
(WY)	1975	1975	1981	1981	2002	2002	1974	1973	1973	1973	1973	1973

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005	
ANNUAL TOTAL	745050		477233			
ANNUAL MEAN	2036		1307		1220	
HIGHEST ANNUAL MEAN					2189	2004
LOWEST ANNUAL MEAN					525	1992
HIGHEST DAILY MEAN	15500	Sep 24	13700	Mar 30	15500	Sep 24 2004
LOWEST DAILY MEAN	215	Aug 18	203	Jun 21	5.0	May 18 1973
ANNUAL SEVEN-DAY MINIMUM	253	Jul 5	207	Jun 21	8.3	May 18 1973
MAXIMUM PEAK FLOW			15100	Mar 30	16200	Apr 6 1993
MAXIMUM PEAK STAGE			14.61	Mar 30	15.12	Apr 6 1993
10 PERCENT EXCEEDS	4800		3390		2870	
50 PERCENT EXCEEDS	1100		659		511	
90 PERCENT EXCEEDS	290		212		202	

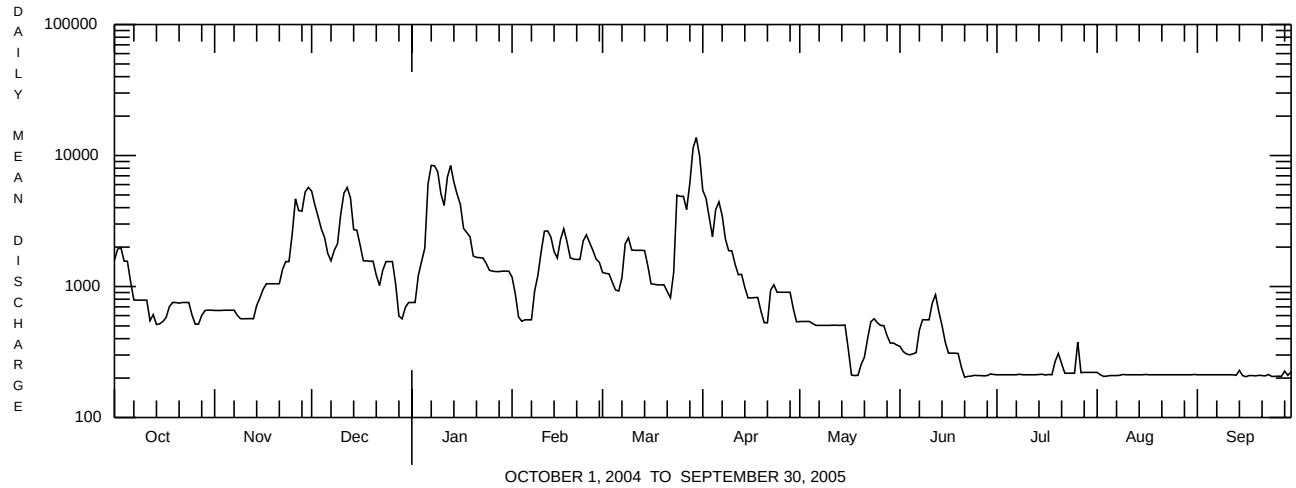
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	343	651	985	1195	1649	2695	2132	1500	875	442	303	229
MAX	1587	2796	2877	2915	4150	4481	4632	3346	5740	1722	925	648
(WY)	1955	1971	1951	1949	1971	1963	1970	1960	1972	1972	1956	1950
MIN	64.7	65.3	131	220	317	754	683	482	180	80.1	66.0	67.6
(WY)	1964	1958	1966	1954	1954	1969	1968	1969	1965	1966	1966	1963

SUMMARY STATISTICS	WATER YEARS 1947 - 1972	
ANNUAL MEAN	1080	
HIGHEST ANNUAL MEAN	1960	1972
LOWEST ANNUAL MEAN	497	1969
HIGHEST DAILY MEAN	22200	Apr 3 1970
LOWEST DAILY MEAN	5.0	Oct 30 1957
ANNUAL SEVEN-DAY MINIMUM	7.7	Nov 3 1957
MAXIMUM PEAK FLOW	**a**24500	Nov 25 1950
MAXIMUM PEAK STAGE	**b**18.54	Apr 3 1970
INSTANTANEOUS LOW FLOW	4.3	Oct 31 1957
ANNUAL RUNOFF (CFSM)	1.13	
ANNUAL RUNOFF (INCHES)	15.29	
10 PERCENT EXCEEDS	2580	
50 PERCENT EXCEEDS	475	
90 PERCENT EXCEEDS	114	

a From rating curve extended above 16,000 ft^3/s on basis of computation of peak discharge at dam, gage height, 16.74 ft, site and datum then in use.

b Present site and datum.



JUNIATA RIVER BASIN

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA

LOCATION.--Lat 40°23'32", long 77°56'07", Huntingdon County, Hydrologic Unit 02050304, on right bank 0.2 mi downstream from Scrub Run, and 0.3 mi downstream from bridge on State Highway 655 at Mapleton Depot.

DRAINAGE AREA.--2,030 mi^2.

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WDR PA-73-1: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 557.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated since October 1972 by Raystown Dam (station 01563100) 12 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 38.2 ft, from floodmark, discharge, 165,000 ft^3/s from rating curve extended above 39,000 ft^3/s on basis of runoff comparison with upstream and downstream stations.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3750	1920	11900	2160	2360	3040	10500	1740	1090	706	687	924
2	3730	1830	10800	2120	1960	2940	10000	1670	1030	701	506	769
3	3910	1860	8010	2400	1670	2770	9830	1570	998	691	670	674
4	3120	1840	6330	3970	1730	2510	7050	1550	1060	664	480	503
5	3090	2080	5460	4790	1750	2380	7690	1500	1040	659	747	690
6	2640	2040	4500	19200	1750	2410	7920	1460	1070	702	507	680
7	2160	1910	4240	21300	1800	3180	6750	1440	1340	717	469	511
8	2080	1820	4940	16600	2220	5630	5280	1430	1340	910	688	632
9	2020	1700	4590	14500	3380	5350	4400	1410	1250	1000	711	450
10	1980	1650	7630	10100	6790	4350	4150	1390	1250	809	789	514
11	1930	1630	10900	8340	5760	4140	3710	1370	1690	709	769	445
12	1630	1970	10100	12500	5120	3990	3230	1350	1960	669	743	661
13	1710	2760	8660	14100	4590	3810	3110	1320	1620	660	504	602
14	1690	2240	5790	12800	3970	3620	2810	1300	1300	667	500	438
15	1730	2250	5310	10500	5610	3140	2510	1370	1160	712	738	485
16	1840	2290	4560	8760	5740	2630	2380	1280	956	714	690	486
17	1850	2390	3840	6550	5870	2570	2300	992	939	875	671	581
18	1830	2370	3620	5680	4900	2540	2250	943	924	930	633	459
19	2330	2300	3470	5110	3930	2520	2090	924	902	909	749	685
20	2510	2370	3210	4280	3780	2540	1850	1040	845	869	468	466
21	2160	2530	2830	3970	3800	2530	1830	1350	750	1060	515	518
22	2090	2550	2670	3550	3910	2370	2060	1220	750	1090	758	470
23	2030	2780	3050	e3200	4550	3360	2560	1350	733	948	668	582
24	1980	3170	3870	e2800	4670	9570	2620	1450	724	781	486	351
25	1900	7250	3190	e2900	4140	8900	2340	1480	713	850	516	434
26	1700	8250	2960	3090	3780	8360	2210	1370	702	1010	697	585
27	1650	6720	2620	2890	3350	7160	2130	1290	690	830	445	534
28	1660	9220	1970	2590	3290	12400	2070	1230	680	774	488	620
29	1700	10200	2000	2560	---	27700	1890	1260	704	767	741	551
30	2180	9500	2110	2670	---	23600	1690	1200	714	761	730	486
31	2150	---	2150	2590	---	17200	---	1100	---	753	576	---
TOTAL	68730	103390	157280	218570	106170	189210	121210	41349	30924	24897	19339	16786
MEAN	2217	3446	5074	7051	3792	6104	4040	1334	1031	803	624	560
MAX	3910	10200	11900	21300	6790	27700	10500	1740	1960	1090	789	924
MIN	1630	1630	1970	2120	1670	2370	1690	924	680	659	445	351

e Estimated.

JUNIATA RIVER BASIN

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1627	2355	3017	2964	3659	5470	5049	3385	2129	1283	970	1474
MAX	7397	7196	8006	8972	8159	14040	15970	7725	6743	6123	2488	11000
(WY)	1977	1998	1973	1996	1984	1994	1993	1978	2003	1989	2003	2004
MIN	459	578	872	481	1269	1612	1781	1309	679	557	490	484
(WY)	2002	1979	1981	1981	1993	1990	1997	1976	1991	1999	2002	1995

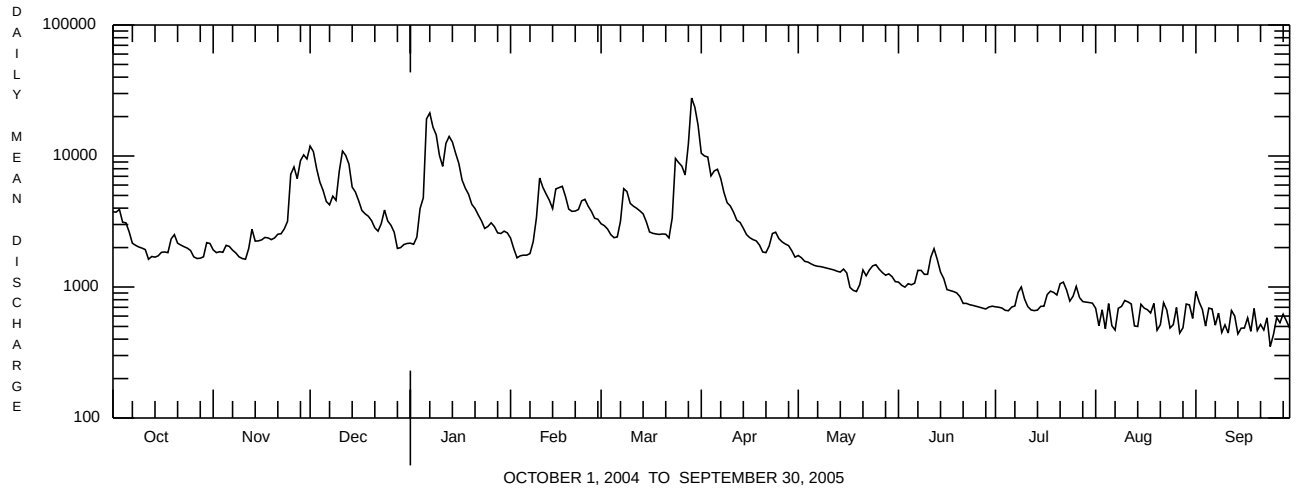
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005	
ANNUAL TOTAL	1597314		1097855			
ANNUAL MEAN	4364		3008		2775	
HIGHEST ANNUAL MEAN					4650	2004
LOWEST ANNUAL MEAN					1360	1992
HIGHEST DAILY MEAN	52500	Sep 18	27700	Mar 29	52500	Sep 18 2004
LOWEST DAILY MEAN	824	Jul 11	351	Sep 24	351	Sep 24 2005
ANNUAL SEVEN-DAY MINIMUM	924	Jun 28	487	Sep 20	395	Sep 13 2002
MAXIMUM PEAK FLOW			30600	Mar 29	**a**64000	Sep 18 2004
MAXIMUM PEAK STAGE			16.11	Mar 29	23.76	Sep 18 2004
10 PERCENT EXCEEDS	9610		7090		6110	
50 PERCENT EXCEEDS	2600		1930		1600	
90 PERCENT EXCEEDS	1200		633		562	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	925	1473	2124	2500	3303	5542	4766	3324	2215	1058	812	664
MAX	3136	6057	6058	6342	8327	8641	9845	7044	14450	3864	2638	3073
(WY)	1938	1951	1951	1949	1971	1967	1940	1960	1972	1972	1956	1945
MIN	245	377	374	610	826	1763	1697	849	540	317	244	262
(WY)	1964	1958	1966	1940	1963	1969	1968	1941	1965	1966	1966	1964

SUMMARY STATISTICS	WATER YEARS 1938 - 1972	
ANNUAL MEAN	2387	
HIGHEST ANNUAL MEAN	4479	1972
LOWEST ANNUAL MEAN	1329	1969
HIGHEST DAILY MEAN	115000	Jun 23 1972
LOWEST DAILY MEAN	101	Aug 21 1966
ANNUAL SEVEN-DAY MINIMUM	203	Sep 7 1964
MAXIMUM PEAK FLOW	**a**125000	Jun 23 1972
MAXIMUM PEAK STAGE	33.07	Jun 23 1972
INSTANTANEOUS LOW FLOW	68	Sep 13 1964
ANNUAL RUNOFF (CFSM)	1.18	
ANNUAL RUNOFF (INCHES)	15.97	
10 PERCENT EXCEEDS	5520	
50 PERCENT EXCEEDS	1210	
90 PERCENT EXCEEDS	393	

a From rating curve extended above 39,000 ft^3/s on basis of runoff comparison with upstream and downstream stations.



JUNIATA RIVER BASIN

01564500 AUGHWICK CREEK NEAR THREE SPRINGS, PA

LOCATION.--Lat 40°12'45", long 77°55'32", Huntingdon County, Hydrologic Unit 02050304, on right bank 10 ft downstream from bridge on State Highway 994, 300 ft upstream from East Broad Top Railroad bridge, 350 ft upstream from Three Springs Creek, and 3.5 mi northeast of Three Springs. Records include flow of Three Springs Creek.

DRAINAGE AREA.--205 mi^2, includes that of Three Springs Creek.

PERIOD OF RECORD.--June 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 618.65 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of about 19.3 ft, discharge, about 24,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 24	0200	2,290	8.06	June 7	0115	2,840	8.88
Mar. 29	0815	*5,740	*12.17				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	86	1060	211	e130	e210	853	161	57	26	17	25
2	341	80	972	187	e130	e190	1240	139	52	28	15	24
3	282	77	761	171	e125	e160	1450	127	53	23	14	16
4	233	79	598	190	e120	e145	973	120	59	21	13	13
5	199	106	482	536	e120	e155	730	111	62	20	13	10
6	172	105	390	1750	e115	e180	595	106	626	26	13	9.4
7	155	87	375	1240	e125	e250	497	104	1280	37	13	8.1
8	140	80	413	1490	e150	e450	437	103	336	145	13	7.1
9	129	74	322	1460	e205	e350	361	98	204	117	15	6.4
10	123	69	966	994	419	e325	308	92	163	55	22	6.3
11	113	67	1480	814	298	306	274	89	153	36	21	5.8
12	106	94	980	1350	241	285	243	86	132	29	16	5.7
13	103	222	733	1110	218	248	222	79	105	25	14	5.6
14	108	177	562	1360	221	213	203	78	236	22	21	5.3
15	119	146	430	1170	443	187	184	89	114	23	26	5.3
16	134	136	347	e875	445	173	167	87	84	36	23	5.4
17	118	130	e300	e700	397	166	156	75	71	71	21	5.6
18	99	126	e255	e475	329	160	151	70	62	87	22	5.7
19	117	122	e215	e450	e230	150	145	66	54	143	20	5.9
20	145	131	e185	e445	e220	144	138	93	48	86	17	6.1
21	141	160	e190	e350	e245	142	133	154	44	67	15	6.1
22	143	141	e200	e250	281	130	128	102	42	95	13	5.9
23	125	135	335	e300	252	644	225	85	42	57	11	5.7
24	114	275	606	e285	228	1670	321	84	38	40	9.8	5.7
25	113	1240	e350	e250	e220	948	211	91	34	40	8.9	5.8
26	108	845	e300	e200	e200	714	180	87	31	44	8.0	5.5
27	100	608	e270	e180	e190	605	161	74	28	36	8.0	7.9
28	93	1240	e210	e145	e195	1610	148	68	26	28	11	7.6
29	88	1100	e230	e135	---	4430	143	72	25	23	12	7.9
30	90	786	e225	e135	---	1850	145	69	25	20	13	7.7
31	91	---	212	e135	---	1160	---	62	---	18	18	---
TOTAL	4592	8724	14954	19343	6492	18350	11122	2921	4286	1524	476.7	247.5
MEAN	148	291	482	624	232	592	371	94.2	143	49.2	15.4	8.25
MAX	450	1240	1480	1750	445	4430	1450	161	1280	145	26	25
MIN	88	67	185	135	115	130	128	62	25	18	8.0	5.3
CFSM	0.72	1.42	2.35	3.04	1.13	2.89	1.81	0.46	0.70	0.24	0.08	0.04
IN.	0.83	1.58	2.71	3.51	1.18	3.33	2.02	0.53	0.78	0.28	0.09	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

MEAN	111	194	270	263	373	573	474	313	189	82.3	62.6	81.3
MAX	656	946	890	1062	1399	1612	1296	798	1985	848	355	984
(WY)	1977	1951	1973	1996	1984	1994	1993	1960	1972	1989	1967	2004
MIN	6.59	12.3	12.6	14.2	29.5	93.0	103	55.0	25.0	8.40	3.25	5.08
(WY)	1964	1999	1999	1981	2002	1990	1971	1941	1991	1966	1966	1964

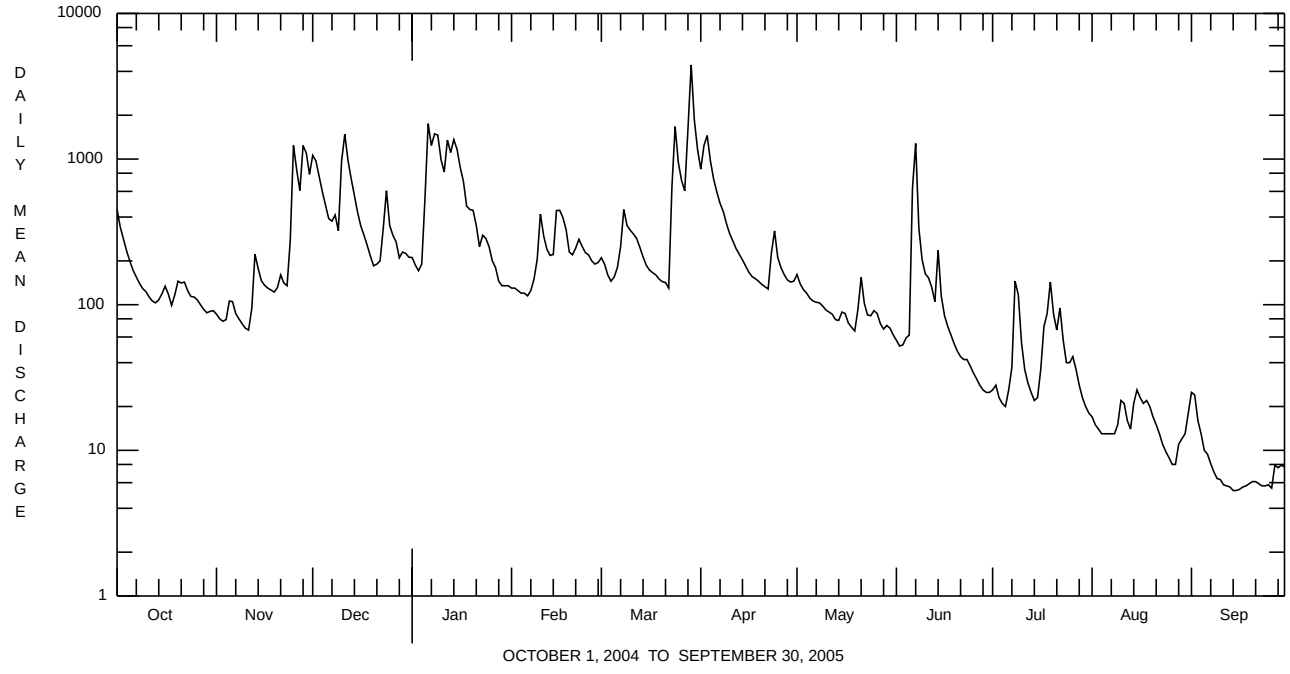
e Estimated.

JUNIATA RIVER BASIN

01564500 AUGHWICK CREEK NEAR THREE SPRINGS, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	140825		93032.2			
ANNUAL MEAN	385		255		248	
HIGHEST ANNUAL MEAN					486	1972
LOWEST ANNUAL MEAN					93.9	2002
HIGHEST DAILY MEAN	12400	Sep 18	4430	Mar 29	18700	Jun 23 1972
LOWEST DAILY MEAN	26	Sep 6,7	5.3	Sep 14,15	0.80	Sep 3 1966
ANNUAL SEVEN-DAY MINIMUM	29	Sep 1	5.5	Sep 12	1.2	Aug 29 1966
MAXIMUM PEAK FLOW			5740	Mar 29	**e**32600	Jan 19 1996**a**
MAXIMUM PEAK STAGE			12.17	Mar 29	**b**21.82	Sep 18 2004
INSTANTANEOUS LOW FLOW			4.9	Sep 14,26	0.80	Sep 2 1966**c**
ANNUAL RUNOFF (CFSM)	1.88		1.24		1.21	
ANNUAL RUNOFF (INCHES)	25.55		16.88		16.46	
10 PERCENT EXCEEDS	943		706		593	
50 PERCENT EXCEEDS	211		130		101	
90 PERCENT EXCEEDS	67		13		14	

a Gage height unknown.
b From highwater mark in gage.
c Also Sept. 3, 4, 11-13, 1966.
e Estimated.



JUNIATA RIVER BASIN

01565000 KISHACOQUILLAS CREEK AT REEDSVILLE, PA

LOCATION.--Lat 40°39'17", long 77°35'00", Mifflin County, Hydrologic Unit 02050304, on left bank 150 ft downstream from bridge on old U.S. Highway 322, 1.0 mi southeast of Reedsville, and 1.0 mi downstream from Honey Creek.

DRAINAGE AREA.--164 mi^2.

PERIOD OF RECORD.--October 2001 to current year. October 1939 to September 1970, monthly discharge only for October, November 1939, published in WSP 1302; October 1983 to September 1985; October 1988 to September 2001, crest-stage partial-record station.

GAGE.--Water-stage recorder. Datum of gage is 551.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage about 14.1 ft, discharge about 11,500 ft^3/s. Flood of June 23, 1972 reached a stage of 16.17 ft from floodmarks, discharge 16,400 ft^3/s from rating curve extended above 10,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	1145	2,330	7.14	Mar. 29	0300	*3,070	*7.75
Dec. 10	2145	1,220	5.80	Apr. 2	1800	2,440	7.23
Jan. 6	1600	1,960	6.75	June 2	0945	1,130	5.66
Jan. 14	1030	1,460	6.14				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	401	164	1560	249	218	230	996	169	80	49	40	41
2	369	156	1270	233	206	214	1490	157	185	48	40	36
3	384	152	1010	243	200	201	1570	151	76	47	38	33
4	323	152	815	346	195	195	1210	146	80	46	38	32
5	297	169	680	394	190	191	969	140	77	51	37	31
6	275	155	588	1530	185	196	811	134	109	71	37	30
7	256	148	580	1270	184	266	703	132	134	58	36	30
8	242	142	529	1120	201	436	617	129	115	110	37	30
9	228	137	459	932	236	359	534	124	99	86	37	29
10	218	132	851	806	468	342	473	121	87	69	36	29
11	206	131	997	734	298	334	424	119	80	61	34	28
12	195	175	863	781	275	317	385	114	96	56	34	28
13	187	181	756	718	259	297	356	109	81	53	33	27
14	184	156	647	1170	263	273	328	109	77	51	32	27
15	192	150	556	1100	390	256	304	124	71	52	32	26
16	206	147	493	980	368	245	281	111	68	51	38	27
17	202	147	447	834	351	239	265	104	65	66	39	33
18	176	147	400	688	322	236	252	100	64	62	35	29
19	253	145	371	611	297	235	242	96	61	58	43	28
20	224	152	312	553	298	241	233	109	60	54	42	27
21	206	155	303	482	301	247	225	111	58	54	37	27
22	197	146	293	402	290	243	211	100	57	58	34	26
23	189	150	464	389	294	316	237	100	56	53	33	26
24	184	257	433	334	277	433	239	103	55	48	32	26
25	179	572	343	345	261	438	215	103	54	60	32	26
26	172	468	319	330	246	422	201	95	53	52	32	28
27	166	432	303	284	231	420	193	87	53	48	32	31
28	159	790	275	237	231	1130	177	89	51	45	32	28
29	155	689	277	239	---	2660	170	96	50	43	32	28
30	195	634	263	248	---	1760	170	88	49	42	32	28
31	179	---	254	232	---	1280	---	84	---	41	46	---
TOTAL	6999	7331	17711	18814	7535	14652	14481	3554	2301	1743	1112	875
MEAN	226	244	571	607	269	473	483	115	76.7	56.2	35.9	29.2
MAX	401	790	1560	1530	468	2660	1570	169	185	110	46	41
MIN	155	131	254	232	184	191	170	84	49	41	32	26
CFSM	1.38	1.49	3.48	3.70	1.64	2.88	2.94	0.70	0.47	0.34	0.22	0.18
IN.	1.59	1.66	4.02	4.27	1.71	3.32	3.28	0.81	0.52	0.40	0.25	0.20

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	84.9	154	209	221	249	444	446	325	195	87.7	74.2	82.2
MAX	285	678	719	607	849	680	782	616	516	182	256	720
(WY)	2004	1951	1951	2005	1984	1945	1970	1942	1946	1967	2004	2004
MIN	19.2	18.8	22.1	27.7	45.0	105	174	90.3	57.1	27.2	22.1	17.4
(WY)	1965	1965	1940	1940	1940	1969	1966	1941	1965	1965	1966	1965

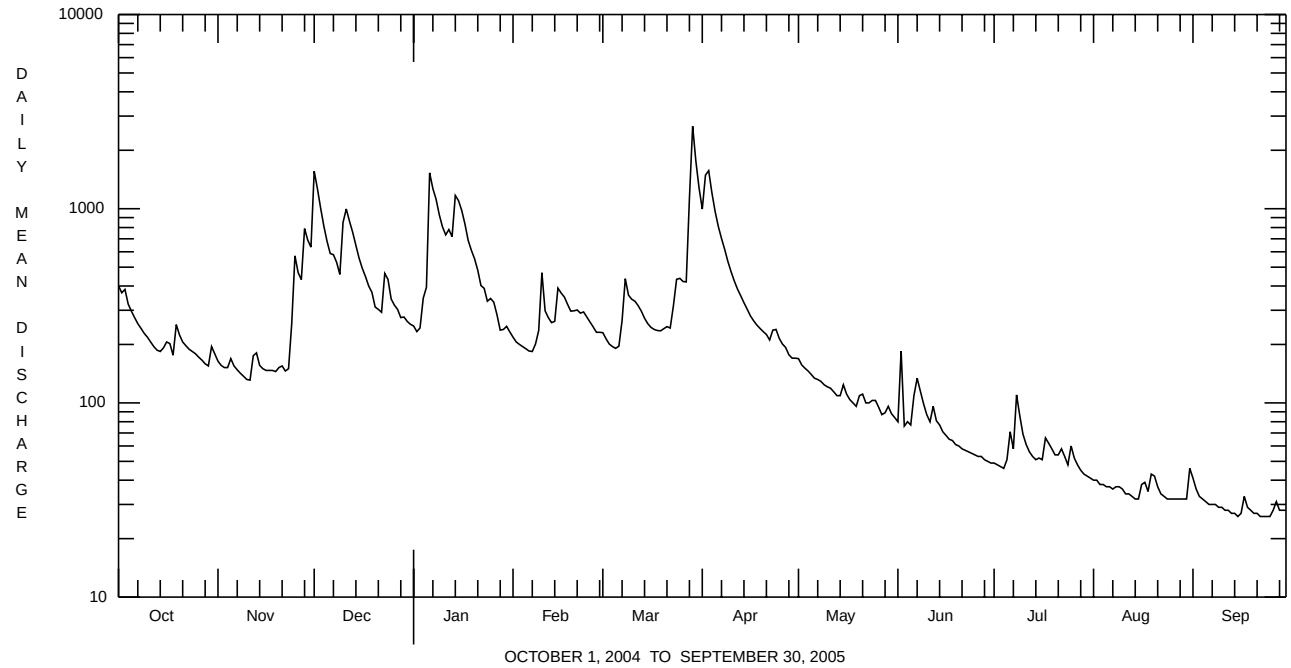
e Estimated.

JUNIATA RIVER BASIN

01565000 KISHACOQUILLAS CREEK AT REEDSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	131214		97108			
ANNUAL MEAN	359		266		214	
HIGHEST ANNUAL MEAN					389	2004
LOWEST ANNUAL MEAN					99.3	1965
HIGHEST DAILY MEAN	6150	Sep 18	2660	Mar 29	6150	Sep 18 2004
LOWEST DAILY MEAN	68	Jul 11	26	Sep 15**a**	14	Jan 9 1940**b**
ANNUAL SEVEN-DAY MINIMUM	76	Jul 1	27	Sep 19	14	Jan 6 1940
MAXIMUM PEAK FLOW			3070	Mar 29	**c**12400	Jan 19 1996
MAXIMUM PEAK STAGE			7.75	Mar 29	14.20	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.19		1.62		1.31	
ANNUAL RUNOFF (INCHES)	29.76		22.03		17.74	
10 PERCENT EXCEEDS	711		639		489	
50 PERCENT EXCEEDS	242		179		125	
90 PERCENT EXCEEDS	103		33		31	

a Also Sept. 22-25.
b Also Jan. 12, 1940, Sept. 2, 3, 1966.
c From rating curve extended above 4,400 ft^3/s on basis of slope-area measurement at gage height 13.12 ft.



JUNIATA RIVER BASIN

01566000 TUSCARORA CREEK NEAR PORT ROYAL, PA

LOCATION.--Lat 40°30'55", long 77°25'10", Juniata County, Hydrologic Unit 02050304, at single-span bridge on SR 3008, 2.0 mi southwest of Port Royal, and 3.5 mi upstream from mouth.

DRAINAGE AREA.--214 mi^2.

PERIOD OF RECORD.--October 2001 to current year. October 1910 to September 1958; October 1981 to September 1987, low-flow partial record; October 1987 to September 1990, crest-stage partial-record; October 1991 to September 1995, miscellaneous measurements; October 1995 to September 2001, crest-stage partial-record and miscellaneous measurements.

GAGE.--Water-stage recorder. Datum of gage is 420.47 ft above National Geodetic Vertical Datum of 1929.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1911, 20.5 ft, June 1, 1889 (backwater from Juniata River). Flood of June 23, 1972, reached a stage of 25.10 ft, discharge not determined.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 29	1115	*6,670	*13.27

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	459	173	1200	234	e190	225	944	197	70	33	32	42
2	351	147	1050	217	e180	214	1710	173	66	31	30	35
3	305	141	755	205	e170	176	2290	158	67	28	28	31
4	253	135	576	322	e160	164	1320	150	78	28	26	25
5	220	209	465	459	e155	175	908	139	77	29	25	23
6	193	180	385	2130	e155	188	717	132	73	73	25	22
7	174	157	397	1500	156	306	593	128	118	78	25	21
8	160	146	446	1380	172	538	509	126	95	197	26	21
9	149	130	340	1550	208	459	426	120	71	265	28	22
10	142	119	992	1000	444	388	369	114	68	98	28	22
11	133	114	1840	779	303	341	328	110	64	62	28	21
12	124	151	1080	1100	246	313	295	106	150	49	26	21
13	120	266	749	903	223	282	275	100	127	42	24	21
14	123	211	562	1440	208	247	255	98	96	40	23	21
15	139	183	437	1300	445	221	234	119	75	51	22	21
16	171	173	366	e700	426	204	217	120	62	68	24	25
17	153	163	335	e600	373	195	204	100	57	153	35	55
18	126	155	300	e430	303	188	195	92	54	178	37	28
19	158	148	277	e390	228	178	187	88	52	104	36	15
20	188	146	216	e340	242	173	181	96	50	66	35	14
21	166	167	196	e260	229	176	173	136	48	67	30	14
22	158	152	239	e210	250	162	165	105	47	283	27	15
23	146	142	433	e195	297	356	251	94	45	110	25	15
24	135	194	826	e210	247	1640	415	98	45	64	23	15
25	129	1070	434	e220	230	958	275	106	43	99	21	15
26	122	809	318	e200	217	670	236	96	41	102	21	15
27	114	526	304	e180	211	527	216	85	40	65	21	19
28	107	1170	251	e155	216	1410	195	79	38	48	33	20
29	103	1160	284	e175	---	5650	182	86	39	40	40	18
30	264	727	253	e210	---	2320	182	82	33	36	36	20
31	238	---	231	e205	---	1310	---	74	---	34	40	---
TOTAL	5523	9364	16537	19199	6884	20354	14447	3507	1989	2621	880	672
MEAN	178	312	533	619	246	657	482	113	66.3	84.5	28.4	22.4
MAX	459	1170	1840	2130	445	5650	2290	197	150	283	40	55
MIN	103	114	196	155	155	162	165	74	33	28	21	14
CFSM	0.83	1.46	2.49	2.89	1.15	3.07	2.25	0.53	0.31	0.40	0.13	0.10
IN.	0.96	1.63	2.87	3.34	1.20	3.54	2.51	0.61	0.35	0.46	0.15	0.12

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

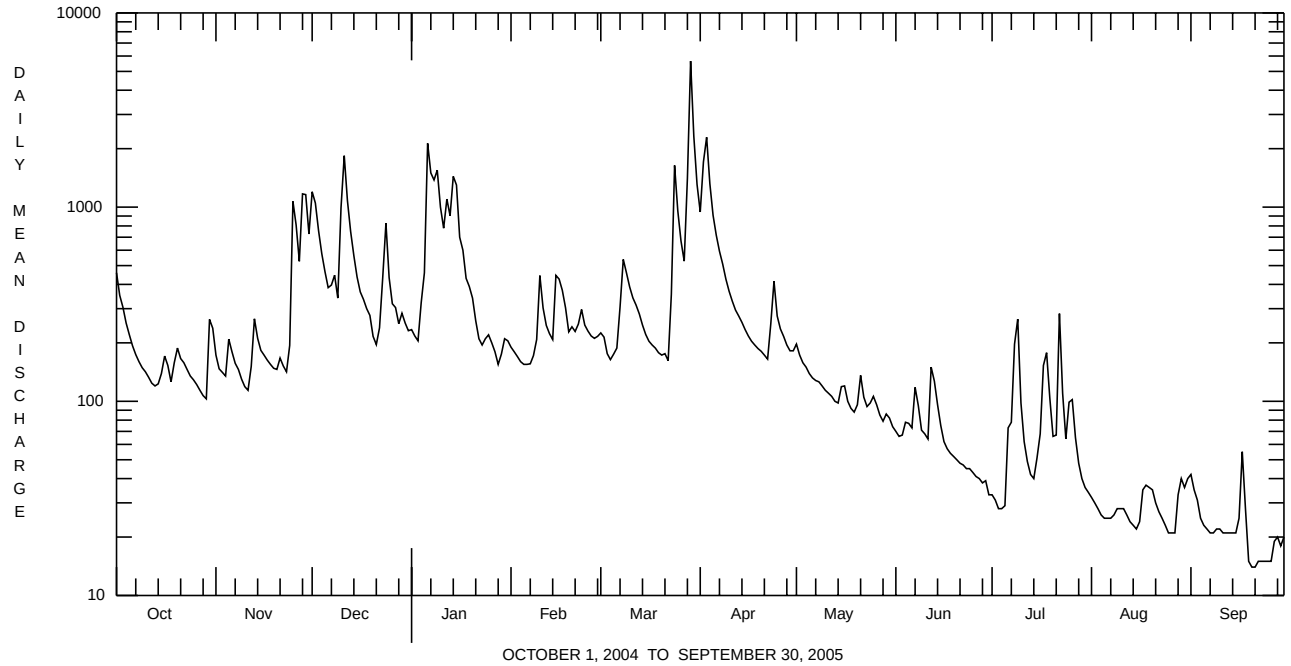
MEAN	129	217	258	299	350	584	499	370	173	103	82.4	100
MAX	832	934	829	746	1016	2347	1071	1052	1141	438	363	907
(WY)	1928	1951	1951	1915	1915	1936	1937	1919	1916	1928	1933	2004
MIN	7.51	10.1	10.8	21.1	44.3	135	107	64.4	46.3	26.0	8.15	6.53
(WY)	1931	1931	1931	1931	2002	1931	1925	1941	1957	2002	1930	1930

e Estimated.

01566000 TUSCARORA CREEK NEAR PORT ROYAL, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	151901		101977			
ANNUAL MEAN	415		279		263	
HIGHEST ANNUAL MEAN					473	2004
LOWEST ANNUAL MEAN					106	2002
HIGHEST DAILY MEAN	11300	Sep 18	5650	Mar 29	12000	Mar 18 1936
LOWEST DAILY MEAN	51	Sep 6	14	Sep 20,21	2.2	Sep 29 1930
ANNUAL SEVEN-DAY MINIMUM	55	Sep 2	15	Sep 19	**a**2.8	Sep 12 2002
MAXIMUM PEAK FLOW			6670	Mar 29	**bc**25000	Sep 7 1996
MAXIMUM PEAK STAGE			13.27	Mar 29	**d**21.60	Mar 19 1936
ANNUAL RUNOFF (CFSM)	1.94		1.31		1.23	
ANNUAL RUNOFF (INCHES)	26.41		17.73		16.68	
10 PERCENT EXCEEDS	917		682		600	
50 PERCENT EXCEEDS	240		158		119	
90 PERCENT EXCEEDS	100		25		24	

a Computed using estimated daily discharges.
b Gage height 21.27 ft.
c From rating curve extended above 7,000 ft^3/s.
d From floodmark, backwater from Juniata River, discharge 14,400 ft^3/s.



JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°28'42", long 77°07'46", Perry County, Hydrologic Unit 02050304, on right bank at downstream side of bridge on State Highway 34 at Newport, and 1,000 ft upstream from Little Buffalo Creek.

DRAINAGE AREA.--3,354 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1899 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1902(M). WSP 1302: 1915-17. WSP 1502: 1899-1908, 1914, 1924, 1936. WSP 1722: 1916.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 363.93 ft above National Geodetic Vertical Datum of 1929. Prior to July 16, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since October 1972 by Raystown Dam (station 01563100) about 75 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 35.9 ft, from floodmarks, discharge, about 209,000 ft^3/s, from rating curve extended above 100,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8000	3200	16300	3720	e3500	4750	21100	2830	1580	1050	1090	1140
2	5970	2820	20100	3660	e3200	4470	19900	2780	1520	1010	1070	930
3	5700	2650	15300	3580	e2900	4210	26000	2670	1500	977	1000	1190
4	5590	2640	12000	4190	e2600	3930	18000	2500	1530	958	791	1010
5	4670	2890	9760	5900	2710	3750	13400	2380	1500	966	945	930
6	4430	2960	8340	15500	2780	3560	12700	2300	1660	e1170	745	733
7	4040	3020	7260	31900	2810	4020	11900	2210	2200	e1190	977	900
8	3370	2760	7310	26400	e3000	6060	10100	2160	3530	e1400	853	908
9	3210	2620	7450	24600	e4280	8700	8180	2110	2450	e1550	720	799
10	3080	2420	9290	19600	e8970	7690	6920	2070	1960	e1700	935	846
11	2950	2330	17400	14300	e10600	6470	6350	2010	1810	e1500	983	717
12	2830	2490	17500	14300	e8300	6090	5690	1950	1980	e1200	1010	785
13	2690	3070	14800	19100	e7300	5770	5040	1890	2670	e975	1000	656
14	2580	3880	12100	21700	e6200	5380	4770	1870	2360	e950	967	875
15	2590	3380	8960	20600	e6880	5020	4420	2060	1990	1030	769	908
16	2820	3260	7950	16300	e8290	4560	3950	2010	1790	1300	711	720
17	2830	3200	6900	13300	8250	3950	3750	1970	1490	e1500	1090	934
18	2740	3300	5940	10400	7890	3840	3590	1670	1370	e1650	1050	910
19	2890	3270	5550	8840	6500	3770	3480	1530	1320	e1550	1030	898
20	3380	3270	5120	8000	5470	3730	3350	1540	1290	e1450	1040	710
21	3760	3340	4660	6910	5370	3740	3020	1670	1260	e1400	1050	902
22	3310	3480	4390	e6000	5330	3700	2900	1910	1190	e1500	810	738
23	3140	3410	5280	e5450	5740	3870	3290	1910	1110	e1580	700	726
24	3020	4050	7490	e5200	6200	8640	4540	1900	1090	e1400	952	700
25	2910	8320	6940	e5100	6170	15300	4390	2020	1070	e1350	905	767
26	2830	12900	5430	e4800	5510	12500	3800	2040	1040	1470	694	697
27	2540	11700	e4600	e4400	5140	11300	3530	1940	1020	1400	734	589
28	2420	10900	e3700	e4000	4710	13100	3320	1800	1010	1490	977	826
29	2330	15900	3770	e3800	---	42400	3170	1790	1010	1210	824	749
30	2660	14400	3670	e3700	---	43700	3080	1700	1160	1140	748	792
31	3300	---	3720	e3600	---	30300	---	1720	---	1120	1100	---
TOTAL	108580	147830	268980	338850	156600	288270	227630	62910	48460	40136	28270	24985
MEAN	3503	4928	8677	10930	5593	9299	7588	2029	1615	1295	912	833
MAX	8000	15900	20100	31900	10600	43700	26000	2830	3530	1700	1100	1190
MIN	2330	2330	3670	3580	2600	3560	2900	1530	1010	950	694	589

e Estimated.

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2659	3746	5210	5032	5976	8812	8290	5534	3501	2146	1580	2409
MAX	11610	10850	13770	15810	15070	23500	25780	13940	10640	12080	3916	15960
(WY)	1977	1998	1973	1996	1984	1994	1993	1978	2003	1989	2003	2004
MIN	657	789	1045	495	1498	2576	2898	2029	1084	864	674	586
(WY)	2002	2002	1999	1981	2002	1990	1995	2005	1991	1988	2002	1986

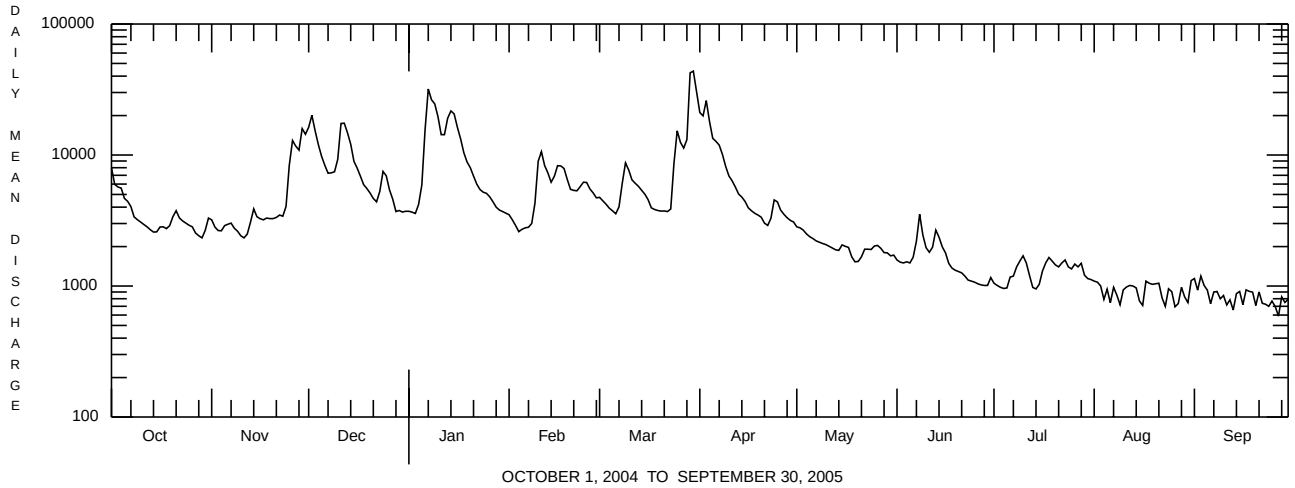
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005	
ANNUAL TOTAL	2502100		1741501			
ANNUAL MEAN	6836		4771		4565	
HIGHEST ANNUAL MEAN					7470	2004
LOWEST ANNUAL MEAN					2241	2002
HIGHEST DAILY MEAN	85100	Sep 19	43700	Mar 30	92300	Jan 20 1996
LOWEST DAILY MEAN	1420	Jul 4	589	Sep 27	450	Jan 13 1981
ANNUAL SEVEN-DAY MINIMUM	1530	Jun 30	720	Sep 22	461	Jan 9 1981
MAXIMUM PEAK FLOW			50100	Mar 29	**a**103000	Jan 20 1996
MAXIMUM PEAK STAGE			16.86	Mar 29	24.69	Jan 20 1996
10 PERCENT EXCEEDS	15300		11800		10300	
50 PERCENT EXCEEDS	4060		2960		2710	
90 PERCENT EXCEEDS	2100		909		845	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1820	2658	3649	4621	5570	9856	8097	5797	3612	2072	1563	1419
MAX	8108	10880	11310	13300	16160	33600	17160	14870	25050	7865	4605	6890
(WY)	1928	1951	1902	1937	1915	1936	1940	1908	1972	1972	1905	1911
MIN	351	418	471	841	943	2340	2026	1319	890	455	327	370
(WY)	1964	1931	1931	1931	1934	1931	1915	1941	1965	1966	1966	1964

SUMMARY STATISTICS	WATER YEARS 1899 - 1972	
ANNUAL MEAN	4228	
HIGHEST ANNUAL MEAN	7403	1972
LOWEST ANNUAL MEAN	2166	1969
HIGHEST DAILY MEAN	172000	Mar 19 1936
LOWEST DAILY MEAN	207	Jul 27 1966
ANNUAL SEVEN-DAY MINIMUM	269	Aug 3 1966
MAXIMUM PEAK FLOW	**a**190000	Mar 19 1936
MAXIMUM PEAK STAGE	**b**34.24	Mar 19 1936
INSTANTANEOUS LOW FLOW	195	Jul 27 1966
ANNUAL RUNOFF (CFSM)	1.26	
ANNUAL RUNOFF (INCHES)	17.13	
10 PERCENT EXCEEDS	9360	
50 PERCENT EXCEEDS	2300	
90 PERCENT EXCEEDS	680	

a From rating curve extended above 100,000 ft^3/s, on basis of slope-area measurement of peak flow.
b From floodmark in gage.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

01567000 JUNIATA RIVER AT NEWPORT, 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 348-412. Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	10/18/04
Benthic macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	2
Hydrobiidae	
Amnicola	11
Pleuroceridae	
Leptoxis carinata	7
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	7
Sphaeriidae	
Pisidium	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Tubificida	
Tubificidae	2
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	1
Insecta	
Ephemeroptera (MAYFLIES)	
Ephemerellidae	
Serratella	1
Heptageniidae	
Leucrocuta	16
Stenonema	10
Isonychiidae	
Isonychia	14
Leptophlebiidae	
Paraleptophlebia	1
Potamanthidae	
Anthopotamus	30
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
Argia	1
Plecoptera (STONEFLIES)	
Perlidae	
Agnetina	2
Taeniopterygidae	
Taeniopteryx	2

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/18/04
Benthic macroinvertebrate	Count
Megaloptera	
Sialidae (ALDERFLIES)	
Sialis	2
Trichoptera (CADDISFLIES)	1
Hydropsychidae	
Cheumatopsyche	9
Hydropsyche	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	19
Stenelmis	17
Psephenidae (WATER PENNIES)	
Psephenus	5
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	3
Total Organisms	169
Total Taxa	25

SHERMAN CREEK BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA

LOCATION.--Lat 40°22'15", long 77°24'09", Perry County, Hydrologic Unit 02050305, on right bank 400 ft upstream from bridge on State Highway 850 at Bixler, 2.3 mi upstream from mouth, and 3.6 mi west of Loysville.

DRAINAGE AREA.--15.0 mi^2.

REVISED RECORDS.--WDR PA-90-2: 1989 (M). WDR PA-01-2: 1957, 1972, 1977-79, 1981, 1984, 1989, 1991, 1994, 1995 (P).

PERIOD OF RECORD.--February 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 601.22 ft above National Geodetic Vertical Datum of 1929. Prior to May 14, 1954, nonrecording gage and crest-stage gage 400 ft downstream at same datum.

REMARKS.--Records 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 250 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 23	1445	*674	*6.92	Apr. 2	1530	471	6.43
Mar. 29	0500	521	6.58				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	18	130	27	14	16	60	16	7.7	6.4	2.0	3.0
2	30	17	87	23	13	14	205	14	7.5	5.7	2.2	2.8
3	25	17	72	29	13	13	140	14	9.6	5.3	2.3	2.9
4	22	27	60	36	13	12	86	13	9.7	5.4	2.7	3.3
5	19	29	52	72	14	13	64	12	8.1	10	4.3	3.6
6	17	20	47	156	14	18	54	12	10	15	5.4	3.7
7	16	19	57	88	14	28	47	12	10	18	5.1	3.8
8	14	16	47	138	17	45	41	12	7.8	61	5.9	4.0
9	14	14	52	92	21	31	36	11	9.0	20	6.4	4.1
10	13	13	145	72	26	27	33	11	10	13	5.8	4.0
11	12	13	122	70	17	24	29	11	7.8	9.9	5.3	3.8
12	12	39	82	77	16	22	27	10	7.5	8.4	5.0	4.0
13	12	29	66	63	15	19	25	10	6.9	7.8	3.8	4.9
14	13	21	53	131	20	16	24	12	6.7	11	2.6	5.2
15	17	21	44	81	35	15	21	14	6.3	12	2.2	5.6
16	16	20	39	66	27	14	20	11	6.2	13	4.2	6.0
17	14	18	37	56	24	13	20	11	6.1	28	3.1	6.3
18	11	18	33	44	19	12	19	10	6.0	17	2.4	4.8
19	25	16	31	e38	17	11	18	10	5.8	13	3.3	4.3
20	18	20	25	e35	16	11	17	14	6.1	14	3.1	4.8
21	15	18	24	e30	18	10	16	12	6.4	21	2.6	5.8
22	15	15	24	e27	20	7.2	17	10	6.4	10	2.5	6.0
23	13	15	159	e25	21	40	28	11	6.2	5.9	2.5	6.3
24	12	84	83	e25	17	29	23	11	6.2	4.8	2.5	5.6
25	12	129	56	e23	16	18	19	11	6.1	11	2.6	4.2
26	11	81	45	e20	15	14	17	9.8	6.0	1.7	2.8	4.4
27	10	61	38	e17	15	14	16	8.9	6.0	1.2	2.6	4.6
28	9.2	103	32	e17	15	129	15	9.3	5.9	1.3	3.8	4.2
29	9.2	68	32	e16	---	283	15	9.0	8.2	1.3	2.7	5.2
30	46	60	29	17	---	118	16	8.5	15	1.7	2.6	6.0
31	23	---	28	15	---	77	---	8.2	---	1.9	4.7	---
TOTAL	530.4	1039	1831	1626	502	1113.2	1168	348.7	227.2	355.7	109.0	137.2
MEAN	17.1	34.6	59.1	52.5	17.9	35.9	38.9	11.2	7.57	11.5	3.52	4.57
MAX	46	129	159	156	35	283	205	16	15	61	6.4	6.3
MIN	9.2	13	24	15	13	7.2	15	8.2	5.8	1.2	2.0	2.8
CFSM	1.14	2.31	3.94	3.50	1.20	2.39	2.60	0.75	0.50	0.76	0.23	0.30
IN.	1.32	2.58	4.54	4.03	1.24	2.76	2.90	0.86	0.56	0.88	0.27	0.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2005, BY WATER YEAR (WY)

MEAN	11.1	15.9	20.5	19.9	27.2	39.3	33.3	23.3	17.5	11.7	7.09	9.44
MAX	48.6	61.9	66.8	80.9	91.0	135	122	81.2	172	112	32.3	72.2
(WY)	1977	1957	1997	1996	1984	1994	1993	1978	1972	1989	1955	2004
MIN	2.07	2.96	2.70	3.51	3.96	9.77	9.59	6.79	4.12	2.62	2.28	2.38
(WY)	1964	1966	1966	1981	2002	1990	2002	1969	1965	1966	1966	1963

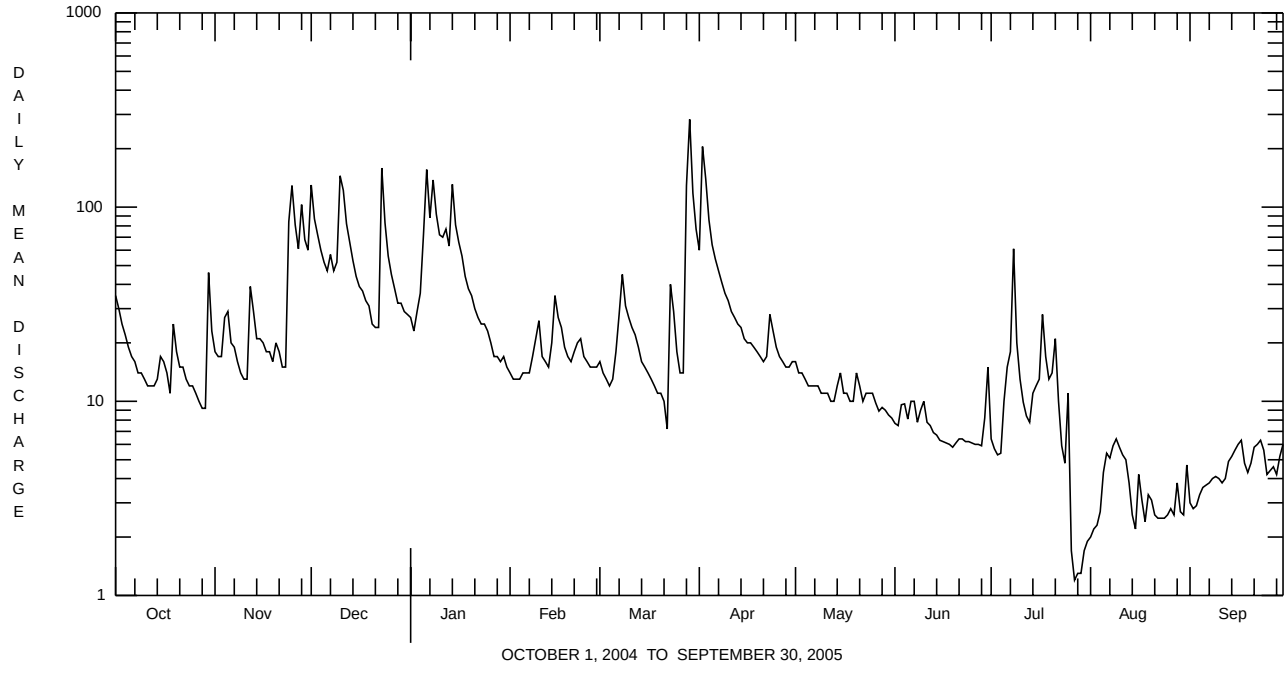
e Estimated.

SHERMAN CREEK BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1954 - 2005	
ANNUAL TOTAL	12695.1		8987.4			
ANNUAL MEAN	34.7		24.6		19.7	
HIGHEST ANNUAL MEAN					42.6	1972
LOWEST ANNUAL MEAN					6.67	2002
HIGHEST DAILY MEAN	1140	Sep 18	283	Mar 29	2120	Jun 22 1972
LOWEST DAILY MEAN	5.3	Sep 16	1.2	Jul 27	1.2	Jul 27 2005
ANNUAL SEVEN-DAY MINIMUM	6.9	Sep 10	1.6	Jul 26	1.6	Jul 26 2005
MAXIMUM PEAK FLOW			674	Dec 23	**a**7100	Jun 20 1989
MAXIMUM PEAK STAGE			6.92	Dec 23	**b**12.90	Jun 20 1989
ANNUAL RUNOFF (CFSM)	2.31		1.64		1.32	
ANNUAL RUNOFF (INCHES)	31.48		22.29		17.88	
10 PERCENT EXCEEDS	63		60		40	
50 PERCENT EXCEEDS	23		14		9.9	
90 PERCENT EXCEEDS	10		4.0		3.6	

a From rating curve extended above 2,700 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow.
b From outside floodmark; 12.19 ft in gage well.



SHERMAN CREEK BASIN

01568000 SHERMAN CREEK AT SHERMANS DALE, PA

LOCATION.--Lat 40°19'24", long 77°10'09", Perry County, Hydrologic Unit 02050305, on left bank on downstream side of bridge on State Highway 34 at Shermans Dale, and 1.2 mi upstream from Fishing Run.

DRAINAGE AREA.--207 mi^2.

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1962, published as "*at Shermandale*".

REVISED RECORDS.--WSP 1302: 1930(M). WSP 1502: 1933, 1934(M), 1935-36. WDR PA-97-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 422.63 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 29, 1930, 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 and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1927, reached a stage of 20.34 ft, from floodmark, discharge, about 44,000 ft^3/s.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 29	1015	*7,200	*9.68	Apr. 2	1815	6,730	9.36

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	602	246	1350	310	e190	292	1000	218	83	64	50	59
2	485	215	1060	283	e180	267	3200	190	80	55	48	50
3	423	201	822	267	e200	225	3000	176	88	50	45	39
4	362	210	678	382	e195	212	1460	166	114	47	43	34
5	318	276	587	574	e200	219	1030	157	98	57	42	32
6	285	222	509	1600	198	224	833	153	86	185	42	31
7	263	198	544	1100	197	381	707	150	104	93	42	30
8	243	184	594	1410	211	e690	622	147	87	515	42	29
9	231	168	484	1310	251	e525	527	139	76	260	44	28
10	218	157	1200	954	428	e420	465	133	141	121	44	27
11	203	154	1600	787	296	389	417	130	98	89	41	26
12	196	223	1010	995	248	358	375	124	86	74	39	25
13	190	370	793	828	233	316	348	115	79	66	38	24
14	211	268	653	1520	248	278	319	127	73	65	49	24
15	244	238	554	1160	605	249	292	182	70	103	40	24
16	237	228	491	e900	e485	233	268	138	68	90	45	23
17	206	217	459	e675	e400	225	253	117	65	180	66	23
18	177	206	e400	e500	e330	217	243	110	64	158	54	23
19	225	197	e320	e510	e270	207	231	105	62	101	46	24
20	243	195	e225	e485	299	209	223	126	61	85	45	23
21	235	211	e250	e390	299	217	212	166	60	73	44	22
22	236	192	e300	e330	310	196	204	124	59	97	40	21
23	218	180	691	e325	366	630	301	111	59	87	37	21
24	202	581	1250	e350	318	1540	370	114	57	68	35	21
25	192	1690	e575	e365	299	829	261	119	55	106	33	20
26	179	978	e460	e350	271	636	228	114	53	108	32	21
27	166	685	e350	e255	263	551	219	100	50	75	32	23
28	158	1180	e300	e200	270	2420	203	94	49	63	38	23
29	153	922	377	e195	---	5840	194	98	51	58	40	25
30	509	717	334	e205	---	2200	205	93	94	55	40	27
31	334	---	313	e200	---	1330	---	87	---	53	67	---
TOTAL	8144	11709	19533	19715	8060	22525	18210	4123	2270	3301	1343	822
MEAN	263	390	630	636	288	727	607	133	75.7	106	43.3	27.4
MAX	602	1690	1600	1600	605	5840	3200	218	141	515	67	59
MIN	153	154	225	195	180	196	194	87	49	47	32	20
CFSM	1.27	1.89	3.04	3.07	1.39	3.51	2.93	0.64	0.37	0.51	0.21	0.13
IN.	1.46	2.10	3.51	3.54	1.45	4.05	3.27	0.74	0.41	0.59	0.24	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

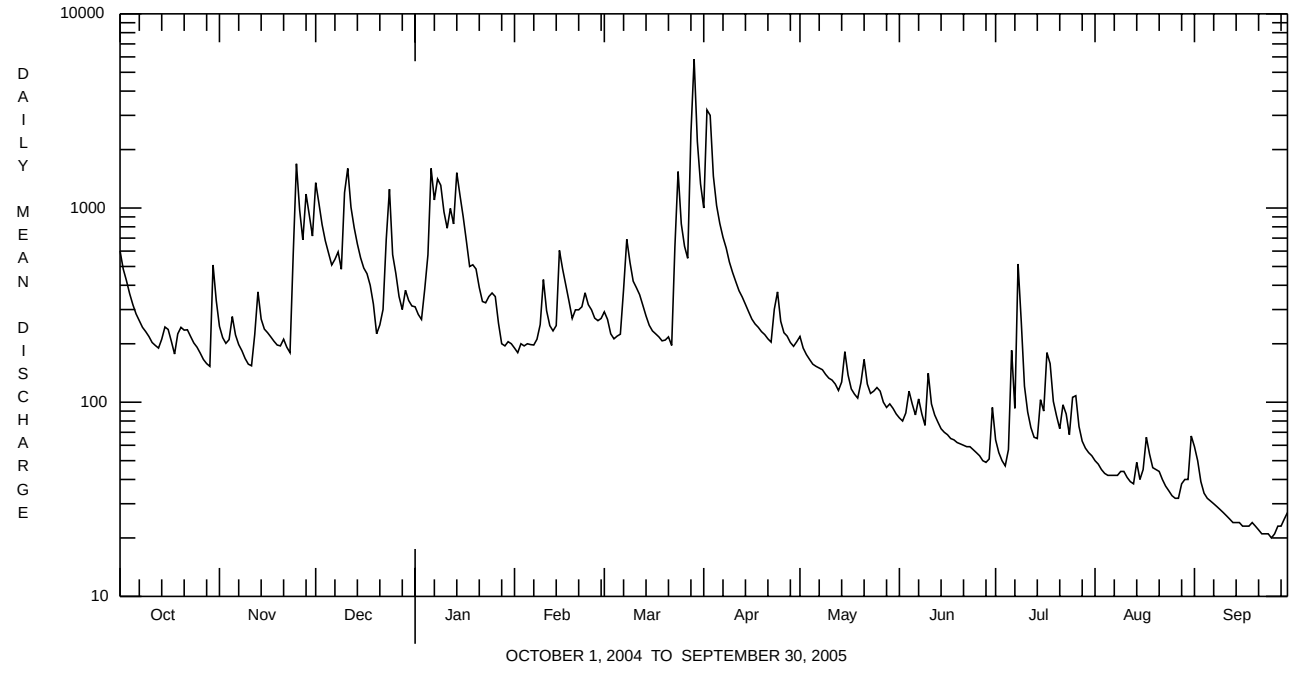
MEAN	149	251	321	324	396	611	547	391	213	118	100	113
MAX	905	924	968	1144	1253	1941	1675	1196	1969	1187	777	963
(WY)	1977	1971	1997	1996	1984	1936	1993	1978	1972	1989	1933	2004
MIN	18.5	22.1	22.7	22.0	54.2	133	161	88.8	48.4	18.9	14.4	18.6
(WY)	1964	1931	1931	1981	1931	1931	1997	1941	1965	1966	2002	1930

e Estimated.

01568000 SHERMAN CREEK AT SHERMANS DALE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	168610		119755			
ANNUAL MEAN	461		328		294	
HIGHEST ANNUAL MEAN					544	1972
LOWEST ANNUAL MEAN					114	2002
HIGHEST DAILY MEAN	12900	Sep 18	5840	Mar 29	18300	Jun 23 1972
LOWEST DAILY MEAN	88	Jul 11	20	Sep 25	9.9	Aug 15 2002
ANNUAL SEVEN-DAY MINIMUM	95	Sep 2	21	Sep 20	10	Aug 14 2002
MAXIMUM PEAK FLOW			7200	Mar 29	**a**27500	Jun 23 1972
MAXIMUM PEAK STAGE			9.68	Mar 29	18.09	Jun 23 1972
INSTANTANEOUS LOW FLOW			20	Sep 24	3.9	Dec 1 1930
ANNUAL RUNOFF (CFSM)	2.23		1.59		1.42	
ANNUAL RUNOFF (INCHES)	30.30		21.52		19.30	
10 PERCENT EXCEEDS	925		711		657	
50 PERCENT EXCEEDS	300		203		145	
90 PERCENT EXCEEDS	133		40		31	

a From rating curve extended above 18,000 ft^3/s.



CONODOGUINET CREEK BASIN

01569460 BIG SPRING CREEK AT BIG SPRING, PA

LOCATION.--Lat 40°07'46", long 77°24'27", Cumberland County, Hydrologic Unit 02050305, on left bank, 100 ft upstream from bridge on SR 3007, at Big Spring.

DRAINAGE AREA.--3.41 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 2004 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 510 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	39	37	39	37	43	39	35	32	32	26
2	---	---	39	37	39	37	48	39	35	32	31	26
3	---	---	40	37	39	36	51	39	35	32	31	26
4	---	---	40	37	39	36	49	38	34	31	31	26
5	---	---	39	38	39	36	48	38	34	32	31	26
6	---	39	39	38	39	36	47	38	35	32	31	26
7	---	38	39	39	38	36	46	38	35	32	30	27
8	---	38	39	40	38	37	46	38	35	33	30	27
9	---	39	38	40	38	37	46	38	34	32	30	27
10	---	39	39	41	38	37	45	38	34	32	30	27
11	---	39	41	41	38	37	44	38	34	31	30	27
12	---	39	41	40	38	37	44	38	34	32	30	27
13	---	38	41	40	38	37	43	38	34	32	30	28
14	---	38	40	42	38	37	43	38	34	32	30	28
15	---	38	40	43	38	36	43	38	34	32	30	28
16	---	38	39	43	38	36	43	37	34	31	29	27
17	---	39	39	43	37	36	43	37	34	31	29	27
18	---	39	39	43	37	36	43	37	34	31	29	27
19	---	39	39	42	37	36	42	37	33	31	28	28
20	---	39	39	42	37	36	42	37	33	31	28	27
21	---	39	39	41	37	35	42	37	33	31	28	27
22	---	38	38	41	37	35	41	37	33	31	28	27
23	---	38	39	40	37	36	41	37	33	e31	28	27
24	---	38	38	40	37	37	41	36	33	31	28	27
25	---	39	38	40	37	37	40	35	33	31	27	27
26	---	39	38	40	36	36	40	36	33	31	26	27
27	---	38	38	40	36	36	40	36	33	32	26	27
28	---	39	38	39	36	39	39	36	33	32	26	27
29	---	38	38	39	---	47	39	36	33	32	26	27
30	---	39	37	40	---	46	39	36	33	32	26	27
31	---	---	38	39	---	44	---	36	---	32	27	---
TOTAL	---	964	1208	1242	1055	1157	1301	1156	1014	980	896	808
MEAN	---	38.6	39.0	40.1	37.7	37.3	43.4	37.3	33.8	31.6	28.9	26.9
MAX	---	39	41	43	39	47	51	39	35	33	32	28
MIN	---	38	37	37	36	35	39	35	33	31	26	26
CFSM	---	11.3	11.4	11.7	11.0	10.9	12.7	10.9	9.91	9.27	8.48	7.90
IN.	---	10.52	13.18	13.55	11.51	12.62	14.19	12.61	11.06	10.69	9.77	8.81

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	---	---	39.0	40.1	37.7	37.3	43.4	37.3	33.8	31.6	28.9	26.9
MAX	---	---	39.0	40.1	37.7	37.3	43.4	37.3	33.8	31.6	28.9	26.9
(WY)	---	---	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005
MIN	---	---	39.0	40.1	37.7	37.3	43.4	37.3	33.8	31.6	28.9	26.9
(WY)	---	---	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

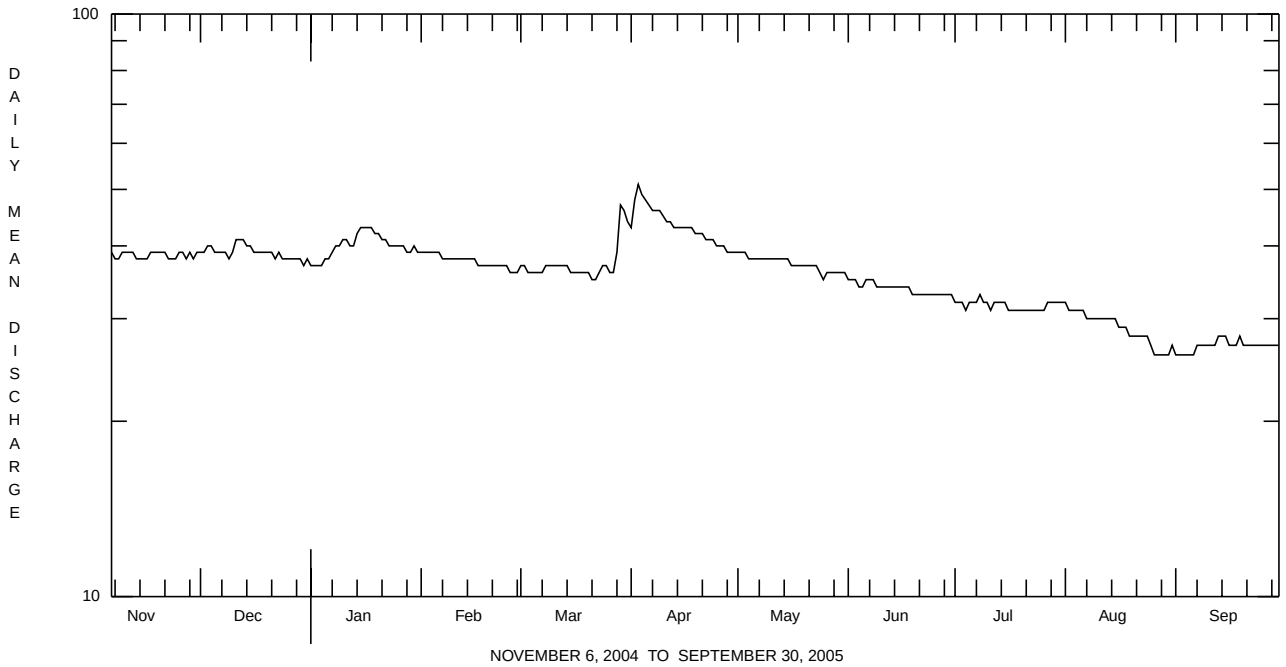
e Estimated.

CONODOGUINET CREEK BASIN

01569460 BIG SPRING CREEK AT BIG SPRING, PA--Continued

SUMMARY STATISTICS	FOR PERIOD OF DAILY RECORD	
HIGHEST DAILY MEAN	51	Apr 3
LOWEST DAILY MEAN	26	Aug 26-30**a**
ANNUAL SEVEN-DAY MINIMUM	26	Aug 26
MAXIMUM PEAK FLOW	53	Apr 2
MAXIMUM PEAK STAGE	1.40	Apr 2
INSTANTANEOUS LOW FLOW	25	Sep 8

a Also Sept. 1-6.



CONODOGUINET CREEK BASIN

01569460 BIG SPRING CREEK AT BIG SPRING, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 2004 to current year.

PERIOD OF DAILY RECORD.--
TURBIDITY: November 2004 to current year.

INSTRUMENTATION.--Water-quality monitor since November 2004.

REMARKS.--Turbidity record rated poor. Record is affected by excessive suspended algae in the water, which at times does not reflect the true turbidity. All field observations note turbidity of 2 FNU or less. Interruptions in the record were due to malfunctions of the equipment.

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 nm, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	---	---	---	---	---	---	5.3	0.2	0.8	1.8	0.1	0.5
2	---	---	---	---	---	---	3.1	0.3	0.8	9.9	0.0	0.5
3	---	---	---	---	---	---	4.6	0.1	0.7	1.1	0.1	0.4
4	---	---	---	---	---	---	8.4	0.2	1.0	5.0	0.1	0.5
5	---	---	---	---	---	---	7.7	0.2	1.1	1.4	0.1	0.4
6	---	---	---	---	---	---	---	---	---	4.4	0.0	0.5
7	---	---	---	---	---	---	---	---	---	2.4	0.1	0.4
8	---	---	---	---	---	---	---	---	1.0	7.3	0.1	0.7
9	---	---	---	---	---	---	1.6	0.2	0.6	2.3	0.1	0.4
10	---	---	---	---	---	---	2.8	0.3	0.8	8.9	0.0	0.7
11	---	---	---	---	---	---	1.4	0.2	0.5	5.5	0.0	0.4
12	---	---	---	---	---	---	6.9	0.2	0.7	0.8	0.1	0.3
13	---	---	---	---	---	---	2.0	0.2	0.6	4.0	0.0	0.4
14	---	---	---	---	---	---	1.0	0.2	0.4	6.5	0.2	0.7
15	---	---	---	---	---	---	6.7	0.1	0.5	4.0	0.1	0.5
16	---	---	---	---	---	---	0.7	0.1	0.4	2.9	0.1	0.4
17	---	---	---	---	---	---	0.9	0.1	0.3	2.0	0.1	0.4
18	---	---	---	---	---	---	0.9	0.0	0.3	2.1	0.0	0.3
19	---	---	---	---	---	---	0.9	0.0	0.3	3.4	0.0	0.5
20	---	---	---	---	---	---	0.8	0.0	0.2	2.8	0.0	0.4
21	---	---	---	---	---	---	0.9	0.1	0.3	1.5	0.0	0.2
22	---	---	---	---	---	---	0.9	0.1	0.4	0.9	0.0	0.2
23	---	---	---	5.3	0.3	0.9	1.4	0.0	0.4	1.5	0.0	0.3
24	---	---	---	4.7	0.3	0.9	0.7	0.0	0.2	2.3	0.1	0.4
25	---	---	---	1.1	0.2	0.6	2.9	0.1	0.4	7.3	0.0	0.5
26	---	---	---	1.4	0.2	0.5	---	---	0.4	7.3	0.0	1.2
27	---	---	---	0.9	0.0	0.4	---	---	---	6.0	0.0	0.5
28	---	---	---	2.1	0.1	0.4	5.2	0.1	0.6	9.4	0.0	0.8
29	---	---	---	2.4	0.1	0.4	7.6	0.0	0.7	1.3	0.0	0.3
30	---	---	---	2.6	0.0	0.4	1.1	0.0	0.2	1.9	0.0	0.2
31	---	---	---	---	---	---	2.9	0.0	0.6	0.7	0.0	0.1
MONTH	---	---	---	5.3	0.0	0.6	8.4	0.0	0.5	9.9	0.0	0.5

CONODOGUINET CREEK BASIN

01569460 BIG SPRING CREEK AT BIG SPRING, PA--Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 nm, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	3.3	0.0	0.4	8.7	0.0	0.5	4.8	0.0	0.3	4.9	0.0	0.3
2	2.0	0.0	0.3	7.4	0.1	1.0	46	0.0	6.7	8.4	0.0	0.5
3	0.8	0.0	0.1	---	---	---	2.2	0.0	0.2	9.4	0.0	0.6
4	3.6	0.0	0.1	---	---	---	1.4	0.0	0.1	8.2	0.0	0.5
5	0.7	0.0	0.1	---	---	---	1.1	0.0	0.1	0.4	0.0	0.0
6	1.0	0.0	0.1	---	---	---	7.4	0.0	0.6	0.1	0.0	0.0
7	1.2	0.0	0.1	---	---	---	5.2	0.0	0.3	0.7	0.0	0.1
8	0.3	0.0	0.1	---	---	---	3.0	0.0	0.2	8.3	0.0	0.4
9	0.4	0.0	0.1	---	---	---	4.9	0.0	0.4	8.3	0.0	0.2
10	1.6	0.0	0.2	5.5	0.0	0.3	3.6	0.0	0.2	4.9	0.0	0.2
11	1.2	0.0	0.1	8.7	0.0	0.4	6.5	0.0	0.3	4.4	0.0	0.2
12	0.7	0.0	0.1	0.8	0.0	0.1	6.4	0.0	0.3	7.6	0.0	0.3
13	3.7	0.0	0.2	0.9	0.0	0.1	0.4	0.0	0.1	0.4	0.0	0.1
14	1.3	0.0	0.2	6.0	0.0	0.3	3.3	0.0	0.2	3.6	0.0	0.1
15	0.7	0.0	0.1	8.7	0.0	0.3	0.4	0.0	0.1	0.7	0.0	0.0
16	1.0	0.0	0.2	4.2	0.0	0.2	5.1	0.0	0.4	0.0	0.0	0.0
17	0.5	0.0	0.1	7.6	0.0	0.7	1.7	0.0	0.2	1.7	0.0	0.1
18	1.2	0.0	0.1	9.6	0.0	0.5	---	---	---	0.6	0.0	0.0
19	0.6	0.0	0.1	3.9	0.0	0.3	---	---	0.6	0.0	0.0	0.0
20	4.8	0.0	0.4	8.2	0.0	0.3	8.7	0.0	0.9	0.0	0.0	0.0
21	0.8	0.0	0.1	8.2	0.0	0.2	7.9	0.0	1.4	0.0	0.0	0.0
22	4.0	0.0	0.2	9.5	0.0	0.5	8.9	0.0	1.1	0.0	0.0	0.0
23	1.5	0.0	0.1	9.5	0.0	0.9	6.5	0.0	0.5	0.0	0.0	0.0
24	4.5	0.0	0.4	1.3	0.0	0.2	7.8	0.0	0.7	0.0	0.0	0.0
25	1.9	0.0	0.3	1.3	0.0	0.1	6.3	0.0	0.6	0.0	0.0	0.0
26	3.9	0.0	0.5	4.2	0.0	0.2	8.5	0.0	0.3	0.0	0.0	0.0
27	7.3	0.0	0.6	4.2	0.0	0.1	7.4	0.0	0.8	0.0	0.0	0.0
28	5.4	0.0	0.5	4.1	0.0	0.3	4.2	0.0	0.5	0.0	0.0	0.0
29	---	---	---	2.1	0.0	0.2	4.9	0.0	0.4	0.0	0.0	0.0
30	---	---	---	8.6	0.0	0.6	6.9	0.0	0.7	0.0	0.0	0.0
31	---	---	---	5.2	0.0	0.4	---	---	---	9.9	0.0	0.4
MONTH	7.3	0.0	0.2	9.6	0.0	0.4	46	0.0	0.7	9.9	0.0	0.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	---	---	---	10	0.0	2.0	8.2	0.0	0.5	3.0	0.2	0.5
2	8.8	0.0	1.4	6.9	0.0	0.5	2.4	0.0	0.5	9.6	0.2	0.8
3	---	---	0.2	3.5	0.0	0.3	---	---	0.7	1.1	0.1	0.5
4	0.0	0.0	0.0	6.1	0.0	0.2	3.4	0.0	0.4	9.6	0.2	0.7
5	0.0	0.0	0.0	6.7	0.0	0.2	1.9	0.0	0.3	10	0.1	0.7
6	44	0.0	2.4	3.7	0.0	0.2	6.8	0.0	0.7	3.8	0.1	0.5
7	5.6	0.0	0.3	46	0.0	1.4	9.1	0.0	0.7	3.8	0.1	0.7
8	2.7	0.0	0.2	13	0.0	0.5	5.6	0.0	1.0	4.1	0.2	0.8
9	2.4	0.0	0.1	5.7	0.0	0.2	5.0	0.0	0.7	4.5	0.3	1.0
10	7.1	0.0	0.3	1.4	0.0	0.1	9.6	0.1	1.8	7.8	0.3	1.0
11	9.6	0.0	0.5	6.2	0.0	0.2	6.7	0.0	1.1	3.8	0.3	0.9
12	7.8	0.0	0.5	5.4	0.0	0.2	1.3	0.2	0.6	9.5	0.3	1.1
13	7.9	0.0	0.7	5.6	0.0	0.3	1.6	0.3	0.6	1.6	0.3	0.6
14	8.3	0.0	0.3	19	0.0	0.6	8.0	0.0	0.6	3.3	0.3	0.8
15	4.9	0.0	0.3	3.4	0.0	0.2	7.8	0.1	0.6	2.9	0.3	0.7
16	8.1	0.0	0.7	4.7	0.0	0.2	2.4	0.1	0.4	9.7	0.3	1.1
17	7.7	0.0	0.6	4.2	0.0	0.2	2.6	0.1	0.4	7.7	0.3	0.8
18	7.7	0.0	1.1	1.4	0.0	0.1	2.6	0.2	0.6	3.6	0.2	0.7
19	4.8	0.0	0.3	0.3	0.0	0.0	1.2	0.2	0.5	3.6	0.2	0.7
20	1.5	0.0	0.1	0.4	0.0	0.1	1.0	0.2	0.5	5.8	0.2	0.7
21	1.2	0.0	0.1	0.4	0.0	0.0	2.7	0.1	0.5	8.2	0.2	1.0
22	7.5	0.0	0.5	3.0	0.0	0.1	6.6	0.1	0.7	9.4	0.2	1.2
23	2.5	0.0	0.1	5.7	0.0	0.2	1.2	0.2	0.5	9.5	0.2	1.3
24	9.0	0.0	0.5	0.3	0.0	0.1	1.8	0.2	0.5	7.5	0.2	1.0
25	9.9	0.0	0.9	0.4	0.0	0.1	5.8	0.2	0.7	3.3	0.2	0.7
26	5.5	0.0	0.2	7.1	0.0	0.4	8.5	0.2	0.9	2.2	0.2	0.7
27	9.7	0.0	0.6	0.5	0.0	0.0	11	0.1	0.8	9.9	0.1	1.1
28	5.0	0.0	0.2	0.4	0.0	0.1	7.3	0.1	1.1	6.8	0.2	0.7
29	1.6	0.0	0.1	8.3	0.0	0.4	1.8	0.1	0.5	10	0.3	0.8
30	7.7	0.0	0.9	---	---	---	0.8	0.2	0.4	6.9	0.2	0.9
31	---	---	---	---	---	1.0	8.2	0.2	0.7	---	---	---
MONTH	44	0.0	0.5	46	0.0	0.3	11	0.0	0.7	10	0.1	0.8
YEAR	46	0.0	0.5									

CONODOGUINET CREEK BASIN

01569800 LETORT SPRING RUN NEAR CARLISLE, PA

LOCATION.--Lat 40°14'05", long 77°08'23", Cumberland County, Hydrologic Unit 02050305, on right bank 320 ft downstream from bridge on U.S. Highway 11, 0.2 mi upstream from mouth, 3.1 mi west of New Kingstown, and 3.7 mi east of Carlisle.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--June 1976 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 402.05 ft above North American Vertical Datum of 1988.

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 in March 1936 reached a stage of 8.8 ft, discharge not determined, and flood in June 1972 reached a stage of 8.4 ft, from information by local resident, discharge not determined.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 28	1900	262	4.97	Apr. 2	1930	*348	*5.26

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	63	89	61	65	59	103	62	40	40	38	37
2	103	61	77	59	64	57	197	60	39	38	36	35
3	98	61	74	59	63	56	180	59	46	37	35	35
4	93	71	72	60	63	55	136	58	42	36	34	34
5	89	66	70	82	62	55	119	57	40	44	34	34
6	86	63	67	88	61	56	110	56	54	55	33	33
7	83	62	75	81	61	58	103	55	51	41	33	33
8	81	61	69	105	61	65	99	54	45	90	32	32
9	79	59	73	93	61	62	94	53	44	55	32	32
10	77	57	95	87	64	61	91	53	43	49	32	31
11	74	57	90	89	61	61	88	52	42	46	31	31
12	73	67	84	88	59	60	85	52	41	43	31	31
13	72	64	81	84	57	58	83	50	40	41	31	30
14	74	60	77	120	63	57	81	51	40	42	31	30
15	76	58	74	101	65	56	77	50	39	44	30	30
16	70	57	73	95	63	55	74	48	39	44	36	30
17	68	56	71	91	61	54	73	47	38	84	32	30
18	67	55	70	87	60	54	71	47	38	59	31	29
19	77	55	68	85	57	53	70	46	38	52	34	29
20	70	59	66	83	57	53	69	54	37	48	32	29
21	75	57	65	81	59	52	67	48	37	46	30	29
22	70	55	64	79	58	51	67	47	38	44	30	28
23	69	54	80	76	59	90	83	46	37	42	29	28
24	67	68	70	75	57	79	73	46	36	40	29	28
25	66	76	67	72	58	73	68	45	36	71	28	28
26	64	69	66	72	58	71	65	44	36	47	28	30
27	63	67	65	70	57	73	64	43	35	44	30	29
28	62	80	63	69	57	151	62	43	35	42	37	28
29	61	70	62	67	---	173	61	42	53	40	30	28
30	79	68	61	67	---	126	65	41	53	39	29	26
31	65	---	61	67	---	110	---	40	---	39	51	---
TOTAL	2358	1876	2239	2493	1691	2194	2678	1549	1232	1482	1009	917
MEAN	76.1	62.5	72.2	80.4	60.4	70.8	89.3	50.0	41.1	47.8	32.5	30.6
MAX	107	80	95	120	65	173	197	62	54	90	51	37
MIN	61	54	61	59	57	51	61	40	35	36	28	26
CFSM	3.52	2.90	3.34	3.72	2.80	3.28	4.13	2.31	1.90	2.21	1.51	1.42
IN.	4.06	3.23	3.86	4.29	2.91	3.78	4.61	2.67	2.12	2.55	1.74	1.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2005, BY WATER YEAR (WY)

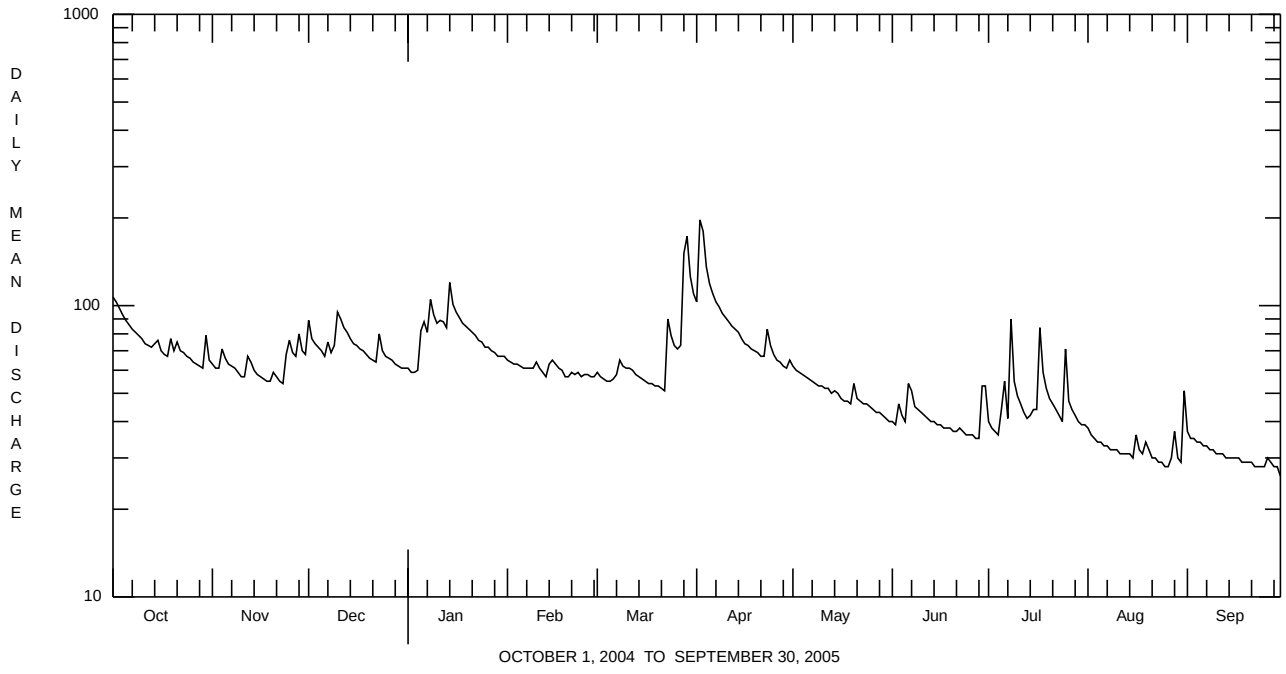
MEAN	35.9	36.4	42.7	45.3	48.7	58.8	61.3	51.4	44.8	39.6	35.0	35.1
MAX	79.6	62.5	94.5	92.0	93.9	123	126	90.9	83.6	68.3	59.7	79.3
(WY)	1977	2005	1997	1979	1998	1994	1993	1998	2003	1996	2004	2004
MIN	16.5	17.0	18.0	17.6	16.6	21.9	23.0	27.8	21.2	16.4	14.9	16.6
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

CONODOGUINET CREEK BASIN

01569800 LETORT SPRING RUN NEAR CARLISLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1976 - 2005	
ANNUAL TOTAL	23066		21718			
ANNUAL MEAN	63.0		59.5		44.5	
HIGHEST ANNUAL MEAN					62.4	1998
LOWEST ANNUAL MEAN					19.0	2002
HIGHEST DAILY MEAN	278	Sep 18	197	Apr 2	452	Jan 24 1979
LOWEST DAILY MEAN	33	Jul 6	26	Sep 30	9.8	Sep 13 2002
ANNUAL SEVEN-DAY MINIMUM	36	Jun 30	28	Sep 24	11	Sep 8 2002
MAXIMUM PEAK FLOW			348	Apr 2	**a**1400	Jan 24 1979
MAXIMUM PEAK STAGE			5.26	Apr 2	6.53	Jan 24 1979
INSTANTANEOUS LOW FLOW			24	Sep 30	0.00	Aug 15 1976**b**
ANNUAL RUNOFF (CFSM)	2.92		2.75		2.06	
ANNUAL RUNOFF (INCHES)	39.72		37.40		28.02	
10 PERCENT EXCEEDS	80		86		72	
50 PERCENT EXCEEDS	62		59		39	
90 PERCENT EXCEEDS	43		32		23	

a From rating curve extended above 680 ft^3/s on basis of slope-area measurement at gage height 6.43 ft.
b Part of day.



CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA

LOCATION.--Lat 40°15'08", long 77°01'17", Cumberland County, Hydrologic Unit 02050305, on left bank 1,000 ft upstream from highway bridge on Township Route 596 (Sample Bridge Road), 0.4 mi downstream from Hogestown Run, and 1.0 mi northeast of Hogestown.

DRAINAGE AREA.--470 mi^2.

PERIOD OF RECORD.--October 1911 to September 1917, October 1929 to September 1958, July 1967 to current year. October 1917 to December 1919 (gage heights and discharge measurements only), in reports of Water Supply Commission of Pennsylvania. Published as "*at Brysons Bridge*" 1912-17.

REVISED RECORDS.--WSP 1722: 1913, 1917.

GAGE.--Water-stage recorder. Datum of gage is 351.00 ft above National Geodetic Vertical Datum of 1929. Prior to December 1919, nonrecording gage at site 2 mi downstream at different datum. Oct. 1, 1929, to Aug. 3, 1931, nonrecording gage at site 1,000 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since June 1969 the Pennsylvania American Water Co. has diverted water upstream from station for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 9.6 ft^3/s. Satellite and landline telemetry at station.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 29	2315	*8,180	*9.33	Apr. 3	1130	6,670	8.42

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	549	1880	570	e500	678	2200	571	276	230	230	199
2	1640	507	2340	559	e500	672	3140	547	266	210	218	172
3	1380	479	1690	530	503	614	6350	502	280	195	208	160
4	1140	499	1350	578	504	555	3640	476	313	187	199	148
5	988	660	1140	767	512	547	2330	454	309	201	191	140
6	873	648	982	2280	523	578	1870	440	295	370	182	136
7	803	551	943	2340	530	762	1590	431	442	339	176	130
8	741	509	1070	2170	546	1090	1430	419	578	725	177	128
9	691	468	958	2930	591	1120	1260	405	388	1400	185	127
10	654	441	1660	2070	786	929	1110	391	343	687	184	127
11	616	422	2870	1650	823	849	1020	385	407	467	178	124
12	584	469	2170	1860	678	804	929	379	515	376	170	120
13	559	657	1610	1850	623	746	872	363	550	324	164	118
14	582	702	1310	2420	604	665	825	353	416	299	167	118
15	632	603	1090	2780	951	606	772	420	477	367	204	117
16	662	553	939	1980	1250	561	723	388	334	534	184	117
17	616	520	863	1640	1090	536	685	356	292	867	194	122
18	540	492	811	1320	922	518	658	340	272	1400	197	116
19	572	466	755	1120	772	497	638	322	256	815	194	112
20	621	465	695	1060	693	479	626	340	244	587	188	111
21	651	499	e580	1000	679	471	602	408	235	571	182	110
22	707	478	613	e800	725	456	578	452	234	454	176	114
23	687	449	687	e680	765	655	669	367	234	465	161	117
24	640	574	1130	e620	715	2400	811	344	223	371	150	114
25	604	2520	943	e640	685	1880	727	342	211	418	145	110
26	572	2630	751	e660	664	1380	619	341	202	446	140	114
27	532	1620	e620	e620	650	1180	579	318	198	349	140	126
28	499	1610	e540	e560	651	2450	553	301	196	302	170	120
29	476	2140	609	e490	---	7090	523	298	198	277	160	115
30	713	1510	604	e500	---	7200	534	295	270	258	160	118
31	638	---	576	e500	---	3040	---	288	---	245	249	---
TOTAL	23823	24690	34779	39544	19435	42008	38863	12036	9454	14736	5623	3800
MEAN	768	823	1122	1276	694	1355	1295	388	315	475	181	127
MAX	2210	2630	2870	2930	1250	7200	6350	571	578	1400	249	199
MIN	476	422	540	490	500	456	523	288	196	187	140	110
CFSM	1.64	1.75	2.39	2.71	1.48	2.88	2.76	0.83	0.67	1.01	0.39	0.27
IN.	1.89	1.95	2.75	3.13	1.54	3.32	3.08	0.95	0.75	1.17	0.45	0.30

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	361	485	657	707	792	1087	948	683	498	329	301	324
MAX	1838	1436	1940	1850	2257	3463	2693	1753	3120	1184	1584	1717
(WY)	1977	1971	1997	1996	1984	1994	1993	1998	1972	1989	1915	2004
MIN	55.1	53.4	57.3	83.5	133	287	268	194	148	77.0	60.0	68.0
(WY)	1931	1931	1931	1931	2002	1931	1915	1941	1991	2002	2002	1932

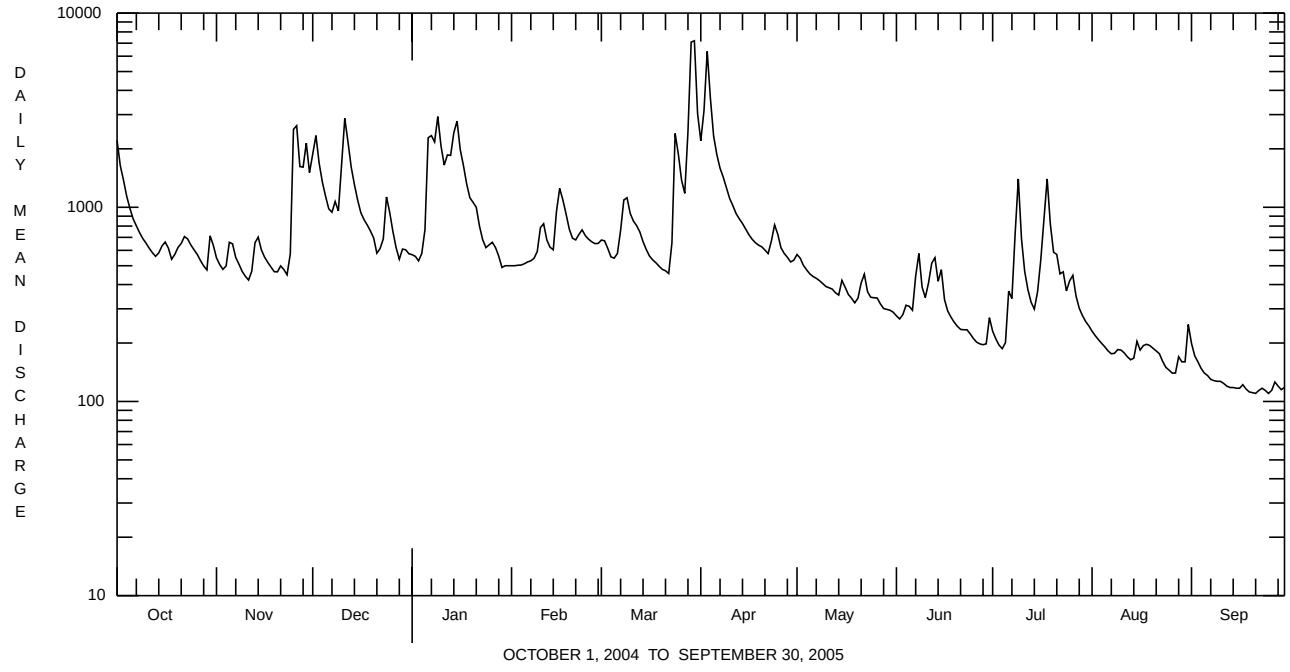
e Estimated.

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	346589		268791			
ANNUAL MEAN	947		736		597	
HIGHEST ANNUAL MEAN					1045	1972
LOWEST ANNUAL MEAN					212	2002
HIGHEST DAILY MEAN	11200	Sep 19	7200	Mar 30	24500	Jun 23 1972
LOWEST DAILY MEAN	301	Jul 6	110	Sep 21,25	26	Dec 23 1930
ANNUAL SEVEN-DAY MINIMUM	324	Jul 1	113	Sep 19	27	Dec 19 1930
MAXIMUM PEAK FLOW			8180	Mar 29	**a**33700	Jun 23 1972
MAXIMUM PEAK STAGE			9.33	Mar 29	**b**17.01	Jun 23 1972
INSTANTANEOUS LOW FLOW			102	Sep 21	24	Dec 16 1930
ANNUAL RUNOFF (CFSM)	2.01		1.57		1.27	
ANNUAL RUNOFF (INCHES)	27.43		21.27		17.26	
10 PERCENT EXCEEDS	1630		1610		1270	
50 PERCENT EXCEEDS	687		547		351	
90 PERCENT EXCEEDS	405		166		118	

a From rating curve extended above 27,100 ft^3/s.
b From floodmark in gage.



SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA

LOCATION.--Lat 40°15'17", long 76°53'11", Dauphin County, Hydrologic Unit 02050305, on east bank of City Island, 60 ft downstream from Market Street bridge in Harrisburg, 3,670 ft upstream from sanitary dam, and 1.7 mi upstream from Paxton Creek.

DRAINAGE AREA.--24,100 mi^2.

PERIOD OF RECORD.--October 1890 to current year.

REVISED RECORDS.--WSP 711: 1929. WSP 1502: 1891-1923, 1926(M), 1928. WSP 1702: 1953 (total runoff in inches), 1958 (1957 calendar year mean discharge).

GAGE.--Water-stage recorder. Concrete control since Aug. 29, 1916. Datum of gage is 290.01 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at Walnut Street Bridge 600 ft upstream, and Oct. 1, 1928, to Aug. 31, 1975, water-stage recorder at site 3,170 ft downstream, all gages at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 15 flood-control reservoirs which have a combined capacity of 1,571,000 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known during period 1786 to 1890, 26.8 ft at Walnut Street bridge, June 2, 1889, discharge, 654,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63700	27100	130000	36100	e28000	32700	205000	31500	12000	7290	5950	5170
2	53600	26300	142000	35600	e29000	31300	183000	30200	11600	6790	5840	11700
3	47300	25300	146000	35400	e28000	30400	275000	29200	11300	7270	5660	11600
4	42100	24000	131000	36500	e27000	29000	350000	28600	11300	7250	5430	14600
5	37100	23900	104000	49500	e24000	27100	301000	27500	11200	8080	4990	13300
6	32800	25400	84500	86900	e24000	25300	248000	25700	11100	8620	4890	10500
7	29700	27100	69300	134000	e23500	25100	201000	24600	11700	9240	4700	8410
8	26700	28700	62700	136000	e23500	29100	158000	22400	13300	11700	4760	7470
9	23900	28800	60900	130000	e24000	40700	122000	21100	13500	13100	4670	6610
10	22600	27600	67200	116000	e26000	47900	99200	20100	12100	12700	4440	5910
11	21100	25800	93700	99100	e35000	50600	84500	19000	11200	11300	4540	5420
12	19700	24900	125000	88000	e64000	45900	72400	18100	10900	10100	4490	4950
13	19100	26100	142000	89200	66100	42000	62300	17200	10800	12100	4390	4690
14	18800	26700	123000	117000	57100	38000	55500	16400	11400	10600	4180	4370
15	18000	25600	96500	256000	53100	35600	50200	16800	12900	10400	4050	4330
16	18100	24100	78700	258000	56200	34200	44600	16600	11000	10200	4330	4290
17	18800	23100	65500	187000	66200	31400	39800	15800	10600	11200	4590	4220
18	20600	22200	56800	137000	83100	29200	36300	15200	10600	12100	4820	4210
19	20300	21500	e48000	102000	78100	28600	33000	14400	11700	11400	4870	4150
20	25300	20900	e40000	83200	62900	28700	30700	14200	11700	10700	5090	4080
21	35800	20600	e36000	67800	56300	29600	28600	14100	10700	10200	5110	3950
22	43000	20300	e34000	e55000	51400	31300	26600	14000	10300	10700	4980	3880
23	41600	19900	34600	e44000	48500	36400	26000	13600	10100	9410	4450	3750
24	37400	20600	48500	e37000	46300	50800	29300	12900	9490	8370	4120	3590
25	35800	32100	62700	e32000	44100	65000	31800	12700	9010	7800	4150	3660
26	33000	52300	71100	e34000	40000	64800	38500	12700	8390	7380	4030	3640
27	29900	57400	61800	e33000	36900	63300	45400	12500	8030	6980	3880	3620
28	27200	62400	53400	e31000	34300	68700	42200	12100	7630	6580	3950	3630
29	25200	96100	45800	e27000	---	173000	37000	12100	6880	6730	3990	3850
30	25000	134000	40100	e30000	---	311000	33700	12000	7260	6250	3990	3710
31	28000	---	37300	e31000	---	264000	---	12000	---	6080	4710	---
TOTAL	941200	1020800	2392100	2634300	1236600	1840700	2990600	565300	319690	288620	144040	177260
MEAN	30360	34030	77160	84980	44160	59380	99690	18240	10660	9310	4646	5909
MAX	63700	134000	146000	258000	83100	311000	350000	31500	13500	13100	5950	14600
MIN	18000	19900	34000	27000	23500	25100	26000	12000	6880	6080	3880	3590
CFSM	1.26	1.41	3.20	3.53	1.83	2.46	4.14	0.76	0.44	0.39	0.19	0.25
IN.	1.45	1.58	3.69	4.07	1.91	2.84	4.62	0.87	0.49	0.45	0.22	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 2005, BY WATER YEAR (WY)

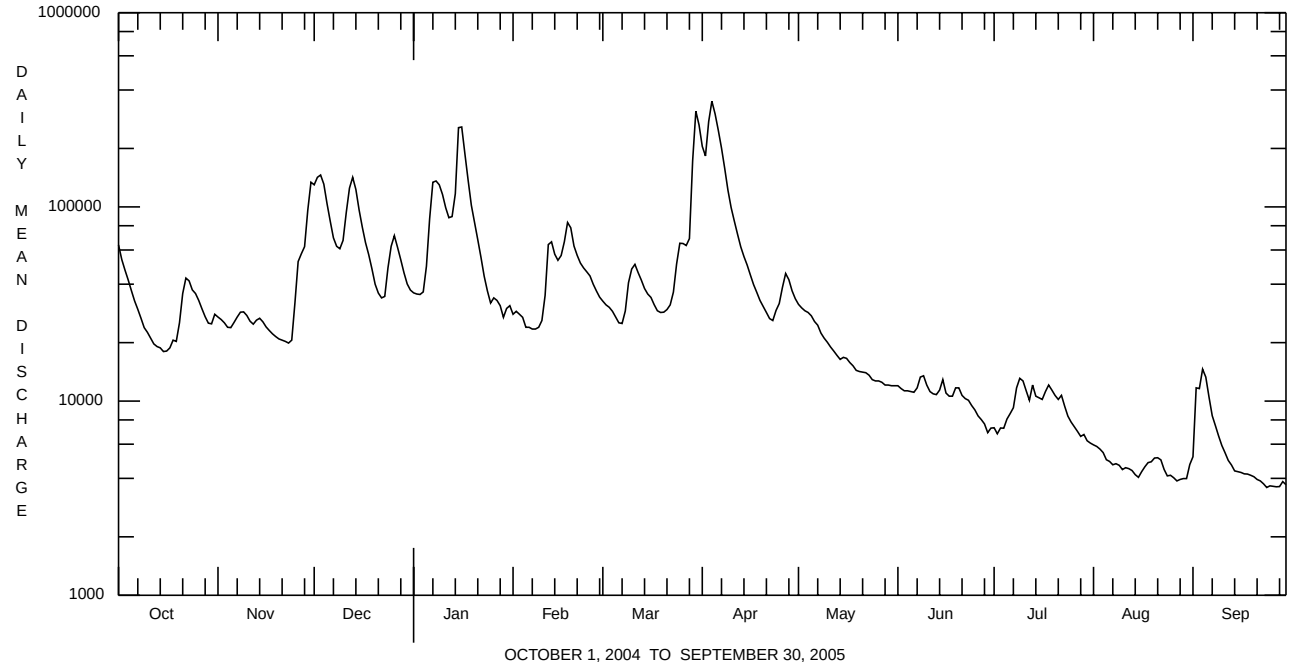
MEAN	17520	26700	35010	37300	40530	73920	72530	44720	26420	15320	11970	12510
MAX	75150	83540	98870	103100	153500	216100	217000	103900	166800	71450	44960	104100
(WY)	1977	1927	1997	1996	1891	1936	1993	1894	1972	1902	1994	2004
MIN	2356	2303	3835	3876	9122	27460	20380	12750	6226	3315	2878	2066
(WY)	1931	1931	1931	1931	1931	1960	1946	1941	1999	1965	1930	1964

e Estimated.

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1891 - 2005	
ANNUAL TOTAL	19127580		14551210			
ANNUAL MEAN	52260		39870		34490	
HIGHEST ANNUAL MEAN					56440	2004
LOWEST ANNUAL MEAN					16940	1965
HIGHEST DAILY MEAN	500000	Sep 19	350000	Apr 4	954000	Jun 24 1972
LOWEST DAILY MEAN	9600	Jul 6	3590	Sep 24	**a**1700	Nov 29 1930
ANNUAL SEVEN-DAY MINIMUM	10200	Jul 3	3670	Sep 24	1790	Sep 17 1964
MAXIMUM PEAK FLOW			360000	Apr 4	1020000	Jun 24 1972
MAXIMUM PEAK STAGE			18.87	Apr 4	**b**32.57	Jun 24 1972
INSTANTANEOUS LOW FLOW			3580	Sep 23-30	**c**1600	Nov 29 1930
ANNUAL RUNOFF (CFSM)	2.17		1.65		1.43	
ANNUAL RUNOFF (INCHES)	29.52		22.46		19.45	
10 PERCENT EXCEEDS	98800		91000		79300	
50 PERCENT EXCEEDS	39200		25600		20400	
90 PERCENT EXCEEDS	20000		4710		5450	

a Minimum daily discharge since construction of sanitary dam and not affected by freezeup, 1,700 ft^3/s, Sept. 18, 1964.
b From floodmark.
c Result of freezeup.



YELLOW BREECHES CREEK BASIN

01571500 YELLOW BREECHES CREEK NEAR CAMP HILL, PA

LOCATION.--Lat 40°13'29", long 76°53'54", Cumberland County, Hydrologic Unit 02050305, on left bank 50 ft downstream from single-span highway bridge on Green Lane Drive, 150 ft downstream from Olmsted Mill dam, 1.0 mi southeast of Camp Hill, and 3.1 mi upstream from mouth.

DRAINAGE AREA.--216 mi^2.

PERIOD OF RECORD.--April 1909 to December 1919, July 1954 to current year. Prior to January 1910 monthly discharge only, published in WSP 1302. Prior to June 1954, published as "*at Olmsteds Mill*".

REVISED RECORDS.--WSP 1302: 1910, 1912-13, 1914(M), 1916.

GAGE.--Water-stage recorder. Datum of gage is 307.49 ft above National Geodetic Vertical Datum of 1929. March 1909 to December 1919, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. The Mechanicsburg Water Co. diverts water about 4 mi upstream from station for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 3.1 ft^3/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1953, reached a stage of 9.4 ft, from floodmarks, discharge, about 3,940 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,250 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 10	1945	1,390	4.50	Apr. 3	0000	*3,250	*8.27
Jan. 14	1245	2,190	6.23	July 8	1415	1,500	4.69
Mar. 29	0515	3,070	7.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	999	296	700	341	351	358	858	425	239	202	193	207
2	769	286	672	329	341	347	1760	377	230	177	191	163
3	680	279	547	320	341	326	2770	360	233	167	183	152
4	578	305	502	334	338	314	1690	345	271	162	177	145
5	519	405	473	460	340	317	1150	333	246	187	173	142
6	471	325	442	694	343	320	947	327	255	482	172	139
7	442	300	449	527	343	380	834	322	510	238	170	137
8	418	287	493	749	350	555	986	317	291	1100	169	135
9	402	272	438	765	375	496	776	309	275	550	171	133
10	388	265	914	600	416	420	687	302	254	301	171	132
11	367	263	941	568	371	406	639	296	236	248	165	130
12	352	296	664	631	337	404	598	293	239	226	168	128
13	343	379	591	566	327	389	577	283	234	211	158	128
14	376	319	540	1540	340	371	549	282	296	206	159	128
15	400	289	488	1040	544	355	518	284	241	251	155	131
16	390	279	455	770	443	344	489	282	219	379	156	144
17	341	272	443	704	407	338	474	274	210	547	193	175
18	320	268	423	610	369	335	465	268	206	427	170	132
19	344	265	411	557	340	325	449	262	203	302	172	128
20	361	269	390	548	336	322	433	274	200	313	167	126
21	406	301	364	523	348	321	414	322	197	270	162	126
22	391	281	360	462	371	308	401	275	195	286	151	125
23	348	271	506	e450	375	552	545	259	197	255	146	124
24	329	343	645	e435	357	1010	574	260	194	227	141	124
25	324	684	435	e425	359	621	455	264	183	329	139	123
26	316	523	374	e400	344	544	415	258	174	271	137	126
27	306	422	360	e380	344	508	400	244	170	229	139	130
28	299	554	330	e355	340	1220	383	235	170	224	161	127
29	292	586	344	e360	---	2380	367	237	170	210	165	124
30	403	479	341	e355	---	1400	389	233	212	202	160	122
31	318	---	338	e360	---	1020	---	239	---	197	253	---
TOTAL	12992	10363	15373	17158	10190	17306	21992	9041	6950	9376	5187	4086
MEAN	419	345	496	553	364	558	733	292	232	302	167	136
MAX	999	684	941	1540	544	2380	2770	425	510	1100	253	207
MIN	292	263	330	320	327	308	367	233	170	162	137	122
CFSM	1.94	1.60	2.30	2.56	1.68	2.58	3.39	1.35	1.07	1.40	0.77	0.63
IN.	2.24	1.78	2.65	2.95	1.75	2.98	3.79	1.56	1.20	1.61	0.89	0.70

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	191	214	278	307	375	495	474	367	292	205	187	195
MAX	620	419	824	815	964	1335	1353	809	1639	486	573	1012
(WY)	1977	1997	1997	1996	1998	1994	1993	1998	1972	1989	1915	1975
MIN	93.6	97.5	97.2	92.4	102	161	186	167	122	81.2	80.6	93.6
(WY)	2002	2002	1966	1981	2002	2002	2002	1969	1966	1966	1966	2002

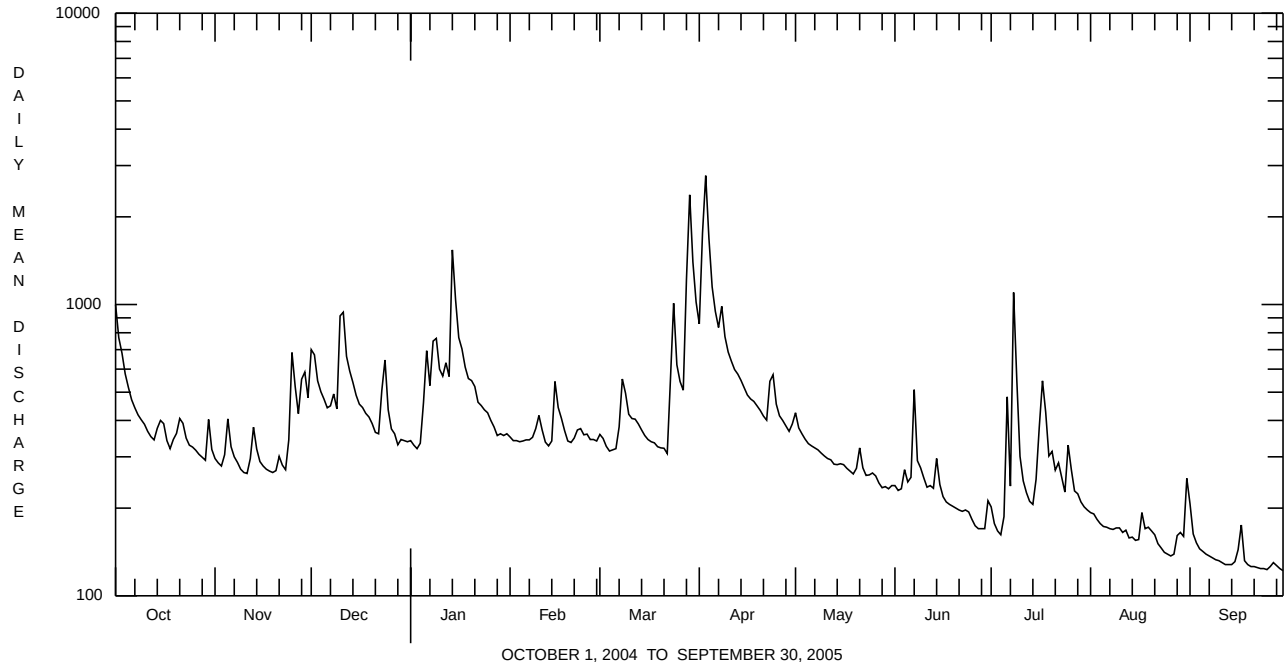
e Estimated.

YELLOW BREECHES CREEK BASIN

01571500 YELLOW BREECHES CREEK NEAR CAMP HILL, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	156912		140014			
ANNUAL MEAN	429		384		298	
HIGHEST ANNUAL MEAN					500	1972
LOWEST ANNUAL MEAN					122	2002
HIGHEST DAILY MEAN	2910	Sep 18	2770	Apr 3	12400	Jun 22 1972
LOWEST DAILY MEAN	191	Jul 11	122	Sep 30	67	Sep 13 1966
ANNUAL SEVEN-DAY MINIMUM	212	Sep 11	125	Sep 20	70	Sep 7 1966
MAXIMUM PEAK FLOW			3250	Apr 3	**a**19300	Sep 26 1975
MAXIMUM PEAK STAGE			8.27	Apr 3	**b**18.77	Sep 26 1975
INSTANTANEOUS LOW FLOW			120	Sep 30	23	Sep 12 1966
ANNUAL RUNOFF (CFSM)	1.98		1.78		1.38	
ANNUAL RUNOFF (INCHES)	27.02		24.11		18.77	
10 PERCENT EXCEEDS	637		614		539	
50 PERCENT EXCEEDS	366		333		218	
90 PERCENT EXCEEDS	237		159		117	

a From rating curve extended above 16,000 ft^3/s.
b From floodmark.



SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA
(Swatara Creek Project)

LOCATION.--Lat 40°39'34", long 76°20'50", Schuylkill County, Hydrologic Unit 02050305, on left bank 500 ft upstream from bridge on U.S. Highway 209, 0.5 mi north of Newtown.

DRAINAGE AREA.--2.58 mi^2.

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1996 to current year.
pH: October 1996 to current year.
WATER TEMPERATURE: October 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system).

REMARKS.--Specific conductance records rated good except for periods July 25 to Aug. 11, Aug. 24 to Sept. 5, and Sept. 23-30, which are fair, Dec. 13 to Feb. 1, June 29 to July 4, July 11, and Sept. 6-14, which are poor. pH records rated good. Water temperature records rated good. Interruptions in the record were due to malfunctions of the instrumentation. Analytical data from samples are used to determine effectiveness of various limestone treatment systems used to aid in the remediation efforts of acid mine drainage. Data collected prior to construction dates of upstream treatment, May 1997, are considered untreated water. 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 414-456. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 414 microsiemens, Aug. 13, 1999; minimum, 16 microsiemens, Aug. 11, 2003.
pH: Maximum, 7.7, Mar. 21, 1997; minimum, 3.3, Jan. 1, 1997.
WATER TEMPERATURE: Maximum, 22.5°C, July 4, 2002; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 251 microsiemens, Sept. 14; minimum recorded (may have been lower Feb. 2 to Mar. 8 during period of gap in record), 54 microsiemens, June 6.
pH: Maximum, 6.5, Sept. 16-22, 26, 27, 29, 30; minimum recorded (may have been lower Feb. 2 to Mar. 8 during period of gap in record), 4.8, Nov. 28-30, Mar. 29, Apr. 3.
WATER TEMPERATURE: Maximum, 21.7°C, Aug. 14; minimum recorded 0.0°C, Dec. 20, Mar. 9 (0.0°C may have occurred during period of gap in record, Feb. 2 to Mar. 8).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1115	1028	89203	2.6	442	2.7	10.6	94	5.9	5.8
DEC										
22...	1015	1028	89203	4.7	447	2.2	13.8	103	5.6	5.2
FEB										
09...	1045	1028	89203	2.9	393	--	12.4	95	6.0	5.9
MAR										
23...	1240	1028	89203	7.7	399	--	12.4	95	5.6	5.4
MAY										
04...	1213	1028	89203	2.8	387	2.9	12.1	104	5.9	5.6
JUN										
21...	1315	1028	89203	1.2	372	7.6	10.4	106	5.4	5.6
JUL										
18...	1230	1028	89203	5.9	457	--	8.2	92	5.3	5.5
SEP										
01...	1245	1028	89203	1.1	335	--	8.5	91	6.0	6.1

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
NOV										
02...	119	9.9	6.80	7.0	4.40	4.5	.70	.7	5.90	5.4
DEC										
22...	130	3.0	7.40	6.3	6.40	5.4	.90	.8	5.20	4.9
FEB										
09...	109	4.3	5.90	5.9	4.30	4.4	.80	.9	4.90	5.0
MAR										
23...	95	4.3	4.70	5.3	3.50	4.0	1.10	1.2	4.90	5.3
MAY										
04...	116	9.0	6.30	6.2	4.80	4.7	.90	.8	5.00	4.9
JUN										
21...	143	16.0	8.70	8.9	6.80	7.0	.70	.7	5.40	5.4
JUL										
18...	102	18.7	5.40	4.8	3.90	3.4	1.10	1.0	6.20	5.5
SEP										
01...	187	18.4	10.9	12.0	8.30	9.2	1.10	1.1	8.60	6.7

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	2	10.8	--	35.1	--	--	--	<100	500	--
DEC										
22...	2	7.5	--	42.7	--	--	--	300	600	--
FEB										
09...	2	8.6	--	33.8	--	--	--	<100	500	--
MAR										
23...	2	7.3	<.01	24.2	.49	<.030	<.020	400	1200	.19
MAY										
04...	3	7.6	<.01	31.8	.42	<.030	<.020	<100	500	.18
JUN										
21...	2	8.4	<.01	39.5	.45	<.030	<.020	200	600	.21
JUL										
18...	2	9.4	--	31.6	--	--	--	400	500	--
SEP										
01...	3	9.8	--	54.4	--	--	--	<100	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	100	230	250	260	35.0	20.0	70.0	50.0
DEC								
22...	690	710	400	340	30.0	25.0	90.0	75.0
FEB								
09...	410	560	310	310	25.0	25.0	60.0	65.0
MAR								
23...	570	1030	250	280	20.0	20.0	65.0	80.0
MAY								
04...	200	350	270	250	25.0	25.0	60.0	70.0
JUN								
21...	90.0	410	270	270	30.0	30.0	70.0	75.0
JUL								
18...	300	--	280	250	25.0	20.0	70.0	60.0
SEP								
01...	90.0	190	170	200	25.0	25.0	60.0	50.0

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	122	117	119	121	115	117	122	88	104	112	111	111
2	122	120	122	119	117	118	117	110	115	113	112	113
3	125	120	123	119	117	118	119	117	118	114	102	111
4	127	125	126	120	101	113	120	119	119	107	98	102
5	130	127	128	112	101	108	120	119	120	108	96	103
6	131	129	130	117	112	115	122	120	121	103	87	96
7	133	130	131	119	116	118	121	106	115	108	102	105
8	134	132	133	121	119	120	117	108	114	108	95	101
9	135	134	134	123	121	123	119	97	116	107	98	104
10	136	134	135	124	123	123	102	84	95	112	106	109
11	137	136	136	124	123	124	105	94	99	114	109	112
12	138	137	137	124	90	105	112	105	109	113	106	111
13	139	134	138	111	97	106	117	112	114	113	99	106
14	137	114	125	114	111	113	122	117	119	106	71	91
15	131	104	123	115	114	115	123	121	122	110	106	109
16	123	103	115	116	115	116	123	121	122	107	104	106
17	130	123	126	117	116	117	123	121	122	106	105	106
18	134	130	132	119	117	118	125	123	124	107	105	107
19	132	99	111	121	119	120	124	123	123	107	106	106
20	120	111	117	122	116	120	131	124	128	107	106	106
21	123	120	122	122	114	119	130	128	129	110	107	108
22	123	118	120	126	113	123	130	128	129	111	106	110
23	126	123	125	123	113	120	128	57	98	110	107	108
24	127	126	126	124	70	104	97	77	88	111	110	110
25	128	126	127	85	70	77	105	97	102	110	110	110
26	131	128	129	103	85	95	107	104	106	112	110	110
27	131	127	130	108	103	107	111	107	109	117	112	115
28	132	126	130	116	55	88	113	110	111	121	115	118
29	132	130	131	129	116	126	111	110	110	120	116	117
30	131	78	101	127	122	125	111	110	111	116	116	116
31	115	105	111	---	---	---	111	110	111	119	116	117
MONTH	139	78	126	129	55	114	131	57	114	121	71	108

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	121	119	120	---	---	---	116	115	116	112	103	108
2	---	---	---	---	---	---	115	64	89	113	112	113
3	---	---	---	---	---	---	118	77	104	116	113	114
4	---	---	---	---	---	---	126	117	124	118	116	117
5	---	---	---	---	---	---	121	113	117	119	118	118
6	---	---	---	---	---	---	113	107	111	119	118	118
7	---	---	---	---	---	---	109	100	107	120	118	119
8	---	---	---	---	---	---	107	101	105	122	120	121
9	---	---	---	127	122	124	110	107	108	123	122	122
10	---	---	---	124	121	123	110	108	110	124	122	123
11	---	---	---	124	122	124	111	110	111	125	124	124
12	---	---	---	123	121	122	111	111	111	128	125	126
13	---	---	---	123	121	122	116	111	113	129	128	128
14	---	---	---	123	121	122	117	116	117	129	90	125
15	---	---	---	124	120	122	118	117	118	107	72	94
16	---	---	---	123	119	121	120	118	119	112	107	110
17	---	---	---	122	115	119	120	118	120	114	112	113
18	---	---	---	119	107	115	121	120	120	117	114	115
19	---	---	---	115	105	111	122	120	121	118	116	117
20	---	---	---	109	102	106	123	121	122	118	99	110
21	---	---	---	104	101	103	124	121	123	114	103	110
22	---	---	---	104	100	103	124	122	124	116	114	114
23	---	---	---	102	78	93	122	93	110	118	116	117
24	---	---	---	102	85	97	107	82	97	119	118	118
25	---	---	---	112	102	109	113	107	111	120	119	120
26	---	---	---	115	111	113	115	113	114	124	120	122
27	---	---	---	116	108	114	115	107	110	127	124	125
28	---	---	---	108	67	90	114	112	113	128	112	125
29	---	---	---	124	80	111	115	114	114	121	111	118
30	---	---	---	124	120	122	115	104	111	124	119	121
31	---	---	---	120	116	118	---	---	---	128	124	126
MONTH	121	119	120	127	67	113	126	64	113	129	72	118

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	150	128	131	169	119	162	161	159	160	189	184	186
2	153	134	135	156	114	135	165	161	163	197	189	193
3	155	108	133	175	156	167	168	165	166	203	197	200
4	114	103	107	183	175	179	171	167	170	207	203	205
5	126	114	120	188	166	185	173	171	172	210	207	208
6	129	54	103	172	145	160	175	173	173	213	200	209
7	99	73	87	179	123	163	176	175	176	206	203	204
8	107	99	103	160	97	115	178	109	169	210	206	208
9	107	88	102	133	113	122	145	106	129	214	210	212
10	104	99	101	148	133	141	157	145	151	218	214	216
11	106	103	104	156	148	151	166	157	162	222	217	220
12	126	105	108	156	151	154	172	166	169	226	220	223
13	129	115	120	159	152	155	178	172	174	230	220	226
14	134	119	124	160	134	157	181	157	178	251	221	233
15	130	124	126	160	153	156	182	177	180	228	214	217
16	158	127	132	158	128	146	184	174	180	223	123	212
17	159	131	139	128	65	95	181	175	178	186	160	174
18	152	132	137	119	91	103	188	181	184	199	186	194
19	156	135	141	136	119	129	188	154	170	206	199	203
20	162	137	143	142	135	138	173	156	166	210	205	208
21	161	140	142	145	138	141	179	173	176	215	210	212
22	166	144	147	145	140	142	186	179	183	220	213	218
23	173	151	155	150	143	145	191	186	189	220	220	220
24	162	156	159	153	147	150	195	191	193	230	220	220
25	168	162	164	154	130	138	200	195	198	231	230	231
26	174	168	171	150	139	146	202	200	201	231	211	226
27	178	174	176	148	139	144	204	202	203	211	201	210
28	182	178	180	150	140	144	203	156	169	221	211	219
29	186	104	168	154	150	152	179	159	170	222	202	216
30	155	104	132	156	154	155	186	179	184	222	212	221
31	---	---	---	159	156	158	188	182	186	---	---	---
MONTH	186	54	133	188	65	146	204	106	175	251	123	211
YEAR	251	54	134									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	5.4	5.3	5.4	6.1	5.9	6.1	5.2	5.0	5.1	5.6	5.6	5.6
2	5.5	5.4	5.5	5.9	5.9	5.9	5.1	5.1	5.1	5.6	5.6	5.6
3	5.6	5.5	5.5	5.9	5.9	5.9	5.2	5.1	5.1	5.7	5.6	5.6
4	5.6	5.5	5.6	6.0	5.8	5.9	5.2	5.2	5.2	5.8	5.6	5.6
5	5.7	5.6	5.6	5.8	5.7	5.8	5.3	5.2	5.3	5.8	5.6	5.7
6	5.7	5.6	5.6	5.8	5.8	5.8	5.4	5.3	5.3	5.9	5.6	5.7
7	5.6	5.6	5.6	5.9	5.8	5.8	5.4	5.3	5.4	5.7	5.6	5.7
8	5.6	5.6	5.6	5.9	5.8	5.9	5.4	5.3	5.4	6.0	5.5	5.6
9	5.7	5.6	5.7	5.9	5.8	5.9	5.6	5.4	5.4	5.5	5.4	5.5
10	5.7	5.7	5.7	5.9	5.8	5.9	5.8	5.3	5.4	5.4	5.3	5.4
11	5.8	5.7	5.8	5.8	5.8	5.8	5.4	5.3	5.3	5.4	5.3	5.4
12	5.9	5.8	5.9	5.9	5.6	5.8	5.3	5.3	5.3	5.5	5.4	5.4
13	6.0	5.9	5.9	5.7	5.6	5.6	5.3	5.2	5.3	5.4	5.4	5.4
14	6.1	5.8	6.0	5.7	5.7	5.7	5.4	5.3	5.3	5.9	4.9	5.1
15	6.1	5.9	6.0	5.7	5.7	5.7	5.5	5.4	5.4	5.0	4.9	4.9
16	6.0	5.8	5.9	5.7	5.7	5.7	5.5	5.4	5.5	5.1	5.0	5.0
17	6.0	6.0	6.0	5.7	5.7	5.7	5.5	5.5	5.5	5.2	5.1	5.1
18	6.1	6.0	6.1	5.7	5.7	5.7	5.6	5.5	5.6	5.3	5.2	5.2
19	6.3	5.8	6.0	5.7	5.7	5.7	5.6	5.6	5.6	5.4	5.3	5.3
20	6.0	5.9	5.9	5.7	5.7	5.7	5.7	5.6	5.6	5.4	5.3	5.4
21	6.2	6.0	6.1	5.7	5.6	5.6	5.7	5.6	5.7	5.5	5.4	5.5
22	6.2	6.1	6.1	5.8	5.5	5.6	5.7	5.6	5.6	5.6	5.5	5.6
23	6.2	6.1	6.2	5.7	5.6	5.6	6.0	5.1	5.7	5.6	5.6	5.6
24	6.2	6.2	6.2	5.9	5.2	5.6	5.3	5.2	5.3	5.7	5.6	5.6
25	6.2	6.2	6.2	5.6	5.1	5.2	5.3	5.3	5.3	5.7	5.6	5.7
26	6.2	6.2	6.2	5.2	5.1	5.2	5.4	5.3	5.4	5.7	5.7	5.7
27	6.3	6.2	6.2	5.2	5.1	5.1	5.5	5.4	5.4	5.8	5.7	5.7
28	6.2	6.1	6.2	5.7	4.8	4.9	5.5	5.4	5.5	5.8	5.7	5.7
29	6.2	6.1	6.2	4.8	4.8	4.8	5.5	5.5	5.5	5.8	5.7	5.8
30	6.4	5.7	5.8	5.1	4.8	4.9	5.6	5.5	5.5	5.8	5.7	5.8
31	6.0	5.9	6.0	---	---	---	5.6	5.5	5.6	5.8	5.7	5.8
MAX	6.4	6.2	6.2	6.1	5.9	6.1	6.0	5.6	5.7	6.0	5.7	5.8
MIN	5.4	5.3	5.4	4.8	4.8	4.8	5.1	5.0	5.1	5.0	4.9	4.9

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	5.9	5.8	5.8	---	---	---	5.2	5.1	5.2	5.9	5.9	5.9
2	---	---	---	---	---	---	5.5	5.0	5.2	6.0	5.9	5.9
3	---	---	---	---	---	---	5.1	4.8	4.8	6.0	5.6	5.9
4	---	---	---	---	---	---	5.0	4.9	5.0	5.9	5.8	5.9
5	---	---	---	---	---	---	5.1	5.0	5.0	6.0	5.9	6.0
6	---	---	---	---	---	---	5.1	5.0	5.1	6.0	5.9	6.0
7	---	---	---	---	---	---	5.1	5.0	5.1	6.0	5.8	5.9
8	---	---	---	---	---	---	5.1	5.1	5.1	5.9	5.8	5.9
9	---	---	---	5.8	5.8	5.8	5.2	5.1	5.2	5.9	5.8	5.9
10	---	---	---	5.8	5.7	5.8	5.2	5.2	5.2	5.9	5.8	5.9
11	---	---	---	5.7	5.7	5.7	5.3	5.2	5.2	5.9	5.8	5.9
12	---	---	---	5.7	5.7	5.7	5.3	5.2	5.3	5.9	5.8	5.9
13	---	---	---	5.7	5.6	5.7	5.5	5.3	5.3	5.9	5.8	5.8
14	---	---	---	5.6	5.6	5.6	5.6	5.5	5.5	6.0	5.6	5.7
15	---	---	---	5.7	5.6	5.6	5.6	5.6	5.6	6.0	5.4	5.5
16	---	---	---	5.7	5.6	5.6	5.6	5.6	5.6	5.7	5.6	5.7
17	---	---	---	5.7	5.6	5.7	5.7	5.6	5.6	5.7	5.7	5.7
18	---	---	---	5.9	5.6	5.7	5.8	5.6	5.7	5.7	5.7	5.7
19	---	---	---	5.8	5.6	5.7	5.8	5.7	5.7	5.8	5.7	5.7
20	---	---	---	5.7	5.6	5.6	5.8	5.7	5.7	5.8	5.6	5.8
21	---	---	---	5.6	5.6	5.6	5.8	5.7	5.7	5.7	5.5	5.6
22	---	---	---	5.6	5.6	5.6	5.9	5.8	5.9	5.6	5.5	5.6
23	---	---	---	5.7	5.5	5.6	6.2	5.8	5.8	5.6	5.6	5.6
24	---	---	---	5.5	5.4	5.4	6.2	5.6	5.7	5.6	5.6	5.6
25	---	---	---	5.4	5.4	5.4	5.9	5.8	5.8	5.6	5.6	5.6
26	---	---	---	5.4	5.3	5.3	6.0	5.9	6.0	5.7	5.5	5.5
27	---	---	---	5.4	5.3	5.3	6.0	5.9	5.9	5.8	5.7	5.7
28	---	---	---	5.5	5.0	5.4	6.0	5.9	6.0	5.9	5.7	5.8
29	---	---	---	5.0	4.8	4.9	6.0	6.0	6.0	5.8	5.7	5.7
30	---	---	---	5.0	4.9	4.9	6.0	5.9	5.9	5.8	5.7	5.8
31	---	---	---	5.1	5.0	5.1	---	---	---	5.8	5.7	5.8
MAX	5.9	5.8	5.8	5.9	5.8	5.8	6.2	6.0	6.0	6.0	5.9	6.0
MIN	5.9	5.8	5.8	5.0	4.8	4.9	5.0	4.8	4.8	5.6	5.4	5.5

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	5.8	5.7	5.8	5.7	5.4	5.7	5.5	5.4	5.4	6.0	6.0	6.0
2	5.8	5.7	5.8	6.1	5.6	5.6	5.4	5.4	5.4	6.0	5.9	6.0
3	5.9	5.7	5.7	5.8	5.7	5.8	5.4	5.4	5.4	5.9	5.9	5.9
4	5.8	5.6	5.6	5.8	5.8	5.8	5.4	5.4	5.4	5.9	5.9	5.9
5	5.7	5.6	5.6	5.8	5.8	5.8	5.4	5.4	5.4	5.9	5.9	5.9
6	5.9	5.1	5.6	6.1	5.7	5.8	5.4	5.4	5.4	5.9	5.8	5.9
7	5.4	5.1	5.3	5.9	5.2	5.8	5.4	5.4	5.4	5.9	5.9	5.9
8	5.5	5.4	5.5	6.0	5.0	5.2	6.0	5.4	5.4	5.9	5.9	5.9
9	5.5	5.4	5.5	5.2	5.2	5.2	5.9	5.7	5.7	5.9	5.9	5.9
10	5.4	5.4	5.4	5.3	5.2	5.2	5.8	5.7	5.7	5.9	5.9	5.9
11	5.5	5.4	5.4	5.2	5.1	5.2	5.8	5.7	5.7	5.9	5.8	5.9
12	5.4	5.4	5.4	5.5	5.2	5.3	5.9	5.8	5.8	5.9	5.8	5.9
13	5.5	5.4	5.4	5.5	5.4	5.4	5.8	5.8	5.8	5.9	5.8	5.9
14	5.5	5.4	5.4	5.5	5.4	5.4	5.8	5.7	5.8	6.3	5.9	6.0
15	5.5	5.4	5.5	5.5	5.4	5.4	5.8	5.8	5.8	6.3	6.2	6.2
16	5.5	5.3	5.4	5.7	5.4	5.6	5.8	5.7	5.8	6.5	6.1	6.2
17	5.4	5.3	5.4	5.9	5.1	5.3	5.9	5.8	5.8	6.5	6.4	6.5
18	5.4	5.4	5.4	5.3	5.2	5.3	5.8	5.8	5.8	6.5	6.5	6.5
19	5.5	5.4	5.4	5.3	5.2	5.2	6.0	5.7	5.8	6.5	6.4	6.5
20	5.5	5.4	5.4	5.2	5.2	5.2	5.9	5.8	5.9	6.5	6.4	6.5
21	5.5	5.4	5.4	5.3	5.2	5.2	5.9	5.8	5.8	6.5	6.5	6.5
22	5.5	5.4	5.5	5.3	5.2	5.3	5.8	5.8	5.8	6.5	6.4	6.5
23	5.5	5.4	5.4	5.3	5.2	5.3	5.8	5.8	5.8	6.4	6.3	6.4
24	5.5	5.4	5.5	5.3	5.2	5.3	5.8	5.7	5.8	6.4	6.3	6.3
25	5.5	5.5	5.5	5.5	5.3	5.3	5.7	5.7	5.7	6.4	6.3	6.3
26	5.5	5.5	5.5	5.4	5.3	5.3	5.7	5.7	5.7	6.5	6.3	6.4
27	5.5	5.5	5.5	5.4	5.3	5.4	5.7	5.7	5.7	6.5	6.4	6.5
28	5.5	5.5	5.5	5.4	5.4	5.4	6.0	5.7	5.9	6.4	6.4	6.4
29	5.8	5.4	5.5	5.4	5.4	5.4	6.0	5.9	5.9	6.5	6.4	6.4
30	5.8	5.5	5.6	5.5	5.4	5.4	6.0	5.9	6.0	6.5	6.4	6.4
31	---	---	---	5.5	5.4	5.5	6.0	6.0	6.0	---	---	---
MAX	5.9	5.7	5.8	6.1	5.8	5.8	6.0	6.0	6.0	6.5	6.5	6.5
MIN	5.4	5.1	5.3	5.2	5.0	5.2	5.4	5.4	5.4	5.9	5.8	5.9

YEAR			
	MAX	MAXIMUM 6.5	MINIMUM 4.8
	MIN	MAXIMUM 6.5	MINIMUM 4.8
	MEDIAN	MAXIMUM 6.5	MINIMUM 4.8

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	13.7	11.4	12.7	10.8	9.2	10.1	8.3	7.4	8.0	7.5	5.4	6.2
2	13.9	12.9	13.5	11.0	9.4	10.2	7.8	6.6	7.3	5.5	4.6	5.0
3	13.6	11.2	12.3	11.2	7.6	9.8	7.4	6.1	6.7	7.1	5.5	6.4
4	13.0	10.0	11.6	8.1	6.5	7.2	6.8	5.3	6.2	7.3	6.3	6.9
5	12.0	9.5	10.8	8.3	6.6	7.6	7.8	6.2	6.9	6.4	4.6	5.6
6	11.0	8.2	9.7	8.4	5.9	7.2	6.4	5.8	6.2	4.6	4.3	4.5
7	12.6	9.5	11.1	9.8	6.8	8.4	7.1	6.3	6.5	4.8	4.1	4.5
8	13.3	10.6	12.0	8.9	5.9	7.3	8.4	6.7	7.6	4.8	4.5	4.6
9	13.1	10.9	12.1	5.9	4.1	5.2	7.0	5.9	6.5	5.3	4.6	4.9
10	12.6	10.6	11.8	5.4	3.2	4.5	7.3	6.9	7.1	6.1	5.3	5.6
11	11.0	9.3	10.3	7.3	5.1	6.2	8.2	7.2	7.7	5.4	4.8	5.2
12	10.7	8.5	9.6	6.8	6.2	6.6	7.3	6.8	7.1	5.6	5.3	5.5
13	11.1	8.6	10.0	6.2	4.3	5.5	7.0	6.0	6.6	8.4	5.5	6.5
14	11.3	10.4	10.8	5.4	3.5	4.5	6.0	4.4	5.4	9.1	6.0	7.0
15	11.9	10.5	11.3	6.6	4.1	5.3	4.8	3.5	4.2	6.0	5.0	5.6
16	10.8	8.8	10.2	7.4	5.3	6.3	4.9	3.2	4.1	5.5	4.8	5.1
17	9.2	7.8	8.5	7.8	5.2	6.7	5.5	3.8	4.8	4.8	2.7	3.9
18	9.6	7.0	8.5	9.1	7.7	8.5	4.8	2.8	3.8	2.7	1.4	2.0
19	9.5	9.1	9.3	9.9	8.6	9.1	5.6	1.8	4.1	2.7	1.3	2.0
20	9.6	9.2	9.4	8.9	8.5	8.6	1.8	0.0	0.5	3.8	2.5	3.1
21	9.5	9.2	9.4	9.9	8.2	9.0	1.8	0.4	1.2	2.5	0.5	1.4
22	10.2	8.3	9.3	8.6	7.4	8.0	4.0	1.8	3.0	1.0	0.2	0.6
23	9.0	6.7	7.9	8.4	7.5	8.0	7.0	4.0	5.4	1.4	0.4	0.8
24	8.6	7.3	7.9	10.6	8.4	9.2	4.6	3.9	4.3	1.4	0.3	0.9
25	9.9	8.4	9.1	10.8	7.4	9.7	4.0	2.8	3.5	2.9	1.3	2.3
26	10.6	9.0	9.8	7.6	6.8	7.3	4.1	2.6	3.3	4.0	1.4	3.0
27	10.3	8.0	9.1	8.5	7.4	7.9	3.6	1.8	2.5	1.4	0.1	0.5
28	9.8	8.1	9.0	9.5	8.5	9.0	3.1	1.4	2.3	1.0	0.1	0.4
29	9.9	7.9	9.1	8.5	7.8	8.2	5.1	3.1	4.3	1.4	0.1	0.7
30	11.8	9.9	10.9	8.4	7.6	8.1	5.6	5.0	5.2	2.6	1.1	1.8
31	12.6	10.3	11.6	---	---	---	6.5	5.0	5.9	2.7	0.9	1.7
MONTH	13.9	6.7	10.3	11.2	3.2	7.6	8.4	0.0	5.1	9.1	0.1	3.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	2.3	0.2	1.2	---	---	---	9.4	7.0	8.1	11.7	8.0	9.8
2	---	---	---	---	---	---	8.2	6.9	7.4	9.0	6.5	7.8
3	---	---	---	---	---	---	7.3	6.1	6.6	9.2	5.6	7.2
4	---	---	---	---	---	---	8.2	6.2	7.1	9.7	6.0	7.7
5	---	---	---	---	---	---	8.9	6.3	7.6	10.8	5.4	8.0
6	---	---	---	---	---	---	10.8	7.1	8.8	9.9	6.9	8.3
7	---	---	---	---	---	---	11.0	8.5	9.7	12.4	6.1	9.1
8	---	---	---	---	---	---	10.9	8.8	9.7	13.3	7.9	10.3
9	---	---	---	1.7	0.0	0.7	10.8	7.2	8.9	14.6	8.5	11.3
10	---	---	---	2.6	0.1	1.4	11.4	6.6	8.9	15.1	9.6	12.2
11	---	---	---	3.2	1.6	2.5	11.0	7.7	9.1	16.3	10.8	13.4
12	---	---	---	4.5	1.7	3.1	9.9	5.8	7.7	14.8	10.2	12.8
13	---	---	---	4.2	1.7	3.0	9.8	5.5	7.3	12.9	7.9	10.4
14	---	---	---	4.2	1.7	2.8	11.1	6.6	8.6	15.2	9.9	12.4
15	---	---	---	4.5	1.0	2.6	10.5	6.5	8.2	15.1	12.7	13.6
16	---	---	---	5.0	1.8	3.1	10.5	5.2	7.7	12.8	10.5	11.8
17	---	---	---	5.2	2.0	3.3	11.7	5.7	8.6	12.1	8.9	10.5
18	---	---	---	5.9	2.7	4.0	12.6	7.1	9.7	12.7	8.3	10.5
19	---	---	---	5.9	2.2	4.0	14.0	8.0	10.8	12.8	8.5	10.7
20	---	---	---	4.6	4.1	4.3	15.2	10.3	12.5	11.3	9.2	10.3
21	---	---	---	5.1	4.0	4.4	12.9	9.0	11.4	12.9	8.8	10.6
22	---	---	---	6.7	3.2	4.8	9.0	6.9	8.1	12.3	9.9	10.9
23	---	---	---	4.5	2.6	3.8	10.6	7.9	9.0	11.7	9.4	10.4
24	---	---	---	4.8	3.0	4.0	9.6	6.6	7.7	11.0	10.2	10.6
25	---	---	---	5.5	4.1	4.7	7.4	5.9	6.6	10.6	9.6	10.0
26	---	---	---	5.6	4.0	4.8	11.3	5.4	8.2	14.2	9.7	11.5
27	---	---	---	6.0	5.0	5.5	12.4	8.9	10.0	14.6	10.1	12.3
28	---	---	---	5.4	4.5	4.8	11.2	7.4	9.0	12.8	10.9	11.8
29	---	---	---	7.0	5.2	6.2	9.4	6.8	8.1	13.8	10.2	11.7
30	---	---	---	7.9	5.7	6.8	9.4	8.4	8.8	13.3	9.9	11.3
31	---	---	---	7.4	6.2	6.9	---	---	---	14.6	10.1	12.2
MONTH	2.3	0.2	1.2	7.9	0.0	4.0	15.2	5.2	8.7	16.3	5.4	10.7

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	14.8	11.0	12.7	19.0	16.6	17.6	18.8	16.1	17.2	19.3	17.2	18.0
2	15.0	11.2	12.9	18.7	16.0	17.7	20.1	16.6	18.1	19.2	15.9	17.4
3	12.8	12.2	12.5	17.8	14.3	16.0	20.5	17.0	18.6	17.8	15.3	16.6
4	14.2	12.5	13.2	18.8	15.0	16.7	20.8	17.3	18.8	17.8	15.1	16.3
5	16.8	12.7	14.6	17.9	16.2	17.0	19.1	17.4	18.2	17.5	14.4	16.0
6	17.8	14.0	15.5	18.7	16.8	17.5	18.6	16.4	17.5	17.3	14.2	15.8
7	17.4	14.7	15.9	18.7	16.7	17.3	18.8	16.2	17.3	17.4	14.3	15.9
8	17.7	14.7	16.1	17.2	16.1	16.9	18.4	16.9	17.5	17.3	14.1	15.8
9	17.7	15.0	16.3	17.2	15.3	16.0	18.4	17.2	17.7	17.4	15.3	16.2
10	17.5	15.9	16.5	17.2	14.7	15.8	19.6	16.8	17.9	17.0	14.4	15.7
11	17.3	15.8	16.4	17.3	14.2	15.8	20.5	17.2	18.6	16.3	13.2	14.9
12	18.2	15.7	16.8	17.8	15.3	16.5	20.9	17.4	18.9	17.1	13.6	15.4
13	18.2	15.6	16.8	18.3	15.9	16.9	21.5	18.2	19.6	17.8	14.9	16.4
14	19.0	16.1	17.4	17.6	16.2	16.8	21.7	18.3	19.8	17.9	15.5	16.8
15	18.1	16.2	17.1	17.8	16.3	16.8	19.6	18.2	18.9	19.1	16.9	17.9
16	17.2	14.5	15.9	17.5	16.5	16.9	18.3	17.1	17.7	19.4	17.9	18.6
17	15.4	12.9	14.1	19.7	17.2	18.7	19.8	16.8	18.0	19.0	17.2	17.9
18	14.5	12.6	13.6	19.3	17.9	18.5	19.2	15.8	17.5	18.2	15.8	17.0
19	14.8	12.6	13.6	18.7	17.0	17.7	17.6	17.0	17.3	18.1	15.4	16.7
20	15.4	12.8	14.0	18.3	16.4	17.2	18.9	16.8	17.6	18.0	16.6	17.2
21	16.6	12.8	14.7	18.2	15.6	16.8	20.4	17.5	18.6	17.5	15.0	16.3
22	16.7	13.9	15.1	18.3	16.1	17.1	18.8	16.4	17.5	17.4	14.2	16.0
23	16.5	12.2	14.3	18.3	15.6	17.0	17.8	14.8	16.3	17.7	16.4	17.0
24	17.3	12.6	14.8	17.1	14.2	15.8	17.7	14.9	16.2	16.5	14.7	15.6
25	18.6	14.4	16.3	18.8	15.8	17.1	17.6	13.9	15.7	16.1	15.3	15.7
26	19.3	15.4	17.2	19.4	16.5	17.9	17.0	14.8	15.9	17.2	16.1	16.7
27	19.3	16.0	17.5	19.6	17.2	18.2	17.1	15.4	16.2	17.1	13.9	15.8
28	20.1	16.6	18.1	17.8	15.7	16.7	17.8	16.1	16.8	15.0	11.8	13.7
29	19.1	17.1	17.9	17.5	14.7	16.2	18.4	16.7	17.5	15.2	12.8	14.7
30	19.6	17.1	18.1	18.6	15.7	16.9	18.4	17.4	17.8	13.5	11.0	12.3
31	---	---	---	18.4	15.6	16.9	19.4	18.0	19.0	---	---	---
MONTH	20.1	11.0	15.5	19.7	14.2	17.0	21.7	13.9	17.7	19.4	11.0	16.2
YEAR	21.7	0.0	10.7									

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA
(Swatara Creek Project)

LOCATION.--Lat 40°39'28", long 76°20'43", Schuylkill County, Hydrologic Unit 02050305, on left bank 500 ft downstream from bridge on U.S. Highway 209. Located on Swatara Coal Company property.

DRAINAGE AREA.--2.92 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those above 44 ft^3/s and those for estimated daily discharges, which are poor. Other data for this project presented in tables on pages 414-456. Diversion upstream from station into limestone treatment system used to remediate acid mine drainage.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0830	95	2.59
Dec. 23	1530	78	2.48
Jan. 14	0430	90	2.56
Mar. 28	2230	88	2.55
Apr. 2	1630	*122	*2.75

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	3.2	23	5.5	2.8	3.4	13	3.5	1.2	1.2	1.1	1.1
2	8.2	2.7	16	5.2	2.6	3.3	43	3.1	1.1	3.1	1.1	0.96
3	7.5	2.6	14	5.3	2.2	3.3	60	3.0	1.4	1.2	0.99	0.88
4	6.8	3.3	11	5.8	2.1	4.1	29	2.7	2.0	1.0	0.93	0.84
5	6.2	3.8	9.7	5.9	2.0	3.6	20	2.4	1.3	0.99	0.89	0.83
6	5.6	3.2	8.6	8.7	2.0	3.1	15	2.4	6.9	1.7	0.80	0.79
7	5.3	3.0	8.8	7.5	2.2	4.1	12	2.3	6.6	2.7	0.76	0.78
8	4.9	2.7	8.1	10	2.5	8.4	10	2.1	3.5	14	1.2	0.76
9	4.7	2.6	7.6	9.9	3.1	7.0	8.2	2.1	3.8	5.5	2.4	0.74
10	4.5	2.5	17	9.4	4.0	5.8	7.3	2.0	3.7	3.8	1.6	0.71
11	4.2	2.5	15	8.7	3.0	5.5	6.6	1.8	3.1	2.8	1.4	0.68
12	4.1	5.6	13	8.5	2.8	5.2	5.6	1.7	2.6	2.2	1.3	0.71
13	3.9	4.7	11	9.4	2.6	4.9	5.1	1.6	2.2	2.0	1.3	0.67
14	4.7	3.8	9.5	47	5.4	4.5	4.6	2.4	2.0	1.7	1.2	0.73
15	4.8	3.7	8.4	26	9.5	4.3	4.2	4.6	1.7	1.7	1.2	0.72
16	5.1	3.5	7.5	18	7.5	4.1	3.9	2.5	1.5	2.2	1.2	0.93
17	4.3	3.4	6.9	14	7.3	4.1	3.6	2.1	1.4	9.8	1.2	1.3
18	4.0	3.3	6.2	11	6.7	4.4	3.2	2.0	1.5	6.1	1.1	0.97
19	6.0	3.2	5.9	9.2	6.1	4.7	3.0	1.9	1.3	4.3	1.5	0.71
20	5.0	3.4	5.9	8.2	5.5	5.3	2.9	2.6	1.3	3.7	1.3	0.86
21	4.7	3.5	5.0	7.3	5.4	5.7	2.6	2.1	1.2	3.0	1.1	0.83
22	4.8	3.3	4.7	e6.5	5.0	5.6	2.5	1.9	1.1	2.6	1.1	0.78
23	4.5	3.6	20	e6.0	4.5	8.8	4.0	1.7	1.0	2.1	1.0	0.77
24	4.4	12	14	e5.5	4.3	9.7	5.1	1.7	0.99	1.8	0.97	0.68
25	4.2	21	11	e5.0	4.0	9.6	3.7	1.5	0.93	2.3	0.93	0.68
26	4.0	14	9.6	e4.5	3.7	9.1	3.2	1.4	0.84	1.6	0.90	0.78
27	4.0	12	8.5	e4.0	3.5	8.6	3.5	1.3	0.81	1.7	0.90	0.90
28	4.1	40	7.5	e3.5	3.4	31	3.0	1.5	0.78	1.5	1.6	0.74
29	3.9	22	6.9	e3.0	---	38	3.0	1.5	1.4	1.3	1.2	0.78
30	6.9	16	6.3	3.2	---	23	3.5	1.4	2.2	1.2	1.1	0.76
31	4.1	---	5.9	3.0	---	16	---	1.2	---	1.1	1.1	---
TOTAL	158.4	214.1	312.5	284.7	115.7	258.2	294.3	66.0	61.35	91.89	36.37	24.37
MEAN	5.11	7.14	10.1	9.18	4.13	8.33	9.81	2.13	2.04	2.96	1.17	0.81
MAX	9.0	40	23	47	9.5	38	60	4.6	6.9	14	2.4	1.3
MIN	3.9	2.5	4.7	3.0	2.0	3.1	2.5	1.2	0.78	0.99	0.76	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2005, BY WATER YEAR (WY)

MEAN	3.75	4.26	6.52	5.33	4.47	7.47	6.27	4.24	4.30	2.27	2.05	4.05
MAX	7.81	8.40	15.3	10.9	10.4	11.9	9.81	9.19	12.5	3.87	8.50	19.4
(WY)	1997	1997	1997	1998	1998	2003	2005	1998	2003	2003	2003	2004
MIN	1.10	0.86	0.71	1.94	2.41	4.83	3.95	2.05	0.89	0.10	0.26	0.42
(WY)	1999	1999	1999	2002	2004	2004	1999	1999	1999	1999	1999	1998

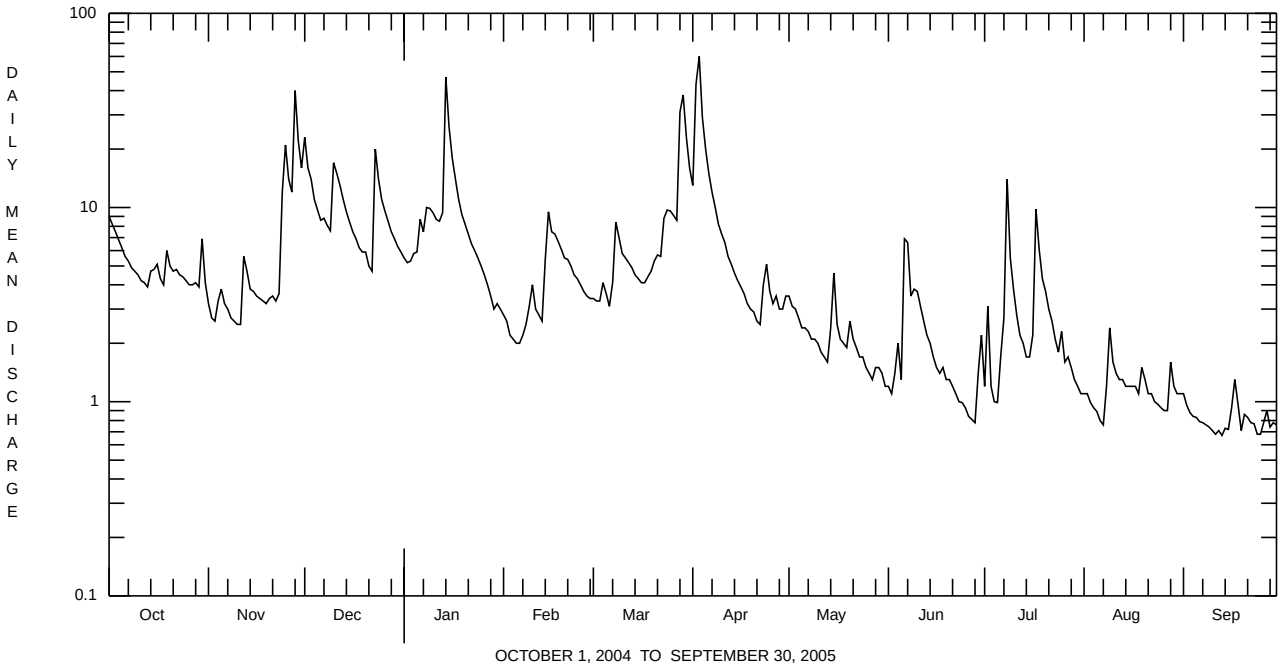
e Estimated.

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1996 - 2005	
ANNUAL TOTAL	2257.6		1917.88			
ANNUAL MEAN	6.17		5.25		4.60	
HIGHEST ANNUAL MEAN					6.77	2003
LOWEST ANNUAL MEAN					2.61	1999
HIGHEST DAILY MEAN	**e**400	Sep 18	60	Apr 3	**e**400	Sep 18 2004
LOWEST DAILY MEAN	1.4	Jul 11	0.67	Sep 13	0.00	Jul 27 1999**a**
ANNUAL SEVEN-DAY MINIMUM	1.6	Jul 5	0.71	Sep 9	0.00	Jul 29 1999
MAXIMUM PEAK FLOW			**b**122	Apr 2	**b**483	Sep 18 2004
MAXIMUM PEAK STAGE			2.75	Apr 2	**c**3.60	Sep 18 2004
INSTANTANEOUS LOW FLOW			0.25	Sep 19	0.00	Jul 27 1999**a**
10 PERCENT EXCEEDS	9.1		10		9.0	
50 PERCENT EXCEEDS	4.0		3.5		3.1	
90 PERCENT EXCEEDS	2.2		0.93		0.77	

a Several days.
b From rating curve extended above 44 ft^3/s.
c From crest-stage gage.
e Estimated.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1996 to May 2003.
pH: July 1996 to May 2003.
WATER TEMPERATURE: July 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996. Water temperature taken from in-situ transducer beginning May 2003.

REMARKS.--Water temperature records rated fair to 10°C, poor above 10°C. Interruptions in the record were due to malfunctions of the instrumentation. 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 the Swatara Creek Project presented in tables on pages 414-456. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 438 microsiemens, Aug. 13, 1999; minimum, 51 microsiemens, July 24, 1997.
pH: Maximum, 8.2, Aug. 20, 2001; minimum, 3.6, Oct. 21-23, 25, Dec. 3, 1996.
WATER TEMPERATURE: Maximum, 23.5°C, July 5, 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 21.8°C, Aug. 14; minimum 0.3°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
05...	1300	1028	--	6.3	414	4.1	11.8	102	5.7	--
NOV										
02...	1000	1028	89203	2.6	419	2.3	10.7	94	6.0	5.9
DEC										
22...	0945	1028	89203	4.7	399	2.2	14.1	103	5.7	5.5
FEB										
09...	1000	1028	89203	2.9	387	--	12.5	96	6.2	6.0
MAR										
23...	1200	1028	89203	7.7	391	--	12.3	95	6.1	5.4
MAY										
04...	1132	1028	89203	2.8	384	2.6	11.5	100	5.9	5.7
JUN										
21...	1230	1028	89203	1.2	359	6.3	9.5	96	5.8	5.6
JUL										
18...	1145	1028	89203	6.3	465	--	8.7	94	5.2	5.6
SEP										
01...	1200	1028	89203	1.1	365	--	8.7	93	6.5	6.2

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
05...	138	10.7	--	--	--	--	--	--	--	--
NOV										
02...	128	9.1	7.90	7.9	4.70	4.9	.90	.8	16.0	5.5
DEC										
22...	129	2.1	8.20	6.8	6.60	5.5	.90	.8	5.70	5.0
FEB										
09...	114	3.8	6.30	6.4	4.50	4.5	.80	.9	5.10	4.9
MAR										
23...	104	4.1	5.50	5.8	4.00	4.2	1.00	.9	5.10	5.3
MAY										
04...	129	8.4	7.30	7.1	5.10	5.0	1.00	.8	5.80	5.2
JUN										
21...	149	15.5	9.70	9.3	7.10	6.8	.80	.7	6.00	5.6
JUL										
18...	112	18.9	5.90	5.1	4.00	3.5	1.10	1.0	6.40	5.4
SEP										
01...	175	18.5	12.3	12.1	8.90	8.7	1.10	1.1	6.90	6.7

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
NOV										
02...	2	11.6	--	38.3	--	--	--	<100	400	--
DEC										
22...	2	7.9	--	45.0	--	--	--	300	600	--
FEB										
09...	3	9.0	--	35.9	--	--	--	<100	500	--
MAR										
23...	2	7.8	<.01	26.7	.49	<.030	<.020	200	1100	.19
MAY										
04...	3	8.2	<.01	35.2	.43	<.030	<.020	<100	400	.18
JUN										
21...	2	14.2	.38	107	.51	<.030	<.020	<100	500	.21
JUL										
18...	2	9.6	--	32.3	--	--	--	400	500	--
SEP										
01...	4	10.6	--	55.2	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
05...	--	--	--	--	--	--	--	--
NOV								
02...	100	230	290	290	245	20.0	385	55.0
DEC								
22...	640	640	400	350	35.0	25.0	85.0	70.0
FEB								
09...	390	510	300	310	25.0	25.0	65.0	60.0
MAR								
23...	440	890	260	260	20.0	20.0	65.0	75.0
MAY								
04...	180	310	300	280	20.0	25.0	60.0	65.0
JUN								
21...	80.0	330	280	270	30.0	25.0	65.0	70.0
JUL								
18...	400	500	280	250	25.0	20.0	65.0	60.0
SEP								
01...	40.0	120	180	170	20.0	20.0	40.0	45.0

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	13.2	10.9	12.1	10.1	8.7	9.5	7.8	7.0	7.6	7.1	5.0	5.9
2	13.3	12.3	12.9	10.3	8.8	9.6	7.4	6.2	6.8	5.1	4.3	4.7
3	13.1	10.8	11.8	10.5	7.2	9.4	6.9	5.7	6.2	6.7	5.1	6.0
4	12.4	9.5	11.0	7.5	6.1	6.7	6.4	4.9	5.8	7.0	6.1	6.7
5	11.6	9.2	10.3	7.8	6.1	7.1	7.4	6.0	6.6	6.1	4.4	5.4
6	10.5	7.7	9.2	7.8	5.4	6.6	6.1	5.6	5.8	4.4	4.1	4.2
7	12.0	8.9	10.4	9.2	6.2	7.8	6.8	6.0	6.2	4.5	3.9	4.2
8	12.6	10.1	11.4	8.2	5.5	6.9	8.1	6.6	7.4	4.4	4.2	4.3
9	12.4	10.4	11.5	5.5	3.8	4.8	6.7	5.7	6.3	4.9	4.3	4.6
10	12.0	10.2	11.3	4.9	2.8	4.0	7.2	6.6	6.9	5.8	4.8	5.2
11	10.5	9.0	9.8	6.7	4.5	5.6	8.0	7.1	7.5	4.9	4.5	4.8
12	10.2	8.1	9.1	6.2	5.7	6.0	7.2	6.7	6.9	5.2	4.8	5.0
13	10.5	8.1	9.4	5.7	3.8	4.9	6.8	5.9	6.5	8.0	5.1	6.0
14	10.7	9.8	10.2	4.9	3.0	3.9	5.9	4.3	5.3	8.8	5.7	6.7
15	11.2	10.1	10.7	6.0	3.4	4.6	4.6	3.3	4.0	5.7	4.5	5.1
16	10.3	8.4	9.7	6.7	4.6	5.6	4.5	2.8	3.8	5.0	4.3	4.6
17	8.7	7.5	8.1	7.1	4.6	5.9	5.2	3.6	4.5	4.3	2.1	3.4
18	9.1	6.6	8.0	8.4	6.9	7.7	4.3	2.4	3.4	2.1	0.8	1.4
19	9.0	8.6	8.8	9.2	7.9	8.4	5.2	1.9	3.8	2.1	0.7	1.3
20	9.1	8.6	8.8	8.3	7.8	7.9	1.9	0.3	0.6	3.2	1.9	2.5
21	9.0	8.7	8.9	9.2	7.6	8.3	1.3	0.3	0.8	2.0	0.3	0.9
22	9.6	8.0	8.8	7.9	6.8	7.3	3.4	1.3	2.5	0.8	0.3	0.7
23	8.5	6.3	7.5	7.8	6.9	7.3	6.6	3.4	5.0	0.8	0.3	0.5
24	8.1	6.9	7.5	9.9	7.8	8.5	4.3	3.4	3.9	0.9	0.3	0.6
25	9.3	8.0	8.6	10.2	6.9	9.1	3.6	2.3	3.0	2.2	0.6	1.6
26	9.9	8.5	9.3	7.0	6.2	6.6	3.6	2.1	2.8	3.4	0.9	2.4
27	9.7	7.5	8.6	7.9	6.7	7.3	3.1	1.3	2.1	0.9	0.3	0.7
28	9.2	7.7	8.5	9.0	7.9	8.5	2.5	0.8	1.8	0.8	0.4	0.7
29	9.3	7.5	8.5	8.0	7.3	7.7	4.6	2.5	3.8	0.8	0.3	0.7
30	11.0	9.3	10.2	8.0	7.1	7.6	5.2	4.5	4.8	2.0	0.5	1.2
31	12.0	9.8	11.0	---	---	---	6.2	4.6	5.5	2.0	0.3	1.1
MONTH	13.3	6.3	9.7	10.5	2.8	7.0	8.1	0.3	4.8	8.8	0.3	3.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	1.7	0.3	0.9	2.2	0.3	1.2	9.4	6.9	8.0	12.0	8.3	10
2	1.9	0.3	0.9	2.6	0.3	1.0	8.2	6.8	7.3	9.2	6.6	8.0
3	2.4	0.6	1.5	2.0	0.3	0.8	7.2	6.0	6.4	9.4	5.7	7.6
4	3.3	1.7	2.3	2.1	0.3	1.0	8.3	6.0	7.0	10.1	6.0	7.8
5	3.9	1.5	2.4	2.7	0.3	1.2	9.0	6.2	7.6	10.8	5.3	8.1
6	4.0	1.1	2.4	3.8	0.3	1.8	11.0	7.0	8.9	10.1	6.8	8.4
7	4.2	1.6	2.7	5.8	1.9	3.4	11.2	8.6	9.8	12.8	6.1	9.2
8	4.7	2.7	3.5	3.3	0.3	1.8	11.1	8.9	9.8	13.7	8.0	10.5
9	4.6	3.4	3.9	1.5	0.3	0.8	10.9	7.2	9.0	15.3	8.6	11.7
10	4.0	1.9	3.4	2.4	0.3	1.2	11.5	6.6	9.0	15.9	9.8	12.6
11	2.4	0.3	1.3	2.8	1.1	2.0	11.2	7.9	9.2	16.9	11.0	13.8
12	2.7	0.8	1.8	4.1	1.3	2.7	9.9	5.8	7.7	15.3	10.5	13.2
13	3.0	1.1	2.0	3.8	1.2	2.6	10.1	5.3	7.6	13.4	8.0	10.7
14	2.4	1.3	1.8	4.1	1.3	2.5	11.3	6.5	8.6	15.8	10.2	12.8
15	4.7	2.4	3.6	4.3	0.6	2.3	10.7	6.6	8.4	15.6	12.9	13.9
16	4.8	3.4	4.0	4.8	1.3	2.8	10.7	5.2	7.8	13.1	10.9	12.1
17	4.1	2.2	3.2	4.9	1.7	3.0	12.0	5.7	8.7	12.4	9.1	10.7
18	2.2	0.8	1.5	5.8	2.3	3.7	12.9	7.0	9.8	13.0	8.5	10.8
19	2.2	0.5	1.2	5.8	1.9	3.8	14.4	8.1	11.0	13.1	8.6	10.9
20	3.0	0.4	1.9	4.4	3.9	4.1	15.6	10.4	12.7	11.5	9.4	10.5
21	2.9	0.3	1.9	4.8	3.8	4.2	13.3	9.3	11.7	12.9	8.8	10.8
22	4.5	2.8	3.4	6.6	2.8	4.5	9.3	7.1	8.2	12.6	10.2	11.3
23	3.9	1.9	3.0	4.3	2.4	3.6	10.7	8.0	9.0	11.9	9.8	10.7
24	1.9	0.3	1.2	4.5	2.7	3.7	9.8	6.7	7.8	11.2	10.4	10.8
25	2.0	0.3	0.9	5.2	3.9	4.4	7.4	6.0	6.7	10.7	9.8	10.2
26	2.6	0.3	1.4	5.3	3.7	4.5	11.4	5.6	8.3	14.2	10.0	11.9
27	2.5	0.3	1.2	5.7	4.7	5.2	12.6	9.1	10.2	14.8	10.2	12.4
28	2.0	0.3	1.1	5.2	4.3	4.6	11.4	7.6	9.2	12.9	11.1	12.1
29	---	---	---	6.8	4.9	6.0	9.4	6.8	8.2	14.0	10.4	12.0
30	---	---	---	7.8	5.4	6.6	9.4	8.5	8.8	13.4	10.2	11.6
31	---	---	---	7.2	6.0	6.8	---	---	---	14.8	10.2	12.4
MONTH	4.8	0.3	2.2	7.8	0.3	3.2	15.6	5.2	8.7	16.9	5.3	11.0

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	14.9	11.2	13.1	19.3	17.4	18.4	19.2	17.2	18.1	19.2	18.0	18.6
2	15.1	11.6	13.2	19.2	17.0	18.4	20.4	17.6	18.9	19.1	16.7	18.0
3	13.1	12.5	12.8	18.3	15.3	16.9	20.6	18.0	19.3	18.2	16.5	17.4
4	14.4	12.8	13.5	19.1	15.9	17.5	20.8	18.3	19.5	17.9	16.0	17.0
5	16.9	13.0	14.9	18.4	16.9	17.7	19.6	18.5	19.1	17.6	15.3	16.6
6	17.8	14.4	15.9	19.0	17.3	18.0	19.1	17.6	18.5	17.4	15.1	16.4
7	17.6	15.0	16.3	19.1	17.3	18.0	19.0	17.2	18.1	17.4	15.1	16.4
8	18.1	15.1	16.5	17.8	16.9	17.5	18.8	17.9	18.3	17.3	15.0	16.3
9	18.0	15.4	16.7	17.8	16.2	16.8	18.9	17.9	18.3	17.5	15.8	16.6
10	17.9	16.4	16.9	17.8	15.5	16.6	19.8	17.5	18.5	17.1	15.1	16.2
11	17.5	16.3	16.9	17.9	15.2	16.6	20.4	18.0	19.1	16.5	14.1	15.4
12	18.6	16.2	17.2	18.0	16.1	17.0	20.9	18.3	19.5	17.0	14.2	15.7
13	18.6	16.1	17.3	18.6	16.6	17.5	21.5	19.0	20.2	17.8	15.3	16.6
14	19.4	16.7	18.0	18.0	16.9	17.4	21.8	19.3	20.5	18.0	15.9	17.0
15	18.5	17.0	17.8	18.2	17.1	17.5	20.8	19.3	19.9	19.0	17.4	18.0
16	17.5	15.4	16.6	18.1	17.3	17.6	19.5	18.2	18.8	19.5	18.4	18.9
17	15.8	13.6	14.7	20.3	17.9	19.2	19.9	17.9	18.7	19.0	17.9	18.4
18	14.9	13.0	14.1	19.8	18.6	19.1	19.2	17.0	18.3	18.2	16.7	17.6
19	15.1	13.1	14.1	19.2	17.8	18.5	18.7	17.9	18.2	18.2	16.3	17.2
20	15.6	13.3	14.5	18.8	17.3	18.0	19.0	17.5	18.1	18.2	17.1	17.6
21	16.7	13.4	15.1	18.7	16.6	17.6	20.2	18.3	19.1	17.5	15.9	16.9
22	17.0	14.6	15.7	18.7	16.9	17.8	18.9	17.3	18.3	17.4	15.1	16.4
23	16.5	13.1	14.9	18.6	16.8	17.7	18.0	16.1	17.2	18.0	16.9	17.4
24	17.5	13.3	15.4	17.6	15.2	16.6	17.8	16.1	17.0	17.2	15.8	16.4
25	18.8	15.2	16.9	19.1	16.7	17.7	17.5	15.0	16.4	16.6	16.1	16.4
26	19.4	16.2	17.7	19.9	17.3	18.6	17.3	15.8	16.7	17.4	16.6	17.0
27	19.6	16.9	18.2	20.0	18.1	19.0	17.4	16.3	16.9	17.4	15.2	16.5
28	20.5	17.4	18.9	18.7	16.9	17.8	18.0	16.8	17.3	15.5	13.4	14.6
29	19.4	18.1	18.8	18.2	16.0	17.2	18.6	17.2	17.8	15.8	14.1	15.3
30	20.0	17.8	18.8	19.0	16.8	17.8	18.9	18.0	18.3	14.1	12.4	13.4
31	---	---	---	18.9	16.8	17.8	19.9	18.8	19.4	---	---	---
MONTH	20.5	11.2	16.0	20.3	15.2	17.7	21.8	15.0	18.5	19.5	12.4	16.7
YEAR	21.8	0.3	9.9									

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling depth, feet (00003)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
JUL 2005							
18...	1146	1028	1028	5.9	.00	--	.9
18...	1147	1028	1028	--	.30	18.7	2.0
18...	1148	1028	1028	--	.30	18.7	3.0
18...	1149	1028	1028	--	.30	18.7	4.0
18...	1150	1028	1028	--	.30	18.7	5.0
18...	1151	1028	1028	--	.30	18.7	6.0
18...	1152	1028	1028	--	.40	18.8	7.0
18...	1153	1028	1028	--	.30	18.8	8.0
18...	1154	1028	1028	--	.30	18.8	9.0
18...	1155	1028	1028	--	.20	18.8	10.0
18...	1156	1028	1028	--	.30	18.8	11.0
18...	1157	1028	1028	--	.20	18.8	12.0
18...	1158	1028	1028	--	.20	18.8	13.0
18...	1159	1028	1028	--	.20	18.8	14.0
18...	1200	1028	1028	--	.10	18.8	15.0
18...	1201	1028	1028	--	.00	--	17.0

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA
(Swatara Creek Project)

LOCATION.--Lat 40°35'42", long 76°26'32", Schuylkill County, Hydrologic Unit 02050305, on left bank above weir, 350 ft downstream from drainage tunnel. Located on Schuylkill County property.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,000 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Outflow is from mine drainage tunnel and is regulated by mining activity. Other data for this project presented in tables on pages 414-456.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	4.4	20	8.2	5.5	6.0	17	5.6	4.4	2.4	2.5	2.1
2	10	5.5	20	8.4	6.2	4.9	18	4.5	2.9	2.0	2.6	1.1
3	11	4.8	19	8.2	5.0	4.7	22	5.5	4.3	2.7	3.4	2.4
4	11	4.9	18	7.2	5.9	5.0	25	4.6	3.4	1.8	2.5	1.6
5	9.9	5.7	17	7.5	4.6	3.9	26	4.9	3.7	3.0	2.1	1.4
6	9.0	5.0	15	7.2	5.3	5.0	25	5.2	3.8	2.1	3.4	2.5
7	9.4	5.1	14	6.7	4.3	4.3	23	4.4	3.2	2.5	2.9	1.2
8	9.0	5.8	13	7.3	5.0	4.4	21	5.4	4.0	3.1	2.0	1.4
9	7.8	4.8	12	7.8	3.9	4.7	18	4.4	2.5	2.5	3.0	2.1
10	8.2	5.1	11	8.2	4.8	4.0	16	5.0	3.8	3.2	3.0	0.79
11	8.0	6.0	11	8.6	3.7	5.1	14	4.9	2.8	2.0	1.8	1.5
12	7.0	5.0	12	8.9	4.5	4.2	12	4.0	3.5	3.1	1.8	1.7
13	7.2	4.8	13	8.4	3.4	4.7	11	5.1	3.0	2.2	2.7	0.76
14	7.3	5.6	12	11	4.5	4.6	10	4.1	3.1	2.7	3.1	2.0
15	6.4	4.9	13	17	3.5	4.1	9.5	5.0	3.4	2.7	2.8	2.0
16	6.3	4.9	12	20	4.8	4.9	8.2	4.2	2.7	2.3	1.6	1.1
17	6.7	5.8	11	20	4.8	4.1	8.6	4.3	3.5	3.2	2.6	2.3
18	6.3	5.2	10	19	5.2	4.6	8.0	4.7	2.2	2.4	1.9	1.6
19	5.9	4.9	10	17	6.4	4.7	7.1	3.7	3.5	3.5	1.5	1.3
20	5.3	5.8	9.6	16	5.6	3.8	7.4	4.7	2.5	2.6	2.5	2.4
21	6.3	5.1	8.6	14	6.6	4.7	6.5	3.7	3.1	3.2	1.6	1.1
22	5.8	5.1	8.7	12	6.3	3.9	6.4	4.2	3.0	3.2	1.7	1.4
23	5.0	5.8	8.4	10	5.9	4.4	6.8	4.3	2.6	3.0	2.3	2.0
24	6.0	5.1	8.1	10	6.5	5.0	5.5	3.7	3.2	3.6	1.3	0.76
25	5.4	6.2	8.9	8.9	5.3	5.3	6.1	4.7	2.1	2.9	1.8	1.7
26	4.7	7.8	9.5	8.7	6.0	7.4	5.9	3.5	3.4	4.0	2.3	1.6
27	5.8	9.3	9.0	7.8	5.8	7.1	5.0	4.5	2.1	2.8	1.3	0.80
28	5.2	12	9.4	7.3	4.9	7.6	6.0	3.7	3.2	3.5	1.9	2.1
29	4.7	18	9.4	7.4	---	12	5.3	4.0	2.2	3.0	2.1	1.3
30	5.6	20	9.0	6.5	---	17	5.3	4.0	2.5	3.1	1.3	0.67
31	4.9	---	9.0	6.7	---	19	---	3.5	---	3.5	2.1	---
TOTAL	222.1	198.4	370.6	321.9	144.2	185.1	365.6	138.0	93.6	87.8	69.4	46.68
MEAN	7.16	6.61	12.0	10.4	5.15	5.97	12.2	4.45	3.12	2.83	2.24	1.56
MAX	11	20	20	20	6.6	19	26	5.6	4.4	4.0	3.4	2.5
MIN	4.7	4.4	8.1	6.5	3.4	3.8	5.0	3.5	2.1	1.8	1.3	0.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2005, BY WATER YEAR (WY)

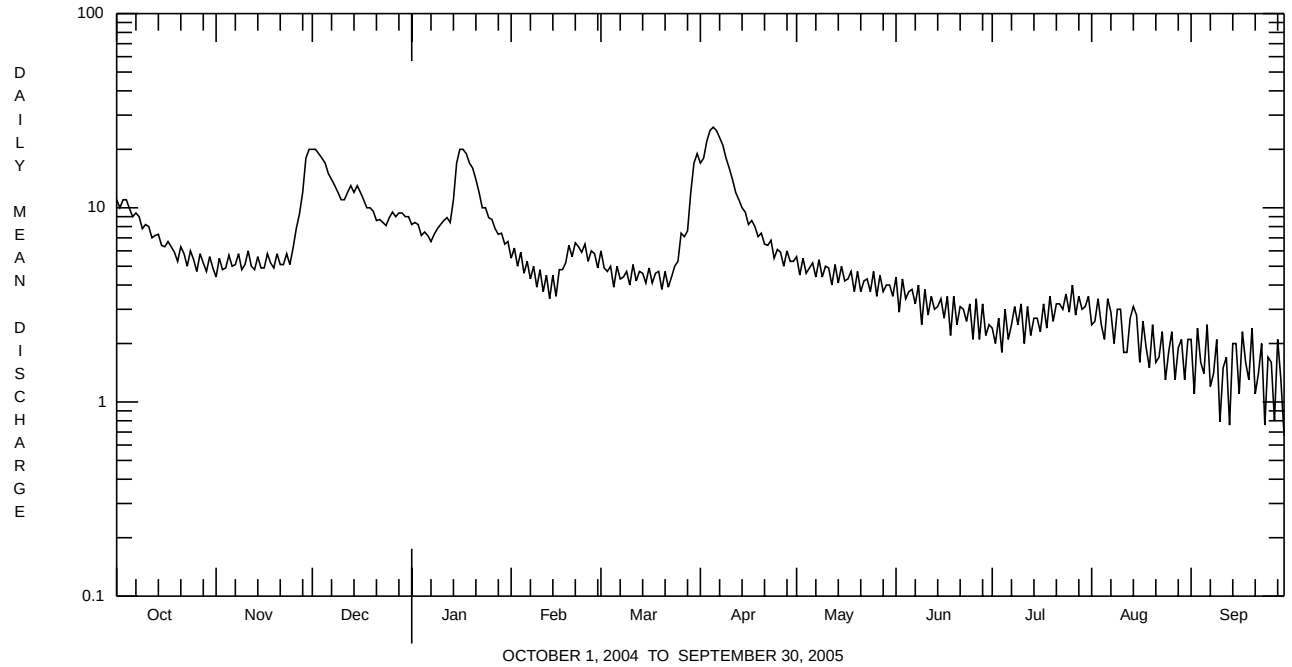
MEAN	4.23	4.92	8.11	6.20	4.20	6.93	9.43	6.46	6.11	3.76	3.54	4.09
MAX	7.48	9.22	12.0	10.4	5.15	11.5	12.2	10.6	12.4	5.54	7.15	10.1
(WY)	2004	2004	2005	2005	2005	2003	2005	2002	2003	2003	2003	2004
MIN	1.49	1.23	2.62	3.01	3.20	5.18	6.88	4.45	3.12	2.47	1.51	1.25
(WY)	2002	2002	2002	2002	2004	2004	2004	2005	2005	2002	2002	2002

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2000 - 2005	
ANNUAL TOTAL	2369.0		2243.38			
ANNUAL MEAN	6.47		6.15		5.70	
HIGHEST ANNUAL MEAN					7.22	2003
LOWEST ANNUAL MEAN					4.01	2002
HIGHEST DAILY MEAN	30	Sep 19,20	26	Apr 5	30	Mar 23 2003
LOWEST DAILY MEAN	2.2	Feb 22,25,28	0.67	Sep 30	0.59	Nov 23 2001**a**
ANNUAL SEVEN-DAY MINIMUM	2.7	Feb 22	1.3	Sep 24	1.00	Nov 17 2001
MAXIMUM PEAK FLOW			26	Apr 4-6	31	Sep 19 2004
MAXIMUM PEAK STAGE			2.19	Apr 4,5	2.32	Sep 19 2004
INSTANTANEOUS LOW FLOW			0.59	Sep 29,30	0.59	Nov 17 2001**b**
10 PERCENT EXCEEDS	10		12		10	
50 PERCENT EXCEEDS	5.4		4.9		4.7	
90 PERCENT EXCEEDS	3.2		2.0		1.9	

a Also Sept. 13, 2002.
b Also Nov. 18, 20-24, 2001, Sept. 12-15, 19, 2002, Sept. 29, 30, 2005.



403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1999 to September 2005. (Discontinued)
pH: April 1999 to September 2005. (Discontinued)
WATER TEMPERATURE: April 1999 to September 2005. (Discontinued)
INSTRUMENTATION.--Water-quality monitor (in situ system).
REMARKS.--Specific conductance records rated good. pH records rated good except for period Nov. 17-22, which is fair and June 17 to Sept. 30, which is poor. The pH probe is subject to fowling from precipitation of iron, adhesion of lime on electrodes, and occasional burial by sediment. Water temperature records rated good. Interruptions in the record were due to malfunctions of the instrumentation. Some values for "*dissolved*" parameters exceed values for the corresponding "*total*" parameter. These results are within the limits of analytical precision and methods. Instantaneous discharge data provided by the Pottsville Mining office of the Pennsylvania Department of Environmental Protection. Other data for this project presented in tables on pages 414-456. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 904 microsiemens, Sept. 28, 2002; minimum, 141 microsiemens, Aug. 13, 1999.
pH: Maximum, 7.0, June 26, 27, 1999; minimum, 3.4, Sept. 8, 17, 1999.
WATER TEMPERATURE: Maximum, 14.5°C, Sept. 30, 1999; minimum, 10.0°C, Dec. 17, 2000.
EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 434 microsiemens, July 19; minimum, 209 microsiemens, Apr. 12, 13.
pH: Maximum, 6.6, Nov. 22; minimum, 4.5, Dec. 15, 16 (may have been lower during period of no record, Jan. 4 to Feb. 3).
WATER TEMPERATURE: Maximum, 12.9°C, July 10; minimum 11.2°C, Feb. 11, Mar. 10, 12.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1515	1028	89203	4.5	397	12	10.6	99	5.3	5.5
DEC										
21...	1415	1028	89203	8.2	444	42	9.8	89	5.2	5.8
FEB										
16...	1515	1028	89203	4.9	429	20	9.8	91	5.2	5.2
JUN										
08...	1600	1028	89203	4.0	375	14	10.4	97	5.7	5.4
JUL										
20...	1600	1028	89203	2.4	351	--	9.4	87	5.9	6.2
AUG										
30...	1800	1028	89203	1.3	302	--	9.6	89	6.3	6.3

Date	Specif. conduct-tance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	285	12.1	13.3	13.8	21.7	22.6	1.10	1.1	2.90	3.0
DEC										
21...	228	11.4	10.0	8.7	21.2	18.0	1.20	1.0	3.50	3.3
FEB										
16...	288	11.8	12.8	12.9	22.6	22.9	1.20	1.2	3.30	3.5
JUN										
08...	305	12.3	14.6	15.8	20.9	23.2	1.00	1.1	3.40	2.8
JUL										
20...	418	12.0	13.8	12.1	38.0	32.7	1.40	1.3	3.90	3.5
AUG										
30...	314	12.0	11.9	11.5	25.3	24.5	1.30	1.2	3.50	3.4

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	3	2.9	--	132	--	--	--	400	900	--
DEC										
21...	4	3.4	--	95.6	--	--	--	500	600	--
FEB										
16...	2	3.9	--	129	--	--	--	500	800	--
JUN										
08...	4	3.0	<.01	121	<.01	<.030	<.020	200	700	.20
JUL										
20...	13	4.1	--	190	--	--	--	100	800	--
AUG										
30...	17	3.8	--	119	--	--	--	<100	500	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	4240	5610	1460	1510	75.0	80.0	175	180
DEC								
21...	2060	3970	1470	1300	70.0	60.0	170	140
FEB								
16...	3400	4730	1520	1540	75.0	75.0	200	200
JUN								
08...	5180	6910	1550	1680	70.0	75.0	175	195
JUL								
20...	7180	6740	1430	1260	65.0	60.0	125	105
AUG								
30...	8040	8060	2000	2000	55.0	50.0	90.0	80.0

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	291	275	282	302	274	286	253	239	247	246	227	234
2	275	245	252	304	298	301	253	247	251	246	227	244
3	269	245	264	301	271	284	248	231	241	247	245	245
4	267	264	266	296	267	279	240	229	235	---	---	---
5	267	242	259	301	295	299	236	234	235	---	---	---
6	265	241	245	301	268	283	235	222	232	---	---	---
7	268	265	266	295	267	280	237	235	236	---	---	---
8	267	265	266	297	293	295	241	236	239	---	---	---
9	266	241	244	296	260	272	242	240	241	---	---	---
10	271	241	266	286	257	270	248	226	239	---	---	---
11	273	268	269	285	281	283	271	245	266	---	---	---
12	270	240	249	285	250	269	270	256	263	---	---	---
13	270	239	259	286	250	260	256	251	254	---	---	---
14	272	269	270	289	286	287	253	231	240	---	---	---
15	273	241	256	288	258	274	252	231	247	---	---	---
16	276	244	257	283	256	263	251	245	248	---	---	---
17	278	276	276	294	283	290	246	244	245	---	---	---
18	277	263	272	295	256	282	246	225	232	---	---	---
19	280	249	264	285	254	262	249	225	242	---	---	---
20	284	251	259	287	285	286	251	247	249	---	---	---
21	288	284	286	286	255	274	249	227	235	---	---	---
22	289	260	281	281	253	265	252	249	251	---	---	---
23	283	257	262	281	279	280	276	241	253	---	---	---
24	287	283	286	312	239	266	275	246	260	---	---	---
25	288	261	280	338	296	321	275	264	270	---	---	---
26	275	257	260	335	285	309	264	253	257	---	---	---
27	287	275	284	285	247	263	253	230	237	---	---	---
28	286	258	280	308	232	278	246	230	240	---	---	---
29	273	252	256	303	260	278	245	229	243	---	---	---
30	286	273	280	260	244	251	246	227	240	---	---	---
31	285	281	284	---	---	---	246	244	245	---	---	---
MONTH	291	239	267	338	232	280	276	222	246	247	227	241

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	---	---	---	264	243	260	235	218	224	274	268	272
2	---	---	---	269	244	261	249	225	233	273	238	245
3	---	---	---	268	241	250	287	243	275	273	264	271
4	264	258	261	272	268	270	271	245	258	278	242	260
5	263	229	239	269	242	249	245	227	235	270	241	257
6	268	262	264	271	244	265	227	218	222	275	266	272
7	264	230	240	273	245	265	218	214	216	267	240	245
8	268	264	266	290	241	255	217	214	216	275	267	273
9	268	233	241	302	272	293	219	216	218	278	244	258
10	277	268	273	294	272	280	224	219	222	288	245	268
11	278	245	254	294	287	291	225	222	224	281	246	275
12	283	278	280	288	261	268	229	209	220	282	246	253
13	281	248	257	287	260	280	235	209	225	285	281	283
14	282	273	279	283	254	274	250	234	242	282	240	254
15	302	260	269	275	251	258	248	245	247	284	245	278
16	290	260	285	277	272	275	249	224	229	284	247	264
17	290	259	278	272	244	253	254	249	252	285	246	267
18	268	253	258	272	243	262	256	226	250	287	246	281
19	270	266	268	274	242	267	257	226	237	278	241	247
20	266	239	252	267	240	245	260	257	258	281	278	280
21	259	238	252	270	266	269	261	229	235	280	241	258
22	261	238	255	271	238	253	261	228	247	280	241	263
23	258	237	243	267	235	251	262	258	260	283	244	276
24	260	257	259	268	246	264	262	230	237	282	242	248
25	260	237	245	251	235	242	267	230	260	291	282	286
26	261	236	252	252	246	250	272	240	267	288	243	254
27	265	254	262	246	225	238	264	234	239	290	243	280
28	254	237	240	261	216	224	272	264	269	291	245	267
29	---	---	---	292	261	280	274	238	260	288	244	269
30	---	---	---	271	250	258	268	234	251	293	250	282
31	---	---	---	250	235	242	---	---	---	288	248	257
MONTH	302	229	259	302	216	261	287	209	241	293	238	266

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	295	288	292	300	290	297	335	305	323	324	306	317
2	295	249	259	296	287	291	318	294	300	326	317	323
3	294	249	286	307	293	303	336	318	331	321	310	314
4	294	253	278	301	298	299	331	324	328	334	321	330
5	298	252	271	302	289	296	324	295	309	336	321	331
6	301	245	281	302	294	299	329	293	316	325	316	319
7	300	248	265	294	268	284	331	327	329	334	325	332
8	306	300	304	355	291	323	327	300	315	334	314	326
9	305	254	268	381	355	365	319	291	302	327	314	320
10	312	268	308	390	381	388	327	319	325	332	327	330
11	310	268	279	387	369	378	326	297	313	330	316	324
12	312	268	301	372	369	371	297	282	288	333	319	329
13	310	264	287	369	342	357	319	280	290	336	332	334
14	304	263	282	351	336	343	342	319	336	347	330	338
15	308	263	294	352	334	349	341	337	338	350	317	342
16	308	262	274	334	320	325	337	299	320	317	287	299
17	309	302	307	377	332	363	324	287	305	351	285	327
18	304	260	262	431	376	406	327	324	325	354	327	343
19	307	260	302	434	418	421	324	296	312	332	323	326
20	304	250	268	420	409	416	322	294	309	351	331	343
21	297	248	279	409	383	393	325	313	322	353	328	344
22	299	249	285	383	367	377	313	286	297	352	309	326
23	295	247	259	367	357	362	322	288	308	357	352	355
24	301	295	299	364	351	360	327	312	321	356	340	349
25	296	257	269	351	329	336	312	289	299	354	325	343
26	288	259	281	348	337	345	317	290	304	354	344	351
27	289	272	283	344	318	331	320	302	315	344	331	335
28	295	266	277	343	317	332	302	284	290	360	321	351
29	296	289	294	342	317	335	316	288	305	360	356	357
30	290	273	282	335	309	320	318	310	316	356	333	351
31	---	---	---	336	333	334	310	301	305	---	---	---
MONTH	312	245	283	434	268	345	342	280	313	360	285	334
YEAR	434	209	281									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	4.9	4.8	4.9	6.0	5.4	5.7	5.3	5.3	5.3	5.4	5.1	5.3
2	5.1	4.8	5.1	5.6	5.4	5.5	5.3	5.2	5.2	5.4	5.1	5.1
3	5.1	4.7	4.8	6.3	5.6	6.2	5.3	5.1	5.2	5.2	5.1	5.2
4	4.8	4.7	4.8	6.3	5.8	6.3	5.3	5.2	5.2	---	---	---
5	5.1	4.8	4.8	6.0	5.8	5.9	5.2	5.1	5.2	---	---	---
6	5.2	4.9	5.2	6.2	5.9	6.2	5.3	5.0	5.0	---	---	---
7	4.9	4.8	4.8	6.3	5.8	6.2	5.0	5.0	5.0	---	---	---
8	4.9	4.8	4.9	5.9	5.8	5.9	5.0	4.9	5.0	---	---	---
9	5.2	4.9	5.2	6.2	5.9	6.2	5.0	5.0	5.0	---	---	---
10	5.2	4.8	4.9	6.2	5.8	6.2	5.2	5.0	5.1	---	---	---
11	4.9	4.8	4.9	5.9	5.8	5.8	5.1	4.8	4.8	---	---	---
12	5.5	4.9	5.2	6.2	5.9	5.9	4.8	4.7	4.8	---	---	---
13	5.5	4.9	5.0	6.2	6.0	6.2	4.8	4.6	4.8	---	---	---
14	5.2	5.0	5.1	6.0	5.9	5.9	5.0	4.6	5.0	---	---	---
15	5.6	5.1	5.5	6.0	5.8	5.9	5.0	4.5	4.6	---	---	---
16	5.7	5.2	5.6	6.1	6.0	6.1	4.7	4.5	4.6	---	---	---
17	5.2	5.1	5.2	6.1	6.0	6.0	4.8	4.7	4.7	---	---	---
18	5.3	5.1	5.2	6.0	5.9	6.0	5.2	4.7	5.1	---	---	---
19	5.6	5.1	5.3	6.1	6.0	6.0	5.2	4.7	4.8	---	---	---
20	5.6	5.0	5.5	6.2	6.1	6.1	4.9	4.7	4.8	---	---	---
21	5.0	4.9	4.9	6.1	6.0	6.1	5.2	4.9	5.2	---	---	---
22	5.2	4.9	4.9	6.6	6.1	6.1	4.9	4.8	4.9	---	---	---
23	5.4	5.2	5.3	6.2	6.1	6.2	5.2	4.8	5.0	---	---	---
24	5.3	5.2	5.2	6.5	6.2	6.4	5.2	4.9	5.1	---	---	---
25	5.2	5.2	5.2	6.3	5.8	6.2	5.0	4.9	4.9	---	---	---
26	5.3	5.2	5.2	6.0	5.9	6.0	5.0	5.0	5.0	---	---	---
27	5.3	5.3	5.3	5.9	5.8	5.9	5.2	4.9	5.2	---	---	---
28	5.3	5.3	5.3	5.9	5.3	5.4	5.2	5.0	5.0	---	---	---
29	5.4	5.3	5.3	5.4	5.3	5.3	5.2	5.0	5.0	---	---	---
30	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.0	5.1	---	---	---
31	5.7	5.4	5.6	---	---	---	5.1	5.0	5.1	---	---	---
MAX	5.7	5.4	5.6	6.6	6.2	6.4	5.3	5.3	5.3	5.4	5.1	5.3
MIN	4.8	4.7	4.8	5.3	5.3	5.3	4.7	4.5	4.6	5.2	5.1	5.1

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	---	---	---	5.8	5.5	5.6	5.5	5.4	5.5	5.1	5.1	5.1
2	---	---	---	5.6	5.5	5.5	5.4	5.2	5.3	5.5	5.1	5.4
3	---	---	---	5.8	5.6	5.7	5.2	5.1	5.2	5.4	5.1	5.2
4	5.3	5.1	5.2	5.8	5.6	5.7	5.2	5.1	5.2	5.4	5.1	5.2
5	5.8	5.3	5.7	5.9	5.6	5.8	5.3	5.2	5.3	5.5	5.2	5.4
6	5.4	5.2	5.3	5.9	5.7	5.8	5.4	5.3	5.4	5.3	5.2	5.2
7	5.8	5.3	5.8	5.7	5.6	5.6	5.4	5.3	5.3	5.6	5.3	5.5
8	5.4	5.2	5.3	5.8	5.7	5.8	5.3	5.3	5.3	5.6	5.4	5.4
9	5.8	5.4	5.8	6.1	5.6	5.7	5.3	5.2	5.2	5.7	5.4	5.5
10	5.4	5.3	5.3	6.1	5.7	6.1	5.2	5.1	5.1	5.9	5.7	5.7
11	5.9	5.3	5.8	5.8	5.7	5.7	5.1	5.1	5.1	6.1	5.7	5.8
12	5.3	5.2	5.3	6.1	5.7	6.1	5.4	5.1	5.1	6.1	5.7	6.1
13	5.9	5.3	5.9	6.1	5.6	5.7	5.4	5.0	5.1	5.8	5.7	5.8
14	5.4	5.1	5.2	6.1	5.6	5.7	5.0	4.8	4.9	6.1	5.8	6.1
15	5.7	5.4	5.7	6.1	5.6	6.0	5.1	5.0	5.0	6.1	5.6	5.7
16	5.7	5.2	5.2	5.7	5.6	5.6	5.4	5.0	5.4	6.1	5.7	6.0
17	5.7	5.2	5.3	5.9	5.6	5.9	5.0	4.8	5.0	6.1	5.6	5.7
18	5.8	5.4	5.7	5.9	5.4	5.5	5.4	4.8	5.0	5.9	5.6	5.6
19	5.5	5.4	5.4	5.8	5.4	5.5	5.4	5.0	5.4	6.0	5.6	5.9
20	5.7	5.4	5.6	5.9	5.6	5.8	5.0	4.9	4.9	5.6	5.5	5.5
21	5.7	5.4	5.5	5.6	5.4	5.5	---	---	---	5.8	5.5	5.7
22	5.6	5.4	5.4	5.7	5.5	5.6	5.4	5.0	5.1	5.9	5.4	5.6
23	5.7	5.6	5.7	5.8	5.6	5.7	5.0	4.9	5.0	5.7	5.3	5.4
24	5.6	5.4	5.5	5.6	5.5	5.5	5.4	5.0	5.4	5.9	5.6	5.8
25	5.7	5.4	5.6	5.6	5.5	5.6	5.4	4.9	5.0	5.6	5.4	5.5
26	5.8	5.5	5.6	5.6	5.5	5.6	5.2	4.9	5.0	5.8	5.5	5.8
27	5.5	5.4	5.5	5.5	5.4	5.5	5.4	5.2	5.4	5.8	5.5	5.6
28	5.8	5.5	5.7	5.5	5.4	5.5	5.3	5.0	5.1	5.7	5.5	5.6
29	---	---	---	5.4	5.2	5.3	5.4	5.1	5.1	5.8	5.5	5.6
30	---	---	---	5.3	5.3	5.3	5.4	5.1	5.4	5.5	5.4	5.4
31	---	---	---	5.4	5.3	5.4	---	---	---	5.7	5.5	5.6
MAX	5.9	5.6	5.9	6.1	5.7	6.1	5.5	5.4	5.5	6.1	5.8	6.1
MIN	5.3	5.1	5.2	5.3	5.2	5.3	5.0	4.8	4.9	5.1	5.1	5.1

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	5.6	5.4	5.4	5.8	5.6	5.7	5.9	5.7	5.9	6.3	6.1	6.2
2	5.5	5.4	5.5	5.7	5.5	5.6	5.9	5.7	5.8	6.2	6.0	6.2
3	5.5	5.5	5.5	5.7	5.5	5.6	5.9	5.8	5.9	6.1	5.9	6.1
4	5.5	5.4	5.4	5.6	5.5	5.6	5.9	5.8	5.9	6.0	5.9	6.0
5	5.5	5.4	5.5	5.8	5.5	5.7	5.9	5.7	5.9	5.9	5.8	5.9
6	---	---	---	5.8	5.6	5.7	5.9	5.8	5.9	5.9	5.8	5.8
7	---	---	---	5.8	5.6	5.7	6.0	5.9	5.9	5.8	5.6	5.8
8	---	---	---	5.8	5.6	5.8	6.0	5.9	5.9	5.8	5.6	5.7
9	---	---	---	5.8	5.7	5.8	6.0	5.9	5.9	5.7	5.5	5.6
10	---	---	---	5.8	5.5	5.7	6.1	5.9	6.0	5.6	5.4	5.5
11	---	---	---	5.7	5.4	5.6	6.1	5.9	6.0	5.5	5.3	5.4
12	---	---	---	5.7	5.6	5.7	6.1	5.9	6.1	5.4	5.2	5.4
13	---	---	---	5.7	5.6	5.7	6.1	5.9	6.1	5.3	5.2	5.3
14	---	---	---	5.8	5.5	5.6	6.1	5.9	6.1	5.5	5.1	5.2
15	---	---	---	5.8	5.6	5.8	6.2	6.0	6.1	5.9	5.3	5.5
16	6.2	5.7	6.2	5.8	5.8	5.8	6.1	6.0	6.1	6.0	5.9	6.0
17	5.9	5.6	5.7	5.8	5.8	5.8	6.1	5.9	6.1	6.0	5.3	5.4
18	6.3	5.9	6.3	5.9	5.8	5.9	6.1	5.9	6.1	5.6	5.3	5.4
19	6.3	5.7	5.7	5.9	5.8	5.9	6.1	5.9	6.1	5.6	5.4	5.6
20	6.2	5.8	6.2	6.0	5.8	5.9	6.1	5.9	6.1	5.5	5.3	5.4
21	6.2	5.5	5.6	5.9	5.7	5.8	6.1	6.0	6.1	5.4	5.3	5.4
22	5.9	5.4	5.5	5.8	5.7	5.8	6.1	6.0	6.1	5.5	5.4	5.5
23	5.9	5.6	5.9	5.8	5.6	5.7	6.2	6.0	6.1	5.6	5.5	5.5
24	5.6	5.2	5.3	5.8	5.6	5.7	6.3	6.1	6.2	5.6	5.6	5.6
25	5.6	5.3	5.5	5.8	5.7	5.7	6.3	6.1	6.2	5.6	5.6	5.6
26	5.8	5.6	5.7	5.8	5.7	5.7	6.3	6.1	6.3	5.6	5.6	5.6
27	5.8	5.6	5.7	5.9	5.6	5.8	6.3	6.1	6.3	5.7	5.6	5.6
28	5.7	5.6	5.7	5.8	5.7	5.8	6.3	6.1	6.3	5.7	5.6	5.6
29	5.7	5.5	5.6	5.9	5.7	5.8	6.3	6.1	6.3	5.6	5.6	5.6
30	5.7	5.5	5.6	5.9	5.7	5.8	6.3	6.2	6.3	5.6	5.6	5.6
31	---	---	---	5.9	5.7	5.9	6.3	6.2	6.2	---	---	---
MAX	6.3	5.9	6.3	6.0	5.8	5.9	6.3	6.2	6.3	6.3	6.1	6.2
MIN	5.5	5.2	5.3	5.6	5.4	5.6	5.9	5.7	5.8	5.3	5.1	5.2

YEAR			
	MAX	MAXIMUM 6.6	MINIMUM 4.7
	MIN	MAXIMUM 6.2	MINIMUM 4.5
	MEDIAN	MAXIMUM 6.4	MINIMUM 4.6

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.8	11.8	11.8	12.0	11.7	11.8	11.8	11.7	11.7	11.8	11.6	11.7
2	11.8	11.6	11.7	12.2	12.0	12.1	11.7	11.7	11.7	11.8	11.6	11.8
3	11.8	11.6	11.8	12.2	11.6	11.9	11.7	11.6	11.7	11.9	11.8	11.9
4	11.8	11.8	11.8	12.0	11.5	11.7	11.7	11.6	11.7	---	---	---
5	11.8	11.6	11.8	12.0	11.9	12.0	11.8	11.7	11.7	---	---	---
6	11.8	11.6	11.7	12.1	11.7	11.9	11.7	11.6	11.7	---	---	---
7	11.9	11.8	11.9	12.1	11.7	11.9	11.8	11.7	11.7	---	---	---
8	11.9	11.9	11.9	12.1	11.9	12.0	11.8	11.8	11.8	---	---	---
9	11.9	11.7	11.7	11.9	11.5	11.7	11.8	11.7	11.8	---	---	---
10	11.9	11.7	11.9	11.9	11.4	11.7	11.8	11.6	11.7	---	---	---
11	11.9	11.8	11.9	12.1	11.9	12.0	11.8	11.6	11.7	---	---	---
12	11.9	11.6	11.7	12.0	11.6	11.8	11.7	11.7	11.7	---	---	---
13	12.0	11.7	11.9	11.8	11.5	11.7	11.7	11.7	11.7	---	---	---
14	12.0	12.0	12.0	12.0	11.8	11.9	11.7	11.5	11.6	---	---	---
15	12.1	11.7	11.9	12.0	11.6	11.8	11.7	11.5	11.6	---	---	---
16	12.0	11.7	11.8	12.0	11.6	11.8	11.7	11.6	11.6	---	---	---
17	12.0	11.9	11.9	12.2	11.9	12.0	11.7	11.6	11.7	---	---	---
18	12.0	11.9	11.9	12.2	11.8	12.1	11.6	11.5	11.5	---	---	---
19	12.0	11.7	11.9	12.1	11.8	11.9	11.7	11.5	11.6	---	---	---
20	12.0	11.7	11.8	12.1	12.1	12.1	11.6	11.5	11.5	---	---	---
21	12.0	12.0	12.0	12.2	11.8	12.0	11.6	11.4	11.5	---	---	---
22	12.1	11.6	12.0	12.0	11.7	11.9	11.8	11.6	11.7	---	---	---
23	11.9	11.6	11.7	12.1	12.0	12.1	11.8	11.4	11.7	---	---	---
24	12.0	11.9	11.9	12.2	11.8	11.9	11.6	11.4	11.5	---	---	---
25	12.1	11.8	12.0	12.0	11.8	11.9	11.6	11.6	11.6	---	---	---
26	11.9	11.7	11.8	12.0	11.8	11.9	11.7	11.6	11.6	---	---	---
27	12.1	11.9	12.0	11.9	11.8	11.8	11.6	11.4	11.4	---	---	---
28	12.1	11.7	11.9	11.8	11.7	11.7	11.6	11.4	11.6	---	---	---
29	12.0	11.7	11.8	11.8	11.7	11.8	11.8	11.4	11.7	---	---	---
30	12.1	12.0	12.1	11.8	11.7	11.8	11.8	11.6	11.7	---	---	---
31	12.2	11.8	12.0	---	---	---	11.8	11.8	11.8	---	---	---
MONTH	12.2	11.6	11.9	12.2	11.4	11.9	11.8	11.4	11.7	11.9	11.6	11.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	11.8	11.7	11.8	11.7	11.6	11.6	12.2	11.5	11.9
2	---	---	---	11.8	11.3	11.6	11.7	11.5	11.7	11.8	11.5	11.6
3	---	---	---	11.7	11.3	11.5	11.5	11.5	11.5	12.0	11.8	11.9
4	11.8	11.7	11.8	11.8	11.4	11.7	11.6	11.5	11.6	12.2	11.4	11.7
5	11.8	11.4	11.6	11.7	11.3	11.5	11.6	11.6	11.6	12.0	11.4	11.8
6	11.8	11.7	11.8	11.9	11.7	11.8	11.7	11.6	11.6	12.1	11.6	11.9
7	11.8	11.4	11.6	12.0	11.6	11.8	11.7	11.6	11.6	12.0	11.6	11.8
8	11.9	11.8	11.9	11.7	11.3	11.5	11.7	11.6	11.6	12.3	11.9	12.0
9	11.9	11.5	11.6	11.7	11.3	11.6	11.7	11.6	11.6	12.3	11.8	11.9
10	11.8	11.7	11.8	11.7	11.2	11.4	11.7	11.6	11.7	12.3	11.7	12.0
11	11.7	11.2	11.4	11.8	11.7	11.8	11.7	11.6	11.6	12.4	11.8	12.1
12	11.8	11.6	11.8	11.8	11.2	11.5	11.7	11.5	11.6	12.1	11.8	11.9
13	11.8	11.3	11.5	11.9	11.4	11.7	11.7	11.5	11.6	12.3	11.9	12.1
14	11.8	11.6	11.7	11.9	11.4	11.7	11.8	11.6	11.7	12.1	11.8	11.9
15	11.8	11.5	11.6	11.8	11.4	11.5	11.8	11.7	11.7	12.3	11.8	12.1
16	11.9	11.5	11.8	11.9	11.7	11.8	11.7	11.5	11.6	12.2	11.8	12.0
17	11.8	11.4	11.6	11.8	11.5	11.7	11.9	11.7	11.8	12.2	11.7	11.9
18	11.6	11.3	11.5	11.9	11.5	11.8	12.0	11.6	11.8	12.3	11.7	12.1
19	11.8	11.6	11.7	12.0	11.6	11.8	11.8	11.6	11.7	12.1	11.6	11.8
20	11.8	11.4	11.6	11.8	11.6	11.6	12.0	11.8	11.9	12.1	12.1	12.1
21	11.8	11.4	11.7	11.9	11.8	11.9	11.9	11.5	11.7	12.1	11.8	12.0
22	11.9	11.6	11.7	11.9	11.6	11.7	11.8	11.5	11.7	12.3	11.8	12.0
23	11.8	11.6	11.7	11.8	11.5	11.7	11.9	11.8	11.9	12.3	11.8	12.1
24	11.8	11.7	11.7	11.9	11.6	11.8	11.8	11.5	11.6	12.1	11.8	11.9
25	11.7	11.4	11.5	11.8	11.6	11.7	11.8	11.5	11.7	12.2	12.1	12.1
26	11.8	11.4	11.7	11.9	11.8	11.8	12.1	11.6	11.9	12.2	11.8	11.9
27	11.8	11.5	11.7	11.9	11.6	11.7	11.8	11.6	11.7	12.4	11.8	12.2
28	11.7	11.3	11.5	11.7	11.4	11.6	12.1	11.8	11.9	12.3	11.8	12.0
29	---	---	---	11.7	11.6	11.6	12.0	11.6	11.8	12.3	11.8	12.1
30	---	---	---	11.7	11.6	11.7	12.0	11.6	11.8	12.4	11.8	12.1
31	---	---	---	11.7	11.7	11.7	---	---	---	12.2	11.8	12.0
MONTH	11.9	11.2	11.7	12.0	11.2	11.7	12.1	11.5	11.7	12.4	11.4	12.0

SWATARA CREEK BASIN

403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	12.4	12.2	12.2	12.5	11.9	12.2	12.2	11.9	12.1	12.7	12.0	12.4
2	12.2	11.8	11.9	12.7	11.9	12.1	12.6	11.9	12.1	12.5	11.9	12.0
3	12.2	11.9	12.2	12.6	11.9	12.3	12.8	12.2	12.3	12.7	11.9	12.3
4	12.3	11.9	12.0	12.5	11.9	12.0	12.7	11.9	12.2	12.8	11.9	12.3
5	12.5	11.9	12.1	12.4	11.9	12.3	12.1	11.9	11.9	12.6	11.9	12.1
6	12.6	11.9	12.1	12.3	11.9	12.1	12.6	12.1	12.3	12.6	12.3	12.4
7	12.2	11.9	12.0	12.5	11.9	12.1	12.4	11.9	12.3	12.5	11.9	12.2
8	12.4	12.2	12.3	12.4	11.8	12.1	12.0	11.9	11.9	12.4	11.8	12.1
9	12.4	11.9	11.9	12.4	11.8	12.0	12.3	11.9	12.2	12.5	12.3	12.4
10	12.4	11.9	12.3	12.9	11.9	12.3	12.7	12.0	12.3	12.4	11.9	12.1
11	12.3	11.9	12.0	12.8	11.8	12.0	12.7	11.9	12.0	12.3	11.8	12.1
12	12.4	11.9	12.2	12.7	11.9	12.3	12.3	11.9	12.0	12.6	12.0	12.4
13	12.4	11.9	12.1	12.3	11.9	12.1	12.6	11.9	12.2	12.4	11.9	12.0
14	12.4	11.9	12.1	12.3	11.9	12.1	12.6	12.4	12.4	12.5	11.9	12.3
15	12.4	11.9	12.2	12.4	11.9	12.2	12.7	12.0	12.4	12.6	11.9	12.3
16	12.2	11.8	11.9	12.3	11.9	12.0	12.0	11.9	11.9	12.5	11.9	12.0
17	12.4	12.2	12.2	12.4	12.1	12.3	12.8	11.9	12.3	12.5	11.9	12.4
18	12.2	11.8	11.9	12.2	11.8	11.9	12.8	11.9	12.3	12.8	11.9	12.2
19	12.3	11.8	12.2	12.4	11.8	12.2	12.2	11.9	12.0	12.4	11.9	12.1
20	12.3	11.8	12.0	12.6	11.8	12.0	12.4	12.2	12.3	12.5	12.4	12.5
21	12.4	11.8	12.1	12.8	11.8	12.1	12.4	12.0	12.2	12.5	11.8	12.1
22	12.5	11.8	12.2	12.6	11.9	12.1	12.7	11.9	12.1	12.5	11.8	12.1
23	12.2	11.8	12.0	12.7	11.8	12.1	12.8	12.3	12.4	12.6	12.0	12.5
24	12.5	11.9	12.2	12.8	11.9	12.2	12.8	11.9	12.1	12.5	11.8	12.0
25	12.2	11.9	12.0	12.2	11.9	11.9	12.8	11.8	12.1	12.5	11.9	12.3
26	12.6	12.2	12.3	12.8	12.2	12.3	12.6	12.3	12.4	12.6	12.0	12.4
27	12.6	11.9	12.0	12.4	11.9	12.0	12.4	11.9	12.0	12.8	11.7	12.0
28	12.7	11.9	12.3	12.6	11.8	12.2	12.3	11.9	12.1	12.7	11.6	12.4
29	12.6	11.9	12.1	12.3	11.9	12.1	12.4	12.0	12.3	12.6	11.5	12.2
30	12.4	11.9	12.2	12.4	11.9	12.1	12.0	12.0	12.0	12.4	11.3	11.7
31	---	---	---	12.6	12.2	12.3	12.4	12.0	12.2	---	---	---
MONTH	12.7	11.8	12.1	12.9	11.8	12.1	12.8	11.8	12.2	12.8	11.3	12.2
YEAR	12.9	11.2	11.9									

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA
(Swatara Creek Project)

LOCATION.--Lat 40°35'15", long 76°25'35", Schuylkill County, Hydrologic Unit 02050301, on left bank 100 ft downstream from bridge on SR 4011, 0.75 mi west of Lorberry Junction.

DRAINAGE AREA.--3.59 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Streamflows affected by mine pumping. Other data for this project presented in tables on pages 414-456.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 70 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0815	*142	*2.60	Mar. 28	2130	103	2.35
Dec. 1	0900	75	2.14	Apr. 2	1545	113	2.42
Jan. 14	0800	85	2.22				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	e7.1	52	13	8.4	11	31	9.6	6.2	3.9	3.2	2.7
2	17	8.7	40	13	9.0	9.5	61	7.9	4.8	3.2	3.2	1.7
3	17	8.1	36	13	7.7	9.1	80	8.6	6.7	3.8	4.0	2.9
4	16	9.0	34	13	8.7	9.4	59	7.9	6.9	2.6	3.2	2.1
5	14	10	30	13	7.4	8.2	51	7.6	6.0	4.1	2.5	1.8
6	12	8.9	25	18	7.9	9.7	45	8.1	6.2	3.4	3.8	2.9
7	12	9.0	25	15	6.7	10	40	7.0	5.6	4.0	3.4	1.7
8	12	9.6	22	20	7.6	14	35	7.9	5.8	9.6	2.4	1.9
9	10	8.4	21	19	7.1	12	31	7.1	4.8	5.0	2.8	2.7
10	10	8.5	32	18	8.7	10	27	7.1	5.9	4.8	2.8	1.4
11	9.9	9.4	30	18	6.5	11	24	7.4	4.6	3.2	1.9	2.1
12	e10	12	27	19	6.9	10	22	6.5	5.1	4.3	1.8	2.4
13	e11	11	25	18	5.5	11	20	7.2	4.6	3.3	2.5	1.4
14	e11	10	21	59	10	10	19	6.9	4.5	3.6	2.9	2.4
15	e10	9.0	20	42	15	9.6	17	8.0	4.7	4.0	2.6	2.3
16	e10	8.9	19	39	13	11	15	6.8	4.0	5.2	1.8	1.7
17	e11	10	18	34	12	9.9	15	6.7	4.9	6.7	2.8	2.9
18	e11	9.8	16	29	11	10	14	7.0	3.6	5.3	2.4	2.2
19	e11	9.4	17	26	12	11	12	6.0	4.6	5.1	2.2	1.8
20	e9.7	11	16	24	11	10	13	7.4	3.7	4.0	3.1	3.1
21	e11	10	14	21	12	12	11	6.4	4.2	4.3	2.2	2.1
22	e10	9.6	14	19	12	11	11	6.5	4.2	4.4	2.1	2.1
23	e8.7	10	24	17	11	16	13	6.5	3.5	3.9	2.9	3.0
24	e10	18	19	16	12	18	13	5.7	4.2	4.5	1.8	1.5
25	e10	26	16	14	10	16	11	6.5	3.1	4.0	2.1	2.4
26	e8.0	21	16	13	11	17	10	5.5	4.3	4.8	2.9	2.8
27	e10	21	15	12	11	17	9.6	6.2	3.1	3.7	1.7	1.7
28	e9.0	62	15	10	9.6	41	9.9	5.8	4.0	4.4	3.4	2.9
29	e7.7	42	15	10	---	51	9.1	5.9	4.0	3.9	2.9	2.2
30	e9.1	37	14	9.7	---	39	9.3	6.0	4.6	3.8	1.9	1.5
31	e8.4	---	14	9.7	---	35	---	5.4	---	4.3	2.9	---
TOTAL	344.5	444.4	702	614.4	270.7	479.4	737.9	215.1	142.4	135.1	82.1	66.3
MEAN	11.1	14.8	22.6	19.8	9.67	15.5	24.6	6.94	4.75	4.36	2.65	2.21
MAX	18	62	52	59	15	51	80	9.6	6.9	9.6	4.0	3.1
MIN	7.7	7.1	14	9.7	5.5	8.2	9.1	5.4	3.1	2.6	1.7	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2005, BY WATER YEAR (WY)

MEAN	6.92	10.9	15.3	11.8	7.77	16.2	16.7	10.8	11.0	5.52	5.62	9.65
MAX	11.1	19.9	26.0	19.8	9.82	24.7	24.6	16.4	23.7	7.81	12.4	33.6
(WY)	2005	2004	2004	2005	2001	2000	2005	2002	2003	2004	2003	2004
MIN	2.99	3.03	3.35	3.97	5.83	10.3	12.2	6.94	4.75	2.59	1.82	2.21
(WY)	2002	2002	2002	2002	2002	2002	2002	2005	2005	2002	2002	2005

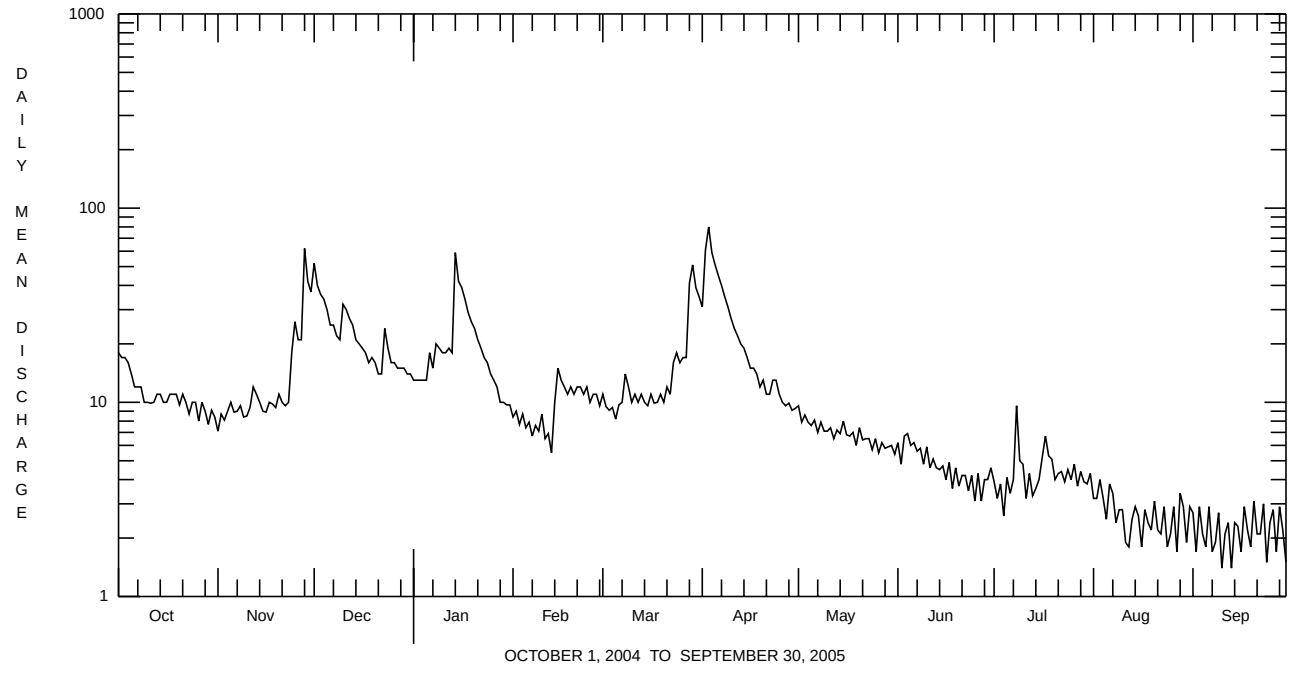
e Estimated.

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2000 - 2005	
ANNUAL TOTAL	5312.9		4234.3			
ANNUAL MEAN	14.5		11.6		10.8	
HIGHEST ANNUAL MEAN					15.2	2004
LOWEST ANNUAL MEAN					5.97	2002
HIGHEST DAILY MEAN	**e**450	Sep 18	80	Apr 3	**e**450	Sep 18 2004
LOWEST DAILY MEAN	4.4	Jul 9	1.4	Sep 10,13	1.2	Sep 7 2002**a**
ANNUAL SEVEN-DAY MINIMUM	5.1	Jul 4	1.9	Sep 7	1.5	Sep 7 2002
MAXIMUM PEAK FLOW			**b**142	Nov 28	**b**578	Sep 18 2004
MAXIMUM PEAK STAGE			2.60	Nov 28	**c**4.21	Sep 18 2004
10 PERCENT EXCEEDS	22		24		21	
50 PERCENT EXCEEDS	11		9.1		8.2	
90 PERCENT EXCEEDS	6.7		2.6		2.8	

a Also Sept. 10, 13, 2002.
b From rating extended above 46 ft^3/s.
c From floodmark.
e Estimated.



SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1996 to September 2005. (Discontinued)
pH: July 1996 to September 2005. (Discontinued)
WATER TEMPERATURE: July 1996 to September 2005. (Discontinued)

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996.

REMARKS.--Specific conductance records good except for periods June 1-14 and Sept. 25-30, which are fair, and Oct 1-12, which are poor. pH records good except for periods Oct. 1-12, Jan. 27 to Feb. 2, June 9-15, and July 8-17, which are fair, and Nov. 1-22, and July 18 to Sept. 30, which are poor. Water temperature records rated good. Interruptions in the record were due to malfunctions of the instrumentation. 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 the Swatara Creek Project presented in tables on pages 414-456. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 526, microsiemens, Sept. 29, 2002; minimum, 43, microsiemens, Sept, 18, 2004.
pH: Maximum, 8.1, Aug. 14, 1999; minimum, 3.6, Oct. 21-23, 25, Dec. 3, 1996.
WATER TEMPERATURE: Maximum, 23.5°C, July 5, 6, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 349, microsiemens, Sept. 29; minimum 67, microsiemens, Nov. 28.
pH: Maximum, 7.2, Nov. 2; minimum, 4.8, Apr. 4, 14.
WATER TEMPERATURE: Maximum, 19.6°C, July 16; minimum 3.5°C, Mar. 10.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1145	1028	89203	8.1	334	8.6	11.3	102	6.1	5.9
DEC										
21...	1045	1028	89203	14	435	26	12.6	102	6.0	5.4
FEB										
16...	1115	1028	89203	13	374	12	12.6	101	5.8	5.8
APR										
20...	1435	1028	89203	12	305	25	10.6	102	5.2	4.7
JUN										
07...	1610	1028	89203	5.0	248	9.0	10.3	107	6.2	6.3
JUL										
19...	1415	1028	89203	5.2	396	--	10.4	109	5.9	5.2
AUG										
30...	1300	1028	89203	1.9	360	--	9.4	96	6.2	6.0

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	216	10.9	11.8	12.3	15.3	15.7	.90	.9	2.30	2.6
DEC										
21...	166	6.4	7.90	8.2	12.3	12.8	.80	.9	2.80	2.8
FEB										
16...	157	7.2	8.20	8.3	11.2	11.3	.80	.8	2.50	2.5
APR										
20...	195	13.8	8.90	10.4	12.7	15.0	1.00	1.1	2.40	2.8
JUN										
07...	178	16.9	9.30	9.3	12.2	12.4	.70	.7	2.80	2.1
JUL										
19...	315	17.2	15.7	14.0	26.5	23.2	1.30	1.2	3.40	3.2
AUG										
30...	260	15.8	14.7	15.5	20.2	21.2	1.20	1.2	3.10	3.3

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	2	2.6	--	96.5	--	--	--	<100	600	--
DEC										
21...	3	2.7	--	70.2	--	--	--	<100	500	--
FEB										
16...	3	4.0	--	66.2	--	--	--	<100	400	--
APR										
20...	1	2.4	<.01	74.2	.40	<.030	<.020	300	600	.19
JUN										
07...	7	2.7	<.01	60.9	<.01	<.030	<.020	<100	300	.18
JUL										
19...	2	2.7	--	150	--	--	--	200	500	--
AUG										
30...	3	2.9	--	113	--	--	--	<100	200	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	2080	3120	960	970	55.0	55.0	120	130
DEC								
21...	910	2550	840	880	45.0	45.0	105	115
FEB								
16...	1150	1810	720	730	40.0	40.0	100	100
APR								
20...	560	2010	860	950	55.0	60.0	155	185
JUN								
07...	1410	2160	830	860	35.0	35.0	70.0	70.0
JUL								
19...	1880	2240	1070	960	60.0	55.0	140	130
AUG								
30...	1600	2270	1000	1000	50.0	50.0	135	160

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	157	151	154	---	---	---	167	98	130	180	162	170
2	157	128	145	212	206	209	153	140	149	182	163	180
3	158	128	149	211	185	198	156	148	152	184	163	178
4	167	158	163	189	164	181	164	148	157	166	150	157
5	174	160	168	200	180	192	172	161	163	175	148	163
6	174	158	161	204	178	191	164	154	161	159	123	134
7	186	174	181	207	179	189	164	145	154	166	130	144
8	191	182	187	209	204	208	162	148	157	168	107	137
9	191	171	176	210	183	193	176	132	167	159	136	152
10	199	171	188	209	182	193	140	89	119	164	158	161
11	204	198	201	211	208	209	151	116	140	252	161	173
12	---	---	---	210	134	168	160	151	157	161	148	157
13	---	---	---	190	142	158	167	158	162	196	144	152
14	---	---	---	202	190	196	169	157	161	284	79	112
15	---	---	---	204	177	191	175	158	170	153	138	146
16	---	---	---	200	173	181	177	174	176	158	152	156
17	---	---	---	206	200	203	176	174	175	170	157	162
18	---	---	---	207	177	196	178	160	168	171	165	169
19	---	---	---	204	175	182	179	160	173	171	169	170
20	---	---	---	205	191	201	187	178	184	176	166	169
21	---	---	---	196	172	184	184	163	171	172	169	171
22	---	---	---	205	172	185	188	182	185	173	162	171
23	---	---	---	209	204	207	197	92	151	173	158	162
24	---	---	---	209	90	163	168	113	143	178	173	175
25	---	---	---	149	97	121	179	167	175	176	157	167
26	---	---	---	173	149	163	181	176	178	181	157	176
27	---	---	---	179	165	171	179	164	169	184	164	177
28	---	---	---	167	67	120	183	166	176	185	164	175
29	---	---	---	162	147	156	181	165	178	188	164	184
30	---	---	---	167	161	165	180	163	174	185	161	171
31	---	---	---	---	---	---	181	178	179	189	185	187
MONTH	204	128	170	212	67	182	197	89	163	284	79	163

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	187	163	170	189	175	180	155	147	150	191	174	184
2	192	186	189	205	162	175	155	77	115	191	162	170
3	191	165	172	187	162	174	137	78	116	197	162	190
4	195	190	193	190	164	187	148	135	142	200	169	188
5	194	163	174	182	159	163	154	146	149	197	167	179
6	196	185	192	188	176	183	159	145	156	202	197	200
7	192	161	172	181	130	159	160	156	159	201	170	176
8	192	176	187	159	103	134	163	144	160	206	169	199
9	181	148	159	178	156	168	167	162	165	207	176	193
10	180	164	171	182	157	165	172	166	169	209	174	191
11	189	158	166	185	177	180	173	169	172	211	177	205
12	196	189	193	179	155	163	176	159	172	203	173	177
13	195	167	175	182	158	175	178	159	168	208	203	206
14	216	103	182	190	168	184	197	170	182	207	139	184
15	128	105	118	189	165	172	208	185	188	199	137	181
16	161	128	153	195	189	192	190	169	176	201	173	189
17	168	146	158	194	165	178	192	169	188	205	169	186
18	175	149	160	191	165	178	195	192	193	211	194	208
19	181	175	178	188	157	182	193	169	175	195	178	181
20	179	154	163	173	147	154	197	191	194	211	188	200
21	178	154	172	179	173	176	199	173	191	203	179	189
22	185	154	172	184	154	168	194	169	179	216	188	202
23	175	154	162	187	113	147	200	135	174	230	209	221
24	179	175	177	145	128	138	160	140	149	209	178	190
25	190	158	168	162	132	142	191	151	175	221	197	213
26	182	159	174	167	161	163	196	190	194	225	188	200
27	185	161	180	169	133	156	196	153	163	232	185	210
28	176	154	159	140	72	107	198	162	191	233	179	212
29	---	---	---	139	84	119	199	170	192	216	179	195
30	---	---	---	148	135	142	174	154	166	227	200	220
31	---	---	---	154	142	150	---	---	---	214	191	197
MONTH	216	103	171	205	72	163	208	77	169	233	137	195

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	244	214	232	259	217	248	297	264	280	303	288	296
2	244	199	212	264	216	227	279	253	260	292	269	276
3	227	198	215	274	261	267	297	279	290	309	268	293
4	198	170	181	261	225	229	295	271	287	309	289	303
5	229	172	194	343	224	266	271	254	258	293	275	280
6	241	204	231	255	228	239	297	254	285	313	293	306
7	215	167	180	250	193	225	296	282	291	313	284	300
8	249	215	236	222	118	173	282	240	257	303	270	278
9	249	179	208	289	197	231	288	241	262	316	303	310
10	246	184	225	328	289	314	298	274	290	316	288	303
11	247	211	224	318	293	299	274	249	257	312	272	289
12	261	208	235	322	296	315	252	246	248	318	312	314
13	261	226	245	318	282	296	298	245	267	312	295	300
14	262	218	233	299	272	286	315	298	308	314	278	299
15	267	231	259	298	267	283	314	291	310	321	314	317
16	257	215	225	267	140	204	291	243	261	317	259	299
17	268	254	261	248	193	221	295	243	274	316	239	285
18	259	217	224	277	170	229	297	271	291	318	293	311
19	263	216	252	325	277	310	271	206	233	293	280	287
20	262	220	237	324	300	312	289	234	276	326	284	316
21	261	213	239	323	296	311	290	259	277	327	288	310
22	264	225	252	319	295	310	280	248	255	325	279	288
23	259	215	228	310	282	292	301	280	292	336	325	333
24	270	251	263	311	294	307	300	263	280	336	296	310
25	251	221	224	294	239	258	289	250	263	336	288	303
26	270	222	261	299	274	290	301	288	296	339	262	327
27	268	225	238	298	268	277	301	259	280	274	258	265
28	269	221	253	298	262	282	264	176	220	348	274	320
29	269	134	242	298	271	286	291	264	280	349	302	337
30	252	126	204	293	258	274	287	252	263	303	288	292
31	---	---	---	299	292	294	288	249	268	---	---	---
MONTH	270	126	230	343	118	270	315	176	273	349	239	302
YEAR	349	67	206									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	5.9	5.8	5.8	---	---	---	5.8	5.5	5.6	6.4	5.9	6.3
2	5.8	5.7	5.7	7.2	6.8	7.0	5.5	5.5	5.5	6.4	5.9	6.0
3	6.0	5.8	5.9	7.0	6.6	6.8	5.7	5.4	5.5	6.0	5.9	6.0
4	6.0	6.0	6.0	6.8	6.4	6.6	5.8	5.5	5.6	6.2	6.0	6.1
5	6.2	6.0	6.2	6.6	6.4	6.5	5.6	5.6	5.6	6.3	5.8	6.0
6	6.2	6.2	6.2	6.8	6.4	6.6	5.9	5.5	5.6	6.2	5.8	5.8
7	6.3	6.2	6.3	6.9	6.6	6.6	5.6	5.4	5.5	6.3	5.9	6.2
8	6.3	6.3	6.3	6.6	6.4	6.5	5.5	5.3	5.4	6.0	5.7	5.9
9	6.4	6.3	6.4	6.5	6.3	6.4	5.5	5.4	5.4	5.7	5.6	5.7
10	6.4	6.3	6.4	6.6	6.4	6.4	5.7	5.4	5.5	5.8	5.6	5.7
11	6.5	6.4	6.5	6.5	6.3	6.4	5.5	5.2	5.2	6.0	5.8	5.9
12	---	---	---	6.5	6.2	6.4	5.2	5.1	5.1	6.1	6.0	6.0
13	---	---	---	6.5	6.1	6.4	5.2	5.0	5.1	6.2	6.1	6.2
14	---	---	---	6.2	6.1	6.1	5.3	5.1	5.3	6.1	5.4	5.5
15	---	---	---	6.5	6.1	6.2	5.4	5.1	5.2	5.5	5.4	5.4
16	---	---	---	6.6	6.1	6.4	5.2	5.2	5.2	5.5	5.4	5.5
17	---	---	---	6.4	6.0	6.2	5.3	5.2	5.3	5.6	5.5	5.5
18	---	---	---	6.5	6.3	6.4	5.7	5.3	5.6	5.6	5.5	5.6
19	---	---	---	6.6	6.4	6.5	5.8	5.3	5.3	5.7	5.6	5.6
20	---	---	---	6.5	6.3	6.4	5.5	5.3	5.4	5.9	5.7	5.7
21	---	---	---	6.5	6.3	6.4	6.1	5.5	6.0	5.8	5.7	5.7
22	---	---	---	6.7	6.4	6.5	5.7	5.5	5.5	5.9	5.6	5.7
23	---	---	---	6.5	6.3	6.4	6.0	5.4	5.6	6.1	5.6	5.9
24	---	---	---	6.5	6.0	6.4	6.2	5.7	5.8	5.7	5.5	5.6
25	---	---	---	6.1	5.9	6.0	5.8	5.7	5.7	6.0	5.6	5.7
26	---	---	---	6.3	6.0	6.2	5.9	5.7	5.8	6.0	5.6	5.6
27	---	---	---	6.4	6.2	6.4	6.3	5.7	6.1	6.1	5.6	5.7
28	---	---	---	6.4	5.3	5.4	6.3	5.9	5.9	6.2	5.6	6.0
29	---	---	---	5.5	5.4	5.4	6.2	5.8	5.9	5.9	5.6	5.6
30	---	---	---	5.7	5.4	5.5	6.3	5.8	5.9	6.2	5.7	6.0
31	---	---	---	---	---	---	5.9	5.8	5.9	5.7	5.6	5.7
MAX	6.5	6.4	6.5	7.2	6.8	7.0	6.3	5.9	6.1	6.4	6.1	6.3
MIN	5.8	5.7	5.7	5.5	5.3	5.4	5.2	5.0	5.1	5.5	5.4	5.4

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	6.2	5.7	6.0	6.3	5.8	6.0	5.5	5.2	5.4	5.5	5.3	5.3
2	5.8	5.6	5.7	6.2	5.8	5.9	5.4	5.1	5.3	6.0	5.3	5.7
3	6.1	5.4	5.9	6.3	6.0	6.2	5.3	4.9	4.9	6.0	5.3	5.5
4	5.4	5.2	5.3	6.1	5.9	5.9	4.9	4.8	4.9	5.8	5.3	5.4
5	6.2	5.3	6.0	6.4	5.9	6.2	5.1	4.9	5.0	6.0	5.6	5.9
6	5.8	5.3	5.4	6.4	5.9	6.2	5.2	5.1	5.1	5.6	5.5	5.5
7	6.3	5.4	6.1	6.2	5.8	5.9	5.2	5.1	5.2	6.1	5.6	6.0
8	6.2	5.4	5.5	6.3	6.0	6.2	5.2	5.1	5.2	6.2	5.8	6.0
9	6.2	5.5	6.1	6.4	5.9	6.0	5.2	5.1	5.1	6.0	5.8	5.8
10	6.0	5.4	5.5	6.6	6.2	6.5	5.1	5.0	5.1	6.2	6.0	6.2
11	6.2	5.5	6.1	6.3	6.2	6.2	5.1	5.0	5.1	6.4	6.1	6.2
12	5.7	5.4	5.5	6.5	6.2	6.5	5.3	5.1	5.1	6.6	6.3	6.5
13	6.3	5.5	6.1	6.6	6.2	6.2	5.4	5.1	5.3	6.4	6.3	6.3
14	6.0	5.4	5.5	6.5	6.2	6.2	5.3	4.8	5.1	6.6	6.3	6.5
15	6.1	5.7	6.0	6.6	6.3	6.5	6.7	5.3	5.3	6.5	6.1	6.2
16	6.2	5.7	5.8	6.3	6.1	6.2	6.0	5.4	6.0	6.4	6.1	6.2
17	6.1	5.7	5.8	6.4	6.1	6.3	6.1	5.3	5.4	6.5	6.1	6.4
18	6.2	5.9	6.1	6.4	6.0	6.1	5.3	5.2	5.3	6.2	6.0	6.2
19	5.9	5.8	5.9	6.2	6.0	6.0	6.0	5.3	5.9	6.6	6.2	6.4
20	6.1	5.9	6.1	6.2	6.0	6.2	5.4	5.2	5.3	6.4	6.1	6.2
21	6.2	5.8	5.8	6.0	5.8	5.9	5.8	5.2	5.3	6.4	6.1	6.3
22	6.1	5.7	5.8	6.2	5.8	6.0	6.0	5.3	5.9	6.5	6.0	6.2
23	6.2	5.9	6.2	6.2	5.6	5.9	5.4	5.2	5.3	6.2	5.9	6.0
24	5.9	5.8	5.8	6.0	5.7	5.8	5.8	5.2	5.5	6.5	6.2	6.4
25	6.2	5.8	6.1	6.1	5.9	6.0	5.8	5.2	5.4	6.4	6.2	6.2
26	6.3	5.8	6.0	5.9	5.8	5.8	5.2	5.2	5.2	6.5	6.2	6.4
27	5.9	5.8	5.8	5.9	5.8	5.8	5.8	5.2	5.8	6.5	6.2	6.3
28	6.3	5.9	6.2	5.8	5.3	5.7	5.9	5.2	5.3	6.4	6.1	6.2
29	---	---	---	5.3	5.2	5.2	5.7	5.2	5.2	6.5	6.2	6.4
30	---	---	---	5.2	5.1	5.2	5.9	5.5	5.8	6.2	6.1	6.2
31	---	---	---	5.3	5.2	5.2	---	---	---	6.3	6.1	6.3
MAX	6.3	5.9	6.2	6.6	6.3	6.5	6.7	5.5	6.0	6.6	6.3	6.5
MIN	5.4	5.2	5.3	5.2	5.1	5.2	4.9	4.8	4.9	5.5	5.3	5.3

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	6.3	6.0	6.1	6.3	6.1	6.2	6.2	6.0	6.1	6.2	6.1	6.2
2	6.2	6.0	6.1	6.4	6.1	6.3	6.3	6.2	6.3	6.2	6.1	6.2
3	6.3	6.1	6.2	6.1	5.8	6.0	6.3	6.2	6.3	6.2	6.1	6.2
4	6.2	6.1	6.2	6.3	5.8	6.1	6.2	6.1	6.2	6.2	6.1	6.2
5	6.2	6.1	6.2	6.3	5.8	5.9	6.4	6.2	6.4	6.1	6.1	6.1
6	6.2	6.0	6.2	6.0	5.8	5.9	6.5	6.2	6.4	6.2	6.1	6.1
7	6.3	6.1	6.2	6.2	6.0	6.1	6.2	6.2	6.2	6.1	6.1	6.1
8	6.3	6.2	6.2	6.3	6.0	6.1	6.5	6.2	6.4	6.1	6.0	6.1
9	6.3	6.0	6.2	6.3	6.0	6.3	6.6	6.4	6.5	6.1	6.1	6.1
10	6.3	6.1	6.2	6.0	5.8	5.9	6.4	6.3	6.3	6.1	6.1	6.1
11	6.3	6.2	6.2	6.2	5.8	6.1	6.6	6.3	6.6	6.2	6.1	6.1
12	6.3	6.1	6.2	6.2	5.8	5.9	6.7	6.6	6.7	6.1	6.0	6.1
13	6.3	6.2	6.2	6.2	5.8	6.0	6.8	6.5	6.7	6.1	6.0	6.0
14	6.4	6.2	6.2	6.3	6.0	6.2	6.5	6.2	6.3	6.2	6.0	6.1
15	6.4	6.1	6.4	6.2	5.9	6.0	6.2	6.0	6.1	6.1	6.1	6.1
16	6.6	6.2	6.4	6.5	6.2	6.4	6.3	6.0	6.2	6.1	6.0	6.1
17	6.2	6.1	6.2	6.3	6.1	6.2	6.4	6.1	6.3	6.1	6.0	6.1
18	6.5	6.1	6.5	6.4	6.2	6.3	6.1	6.1	6.1	6.1	6.0	6.1
19	6.6	6.0	6.1	6.3	5.8	6.0	6.3	6.1	6.2	6.1	6.0	6.1
20	6.4	6.0	6.3	6.1	5.8	6.0	6.4	6.2	6.3	6.1	6.1	6.1
21	6.5	6.0	6.2	6.2	6.0	6.2	6.2	6.1	6.2	6.1	6.1	6.1
22	6.3	6.0	6.1	6.1	5.9	6.0	6.4	6.2	6.3	6.1	6.0	6.1
23	6.5	6.2	6.4	6.3	6.1	6.2	6.3	6.1	6.2	6.1	6.1	6.1
24	6.2	6.0	6.1	6.1	6.0	6.0	6.2	6.1	6.1	6.1	6.1	6.1
25	6.4	6.1	6.4	6.3	6.0	6.2	6.3	6.2	6.2	6.1	6.1	6.1
26	6.4	6.0	6.2	6.3	6.0	6.2	6.3	6.1	6.2	6.1	6.0	6.1
27	6.4	6.0	6.3	6.2	6.0	6.1	6.2	6.1	6.1	6.0	6.0	6.0
28	6.4	6.0	6.2	6.3	6.1	6.2	6.3	6.1	6.2	6.1	6.0	6.1
29	6.2	6.0	6.1	6.1	6.0	6.0	6.3	6.2	6.2	6.1	6.0	6.0
30	6.5	6.2	6.3	6.3	6.1	6.3	6.2	6.1	6.2	6.0	5.0	6.0
31	---	---	---	6.2	6.1	6.1	6.2	6.2	6.2	---	---	---
MAX	6.6	6.2	6.5	6.5	6.2	6.4	6.8	6.6	6.7	6.2	6.1	6.2
MIN	6.2	6.0	6.1	6.0	5.8	5.9	6.1	6.0	6.1	6.0	5.0	6.0

YEAR			
	MAX	MAXIMUM 7.2	MINIMUM 4.9
	MIN	MAXIMUM 6.8	MINIMUM 4.8
	MEDIAN	MAXIMUM 7.0	MINIMUM 4.9

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	13.5	12.1	12.8	---	---	---	9.9	8.8	9.2	9.3	7.9	8.5
2	13.6	12.8	13.1	12.2	10.9	11.6	9.5	8.7	9.0	8.5	7.7	8.1
3	13.4	12.0	12.7	12.2	9.5	11.1	9.2	8.5	8.8	9.3	8.5	8.8
4	13.0	11.4	12.2	10.2	8.9	9.5	9.2	8.2	8.8	8.8	8.2	8.5
5	12.3	11.1	11.8	10.3	9.4	9.8	9.9	8.9	9.3	8.3	6.4	7.8
6	12.2	10.4	11.3	10.7	8.9	9.7	9.3	9.0	9.1	6.4	5.9	6.1
7	12.8	11.1	11.9	11.6	8.9	10.2	9.3	8.9	9.1	6.9	6.0	6.4
8	13.0	11.5	12.2	10.7	9.1	9.7	9.9	9.2	9.6	6.9	5.5	6.1
9	12.8	11.7	12.3	9.1	7.6	8.5	9.5	8.6	9.1	6.9	6.2	6.6
10	12.5	11.7	12.2	9.3	7.1	8.2	8.9	8.1	8.5	7.7	6.9	7.2
11	12.1	11.2	11.7	10.6	8.8	9.6	9.3	8.5	8.9	7.3	6.6	7.1
12	---	---	---	9.8	8.5	9.1	8.9	8.5	8.7	7.6	6.9	7.3
13	---	---	---	8.6	7.8	8.2	9.0	8.5	8.7	9.2	7.4	8.0
14	---	---	---	9.1	7.6	8.3	8.5	7.6	8.2	9.8	6.2	7.3
15	---	---	---	9.6	8.2	8.7	8.2	7.3	7.8	7.2	6.4	6.8
16	---	---	---	10.0	8.2	9.1	8.3	7.2	7.8	7.7	6.9	7.3
17	---	---	---	10.6	8.7	9.7	8.5	7.6	8.1	7.5	6.9	7.2
18	---	---	---	11.2	10.2	10.6	8.1	7.2	7.6	7.0	6.6	6.8
19	---	---	---	11.3	10.2	10.7	8.6	6.4	7.6	7.3	6.7	7.0
20	---	---	---	10.7	10.4	10.6	6.4	5.5	5.9	7.8	7.1	7.4
21	---	---	---	11.3	9.6	10.6	6.9	6.1	6.5	7.1	6.0	6.7
22	---	---	---	10.3	9.4	9.9	8.2	6.9	7.5	6.5	5.2	6.0
23	---	---	---	10.6	9.9	10.3	8.8	5.3	7.3	6.4	5.6	6.0
24	---	---	---	10.8	10.2	10.5	6.4	5.2	5.8	6.6	5.8	6.2
25	---	---	---	10.9	8.7	10.1	6.6	5.7	6.1	7.2	6.4	6.9
26	---	---	---	9.3	8.4	8.8	7.1	5.8	6.4	7.9	6.1	7.3
27	---	---	---	10.0	9.2	9.5	6.7	5.5	6.0	6.2	4.8	5.6
28	---	---	---	10.1	9.2	9.7	7.1	5.6	6.5	6.5	4.6	5.5
29	---	---	---	9.6	9.0	9.3	8.3	7.0	7.7	6.9	5.2	6.0
30	---	---	---	9.9	9.2	9.6	8.3	7.7	8.1	7.5	6.0	6.6
31	---	---	---	---	---	---	9.1	8.1	8.5	7.5	5.8	6.6
MONTH	13.6	10.4	12.2	12.2	7.1	9.7	9.9	5.2	7.9	9.8	4.6	7.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	7.0	4.6	5.9	7.4	5.8	6.6	10.7	9.2	9.9	12.2	9.9	11.0
2	7.6	5.3	6.3	6.6	4.9	5.9	9.9	7.9	8.6	10.6	8.8	9.7
3	7.2	5.8	6.5	6.9	4.4	5.6	7.9	7.0	7.6	10.8	8.6	9.7
4	8.0	6.9	7.4	7.4	5.0	6.2	9.7	7.6	8.6	10.9	8.8	9.8
5	7.9	6.1	6.9	7.3	4.4	5.7	10.5	8.5	9.5	12.1	8.0	10
6	8.5	6.4	7.2	8.5	5.6	6.9	11.5	9.3	10.3	11.5	9.3	10.3
7	8.0	5.9	7.0	8.7	6.3	7.2	11.6	10.2	10.9	12.9	8.6	10.7
8	8.6	7.0	7.7	6.4	3.6	4.7	11.8	10.5	11.0	13.3	10.0	11.4
9	7.6	6.8	7.2	5.5	3.6	4.5	11.7	9.8	10.7	14.3	10.4	12.2
10	7.1	5.8	6.6	5.6	3.5	4.7	12.0	9.6	10.8	14.4	10.7	12.5
11	6.2	4.4	5.4	6.8	5.4	6.1	11.8	10.1	10.8	15.2	11.4	13.1
12	7.4	5.7	6.6	6.9	4.9	6.0	11.3	9.2	10.2	13.5	11.0	12.5
13	6.9	5.4	6.2	7.5	5.2	6.4	11.5	8.8	10.1	13.1	9.5	11.3
14	6.8	4.0	6.0	7.7	5.6	6.5	12.0	9.6	10.6	14.8	11.0	12.8
15	6.4	4.4	5.4	7.5	5.0	6.2	11.7	9.4	10.4	14.2	12.3	13.1
16	7.2	5.5	6.4	8.4	6.3	7.1	11.7	8.7	10.1	12.6	11.3	12.1
17	7.0	5.2	6.1	8.1	6.4	7.0	12.4	9.0	10.6	12.8	10.1	11.5
18	6.0	4.7	5.3	8.9	6.0	7.3	12.9	9.8	11.2	13.3	10.0	11.7
19	6.9	5.4	6.1	9.1	6.3	7.5	13.5	9.9	11.6	13.5	9.6	11.6
20	7.0	5.2	6.4	7.3	6.9	7.1	13.9	11.2	12.3	12.1	10.6	11.4
21	7.4	5.1	6.7	7.8	7.1	7.5	12.7	10.4	11.7	13.3	10.3	11.7
22	8.3	6.7	7.5	9.0	6.6	7.6	10.7	9.2	10.1	13.0	11.0	11.8
23	7.6	6.6	7.0	7.1	4.4	6.2	11.7	10.1	10.6	12.7	10.9	11.7
24	6.9	6.0	6.5	6.6	5.0	6.0	10.5	8.9	9.6	11.8	11.3	11.5
25	6.5	5.1	5.9	7.4	6.0	6.7	9.9	8.6	9.2	12.1	11.0	11.4
26	7.9	4.9	6.5	8.2	6.8	7.5	12.3	8.6	10.4	14.6	11.1	12.7
27	7.7	5.6	6.6	8.3	7.4	8.0	12.6	10.3	11.1	14.8	10.9	12.8
28	6.6	5.3	6.0	7.4	5.4	6.3	11.9	9.6	10.6	13.4	11.6	12.5
29	---	---	---	8.2	5.6	7.2	11.3	9.4	10.3	14.2	10.9	12.3
30	---	---	---	9.5	7.4	8.4	10.9	10.2	10.5	13.7	10.8	12.2
31	---	---	---	9.3	8.4	9.0	---	---	---	15.0	10.7	12.6
MONTH	8.6	4.0	6.5	9.5	3.5	6.6	13.9	7.0	10.3	15.2	8.0	11.7

SWATARA CREEK BASIN

01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	15.1	11.4	13.2	16.6	14.1	15.3	18.1	14.2	15.9	16.8	14.6	15.6
2	15.1	11.5	13.2	16.7	14.3	15.4	18.9	14.9	16.6	17.6	14.4	15.8
3	13.2	12.5	12.8	15.8	12.8	14.4	18.4	14.5	16.3	16.0	13.6	14.8
4	13.9	12.5	13.1	17.3	13.8	15.4	19.1	14.5	16.5	16.5	13.5	14.9
5	15.8	12.4	14.0	17.4	14.3	15.3	17.3	15.3	16.3	16.3	13.1	14.6
6	15.9	13.1	14.4	17.7	14.7	16.0	16.3	13.9	15.1	15.7	12.7	14.2
7	17.0	13.5	14.9	17.5	14.9	15.7	16.9	13.9	15.1	16.2	12.9	14.5
8	16.7	13.4	14.9	16.3	15.4	15.9	17.6	14.9	15.7	16.2	12.7	14.3
9	18.2	13.8	15.1	17.4	14.4	15.7	15.8	14.3	15.1	15.6	13.5	14.4
10	16.3	14.2	15.0	17.5	14.0	15.5	17.4	13.9	15.5	16.0	12.9	14.4
11	16.2	14.4	15.2	18.7	13.9	16.0	18.4	14.9	16.5	15.0	11.8	13.5
12	16.7	14.0	15.3	18.3	14.2	15.8	19.1	15.0	16.9	15.8	12.3	14.1
13	17.4	13.8	15.5	18.5	14.5	16.2	18.6	15.7	17.0	16.6	13.5	15.1
14	17.4	14.8	16.0	16.6	15.2	15.8	18.5	14.9	16.5	16.0	13.8	14.9
15	16.2	14.4	15.3	17.0	14.7	15.7	16.9	14.9	16.0	16.5	14.6	15.4
16	16.0	13.5	14.8	19.6	15.4	16.4	16.3	14.9	15.4	19.1	15.2	16.0
17	14.9	12.3	13.5	17.7	15.9	16.6	17.4	14.1	15.5	16.3	14.2	15.1
18	14.7	12.4	13.5	18.8	16.6	17.5	17.8	13.6	15.5	15.7	13.5	14.5
19	14.3	12.3	13.4	17.7	15.2	16.4	16.7	15.3	16.0	15.7	13.6	14.6
20	15.4	12.6	13.9	18.4	14.9	16.4	16.4	14.5	15.3	15.3	13.8	14.4
21	15.5	12.6	14.1	17.5	14.5	15.8	18.6	14.9	16.5	15.4	13.3	14.3
22	16.3	13.2	14.6	17.6	14.3	15.8	17.3	14.7	15.8	15.7	12.2	13.8
23	15.9	11.8	13.7	17.8	14.7	16.0	16.0	13.1	14.5	15.1	13.8	14.3
24	16.1	12.3	14.2	16.9	13.1	14.9	16.8	13.7	15.0	14.1	12.7	13.6
25	17.2	13.8	15.4	18.5	15.0	16.4	16.1	12.8	14.5	14.2	13.4	13.8
26	16.7	14.0	15.3	18.2	14.3	16.1	15.3	13.4	14.4	16.2	13.9	14.8
27	17.4	14.5	15.8	19.0	15.0	16.7	16.0	14.1	15.0	15.5	12.3	14.2
28	17.1	14.6	15.9	16.8	14.1	15.4	16.2	15.1	15.6	13.8	10.6	12.3
29	18.3	14.7	15.8	17.5	13.2	15.2	16.0	14.6	15.3	14.3	11.5	13.4
30	16.7	15.1	15.7	17.4	14.3	15.6	16.9	15.6	16.1	12.5	9.7	11.1
31	---	---	---	17.3	13.8	15.3	17.7	15.4	16.7	---	---	---
MONTH	18.3	11.4	14.6	19.6	12.8	15.8	19.1	12.8	15.7	19.1	9.7	14.4
YEAR	19.6	3.5	11.0									

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA
(Swatara Creek Project)

LOCATION.--Lat 40°34'50", long 76°24'18", Schuylkill County, Hydrologic Unit 02050305, on right bank 800 ft downstream of Adam's Run, 1,000 ft downstream from State Highway 125 bridge crossing Swatara Creek and 0.4 mi north of Ravine.

DRAINAGE AREA.--43.3 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 590 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those above 638 ft^3/s and those for estimated daily discharges, which are poor. Other data for this project presented in tables on pages 414-456.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0845	1,920	4.06
Dec. 1	1030	1,070	3.06
Dec. 10	1700	734	2.60
Dec. 23	1630	1,180	3.21
Jan. 14	0915	1,490	3.59
Mar. 28	2300	1,430	3.52
Apr. 3	0145	*2,120	*4.27

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	e56	691	107	e71	75	320	83	35	27	23	21
2	161	e49	470	96	e71	69	958	70	33	30	22	17
3	146	e50	365	102	e68	65	1470	67	39	25	23	17
4	123	e59	291	e113	68	64	810	65	53	23	21	16
5	107	e78	244	e118	67	62	572	62	41	24	20	16
6	93	e70	207	308	67	65	457	62	48	32	20	16
7	87	e62	216	223	67	81	389	59	68	78	20	15
8	80	e58	203	e335	69	180	340	59	44	259	21	15
9	74	e53	175	e325	e85	126	273	55	45	86	26	15
10	69	e50	460	e242	e107	103	234	55	43	52	22	14
11	63	e49	445	e197	74	98	204	54	38	41	24	14
12	58	e86	325	e209	67	93	179	51	37	42	23	14
13	57	e98	267	e180	63	88	163	49	34	36	20	13
14	73	e86	219	1060	125	83	144	53	33	32	21	14
15	72	e78	186	660	270	77	127	89	32	39	21	15
16	79	e73	163	480	161	78	113	58	31	63	20	19
17	60	e68	147	383	138	78	107	52	31	98	21	31
18	52	e66	130	294	114	80	98	49	29	89	19	19
19	99	e61	119	251	100	86	92	45	29	55	30	16
20	73	e64	103	229	95	94	90	54	28	44	24	17
21	61	e67	94	195	99	101	83	50	28	39	20	15
22	61	e58	92	164	99	95	77	46	27	36	18	14
23	53	50	408	158	96	198	109	43	25	32	18	15
24	50	188	354	e141	88	257	157	42	25	31	16	13
25	48	433	220	e126	81	208	94	42	24	38	16	14
26	45	244	181	118	76	188	81	40	25	31	17	18
27	45	183	155	100	72	173	86	38	23	31	16	18
28	42	977	134	88	71	606	76	40	24	28	38	16
29	42	581	130	86	---	883	70	44	26	26	24	17
30	89	408	120	86	---	529	79	43	41	25	20	15
31	66	---	115	e78	---	399	---	38	---	24	21	---
TOTAL	2420	4503	7429	7252	2629	5382	8052	1657	1039	1516	665	489
MEAN	78.1	150	240	234	93.9	174	268	53.5	34.6	48.9	21.5	16.3
MAX	192	977	691	1060	270	883	1470	89	68	259	38	31
MIN	42	49	92	78	63	62	70	38	23	23	16	13
CFSM	1.80	3.47	5.53	5.40	2.17	4.01	6.20	1.23	0.80	1.13	0.50	0.38
IN.	2.08	3.87	6.38	6.23	2.26	4.62	6.92	1.42	0.89	1.30	0.57	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2005, BY WATER YEAR (WY)

MEAN	60.8	72.5	124	99.2	84.8	140	133	85.6	81.2	47.7	38.7	59.8
MAX	148	150	284	234	196	220	268	181	212	102	101	242
(WY)	2004	2005	1997	2005	1998	2003	2005	1998	2003	2004	2003	2004
MIN	13.2	16.5	11.4	34.3	42.9	82.2	75.4	47.0	18.4	13.5	13.0	15.7
(WY)	2002	1999	1999	2002	2002	2004	1999	1999	1999	1999	2002	1998

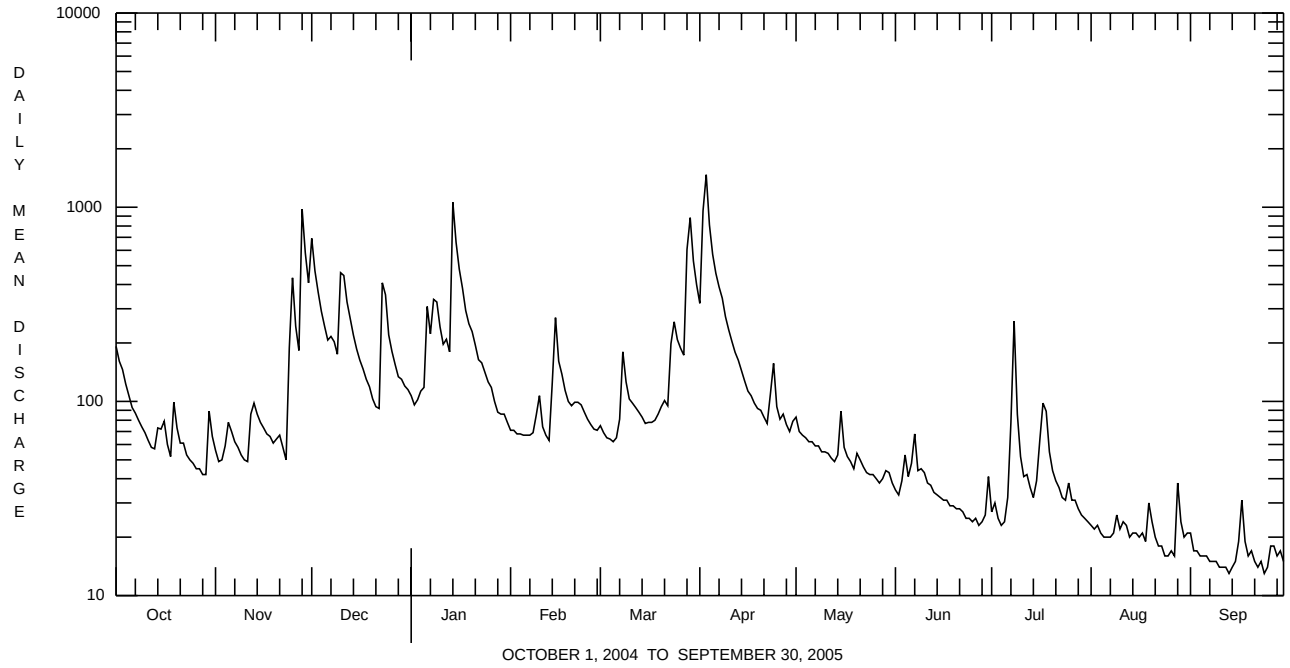
e Estimated.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1996 - 2005	
ANNUAL TOTAL	43719		43033			
ANNUAL MEAN	119		118		85.6	
HIGHEST ANNUAL MEAN					121	2004
LOWEST ANNUAL MEAN					44.9	2002
HIGHEST DAILY MEAN	2710	Sep 18	1470	Apr 3	2710	Sep 18 2004
LOWEST DAILY MEAN	29	Jul 10,11	13	Sep 13,24	9.3	Sep 10 2002
ANNUAL SEVEN-DAY MINIMUM	33	Jul 5	14	Sep 8	10	Dec 14 1998
MAXIMUM PEAK FLOW			**a**2120	Apr 3	**a**5310	Sep 18 2004
MAXIMUM PEAK STAGE			4.27	Apr 3	**b**8.16	Sep 18 2004
INSTANTANEOUS LOW FLOW			12	Sep 11**c**	9.2	Oct 14 2001
ANNUAL RUNOFF (CFSM)	2.76		2.72		1.98	
ANNUAL RUNOFF (INCHES)	37.56		36.97		26.85	
10 PERCENT EXCEEDS	211		262		164	
50 PERCENT EXCEEDS	76		67		58	
90 PERCENT EXCEEDS	44		20		15	

a From rating curve extended above 638 ft^3/s based on a straight line extension.
b From floodmark.
c Also Sept. 13, 14, 24, 25.



01571820 SWATARA CREEK NEAR RAVINE, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1996 to current year.
pH: April 1996 to current year.
WATER TEMPERATURE: April 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996.

REMARKS.--Specific conductance records rated good. pH records rated good. Water temperature records rated good. Interruptions in the record were due to malfunctions of the instrumentation. 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 414-456. Figure 9 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 538 microsiemens, Jan. 9, 1999; minimum, 27 microsiemens, June 11, 1997.
pH: Maximum, 8.2, July 30, 1999; minimum, 4.7, June 13, 1998.
WATER TEMPERATURE: Maximum, 26.5°C, July 5, 6, 1999, Aug. 1, 1999; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 344, microsiemens, Aug. 12; minimum, 76, microsiemens, Nov. 28.
PH: Maximum, 7.4, Sept. 19, 28-30; minimum, 5.9, Mar. 12.
WATER TEMPERATURE: Maximum, 23.5°C, Aug. 13, 14; minimum, 0.1°C, Jan. 28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
05...	0830	1028	--	109	300	8.8	11.8	101	6.7	--
28...	1015	1028	89203	43	265	2.6	11.6	100	6.8	6.7
DEC										
21...	0915	1028	89203	94	439	11	14.6	104	6.8	6.2
FEB										
16...	0900	1028	89203	157	335	11	12.6	97	6.5	6.6
APR										
02...	0130	1028	89203	293	--	--	--	--	6.2	6.6
02...	0900	1028	89203	578	--	--	--	--	6.2	6.4
02...	1400	1028	89203	912	--	--	--	--	6.2	6.5
02...	1630	1028	89203	1880	--	--	--	--	6.2	6.5
02...	1900	1028	89203	1680	--	--	--	--	6.3	6.6
02...	2130	1028	89203	1510	--	--	--	--	6.2	6.3
02...	2300	1028	89203	1540	--	--	--	--	6.1	6.4
03...	0330	1028	89203	2060	--	--	--	--	6.3	6.4
03...	0600	1028	89203	1720	--	--	--	--	6.2	6.4
04...	0430	1028	89203	919	--	--	--	--	6.0	6.2
05...	1600	1028	89203	559	--	--	--	--	6.1	6.6
06...	1930	1028	89203	429	--	--	--	--	6.3	6.2
20...	0945	1028	89203	90	160	12	10.3	98	6.7	6.8
JUN										
07...	1115	1028	89203	63	307	150	10.0	104	6.8	6.7
29...	2215	1028	89203	42	--	--	--	--	7.0	7.0
29...	2315	1028	89203	46	--	--	--	--	7.1	6.9
30...	0000	1028	89203	67	--	--	--	--	6.9	6.8
30...	0200	1028	89203	54	--	--	--	--	7.0	6.9
30...	0400	1028	89203	59	--	--	--	--	7.0	6.8
30...	0600	1028	89203	48	--	--	--	--	6.9	6.8
30...	0800	1028	89203	43	--	--	--	--	6.9	6.7
JUL										
07...	1515	1028	89203	185	--	--	--	--	7.1	6.8
07...	1530	1028	89203	261	--	--	--	--	6.9	6.7
07...	1600	1028	89203	266	--	--	--	--	7.1	6.9
07...	1800	1028	89203	134	--	--	--	--	6.7	6.4
07...	2000	1028	89203	169	--	--	--	--	6.8	6.5
07...	2200	1028	89203	148	--	--	--	--	6.9	5.8
08...	0000	1028	89203	116	--	--	--	--	6.7	6.1
08...	0600	1028	89203	213	--	--	--	--	6.9	6.8
08...	0800	1028	89203	283	--	--	--	--	6.9	6.8
08...	1200	1028	89203	440	--	--	--	--	6.8	6.7
08...	1600	1028	89203	297	--	--	--	--	6.7	6.7
09...	0000	1028	89203	145	--	--	--	--	6.8	6.8
09...	0600	1028	89203	98	--	--	--	--	6.8	6.7
19...	1045	1028	89203	56	306	--	8.8	96	6.7	7.2
20...	1630	1028	89203	42	364	--	8.4	96	6.9	7.0
AUG										
30...	1015	1028	89203	20	427	--	9.1	97	7.0	7.0

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Specif. conduc-tance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
05...	185	11.2	--	--	--	--	--	--	--	--
28...	219	9.0	16.0	16.2	12.1	12.3	1.20	1.2	5.10	5.3
DEC										
21...	187	1.6	14.4	13.1	11.9	10.8	1.10	1.1	5.00	4.8
FEB										
16...	164	4.3	9.90	10.6	7.10	7.5	1.10	1.2	6.40	6.4
APR										
02...	149	9.3	9.30	9.7	7.20	7.5	1.20	1.2	5.80	5.9
02...	140	8.0	8.30	8.0	5.70	5.5	1.40	1.1	6.60	6.2
02...	125	7.7	7.00	7.1	4.40	4.4	1.50	1.3	6.30	5.8
02...	96	8.0	5.80	7.5	3.00	3.6	1.50	1.6	5.40	5.3
02...	85	7.7	5.40	6.1	2.80	3.1	1.70	1.5	4.70	4.5
02...	84	7.8	5.20	5.4	3.00	3.1	1.40	1.3	4.30	4.2
02...	82	7.8	5.00	5.2	2.90	3.0	1.20	1.1	4.60	4.3
03...	97	7.4	5.90	7.0	2.90	3.4	1.50	1.5	4.80	4.6
03...	90	7.0	5.30	5.6	3.00	3.2	1.40	1.3	4.30	4.2
04...	122	6.4	6.90	6.8	5.30	5.2	1.20	1.1	4.80	4.5
05...	146	9.9	8.50	8.4	7.10	7.1	1.20	1.1	4.60	4.2
06...	160	11.5	9.40	9.3	8.10	7.9	1.20	1.1	4.60	4.3
20...	209	12.2	13.8	16.0	11.0	13.0	1.30	1.4	5.30	6.0
JUN										
07...	184	17.1	12.8	14.0	7.60	8.5	2.00	2.3	6.90	6.9
29...	252	20.2	19.2	19.2	12.7	12.9	4.80	1.7	22.0	7.6
29...	253	20.1	19.2	19.9	12.1	12.6	3.10	2.0	14.3	8.8
30...	258	19.6	18.5	19.5	12.3	12.8	2.50	2.1	10.9	8.1
30...	261	19.2	19.4	20.1	12.2	12.6	2.30	2.1	9.50	8.3
30...	250	19.1	18.9	19.3	11.0	11.2	2.30	2.3	9.30	8.6
30...	264	18.6	19.5	20.2	11.6	11.9	2.40	2.4	9.60	9.5
30...	288	18.4	20.7	21.4	12.2	12.5	2.70	2.8	10.8	11.0
JUL										
07...	262	19.8	18.9	17.6	12.8	11.4	1.90	1.9	8.00	7.4
07...	268	19.4	19.4	19.1	12.9	11.9	1.90	2.0	8.10	7.6
07...	165	20.7	14.8	15.8	7.10	7.1	1.50	1.8	5.10	4.7
07...	146	20.5	10.8	11.6	6.10	6.0	1.50	1.9	4.80	4.4
07...	165	19.8	12.1	11.3	6.80	6.2	1.60	1.6	5.60	5.2
07...	207	19.2	16.8	15.9	7.60	6.9	2.20	2.2	7.00	6.4
08...	209	19.3	17.2	16.0	7.90	7.2	2.10	2.1	6.40	5.8
08...	175	18.3	12.7	11.7	6.30	5.7	2.00	1.8	7.60	6.8
08...	163	18.1	11.7	10.7	5.90	5.3	1.90	1.7	7.50	6.8
08...	150	18.0	10.3	9.8	5.10	4.6	2.40	2.2	7.40	6.5
08...	142	18.3	9.70	9.0	5.20	4.6	2.10	2.0	6.30	5.7
09...	156	17.9	10.5	9.5	6.10	5.4	1.90	1.7	6.50	5.8
09...	168	16.9	11.5	10.3	7.00	6.1	1.80	1.6	6.80	6.1
19...	203	19.7	13.9	12.3	10.1	8.9	1.90	1.7	7.90	7.2
20...	224	22.0	15.6	13.8	10.9	9.4	2.10	1.8	8.70	7.6
AUG										
30...	281	18.7	21.7	20.9	15.4	14.6	2.20	2.0	9.50	8.7

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
28...	8	19.7	--	80.4	--	--	--	<100	200	--
DEC										
21...	11	10.9	--	67.2	--	--	--	<100	400	--
FEB										
16...	6	12.8	--	46.4	--	--	--	<100	400	--
APR										
02...	5	8.0	<.01	41.3	.52	<.030	<.020	<100	500	.19
02...	6	9.5	<.01	34.1	.55	<.030	<.020	200	900	.18
02...	6	9.4	<.01	27.0	.58	<.030	<.020	<100	1400	.18
02...	6	8.2	<.01	20.4	.61	<.030	<.020	200	4300	.18
02...	6	7.3	<.01	18.5	.60	<.030	<.020	200	2300	.18
02...	5	7.3	<.01	18.8	.60	<.030	<.020	200	1300	.18
02...	5	7.0	<.01	19.1	.61	<.030	<.020	<100	1200	.18
03...	7	7.0	<.01	19.9	.58	<.030	<.020	200	3000	.18
03...	5	6.8	<.01	20.0	.59	<.030	<.020	500	1500	.18
04...	4	6.8	<.01	31.7	.53	<.030	<.020	<100	600	.18
05...	5	7.0	<.01	43.8	.52	<.030	<.020	<100	500	.18
06...	4	7.5	<.01	48.5	.50	<.030	<.020	<100	500	.19
20...	7	7.4	<.01	70.0	.47	<.030	<.020	<100	400	.19
JUN										
07...	9	10.3	<.01	50.6	.67	<.030	<.020	<100	800	.21
29...	12	10.5	--	76.8	--	--	--	<100	900	--
29...	14	11.2	--	71.3	--	--	--	300	1500	--
30...	11	10.9	--	77.4	--	--	--	<100	2700	--
30...	12	10.8	--	75.4	--	--	--	<100	1500	--
30...	11	10.9	--	71.0	--	--	--	<100	1000	--
30...	8	11.9	--	76.4	--	--	--	<100	1100	--
30...	9	14.9	--	84.0	--	--	--	<100	700	--
JUL										
07...	12	11.7	--	85.1	--	--	--	<100	4200	--
07...	10	13.2	--	86.3	--	--	--	<100	7600	--
07...	19	9.4	--	45.3	--	--	--	<100	7000	--
07...	9	7.2	--	43.4	--	--	--	<100	4500	--
07...	7	8.1	--	43.4	--	--	--	<100	1900	--
07...	4	11.8	--	63.0	--	--	--	<100	3300	--
08...	5	8.9	--	68.1	--	--	--	<100	2700	--
08...	7	9.8	--	48.5	--	--	--	<100	900	--
08...	9	10.3	--	43.3	--	--	--	<100	1300	--
08...	10	10.3	--	36.4	--	--	--	<100	2600	--
08...	7	8.9	--	37.0	--	--	--	<100	1600	--
09...	7	9.1	--	41.2	--	--	--	<100	600	--
09...	6	10.5	--	45.3	--	--	--	<100	500	--
19...	10	10.9	--	58.6	--	--	--	<100	200	--
20...	9	13.0	--	75.0	--	--	--	<100	200	--
AUG										
30...	12	13.1	--	94.6	--	--	--	<100	<100	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
05...	--	--	--	--	--	--	--	--
28...	330	670	600	610	30.0	30.0	65.0	75.0
DEC								
21...	520	1090	640	600	30.0	30.0	75.0	70.0
FEB								
16...	350	910	430	560	20.0	25.0	50.0	105
APR								
02...	110	1330	420	440	20.0	25.0	55.0	80.0
02...	300	2450	330	370	15.0	20.0	40.0	80.0
02...	100	3910	250	420	15.0	20.0	35.0	70.0
02...	280	12400	160	920	10.0	30.0	25.0	115
02...	290	5690	150	560	10.0	20.0	25.0	70.0
02...	180	3090	190	400	10.0	15.0	40.0	65.0
02...	110	2890	200	390	10.0	15.0	45.0	55.0
03...	220	6450	190	650	10.0	25.0	20.0	80.0
03...	870	3410	240	420	15.0	15.0	35.0	55.0
04...	190	1310	320	340	20.0	20.0	50.0	60.0
05...	70.0	960	400	390	20.0	25.0	60.0	65.0
06...	100	1000	430	410	25.0	25.0	80.0	75.0
20...	140	990	510	580	30.0	35.0	75.0	90.0
JUN								
07...	330	2480	390	510	15.0	20.0	30.0	50.0
29...	380	4520	60.0	730	<5.00	25.0	40.0	115
29...	1080	6290	110	580	<5.00	20.0	30.0	80.0
30...	40.0	18000	<10.0	1020	<5.00	35.0	60.0	125
30...	30.0	9560	<10.0	790	<5.00	25.0	10.0	95.0
30...	40.0	6930	<10.0	560	<5.00	20.0	65.0	65.0
30...	40.0	8010	50.0	640	10.0	20.0	15.0	95.0
30...	20.0	7210	70.0	590	10.0	20.0	15.0	90.0
JUL								
07...	30.0	20400	20.0	2630	10.0	70.0	45.0	280
07...	20.0	33900	20.0	4190	10.0	100	20.0	410
07...	40.0	38300	<10.0	3400	<5.00	85.0	15.0	355
07...	50.0	16200	<10.0	1550	<5.00	40.0	15.0	155
07...	40.0	5740	<10.0	600	10.0	20.0	25.0	85.0
07...	30.0	7190	100	680	10.0	25.0	20.0	90.0
08...	30.0	5650	310	750	15.0	30.0	25.0	85.0
08...	80.0	3410	60.0	420	10.0	20.0	20.0	95.0
08...	110	4880	70.0	530	10.0	20.0	20.0	65.0
08...	110	11600	60.0	1080	10.0	30.0	30.0	115
08...	130	4210	120	490	10.0	20.0	15.0	60.0
09...	180	1700	130	350	15.0	20.0	35.0	55.0
09...	190	1570	230	330	15.0	15.0	20.0	35.0
19...	210	720	410	390	20.0	20.0	35.0	40.0
20...	110	530	390	370	20.0	20.0	30.0	30.0
AUG								
30...	120	370	240	260	15.0	15.0	25.0	30.0

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	162	153	157	---	---	---	136	92	110	189	186	188
2	165	161	163	---	---	---	129	110	121	195	183	191
3	176	163	172	---	---	---	137	129	133	195	163	184
4	196	176	180	---	---	---	148	137	143	184	172	175
5	199	181	190	---	---	---	156	148	152	178	170	173
6	205	196	199	---	---	---	162	156	159	172	141	150
7	209	204	206	---	---	---	164	151	159	155	143	148
8	209	206	207	---	---	---	163	151	155	---	---	---
9	210	205	208	---	---	---	168	153	165	---	---	---
10	217	209	213	---	---	---	153	106	127	---	---	---
11	222	216	219	---	---	---	129	107	120	---	---	---
12	223	219	221	---	---	---	140	129	135	---	---	---
13	224	220	222	---	---	---	148	140	144	---	---	---
14	224	202	210	---	---	---	155	148	151	159	95	112
15	209	187	203	---	---	---	163	154	159	138	116	128
16	193	182	185	---	---	---	167	163	165	150	138	145
17	209	193	202	---	---	---	171	167	169	163	150	157
18	216	209	212	---	---	---	174	171	172	176	163	170
19	212	164	179	---	---	---	177	171	174	179	175	178
20	191	166	178	---	---	---	187	176	182	186	177	181
21	200	191	196	---	---	---	188	185	187	188	182	184
22	200	197	199	---	---	---	190	186	188	194	187	192
23	205	199	202	218	196	198	222	110	166	193	187	189
24	211	205	209	199	118	176	150	112	133	---	---	195
25	223	210	212	125	112	118	163	150	157	---	---	194
26	216	210	211	141	125	134	171	163	167	201	193	196
27	218	213	217	142	140	141	177	168	172	207	199	201
28	221	217	219	142	76	101	185	176	182	217	202	208
29	219	216	217	125	102	116	190	182	184	219	202	210
30	219	178	192	136	125	130	190	185	187	208	202	205
31	192	178	186	---	---	---	190	187	188	214	208	211
MONTH	224	153	200	218	76	139	222	92	158	219	95	179

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	219	211	214	231	191	204	149	143	146	198	191	194
2	---	---	---	233	208	216	151	80	120	201	198	200
3	---	---	---	226	219	222	118	79	101	206	201	203
4	219	215	216	239	215	227	136	118	128	211	205	207
5	221	216	218	238	220	231	151	136	144	213	207	210
6	222	217	220	245	234	240	161	150	156	214	210	211
7	221	214	218	248	236	242	170	161	165	216	207	210
8	220	213	216	---	---	---	172	165	168	219	208	214
9	---	---	---	202	190	196	179	172	176	218	212	214
10	207	188	195	196	185	190	183	178	181	218	211	215
11	204	195	198	205	190	194	186	182	184	221	214	217
12	211	204	208	198	190	193	189	185	188	233	218	223
13	213	208	210	200	193	196	192	185	189	235	221	226
14	239	176	216	201	195	197	196	189	193	232	213	221
15	176	145	152	198	193	196	199	192	196	232	196	203
16	171	158	165	199	195	198	200	196	198	212	201	207
17	171	167	169	199	191	195	202	197	201	220	209	213
18	182	171	175	193	189	191	207	202	204	222	217	219
19	185	177	183	190	182	185	207	203	204	222	217	220
20	179	156	169	183	173	176	210	207	208	225	209	218
21	180	144	168	175	171	172	214	208	210	212	208	210
22	178	143	160	172	168	169	215	210	213	220	211	215
23	158	140	146	180	150	167	217	178	201	226	218	220
24	145	140	142	159	148	153	182	166	172	225	216	220
25	176	142	154	155	147	150	198	178	189	225	218	221
26	176	160	169	153	148	150	204	198	201	222	217	220
27	189	176	183	155	149	151	205	193	197	230	221	226
28	193	186	190	155	117	143	206	196	201	237	219	230
29	---	---	---	130	116	124	207	205	206	233	203	218
30	---	---	---	138	130	135	207	194	201	214	204	210
31	---	---	---	143	137	140	---	---	---	228	211	216
MONTH	239	140	186	248	116	185	217	79	181	237	191	215

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	235	227	229	276	243	266	260	254	256	296	288	294
2	262	232	243	267	237	249	257	253	255	292	285	288
3	233	211	227	263	250	254	273	257	264	294	285	289
4	211	201	206	257	251	254	280	272	276	293	285	290
5	214	201	207	270	250	258	272	263	266	296	287	291
6	226	199	217	263	235	253	271	263	267	310	293	305
7	214	183	194	268	128	227	270	265	268	309	295	302
8	221	206	213	234	142	165	286	256	270	300	294	296
9	224	186	215	207	156	181	283	263	271	310	300	307
10	227	199	216	232	207	222	301	275	290	311	298	305
11	225	222	223	261	231	243	323	272	285	303	293	299
12	233	224	228	266	183	250	344	289	305	307	300	303
13	234	227	232	252	229	246	291	280	286	308	303	306
14	239	231	235	260	252	256	320	289	296	307	299	304
15	248	239	244	261	229	250	329	300	307	307	303	305
16	249	242	246	253	181	224	306	283	294	305	244	291
17	248	244	246	218	172	194	294	280	289	278	212	263
18	246	240	244	188	163	174	295	288	292	306	278	294
19	251	243	247	231	188	207	288	226	267	304	291	300
20	251	247	249	234	224	228	275	267	271	314	289	307
21	262	251	256	236	228	231	281	273	277	315	303	309
22	260	255	259	238	233	236	279	272	275	320	303	309
23	263	253	256	241	234	237	292	279	286	323	318	320
24	272	261	266	246	241	243	290	261	279	328	322	324
25	269	263	266	243	195	223	286	277	282	327	311	319
26	270	260	265	241	228	238	290	285	287	321	292	313
27	269	259	264	241	229	235	291	283	286	304	263	291
28	271	259	266	250	235	242	291	197	247	302	295	300
29	272	251	266	256	246	250	286	267	279	305	281	298
30	292	232	265	275	256	267	287	279	282	313	290	303
31	---	---	---	263	256	259	300	283	293	---	---	---
MONTH	292	183	240	276	128	234	344	197	279	328	212	301
YEAR	344	76	213									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			**NOVEMBER**			**DECEMBER**			**JANUARY**	
1	6.6	6.6	6.6	---	---	---	6.6	6.5	6.6	6.8	6.7	6.7
2	6.6	6.6	6.6	---	---	---	6.6	6.6	6.6	6.8	6.8	6.8
3	6.7	6.6	6.7	---	---	---	6.6	6.6	6.6	6.8	6.7	6.8
4	6.7	6.7	6.7	---	---	---	6.7	6.6	6.6	6.8	6.7	6.7
5	7.0	6.7	6.8	---	---	---	6.7	6.7	6.7	6.7	6.7	6.7
6	6.8	6.8	6.8	---	---	---	6.8	6.7	6.7	6.7	6.5	6.6
7	6.9	6.8	6.9	---	---	---	6.8	6.7	6.8	6.6	6.6	6.6
8	6.9	6.8	6.8	---	---	---	6.8	6.7	6.8	---	---	---
9	6.9	6.8	6.9	---	---	---	6.8	6.8	6.8	---	---	---
10	7.0	6.9	6.9	---	---	---	6.8	6.7	6.7	---	---	---
11	7.0	6.9	6.9	---	---	---	6.7	6.7	6.7	---	---	---
12	7.0	6.9	7.0	---	---	---	6.7	6.6	6.6	---	---	---
13	7.0	7.0	7.0	---	---	---	6.7	6.6	6.6	---	---	---
14	7.0	6.9	7.0	---	---	---	6.7	6.7	6.7	6.9	6.3	6.4
15	6.9	6.8	6.9	---	---	---	6.8	6.7	6.7	6.3	6.3	6.3
16	6.9	6.8	6.8	---	---	---	6.7	6.7	6.7	6.3	6.2	6.3
17	6.9	6.8	6.8	---	---	---	6.8	6.7	6.8	6.4	6.3	6.4
18	6.9	6.8	6.9	---	---	---	6.8	6.8	6.8	6.4	6.4	6.4
19	6.9	6.8	6.9	---	---	---	6.8	6.8	6.8	6.4	6.4	6.4
20	6.9	6.8	6.9	---	---	---	6.8	6.8	6.8	6.4	6.4	6.4
21	6.9	6.9	6.9	---	---	---	6.8	6.8	6.8	6.4	6.4	6.4
22	6.9	6.9	6.9	---	---	---	6.8	6.7	6.7	6.5	6.4	6.4
23	7.0	6.9	6.9	7.0	6.9	6.9	6.8	6.5	6.7	6.6	6.5	6.5
24	6.9	6.9	6.9	7.0	6.7	6.9	6.6	6.5	6.6	---	---	---
25	6.9	6.9	6.9	6.9	6.7	6.8	6.6	6.6	6.6	---	---	---
26	6.9	6.9	6.9	6.8	6.7	6.8	6.6	6.6	6.6	6.8	6.1	6.6
27	6.9	6.8	6.8	6.7	6.7	6.7	6.6	6.6	6.6	6.8	6.0	6.7
28	6.9	6.8	6.8	6.8	6.4	6.5	6.6	6.6	6.6	6.8	6.8	6.8
29	6.9	6.9	6.9	6.5	6.4	6.5	6.6	6.6	6.6	6.8	6.7	6.8
30	7.0	6.8	6.9	6.5	6.5	6.5	6.7	6.6	6.7	6.8	6.8	6.8
31	6.9	6.8	6.9	---	---	---	6.8	6.7	6.7	---	---	---
MAX	7.0	7.0	7.0	7.0	6.9	6.9	6.8	6.8	6.8	6.9	6.8	6.8
MIN	6.6	6.6	6.6	6.5	6.4	6.5	6.6	6.5	6.6	6.3	6.0	6.3

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		FEBRUARY			**MARCH**			**APRIL**			**MAY**	
1	6.8	6.8	6.8	6.7	6.7	6.7	6.2	6.1	6.1	6.7	6.6	6.6
2	---	---	---	6.8	6.7	6.7	6.3	6.1	6.2	6.7	6.6	6.7
3	---	---	---	6.8	6.7	6.7	6.4	6.0	6.0	6.8	6.6	6.6
4	6.8	6.7	6.8	6.7	6.7	6.7	6.1	6.0	6.0	6.7	6.6	6.7
5	6.8	6.7	6.8	6.8	6.7	6.7	6.2	6.1	6.1	6.7	6.6	6.7
6	6.8	6.7	6.7	6.8	6.7	6.8	6.3	6.1	6.2	6.7	6.5	6.6
7	6.7	6.7	6.7	6.8	6.8	6.8	6.3	6.2	6.3	6.9	6.6	6.7
8	6.7	6.7	6.7	---	---	---	6.4	6.3	6.4	6.9	6.7	6.7
9	6.7	6.6	6.7	6.7	6.6	6.6	6.5	6.4	6.4	6.9	6.6	6.8
10	6.7	6.6	6.6	6.7	6.6	6.6	6.5	6.4	6.5	6.9	6.7	6.8
11	6.7	6.6	6.6	6.7	6.6	6.6	6.5	6.5	6.5	6.9	6.6	6.8
12	6.7	6.6	6.6	6.7	5.9	6.7	6.6	6.5	6.5	6.9	6.7	6.8
13	6.7	6.7	6.7	6.7	6.4	6.7	6.9	6.5	6.7	6.9	6.7	6.8
14	6.7	6.5	6.7	6.7	6.3	6.6	6.8	6.7	6.7	7.0	6.7	6.8
15	6.5	6.4	6.5	6.6	6.2	6.6	6.8	6.7	6.7	7.0	6.6	6.7
16	6.5	6.5	6.5	6.6	6.3	6.6	6.7	6.6	6.7	6.8	6.6	6.7
17	6.5	6.4	6.4	6.6	6.5	6.6	6.7	6.6	6.7	6.8	6.7	6.8
18	6.4	6.4	6.4	6.6	6.4	6.5	6.7	6.6	6.7	6.8	6.7	6.8
19	6.5	6.4	6.4	6.5	6.3	6.5	6.8	6.6	6.7	7.0	6.8	6.9
20	6.6	6.5	6.5	6.5	6.4	6.4	6.8	6.6	6.7	6.9	6.7	6.8
21	6.6	6.5	6.6	6.5	6.4	6.4	6.8	6.7	6.7	6.9	6.7	6.8
22	6.7	6.6	6.6	6.5	6.4	6.5	6.7	6.7	6.7	7.0	6.8	6.9
23	6.7	6.6	6.6	6.5	6.3	6.5	6.7	6.6	6.6	7.0	6.9	6.9
24	6.6	6.5	6.6	6.4	6.3	6.4	6.7	6.5	6.6	7.0	6.9	6.9
25	6.6	6.5	6.6	6.4	6.3	6.4	6.7	6.6	6.6	6.9	6.9	6.9
26	6.6	6.6	6.6	6.4	6.3	6.3	6.7	6.5	6.6	7.0	6.8	6.9
27	6.7	6.6	6.6	6.3	6.3	6.3	6.7	6.3	6.6	6.9	6.8	6.8
28	6.7	6.7	6.7	6.4	6.1	6.3	6.7	6.6	6.6	6.9	6.7	6.8
29	---	---	---	6.4	6.1	6.1	6.7	6.6	6.6	6.9	6.7	6.8
30	---	---	---	6.1	6.0	6.1	6.6	6.6	6.6	6.9	6.7	6.8
31	---	---	---	6.1	6.0	6.1	---	---	---	7.0	6.8	6.9
MAX	6.8	6.8	6.8	6.8	6.8	6.8	6.9	6.7	6.7	7.0	6.9	6.9
MIN	6.4	6.4	6.4	6.1	5.9	6.1	6.1	6.0	6.0	6.7	6.5	6.6

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	7.0	6.8	6.9	7.0	6.9	6.9	6.9	6.7	6.8	7.1	6.9	6.9
2	7.0	6.9	6.9	7.1	6.9	7.0	6.9	6.8	6.8	7.3	6.8	7.0
3	6.9	6.8	6.9	7.1	7.0	7.0	7.0	6.7	6.8	7.2	6.9	7.0
4	6.9	6.7	6.8	7.2	7.0	7.1	7.0	6.8	6.9	7.2	6.9	7.0
5	6.9	6.8	6.8	7.1	7.0	7.1	7.0	6.9	6.9	7.2	6.9	7.0
6	6.9	6.8	6.8	7.2	7.0	7.1	7.0	6.8	6.9	7.1	6.9	6.9
7	6.9	6.7	6.9	7.1	6.6	7.0	7.0	6.8	6.9	7.1	6.9	7.0
8	7.0	6.8	6.9	6.9	6.7	6.8	7.0	6.8	6.9	7.1	6.9	7.0
9	7.1	6.8	6.9	7.0	6.8	6.9	7.0	6.8	6.9	7.1	6.9	6.9
10	7.0	6.8	6.9	7.0	6.9	7.0	7.0	6.8	6.9	7.2	6.9	7.0
11	6.9	6.8	6.9	7.1	6.9	7.0	7.2	6.8	7.0	7.2	7.0	7.0
12	7.0	6.8	6.9	7.0	6.8	6.9	7.2	6.9	7.0	7.0	6.9	7.0
13	7.0	6.9	7.0	7.0	6.8	6.9	7.2	6.8	6.9	7.1	7.0	7.0
14	7.1	7.0	7.0	7.0	6.8	6.9	7.2	6.8	7.0	7.2	7.0	7.0
15	7.0	6.9	7.0	6.9	6.7	6.8	7.3	6.9	6.9	7.1	6.9	7.0
16	7.0	6.9	7.0	6.9	6.6	6.8	7.0	6.9	6.9	7.1	6.9	7.0
17	7.0	6.9	7.0	6.9	6.6	6.8	7.2	6.9	6.9	7.1	6.8	6.9
18	7.1	6.9	7.0	6.8	6.5	6.7	7.2	6.8	6.9	7.2	7.0	7.0
19	7.1	7.1	7.1	6.8	6.7	6.8	7.0	6.8	6.9	7.4	7.1	7.2
20	7.2	7.0	7.1	6.9	6.7	6.8	7.1	6.8	6.9	7.2	7.0	7.1
21	7.2	7.1	7.1	6.8	6.8	6.8	7.2	6.7	6.9	7.2	7.0	7.1
22	7.1	7.0	7.1	6.8	6.7	6.8	7.2	6.8	6.9	7.3	6.9	7.1
23	7.1	6.9	7.1	6.9	6.8	6.8	7.1	6.8	6.9	7.2	6.9	7.0
24	7.0	6.9	6.9	6.8	6.7	6.8	7.1	6.8	6.9	7.3	7.0	7.1
25	7.0	6.9	6.9	6.8	6.7	6.8	7.2	6.9	6.9	7.2	7.0	7.1
26	7.1	6.8	6.9	6.8	6.7	6.7	7.2	6.8	6.9	7.2	7.0	7.1
27	7.1	6.9	7.0	6.9	6.7	6.8	7.3	6.8	7.0	7.3	7.1	7.2
28	7.0	6.9	7.0	6.9	6.8	6.8	7.0	6.8	6.8	7.4	7.1	7.2
29	7.1	6.9	7.0	6.9	6.8	6.8	---	---	---	7.4	7.2	7.2
30	7.1	6.9	7.0	6.9	6.8	6.8	7.2	6.9	7.0	7.4	7.2	7.2
31	---	---	---	6.9	6.7	6.8	7.1	6.9	7.0	---	---	---
MAX	7.2	7.1	7.1	7.2	7.0	7.1	7.3	6.9	7.0	7.4	7.2	7.2
MIN	6.9	6.7	6.8	6.8	6.5	6.7	6.9	6.7	6.8	7.0	6.8	6.9

YEAR			
	MAX	MAXIMUM 7.4	MINIMUM 6.1
	MIN	MAXIMUM 7.2	MINIMUM 5.9
	MEDIAN	MAXIMUM 7.2	MINIMUM 6.0

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.5	12.4	13.5	---	---	---	8.5	7.6	8.2	7.4	5.4	6.4
2	14.4	13.6	14.0	---	---	---	8.0	6.9	7.5	6.0	5.2	5.6
3	14.2	12.4	13.4	---	---	---	7.1	6.2	6.7	7.3	5.9	6.7
4	13.6	11.0	12.4	---	---	---	7.0	5.6	6.4	7.6	6.8	7.2
5	12.7	10.8	11.9	---	---	---	7.8	6.6	7.1	6.8	5.4	6.3
6	12.0	9.3	10.7	---	---	---	7.0	6.4	6.7	5.4	4.8	4.9
7	13.0	10.1	11.5	---	---	---	7.3	6.9	7.0	5.3	4.7	5.0
8	13.7	11.0	12.3	---	---	---	8.5	7.2	7.8	---	---	---
9	13.5	11.5	12.5	---	---	---	7.6	6.6	7.2	---	---	---
10	13.3	11.7	12.5	---	---	---	7.7	7.4	7.5	---	---	---
11	12.4	10.7	11.5	---	---	---	8.3	7.5	7.9	---	---	---
12	11.8	9.6	10.7	---	---	---	7.6	7.2	7.4	---	---	---
13	11.7	9.3	10.6	---	---	---	7.3	6.4	7.0	---	---	---
14	12.0	11.1	11.6	---	---	---	6.4	5.0	5.9	9.6	6.0	7.3
15	12.4	11.6	12.0	---	---	---	5.1	4.2	4.7	6.0	4.9	5.3
16	11.7	10.1	11.2	---	---	---	5.0	3.6	4.4	5.4	4.6	5.0
17	10.5	9.0	9.7	---	---	---	5.8	4.5	5.1	5.0	3.1	4.2
18	10.4	7.8	9.2	---	---	---	5.1	3.5	4.3	3.1	2.2	2.5
19	10.4	10.0	10.2	---	---	---	5.7	3.1	4.6	3.2	2.1	2.5
20	10.5	10.1	10.3	---	---	---	3.1	0.6	1.3	4.2	2.9	3.6
21	10.5	10.2	10.4	---	---	---	2.8	1.2	2.1	3.4	1.5	2.4
22	11.0	9.6	10.3	---	---	---	4.7	2.7	3.7	1.7	0.2	1.0
23	10.0	8.2	9.2	9.2	8.4	8.8	7.5	4.2	5.7	2.0	0.7	1.4
24	9.5	8.2	8.9	10.8	9.2	9.8	4.2	3.4	3.8	---	---	---
25	10.7	9.4	10.0	11.0	7.9	10.2	3.5	2.6	3.1	---	---	---
26	11.3	10.0	10.6	7.9	6.9	7.5	3.6	2.0	2.8	4.8	2.7	3.9
27	11.2	8.8	10	8.7	7.6	8.1	3.5	1.9	2.5	2.7	0.4	1.3
28	10.8	8.9	9.9	9.6	8.6	9.3	3.2	1.4	2.3	1.4	0.1	0.8
29	10.6	8.9	9.7	8.6	8.0	8.3	5.2	3.2	4.3	2.4	0.3	1.3
30	12.1	10.6	11.4	8.6	7.6	8.1	5.8	5.2	5.5	3.8	2.1	2.8
31	13.3	11.3	12.2	---	---	---	6.8	5.5	6.2	---	---	---
MONTH	14.5	7.8	11.1	11.0	6.9	8.8	8.5	0.6	5.4	9.6	0.1	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	3.7	1.5	2.6	10.5	7.7	9.0	12.8	10.1	11.1
2	---	---	---	3.5	1.6	2.5	9.5	7.7	8.2	10.4	8.3	9.4
3	---	---	---	3.4	0.4	1.8	7.8	6.6	7.0	10.4	7.1	8.8
4	5.1	3.4	4.2	3.4	0.5	2.0	9.1	6.3	7.5	10.4	7.5	9.0
5	5.4	3.1	4.2	4.0	0.4	2.2	10.0	6.9	8.4	12.4	6.8	9.6
6	5.4	2.8	4.1	5.3	1.2	3.2	11.7	8.0	9.8	11.6	8.5	10.0
7	5.6	3.0	4.3	6.9	3.4	4.9	12.0	9.5	10.8	13.9	7.6	10.6
8	6.6	4.3	5.2	---	0.7	---	12.5	10.2	11.2	14.9	9.4	11.9
9	---	---	---	2.7	0.3	1.3	12.1	8.6	10.4	16.5	10.1	13.2
10	5.6	3.5	4.8	3.4	0.6	1.9	12.6	8.3	10.4	17.0	11.3	14.1
11	3.7	1.9	2.9	3.8	2.2	3.0	12.6	9.6	10.7	17.9	12.5	15.1
12	4.7	2.5	3.5	5.0	2.5	3.7	11.5	7.8	9.6	16.7	12.6	14.8
13	4.6	2.7	3.7	5.6	2.5	3.9	11.6	7.3	9.3	14.7	9.6	12.2
14	3.9	3.0	3.5	5.5	2.7	3.9	12.6	8.0	10.1	17.1	11.4	14.2
15	5.3	3.3	4.3	5.6	2.0	3.7	12.2	8.5	10.1	16.9	14.2	15.3
16	5.4	4.2	4.7	6.1	2.9	4.3	12.1	7.2	9.5	15.0	12.8	13.9
17	5.0	3.2	4.1	6.2	3.2	4.5	13.0	7.5	10.1	13.9	10.5	12.3
18	3.2	1.8	2.5	7.2	3.6	5.2	13.9	8.7	11.2	15.1	9.8	12.4
19	3.4	1.4	2.3	7.1	3.5	5.3	15.2	9.6	12.3	15.0	9.7	12.5
20	4.0	2.1	3.0	5.6	5.2	5.4	16.1	11.6	13.6	13.3	10.9	12.0
21	4.0	1.6	3.0	5.8	5.0	5.3	14.6	11.5	13.1	14.6	9.7	12.1
22	5.7	4.0	4.7	7.8	4.0	5.8	11.5	9.0	9.9	14.8	11.3	12.8
23	5.4	3.7	4.4	5.7	3.4	4.9	11.4	9.4	10.2	13.7	11.1	12.3
24	3.7	1.9	3.0	5.3	3.4	4.4	10.8	8.4	9.4	12.6	11.8	12.2
25	3.5	1.4	2.4	6.1	4.7	5.2	8.9	7.6	8.3	12.1	11.0	11.5
26	4.1	1.2	2.6	6.2	4.4	5.4	12.4	7.0	9.5	15.9	11.0	13.3
27	4.2	1.3	2.9	6.6	5.8	6.2	13.5	10.4	11.5	16.7	11.0	13.9
28	3.5	1.6	2.6	6.4	5.1	5.5	12.1	9.4	10.6	14.3	12.4	13.5
29	---	---	---	7.4	5.3	6.4	10.9	8.4	9.7	15.5	11.2	13.3
30	---	---	---	8.6	5.8	7.2	10.5	9.9	10.2	14.6	11.1	13.0
31	---	---	---	8.0	6.7	7.5	---	---	---	16.4	11.0	13.7
MONTH	6.6	1.2	3.6	8.6	0.3	4.3	16.1	6.3	10.1	17.9	6.8	12.4

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			**JULY**			**AUGUST**			**SEPTEMBER**	
1	16.8	12.0	14.5	21.0	18.1	19.5	21.6	18.0	19.7	21.0	18.0	19.3
2	17.4	12.9	15.0	21.4	18.0	19.4	22.7	18.4	20.6	20.9	16.6	18.7
3	15.2	13.9	14.3	19.8	15.4	17.8	23.1	18.6	20.9	19.0	15.9	17.6
4	15.7	13.8	14.6	21.3	16.6	18.9	23.3	19.0	21.2	19.4	15.3	17.2
5	18.9	13.9	16.3	19.7	18.1	19.0	21.3	19.4	20.4	18.6	14.6	16.9
6	19.1	15.3	17.0	20.9	18.2	19.4	20.2	18.1	19.2	18.8	14.3	16.7
7	19.8	16.0	17.6	20.8	18.4	19.4	20.5	17.4	18.8	19.1	14.6	16.8
8	20.6	15.9	18.2	19.3	17.9	18.3	20.2	18.7	19.4	18.9	14.2	16.6
9	20.1	16.7	18.4	19.9	16.8	18.1	19.6	18.0	18.8	18.8	15.2	16.8
10	20.2	17.3	18.5	20.6	16.4	18.3	21.6	17.8	19.5	18.9	14.6	16.7
11	19.6	17.7	18.6	21.2	16.1	18.7	22.2	18.6	20.4	17.7	13.2	15.6
12	21.1	17.4	19.1	20.7	17.2	19.2	23.0	19.1	20.9	18.2	13.3	15.9
13	21.3	17.3	19.2	21.7	18.1	19.7	23.5	19.8	21.5	19.4	14.8	17.1
14	21.9	17.8	19.8	20.2	18.5	19.4	23.5	19.6	21.5	19.0	15.8	17.3
15	20.9	18.0	19.3	20.6	18.6	19.4	22.1	19.8	20.8	20.6	17.5	18.9
16	19.1	16.8	18.1	20.1	18.5	19.2	19.9	18.2	19.0	21.6	18.7	19.9
17	17.8	14.5	16.0	20.5	18.8	19.5	21.5	17.7	19.3	20.1	18.2	19.2
18	16.6	13.6	15.3	21.7	19.5	20.4	20.9	16.7	19.0	19.5	16.4	18.0
19	16.3	13.9	15.2	21.6	19.3	20.3	19.2	18.4	18.8	19.5	15.8	17.7
20	18.1	14.3	16.1	22.0	18.5	20.1	20.7	17.8	19.0	19.0	16.6	17.6
21	18.8	14.4	16.6	21.5	17.6	19.5	22.7	18.4	20.2	19.0	15.2	17.1
22	19.6	15.3	17.2	21.1	18.1	19.6	20.6	17.2	18.9	18.6	14.0	16.5
23	18.9	13.7	16.4	21.7	18.3	19.8	19.8	15.4	17.6	19.3	16.6	17.7
24	19.4	13.9	16.7	20.0	15.9	18.3	19.6	15.8	17.5	18.1	15.2	16.7
25	21.1	16.1	18.6	21.2	17.8	19.4	19.5	14.6	17.2	17.0	15.8	16.4
26	21.8	17.3	19.5	22.4	18.1	20.3	18.2	15.6	17.0	17.8	16.5	17.1
27	22.1	18.2	20.1	22.7	19.3	20.9	18.8	16.4	17.5	18.1	14.7	16.9
28	22.9	18.8	20.9	20.9	17.8	19.5	19.4	17.3	18.1	15.6	11.7	14.0
29	21.9	19.3	20.4	20.6	16.3	18.6	19.7	17.7	18.5	16.9	13.6	15.3
30	21.9	18.4	20.1	21.4	17.7	19.5	19.8	18.6	19.1	14.3	10.9	12.8
31	---	---	---	20.9	17.5	19.2	20.8	19.3	20.2	---	---	---
MONTH	22.9	12.0	17.6	22.7	15.4	19.3	23.5	14.6	19.4	21.6	10.9	17.0
YEAR	23.5	0.1	11.6									

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA

LOCATION.--Lat 40°31'57", long 76°24'09", Schuylkill County, Hydrologic Unit 02050305, on right bank 1.0 mi downstream from Lower Little Swatara Creek, 1.3 mi southwest of Pine Grove, and 1.6 mi upstream from bridge on Interstate Highway 81.

DRAINAGE AREA.--116 mi^2.

PERIOD OF RECORD.--October 1988 to January 1991, October 1991 to current year.

REVISED RECORDS.--WDR PA-90-2: 1989.

GAGE.--Water-stage recorder. Datum of gage is 480.66 ft above North American Vertical Datum of 1988.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1245	3,240	10.78
Dec. 1	1215	2,330	9.38
Dec. 10	2000	1,770	8.34
Dec. 23	1830	1,540	7.85
Jan. 14	1145	3,010	10.45
Mar. 29	0100	3,270	10.83
Apr. 3	0545	*4,130	*11.69

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	522	195	1540	222	e130	180	576	168	62	42	40	34
2	418	178	1130	202	e135	165	1620	140	59	45	39	29
3	374	168	779	205	e138	150	3220	131	68	39	39	27
4	313	184	598	253	e140	142	1500	124	100	34	35	26
5	272	224	490	260	138	138	976	119	75	37	33	24
6	242	182	411	659	139	143	752	117	72	64	33	24
7	222	168	435	593	142	193	615	113	116	74	33	23
8	205	159	418	818	152	435	545	107	75	321	41	22
9	191	148	357	791	179	391	441	102	68	148	56	23
10	180	141	1040	584	223	308	384	100	75	86	42	21
11	166	140	1230	475	178	271	337	98	64	65	36	20
12	156	235	769	509	156	243	302	94	61	62	38	21
13	150	264	588	435	143	225	279	88	57	61	32	20
14	197	216	468	2190	230	210	254	89	54	62	31	21
15	194	204	389	1380	693	196	228	146	51	88	31	23
16	235	195	343	877	466	193	210	100	49	126	32	25
17	178	186	315	676	377	191	199	89	50	238	34	49
18	153	177	284	e500	306	192	187	84	46	240	30	30
19	281	167	267	e400	256	197	174	79	46	140	40	26
20	247	169	228	e360	231	207	164	94	44	103	36	25
21	215	183	215	e300	235	215	154	93	43	84	32	24
22	218	160	205	e250	228	204	146	83	42	75	28	22
23	188	154	608	e215	232	377	208	79	39	66	28	23
24	176	297	715	e225	211	664	290	76	38	59	26	21
25	166	752	465	e200	198	525	192	76	36	83	25	19
26	155	575	372	e185	181	430	162	71	36	63	25	23
27	147	441	318	e165	171	373	174	67	34	58	24	29
28	140	2080	271	e150	169	1270	152	70	34	52	60	24
29	134	1330	260	e130	---	2230	139	80	36	47	43	25
30	289	801	244	e120	---	1060	155	78	63	44	35	24
31	230	---	232	e125	---	736	---	67	---	42	35	---
TOTAL	6954	10473	15984	14454	6177	12454	14735	3022	1693	2748	1092	747
MEAN	224	349	516	466	221	402	491	97.5	56.4	88.6	35.2	24.9
MAX	522	2080	1540	2190	693	2230	3220	168	116	321	60	49
MIN	134	140	205	120	130	138	139	67	34	34	24	19
CFSM	1.93	3.01	4.44	4.02	1.90	3.46	4.23	0.84	0.49	0.76	0.30	0.21
IN.	2.23	3.36	5.13	4.64	1.98	3.99	4.73	0.97	0.54	0.88	0.35	0.24

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	142	215	280	276	227	386	336	247	205	124	95.0	116
MAX	361	396	745	683	555	846	874	756	772	378	330	558
(WY)	1997	1993	1997	1996	1998	1994	1993	1989	2003	1989	2003	2004
MIN	27.3	32.1	27.4	70.4	82.8	185	135	91.9	46.6	23.1	19.7	24.9
(WY)	2002	2002	1999	2002	2002	1990	1995	1999	1999	1999	2002	2005

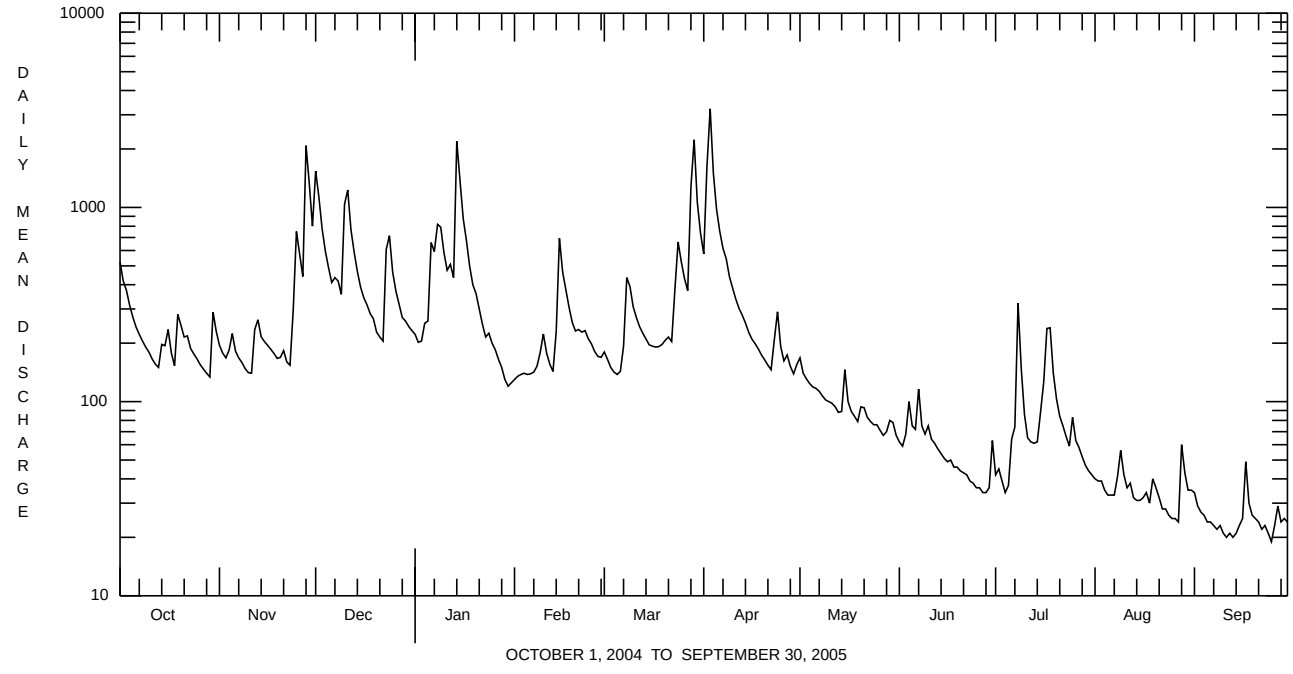
e Estimated.

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	106153		90533			
ANNUAL MEAN	290		248		218	
HIGHEST ANNUAL MEAN					332	2003
LOWEST ANNUAL MEAN					104	2002
HIGHEST DAILY MEAN	6790	Sep 18	3220	Apr 3	6790	Sep 18 2004
LOWEST DAILY MEAN	51	Jul 11	19	Sep 25	14	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	57	Jul 5	21	Sep 8	15	Sep 8 2002
MAXIMUM PEAK FLOW			**a**4130	Apr 3	**a**13500	Sep 18 2004
MAXIMUM PEAK STAGE			11.69	Apr 3	**b**15.28	Sep 18 2004
INSTANTANEOUS LOW FLOW			18	Sep 25	13	Sep 10 2002**c**
ANNUAL RUNOFF (CFSM)	2.50		2.14		1.88	
ANNUAL RUNOFF (INCHES)	34.04		29.03		25.58	
10 PERCENT EXCEEDS	517		575		449	
50 PERCENT EXCEEDS	196		156		137	
90 PERCENT EXCEEDS	102		31		35	

a From rating curve extended above 3,300 ft^3/s on basis of slope-area measurement at gage height 15.28 ft.
b From floodmark in gage.
c Also Sept. 12, 14, 2002.



SWATARA CREEK BASIN

01572190 SWATARA CREEK NEAR INWOOD, PA

LOCATION.--Lat 40°28'45", long 76°31'52", Lebanon County, Hydrologic Unit 02050305, on right bank 20 ft downstream from single-span steel-truss bridge on Appalachian Trail, 0.4 mi upstream from steel-truss bridge at Inwood, 0.5 mi downstream from Trout Run, and 2.0 mi north of Lickdale.

DRAINAGE AREA.--167 mi^2.

PERIOD OF RECORD.--October 1988 to January 1991, October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 426.13 ft above North American Vertical Datum of 1988.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. The Pennsylvania American Water Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 8.8 ft^3/s. 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 2,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1815	5,670	12.68
Dec. 1	1600	4,220	10.94
Dec. 10	2345	3,070	9.45
Dec. 23	2200	2,340	8.37
Jan. 14	1700	5,700	12.72
Mar. 29	0545	6,310	13.39
Apr. 3	1315	*6,870	*13.97

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824	280	2780	343	e195	260	1050	248	79	54	54	43
2	634	257	2210	313	e200	240	2440	204	74	50	51	38
3	575	247	1390	303	e205	213	6250	189	81	47	53	35
4	465	248	1030	385	e200	200	3220	179	137	42	48	33
5	398	321	824	360	196	196	1940	169	106	41	45	31
6	351	267	677	919	197	200	1380	164	98	75	44	30
7	325	249	678	953	201	244	1080	160	159	61	44	30
8	303	241	699	1290	212	601	922	152	110	398	44	28
9	287	226	561	1430	247	626	726	144	91	214	73	28
10	276	217	1540	989	319	486	618	139	102	115	57	28
11	259	217	2340	767	266	421	532	136	86	85	47	26
12	247	288	1360	804	228	371	464	130	80	73	47	26
13	239	383	1000	690	210	338	422	118	74	84	42	26
14	275	308	785	3910	246	309	379	118	69	89	39	25
15	271	290	641	3010	1180	282	337	184	66	121	39	28
16	325	278	556	1760	792	272	305	144	62	314	40	29
17	268	269	503	1260	630	269	287	121	62	641	45	53
18	240	260	447	e900	484	266	268	113	59	625	40	40
19	357	250	414	e675	397	274	254	105	56	323	42	33
20	359	248	354	e550	352	285	239	117	55	206	51	31
21	303	272	329	e425	351	301	220	132	52	151	42	30
22	305	247	313	e350	332	286	197	111	51	126	37	28
23	275	236	782	e260	342	442	268	103	48	108	34	27
24	261	415	1300	e275	311	1140	432	100	46	90	34	27
25	251	1420	771	e265	291	868	284	97	46	116	31	25
26	239	1030	604	e250	262	699	232	94	44	96	31	27
27	230	752	512	e230	250	588	243	87	43	82	32	35
28	223	3410	428	e220	244	1900	219	85	42	74	72	30
29	214	2650	408	e190	---	4990	196	101	43	66	63	30
30	369	1420	380	e175	---	2270	211	98	74	61	46	31
31	337	---	356	e185	---	1430	---	87	---	57	44	---
TOTAL	10285	17196	26972	24436	9340	21267	25615	4129	2195	4685	1411	931
MEAN	332	573	870	788	334	686	854	133	73.2	151	45.5	31.0
MAX	824	3410	2780	3910	1180	4990	6250	248	159	641	73	53
MIN	214	217	313	175	195	196	196	85	42	41	31	25
CFSM	1.99	3.43	5.21	4.72	2.00	4.11	5.11	0.80	0.44	0.90	0.27	0.19
IN.	2.29	3.83	6.01	5.44	2.08	4.74	5.71	0.92	0.49	1.04	0.31	0.21

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	199	308	415	406	329	573	506	357	279	174	129	171
MAX	538	662	1098	987	832	1263	1325	1184	1007	576	512	996
(WY)	1997	1993	1997	1996	1998	1994	1993	1989	2003	1989	2003	2004
MIN	35.1	40.8	35.8	94.6	96.4	271	165	123	58.3	26.2	31.5	31.0
(WY)	2002	2002	1999	2002	2002	1990	1995	1999	1999	1999	1999	2005

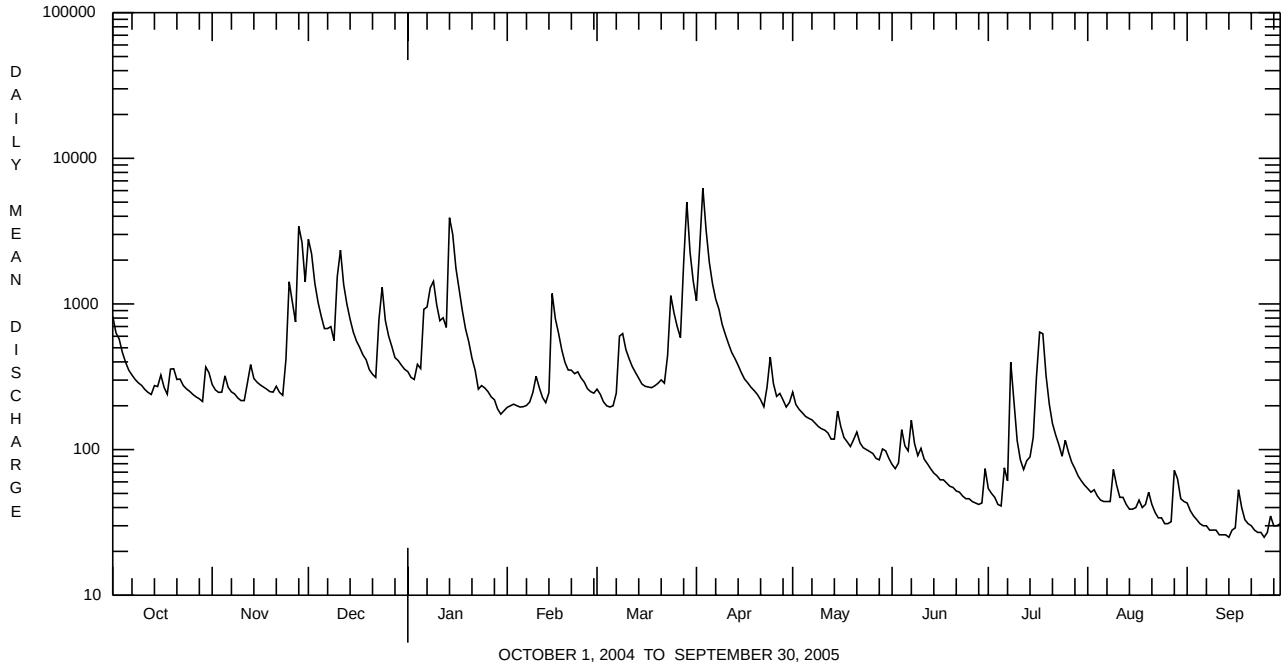
e Estimated.

SWATARA CREEK BASIN

01572190 SWATARA CREEK NEAR INWOOD, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	169451		148462			
ANNUAL MEAN	463		407		317	
HIGHEST ANNUAL MEAN					459	2003
LOWEST ANNUAL MEAN					140	2002
HIGHEST DAILY MEAN	10500	Sep 18	6250	Apr 3	10500	Sep 18 2004
LOWEST DAILY MEAN	57	Jul 11	25	Sep 14,25	17	Aug 2 1999**a**
ANNUAL SEVEN-DAY MINIMUM	69	Jul 5	27	Sep 8	17	Aug 2 1999
MAXIMUM PEAK FLOW			6870	Apr 3	**b**17300	Sep 18 2004
MAXIMUM PEAK STAGE			13.97	Apr 3	19.67	Sep 18 2004
INSTANTANEOUS LOW FLOW			24	Sep 25,26	17	Aug 2 1999**c**
ANNUAL RUNOFF (CFSM)	2.77		2.44		1.90	
ANNUAL RUNOFF (INCHES)	37.75		33.07		25.79	
10 PERCENT EXCEEDS	837		920		691	
50 PERCENT EXCEEDS	286		240		178	
90 PERCENT EXCEEDS	130		40		44	

a Also Aug. 3-8, 12, 13.
b From rating curve extended above 14,500 ft^3/s.
c Also Aug. 3-8, 12, 13, Sept. 5, 1999.



SWATARA CREEK BASIN

01572950 INDIANTOWN RUN NEAR HARPER TAVERN, PA

LOCATION.--Lat 40°26'20", long 76°35'55", Lebanon County, Hydrologic Unit 02050305, on left bank, 10 ft downstream from Lake Road bridge over Indiantown Run, 20 ft west of State Highway 443 in Indiantown Gap Military Reservation, 1,500 ft upstream from Marquette Lake, 1.9 mi upstream from State Memorial Lake dam and 2.5 mi north of Harper Tavern.

DRAINAGE AREA.--5.48 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 530 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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 a base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 1	0900	185	3.52
Jan. 14	0515	176	3.47
Mar. 28	1730	*198	*3.59
Apr. 2	1545	198	3.59
Apr. 3	0600	198	3.59
July 17	----	Unknown	Unknown

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	3.7	93	11	7.1	8.9	30	8.8	3.9	2.6	4.0	2.4
2	23	3.5	62	9.1	7.0	8.1	92	8.1	3.8	2.4	3.8	2.2
3	22	3.7	47	9.4	6.2	7.4	138	7.6	5.0	2.3	3.5	2.1
4	15	6.9	36	11	6.3	7.2	78	7.1	6.3	2.3	3.3	1.9
5	12	6.8	28	14	6.2	7.2	51	6.8	4.6	2.9	3.2	1.8
6	10	5.4	23	31	6.3	7.5	37	6.6	12	4.1	3.0	1.8
7	8.8	5.3	24	25	6.4	10	30	6.6	13	2.9	3.1	1.7
8	7.7	5.2	20	48	6.9	18	25	6.2	8.4	17	3.0	1.7
9	6.8	5.3	19	42	8.3	16	20	6.1	8.5	6.3	3.1	1.6
10	6.1	5.2	54	36	9.5	16	17	5.8	8.2	4.7	2.9	1.6
11	5.4	5.2	e45	32	7.5	15	15	5.6	7.0	4.1	2.7	1.5
12	4.9	10	e35	32	7.2	14	13	5.5	6.2	3.7	2.6	1.5
13	4.6	8.5	e30	26	6.7	13	12	5.2	5.7	3.4	2.5	1.5
14	6.6	6.7	26	e90	12	12	11	6.2	5.4	3.5	2.4	1.4
15	5.1	6.6	21	e50	21	11	10	8.7	5.0	3.2	2.3	1.5
16	e4.0	6.7	18	e40	17	10	9.2	5.6	5.1	e15	3.1	1.7
17	e3.2	6.6	17	e35	16	9.7	9.0	5.4	4.6	e130	2.9	2.5
18	e3.0	6.6	15	e30	14	9.3	8.5	5.1	4.2	e45	2.4	1.7
19	8.1	6.3	13	24	13	9.0	8.0	4.8	4.0	18	2.7	1.6
20	4.8	7.7	11	22	e12	9.1	7.6	5.7	3.8	14	2.4	1.5
21	4.5	8.0	10	19	e13	8.8	7.0	5.1	3.6	12	2.4	1.5
22	5.3	6.5	9.2	17	e13	8.9	6.8	4.6	3.5	10	2.3	1.5
23	4.2	6.2	32	15	12	19	12	4.6	3.3	8.8	2.1	1.6
24	4.0	40	24	13	10	23	12	4.5	2.9	7.5	1.9	1.5
25	3.8	49	19	12	9.8	19	8.9	4.3	2.8	8.6	1.9	1.4
26	3.6	37	18	12	9.0	18	8.1	4.0	2.7	6.5	1.9	2.0
27	3.5	30	16	12	8.7	18	8.3	3.5	2.6	5.7	1.9	2.3
28	3.3	59	14	e9.5	8.7	85	7.6	3.5	2.8	5.2	5.7	1.7
29	3.3	42	13	e9.0	---	96	7.4	4.2	3.1	4.9	2.7	1.8
30	5.0	35	12	8.4	---	57	9.2	4.3	3.0	4.5	2.6	1.5
31	3.9	---	11	7.6	---	40	---	4.1	---	4.2	2.7	---
TOTAL	229.5	434.6	815.2	752.0	280.8	611.1	708.6	174.2	155.0	365.3	87.0	52.0
MEAN	7.40	14.5	26.3	24.3	10.0	19.7	23.6	5.62	5.17	11.8	2.81	1.73
MAX	24	59	93	90	21	96	138	8.8	13	130	5.7	2.5
MIN	3.0	3.5	9.2	7.6	6.2	7.2	6.8	3.5	2.6	2.3	1.9	1.4
CFSM	1.35	2.64	4.80	4.43	1.83	3.60	4.31	1.03	0.94	2.15	0.51	0.32
IN.	1.56	2.95	5.53	5.10	1.91	4.15	4.81	1.18	1.05	2.48	0.59	0.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	9.78	15.1	22.3	16.3	8.67	20.3	21.0	9.57	11.5	8.26	8.58	13.6
MAX	15.8	18.1	26.3	24.3	10.0	28.6	23.6	12.5	22.4	11.8	12.6	37.5
(WY)	2004	2004	2005	2005	2005	2003	2005	2003	2003	2005	2004	2004
MIN	6.08	12.7	16.7	10.2	6.78	12.5	16.9	5.62	5.17	5.13	2.81	1.73
(WY)	2003	2003	2003	2004	2003	2004	2003	2005	2005	2003	2005	2005

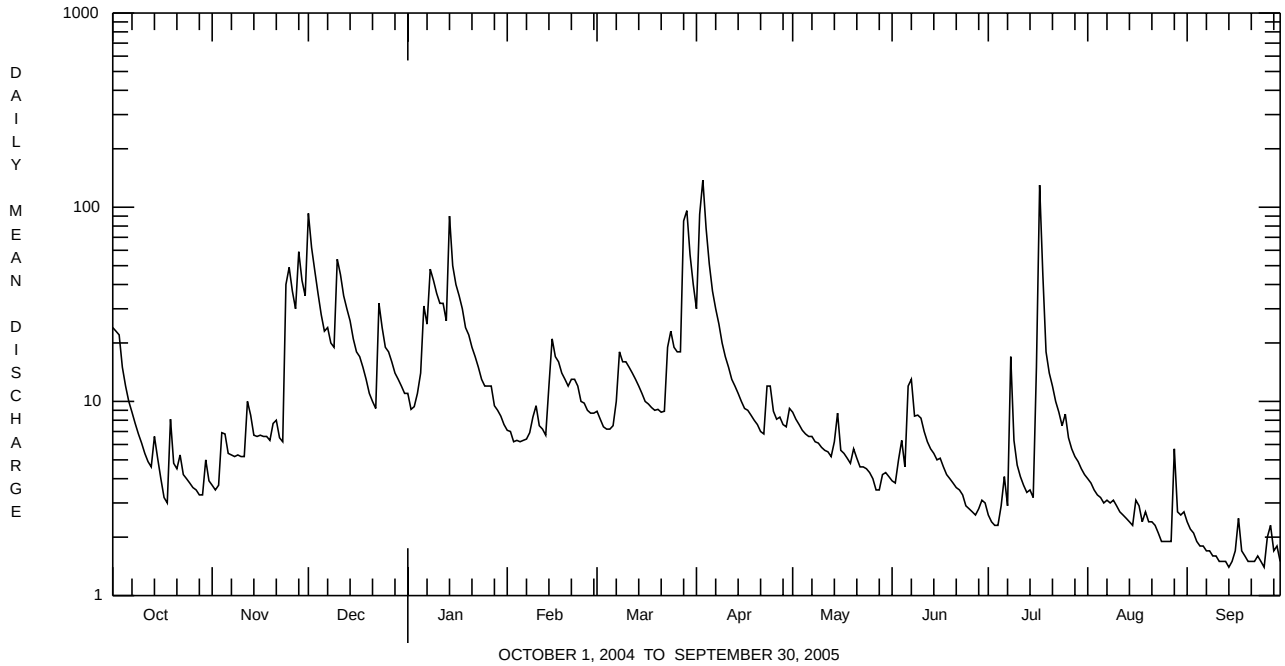
e Estimated.

SWATARA CREEK BASIN

01572950 INDIANTOWN RUN NEAR HARPER TAVERN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	5425.8		4665.3			
ANNUAL MEAN	14.8		12.8		14.1	
HIGHEST ANNUAL MEAN					15.6	2004
LOWEST ANNUAL MEAN					12.8	2005
HIGHEST DAILY MEAN	**e**600	Sep 18	138	Apr 3	**e**600	Sep 18 2004
LOWEST DAILY MEAN	2.5	Jul 11	1.4	Sep 14,25	0.83	Sep 10 2002
ANNUAL SEVEN-DAY MINIMUM	3.0	Jul 5	1.5	Sep 9	0.88	Sep 5 2002
MAXIMUM PEAK FLOW			**a**198	Mar 28**b**	**a**2520	Sep 18 2004
MAXIMUM PEAK STAGE			3.59	Mar 28**b**	**c**9.31	Sep 18 2004
INSTANTANEOUS LOW FLOW			1.3	Sep 25	0.78	Sep 9 2002
ANNUAL RUNOFF (CFSM)	2.71		2.33		2.57	
ANNUAL RUNOFF (INCHES)	36.83		31.67		34.94	
10 PERCENT EXCEEDS	25		30		26	
50 PERCENT EXCEEDS	9.3		7.0		9.4	
90 PERCENT EXCEEDS	4.0		2.3		3.4	

a From rating curve extended above 124 ft^3/s on basis of slope-area measurement of peak flow at gage height 9.31 ft.
b Also Apr. 2, 3.
c From floodmark in gage.
e Estimated.



SWATARA CREEK BASIN

01573000 SWATARA CREEK AT HARPER TAVERN, PA

LOCATION.--Lat 40°24'09", long 76°34'39", Lebanon County, Hydrologic Unit 02050305, on left bank 100 ft downstream from bridge on State Highway 934 at Harper Tavern, 6.0 mi northwest of Annville, and 8.5 mi downstream from Little Swatara Creek.

DRAINAGE AREA.--337 mi^2.

PERIOD OF RECORD.--January 1919 to current year. Prior to October 1927, published as "*at Harpers*".

REVISED RECORDS.--WSP 1202: 1948. WSP 1302: 1920(M), 1921, 1924-25(M), 1927-28(M), 1930(M). WSP 1903: Drainage area. WDR PA-72-1: 1889 (M). WDR PA-85-2: 1984(P)(m).

GAGE.--Water-stage recorder. Datum of gage is 356.68 ft above National Geodetic Vertical Datum of 1929. Prior to July 16, 1931, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. The Pennsylvania American Water Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 11.1 ft^3/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 25.6 ft, from floodmark, discharge, about 88,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,800 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	2330	7,930	9.56	Jan. 14	2100	8,980	10.29
Dec. 1	2015	7,100	8.94	Mar. 29	1115	10,100	11.02
Dec. 11	0215	5,410	7.53	Apr. 3	Unknown	*11,000	*11.58

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	466	4600	579	e450	497	1830	443	145	138	144	84
2	1270	410	3890	532	e430	479	e4200	368	135	104	133	78
3	1340	384	2240	503	e420	412	e9500	335	145	103	133	65
4	958	399	1700	673	e425	389	e6600	317	236	87	124	57
5	789	667	1400	736	e430	378	3040	299	211	93	112	57
6	666	478	1170	1820	e430	392	2250	288	176	291	105	51
7	593	412	1180	1790	e425	528	1830	282	263	227	106	48
8	532	388	1360	e2700	e430	1190	1690	269	216	1110	105	50
9	486	357	1030	e3150	e500	1120	1310	253	165	728	194	46
10	447	328	2720	e2100	645	888	1090	243	181	330	163	49
11	407	319	4150	e1700	534	774	945	236	317	241	122	42
12	379	413	2270	e1850	435	689	802	229	446	197	106	38
13	358	720	1720	1400	400	633	731	212	215	182	104	39
14	444	502	1390	6000	444	569	655	203	182	320	98	39
15	457	444	1140	5160	1910	513	584	266	157	337	88	40
16	500	415	981	2610	1360	477	524	261	145	931	93	44
17	418	398	890	1940	1180	462	493	215	144	2610	124	55
18	354	382	790	e1300	878	451	466	199	131	2530	100	78
19	683	367	725	e1100	679	442	438	189	124	1070	91	54
20	689	372	608	e1000	621	447	412	194	120	655	102	47
21	519	474	551	e850	622	476	388	236	113	469	96	43
22	528	398	548	e700	609	450	365	204	107	393	81	40
23	465	365	938	e650	702	682	478	186	103	328	68	38
24	410	506	2300	e700	630	2010	781	181	92	270	63	37
25	394	1760	1220	e700	565	1380	525	177	91	329	59	35
26	367	1470	950	e600	515	1110	420	172	85	301	55	37
27	340	1070	823	e500	500	958	404	160	82	228	55	54
28	324	4150	679	e450	480	3180	391	155	82	204	138	58
29	308	4550	674	e420	---	8800	348	183	83	179	171	50
30	659	2140	626	e440	---	3680	372	176	157	165	108	45
31	636	---	593	e470	---	2370	---	160	---	151	95	---
TOTAL	18350	25504	45856	45123	17649	36826	43862	7291	4849	15301	3336	1498
MEAN	592	850	1479	1456	630	1188	1462	235	162	494	108	49.9
MAX	1630	4550	4600	6000	1910	8800	9500	443	446	2610	194	84
MIN	308	319	548	420	400	378	348	155	82	87	55	35
CFSM	1.76	2.52	4.39	4.32	1.87	3.53	4.34	0.70	0.48	1.46	0.32	0.15
IN.	2.03	2.82	5.06	4.98	1.95	4.07	4.84	0.80	0.54	1.69	0.37	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2005, BY WATER YEAR (WY)

MEAN	340	532	718	687	751	1072	888	670	457	309	252	281
MAX	2104	1752	2168	2538	2097	3096	2466	2189	3952	1472	1772	2000
(WY)	1977	1927	1997	1996	1925	1994	1983	1989	1972	1945	1933	1975
MIN	28.1	35.9	60.0	42.1	162	358	297	154	80.2	30.8	22.0	15.9
(WY)	1942	1932	1931	1981	1980	1985	1988	1926	1965	1966	1966	1932

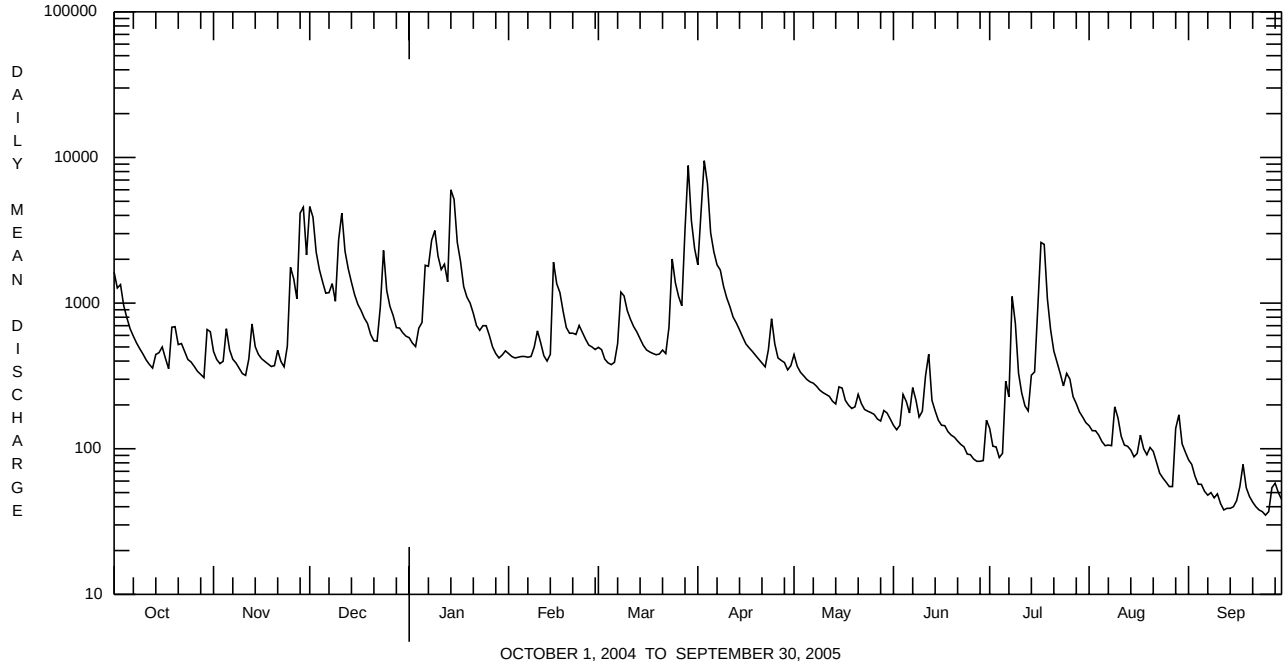
e Estimated.

SWATARA CREEK BASIN

01573000 SWATARA CREEK AT HARPER TAVERN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1919 - 2005	
ANNUAL TOTAL	310653		265445			
ANNUAL MEAN	849		727		578	
HIGHEST ANNUAL MEAN					948	1972
LOWEST ANNUAL MEAN					201	1931
HIGHEST DAILY MEAN	16500	Sep 19	**e**9500	Apr 3	42500	Jun 23 1972
LOWEST DAILY MEAN	129	Jul 11	35	Sep 25	6.6	Aug 21 1965
ANNUAL SEVEN-DAY MINIMUM	158	Jul 5	40	Sep 20	10	Sep 19 1932
MAXIMUM PEAK FLOW			11000	Apr 3	**a**66700	Jun 23 1972
MAXIMUM PEAK STAGE			**b**11.58	Apr 3	**c**23.72	Jun 23 1972
INSTANTANEOUS LOW FLOW			34	Sep 25,26	6.0	Aug 21 1965
ANNUAL RUNOFF (CFSM)	2.52		2.16		1.72	
ANNUAL RUNOFF (INCHES)	34.29		29.30		23.30	
10 PERCENT EXCEEDS	1580		1740		1290	
50 PERCENT EXCEEDS	536		420		320	
90 PERCENT EXCEEDS	239		82		66	

a From rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow.
b From peak indicator.
c From floodmark in gage.
e Estimated.



SWATARA CREEK BASIN

01573482 MANADA CREEK AT MANADA GAP, PA

LOCATION.--Lat 40°24'24", long 76°42'34", Dauphin County, Hydrologic Unit 02050305, on left bank, just upstream from bridge on Fogarty Road, 2.7 mi upstream from Walnut Run and 0.8 mi north of Manada Gap.

DRAINAGE AREA.--8.59 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 530 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	1045	243	4.58	Apr. 3	0630	291	4.88
Mar. 29	0000	*309	*4.98	[a]Unknown	----	[e]290	[e]4.9

a Sometime during the period July 17-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	8.5	83	15	e11	15	34	12	5.7	4.1	4.3	2.9
2	32	8.9	52	14	e11	14	144	11	5.7	4.0	4.2	2.6
3	e30	9.2	39	14	e11	14	215	11	6.2	3.8	3.9	2.4
4	e25	11	31	16	e12	13	97	10	6.7	3.8	3.7	2.4
5	e20	12	26	18	13	13	55	10	5.8	4.4	3.6	2.4
6	16	10	23	31	13	14	40	9.9	e13	6.0	3.6	2.3
7	e15	10	23	28	13	16	33	9.5	e10	4.2	3.8	2.3
8	e14	9.6	21	46	13	25	29	9.1	7.0	14	3.7	2.2
9	13	9.2	20	41	15	24	24	8.9	6.6	6.3	3.7	2.2
10	e12	9.0	42	35	16	23	21	8.7	6.4	4.8	3.5	2.2
11	e12	8.9	43	31	14	21	19	8.5	6.1	4.4	3.5	2.1
12	12	13	36	31	14	20	17	8.2	5.8	4.1	3.5	2.1
13	e11	13	30	26	13	19	16	7.9	5.6	4.0	3.2	2.1
14	e14	11	25	134	16	17	15	8.2	5.6	3.9	3.1	2.1
15	e13	11	22	77	25	16	14	10	5.2	3.9	3.1	2.1
16	e12	11	20	50	22	15	13	8.1	5.2	13	3.7	2.7
17	12	11	19	38	21	15	12	7.8	5.1	e200	3.8	3.6
18	e11	11	17	28	19	14	12	7.6	4.9	e50	3.2	2.2
19	e16	10	17	24	18	14	12	7.3	4.8	29	3.3	2.1
20	e11	11	15	e22	17	14	11	8.0	4.7	18	3.4	2.0
21	8.7	12	14	e20	17	13	11	7.6	4.6	13	3.1	2.0
22	9.2	11	14	e18	17	13	11	7.3	4.5	11	2.9	1.9
23	8.5	10	29	e17	17	22	17	7.2	4.4	9.2	2.8	1.9
24	8.5	35	25	e16	16	27	19	7.1	4.3	7.5	2.7	1.8
25	8.3	48	21	e15	16	23	14	6.9	4.2	9.8	2.6	1.8
26	8.1	36	20	e16	15	22	13	6.6	4.2	6.9	2.6	2.2
27	8.0	30	18	e15	15	21	13	6.3	4.1	e6.0	2.7	2.7
28	7.9	44	17	e14	15	103	12	6.3	4.1	e5.4	4.9	1.7
29	7.8	34	17	e13	---	150	12	6.2	4.3	e5.0	3.1	1.7
30	9.3	30	16	e12	---	68	13	6.0	4.5	4.6	3.0	1.7
31	8.4	---	16	e11	---	44	---	5.9	---	4.4	3.4	---
TOTAL	428.7	498.3	811	886	435	842	968	255.1	169.3	468.5	105.6	66.4
MEAN	13.8	16.6	26.2	28.6	15.5	27.2	32.3	8.23	5.64	15.1	3.41	2.21
MAX	35	48	83	134	25	150	215	12	13	200	4.9	3.6
MIN	7.8	8.5	14	11	11	13	11	5.9	4.1	3.8	2.6	1.7
CFSM	1.61	1.93	3.05	3.33	1.81	3.16	3.76	0.96	0.66	1.76	0.40	0.26
IN.	1.86	2.16	3.51	3.84	1.88	3.65	4.19	1.10	0.73	2.03	0.46	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2005, BY WATER YEAR (WY)

MEAN	15.2	19.1	27.6	20.9	13.8	30.2	31.2	14.4	15.0	10.1	9.52	29.2
MAX	23.2	24.0	32.6	28.6	15.5	46.5	34.7	19.9	29.8	15.1	14.8	62.7
(WY)	2004	2004	2004	2005	2005	2003	2004	2003	2003	2005	2003	2004
MIN	8.70	16.6	24.0	13.9	11.2	16.9	26.6	8.23	5.64	7.43	3.41	2.21
(WY)	2003	2005	2003	2004	2003	2004	2003	2005	2005	2004	2005	2005

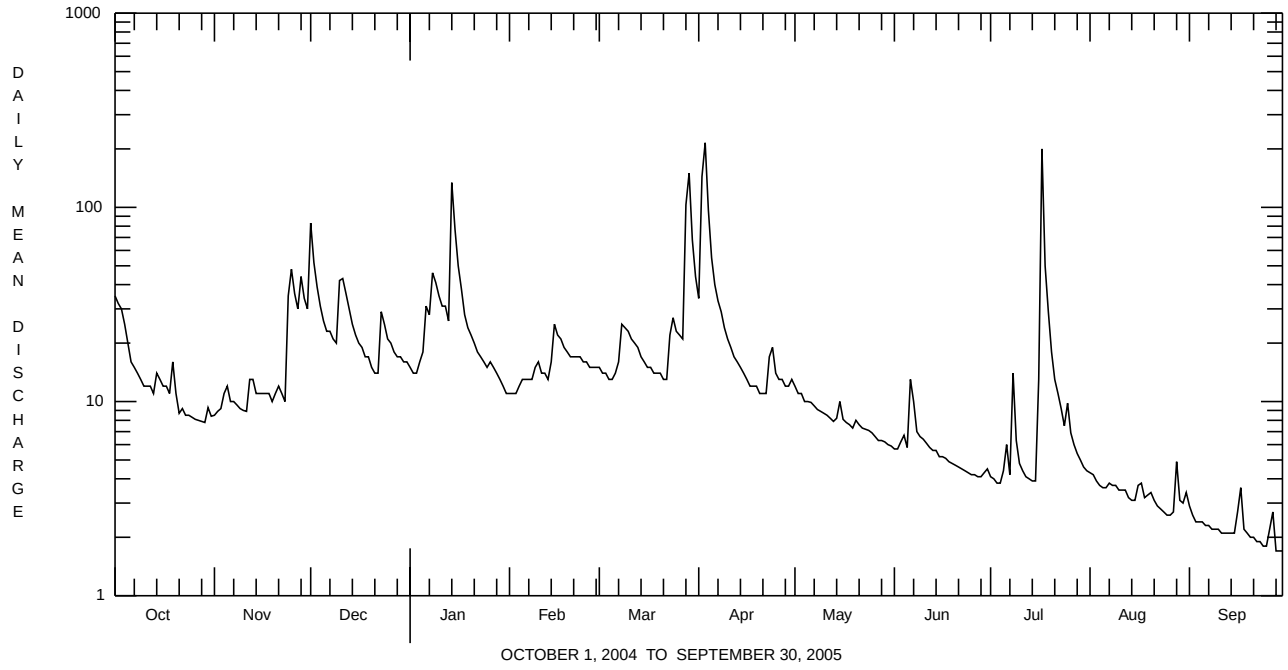
e Estimated.

SWATARA CREEK BASIN

01573482 MANADA CREEK AT MANADA GAP, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2002 - 2005	
ANNUAL TOTAL	7342.6		5933.9			
ANNUAL MEAN	20.1		16.3		19.7	
HIGHEST ANNUAL MEAN					22.0	2004
LOWEST ANNUAL MEAN					16.3	2005
HIGHEST DAILY MEAN	1150	Sep 18	215	Apr 3	1150	Sep 18 2004
LOWEST DAILY MEAN	4.0	Jul 10	1.7	Sep 28-30	0.74	Sep 12 2002
ANNUAL SEVEN-DAY MINIMUM	4.5	Jul 5	1.9	Sep 19	1.1	Sep 12 2002
MAXIMUM PEAK FLOW			309	Mar 29	**b**2800	Sep 18 2004
MAXIMUM PEAK STAGE			4.98	Mar 29	12.09	Sep 18 2004
INSTANTANEOUS LOW FLOW			**c**0.00	Jan 29	**c**0.00	Jan 29 2005
ANNUAL RUNOFF (CFSM)	2.34		1.89		2.29	
ANNUAL RUNOFF (INCHES)	31.80		25.70		31.14	
10 PERCENT EXCEEDS	31		31		34	
50 PERCENT EXCEEDS	13		11		14	
90 PERCENT EXCEEDS	6.3		3.1		4.8	

b From rating curve extended above 320 ft^3/s on basis of indirect computation of peak flow at gage height 12.09 ft.
c As a result of freezeup.



SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA

LOCATION.--Lat 40°17'54", long 76°40'05", Dauphin County, Hydrologic Unit 02050305, on left bank, 0.4 mi downstream from Manada Creek, 0.5 mi upstream from State Highway 39, and 1.5 mi northwest of Hershey.

DRAINAGE AREA.--483 mi^2.

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

GAGE.--Water-stage recorder and gated concrete control. Datum of gage is 325.94 ft above National Geodetic Vertical Datum of 1929 (levels by Susquehanna River Basin Commission).

REMARKS.--Records fair except for estimated daily discharges, which are poor. The Pennsylvania American Water Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 11.1 ft^3/s. In addition, water is diverted just upstream from the station for 9 municipalities in Dauphin and Lebanon Counties. Diversion for the year was equivalent to a mean daily discharge of 6.7 ft^3/s. Satellite and landline telemetry at station.

COOPERATION.--Records of daily diversion furnished by Pennsylvania American Water Company.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 6,900 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 29	0530	7,050	6.14	Mar. 29	1730	9,970	7.51
Jan. 15	0330	8,880	7.01	Apr. 3	2315	*11,100	*8.01

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2380	675	4430	803	618	733	2280	687	250	274	243	155
2	1780	600	5090	757	575	702	4500	604	229	211	229	145
3	2000	560	2920	695	583	629	9990	543	248	199	215	136
4	1400	590	2170	851	592	594	8340	510	348	163	205	117
5	1160	895	1760	1010	592	569	3960	499	358	182	184	121
6	1020	726	1460	2170	618	603	2890	477	285	464	186	108
7	930	627	1440	2260	650	781	2290	465	362	389	189	103
8	853	576	1680	3190	667	1380	2220	452	e320	1360	190	105
9	790	554	1330	3710	754	1430	1730	424	e270	1110	253	102
10	720	530	3080	2450	882	1170	1450	405	272	548	270	99
11	676	522	5130	1960	800	1040	1280	395	488	406	207	99
12	632	616	3110	2190	664	955	1150	387	611	323	181	95
13	600	981	2270	1800	613	883	1060	361	377	287	176	64
14	698	827	1800	5840	638	808	955	370	315	379	179	73
15	763	687	1500	6970	2010	739	889	387	279	419	172	94
16	717	660	1280	3550	1620	706	832	433	252	774	165	89
17	673	633	1160	2640	1430	663	780	357	248	2730	212	144
18	575	610	1080	1950	1130	644	739	332	222	3460	179	165
19	834	587	983	e1400	923	632	706	315	230	1360	174	125
20	990	596	863	e1250	851	641	683	324	219	910	183	116
21	776	735	e825	e1100	845	664	633	370	202	750	188	116
22	759	634	790	e1000	842	655	597	354	202	690	146	110
23	716	553	1160	e940	931	890	768	315	202	528	128	103
24	637	738	2800	e870	864	2310	1140	296	187	449	123	110
25	600	1970	1560	e920	808	1650	868	295	e175	526	115	95
26	577	1880	1220	e800	761	1350	725	294	e170	497	104	116
27	543	1380	1070	e670	732	1180	703	273	e165	400	116	137
28	507	3250	897	e600	693	3370	e650	272	165	354	206	142
29	489	5390	897	e600	---	9350	558	301	180	302	279	138
30	719	2640	848	e610	---	5250	607	300	241	296	208	117
31	925	---	826	e620	---	3050	---	272	---	260	174	---
TOTAL	27439	32222	57429	56176	23686	46021	55973	12069	8072	21000	5779	3439
MEAN	885	1074	1853	1812	846	1485	1866	389	269	677	186	115
MAX	2380	5390	5130	6970	2010	9350	9990	687	611	3460	279	165
MIN	489	522	790	600	575	569	558	272	165	163	104	64
CFSM	1.83	2.22	3.84	3.75	1.75	3.07	3.86	0.81	0.56	1.40	0.39	0.24
IN.	2.11	2.48	4.42	4.33	1.82	3.54	4.31	0.93	0.62	1.62	0.45	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2005, BY WATER YEAR (WY)

MEAN	584	739	1021	985	951	1410	1239	863	649	454	352	413
MAX	2632	1427	2693	3370	1963	3848	3207	2708	2641	1536	1346	2592
(WY)	1977	1993	1997	1979	1998	1994	1993	1989	2003	1989	2003	2004
MIN	85.3	109	111	79.9	220	459	420	295	158	78.9	81.8	73.0
(WY)	1981	2002	1981	1981	2002	1985	1995	1999	1999	1999	2002	1980

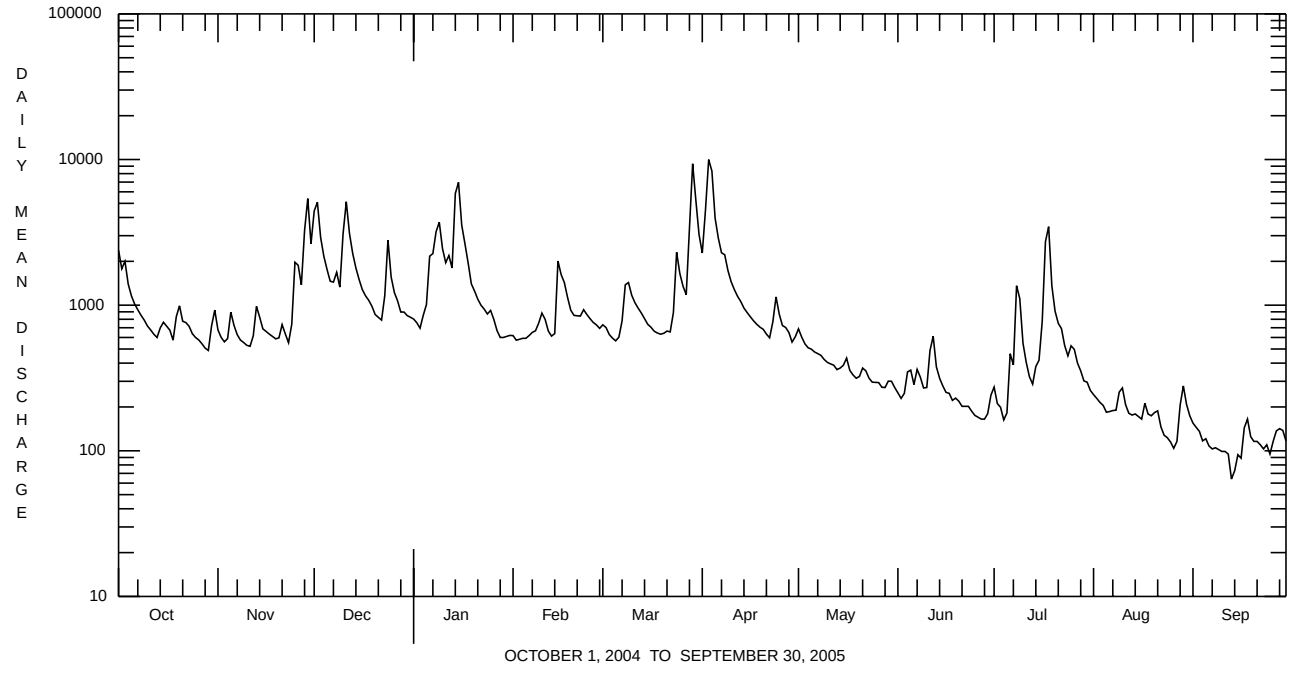
e Estimated.

SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1976 - 2005	
ANNUAL TOTAL	433927		349305			
ANNUAL MEAN	1186		957		804	
HIGHEST ANNUAL MEAN					1268	2004
LOWEST ANNUAL MEAN					327	2002
HIGHEST DAILY MEAN	23500	Sep 19	9990	Apr 3	23800	Jan 25 1979
LOWEST DAILY MEAN	219	Jul 11	64	Sep 13	29	Aug 6 2002
ANNUAL SEVEN-DAY MINIMUM	266	Jul 5	88	Sep 10	52	Aug 6 2002
MAXIMUM PEAK FLOW			11100	Apr 3	29400	Sep 27 1975
MAXIMUM PEAK STAGE			8.01	Apr 3	15.36	Sep 27 1975
INSTANTANEOUS LOW FLOW			57	Sep 13,14	24	Aug 5 2002**a**
ANNUAL RUNOFF (CFSM)	2.45		1.98		1.67	
ANNUAL RUNOFF (INCHES)	33.42		26.90		22.63	
10 PERCENT EXCEEDS	2230		2180		1770	
50 PERCENT EXCEEDS	790		632		460	
90 PERCENT EXCEEDS	400		164		132	

a Also Aug. 6, Sept. 10, 14, 15, 21.



WEST CONEWAGO CREEK BASIN

01573825 WEST CONEWAGO CREEK AT EAST BERLIN, PA

LOCATION.--Lat 39°56'27", long 76°59'27", Adams County, Hydrologic Unit 02050306, on right bank 100 ft downstream from bridge on State Highway 234, 1.4 mi upstream from confluence with Beaver Creek, at East Berlin.

DRAINAGE AREA.--218 mi^2.

PERIOD OF RECORD.--September 2003 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 10	2000	5,130	9.78	Mar. 28	2130	8,020	12.74
Jan. 14	1145	*8,810	*13.53	Apr. 2	2000	8,760	13.48
Mar. 23	2015	5,850	10.54	July 8	1215	4,510	9.10

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	120	1270	207	e160	263	567	292	72	85	86	122
2	369	102	567	197	e160	270	4400	200	65	52	77	68
3	316	95	385	185	e160	216	3650	168	70	42	72	52
4	251	101	319	202	e165	191	1070	155	123	36	64	50
5	215	396	285	541	177	205	695	145	109	35	59	45
6	189	180	256	1090	206	250	566	137	113	104	56	42
7	173	146	267	508	230	464	486	133	477	80	58	40
8	160	127	395	948	e280	783	752	130	147	2540	505	39
9	154	128	302	692	e405	468	470	124	101	440	105	37
10	154	133	2930	437	641	326	389	112	94	193	95	35
11	141	128	1770	384	336	304	349	110	94	127	76	34
12	130	152	610	653	245	296	309	106	87	101	92	34
13	120	399	457	439	222	268	288	99	84	85	70	33
14	125	212	366	5340	262	240	260	97	115	81	74	32
15	145	161	306	1470	1100	210	239	103	102	318	65	30
16	158	148	273	675	526	195	218	103	81	372	70	29
17	134	140	263	529	444	186	211	94	74	889	182	28
18	117	127	247	e380	316	179	204	84	64	413	90	28
19	121	122	233	e300	237	172	192	79	61	230	77	28
20	156	114	197	e280	233	175	185	141	58	216	104	27
21	189	157	162	e260	250	204	174	280	55	205	78	26
22	190	139	192	e240	294	168	165	144	62	458	64	25
23	162	140	674	e220	281	2230	341	116	64	184	53	23
24	153	260	928	e200	244	2010	487	107	66	137	46	22
25	137	1060	e320	e220	240	697	258	134	57	766	46	22
26	120	452	e220	e225	237	509	207	117	56	277	43	23
27	111	295	e200	e200	255	432	191	97	50	160	40	23
28	107	563	e175	e180	255	3700	172	85	40	134	65	24
29	103	428	e180	e160	---	3200	158	89	27	115	77	24
30	113	309	e185	e150	---	1010	186	85	172	105	75	24
31	144	---	190	e150	---	692	---	77	---	96	188	---
TOTAL	5330	7034	15124	17662	8561	20513	17839	3943	2840	9076	2852	1069
MEAN	172	234	488	570	306	662	595	127	94.7	293	92.0	35.6
MAX	473	1060	2930	5340	1100	3700	4400	292	477	2540	505	122
MIN	103	95	162	150	160	168	158	77	27	35	40	22
CFSM	0.79	1.08	2.24	2.61	1.40	3.04	2.73	0.58	0.43	1.34	0.42	0.16
IN.	0.91	1.20	2.58	3.01	1.46	3.50	3.04	0.67	0.48	1.55	0.49	0.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2005, BY WATER YEAR (WY)

MEAN	280	362	605	387	434	519	630	225	323	199	152	349
MAX	388	489	723	570	557	662	666	323	550	293	212	538
(WY)	2004	2004	2004	2005	2004	2005	2004	2004	2004	2005	2004	2004
MIN	172	234	488	204	306	376	595	127	94.7	106	92.0	35.6
(WY)	2005	2005	2005	2004	2005	2004	2005	2005	2005	2004	2005	2005

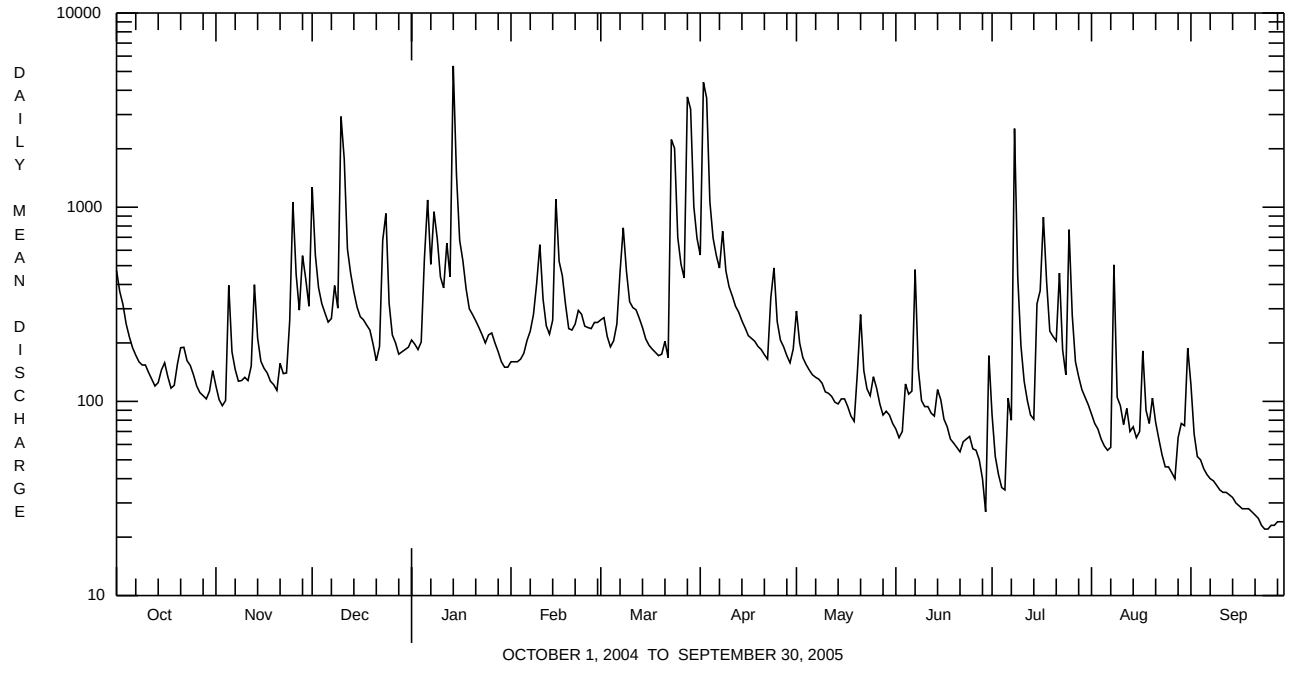
e Estimated.

WEST CONEWAGO CREEK BASIN

01573825 WEST CONEWAGO CREEK AT EAST BERLIN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2003 - 2005	
ANNUAL TOTAL	134092		111843			
ANNUAL MEAN	366		306		366	
HIGHEST ANNUAL MEAN					425	2004
LOWEST ANNUAL MEAN					306	2005
HIGHEST DAILY MEAN	5160	Sep 29	5340	Jan 14	7580	Dec 11 2003
LOWEST DAILY MEAN	45	Sep 7	22	Sep 24,25	22	Sep 24 2005
ANNUAL SEVEN-DAY MINIMUM	50	Sep 3	23	Sep 23	23	Sep 23 2005
MAXIMUM PEAK FLOW			**a**8810	Jan 14	**a**10400	Dec 11 2003
MAXIMUM PEAK STAGE			13.53	Jan 14	15.04	Dec 11 2003
INSTANTANEOUS LOW FLOW			21	Jun 28**b**	21	Jun 28 2005**b**
ANNUAL RUNOFF (CFSM)	1.68		1.41		1.68	
ANNUAL RUNOFF (INCHES)	22.88		19.09		22.81	
10 PERCENT EXCEEDS	677		550		691	
50 PERCENT EXCEEDS	208		168		205	
90 PERCENT EXCEEDS	82		50		65	

a From rating curve extended above 8,150 ft^3/s on basis of straight-line extension.
b Also Sept. 24, 25, 2005.



WEST CONEWAGO CREEK BASIN

01573849 BERMUDIAN CREEK AT OXFORD ROAD NEAR HEIDLERSBURG, PA

LOCATION.--Lat 39°58'48", long 77°09'16", Adams County, Hydrologic Unit 02050306, on left bank at bridge on Oxford Road (SR1016), 2.2 mi north of Heidlersburg.

DRAINAGE AREA.--10.2 mi^2.

PERIOD OF RECORD.--October 2004 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite telemetry at station. Other data collected near this station as part of the Pennsylvania fluvial geomorphic reference reach network project also are presented in this report on pages 457-463.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 23	1600	211	3.73	Apr. 2	1415	*455	*4.70
Mar. 28	1615	373	4.41	July 7	2200	367	4.39

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10	57	16	e16	16	37	16	5.9	4.5	5.8	6.2
2	---	9.8	29	15	e18	14	188	12	5.8	4.2	5.3	4.6
3	---	9.8	25	15	e13	13	91	12	9.4	3.9	4.8	3.8
4	---	24	22	16	e14	e15	59	11	8.0	3.7	4.5	3.4
5	---	17	20	42	e15	13	48	10	6.6	8.4	4.2	3.1
6	---	12	18	43	e16	17	42	10	25	11	4.0	2.9
7	---	11	24	27	17	24	41	10	13	57	4.0	2.9
8	---	10	20	49	19	37	46	9.5	7.3	98	4.2	2.8
9	---	9.6	28	34	21	25	33	9.2	7.4	20	4.9	2.7
10	---	9.3	90	29	25	22	29	9.0	8.7	12	4.3	2.6
11	---	9.3	52	31	16	21	26	8.9	6.6	9.6	3.9	2.5
12	---	18	38	32	15	20	23	8.5	6.0	8.3	3.7	2.4
13	---	16	33	28	14	18	22	8.2	11	7.8	3.7	2.4
14	---	11	29	110	28	17	20	8.4	8.6	10	3.4	2.4
15	---	11	26	48	35	16	19	8.2	6.1	12	3.0	2.6
16	---	10	23	41	25	15	18	7.9	5.5	21	8.2	2.5
17	---	10	23	35	21	15	17	7.7	5.2	25	5.8	2.5
18	---	9.9	21	e34	18	14	16	7.6	4.9	14	4.1	2.4
19	---	9.7	20	e31	e18	14	15	7.4	4.8	12	4.3	2.4
20	---	11	e19	e26	15	14	14	15	4.8	10	4.3	2.5
21	---	11	16	e23	19	14	14	9.7	4.7	13	3.7	2.5
22	---	10	17	e23	18	13	15	8.3	5.0	11	3.2	2.4
23	---	10	42	e22	18	89	32	8.4	4.9	8.3	2.9	2.4
24	---	57	26	e24	16	47	22	10	4.5	7.4	2.8	2.3
25	---	51	19	e21	17	33	16	9.4	4.4	13	2.7	2.5
26	---	26	e18	e19	15	29	14	8.0	4.2	8.5	2.7	2.8
27	---	21	e17	e19	14	30	14	7.2	4.2	8.5	3.0	3.0
28	---	40	e18	e18	15	141	12	7.2	4.2	7.8	4.8	2.4
29	e8.5	23	15	e16	---	82	12	6.9	6.4	6.7	11	2.6
30	15	20	15	e17	---	51	18	6.5	5.7	6.4	4.8	2.6
31	11	---	16	e15	---	43	---	6.3	---	6.1	31	---
TOTAL	34.5	507.4	836	919	511	932	973	284.4	208.8	449.1	163.0	85.1
MEAN	11.5	16.9	27.0	29.6	18.2	30.1	32.4	9.17	6.96	14.5	5.26	2.84
MAX	15	57	90	110	35	141	188	16	25	98	31	6.2
MIN	8.5	9.3	15	15	13	13	12	6.3	4.2	3.7	2.7	2.3
CFSM	1.13	1.66	2.64	2.91	1.79	2.95	3.18	0.90	0.68	1.42	0.52	0.28
IN.	0.13	1.85	3.05	3.35	1.86	3.40	3.55	1.04	0.76	1.64	0.59	0.31

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

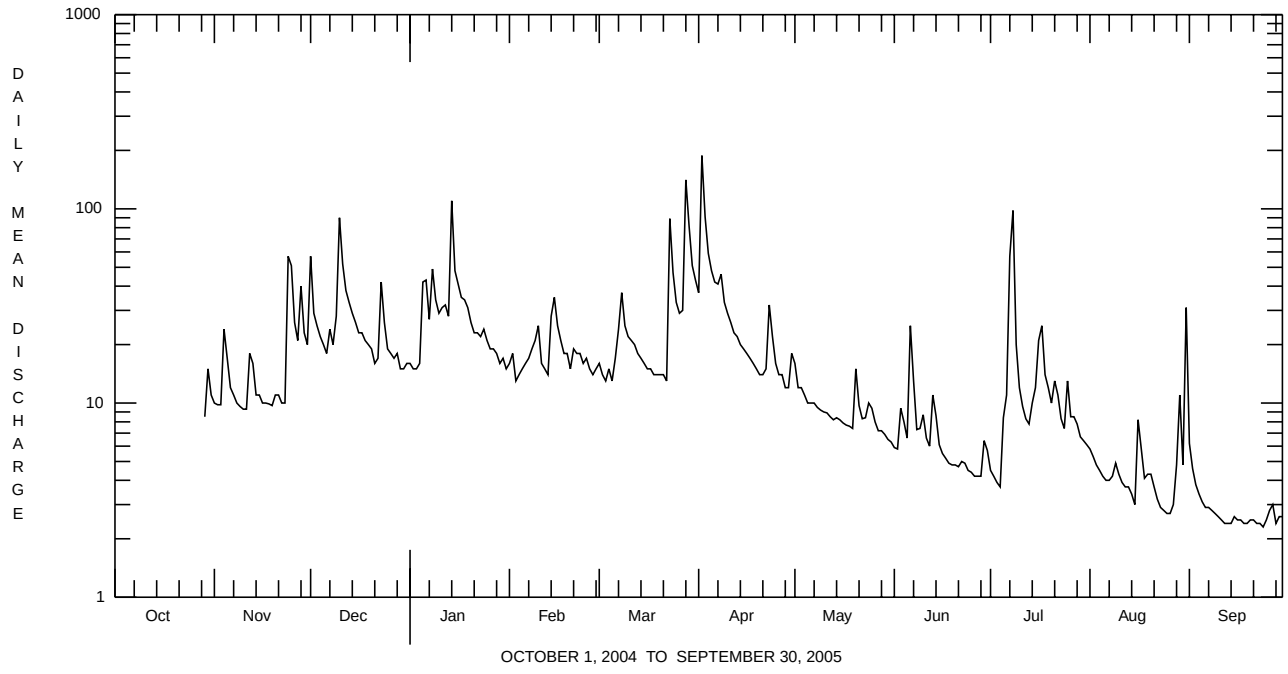
MEAN	---	16.9	27.0	29.6	18.2	30.1	32.4	9.17	6.96	14.5	5.26	2.84
MAX	---	16.9	27.0	29.6	18.2	30.1	32.4	9.17	6.96	14.5	5.26	2.84
(WY)	---	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005
MIN	---	16.9	27.0	29.6	18.2	30.1	32.4	9.17	6.96	14.5	5.26	2.84
(WY)	---	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005	2005

e Estimated.

WEST CONEWAGO CREEK BASIN

01573849 BERMUDIAN CREEK AT OXFORD ROAD NEAR HEIDLERSBURG, PA--Continued

SUMMARY STATISTICS	FOR PERIOD OF DAILY RECORD	
HIGHEST DAILY MEAN	188	Apr 2
LOWEST DAILY MEAN	2.3	Sep 24
ANNUAL SEVEN-DAY MINIMUM	2.4	Sep 18
MAXIMUM PEAK FLOW	455	Apr 2
MAXIMUM PEAK STAGE	4.70	Apr 2
INSTANTANEOUS LOW FLOW	2.2	Sep 13,14,24



WEST CONEWAGO CREEK BASIN

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°04'56", long 76°43'13", York County, Hydrologic Unit 02050306, on left bank 500 ft upstream from bridge on State Highway 181, 0.6 mi downstream from Little Conewago Creek, and 1.5 mi north of Manchester.

DRAINAGE AREA.--510 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to October 1931, published as Conewago Creek near Manchester.

REVISED RECORDS.--WSP 741: Drainage area. WSP 1502: 1930, 1936.

GAGE.--Water-stage recorder. Datum of gage is 263.68 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional slight regulation since October 1959 by Conewago Lake about 13 miles upstream, capacity, 3,570 acre-ft. Gage height record affected by backwater from the Susquehanna River on Sept. 18-21. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 10,800 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	1845	14,000	14.21	Apr. 3	0515	*15,000	*14.90
Mar. 29	0415	15,000	14.89				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1750	380	2190	505	e360	646	1690	657	163	165	172	365
2	1290	324	2490	504	e340	655	5780	623	159	182	160	207
3	987	291	1320	467	e350	592	11500	472	160	121	145	135
4	832	322	1000	524	e370	501	5030	409	184	103	133	111
5	688	774	859	964	391	476	3040	371	224	89	120	91
6	548	699	776	2720	454	535	1760	346	215	339	113	82
7	493	454	708	1940	542	1010	1360	329	950	357	112	75
8	440	385	957	1850	630	1680	1880	314	601	4020	431	70
9	402	334	831	2580	815	1850	1550	298	314	2560	365	69
10	381	293	4220	1470	1380	1040	1080	280	545	711	187	67
11	362	276	5920	1220	1110	878	937	261	276	426	163	65
12	334	323	2180	1530	667	845	833	248	226	300	159	62
13	311	735	1580	1380	569	783	756	233	190	244	138	59
14	322	762	1240	8890	571	692	693	219	235	206	128	48
15	354	541	967	5980	2070	621	626	217	258	259	114	47
16	375	481	838	2490	1540	562	571	219	203	1020	122	51
17	357	421	771	1690	1280	532	531	210	158	1410	143	59
18	309	380	693	1210	915	508	511	198	140	1430	251	54
19	330	363	e560	944	683	482	485	181	127	697	165	52
20	357	489	e470	841	583	468	458	190	114	487	144	50
21	444	563	e400	785	592	513	436	348	108	420	156	49
22	526	531	524	644	697	500	411	394	103	608	136	49
23	468	440	730	503	735	1950	583	263	98	535	117	47
24	396	484	2540	e400	657	6110	1610	234	99	318	104	46
25	369	2030	1010	e410	600	2290	939	244	99	379	90	43
26	338	1700	638	e420	595	1540	631	265	95	1160	80	42
27	306	977	548	e400	605	1240	523	232	87	411	75	43
28	285	1070	447	e380	619	5010	483	199	80	291	93	41
29	272	1540	527	e370	---	10700	423	185	78	249	110	41
30	546	901	547	e390	---	4060	442	174	79	213	159	42
31	425	---	490	e370	---	2530	---	171	---	189	147	---
TOTAL	15597	19263	38971	44771	20720	51799	47552	8984	6368	19899	4732	2262
MEAN	503	642	1257	1444	740	1671	1585	290	212	642	153	75.4
MAX	1750	2030	5920	8890	2070	10700	11500	657	950	4020	431	365
MIN	272	276	400	370	340	468	411	171	78	89	75	41
CFSM	0.99	1.26	2.46	2.83	1.45	3.28	3.11	0.57	0.42	1.26	0.30	0.15
IN.	1.14	1.41	2.84	3.27	1.51	3.78	3.47	0.66	0.46	1.45	0.35	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

MEAN	288	471	693	787	952	1283	994	656	447	259	229	286
MAX	1783	1534	2578	3126	2526	4510	3273	2874	4445	1419	2423	3862
(WY)	1977	1933	1997	1996	1998	1994	1993	1989	1972	1969	1933	1975
MIN	9.71	14.7	43.3	37.7	86.2	345	253	135	52.7	12.2	13.3	12.0
(WY)	1942	1932	1966	1981	1934	1931	1995	1941	1965	1966	1930	1964

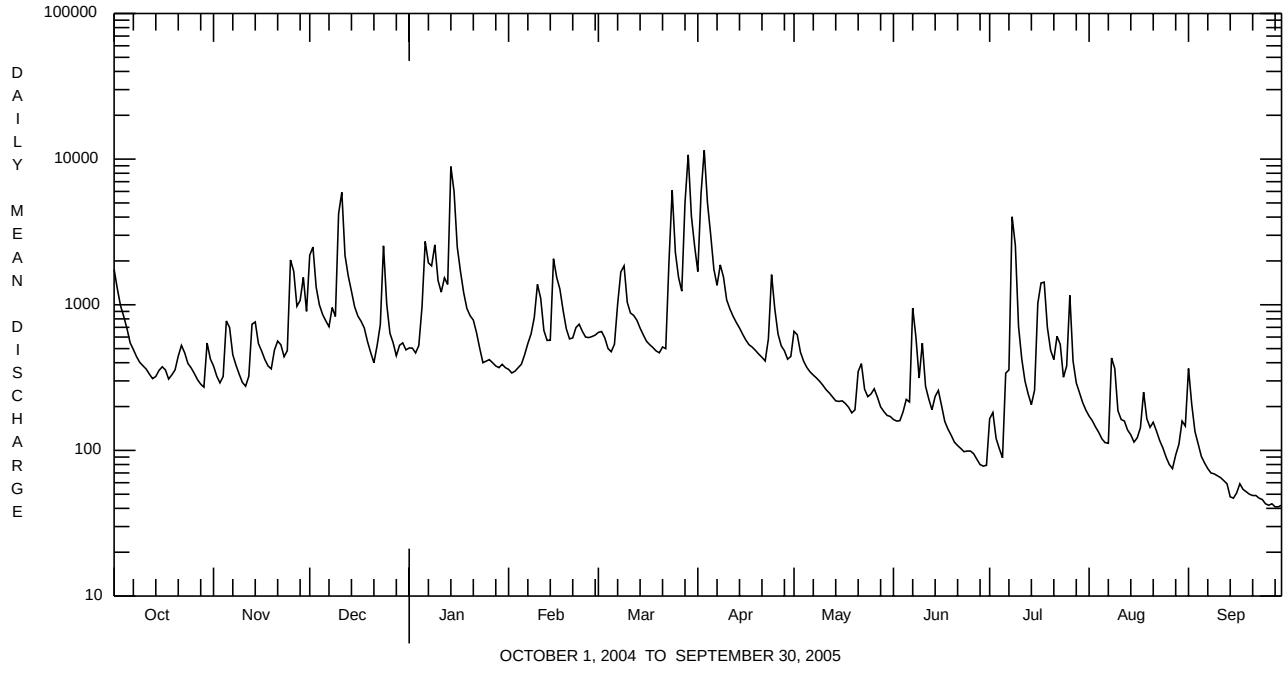
e Estimated.

WEST CONEWAGO CREEK BASIN

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	343985		280918			
ANNUAL MEAN	940		770		610	
HIGHEST ANNUAL MEAN					1194	2003
LOWEST ANNUAL MEAN					154	1931
HIGHEST DAILY MEAN	13000	Sep 29	11500	Apr 3	64000	Sep 26 1975
LOWEST DAILY MEAN	125	Sep 7	41	Sep 28,29	2.0	Aug 8 1930
ANNUAL SEVEN-DAY MINIMUM	151	Sep 2	43	Sep 24	3.9	Aug 3 1966
MAXIMUM PEAK FLOW			15000	Mar 29,Apr 3	**a**96200	Sep 26 1975
MAXIMUM PEAK STAGE			14.90	Apr 3	**b**32.11	Sep 26 1975
INSTANTANEOUS LOW FLOW			39	Sep 26**c**	1.9	Oct 13 1941
ANNUAL RUNOFF (CFSM)	1.84		1.51		1.20	
ANNUAL RUNOFF (INCHES)	25.09		20.49		16.25	
10 PERCENT EXCEEDS	1870		1640		1330	
50 PERCENT EXCEEDS	548		431		255	
90 PERCENT EXCEEDS	219		97		47	

a From rating curve extended above 45,000 ft^3/s on basis of slope-area computation at gage height 30.26 ft.
b From floodmark.
c Also Sept. 28-30.



WEST CONEWAGO CREEK BASIN

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	10/19/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	3
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Arthropoda	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	1
Heptageniidae	
Stenonema	10
Isonychiidae	
Isonychia	4
Potamanthidae	
Anthopotamus	2
Plecoptera (STONEFLIES)	
Taeniopterygidae	
Taeniopteryx	69
Trichoptera (CADDISFLIES)	
Hydropsychidae	6
Cheumatopsyche	4
Hydropsyche	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	1
Stenelmis	5
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	23
Total Organisms	132
Total Taxa	14

CODORUS CREEK BASIN

01574500 CODORUS CREEK AT SPRING GROVE, PA

LOCATION.--Lat 39°52'43", long 76°51'13", York County, Hydrologic Unit 02050306, on right bank 15 ft downstream from abutments of dismantled county highway bridge on Township Route 452, 0.1 mi downstream from small left-bank tributary, 0.3 mi downstream from east boundary of Spring Grove, and 7.0 mi southwest of York.

DRAINAGE AREA.--75.5 mi^2.

PERIOD OF RECORD.--May 1929 to September 1964, November 1965 to current year. October 1962 to September 1964, November 1965 to September 1968, published as West Branch Codorus Creek at Spring Grove.

REVISED RECORDS.--WSP 1302: 1929-30. WSP 1502: 1932(M), 1933, 1935(M), 1940, 1942(M), 1943, 1944-46(M), 1951(M), 1955(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 430.86 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 18, 1930, nonrecording gage, Jan. 18, 1930, to Sept. 9, 1941, water-stage recorder at site 0.9 mi upstream, and Sept. 10, 1941, to Sept. 30, 1964, water-stage recorder at site 0.8 mi upstream, all at datum 5.64 ft higher. Nov. 1 to Dec. 20, 1965, nonrecording gage about 40 ft downstream at unknown datum, Dec. 21, 1965, to Mar. 31, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Daily discharges include water diverted around station by waste treatment plant of P.H. Glatfelter Company. Flow regulated by dam on Lake Marburg (station 01574390) about 20 miles upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of change in lake contents and daily diversion furnished by P.H. Glatfelter Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	39	133	49	100	106	276	95	45	58	56	63
2	99	39	73	46	99	102	856	82	45	54	60	62
3	88	39	60	47	99	93	903	80	55	54	60	59
4	78	70	51	52	102	83	483	77	60	53	60	56
5	72	75	48	80	104	71	370	69	57	83	60	55
6	69	42	45	113	107	76	312	55	56	173	60	52
7	63	40	53	76	110	91	279	53	71	74	78	50
8	62	39	56	137	119	146	303	51	57	462	80	51
9	57	36	62	103	138	112	239	48	57	129	71	51
10	57	35	427	85	147	95	217	47	60	81	68	50
11	54	37	261	80	120	94	203	53	59	71	61	49
12	67	56	119	84	114	92	193	58	54	67	63	50
13	52	72	92	76	108	82	186	57	52	65	60	50
14	54	44	73	1140	122	79	179	57	50	64	60	53
15	48	42	64	320	162	75	171	55	43	155	61	54
16	46	38	56	200	126	73	166	59	43	104	86	52
17	45	36	55	166	120	71	150	53	42	249	71	53
18	42	36	51	140	107	71	118	52	42	96	61	54
19	45	39	52	123	98	69	118	51	44	213	81	54
20	42	48	46	126	96	83	113	82	51	124	68	52
21	45	49	44	131	105	83	110	60	50	131	60	51
22	43	44	44	130	102	71	105	49	51	119	59	52
23	40	41	125	139	99	543	143	48	52	82	59	54
24	39	44	109	124	97	363	141	60	50	69	57	53
25	42	53	62	123	100	199	98	64	54	119	56	54
26	39	42	55	120	97	162	91	50	54	74	57	57
27	35	40	53	115	96	162	86	48	56	68	54	52
28	36	61	48	105	99	739	82	53	54	60	81	50
29	36	48	50	106	---	655	79	54	69	58	60	48
30	50	40	49	109	---	396	108	48	75	57	60	46
31	42	---	51	104	---	321	---	49	---	56	62	---
TOTAL	1705	1364	2567	4549	3093	5458	6878	1817	1608	3322	1990	1587
MEAN	55.0	45.5	82.8	147	110	176	229	58.6	53.6	107	64.2	52.9
MAX	118	75	427	1140	162	739	903	95	75	462	86	63
MIN	35	35	44	46	96	69	79	47	42	53	54	46
(†)	-6.5	+3.4	+24.4	+30.9	-14.4	+26.0	-13.4	-3.3	-26.9	+4.9	-37.4	-43.7

† Change in contents from Lake Marburg, equivalent in cubic feet per second.

CODORUS CREEK BASIN

01574500 CODORUS CREEK AT SPRING GROVE, PA--Continued

REMARKS.--Daily and monthly discharge figures (and those data determined from them) include water diverted around station by P.H. Glatfelter Co. Instantaneous data reflect actual streamflow past gage and do not include diverted streamflow.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2005, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	66.2	63.3	80.9	88.2	103	125	121	88.2	90.3	64.1	57.3	69.4
MAX	269	164	270	264	269	492	372	171	699	185	109	360
(WY)	1980	2004	1997	1996	1971	1994	1993	1975	1972	1970	1996	1975
MIN	18.1	15.8	16.9	19.5	25.7	33.0	31.2	28.8	21.4	17.4	17.1	19.2
(WY)	1967	1966	1966	1966	1969	1969	1969	1969	1966	1966	1966	1966

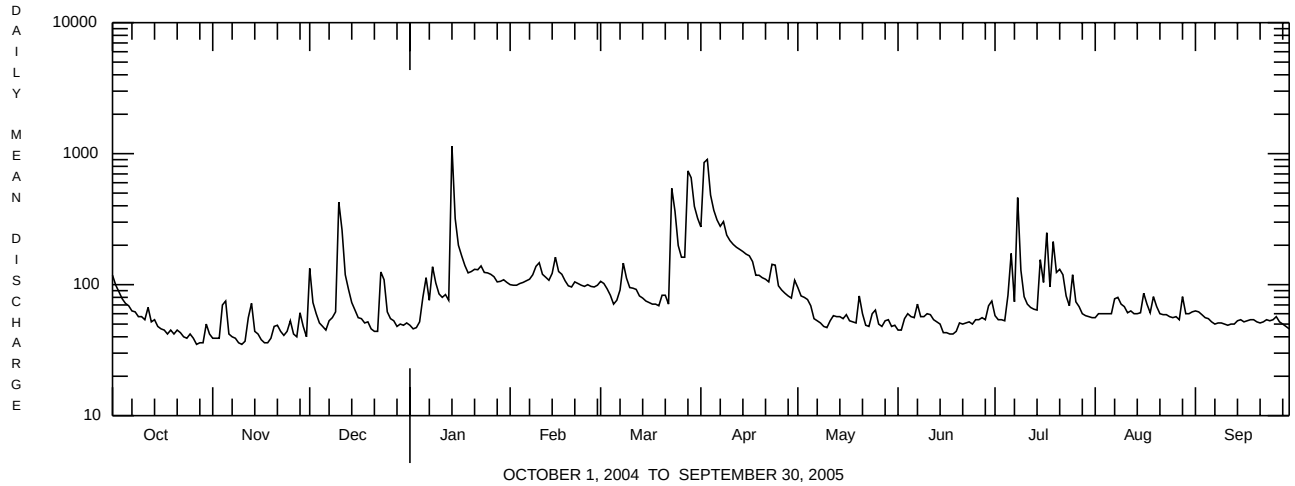
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966 - 2005	
ANNUAL TOTAL	41095		35938			
ANNUAL MEAN	112		98.5		85.7	
HIGHEST ANNUAL MEAN					163	1972
LOWEST ANNUAL MEAN					33.6	1969
HIGHEST DAILY MEAN	832	Sep 18	1140	Jan 14	11000	Jun 22 1972
LOWEST DAILY MEAN	35	Oct 27	35	Oct 27**a**	0.60	Sep 4 1966
ANNUAL SEVEN-DAY MINIMUM	38	Oct 23	38	Oct 23	10	Sep 1 1966
MAXIMUM PEAK FLOW			**b**2410	Jan 14	**b**19400	Jun 22 1972
MAXIMUM PEAK STAGE			7.71	Jan 14	**c**15.57	Jun 22 1972
10 PERCENT EXCEEDS	196		158		157	
50 PERCENT EXCEEDS	82		62		56	
90 PERCENT EXCEEDS	45		44		35	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1964, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.4	52.7	64.4	87.4	114	144	125	86.1	55.6	38.7	44.0	41.7
MAX	151	148	164	223	244	360	326	206	165	157	321	424
(WY)	1943	1938	1951	1949	1951	1936	1952	1952	1946	1945	1933	1934
MIN	8.76	11.9	18.1	19.5	27.3	50.1	41.3	26.6	19.6	9.09	11.9	8.93
(WY)	1942	1937	1959	1942	1932	1959	1947	1963	1959	1954	1935	1941

SUMMARY STATISTICS	WATER YEARS 1929 - 1964	
ANNUAL MEAN	**d**74.1	
HIGHEST ANNUAL MEAN	127	1933
LOWEST ANNUAL MEAN	31.4	1959
HIGHEST DAILY MEAN	3920	Sep 16 1934
LOWEST DAILY MEAN	.80	Oct 26 1947
ANNUAL SEVEN-DAY MINIMUM	5.0	Jul 9 1959
MAXIMUM PEAK FLOW	**f**11200	Aug 23 1933
MAXIMUM PEAK STAGE	**g**11.84	Aug 23 1933
INSTANTANEOUS LOW FLOW	.00	Oct 26 1947
ANNUAL RUNOFF (CFSM)	.98	
ANNUAL RUNOFF (INCHES)	13.34	
10 PERCENT EXCEEDS	151	
50 PERCENT EXCEEDS	42	
90 PERCENT EXCEEDS	14	

a Also Nov. 10.
b From rating curve extended above 2,000 ft^3/s on basis of computation of peak discharge at dam at gage height 6.80 ft and at peak flow.
c From floodmark in gage.
d Adjusted for diversion since March 1961.
f From rating curve extended above 2,400 ft^3/s on basis of computation of flow at gage height 11.84 ft.
g Site and datum then in use.



OCTOBER 1, 2004 TO SEPTEMBER 30, 2005

CODORUS CREEK BASIN

LAKES AND RESERVOIRS IN CODORUS CREEK BASIN

0l574390 LAKE MARBURG.--Lat 39°48'26", long 76°52'58", York County, Hydrologic Unit 02050306, at dam on West Branch Codorus Creek, 0.7 mi upstream from Codorus Creek, and 4.5 mi south of Spring Grove. DRAINAGE AREA, 23.2 mi^2. PERIOD OF RECORD, October 1972 to current year in reports of Geological Survey; July 1972 to September 1974 in files of P. H. Glatfelter Co., Spring Grove. Records for period December 1966 to June 1972 were lost in the flood of June 1972. GAGE, Nonrecording. Datum of gage is given in feet above National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by earthfill dam with two bascule spillway gates. Each is 7 ft high and 106.50 ft long. Storage began in December 1966. Elevation of top of gates is 623.00 ft (capacity, 47,680 acre-ft). Top of dam is at elevation 627.00 ft (capacity, 53,210 acre-ft). At the spillway crest, an elevation of 616.00 ft, the capacity is 39,430 acre-ft. The lake is used for water supply and recreation. An average of about 3,380 acre-ft is diverted from Codorus Creek into the lake each year.

COOPERATION.--Records provided by P.H. Glatfelter Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 48,010 acre-ft, June 24, 1998, elevation, 623.25 ft; minimum, 23,960 acre-ft, Oct. 10, 2002, elevation, 599.29 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 47,680 acre-ft, Mar. 31, elevation, 623.00 ft; minimum, 40,500 acre-ft, Sept. 30, elevation, 617.00 ft.

01574700 INDIAN ROCK DAM.--Lat 39°55'22", long 76°45'14", York County, Hydrologic Unit 02050306, at dam on Codorus Creek, 0.1 mi upstream from mouth of South Branch Codorus Creek, 0.3 mi west of York Water Co. pumping station, and 3.0 mi southwest of York. DRAINAGE AREA, 93.7 mi^2. PERIOD OF RECORD, September 1962 to current year in reports of Geological Survey, September 1942 to August 1962 in files of Baltimore District, U.S. Army Corps of Engineers. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 435.00 ft (capacity, 28,000 acre-ft). Reservoir completed in June l942; storage began in June 1946. No dead storage. Reservoir is used for flood control. Figures given herein represent total contents. Flood storage is regulated by three vertical-lift tractor gates. Water is stored only during high flows and released when downstream conditions warrant. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,200 acre-ft, June 23, 1972, elevation, 436.44 ft; minimum, no storage many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,610 acre-ft, Jan. 14, elevation, 395.66 ft; minimum, 8.1 acre-ft, June 19, elevation, 371.73 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	01574390 Lake Marburg			01574700 Indian Rock Dam		
	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)
Sept. 30	619.98	43,680	---	374.75	21.7	---
Oct. 31	619.60	43,270	-6.5	372.52	10.6	-.18
Nov. 30	619.83	43,520	+3.4	372.81	11.4	+.01
Dec. 31	621.00	45,030	+24.4	373.74	14.2	+.05
CAL YR 2004	--	--	-2.6	--	--	-.05
Jan. 31	622.44	46,930	+30.9	375.00	24.0	+.16
Feb. 28	621.81	46,100	-14.4	375.14	25.3	+.02
Mar. 31	623.00	47,680	+26.0	379.70	92.5	+1.1
Apr. 30	622.40	46,880	-13.4	373.10	12.3	-1.4
May 31	622.27	46,710	-3.3	372.01	9.0	-.05
June 30	621.02	45,060	-26.9	372.17	9.5	+.01
July 31	621.30	45,420	+4.9	372.64	10.9	+.02
Aug. 31	619.44	43,100	-37.4	372.47	10.4	-.01
Sept. 30	617.00	40,500	-43.7	372.04	9.1	-.02
WTR YR 2005	--	--	-4.4	--	--	-.02

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA

LOCATION.--Lat 40°03'16", long 76°31'52", Lancaster County, Hydrologic Unit 02050306, on left bank 420 ft upstream from Chickies Creek, and 1.0 mi downstream from Marietta. Records include flow of Chickies Creek.

DRAINAGE AREA.--25,990 mi^2, approximately, includes that of Chickies Creek.

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 1502: 1937.

GAGE.--Water-stage recorder. Datum of gage is 200.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period Jan. 19 to Feb. 19, which are fair. Flow slightly regulated by 16 flood-control reservoirs which have a combined capacity of 1,599,000 acre-ft. Some diurnal fluctuation below 8,000 ft^3/s caused by hydroelectric plant 9.7 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 58.2 ft, from floodmark, discharge, about 630,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77000	29600	142000	38200	e30000	36200	225000	35000	13100	8280	6710	5880
2	61600	28700	150000	37200	e31000	34600	200000	33000	12800	8060	6480	7520
3	53000	27700	154000	36800	e30000	33400	290000	31700	12300	7380	6350	13300
4	46800	26900	143000	37000	e31000	32100	380000	30700	12600	7870	6070	13200
5	41800	27300	116000	45000	e29000	30500	328000	29800	12500	7990	5680	15800
6	37300	27600	94200	79500	e28000	28800	272000	28200	12400	10800	5150	12900
7	33900	28400	77700	132000	e29000	28600	220000	27000	13500	10500	5160	10500
8	31000	29900	69000	147000	e29000	31800	177000	25300	14500	18300	5160	9240
9	28200	30400	65700	145000	e30500	41100	137000	23700	15500	21500	5610	6990
10	26400	29700	74000	130000	e31000	47900	111000	22600	14900	16100	5240	6770
11	25000	28400	102000	112000	e38500	52900	93400	21600	12900	14400	4860	5790
12	23900	27400	127000	98100	e71000	49300	80900	20700	12600	12100	4970	5470
13	22500	28300	149000	95700	e76000	45100	70100	19300	12100	12400	4860	5440
14	22900	29300	137000	126000	e63500	41500	61100	18500	12200	13000	4620	4590
15	22300	28400	109000	252000	e61000	38800	54100	18500	13600	12500	4380	4230
16	21900	27000	88400	283000	e60000	37100	48500	18600	13300	13200	4240	4240
17	21900	25900	74000	213000	e66000	35000	43800	17800	11700	16800	5040	4550
18	22900	25100	63000	155000	e81000	32400	40400	17000	11200	19900	5080	4270
19	24200	24400	55300	116000	e82000	31300	37100	16300	11700	16500	5240	4580
20	25200	23800	48900	92600	70100	31200	34400	15600	12900	15000	5340	4320
21	33700	23900	43200	77600	60700	31800	32300	15900	12200	12700	5660	3920
22	42400	23500	40300	e59000	54500	32800	30100	15900	11300	13600	4860	3700
23	43600	23100	38600	e46000	50900	38100	29700	15300	11000	12500	5040	3800
24	39600	22700	48000	e39000	48300	58200	32800	14600	10800	10900	4550	3550
25	37700	29600	64200	e34000	46500	68900	35100	14100	9970	10200	4020	3330
26	35600	49500	72700	e36500	43100	71500	37400	14000	9590	10200	4250	3410
27	32700	58700	66200	e35500	40100	68900	45300	13900	8720	9140	4330	2570
28	30000	65500	56300	e33000	37800	77200	44900	13600	8520	7950	4210	2930
29	28000	91600	48500	e28500	---	165000	40400	13300	8160	7700	4090	3570
30	28000	136000	43100	e32000	---	323000	37000	13000	7780	7520	4890	3710
31	29600	---	39700	e32500	---	292000	---	13000	---	6860	4430	---
TOTAL	1050600	1078300	2600000	2824700	1349500	1967000	3268800	627500	356340	371850	156570	184070
MEAN	33890	35940	83870	91120	48200	63450	109000	20240	11880	12000	5051	6136
MAX	77000	136000	154000	283000	82000	323000	380000	35000	15500	21500	6710	15800
MIN	21900	22700	38600	28500	28000	28600	29700	13000	7780	6860	4020	2570
CFSM	1.30	1.38	3.23	3.51	1.85	2.44	4.19	0.78	0.46	0.46	0.19	0.24
IN.	1.50	1.54	3.72	4.04	1.93	2.82	4.68	0.90	0.51	0.53	0.22	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2005, BY WATER YEAR (WY)

MEAN	18220	29940	40610	40890	44560	76120	79590	48530	28920	16030	12610	14260
MAX	81330	71930	114300	116900	109300	229100	235100	103400	190700	61480	47180	110900
(WY)	1977	1978	1997	1996	1984	1936	1993	1989	1972	1972	1994	2004
MIN	2699	3041	6216	6635	10730	28120	22450	14240	6974	3957	3627	2296
(WY)	1964	1965	1999	1981	1934	1960	1946	1941	1999	1965	1966	1964

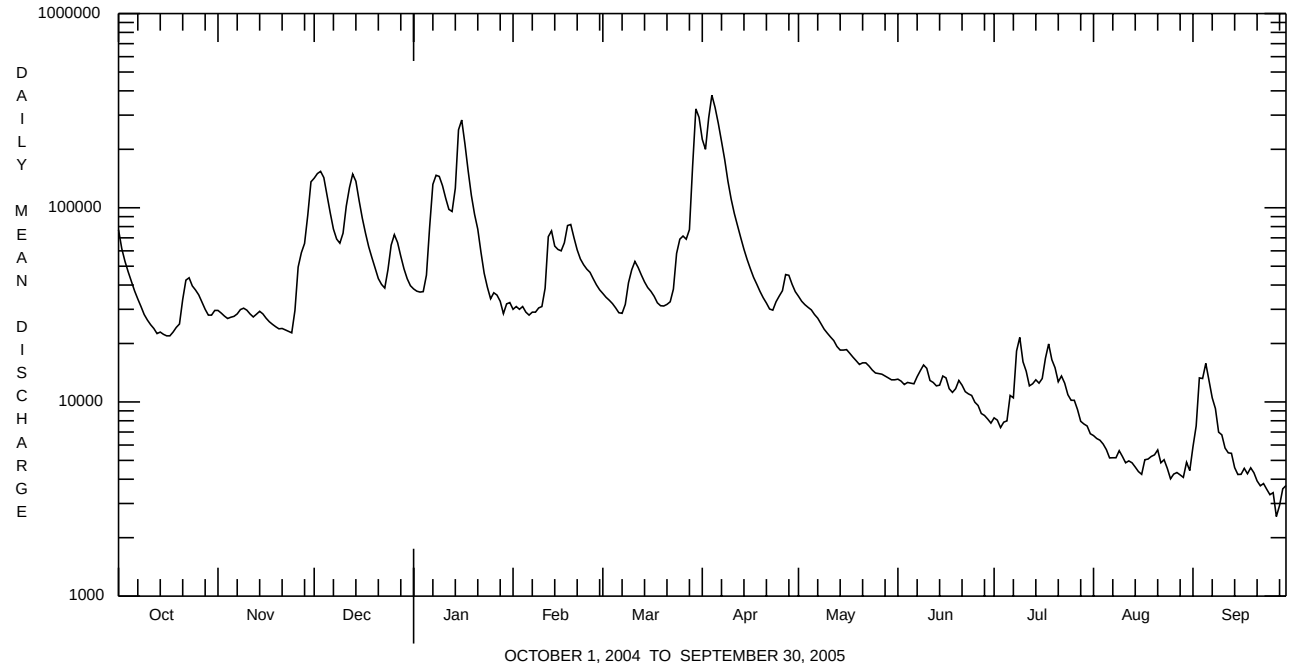
e Estimated.

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1932 - 2005	
ANNUAL TOTAL	20504500		15835230			
ANNUAL MEAN	56020		43380		37460	
HIGHEST ANNUAL MEAN					60430	2004
LOWEST ANNUAL MEAN					19060	1965
HIGHEST DAILY MEAN	**e**497000	Sep 20	380000	Apr 4	1040000	Jun 24 1972
LOWEST DAILY MEAN	11800	Jul 6,7	2570	Sep 27	1380	Sep 26 1932
ANNUAL SEVEN-DAY MINIMUM	12500	Jul 4	3300	Sep 24	1720	Sep 26 1932
MAXIMUM PEAK FLOW			391000	Apr 4	**a**1080000	Jun 23 1972
MAXIMUM PEAK STAGE			51.71	Apr 4	**b**64.54	Jun 23 1972
INSTANTANEOUS LOW FLOW			2430	Sep 27,28	618	Sep 26 1932
ANNUAL RUNOFF (CFSM)	2.16		1.67		1.44	
ANNUAL RUNOFF (INCHES)	29.35		22.67		19.58	
10 PERCENT EXCEEDS	110000		96700		84800	
50 PERCENT EXCEEDS	41700		28600		22600	
90 PERCENT EXCEEDS	22000		5160		6010	

a From rating curve extended above 961,000 ft^3/s.
b From floodmarks.
e Estimated.



CONESTOGA RIVER BASIN

01576500 CONESTOGA RIVER AT LANCASTER, PA

LOCATION.--Lat 40°03'00", long 76°16'39", Lancaster County, Hydrologic Unit 02050306, on left bank at Penn Central Railroad bridge, 50 ft downstream from small right-bank tributary, 500 ft downstream from diversion dam at city water plant, and 0.7 mi east of Lancaster.

DRAINAGE AREA.--324 mi^2.

PERIOD OF RECORD.--October 1928 to March 1932; August, September 1932; April 1933 to current year. Prior to October 1973, published as Conestoga Creek at Lancaster.

REVISED RECORDS.--WSP 1202: Drainage area. WSP 1502: 1943(P). WDR PA-87-2: 1985-86(P) (monthly and yearly summaries) WDR PA-90-2: 1972(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. Prior to May 1, 1933, at site 600 ft upstream at different datum, excluding small tributary.

REMARKS.--Records fair. Regulation at low flow by water plant and mill above station. Diversion upstream for municipal supply of city of Lancaster. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by city of Lancaster.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,800 ft^3/s (revised) and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	2000	4,910	8.76	Mar. 29	0600	*6,740	*10.28
Jan. 14	2100	6,100	9.76	Apr. 3	1100	6,290	9.92

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	869	338	1450	519	494	534	1140	542	199	143	180	102
2	712	322	1520	493	477	524	e2350	465	191	126	166	94
3	918	312	1010	472	475	483	e5630	435	191	120	152	90
4	705	365	853	479	461	455	2910	405	217	112	146	87
5	618	767	766	624	466	446	1950	388	222	106	141	86
6	556	499	696	1150	483	447	1550	374	e416	257	135	83
7	528	401	699	924	514	502	1320	370	e936	205	130	80
8	503	369	944	990	547	697	e1920	355	292	e1560	139	80
9	480	346	764	1280	626	668	1320	354	232	e948	377	78
10	464	332	1320	892	756	543	1080	329	208	374	238	76
11	445	325	1840	803	621	506	977	315	200	267	173	74
12	417	371	1170	1010	515	499	894	306	198	221	162	74
13	399	685	955	871	479	478	842	299	194	197	144	71
14	465	488	851	e3430	475	448	802	286	186	185	133	72
15	504	387	768	2820	1050	424	738	283	172	266	129	79
16	515	361	709	1620	817	403	686	298	158	399	131	88
17	457	347	669	1290	770	393	655	286	149	830	157	103
18	395	337	636	1040	628	384	630	266	142	1000	146	95
19	e575	330	612	933	548	374	601	254	141	551	130	91
20	606	330	571	898	530	369	573	254	141	365	133	84
21	490	372	518	839	539	410	554	299	138	297	137	78
22	489	358	516	750	570	383	526	273	136	265	124	70
23	457	331	658	749	618	695	630	252	126	243	115	69
24	402	328	1570	718	564	1790	940	246	121	225	105	70
25	381	375	843	703	542	952	665	244	116	243	102	66
26	362	440	658	666	521	714	552	238	113	272	93	65
27	351	352	593	614	526	632	520	235	112	220	95	68
28	341	e2520	538	549	503	e1640	500	218	117	226	104	72
29	327	1990	542	551	---	e4670	459	235	122	228	124	77
30	371	1020	529	549	---	1990	473	228	181	197	121	68
31	409	---	519	525	---	1380	---	212	---	188	108	---
TOTAL	15511	16098	26287	29751	16115	24833	34387	9544	6067	10836	4470	2390
MEAN	500	537	848	960	576	801	1146	308	202	350	144	79.7
MAX	918	2520	1840	3430	1050	4670	5630	542	936	1560	377	103
MIN	327	312	516	472	461	369	459	212	112	106	93	65
CFSM	1.54	1.66	2.62	2.96	1.78	2.47	3.54	0.95	0.62	1.08	0.45	0.25
IN.	1.78	1.85	3.02	3.42	1.85	2.85	3.95	1.10	0.70	1.24	0.51	0.27
(†)	17.2	16.7	17.6	17.7	18.0	17.2	17.0	15.7	17.4	16.7	17.8	17.2

† Diversion for municipal supply of city of Lancaster, equivalent in cubic feet per second.
e Estimated.

CONESTOGA RIVER BASIN

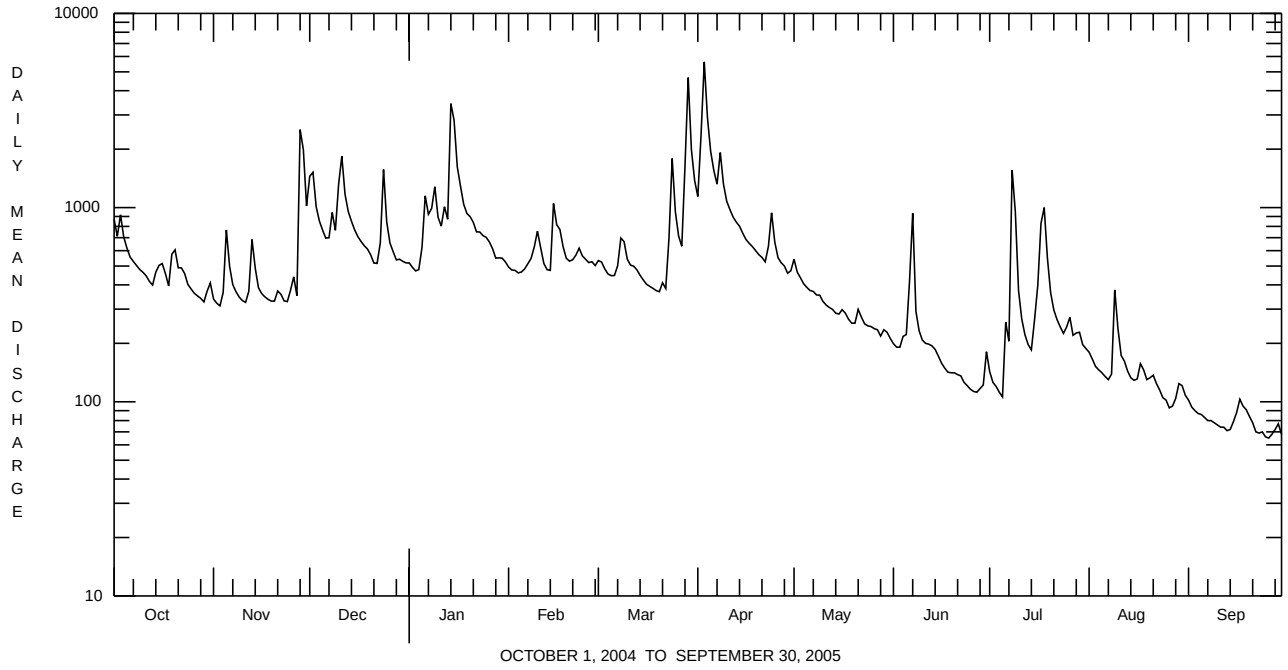
01576500 CONESTOGA RIVER AT LANCASTER, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	219	287	409	477	548	686	629	454	385	313	244	229
MAX	930	866	1618	1699	1191	2089	1720	1529	3286	1253	1427	908
(WY)	1980	1997	1997	1979	1979	1994	1993	1989	1972	2004	1933	1987
MIN	33.2	41.1	70.3	61.3	77.0	155	166	148	92.0	50.3	30.3	40.9
(WY)	1931	1931	2002	1981	2002	2002	1985	1965	1965	1999	1957	1957

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	255568		196289			
ANNUAL MEAN	698		538		405	
HIGHEST ANNUAL MEAN					753	1972
LOWEST ANNUAL MEAN					138	2002
HIGHEST DAILY MEAN	7700	Jul 28	**e**5630	Apr 3	47600	Jun 23 1972
LOWEST DAILY MEAN	210	Jul 11	65	Sep 26	7.0	Aug 11 1930
ANNUAL SEVEN-DAY MINIMUM	249	May 29	69	Sep 22	20	Aug 9 1930
MAXIMUM PEAK FLOW			6740	Mar 29	**a**50300	Jun 23 1972
MAXIMUM PEAK STAGE			10.28	Mar 29	**b**27.90	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.16		1.66		1.25	
ANNUAL RUNOFF (INCHES)	29.34		22.54		16.98	
10 PERCENT EXCEEDS	1170		994		817	
50 PERCENT EXCEEDS	488		416		264	
90 PERCENT EXCEEDS	303		107		85	

a From rating curve extended above 13,000 ft^3/s on basis of slope-area measurement at gage height 17.50 ft and contracted-opening measurement of peak flow.
b From floodmark.
e Estimated.



CONESTOGA RIVER BASIN

01576712 LITTLE CONESTOGA CREEK NEAR MILLERSVILLE, PA

LOCATION.--Lat 40°01'15", long 76°21'33", Lancaster County, Hydrologic Unit 02050306, on right bank, 150 ft downstream from highway bridge on State Route 741, 7.9 mi upstream from confluence with Conestoga River, and 2.0 mi north of Millersville.

DRAINAGE AREA.--42.3 mi^2.

PERIOD OF RECORD.--January 2003 to September 2005. (Discontinued)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 270 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 telemetry at station.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	0830	610	8.53	Apr. 2	2015	*824	*9.78
Jan. 14	1045	736	9.29	June 6	2245	719	9.19
Mar. 23	1845	521	8.00	June 29	2200	550	8.18
Mar. 28	1815	681	8.97	July 8	0900	777	9.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	41	154	46	52	59	113	60	27	29	26	13
2	79	37	100	44	49	57	461	51	25	26	25	12
3	77	34	87	45	47	53	353	50	28	23	24	11
4	67	85	74	47	48	52	177	49	31	23	24	11
5	63	67	68	83	47	51	149	47	27	27	21	11
6	62	62	65	94	49	52	131	46	150	60	22	11
7	62	58	86	67	52	57	118	45	145	36	22	10
8	59	46	78	114	52	75	133	43	56	375	33	9.6
9	55	44	87	83	55	60	104	43	46	89	32	9.6
10	53	43	181	75	58	53	98	38	38	61	25	9.8
11	49	42	151	80	52	63	87	39	35	52	20	9.0
12	43	72	108	83	48	63	83	37	34	‘46	20	9.0
13	43	64	97	73	46	58	79	35	32	43	20	10
14	82	51	83	396	65	51	78	34	28	41	19	10
15	53	46	81	156	83	49	70	36	26	45	18	12
16	60	42	71	127	70	47	70	50	25	46	26	11
17	51	39	71	111	65	46	65	36	25	102	23	22
18	45	40	69	95	59	49	61	33	24	63	19	12
19	78	37	58	88	56	44	62	32	23	48	18	11
20	51	55	59	86	54	47	62	43	e22	43	19	9.7
21	54	56	62	79	61	47	58	36	e21	45	18	9.0
22	65	42	52	74	57	43	56	34	e22	47	16	9.1
23	54	43	128	69	58	217	111	33	24	48	16	9.1
24	52	43	95	67	54	134	101	33	19	46	15	8.9
25	51	49	61	64	56	92	64	30	18	69	14	9.0
26	49	41	56	61	55	80	59	29	18	40	12	9.6
27	49	40	52	58	56	77	58	28	19	34	13	10
28	46	267	57	56	55	309	54	34	20	29	17	8.5
29	40	90	55	52	---	232	52	31	101	29	14	8.3
30	66	73	49	54	---	145	67	28	85	26	13	8.5
31	39	---	47	51	---	125	---	30	---	26	13	---
TOTAL	1783	1749	2542	2678	1559	2587	3234	1193	1194	1717	617	313.7
MEAN	57.5	58.3	82.0	86.4	55.7	83.5	108	38.5	39.8	55.4	19.9	10.5
MAX	86	267	181	396	83	309	461	60	150	375	33	22
MIN	39	34	47	44	46	43	52	28	18	23	12	8.3
CFSM	1.36	1.38	1.94	2.04	1.32	1.97	2.55	0.91	0.94	1.31	0.47	0.25
IN.	1.57	1.54	2.24	2.36	1.37	2.28	2.84	1.05	1.05	1.51	0.54	0.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2005, BY WATER YEAR (WY)

MEAN	66.0	72.5	99.8	71.2	75.6	90.1	90.7	51.3	77.5	55.4	52.6	59.5
MAX	74.5	86.8	118	86.4	102	130	108	58.1	110	59.5	95.2	93.7
(WY)	2004	2004	2004	2005	2004	2003	2005	2004	2003	2004	2004	2003
MIN	57.5	58.3	82.0	56.0	55.7	57.1	81.3	38.5	39.8	51.4	19.9	10.5
(WY)	2005	2005	2005	2004	2005	2004	2003	2005	2005	2003	2005	2005

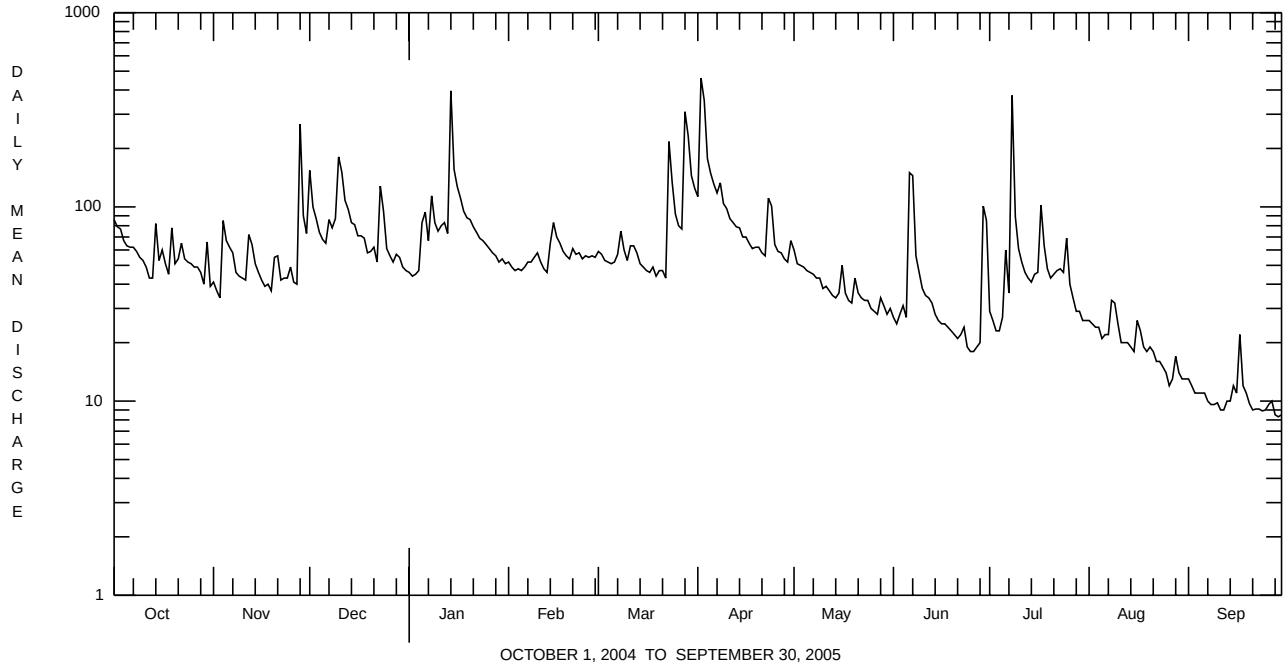
e Estimated.

CONESTOGA RIVER BASIN

01576712 LITTLE CONESTOGA CREEK NEAR MILLERSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2003 - 2005	
ANNUAL TOTAL	26328		21166.7			
ANNUAL MEAN	71.9		58.0		68.4	
HIGHEST ANNUAL MEAN					78.7	2004
LOWEST ANNUAL MEAN					58.0	2005
HIGHEST DAILY MEAN	590	Aug 13	461	Apr 2	744	Sep 23 2003
LOWEST DAILY MEAN	30	Sep 14	8.3	Sep 29	8.3	Sep 29 2005
ANNUAL SEVEN-DAY MINIMUM	31	Sep 11	9.0	Sep 24	9.0	Sep 24 2005
MAXIMUM PEAK FLOW			824	Apr 2	**a**1290	Sep 23 2003
MAXIMUM PEAK STAGE			9.78	Apr 2	12.14	Sep 23 2003
INSTANTANEOUS LOW FLOW			7.0	Sep 28	7.0	Sep 28 2005
ANNUAL RUNOFF (CFSM)	1.70		1.37		1.62	
ANNUAL RUNOFF (INCHES)	23.16		18.62		21.97	
10 PERCENT EXCEEDS	99		96		108	
50 PERCENT EXCEEDS	57		49		55	
90 PERCENT EXCEEDS	39		16		25	

a From rating curve extended above 1,240 ft^3/s.



CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°56'47", long 76°22'05", Lancaster County, Hydrologic Unit 02050306, on left bank on SR 3030, 1,500 ft downstream from Little Conestoga Creek, 1.0 mi west of Conestoga, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--470 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to current year.

REVISED RECORDS.--WDR PA-86-2: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 180.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. 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 6,600 ft^3/s (revised) and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 14	2345	7,920	7.79	Apr. 3	1215	*9,020	*8.36
Mar. 29	1000	8,710	8.18				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	527	1810	729	730	764	1540	832	356	291	292	182
2	1010	502	2030	703	700	750	3070	733	347	258	278	169
3	1230	484	1310	673	683	699	7760	680	362	236	264	158
4	1020	640	1140	683	681	656	4140	639	398	225	250	150
5	864	1140	1030	852	686	635	2550	604	390	227	241	147
6	796	746	956	1550	709	642	2050	587	671	475	232	148
7	752	600	975	1250	749	706	1810	581	1360	391	223	141
8	717	550	1290	1220	794	936	2340	559	500	2240	230	139
9	686	522	1060	1760	871	954	1820	553	428	1410	583	137
10	664	496	1800	1160	1040	753	1540	536	375	568	398	135
11	638	482	2340	1080	916	715	1420	512	358	437	286	130
12	601	599	1500	1340	745	712	1310	500	349	383	257	131
13	580	968	1270	1180	693	695	1240	483	351	351	247	127
14	718	718	1160	4190	715	651	1170	467	338	333	221	127
15	769	572	1050	3920	1460	615	1090	466	317	376	218	152
16	726	533	968	1960	1150	590	1030	515	300	613	238	158
17	687	514	927	1680	1060	577	980	478	287	1160	277	233
18	592	506	887	1420	881	568	952	447	280	1420	251	193
19	740	495	848	1280	782	558	917	431	276	805	228	167
20	911	514	813	1250	741	562	875	464	273	528	218	151
21	715	574	725	1190	774	608	846	490	274	448	223	144
22	716	550	718	1080	821	574	812	458	270	416	211	130
23	685	505	1040	e1050	860	1220	998	435	261	381	197	122
24	606	500	2300	e1000	809	2350	1500	423	247	359	182	126
25	581	553	1130	e980	774	1210	1020	419	239	408	174	122
26	559	630	896	960	742	970	841	408	231	425	169	123
27	542	526	824	897	741	891	792	402	230	363	165	129
28	530	2790	763	805	723	1940	791	393	235	350	192	130
29	502	2660	759	810	---	6160	772	406	313	373	208	127
30	605	1260	739	790	---	2380	772	394	461	318	211	137
31	640	---	730	768	---	1780	---	376	---	298	190	---
TOTAL	22612	22656	35788	40210	23030	33821	48748	15671	11077	16866	7554	4365
MEAN	729	755	1154	1297	822	1091	1625	506	369	544	244	146
MAX	1230	2790	2340	4190	1460	6160	7760	832	1360	2240	583	233
MIN	502	482	718	673	681	558	772	376	230	225	165	122
CFSM	1.55	1.61	2.46	2.76	1.75	2.32	3.46	1.08	0.79	1.16	0.52	0.31
IN.	1.79	1.79	2.83	3.18	1.82	2.68	3.86	1.24	0.88	1.33	0.60	0.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 2005, BY WATER YEAR (WY)

MEAN	436	571	769	789	806	1082	888	715	570	529	395	478
MAX	1183	1348	2339	1887	1373	3145	2508	2148	1736	1693	1730	1318
(WY)	1997	1997	1997	1996	2004	1994	1993	1989	2003	2004	2004	2003
MIN	118	110	130	192	144	261	274	308	203	107	102	132
(WY)	2002	2002	2002	2002	2002	2002	1985	1999	1999	1999	2002	2002

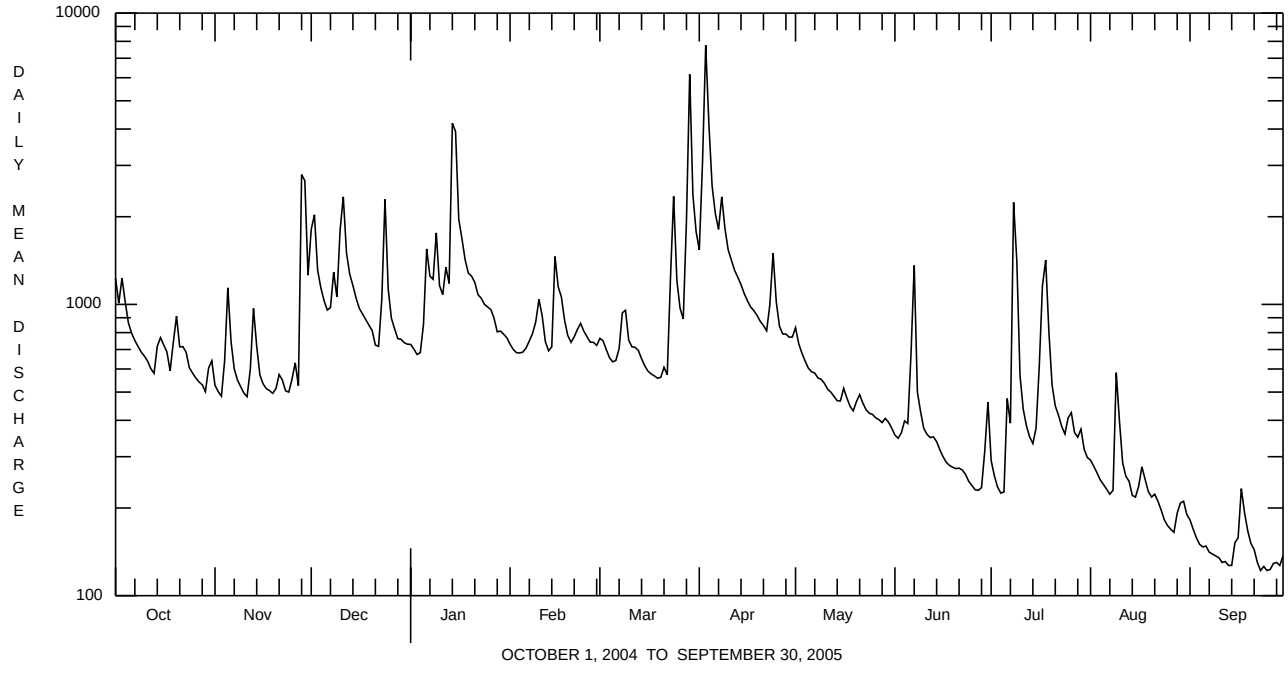
e Estimated.

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1985 - 2005	
ANNUAL TOTAL	383188		282398			
ANNUAL MEAN	1047		774		668	
HIGHEST ANNUAL MEAN					1140	2004
LOWEST ANNUAL MEAN					217	2002
HIGHEST DAILY MEAN	10400	Jul 28	7760	Apr 3	14100	Sep 17 1999
LOWEST DAILY MEAN	389	Jul 11	122	Sep 23,25	58	Aug 7 1999
ANNUAL SEVEN-DAY MINIMUM	**a**456	Jan 27	126	Sep 23	65	Sep 9 2002
MAXIMUM PEAK FLOW			9020	Apr 3	19000	Sep 9 1987
MAXIMUM PEAK STAGE			8.36	Apr 3	14.37	Sep 9 1987
INSTANTANEOUS LOW FLOW			111	Sep 25	52	Aug 7 1999
ANNUAL RUNOFF (CFSM)	2.23		1.65		1.42	
ANNUAL RUNOFF (INCHES)	30.33		22.35		19.32	
10 PERCENT EXCEEDS	1570		1380		1250	
50 PERCENT EXCEEDS	755		635		466	
90 PERCENT EXCEEDS	502		204		175	

a Computed using estimated daily discharges.



01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	10/19/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	4
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	14
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Plauditus	1
Heptageniidae	
Stenacron	1
Stenonema	2
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	17
Hydropsyche	8
Lepidoptera (MOTHS AND BUTTERFLIES)	
Pyralidae	
Petrophila	6
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Stenelmis	13
Psephenidae (WATER PENNIES)	
Psephenus	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	63
Simuliidae (BLACK FLIES)	
Simulium	6
Tipulidae (CRANE FLIES)	
Antocha	2
Total Organisms	142
Total Taxa	15

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°54'21", long 76°19'43", Lancaster County, Hydrologic Unit 02050306, on left bank 400 ft upstream from bridge on State Highway 324 at Martic Forge, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--148 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1977 to September 1981, February 1993 to September 1995, October 1989 to September 2004 (discharge measurements), September 2004 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 228.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period Sept. 16 to Oct. 21 and 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 3,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 28	1000	3,200	8.36	June 7	0030	*3,580	*8.67

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR **OCTOBER 2003 TO SEPTEMBER 2004**
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	136
17	---	---	---	---	---	---	---	---	---	---	---	129
18	---	---	---	---	---	---	---	---	---	---	---	924
19	---	---	---	---	---	---	---	---	---	---	---	691
20	---	---	---	---	---	---	---	---	---	---	---	189
21	---	---	---	---	---	---	---	---	---	---	---	162
22	---	---	---	---	---	---	---	---	---	---	---	148
23	---	---	---	---	---	---	---	---	---	---	---	140
24	---	---	---	---	---	---	---	---	---	---	---	134
25	---	---	---	---	---	---	---	---	---	---	---	130
26	---	---	---	---	---	---	---	---	---	---	---	127
27	---	---	---	---	---	---	---	---	---	---	---	125
28	---	---	---	---	---	---	---	---	---	---	---	386
29	---	---	---	---	---	---	---	---	---	---	---	1100
30	---	---	---	---	---	---	---	---	---	---	---	268
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
CFSM	---	---	---	---	---	---	---	---	---	---	---	---
IN.	---	---	---	---	---	---	---	---	---	---	---	---

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR **OCTOBER 2004 TO SEPTEMBER 2005**
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	140	430	219	234	260	348	279	156	111	91	71
2	185	137	339	212	229	246	1000	251	152	108	89	68
3	186	135	256	210	228	234	1530	248	166	105	87	66
4	177	192	236	211	232	229	654	237	194	100	84	64
5	162	330	227	246	235	225	513	230	168	173	85	64
6	155	170	219	326	240	229	469	227	730	220	80	63
7	152	156	230	270	248	253	440	225	694	121	81	63
8	151	150	249	285	261	283	480	220	181	799	102	62
9	146	144	228	297	298	250	412	213	158	286	159	62
10	145	140	396	257	348	240	385	208	154	142	93	61
11	139	141	381	251	277	234	368	205	147	126	86	60
12	135	198	276	281	248	234	352	202	139	117	84	60
13	135	317	255	262	239	225	343	194	136	113	85	60
14	174	189	240	1480	270	218	333	194	134	112	82	60
15	167	168	228	705	511	213	317	197	129	127	91	81
16	172	161	221	425	317	210	307	197	125	134	92	71
17	180	157	221	382	301	208	303	186	123	136	110	93
18	145	156	216	331	271	207	300	182	122	151	88	106
19	194	153	215	e320	252	203	294	178	120	127	81	71
20	190	155	205	318	248	208	287	199	121	112	80	64
21	166	166	e200	305	263	219	281	208	119	106	80	62
22	163	156	200	e290	273	203	275	185	118	105	77	60
23	155	151	479	e280	263	549	336	181	115	101	74	59
24	149	153	606	e275	253	525	429	183	111	98	71	57
25	147	181	271	e280	255	310	294	185	110	112	69	57
26	145	165	245	277	248	278	274	182	109	107	69	59
27	142	151	233	259	248	264	268	175	110	98	69	62
28	140	1330	230	e245	248	844	259	171	113	101	78	59
29	138	431	222	e245	---	963	251	173	112	97	82	57
30	160	262	221	248	---	436	274	165	112	93	77	57
31	152	---	219	240	---	377	---	161	---	92	74	---
TOTAL	4952	6635	8394	10232	7538	9577	12376	6241	5178	4530	2650	1959
MEAN	160	221	271	330	269	309	413	201	173	146	85.5	65.3
MAX	205	1330	606	1480	511	963	1530	279	730	799	159	106
MIN	135	135	200	210	228	203	251	161	109	92	69	57
CFSM	1.08	1.49	1.83	2.23	1.82	2.09	2.79	1.36	1.17	0.99	0.58	0.44
IN.	1.24	1.67	2.11	2.57	1.89	2.41	3.11	1.57	1.30	1.14	0.67	0.49

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	146	152	216	348	259	353	293	199	158	138	108	121
MAX	363	235	339	773	647	744	558	276	266	220	167	403
(WY)	1980	1980	1994	1979	1979	1994	1993	1993	1978	1978	1978	1979
MIN	64.3	73.9	53.6	44.0	118	72.5	80.3	81.6	65.5	65.5	31.8	28.6
(WY)	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981

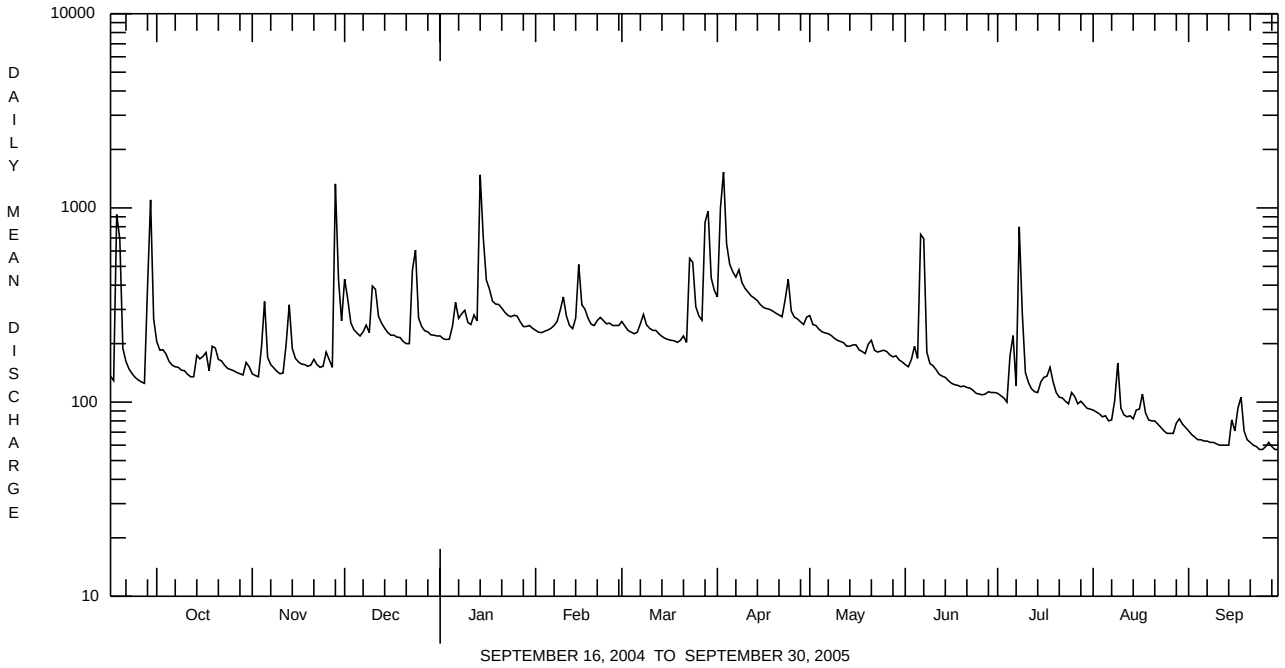
e Estimated.

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA--Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	80262			
ANNUAL MEAN	220		205	
HIGHEST ANNUAL MEAN			296	1978
LOWEST ANNUAL MEAN			64.5	1981
HIGHEST DAILY MEAN	1530	Apr 3	8590	Jan 26 1978
LOWEST DAILY MEAN	57	Sep 24**a**	20	Aug 29 1981
ANNUAL SEVEN-DAY MINIMUM	58	Sep 24	21	Aug 24 1981
MAXIMUM PEAK FLOW	3580	Jun 7	**b**12500	Jan 26 1978
MAXIMUM PEAK STAGE	8.67	Jun 7	16.44	Jan 26 1978
INSTANTANEOUS LOW FLOW	56	Sep 24**a**	10	Jul 14 1981
ANNUAL RUNOFF (CFSM)	1.49		1.39	
ANNUAL RUNOFF (INCHES)	20.17		18.85	
10 PERCENT EXCEEDS	341		327	
50 PERCENT EXCEEDS	194		146	
90 PERCENT EXCEEDS	79		59	

a Also Sept. 25, 29, 30.
b From rating curve extended above 12,000 ft^3/s.



01576787 PEQUEA CREEK AT MARTIC FORGE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 2004 to current year.

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples. Other data for the Water-Quality Network can be found on pages 348-412.

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.

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

Date	08/04/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	6
Tubificidae	8
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	1
Acariformes	
Hydrachnidia (WATER MITES)	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis	21
Heptageniidae	
Stenonema	12
Isonychiidae	
Isonychia	3
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
Chauliodes	1
Corydalus	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	3
Hydropsyche	4
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Macronychus	1
Optioservus	2
Stenelmis	68
Psephenidae (WATER PENNIES)	
Psephenus	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	16
Simuliidae (BLACK FLIES)	
Simulium	2
Tipulidae (CRANE FLIES)	
Antocha	1
Total Organisms	157
Total Taxa	20

POTOMAC RIVER BASIN

01601000 WILLS CREEK BELOW HYNDMAN, PA

LOCATION.--Lat 39°48'43", long 78°43'00", Bedford County, Hydrologic Unit 02070004, on left bank 150 ft upstream from county highway bridge, 150 ft downstream from Pennsylvania Railroad bridge, 0.35 mi downstream from Little Wills Creek, and 0.5 mi south of Hyndman.

DRAINAGE AREA.--146 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1983-91, and crest-stage partial-record, water years 1968-86. June 1951 to September 1967, April 2002 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 893.37 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Railroad Bench mark).

REMARKS.--Records fair except those for period Sept. 1-30, and 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 2,100 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 12	0530	3,790	5.42	Mar. 28	2330	*8,860	*9.04

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	119	787	123	e64	188	611	124	82	12	9.7	16
2	94	111	693	107	e65	161	682	109	71	10	8.2	10
3	87	108	590	107	e65	138	658	104	75	10	7.9	6.9
4	79	124	446	136	e66	e120	591	95	79	9.7	7.3	5.4
5	72	200	342	827	66	e130	538	88	64	10	8.1	4.2
6	66	196	283	1920	67	141	468	84	59	10	8.2	3.5
7	61	200	299	1200	77	270	397	83	83	11	7.4	2.9
8	58	175	307	1180	152	646	344	84	57	67	66	2.7
9	56	148	311	1070	292	532	281	75	68	55	38	2.6
10	54	128	696	736	460	404	240	71	167	31	25	2.6
11	52	115	1210	928	414	333	206	67	105	22	15	e2.5
12	50	193	816	3110	344	279	182	63	87	18	11	e2.2
13	50	267	579	1400	278	229	167	58	66	16	9.5	e1.9
14	57	269	430	884	309	190	150	56	53	28	8.9	e2.2
15	57	261	317	587	502	163	134	61	46	50	8.6	e2.1
16	66	235	258	476	539	149	116	55	42	58	18	e2.2
17	59	204	229	386	452	141	106	50	37	234	27	e2.2
18	49	180	199	281	358	136	102	47	33	93	17	e2.0
19	61	194	182	e220	e260	137	96	44	29	62	12	e2.0
20	63	253	125	e225	e220	146	91	132	26	45	11	e2.1
21	75	246	e115	e160	294	152	87	125	23	33	9.0	e2.1
22	73	269	e135	e110	302	153	91	103	21	27	8.3	e1.9
23	73	271	190	e80	289	623	177	111	21	23	7.9	e1.9
24	106	361	190	e60	285	1250	141	188	18	19	6.0	e1.9
25	126	588	160	e62	264	909	141	209	16	21	5.7	e1.9
26	123	601	e140	e64	231	669	139	201	14	24	5.4	e2.2
27	120	506	e145	e66	198	570	135	172	12	17	6.1	e2.4
28	110	949	e130	e64	194	2840	130	147	11	15	7.7	e2.1
29	105	843	e135	e62	---	5000	129	131	12	14	11	e2.3
30	141	638	144	e63	---	1690	131	109	14	13	9.8	2.3
31	131	---	128	e64	---	943	---	97	---	11	14	---
TOTAL	2475	8952	10711	16758	7107	19432	7461	3143	1491	1068.7	414.7	99.2
MEAN	79.8	298	346	541	254	627	249	101	49.7	34.5	13.4	3.31
MAX	141	949	1210	3110	539	5000	682	209	167	234	66	16
MIN	49	108	115	60	64	120	87	44	11	9.7	5.4	1.9
CFSM	0.55	2.04	2.37	3.70	1.74	4.29	1.70	0.69	0.34	0.24	0.09	0.02
IN.	0.63	2.28	2.73	4.27	1.81	4.95	1.90	0.80	0.38	0.27	0.11	0.03

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

MEAN	52.2	113	165	237	274	615	422	277	127	29.1	29.1	52.6
MAX	311	483	425	549	689	983	762	707	621	59.9	146	522
(WY)	1955	2004	2004	1952	1961	1963	1964	2003	2003	1960	1955	2004
MIN	3.15	6.49	10.2	36.5	47.6	294	131	80.3	15.3	3.40	2.68	3.31
(WY)	1964	1954	1966	1954	1954	1957	1954	1963	1965	1965	1957	2005

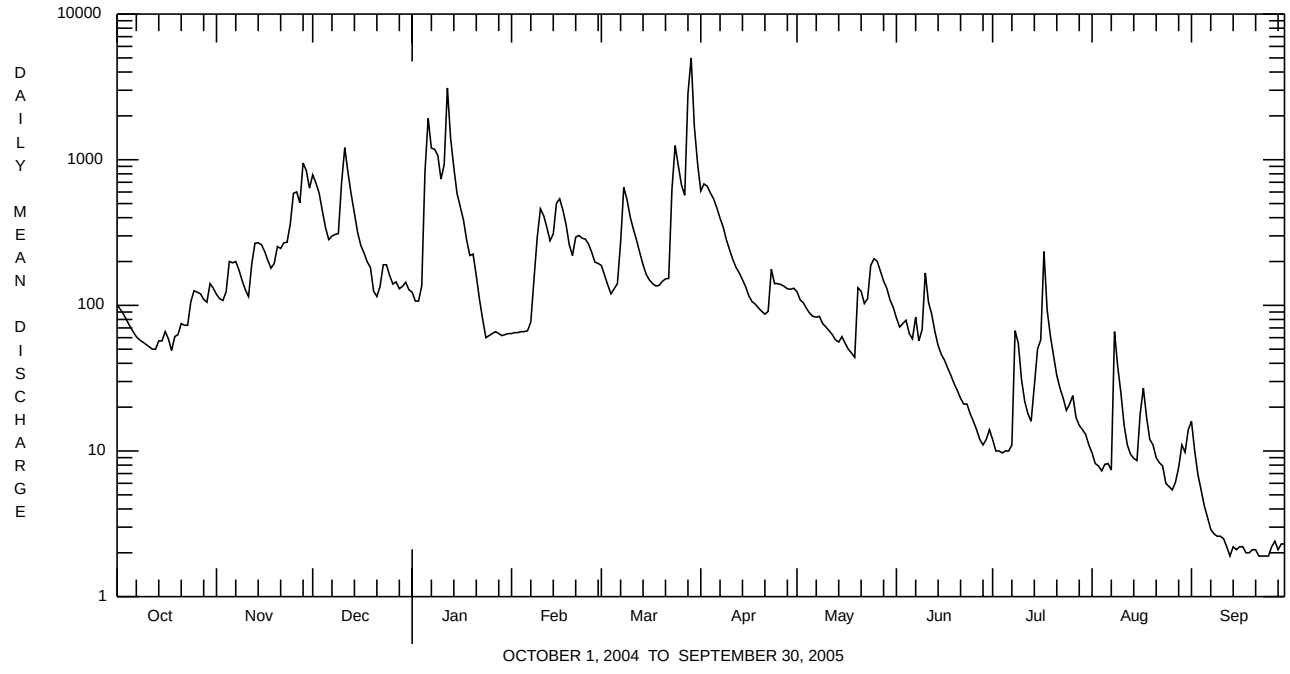
e Estimated.

POTOMAC CREEK BASIN

01601000 WILLS CREEK BELOW HYNDMAN, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	104800		79112.6			
ANNUAL MEAN	286		217		200	
HIGHEST ANNUAL MEAN					325	2003
LOWEST ANNUAL MEAN					80.4	1954
HIGHEST DAILY MEAN	4310	Sep 18	5000	Mar 29	5000	Mar 29 2005
LOWEST DAILY MEAN	16	Jul 10	1.9	Sep 13**ae**	0.70	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	20	Jul 5	**b**2.0	Sep 19	0.84	Aug 5 1966
MAXIMUM PEAK FLOW			**c**8860	Mar 28	**c**17100	Jun 21 1984
MAXIMUM PEAK STAGE			9.04	Mar 28	13.76	Jun 21 1984
ANNUAL RUNOFF (CFSM)	1.96		1.48		1.37	
ANNUAL RUNOFF (INCHES)	26.70		20.16		18.57	
10 PERCENT EXCEEDS	613		574		500	
50 PERCENT EXCEEDS	140		105		70	
90 PERCENT EXCEEDS	31		7.9		6.0	

a Also Sept. 22-25, could have been lower.
b Computed using estimated daily discharges.
c From rating curve extended above 3,200 ft^3/s.
e Estimated.



POTOMAC RIVER BASIN

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA

LOCATION.--Lat 39°53'54", long 78°07'57", Fulton County, Hydrologic Unit 02070004, on left bank 10 ft downstream from bridge on SR 3008, 0.2 mi upstream from Foster Creek, and 3.5 mi north of Needmore.

DRAINAGE AREA.--10.7 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements and annual maximums, water years 1963-65. October 1965 to current year.

REVISED RECORDS.--WSP 2103: 1966-68(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 688.94 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 2, 1965, crest-stage gage at same site at datum 2.0 ft higher.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Nov. 24	1715	163	5.50	July 16	2330	162	5.42
Mar. 28	Unknown	*578	*7.14				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	4.5	66	12	e6.0	e9.5	39	8.0	2.5	0.35	0.27	0.99
2	14	4.1	57	11	e6.5	e9.0	57	7.0	2.3	0.29	0.22	0.43
3	11	4.0	47	12	e7.0	e8.5	59	6.5	2.6	0.24	0.17	0.27
4	8.8	7.6	36	12	e7.5	e8.0	45	6.0	2.7	0.24	0.12	0.18
5	6.9	9.9	29	33	e8.0	e10	33	5.6	2.4	0.27	0.10	0.15
6	5.6	8.1	25	71	8.8	14	26	5.4	2.5	0.65	0.09	0.12
7	4.7	8.0	26	61	9.4	20	22	5.3	3.1	0.40	0.09	0.10
8	4.2	7.1	22	80	11	25	19	5.2	2.1	3.3	0.18	0.08
9	4.0	6.0	24	75	13	25	16	4.9	1.9	1.1	0.55	0.06
10	3.9	5.5	52	55	18	21	13	4.7	2.0	0.57	0.30	0.05
11	3.7	5.5	64	53	e14	20	12	4.4	4.6	0.40	0.21	0.04
12	3.4	14	50	80	e13	18	11	4.1	4.0	0.32	0.30	0.03
13	3.3	16	38	67	14	15	10	3.7	2.3	0.28	0.51	0.02
14	3.9	14	29	85	16	13	9.4	3.8	1.9	0.29	1.1	0.02
15	4.7	14	23	71	21	12	8.5	4.0	1.6	0.35	0.31	0.01
16	4.0	14	20	53	21	11	7.7	3.5	1.4	9.5	1.2	0.01
17	3.3	12	18	39	21	10	7.2	3.2	1.3	14	1.1	0.01
18	2.7	12	16	e30	19	9.9	7.1	3.0	1.1	4.0	0.40	0.01
19	4.6	10	15	e22	e14	9.3	6.8	2.9	0.97	2.5	0.39	0.01
20	4.2	11	e11	e19	16	9.0	6.5	9.0	0.91	1.7	0.75	0.01
21	6.4	9.0	12	e12	18	8.5	6.2	6.0	0.79	1.3	0.44	0.01
22	4.7	7.8	12	e8.0	16	7.9	6.6	4.7	0.91	1.2	0.25	0.00
23	4.1	7.3	22	e5.0	e14	55	16	4.5	0.80	0.90	0.16	0.00
24	4.7	63	18	e5.8	e12	77	11	4.8	0.58	0.57	0.12	0.00
25	4.7	118	e15	e6.5	e11	52	9.8	4.5	0.50	0.96	0.10	0.00
26	4.1	70	e9.0	e7.5	e12	39	8.8	3.9	0.43	0.62	0.08	0.00
27	4.0	48	e12	e6.0	e11	34	8.3	3.4	0.38	0.51	0.13	0.00
28	3.6	92	e11	e4.5	e10	e180	7.8	3.3	0.34	0.90	0.89	0.00
29	3.6	73	e11	e4.8	---	e275	7.5	3.2	0.41	0.37	0.47	0.00
30	6.3	51	e11	e5.2	---	89	8.6	2.9	0.49	0.33	0.38	0.00
31	5.1	---	12	e5.6	---	55	---	2.7	---	0.40	2.3	---
TOTAL	169.2	726.4	813.0	1011.9	368.2	1149.6	505.8	144.1	49.81	48.81	13.68	2.61
MEAN	5.46	24.2	26.2	32.6	13.2	37.1	16.9	4.65	1.66	1.57	0.44	0.09
MAX	17	118	66	85	21	275	59	9.0	4.6	14	2.3	0.99
MIN	2.7	4.0	9.0	4.5	6.0	7.9	6.2	2.7	0.34	0.24	0.08	0.00
CFSM	0.51	2.26	2.45	3.05	1.23	3.47	1.58	0.43	0.16	0.15	0.04	0.01
IN.	0.59	2.53	2.83	3.52	1.28	4.00	1.76	0.50	0.17	0.17	0.05	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2005, BY WATER YEAR (WY)

MEAN	6.24	12.1	15.1	14.7	20.8	28.7	24.0	17.2	10.8	4.18	2.33	6.02
MAX	37.7	58.2	43.8	62.1	59.5	78.2	72.4	51.5	85.6	39.7	14.8	59.7
(WY)	1991	1998	1997	1996	1986	1994	1993	1988	1972	1989	2004	2004
MIN	0.13	0.26	0.23	0.54	2.00	5.44	5.19	3.53	0.38	0.06	0.00	0.00
(WY)	1992	1999	1999	1981	2002	1990	1968	1976	1991	1966	1966	1991

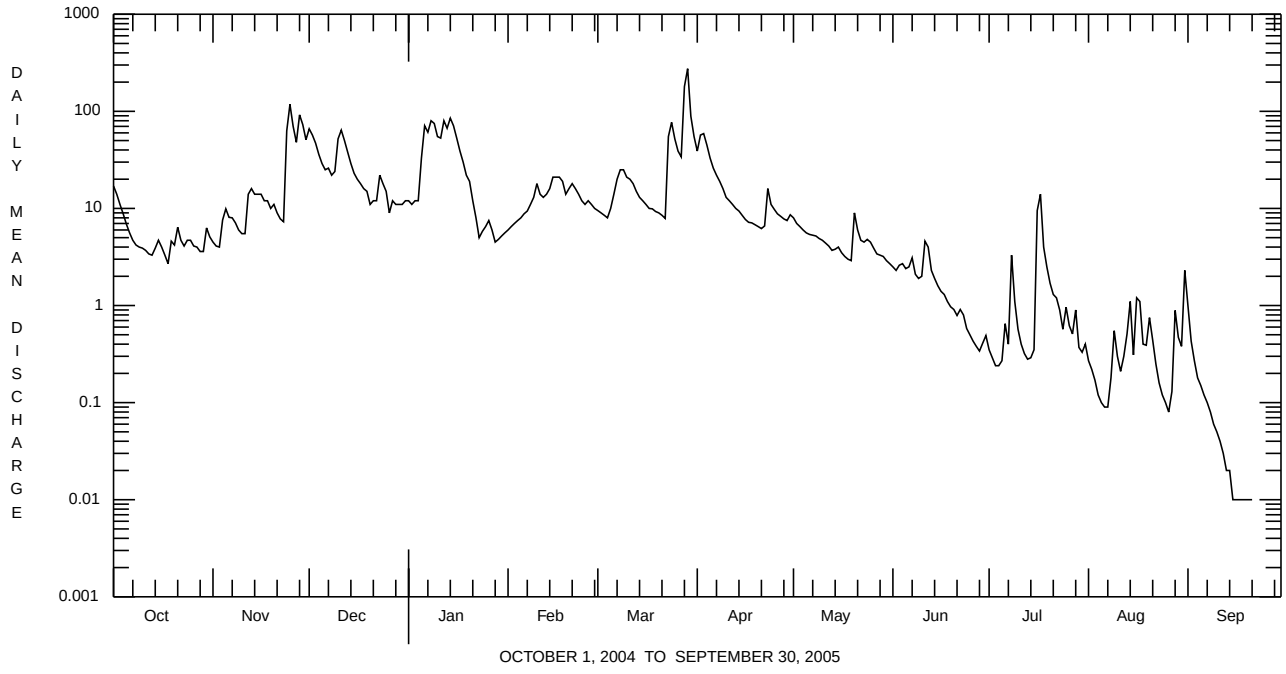
e Estimated.

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966 - 2005	
ANNUAL TOTAL	7391.6		5003.11			
ANNUAL MEAN	20.2		13.7		13.4	
HIGHEST ANNUAL MEAN					28.3	1996
LOWEST ANNUAL MEAN					4.45	2002
HIGHEST DAILY MEAN	e900	Sep 18	e275	Mar 29	e900	Sep 18 2004
LOWEST DAILY MEAN	1.9	Jul 10	0.00	Sep 22-30	0.00	Jun 25 1966**a**
ANNUAL SEVEN-DAY MINIMUM	2.3	Jul 1	0.00	Sep 22	0.00	Jul 1 1966
MAXIMUM PEAK FLOW			b578	Mar 28	b4280	Sep 18 2004
MAXIMUM PEAK STAGE			7.14	Mar 28	c11.94	Sep 18 2004
INSTANTANEOUS LOW FLOW			0.00	Sep 21-30	0.00	Jul 18 1991**a**
ANNUAL RUNOFF (CFSM)	1.89		1.28		1.26	
ANNUAL RUNOFF (INCHES)	25.70		17.39		17.06	
10 PERCENT EXCEEDS	42		39		33	
50 PERCENT EXCEEDS	11		6.0		5.1	
90 PERCENT EXCEEDS	3.4		0.18		0.30	

a No flow many days throughout period of record.
b From rating curve extended above 540 ft^3/s on basis of contracted-opening measurement at gage height 9.17 ft., and slope-area measurement of peak flow.
c From floodmark.
e Estimated.



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 these 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 2005

Station name and number	Location and drainage area	Period of Record	Water year 2005 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
SUSQUEHANNA RIVER BASIN								
CHEMUNG RIVER BASIN								
Crooked Creek below Catlin Hollow at Middlebury Center, Pa. (01518420)	Lat 41°50’33”, long 77°16’25”, Tioga County, Hydrologic Unit 02050104, at single-span bridge on Township Route 586 at Middlebury Center. Drainage area is 74.3 mi^2.	1986-2005	4-02-05	46.66	5,090	11-08-96	51.93	15,300
Cowanesque River at Elkland, Pa. (01519200)	Lat 41°59’15”, long 77°18’09”, Tioga County, Hydrologic Unit 02050104, at single-span steel-truss bridge on State Highway 49 at Elkland. Drainage area is 235 mi^2.	1980-2005	4-02-05	23.31	7,760	1-19-96	[a]30.20	28,000
WEST BRANCH SUSQUEHANNA RIVER BASIN								
First Fork Sinnemahoning Creek at Wharton, Pa. (01543700)	Lat 41°31’08”, long 78°01’40”, Potter County, Hydrologic Unit 02050202, 5 ft upstream from bridge on State Highway 872, and 0.8 mi southwest of Wharton. Drainage area is 182 mi^2.	1968-80* 1982* 1984-2005	1-14-05	9.03	[e]3,500	1-19-96	15.37	15,400
West Branch Susquehanna River at Lock Haven, Pa. (01545800)	Lat 41°08’17”, long 77°26’32”, Clinton County, Hydrologic Unit 02050203, on right bank 1,250 ft downstream from Jay Street bridge, and 2.1 mi upstream from Bald Eagle Creek. Drainage area is 3,345 mi^2.	1975-2005	1-14-05	15.63	48,400	9-18-04	28.13	111,000

Annual maximum discharge at crest-stage partial-record stations during water year 2005—Continued

Station name and number	Location and drainage area	Period of Record	Water year 2005 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
SUSQUEHANNA RIVER BASIN--Continued								
WEST BRANCH SUSQUEHANNA RIVER BASIN--Continued								
Bald Eagle Creek near Beech Creek Station, Pa. (01548005)	Lat 41°04'51", long 77°32'59", Clinton County, Hydrologic Unit 02050204, on right bank at abandoned railroad bridge, 1.5 mi downstream from Beech Creek, and 4.2 mi downstream from Foster Joseph Sayers Dam. Datum of gage is 560 ft above NGVD of 1929, from topographic map. Drainage area is 562 mi^2.	1910-95≠ 1996-2005	1-16-05	10.75	4,090	3-18-36	[b]14.42	25,600
West Branch Susquehanna River at Jersey Shore, Pa. (01549760)	Lat 41°12'08", long 77°15'05", Lycoming County, Hydrologic Unit 02050206, on right bank of left river channel at SR44 bridge in Jersey Shore. Datum of gage is 513.19 ft above NGVD of 1929, from topographic map. Drainage area is 5,225 mi^2.	2005[c]	1-15-05	17.52	78,700	1-15-05	17.52	78,700
Lycoming Creek near Williamsport, Pa. (01550500)	Lat 41°16'01", long 77°02'49", Lycoming County, Hydrologic Unit 02050206, 150 ft downstream from concrete bridge on Lycoming Creek Road, 1.2 mi downstream from Beautys Run, and 3.4 mi upstream from mouth. Datum of gage is 530.12 ft above NAVD of 1988. Drainage area is 268 mi^2.	1908-13[d] 1982-87* 1988-90 1995-2005	4-03-05	13.18	[f]19,200	1-19-96	18.69	[f]45,000
Muncy Creek near Muncy, Pa. (01553005)	Lat 41°12'27", long 76°45'09", Lycoming County, Hydrologic Unit 02050206, 1,900 ft downstream from Little Muncy Creek, 2,300 ft upstream from bridge on State Highway 405, and 2.2 mi east of Muncy. Drainage area is 209 mi^2.	1989-2005	3-29-05	14.67	6,980	1-19-96	20.57	[g]43,000
JUNIATA RIVER BASIN								
Raystown Branch Juniata River at Wolfsburg, Pa. (01559790)	Lat 40°02'45", long 78°31'45", Bedford County, Hydrologic Unit 02050303, 150 ft upstream from single-span steel-girder bridge on U.S. Highway 30 at Wolfsburg, and 4.7 mi upstream from Dunning Creek. Drainage area is 132 mi^2.	1989-90 1996-2005	3-29-05	12.07	3,790	1-19-96	16.97	9,340
Aughwick Creek near Shirleysburg, Pa. (01564512)	Lat 40°16'55", long 77°53'27", Huntingdon County, Hydrologic Unit 02050304, on left bank 0.2 mi upstream from Sugar Run, and 1.2 mi southwest of Shirleysburg. Drainage area is 301 mi^2.	1990-2005	3-29-05	12.52	9,720	1-19-96	19.46	44,400

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 2005—Continued

Station name and number	Location and drainage area	Period of Record	Water year 2005 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
SUSQUEHANNA RIVER BASIN--Continued								
JUNIATA RIVER BASIN--Continued								
Juniata River at Lewistown, Pa. (01564895)	Lat 40°35'40", long 77°34'58", Mifflin County, Hydrologic Unit 02050304, on left bank 1,200 ft upstream from Kishacoquillas Creek. Datum of gage is 443.83 ft above NGVD of 1929. Drainage area is 2,519 mi^2.	1989-2005	3-29-05	20.40	36,700	9-19-04	31.68	74,600
CODORUS CREEK BASIN								
Codorus Creek near York, Pa. (01575500)	Lat 39°56'46", long 76°45'20", York County, Hydrologic Unit 02050306, on left bank 0.5 mi upstream from bridge on Richland Ave. (SR 3054), 2.0 mi downstream from South Branch Codorus Creek, and 2.0 mi southwest of York. Datum of gage is 356.39 ft above NGVD of 1929, Drainage area is 222 mi^2.	1915-23**h** 1926-32**h** 1940-96≠ 1997-2005	4-02-05	9.64	4,230	6-22-72	**i**26.36	30,000
CONOWINGO CREEK BASIN								
Conowingo Creek near Buck, Pa. (01578200)	Lat 39°50'35", long 76°11'45", Lancaster County, Hydrologic Unit 02050306, at concrete bridge on SR 3008, 2.0 mi upstream from Jackson Run, and 2.5 mi southeast of Buck. Drainage area is 5.53 mi^2.	1963-2005	6-07-05	6.19	648	7-01-84	**j**13.50	6,200

≠ Operated as a continuous-record gaging station.
* Operated as a low-flow partial-record station.
a From floodmark.
b Site and datum in use before October 1984.
c Operated as a non-recording gage Oct. 26, 1938 to Mar. 22, 2000; as a stage-only gage Mar. 23, 2000 to Sept. 30, 2004. Maximum stage, from floodmark, was 38.2 ft from flood of June 23, 1972.
d Operated as a continuous-record station by the Pennsylvania Department of Forests and Waters. Published as "at Bridge No. 2, near Williamsport."
e Estimated.
f From rating curve extended above 8,000 ft^3/s.
g From rating curve extended above 9,000 ft^3/s.
h Gage heights and discharge measurements only, in reports of Pennsylvania Department of Forests and Waters.
i From floodmark in gage.
j From floodmark; farm pond failure upstream.

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 2005

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements: Date	Measurements: Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN				
		SUGAR CREEK BASIN				
01531488 Sugar Creek	Susquehanna River	Lat 41°46'52", long 76°30'10", Bradford County, Hydologic Unit 02050106, at steel-truss bridge in North Towanda township, and 3.5 mi upstream from mouth.	184	2000-2004	10-05-04 1-03-05 4-07-05 6-28-05 8-02-05 9-13-05	66 165 483 11 10 4.3
		WYALUSING CREEK BASIN				
01532950 Wyalusing Creek	Susquehanna River	Lat 41°41'49", long 76°13'52", Bradford County, Hydrologic Unit 02050106, at concrete bridge on State Highway 706, 2.8 mi north of Wyalusing, and 3.0 mi upstream from mouth.	215	1989-2004	10-04-04 2-23-05 6-23-05 6-23-05 8-01-05 9-12-05	250 269 19 18 3.8 13
		LACKAWANNA RIVER BASIN				
01534860 Lackawanna River	Susquehanna River	Lat 41°26'28", long 75°38'33", Lackawanna County, Hydrologic Unit 02050107, at Parker Street Bridge at Scranton, and 14.1 mi upstream from mouth.	174	1999-2004	1-05-05 2-18-05 4-07-05 5-19-05 7-08-05 8-17-05	634 595 1,760 113 53 33
		NESCOPECK CREEK BASIN				
01538600 Nescopeck Creek	Susquehanna River	Lat 41°02'46", long 76°13'28", Luzerne County, Hydrologic Unit 02050107, at bridge on State Highway 339, just downstream from railroad bridge at Nescopeck.	171	1949-50 1982-87 1989-91 1995-2004	10-06-04 12-21-04 2-07-05 3-22-05 5-12-05 6-29-05 8-03-05 9-14-05	354 323 243 376 165 80 63 41
		FISHING CREEK BASIN				
01539700 Little Fishing Creek	Fishing Creek	Lat 41°02'25", long 76°29'01", Columbia County, Hydrologic Unit 02050107, on Township Route 493, 1.6 mi upstream from mouth, and 2.8 mi northwest of Bloomsburg.	66.5	1991* 1992-2004	10-06-04 3-22-05 5-12-05 6-30-05 8-04-05 9-15-05	39 163 25 6.5 2.1 0.6
		WEST BRANCH SUSQUEHANNA RIVER BASIN CHEST CREEK BASIN				
01540713 Chest Creek	West Branch Susquehanna River	Lat 40°37'47", long 78°38'53", Cambria County, Hydrologic Unit 02050201, on right bank, 700 ft upstream from mouth of Little Chest Creek, and 1,500 ft upstream from State Highway 36 bridge in Patton.	39.3	--	5-31-05 6-01-05 6-22-05 7-12-05	22 14 2.8 1.8

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2005—Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements: Date	Measurements: Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN--Continued				
		WEST BRANCH SUSQUEHANNA RIVER BASIN--Continued				
		SINNEMAHONING CREEK BASIN				
01542790 Bennett Branch	Sinnemahoning Creek	Lat 41°20'02", long 78°08'10", Cameron County, Hydrologic Unit 02050202, at bridge on Township Route 343 at Driftwood and 1,000 ft upstream from mouth.	365	1975-2004	10-05-04 11-17-04 5-03-05 6-28-05 8-16-05	201 279 331 77 32
		BALD EAGLE CREEK BASIN				
01548075 Fishing Creek	Bald Eagle Creek	Lat 41°04'31", long 77°28'40", Clinton County, Hydrologic Unit 02050204, at bridge on SR 2004, 1,700 ft south of Cedar Springs (Hill St.), and 4.5 mi upstream from mouth.	137	1989-2004	1-14-05 3-15-05 4-22-05 6-09-05 7-15-05 8-26-05	905 155 165 55 39 22
01548085 Bald Eagle Creek	West Branch Susquehanna River	Lat 41°07'35", long 77°26'00', Clinton County, Hydrologic Unit 02050204, at concrete bridge on SR 2012 at Castanea, and 2.0 mi upstream from mouth.	768	1988-89 1991-2004	1-14-05 3-15-05 4-22-05 6-09-05 7-15-05 8-26-05	5,410 1,080 697 380 292 244
		PINE CREEK BASIN				
01549590 Little Pine Creek	Pine Creek	Lat 41°21'06", long 77°21'18", Lycoming County, Hydrologic Unit 02050205, at bridge at Little Pine State Park campground, 0.2 mi downstream from Little Pine Dam, and 3.4 mi upstream from mouth and Waterville.	172	1987-90 1992-2004	10-18-04 12-29-04 2-25-05 4-06-05 5-19-05 7-06-05 8-09-05 9-21-05	107 259 237 2,740 66 119 9.4 9.6
		PENNS CREEK BASIN				
01555207 Middle Creek	Penns Creek	Lat 40°47'27", long 76°55'24", Snyder County, Hydrologic Unit 02050301, at double-span concrete bridge on Creek Road (T-460), 1.8 mi north of Kantz, and 2.2 mi northeast of Freeburg.	155	1989-2004	10-07-04 3-07-05 4-18-05 6-01-05 7-12-05 8-17-05 9-20-05	153 234 183 62 31 30 17
		JUNIATA RIVER BASIN				
01555810 Frankstown Branch Juniata River	Juniata River	Lat 40°22'42", long 78°25'01", Blair County, Hydrologic Unit 02050302, at end of cantilevered wooden walkway 0.6 mi downstream from McDonald Run, and 3.4 mi south of Duncansville.	84.3	1995-2004	10-14-04 3-22-05 5-10-05 7-18-05 8-23-05	93 101 56 37 16
01555858 Beaverdam Branch Juniata River	Frankstown Branch Juniata River	Lat 40°25'27", long 78°23'37", Blair County, Hydrologic Unit 02050302, at bridge on Plank Road in Hollidaysburg, 1.5 mi downstream from Blair Gap Run, and 2.2 mi upstream from mouth.	72.1	1982-2004	10-14-04 12-07-04 3-22-05 5-10-05 7-18-05 8-23-05	65 455 116 47 35 18

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2005—Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN--Continued				
		DUNNING CREEK BASIN				
01559796 Wallacks Branch	Bobs Creek	Lat 40°15'47", long 78°35'36", Bedford County, Hydologic Unit 02050303, staff gage on left bank, bolted to a 6-in diameter tree, 0.6 mi northwest of Pavia and 400 ft above confluence with Bobs Creek.	4.98	--	11-19-04 12-09-04 1-11-05 3-23-05 4-18-05 9-27-05	5.8 14 25 22 3.9 0.5
01559797 Deep Hollow Run	Bobs Creek	Lat 40°15'38", long 78°35'02", Bedford County, Hydrologic Unit 02050303, staff gage on left concrete bridge abutment of a one lane wooden bridge, on the northern edge of the town of Pavia, 130 ft southeast of the Pavia Election House, and 0.3 mi above confluence with Bobs Creek.	2.76	--	1-11-05 3-23-05 4-18-05 9-27-05	12 8.3 1.9 0.1
01559912 Scrubgrass Creek	Bobs Creek	Lat 40°10'26", long 78°31'45", Bedford County, Hydrologic Unit 02050303, staff gage on the upstream side of the center pier of the Rt. 869 bridge, 0.5 mi northwest of Osterburg, and 0.2 mi above confluence with Bobs Creek.	18.9	--	11-22-04 12-09-04 1-11-05 3-23-05 4-18-05 9-27-05	21 38 84 77 6.1 1.2
01559915 Unnamed Tributary	Bobs Creek	Lat 40°10'02", long 78°31'13", Bedford County, Hydrologic Unit 02050303, staff gage on right concrete abutment of highway bridge on Bobs Creek Road, 0.1 mi south of Osterburg, and 0.2 mi above confluence with Bobs Creek.	2.92	--	11-17-04 12-09-04 1-11-05 4-18-05 9-27-05	6.4 13 32 9.4 2.4
01559920 Bobs Creek	Dunning Creek	Lat 40°08'51", long 78°33'16", Bedford County, Hydrologic Unit 02050303, wire-weight gage on the right upstream rail of bridge on secondary road in the northeast corner of the town of Reynoldsdale, 0.3 mi above the confluence with Dunning Creek.	65.2	--	11-22-04 12-09-04 4-18-05 9-27-05	84 156 49 5.1
		CONODOGUINET CREEK BASIN				
01570280 Conodoguinet Creek	Susquehanna River	Lat 40°16'38", long 76°57'00", Cumberland County, Hydrologic Unit 02050305, at bridge on Oyster Mill Road at Enola, 0.2 mi downstream from Holtz Run, and 4.7 mi upstream from mouth. Datum of gage is 311.08 ft above NGVD of 1929.	501	1989-2004	11-18-04 12-21-04 2-07-05 4-11-05 5-23-05 7-06-05 9-2-05 9-26-05	528 680 564 1,030 378 307 216 135
		CONEWAGO CREEK BASIN				
01573820 South Branch Conewago Creek	Conewago Creek	Lat 39°51'30", long 77°03'59", Adams County, Hydrologic Unit 02050306, on right bank 3,500 ft upstream from bridge on SR 30, and 0.5 mi west of New Oxford. Datum of gage is 470 ft above NGVD of 1929, from topographic map.	65.8	1995-2004	10-27-04 12-14-04 2-08-05 4-05-05 5-11-05 7-06-05 8-03-05 9-08-05	32 90 80 223 35 57 36 15

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2005—Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements: Date	Measurements: Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN--Continued				
		CHICKIES CREEK BASIN				
01575900 Chickies Creek	Susquehanna River	Lat 40°03'46", long 76°30'57", Lancaster County, Hydrologic Unit 02050306, at double-span concrete bridge on SR 23, 400 ft downstream from Little Chickies Creek, and 1.2 mi east of Marietta.	108	1989-2004	10-20-04 12-29-04 2-16-05 3-23-05 5-31-05 7-15-05 8-30-05	169 153 211 143 66 89 37
		POTOMAC RIVER BASIN				
		NORTH BRANCH POTOMAC RIVER BASIN				
		LICKING CREEK BASIN				
01613500 Licking Creek	Potomac River	Lat 39°43'23", long 78°03'38", Franklin County, Hydrologic Unit 02070004, at bridge on State Highway 456, 200 ft north of PA-MD state line, 3.0 mi southwest of Sylvan, and 10 mi upstream from mouth.	158	1930-41≠ 1983-91*[a] 1992-2004 Discontinued	10-21-04 10-21-04 6-03-05	125 127 39
		CONOCOCHEAGUE CREEK BASIN				
01614090 Conococheague Creek	Potomac River	Lat 39°55'48", long 77°26'23", Franklin County, Hydrologic Unit 02070004, on State Highway 233 bridge, 0.3 mi upstream from Birch Run, 1.3 mi upstream from Chambersburg Reservoir Dam, and 4.0 mi northeast of Fayetteville. Datum of gage is 1,132.76 ft above NGVD of 1929.	5.05	1960-81≠ 1998-2004 Discontinued	10-25-04 12-08-04 4-01-05 5-13-05 7-01-05 8-05-05 9-01-05 10-20-05	5.8 14 24 4.6 2.8 4.1 3.1 1.6

* Operated as a low-flow partial-record station.
≠ Operated as a continuous-record gaging station.
a Most years during period.

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS
OCTORARO CREEK BASIN

01578347 EB OCTORARO CREEK NEAR STEELVILLE, PA

Water-quality partial-record stations are sites where chemical-quality, biological, or sediment data are collected systematically over a period of years for use in hydrologic analyses. These data are usually collected less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV 2004 16...	0800	1028	80020	39	12.0	7.5	E6.9	283	286	5.1	29.1	10.8	3.92

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	ANC, wat unf incrm. titr., field, mg/L as CaCO3 (00419)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Boron, water, fltrd, µg/L (01020)	Iron, water, fltrd, µg/L (01046)
NOV 2004 16...	8.88	57	64	20.4	<.1	9.8	24.8	<.04	8.87	.017	.03	11	21

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS
OCTORARO CREEK BASIN

01578347 EB OCTORARO CREEK NEAR STEELVILLE, PA--Continued

REMARKS.--Samples were collected using a Hess sampler with a mesh size of 500 µm. Each sample covered a total area of 2.4 m^2.

BIOLOGICAL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
BENTHIC MACROINVERTEBRATES

Date	11/16/04
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	22
Nematoda (NEMATODES)	24
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	3
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
Ferrissia	1
Hydrobiidae	
Amnicola	1
Planorbidae	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Tubificida	
Tubificidae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus	5
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
Caecidotea	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	1
Baetis	2

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS
OCTORARO CREEK BASIN

01578347 EB OCTORARO CREEK NEAR STEELVILLE, PA--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
BENTHIC MACROINVERTEBRATES

Date	11/16/04
Benthic macroinvertebrate	Count
Ephemerellidae	
Ephemerella	2
Eurylophella	1
Serratella	8
Heptageniidae	
Stenonema	12
Tricorythidae	
Tricorythodes	1
Plecoptera (STONEFLIES)	
Capniidae	
Allocapnia	73
Perlodidae	1
Taeniopterygidae	
Strophopteryx	1
Taeniopteryx	13
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	4
Hydropsyche	76
Hydroptilidae	
Hydroptila	1
Leucotrichia	15
Philopotamidae	
Chimarra	207
Dolophilodes	1
Uenoidae	
Neophylax	1
Lepidoptera (MOTHS AND BUTTERFLIES)	
Pyralidae	
Petrophila	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus	35
Oulimnius	1
Stenelmis	117
Psephenidae (WATER PENNIES)	
Psephenus	37
Diptera (TRUE FLIES)	
Ceratopogonidae	2
Chironomidae (MIDGES)	142
Empididae (DANCE FLIES)	
Hemerodromia	7
Simuliidae (BLACK FLIES)	
Simulium	5
Tipulidae (CRANE FLIES)	
Antocha	14
Total organisms	848
Total number of taxa	40

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

* Monitor temporal water quality trends in selected Pennsylvania lakes.

Major streams are defined as interstate waters and intrastate streams with drainage areas of roughly 200 mi^2 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 were collected by the USGS and analyzed by the PaDEP laboratory in Harrisburg, Pa.

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 104 standard stream sites, 21 reference stream sites, 17 biological stream sites, and 20 lakes distributed across the Commonwealth.

Standard stations are sampled bimonthly (6 times per year) for physical and chemical parameters and stream discharge or a stage reading. Reference stations sampled monthly at 25-30 day intervals for physical and chemical parameters and stream discharge or a stage reading. Benthic macroinvertebrate samples are also collected annually at all WQN stations.

In Febuary 2005 the 21 reference stream sites were discontinued and 21 new reference stream sites were established. Since the new reference stream sites were established in the middle of the water year chemical data is presented for both sets of reference stream sites. Biological data is only presented for the reference stream sites that were active in October 2005. This report presents data from the sites in the Susquehanna River Basin. Data from the Delaware River Basin and Ohio River Basin can be found in Volumes 1 and 3 of the USGS Pennsylvania Water Resources Data Reports.

For additional information, contact Andrew Reif at the USGS Pennsylvania Water Science Center, Exton Office, 770 Pennsylvania Drive, Suite 116, Exton, PA 19341; 610-321-2434, (email: agreif@usgs.gov).

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

TABLE 1.--List of stream sites sampled as part of the Pennsylvania Water-Quality Network (WQN).

Station number	WQN No.	Location	Latitude	Longitude	Drainage area (mi^2)
01502771	306	Susquehanna River near Great Bend, PA	41° 57’ 48”	75° 44’ 33”	2,086
[a]01518700	324	Tioga River at Tioga Junction, PA	41° 57’ 09”	77° 06’ 56”	446
[a]01520000	320	Cowanesque River near Lawrenceville, PA	41° 59’ 48”	77° 08’ 25”	298
01531490	333	Sugar Creek near Towanda, PA	41° 47’ 27”	76° 27’ 45”	188
[a]01531500	305	Susquehanna River at Towanda, PA (Biological only)	41° 45’ 55”	76° 26’ 28”	7,797
[a]01532000	318	Towanda Creek near Monroeton, PA	41° 42’ 25”	76° 29’ 06”	215
01532950	334	Wyalusing Creek near Wyalusing, PA	41° 41’ 49”	76° 13’ 52”	215
01533610	340	Unnamed Tributary to Tunkhannock Creek at Gelatt, PA (Reference Station)	41° 48’ 30”	75° 34’ 50”	9.00
[a]01534000	317	Tunkhannock Creek near Tunkhannock, PA	41° 33’ 30”	75° 53’ 42”	383
01534090	323	Susquehanna River at Falls, PA	41° 27’ 42”	75° 51’ 15”	9,440
[a]01536000	313	Lackawanna River at Old Forge, PA	41° 21’ 33”	75° 44’ 41”	332
01537700	302	Susquehanna River near Hunlock Creek, PA (Biological only)	41° 11’ 19”	76° 05’ 13”	10,140
01538600	309	Nescopeck Creek at Nescopeck, PA	41° 02’ 46”	76° 13’ 28”	171
01538709	325	West Branch Fishing Creek near Elk Grove, PA (Reference station)	41° 18’ 20”	76° 25’ 51”	20.2
01539350	339	Little Fishing Creek above Wolfhouse Run near Millville, PA (Reference Station)	41° 09’ 58”	76° 30’ 14”	19.1
015400021	308	Fishing Creek near Bloomsburg, PA	40° 59’ 37”	76° 28’ 33”	379
[a]01540500	301	Susquehanna River at Danville, PA (Biological only)	40° 57’ 29”	76° 37’ 10”	11,220
[a]01541000	406	West Branch Susquehanna River at Bower, PA	40° 53’ 49”	78° 40’ 38”	315
[a]01541500	422	Clearfield Creek at Dimeling, PA	40° 58’ 18”	78° 24’ 22”	371
01542790	439	Bennett Branch Sinnemahoning Creek at Driftwood, PA	41° 20’ 02”	78° 08’ 10”	365
[a]01543000	420	Driftwood Branch Sinnemahoning Creek at Sterling Run, PA	41° 24’ 48”	78° 11’ 50”	272
[a]01543500	418	Sinnemahoning Creek at Sinnemahoning, PA	41° 19’ 02”	78° 06’ 12”	685
01543830	454	First Fork Sinnemahoning Creek at Berge Run, PA (Reference station)	41° 28’ 33”	78° 03’ 02”	205
[a]01544000	419	First Fork Sinnemahoning Creek near Sinnemahoning, PA	41° 24’ 06”	78° 01’ 28”	245
[a]01545000	434	Kettle Creek near Westport, PA	41° 19’ 10”	77° 52’ 27”	233
[a]01546500	415	Spring Creek near Axemann, PA	40° 53’ 23”	77° 47’ 40”	87.2
01547400	413	Bald Eagle Creek near Milesburg, PA	40° 58’ 31”	77° 44’ 35”	296
01547980	423	Beech Creek at Beech Creek, PA	41° 04’ 29”	77° 35’ 30”	170
01548038	450	Fishing Creek near Nittany, PA (Reference station)	40° 59’ 01”	77° 31’ 01”	72.0
01548075	433	Fishing Creek near Cedar Springs, PA	41° 04’ 31”	77° 28’ 40”	137
01548077	452	Cedar Run at Cedar Springs near Mill Hall, PA (Reference station)	41° 04’ 40”	77° 29’ 01”	14.8
01548085	445	Bald Eagle Creek at Castanea, PA (Biological only)	41° 07’ 35”	77° 26’ 00”	768
01548476	453	Cedar Run ab Mine Hole Run nr Cedar Run, PA (Reference station)	41° 33’ 19”	77° 27’ 36”	26.3
01549590	429	Little Pine Creek below Reservoir near Waterville, PA	41° 21’ 06”	77° 21’ 20”	172
[a]01549700	410	Pine Creek below Little Pine Creek near Waterville, PA	41° 16’ 25”	77° 19’ 28”	944
[a]01550000	409	Lycoming Creek near Trout Run, PA	41° 25’ 06”	77° 01’ 59”	173
[a]01551500	402	West Branch Susquehanna River at Williamsport, PA	41° 14’ 10”	76° 59’ 49”	5,682
[a]01552000	408	Loyalsock Creek at Loyalsockville, PA	41° 19’ 30”	76° 54’ 46”	435
[a]01552500	446	Muncy Creek near Sonestown, PA	41° 21’ 25”	76° 32’ 06”	23.8
01553005	444	Muncy Creek near Muncy, PA	41° 12’ 27”	76° 45’ 09”	209

TABLE 1.--List of stream sites sampled as part of the Pennsylvania Water-Quality Network (WQN).--continued.

Station number	WQN No.	Location	Latitude	Longitude	Drainage area (mi^2)
01553430	447	Spruce Run above Spruce Run Reservoir near Mazeppa, PA (Reference Station)	41° 01’ 27”	77° 03’ 54”	6.70
[a]01553500	401	West Branch Susquehanna River at Lewisburg, PA (Biological only)	40° 58’ 05”	76° 52’ 25”	6,847
01553990	203	Susquehanna River above Dam at Sunbury, PA	40° 51’ 13”	76° 48’ 08”	18,300
01554600	268	Penns Creek at Farmers Mills near Spring Mills, PA (Reference Station) (Biological only)	40° 51’ 57”	77° 36’ 35”	13.5
01554665	277	Elk Creek at Spring Bank near Millheim, PA (Reference station)	40° 55’ 24”	77° 28’ 40”	31.0
[a]01555000		Penns Creek at Penns Creek (Biological only)	40° 52’ 00”	77° 02’ 55”	301
01555210	228	Middle Creek near Selinsgrove, PA	40° 46’ 29”	76° 52’ 11”	174
01555859	252	Beaverdam Branch Juniata River near Hollidaysburg, PA	40° 25’ 50”	78° 21’ 50”	75.4
01556009	224	Frankstown Branch Juniata River at RR at Williamsburg, PA	40° 28’ 19”	78° 11’ 13”	296
01557990	274	Sinking Run near Spruce Creek, PA (Reference station)	40° 36’ 39”	78° 11’ 17”	28.3
[a]01558000	217	Little Juniata River at Spruce Creek, PA	40° 36’ 45”	78° 08’ 27”	220
[a]01562000	223	Raystown Branch Juniata River at Saxton, PA (Biological only)	40° 12’ 57”	78° 15’ 56”	756
01564515	249	Aughwick Creek at Aughwick Mills, PA (Reference Station)	40° 20’ 05”	77° 51’ 36”	356
01566005	276	East Licking Creek above reservoir near Lewistown, PA (Reference station)	40° 32’ 48”	77° 31’ 40”	21.9
[a]01567000	214	Juniata River at Newport, PA (Biological only)	40° 28’ 42”	77° 07’ 46”	3,354
01567795	270	Letort Spring Run at Bonny Brook near Carlisle, PA (Reference Station)	40° 10’ 39”	77° 11’ 10”	7.26
01569195	275	Conodoguinet Creek above reservoir near Roxbury, PA (Reference station)	40° 05’ 38”	77° 43’ 15”	27.2
01570400	240	Conodoguinet Creek at mouth at West Fairview, PA (Biological only)	40° 16’ 17”	76° 54’ 51”	506
01571505	212	Yellow Breeches Creek at New Cumberland, PA	40° 13’ 27”	76° 51’ 38”	218
01573610	211	Swatara Creek at Harrisburg Airport at Middletown, PA (Biological only)	40° 11’ 28”	76° 43’ 52”	571
01573750	267	Conewago Creek near Arendtsville, PA (Reference Station)	39° 56’ 13”	77° 21’ 58”	6.90
[a]01574000	210	West Conewago Creek near Manchester, PA (Biological only)	40° 04’ 56”	76° 43’ 13”	510
01575900	206	Chickies Creek near Marietta, PA	40° 03’ 46”	76° 30’ 57”	108
01576003	201	Susquehanna River at Columbia, PA (Biological only)	40° 01’42”	76° 31’ 05”	25,990
[a]01576754	231	Conestoga River at Conestoga, PA (Biological only)	39° 56’ 47”	76° 22’ 05”	470
[a]01576787	204	Pequea Creek at Martic Forge, PA (Biological only)	39° 54’ 21”	76° 19’ 43”	148
01613500	505	Licking Creek near Sylvan, PA (Biological only)	39° 43’ 23”	78° 03’ 38”	158
01614500	501	Conococheague Creek at Fairview, MD (Biological only)	39° 42’ 59”	77° 49’ 29”	494

[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
PENNSYLVANIA WATER-QUALITY NETWORK

Ninety lakes are part of the WQN. Of these 90 lakes, approximately 15-25 are sampled annually during mid-summer stratification for five years; and then a different set of 15 to 25 lakes is sampled for five years. Using this schedule all 90 lakes are sampled over a 30-year period. Lakes are sampled for physical and chemical parameters and chlorophyll-*a*. Two samples are collected from the deepest point of the lake with the first sample being collected 1-meter below the surface and the second sample collected 1-meter from the bottom. Each sample is analyzed separately. A temperature and DO profile is collected at the site through the water column.

TABLE 2.--List of lakes sampled as part of the Pennsylvania Water-Quality Network.

Station number	WQN No.	Location	Latitude	Longitude	Drainage area (mi^2)
01534380	L309	Crystal Lake near Dandaff, PA	41° 38’ 08”	75° 31’ 55”	0.56
01543896	L407	George B. Stevenson Lake near First Fork, PA	41° 24’ 35”	78° 01’ 15”	243
[a]01544800	L404	Kettle Creek Lake at Kettle Creek Dam, PA	41° 21’ 37”	77° 55’ 27”	226
01552070	L406	Rose Valley Lake near Bodines, PA	41° 23’ 12”	76° 59’ 54”	3.43
01553650	L405	Lake Chillisquaque near White Hall, PA	41° 06’ 08”	76° 39’ 41”	5.52
01555124	L306	Faylor Lake at Beaver Springs, PA	40° 45’ 47”	77° 12’ 51”	33.3
01555142	L308	Walker Lake at Troxelville, PA	40° 47’48”	77° 11’ 47”	18.5
01564950	L209	Laurel Creek Reservoir near Milroy, PA	40° 43’ 48”	77° 37’ 45”	
01569200	L210	Letterkenny Reservoir near Roxbury, PA	40° 06’ 52”	77° 41’ 18”	32.8
01569765	L208	Opossum Lake near Plainfield, PA	40° 13’ 32”	77° 16’ 32”	4.98
01603700	L504	Lake Koon near Cooks Mill, PA	39° 45’ 52”	78° 39’ 54”	41.6
01603800	L503	Lake Gordon near Cooks Mill, PA	39° 44’ 52”	78° 40’ 34”	51.8

[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
PENNSYLVANIA WATER-QUALITY NETWORK

REMARKS.-- Some values for "*dissolved*" parameters exceed values for the corresponding "*total*" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01502771 Susquehanna River near Great Bend, PA (LAT 41 57 48N LONG 075 44 33W)													
NOV 2004													
16...	1030	1028	9813	--	40	11.2	8.0	7.7	192	183	2.8	75	--
JAN 2005													
12...	0900	1028	9813	--	40	13.6	7.5	8.0	166	158	1.1	58	--
MAR													
21...	1240	1028	9813	--	40	13.6	7.8	7.7	207	191	2.9	69	--
MAY													
18...	1400	1028	9813	--	40	11.2	8.5	8.1	211	206	16.8	76	--
JUL													
05...	1530	1028	9813	--	40	9.4	8.4	8.3	230	225	25.9	81	--
SEP													
22...	1200	1028	9813	--	40	9.5	8.2	7.4	254	263	20.2	91	--
01531490 Sugar Creek near Towanda, PA (LAT 41 47 27N LONG 076 27 45W)													
NOV 2004													
02...	1015	1028	9813	95	30	12.8	8.3	8.1	201	194	10.6	62	--
JAN 2005													
25...	1145	1028	9813	140	30	14.8	7.5	7.4	172	165	.1	66	--
MAR													
08...	1330	1028	9813	1340	30	14.9	7.7	7.6	138	138	.2	56	--
MAY													
17...	1500	1028	9813	46	30	11.0	8.7	8.5	220	216	17.8	81	--
JUL													
06...	1300	1028	9813	17	30	9.2	8.3	8.4	251	253	24.1	95	--
SEP													
13...	1420	1028	9813	5.0	30	11.1	8.2	8.4	283	290	22.8	110	--

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)
01502771 Susquehanna River near Great Bend, PA (LAT 41 57 48N LONG 075 44 33W)													
NOV 2004													
16...	25.3	--	2.9	65	--	--	<1.0	126	6	<.020	.41	<.040	<.01
JAN 2005													
12...	19.3	--	2.4	49	--	--	8.3	122	8	<.020	.59	<.040	.01
MAR													
21...	23.1	--	2.8	55	--	--	9.1	150	6	<.020	.72	<.040	.02
MAY													
18...	25.3	--	3.1	68	--	--	9.7	184	8	<.020	.33	<.040	<.01
JUL													
05...	26.8	--	3.5	70	--	--	10.7	140	6	<.020	.31	<.040	.01
SEP													
22...	30.0	--	4.0	79	--	--	13.1	188	40	<.020	<.04	<.040	.03
01531490 Sugar Creek near Towanda, PA (LAT 41 47 27N LONG 076 27 45W)													
NOV 2004													
02...	24.0	--	.49	69	--	--	11.7	104	8	<.020	.08	<.040	<.01
JAN 2005													
25...	20.4	--	3.7	49	--	--	15.5	96	<2	.160	1.48	<.040	.02
MAR													
08...	15.0	--	4.4	36	--	--	9.2	108	226	.180	.87	<.040	.06
MAY													
17...	24.4	--	4.8	75	--	--	14.7	146	<2	<.020	.06	<.040	<.01
JUL													
06...	29.2	--	5.4	86	--	--	12.8	134	8	.020	<.04	<.040	.01
SEP													
13...	32.0	--	6.4	91	--	--	18.2	194	2	.030	<.04	<.040	.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01502771 Susquehanna River near Great Bend, PA (LAT 41 57 48N LONG 075 44 33W)												
NOV 2004												
16...	<.010	.66	2.1	--	--	--	<200	--	--	--	--	<10
JAN 2005												
12...	.015	.63	1.7	--	--	--	<200	--	--	--	--	<10
MAR												
21...	.026	.80	1.6	--	--	--	<200	--	--	--	--	<10
MAY												
18...	.011	.53	--	--	--	--	<200	--	--	--	--	<10
JUL												
05...	.026	.53	--	--	--	--	<200	--	--	--	--	<10
SEP												
22...	.043	.31	--	--	--	--	390	--	--	--	--	<10
01531490 Sugar Creek near Towanda, PA (LAT 41 47 27N LONG 076 27 45W)												
NOV 2004												
02...	.017	.29	3.4	--	--	--	<200	--	--	--	--	<10
JAN 2005												
25...	.023	1.8	2.2	--	--	--	250	--	--	--	--	<10
MAR												
08...	.264	1.7	5.1	--	--	--	4800	--	--	--	--	10
MAY												
17...	.013	.26	--	--	--	--	<200	--	--	--	--	<10
JUL												
06...	.019	.19	--	--	--	--	<200	--	--	--	--	<10
SEP												
13...	.018	.21	--	--	--	--	<200	--	--	--	--	<10

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01502771 Susquehanna River near Great Bend, PA (LAT 41 57 48N LONG 075 44 33W)											
NOV 2004											
16...	--	170	--	<1.0	--	20	--	<50	--	<10	--
JAN 2005											
12...	--	360	--	<1.0	--	30	--	<50	--	<10	--
MAR											
21...	--	280	--	<1.0	--	30	--	<50	--	<10	--
MAY											
18...	--	140	--	<1.0	--	30	--	<50	--	<10	--
JUL											
05...	--	150	--	1.2	--	30	--	<50	--	20	--
SEP											
22...	--	710	--	<1.0	--	120	--	<50	--	<10	--
01531490 Sugar Creek near Towanda, PA (LAT 41 47 27N LONG 076 27 45W)											
NOV 2004											
02...	--	120	--	<1.0	--	<10	--	<50	--	<10	--
JAN 2005											
25...	--	340	--	<1.0	--	20	--	<50	--	<10	--
MAR											
08...	--	8410	--	3.8	--	250	--	<50	--	30	--
MAY											
17...	--	60	--	<1.0	--	10	--	<50	--	<10	--
JUL											
06...	--	80	--	<1.0	--	20	--	<50	--	<10	--
SEP											
13...	--	80	--	<1.0	--	20	--	<50	--	<10	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-tance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-tance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01532950 Wyalusing Creek near Wyalusing, PA (LAT 41 41 49N LONG 076 13 52W)													
NOV 2004													
04...	1110	1028	9813	93	30	12.9	7.8	7.4	100	101	7.1	33	--
JAN 2005													
25...	1330	1028	9813	E170	30	14.7	7.2	7.0	88	93	.3	28	--
MAR													
08...	1540	1028	9813	659	30	15.3	7.6	7.4	102	101	.2	31	--
MAY													
18...	1200	1028	9813	56	30	12.0	8.5	8.0	113	110	15.8	37	--
JUL													
06...	1130	1028	9813	9.0	30	10.5	8.6	8.7	136	139	23.7	46	--
SEP													
14...	1140	1028	9813	11	30	11.1	8.9	7.8	142	146	22.2	49	--
01533610 Unnamed Trib to Tunkhannock Creek at Gelatt, PA (LAT 41 48 30N LONG 075 34 50W)													
OCT 2004													
07...	1540	1028	9813	10	30	11.5	7.6	7.5	85	83	11.4	33	--
NOV													
16...	1330	1028	9813	6.5	30	13.7	7.4	7.1	93	90	3.3	35	--
DEC													
13...	1600	1028	9813	31	30	12.9	7.0	7.6	70	61	3.9	25	--
JAN 2005													
11...	0900	1028	9813	18	30	13.5	6.5	7.7	80	72	1.8	28	--
01534090 Susquehanna River at Falls, PA (LAT 41 27 42N LONG 075 51 15W)													
NOV 2004													
03...	1345	1028	9813	7310	40	12.4	8.4	8.2	238	245	11.5	82	--
JAN 2005													
10...	1345	1028	9813	26000	40	13.3	7.4	8.0	198	190	1.8	60	--
MAR													
07...	1510	1028	9813	8880	40	14.2	8.0	8.0	259	252	2.4	88	--
MAY													
16...	1400	1028	9813	5960	40	10.2	8.8	8.5	266	269	18.8	96	--
JUL													
28...	1330	1028	9813	1760	40	8.0	8.7	8.4	315	315	26.5	110	--
SEP													
22...	0900	1028	9813	1140	40	8.4	8.5	8.2	383	400	22.2	110	--
01538600 Nescopeck Creek at Nescopeck, PA (LAT 41 02 49N LONG 076 13 17W)													
NOV 2004													
09...	1245	1028	9813	668	40	13.2	5.5	5.3	289	278	6.0	100	--
JAN 2005													
06...	1220	1028	9813	1200	40	11.9	--	6.5	266	265	3.9	65	--
MAR													
14...	1345	1028	9813	315	40	13.2	6.2	6.2	310	312	3.9	80	--
MAY													
02...	1330	1028	9813	226	40	10.2	5.1	5.1	316	311	9.8	120	--
JUL													
25...	1100	1028	9813	72	40	9.7	4.8	4.9	464	470	21.4	160	--
SEP													
06...	1230	1028	9813	51	40	9.8	4.8	4.8	492	506	19.1	180	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01532950 Wyalusing Creek near Wyalusing, PA (LAT 41 41 49N LONG 076 13 52W)													
NOV 2004													
04...	9.1	--	2.6	29	--	--	8.3	86	<2	<.020	.16	<.040	<.01
JAN 2005													
25...	7.5	--	2.2	21	--	--	10.3	74	<2	.110	.81	<.040	.01
MAR													
08...	8.3	--	2.5	21	--	--	8.4	80	22	.040	.62	<.040	.01
MAY													
18...	10.2	--	2.8	31	--	--	10.3	98	<2	<.020	.20	<.040	<.01
JUL													
06...	12.8	--	3.4	38	--	--	10.6	78	2	.040	.07	<.040	<.01
SEP													
14...	13.3	--	3.8	35	--	--	14.0	88	<2	.030	.05	<.040	<.01
01533610 Unnamed Trib to Tunkhannock Creek at Gelatt, PA (LAT 41 48 30N LONG 075 34 50W)													
OCT 2004													
07...	11.2	--	1.2	29	4.1	<.2	7.1	44	10	<.020	.31	<.040	<.01
NOV													
16...	11.9	--	1.3	28	4.9	<.2	7.5	68	8	<.020	.27	<.040	<.01
DEC													
13...	8.2	--	1.0	19	3.4	<.2	7.0	52	6	<.020	.40	<.040	<.01
JAN 2005													
11...	9.6	--	1.1	22	4.9	<.2	7.5	82	4	<.020	.48	<.040	<.01
01534090 Susquehanna River at Falls, PA (LAT 41 27 42N LONG 075 51 15W)													
NOV 2004													
03...	24.8	--	4.9	73	--	--	12.5	134	4	<.020	.41	<.040	<.01
JAN 2005													
10...	18.7	--	3.2	45	--	--	10.9	112	18	.030	.67	<.040	.03
MAR													
07...	28.1	--	4.4	66	--	--	12.7	138	<2	.040	1.05	<.040	.02
MAY													
16...	30.2	--	5.0	80	--	--	14.4	166	8	<.020	.38	<.040	<.01
JUL													
28...	34.2	--	6.2	92	--	--	14.6	200	8	<.020	<.04	<.040	.03
SEP													
22...	33.4	--	7.3	95	--	--	25.9	282	18	.020	.22	<.040	.03
01538600 Nescopeck Creek at Nescopeck, PA (LAT 41 02 49N LONG 076 13 17W)													
NOV 2004													
09...	14.1	--	16.0	4	--	--	94.0	222	6	.110	1.04	<.040	.01
JAN 2005													
06...	11.6	--	8.7	6	--	--	53.5	174	52	.130	.92	<.040	.04
MAR													
14...	13.2	--	11.5	4	--	--	70.6	220	<2	.240	1.04	<.040	.02
MAY													
02...	14.9	--	18.8	0	--	--	114	290	8	.250	.66	<.040	<.01
JUL													
25...	22.0	--	26.7	0	--	--	177	528	<2	.060	1.21	<.040	<.01
SEP													
06...	23.9	--	28.9	0	--	--	198	372	6	.070	1.56	<.040	<.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01532950 Wyalusing Creek near Wyalusing, PA (LAT 41 41 49N LONG 076 13 52W)												
NOV 2004												
04...	<.010	.31	2.1	--	--	--	<200	--	--	--	--	<10
JAN 2005												
25...	.014	.89	1.3	--	--	--	<200	--	--	--	--	<10
MAR												
08...	.047	.92	2.3	--	--	--	980	--	--	--	--	<10
MAY												
18...	<.010	.36	--	--	--	--	<200	--	--	--	--	<10
JUL												
06...	.022	.24	--	--	--	--	<200	--	--	--	--	<10
SEP												
14...	<.010	.19	--	--	--	--	<200	--	--	--	--	<10
01533610 Unnamed Trib to Tunkhannock Creek at Gelatt, PA (LAT 41 48 30N LONG 075 34 50W)												
OCT 2004												
07...	.020	.39	--	<.2	40	<10	10	<4.0	20	<.20	<4	<4
NOV												
16...	<.010	.40	--	.9	20	<10	<10	<4.0	20	<.20	<4	<4
DEC												
13...	<.010	.52	--	<.2	40	<10	20	<4.0	20	<.20	<4	<4
JAN 2005												
11...	<.010	.45	--	1.3	80	<10	20	<4.0	20	<.20	<4	<4
01534090 Susquehanna River at Falls, PA (LAT 41 27 42N LONG 075 51 15W)												
NOV 2004												
03...	.014	.56	2.8	--	--	--	<200	--	--	--	--	<10
JAN 2005												
10...	.031	.81	2.3	--	--	--	460	--	--	--	--	<10
MAR												
07...	.020	1.4	1.8	--	--	--	<200	--	--	--	--	<10
MAY												
16...	.026	.66	--	--	--	--	<200	--	--	--	--	<10
JUL												
28...	.056	.42	--	--	--	--	<200	--	--	--	--	<10
SEP												
22...	.032	.64	--	--	--	--	<200	--	--	--	--	<10
01538600 Nescopeck Creek at Nescopeck, PA (LAT 41 02 49N LONG 076 13 17W)												
NOV 2004												
09...	.039	1.4	1.4	--	--	--	1400	--	--	--	--	<10
JAN 2005												
06...	.069	1.4	2.1	--	--	--	2100	--	--	--	--	<10
MAR												
14...	.037	1.4	1.2	--	--	--	1200	--	--	--	--	10
MAY												
02...	.054	1.0	--	--	--	--	1800	--	--	--	--	10
JUL												
25...	<.010	1.2	--	--	--	--	1800	--	--	--	--	10
SEP												
06...	.022	1.7	--	--	--	--	1800	--	--	--	--	20

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01532950 Wyalusing Creek near Wyalusing, PA (LAT 41 41 49N LONG 076 13 52W)											
NOV 2004											
04...	--	100	--	<1.0	--	<10	--	<50	--	<10	--
JAN 2005											
25...	--	210	--	<1.0	--	20	--	<50	--	<10	--
MAR											
08...	--	1080	--	<1.0	--	50	--	<50	--	<10	--
MAY											
18...	--	50	--	<1.0	--	10	--	<50	--	<10	--
JUL											
06...	--	190	--	<1.0	--	20	--	<50	--	<10	--
SEP											
14...	--	70	--	<1.0	--	30	--	<50	--	<10	--
01533610 Unnamed Trib to Tunkhannock Creek at Gelatt, PA (LAT 41 48 30N LONG 075 34 50W)											
OCT 2004											
07...	<20	<20	<1.0	<1.0	<2.0	2.0	<4.0	<4.0	<5.0	<5.0	<5
NOV											
16...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	24	<5
DEC											
13...	<20	80	<1.0	<1.0	<2.0	3.5	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
11...	<20	30	<1.0	<1.0	<2.0	2.8	<4.0	<4.0	<5.0	<5.0	<5
01534090 Susquehanna River at Falls, PA (LAT 41 27 42N LONG 075 51 15W)											
NOV 2004											
03...	--	70	--	<1.0	--	20	--	<50	--	<10	--
JAN 2005											
10...	--	640	--	<1.0	--	30	--	<50	--	20	--
MAR											
07...	--	170	--	<1.0	--	20	--	<50	--	<10	--
MAY											
16...	--	90	--	<1.0	--	20	--	<50	--	<10	--
JUL											
28...	--	220	--	<1.0	--	80	--	<50	--	<10	--
SEP											
22...	--	160	--	<1.0	--	60	--	<50	--	<10	--
01538600 Nescopeck Creek at Nescopeck, PA (LAT 41 02 49N LONG 076 13 17W)											
NOV 2004											
09...	--	380	--	<1.0	--	960	--	<50	--	160	--
JAN 2005											
06...	--	1530	--	2.1	--	570	--	<50	--	90	--
MAR											
14...	--	430	--	<1.0	--	750	--	<50	--	130	--
MAY											
02...	--	470	--	<1.0	--	1040	--	<50	--	190	--
JUL											
25...	--	80	--	1.0	--	2080	--	80	--	290	--
SEP											
06...	--	50	--	<1.0	--	2110	--	90	--	280	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01538709 West Branch Fishing Creek near Elk Grove, PA (LAT 41 18 20N LONG 076 25 51W)													
FEB 2005													
07...	1130	1028	9813	22	40	12.6	5.4	6.6	25	24	1.1	9	--
MAR													
14...	1400	1028	9813	22	40	13.5	6.4	6.7	26	26	.7	10	--
APR													
20...	1315	1028	9813	28	40	10.5	6.2	6.5	24	23	11.4	9	--
MAY													
02...	1330	1028	9813	47	40	12.2	7.0	6.5	26	24	6.9	9	--
JUN													
15...	0945	1028	9813	13	40	9.1	6.3	6.8	27	27	15.2	10	--
JUL													
25...	1300	1028	9813	7.5	40	8.1	6.4	7.0	28	27	17.2	11	--
AUG													
24...	1100	1028	9813	2.7	40	9.4	6.6	6.1	28	24	15.2	10	--
SEP													
06...	1430	1028	9813	6.5	40	10.8	6.9	6.4	30	31	15.7	11	--
01539350 Little Fishing Cr ab Wolfhouse Run nr Millville PA (LAT 41 09 58N LONG 076 30 14W)													
OCT 2004													
13...	1015	1028	9813	10	30	12.3	6.8	6.8	65	63	7.2	26	7.3
NOV													
08...	1000	1028	9813	17	30	13.6	6.7	6.9	61	59	5.7	21	5.8
DEC													
06...	1000	1028	9813	--	30	13.2	6.3	7.1	55	48	3.9	18	4.7
JAN 2005													
10...	1000	1028	9813	94	30	13.0	7.2	7.1	53	51	4.5	17	4.4
015400021 Fishing Creek nr Bloomsburg, PA (LAT 40 59 37N LONG 076 28 33W)													
NOV 2004													
09...	1045	1028	9813	400	30	13.3	7.7	7.6	146	138	6.0	54	14.9
JAN 2005													
06...	1045	1028	9813	2270	30	12.5	6.4	7.3	95	94	2.4	29	7.3
MAR													
14...	1145	1028	9813	520	30	14.2	7.6	7.1	133	153	2.8	44	10.9
MAY													
02...	1145	1028	9813	460	30	10.7	7.8	7.4	122	141	9.5	42	11.2
JUL													
25...	1030	1028	9813	53	30	4.1	7.4	7.7	164	167	22.6	62	16.7
SEP													
06...	1200	1028	9813	45	30	5.0	8.2	8.3	156	155	21.0	61	16.9
01542790 Bennett Br Sinnemahoning Cr at Driftwood, PA (LAT 41 20 02N LONG 078 08 10W)													
NOV 2004													
23...	1200	1028	9813	250	30	12.3	6.7	6.7	135	123	6.2	46	--
JAN 2005													
19...	1200	1028	9813	1330	30	14.8	5.5	6.3	107	103	.0	41	--
MAR													
23...	1030	1028	9813	948	30	12.3	6.4	6.8	112	111	3.5	40	--
MAY													
04...	1130	1028	9813	300	30	12.2	6.4	6.6	122	119	6.7	42	--
JUL													
27...	1145	1028	9813	71	30	7.3	6.7	6.8	226	232	25.6	78	--
SEP													
08...	0930	1028	9813	29	30	8.7	6.8	6.1	209	212	18.7	78	--

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MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01538709 West Branch Fishing Creek near Elk Grove, PA (LAT 41 18 20N LONG 076 25 51W)													
FEB 2005													
07...	2.4	--	.73	4	.83	<.2	5.5	4	<2	.030	.47	<.040	<.01
MAR													
14...	2.6	--	.76	5	.71	<.2	5.4	30	<2	<.020	.51	<.040	<.01
APR													
20...	2.3	--	.68	2	.84	<.2	5.5	30	2	.030	.36	<.040	<.01
MAY													
02...	2.5	--	.72	3	.62	<.2	5.8	32	<2	<.020	<.04	<.040	<.01
JUN													
15...	2.7	--	.79	4	.64	<.2	5.1	38	<2	<.020	.36	<.040	<.01
JUL													
25...	3.0	--	.87	5	.67	<.2	5.1	66	<2	<.020	.43	<.040	<.01
AUG													
24...	2.8	--	.82	7	.84	<.2	4.9	48	<2	<.020	.46	<.040	<.01
SEP													
06...	3.1	--	.89	5	.68	<.2	5.8	68	14	.020	.54	<.040	<.01
01539350 Little Fishing Cr ab Wolfhouse Run nr Millville PA (LAT 41 09 58N LONG 076 30 14W)													
OCT 2004													
13...	6.9	2.2	2.1	17	3.7	<.2	5.3	62	<2	<.020	.73	<.040	<.01
NOV													
08...	5.5	1.8	1.8	13	3.3	<.2	6.2	78	<2	<.020	.75	<.040	<.01
DEC													
06...	4.7	1.6	1.6	11	2.7	<.2	6.8	26	<2	<.020	.95	<.040	<.01
JAN 2005													
10...	4.5	1.5	1.5	10	2.6	<.2	7.7	28	4	<.020	1.00	<.040	<.01
015400021 Fishing Creek nr Bloomsburg, PA (LAT 40 59 37N LONG 076 28 33W)													
NOV 2004													
09...	14.9	4.1	4.2	36	.61	<.2	11.3	92	10	<.020	1.79	<.040	<.01
JAN 2005													
06...	7.8	2.0	2.2	15	--	--	9.3	70	64	.040	1.45	<.040	.03
MAR													
14...	11.7	3.2	3.5	22	--	--	11.5	106	<2	<.020	1.76	<.040	<.01
MAY													
02...	11.9	2.8	3.0	26	--	--	11.6	122	<2	.030	1.08	<.040	<.01
JUL													
25...	17.4	4.4	4.6	43	--	--	13.5	160	38	.030	.87	<.040	.01
SEP													
06...	17.4	4.2	4.3	41	--	--	12.5	98	10	.020	.96	<.040	<.01
01542790 Bennett Br Sinnemahoning Cr at Driftwood, PA (LAT 41 20 02N LONG 078 08 10W)													
NOV 2004													
23...	11.1	--	4.5	6	--	--	45.0	106	<2	<.020	.09	<.040	<.01
JAN 2005													
19...	9.4	--	4.2	5	--	--	38.7	70	2	.040	.19	<.040	<.01
MAR													
23...	9.6	--	3.9	4	--	--	36.2	78	4	.030	.22	<.040	<.01
MAY													
04...	10.1	--	4.0	4	--	--	41.7	98	<2	.030	.13	<.040	<.01
JUL													
27...	18.1	--	7.9	2	--	--	83.6	148	<2	.020	.15	<.040	<.01
SEP													
08...	18.9	--	7.4	3	--	--	75.0	156	<2	.030	.11	<.040	<.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01538709 West Branch Fishing Creek near Elk Grove, PA (LAT 41 18 20N LONG 076 25 51W)												
FEB 2005												
07...	<.010	.54	--	.5	<20	10	30	<4.0	10	<.20	<4	<4
MAR												
14...	<.010	.74	--	1.9	<10	20	20	<4.0	10	<.20	<4	<4
APR												
20...	<.010	.35	--	7.8	<10	20	40	<4.0	10	<.20	<4	<4
MAY												
02...	<.010	.41	--	.4	<20	20	40	<4.0	10	<.20	<4	<4
JUN												
15...	<.010	.31	--	.4	20	30	40	<4.0	10	<.20	<4	<4
JUL												
25...	<.010	.36	--	.7	<20	30	40	<4.0	10	<.20	<4	<4
AUG												
24...	<.010	.45	--	<.2	<20	20	30	<4.0	10	<.20	<4	<4
SEP												
06...	<.010	1.9	--	<.2	<20	<10	10	<4.0	10	<.20	<4	<4
01539350 Little Fishing Cr ab Wolfhouse Run nr Millville PA (LAT 41 09 58N LONG 076 30 14W)												
OCT 2004												
13...	<.010	1.0	--	.7	20	<10	20	<4.0	20	<.20	<4	<4
NOV												
08...	<.010	.91	--	1.2	20	<10	20	<4.0	20	<.20	<4	<4
DEC												
06...	<.010	1.1	--	.9	40	10	60	<4.0	20	<.20	<4	<4
JAN 2005												
10...	.010	1.0	--	.8	140	<10	100	<4.0	20	<.20	<4	<4
015400021 Fishing Creek nr Bloomsburg, PA (LAT 40 59 37N LONG 076 28 33W)												
NOV 2004												
09...	<.010	2.0	2.1	.9	<20	<10	20	<4.0	10	<.20	<4	<4
JAN 2005												
06...	.047	1.7	--	.8	--	20	1100	--	--	--	<4	<4
MAR												
14...	<.010	1.8	--	2.2	--	10	110	--	--	--	<4	<4
MAY												
02...	<.010	1.1	--	<.2	--	<10	40	--	--	--	<4	<4
JUL												
25...	.024	1.1	--	1.2	--	30	280	--	--	--	<4	<4
SEP												
06...	.022	1.1	--	1.4	--	20	200	--	--	--	<4	<4
01542790 Bennett Br Sinnemahoning Cr at Driftwood, PA (LAT 41 20 02N LONG 078 08 10W)												
NOV 2004												
23...	<.010	.28	.7	--	--	--	<200	--	--	--	--	<10
JAN 2005												
19...	<.010	.22	.7	--	--	--	420	--	--	--	--	<10
MAR												
23...	<.010	.20	.8	--	--	--	600	--	--	--	--	<10
MAY												
04...	<.010	.18	--	--	--	--	<200	--	--	--	--	<10
JUL												
27...	<.010	.08	--	--	--	--	<200	--	--	--	--	<10
SEP												
08...	.013	.11	--	--	--	--	<200	--	--	--	--	<10

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01538709 West Branch Fishing Creek near Elk Grove, PA (LAT 41 18 20N LONG 076 25 51W)											
FEB 2005											
07...	<20	<20	<1.0	<1.0	<2.0	2.4	<4.0	<4.0	<5.0	<5.0	<5
MAR											
14...	--	--	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
APR											
20...	<20	110	<1.0	<1.0	2.3	3.3	<4.0	<4.0	<5.0	<5.0	<5
MAY											
02...	20	<20	<1.0	<1.0	2.1	3.8	<4.0	<4.0	<5.0	<5.0	<5
JUN											
15...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
JUL											
25...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
AUG											
24...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
SEP											
06...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
01539350 Little Fishing Cr ab Wolfhouse Run nr Millville PA (LAT 41 09 58N LONG 076 30 14W)											
OCT 2004											
13...	30	80	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	9.7	<5
NOV											
08...	30	80	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
DEC											
06...	20	100	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
10...	<20	220	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
015400021 Fishing Creek nr Bloomsburg, PA (LAT 40 59 37N LONG 076 28 33W)											
NOV 2004											
09...	20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
06...	70	1560	<1.0	1.9	<10	70	<4.0	4.2	<5.0	16	--
MAR											
14...	<20	130	<1.0	<1.0	10	10	<4.0	<4.0	<5.0	<5.0	--
MAY											
02...	20	70	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	--
JUL											
25...	60	860	<1.0	1.6	40	120	<4.0	<4.0	<5.0	9.4	--
SEP											
06...	20	420	<1.0	<1.0	30	70	<4.0	<4.0	<5.0	<5.0	--
01542790 Bennett Br Sinnemahoning Cr at Driftwood, PA (LAT 41 20 02N LONG 078 08 10W)											
NOV 2004											
23...	--	40	--	<1.0	--	290	--	<50	--	10	--
JAN 2005											
19...	--	350	--	<1.0	--	270	--	<50	--	20	--
MAR											
23...	--	550	--	<1.0	--	270	--	<50	--	20	--
MAY											
04...	--	70	--	<1.0	--	230	--	<50	--	10	--
JUL											
27...	--	<20	--	<1.0	--	160	--	<50	--	30	--
SEP											
08...	--	<20	--	<1.0	--	140	--	<50	--	<10	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01543830 First Fork Sinnemahoning Creek at Berge Run, PA (LAT 41 28 33N LONG 078 03 02W)													
FEB 2005													
08...	1430	1028	9813	152	40	15.1	6.7	7.2	56	46	.1	19	--
MAR													
23...	0930	1028	9813	350	40	12.7	7.2	7.2	59	55	3.8	19	--
APR													
19...	0945	1028	9813	182	40	10.8	7.1	7.4	54	51	9.8	20	--
MAY													
04...	0830	1028	9813	262	40	12.4	6.3	7.2	55	51	5.5	18	--
JUN													
14...	0830	1028	9813	73	40	7.7	7.3	6.9	69	73	21.9	25	--
JUL													
27...	0950	1028	9813	66	40	7.9	7.5	7.8	71	73	23.3	27	--
AUG													
23...	0930	1028	9813	16	40	6.8	7.8	6.8	81	81	18.6	28	--
SEP													
21...	1330	1028	9813	22	40	9.6	8.3	6.9	83	84	20.8	28	--
01547400 Bald Eagle Creek near Milesburg, PA (LAT 40 58 31N LONG 077 44 35W)													
NOV 2004													
16...	1500	1028	9813	390	30	14.9	8.6	8.5	406	402	8.0	190	--
JAN 2005													
04...	1615	1028	9813	1220	30	11.6	7.7	8.1	234	222	6.2	98	--
MAR													
22...	1115	1028	9813	545	30	13.9	8.7	8.4	344	331	6.4	150	--
MAY													
18...	1015	1028	9813	269	30	12.4	8.4	8.4	468	470	11.6	210	--
JUL													
06...	0800	1028	9813	335	30	7.3	7.7	8.2	387	395	17.7	200	--
SEP													
14...	1000	1028	9813	164	30	10.4	8.1	8.4	495	519	13.9	220	--
01547980 Beech Creek at Beech Creek, PA (LAT 41 04 29N LONG 077 35 30W)													
NOV 2004													
16...	1545	1028	9813	227	30	12.4	5.0	4.9	168	180	5.4	59	--
JAN 2005													
05...	0940	1028	9813	662	30	12.1	5.3	5.1	127	122	5.5	44	--
MAR													
16...	1030	1028	9813	80	30	13.3	4.7	4.9	170	170	1.2	57	--
MAY													
17...	1600	1028	9813	105	30	9.3	4.4	4.6	221	224	15.4	77	--
JUL													
20...	0815	1028	9813	31	30	6.1	4.1	4.3	349	363	23.3	130	--
SEP													
12...	1445	1028	9813	16	30	6.4	4.1	4.3	495	500	20.3	180	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover -able, mg/L (00916)	Magnes- ium, water, fltrd, mg/L (00925)	Magnes- ium, water, unfltrd recover -able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus- pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho- phos- phate, water, unfltrd mg/L as P (70507)
01543830 First Fork Sinnemahoning Creek at Berge Run, PA (LAT 41 28 33N LONG 078 03 02W)													
FEB 2005													
08...	5.1	--	1.5	13	2.9	<.2	8.3	30	<2	.030	.48	<.040	<.01
MAR													
23...	5.1	--	1.5	10	3.6	<.2	8.6	56	<2	.050	.43	<.040	<.01
APR													
19...	5.3	--	1.6	11	2.2	<.2	8.9	56	<2	<.020	.41	<.040	.01
MAY													
04...	4.9	--	1.4	11	2.2	<.2	8.5	60	<2	<.020	.40	<.040	<.01
JUN													
14...	6.8	--	1.9	16	3.1	<.2	12.9	68	<2	<.020	.34	<.040	<.01
JUL													
27...	7.2	--	2.0	21	3.6	<.2	7.7	42	2	.050	.14	<.040	.01
AUG													
23...	7.6	--	2.3	27	5.1	<.2	7.4	62	<2	<.020	<.04	<.040	<.01
SEP													
21...	7.6	--	2.2	24	5.8	<.2	8.0	70	<2	.020	<.04	<.040	<.01
01547400 Bald Eagle Creek near Milesburg, PA (LAT 40 58 31N LONG 077 44 35W)													
NOV 2004													
16...	46.7	--	16.8	146	--	--	21.6	276	2	<.020	2.49	<.040	.01
JAN 2005													
04...	25.4	--	8.3	76	--	--	18.2	166	38	.020	1.39	<.040	.01
MAR													
22...	37.9	--	13.1	117	--	--	20.2	224	<2	.100	2.04	<.040	.01
MAY													
18...	51.1	--	19.9	170	--	--	22.8	346	8	<.020	2.98	<.040	.02
JUL													
06...	51.3	--	18.3	135	--	--	25.7	224	76	.050	2.53	<.040	.04
SEP													
14...	52.5	--	21.8	179	--	--	27.9	382	<2	.020	3.28	<.040	.03
01547980 Beech Creek at Beech Creek, PA (LAT 41 04 29N LONG 077 35 30W)													
NOV 2004													
16...	11.8	--	7.1	2	--	--	64.5	140	8	<.020	.17	<.040	<.01
JAN 2005													
05...	9.0	--	5.2	3	--	--	47.7	86	6	.030	.28	<.040	<.01
MAR													
16...	11.6	--	6.9	1	--	--	66.5	136	2	.020	.24	<.040	<.01
MAY													
17...	14.2	--	10.0	0	--	--	93.2	162	<2	<.020	.10	<.040	<.01
JUL													
20...	26.1	--	15.0	0	--	--	159	322	<2	.030	.33	<.040	<.01
SEP													
12...	39.1	--	20.3	0	--	--	232	424	4	.030	.21	<.040	<.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01543830 First Fork Sinnemahoning Creek at Berge Run, PA (LAT 41 28 33N LONG 078 03 02W)												
FEB 2005												
08...	<.010	.53	--	1.2	60	<10	20	<4.0	20	<.20	<4	<4
MAR												
23...	<.010	.87	--	.9	60	<10	60	<4.0	20	<.20	<4	<4
APR												
19...	<.010	.43	--	.9	<20	<10	30	<4.0	20	<.20	<4	5
MAY												
04...	.012	.71	--	.6	20	<10	30	<4.0	20	<.20	<4	<4
JUN												
14...	.015	.37	--	.8	60	30	60	<4.0	20	<.20	<4	<4
JUL												
27...	.015	.20	--	.8	200	20	70	<4.0	20	<.20	<4	<4
AUG												
23...	.013	.19	--	.8	<20	20	50	<4.0	20	<.20	<4	<4
SEP												
21...	.011	.17	--	.4	40	20	50	<4.0	20	<.20	<4	<4
01547400 Bald Eagle Creek near Milesburg, PA (LAT 40 58 31N LONG 077 44 35W)												
NOV 2004												
16...	.010	2.6	1.3	--	--	--	<200	--	--	--	--	<10
JAN 2005												
04...	.044	1.7	2.6	--	--	--	900	--	--	--	--	<10
MAR												
22...	.013	2.4	1.4	--	--	--	<200	--	--	--	--	<10
MAY												
18...	.030	3.2	--	--	--	--	<200	--	--	--	--	<10
JUL												
06...	.114	2.7	--	--	--	--	1600	--	--	--	--	10
SEP												
14...	.030	3.3	--	--	--	--	<200	--	--	--	--	<10
01547980 Beech Creek at Beech Creek, PA (LAT 41 04 29N LONG 077 35 30W)												
NOV 2004												
16...	<.010	.26	.5	--	--	--	930	--	--	--	--	<10
JAN 2005												
05...	.013	.44	1.2	--	--	--	830	--	--	--	--	<10
MAR												
16...	<.010	.31	<.5	--	--	--	1000	--	--	--	--	10
MAY												
17...	<.010	.09	--	--	--	--	1200	--	--	--	--	<10
JUL												
20...	<.010	.32	--	--	--	--	1600	--	--	--	--	<10
SEP												
12...	<.010	.21	--	--	--	--	2700	--	--	--	--	280

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01543830 First Fork Sinnemahoning Creek at Berge Run, PA (LAT 41 28 33N LONG 078 03 02W)											
FEB 2005											
08...	<20	80	<1.0	<1.0	20	20	<4.0	<4.0	<5.0	<5.0	<5
MAR											
23...	20	90	<1.0	<1.0	10	10	<4.0	<4.0	<5.0	<5.0	<5
APR											
19...	30	90	<1.0	<1.0	10	10	<4.0	<4.0	<5.0	<5.0	5
MAY											
04...	40	80	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
JUN											
14...	50	230	<1.0	<1.0	<10	20	<4.0	<4.0	<5.0	<5.0	<5
JUL											
27...	70	210	<1.0	<1.0	10	30	<4.0	<4.0	<5.0	<5.0	<5
AUG											
23...	50	140	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	<5.0	<5
SEP											
21...	70	130	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	<5.0	<5
01547400 Bald Eagle Creek near Milesburg, PA (LAT 40 58 31N LONG 077 44 35W)											
NOV 2004											
16...	--	50	--	<1.0	--	<10	--	<50	--	<10	--
JAN 2005											
04...	--	980	--	1.2	--	40	--	<50	--	<10	--
MAR											
22...	--	140	--	<1.0	--	<10	--	<50	--	<10	--
MAY											
18...	--	120	--	<1.0	--	<10	--	<50	--	10	--
JUL											
06...	--	2290	--	2.9	--	90	--	<50	--	40	--
SEP											
14...	--	50	--	<1.0	--	<10	--	<50	--	<10	--
01547980 Beech Creek at Beech Creek, PA (LAT 41 04 29N LONG 077 35 30W)											
NOV 2004											
16...	--	160	--	<1.0	--	1420	--	<50	--	70	--
JAN 2005											
05...	--	650	--	<1.0	--	960	--	<50	--	60	--
MAR											
16...	--	200	--	<1.0	--	1340	--	<50	--	70	--
MAY											
17...	--	100	--	<1.0	--	1970	--	<50	--	90	--
JUL											
20...	--	60	--	1.2	--	3570	--	80	--	130	--
SEP											
12...	--	90	--	1.2	--	5170	--	110	--	350	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01548038 Fishing Creek near Nittany, PA (LAT 40 59 01N LONG 077 31 01W)													
FEB 2005													
09...	1030	1028	9813	86	40	11.7	8.0	8.2	247	231	5.3	110	--
MAR													
16...	0915	1028	9813	96	40	13.7	8.1	8.1	261	258	3.4	120	--
APR													
18...	1045	1028	9813	141	40	11.0	8.1	8.2	233	226	8.7	100	--
MAY													
17...	1400	1028	9813	59	40	9.7	8.6	8.5	275	273	13.3	130	--
JUN													
13...	1200	1028	9813	43	40	9.4	8.4	8.4	303	295	15.5	140	--
JUL													
19...	1330	1028	9813	38	40	9.7	8.3	8.4	309	315	16.5	150	--
AUG													
22...	1135	1028	9813	24	40	9.3	8.2	8.2	342	349	15.7	180	--
SEP													
12...	1130	1028	9813	21	40	10.2	8.1	8.2	357	356	12.6	160	--
01548075 Fishing Creek near Cedar Springs, PA (LAT 41 04 31N LONG 077 28 40W)													
NOV 2004													
17...	0830	1028	9813	87	30	11.1	7.8	7.7	287	280	7.4	140	--
JAN 2005													
05...	0830	1028	9813	211	30	10.8	7.3	8.0	220	215	6.4	100	--
MAR													
16...	0945	1028	9813	37	30	12.9	8.0	8.0	291	291	4.1	140	--
MAY													
18...	0915	1028	9813	79	30	10.8	8.0	8.3	317	226	10.4	150	--
JUL													
20...	1145	1028	9813	40	30	9.4	7.9	8.1	328	274	16.0	150	--
SEP													
12...	1330	1028	9813	21	30	10.3	8.1	8.2	368	356	14.6	170	--
01548077 Cedar Run at Cedar Springs near Mill Hall, PA (LAT 41 04 46N LONG 077 29 01W)													
FEB 2005													
09...	0800	1028	9813	40	40	10.5	8.0	8.2	439	299	8.3	240	--
MAR													
16...	0800	1028	9813	42	40	11.0	8.1	8.1	424	375	6.0	220	--
APR													
26...	0800	1028	9813	45	40	11.3	8.2	8.2	435	412	8.0	220	--
MAY													
18...	0830	1028	9813	35	40	11.1	8.1	8.2	413	416	9.4	210	--
JUN													
13...	1330	1028	9813	31	40	9.7	8.5	8.5	395	385	19.1	210	--
JUL													
20...	0930	1028	9813	29	40	11.3	8.2	8.3	374	380	13.3	190	--
AUG													
22...	1315	1028	9813	27	40	10.0	8.3	8.4	366	372	15.9	200	--
SEP													
12...	1230	1028	9813	26	40	11.1	8.3	8.4	362	362	14.5	180	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01548038 Fishing Creek near Nittany, PA (LAT 40 59 01N LONG 077 31 01W)													
FEB 2005													
09...	32.1	--	8.0	90	8.7	<.2	13.6	168	<2	.050	2.38	<.040	.01
MAR													
16...	32.3	--	8.3	89	14.9	<.2	14.0	146	<2	.030	2.29	<.040	<.01
APR													
18...	30.0	--	7.0	85	8.4	<.2	12.6	186	8	.040	2.26	<.040	.01
MAY													
17...	35.5	--	9.1	104	9.4	<.2	16.3	196	4	<.020	2.52	<.040	.01
JUN													
13...	39.3	--	10.9	113	11.1	<.2	17.6	216	2	.030	2.58	<.040	.02
JUL													
19...	39.9	--	11.4	118	13.6	<.2	19.1	234	<2	.030	2.43	<.040	.01
AUG													
22...	48.8	--	13.1	132	11.8	<.2	23.3	264	18	.030	3.04	<.040	.03
SEP													
12...	46.6	--	11.5	134	13.5	<.2	23.6	288	4	.040	2.85	<.040	.02
01548075 Fishing Creek near Cedar Springs, PA (LAT 41 04 31N LONG 077 28 40W)													
NOV 2004													
17...	37.5	--	11.0	110	--	--	13.2	196	<2	<.020	2.44	<.040	<.01
JAN 2005													
05...	27.6	--	8.3	82	--	--	12.1	128	2	<.020	1.91	<.040	.02
MAR													
16...	35.8	--	10.9	108	--	--	14.1	122	6	.020	2.55	<.040	<.01
MAY													
18...	40.5	--	12.2	126	--	--	15.6	216	8	<.020	2.76	<.040	<.01
JUL													
20...	40.6	--	12.2	131	--	--	17.1	244	<2	.020	2.55	<.040	.02
SEP													
12...	45.7	--	13.8	147	--	--	18.9	350	10	.030	2.84	<.040	.01
01548077 Cedar Run at Cedar Springs near Mill Hall, PA (LAT 41 04 46N LONG 077 29 01W)													
FEB 2005													
09...	58.1	--	22.2	189	10.7	<.2	15.9	290	6	.090	4.42	<.040	.02
MAR													
16...	54.9	--	19.7	185	10.3	<.2	15.6	264	16	.060	4.16	<.040	.01
APR													
26...	54.4	--	21.4	189	10.4	<.2	16.2	234	2	<.020	4.28	<.040	<.01
MAY													
18...	52.6	--	19.8	182	10.0	<.2	15.5	290	8	.030	3.84	<.040	<.01
JUN													
13...	50.2	--	19.9	170	9.8	<.2	14.4	278	<2	.050	3.46	<.040	.02
JUL													
20...	45.3	--	17.9	166	9.5	<.2	15.1	282	<2	.020	3.24	.050	.02
AUG													
22...	48.6	--	19.2	166	9.3	<.2	13.2	232	12	.030	3.05	<.040	.02
SEP													
12...	44.0	--	16.8	162	8.9	<.2	12.7	202	6	.040	2.82	<.040	.02

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01548038 Fishing Creek near Nittany, PA (LAT 40 59 01N LONG 077 31 01W)												
FEB 2005												
09...	.017	2.5	--	.7	40	10	80	<4.0	20	<.20	<4	<4
MAR												
16...	<.010	2.4	--	.6	80	<10	40	<4.0	20	<.20	<4	6
APR												
18...	.018	2.2	--	1.4	<10	<10	110	<4.0	30	<.20	<4	<4
MAY												
17...	.021	2.6	--	.6	40	<10	70	<4.0	30	<.20	<4	<4
JUN												
13...	.022	2.7	--	.3	60	30	80	<4.0	30	<.20	<4	<4
JUL												
19...	.035	2.4	--	.7	120	<10	60	<4.0	30	<.20	<4	<4
AUG												
22...	.032	3.1	--	.9	60	20	50	<4.0	30	<.20	<4	<4
SEP												
12...	.040	2.9	--	.9	20	20	30	<4.0	30	<.20	<4	<4
01548075 Fishing Creek near Cedar Springs, PA (LAT 41 04 31N LONG 077 28 40W)												
NOV 2004												
17...	.010	2.5	1.1	--	--	--	<200	--	--	--	--	<10
JAN 2005												
05...	.021	2.1	1.6	--	--	--	250	--	--	--	--	<10
MAR												
16...	<.010	2.6	1.1	--	--	--	<200	--	--	--	--	<10
MAY												
18...	.013	2.9	--	--	--	--	<200	--	--	--	--	<10
JUL												
20...	.017	2.5	--	--	--	--	<200	--	--	--	--	<10
SEP												
12...	.022	2.9	--	--	--	--	<200	--	--	--	--	<10
01548077 Cedar Run at Cedar Springs near Mill Hall, PA (LAT 41 04 46N LONG 077 29 01W)												
FEB 2005												
09...	.037	4.6	--	.8	20	<10	160	<4.0	40	<.20	<4	<4
MAR												
16...	.025	4.5	--	.8	20	<10	130	<4.0	40	<.20	<4	<4
APR												
26...	.014	4.2	--	.8	130	<10	90	<4.0	30	<.20	<4	<4
MAY												
18...	.012	3.9	--	.6	360	<10	60	<4.0	30	<.20	<4	<4
JUN												
13...	.027	3.7	--	.5	380	30	80	<4.0	30	<.20	<4	<4
JUL												
20...	.025	3.1	--	.6	340	<10	30	6.6	30	<.20	<4	<4
AUG												
22...	.030	3.1	--	1.1	180	20	70	<4.0	30	<.20	<4	<4
SEP												
12...	.039	2.9	--	.9	40	20	40	<4.0	30	<.20	<4	<4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01548038 Fishing Creek near Nittany, PA (LAT 40 59 01N LONG 077 31 01W)											
FEB 2005											
09...	<20	80	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
MAR											
16...	<20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
APR											
18...	<20	130	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
MAY											
17...	<20	80	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN											
13...	<20	120	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
JUL											
19...	<20	100	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	6.9	<5
AUG											
22...	<20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
SEP											
12...	<20	30	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
01548075 Fishing Creek near Cedar Springs, PA (LAT 41 04 31N LONG 077 28 40W)											
NOV 2004											
17...	--	70	--	<1.0	--	<10	--	<50	--	<10	--
JAN 2005											
05...	--	320	--	<1.0	--	10	--	<50	--	<10	--
MAR											
16...	--	70	--	<1.0	--	<10	--	<50	--	<10	--
MAY											
18...	--	90	--	<1.0	--	<10	--	<50	--	10	--
JUL											
20...	--	100	--	<1.0	--	<10	--	<50	--	<10	--
SEP											
12...	--	70	--	<1.0	--	<10	--	<50	--	<10	--
01548077 Cedar Run at Cedar Springs near Mill Hall, PA (LAT 41 04 46N LONG 077 29 01W)											
FEB 2005											
09...	<20	420	<1.0	<1.0	7.4	19	<4.0	<4.0	<5.0	<5.0	<5
MAR											
16...	<20	330	<1.0	<1.0	5.0	14	<4.0	<4.0	<5.0	<5.0	<5
APR											
26...	<20	170	<1.0	<1.0	3.6	9.6	<4.0	<4.0	<5.0	<5.0	<5
MAY											
18...	<20	130	<1.0	<1.0	4.5	9.7	<4.0	<4.0	<5.0	<5.0	<5
JUN											
13...	<20	140	<1.0	<1.0	3.6	8.1	<4.0	<4.0	<5.0	<5.0	<5
JUL											
20...	<20	80	<1.0	<1.0	<2.0	4.3	<4.0	<4.0	<5.0	8.4	<5
AUG											
22...	<20	110	<1.0	<1.0	4.8	7.1	<4.0	<4.0	<5.0	<5.0	<5
SEP											
12...	<20	130	<1.0	<1.0	3.4	6.3	<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 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01548476 Cedar Run above Mine Hole Run near Cedar Run, PA (LAT 41 33 19N LONG 077 27 36W)													
FEB 2005													
07...	1530	1028	9813	16	40	13.1	6.5	7.4	45	43	2.1	17	--
MAR													
15...	0900	1028	9813	18	40	15.7	6.4	6.7	46	43	-.2	18	--
APR													
20...	0930	1028	9813	23	40	11.2	6.5	7.1	46	44	9.1	18	--
MAY													
03...	0830	1028	9813	23	40	12.0	6.3	7.2	47	42	4.8	18	--
JUN													
14...	1430	1028	9813	9.5	40	8.7	7.3	7.6	58	40	19.8	23	--
JUL													
25...	1545	1028	9813	5.8	40	7.8	7.2	7.6	62	62	20.9	25	--
AUG													
24...	0730	1028	9813	1.4	40	9.1	7.3	6.5	66	58	14.7	27	--
SEP													
07...	0830	1028	9813	1.9	40	9.6	8.1	7.5	71	68	14.3	28	--
01549590 Little Pine Creek bl Reservoir near Waterville, PA (LAT 41 21 12N LONG 077 21 20W)													
NOV 2004													
22...	1015	1028	9813	120	30	12.5	7.3	7.3	99	92	7.7	37	8.8
JAN 2005													
24...	1430	1028	9813	220	30	13.7	7.2	7.1	94	95	.1	35	8.4
MAR													
14...	1015	1028	9813	160	30	15.9	7.4	6.7	95	82	.9	32	8.5
MAY													
18...	0945	1028	9813	70	30	10.8	7.4	7.5	116	117	15.2	43	10.9
JUL													
20...	0945	1028	9813	37	30	6.7	6.8	7.0	137	144	22.2	78	12.2
SEP													
28...	0915	1028	9813	23	30	9.3	8.0	7.3	175	181	18.9	69	18.6
01553005 Muncy Creek near Muncy, PA (LAT 41 12 27N LONG 076 45 09W)													
NOV 2004													
09...	0915	1028	9813	184	30	12.9	7.2	7.1	98	93	6.0	38	11.4
JAN 2005													
20...	1100	1028	9813	E450	30	13.7	4.5	7.3	81	13	4.5	31	9.2
MAR													
15...	1400	1028	9813	340	30	14.8	7.0	7.4	99	101	4.1	33	9.8
MAY													
19...	1400	1028	9813	300	30	11.8	7.4	7.8	106	106	16.6	38	11.9
JUL													
21...	1400	1028	9813	49	30	9.8	7.3	7.7	128	135	24.9	48	14.2
SEP													
29...	1330	1028	9813	20	30	10.2	7.3	7.5	136	140	18.8	52	14.9
01553430 Spruce Run ab Spruce Run Reservoir nr Mazeppa, PA (LAT 41 01 27N LONG 077 03 54W)													
OCT 2004													
13...	1300	1028	9813	8.5	30	10.9	5.7	6.4	18	17	9.2	7	1.4
NOV													
08...	1245	1028	9813	10	30	12.1	6.5	6.4	20	18	7.6	7	1.4
DEC													
02...	1315	1028	9813	39	30	11.8	5.2	6.3	21	18	7.0	7	1.5
JAN 2005													
10...	1245	1028	9813	25	30	12.4	6.5	6.6	20	21	5.5	7	1.4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01548476 Cedar Run above Mine Hole Run near Cedar Run, PA (LAT 41 33 19N LONG 077 27 36W)													
FEB 2005													
07...	5.1	--	1.0	12	.7	<.2	8.0	32	<2	.020	.10	<.040	<.01
MAR													
15...	5.3	--	1.1	12	.9	<.2	8.2	44	4	.020	.08	<.040	<.01
APR													
20...	5.3	--	1.1	12	.8	<.2	8.0	52	2	<.020	.09	<.040	.01
MAY													
03...	5.5	--	1.1	13	.6	<.2	8.0	78	2	.030	.05	<.040	<.01
JUN													
14...	7.0	--	1.3	18	.7	<.2	7.5	48	<2	<.020	.18	<.040	.01
JUL													
25...	7.6	--	1.5	23	.8	<.2	7.1	260	<2	<.020	.13	<.040	.01
AUG													
24...	8.4	--	1.6	30	1.1	<.2	7.2	66	<2	<.020	.13	<.040	.01
SEP													
07...	8.5	--	1.7	25	1.0	<.2	8.2	92	4	.020	.15	<.040	.01
01549590 Little Pine Creek bl Reservoir near Waterville, PA (LAT 41 21 12N LONG 077 21 20W)													
NOV 2004													
22...	9.6	3.0	3.1	19	.9	<.2	20.9	80	8	.030	.32	<.040	<.01
JAN 2005													
24...	8.5	3.3	3.4	12	--	--	24.2	56	<2	.050	.62	<.040	<.01
MAR													
14...	8.2	2.9	2.9	15	--	--	19.0	66	8	<.020	.59	<.040	<.01
MAY													
18...	10.7	4.1	4.0	17	--	--	30.1	100	8	<.020	.19	<.040	.01
JUL													
20...	15.8	3.8	9.4	30	--	--	29.6	92	1670	.810	.11	<.040	.03
SEP													
28...	17.4	6.1	6.1	23	--	--	49.1	458	2	.170	.07	<.040	.01
01553005 Muncy Creek near Muncy, PA (LAT 41 12 27N LONG 076 45 09W)													
NOV 2004													
09...	11.7	2.0	2.1	26	--	--	9.2	76	8	<.020	1.11	<.040	<.01
JAN 2005													
20...	9.3	1.8	1.8	17	--	--	9.9	80	10	.030	1.45	<.040	<.01
MAR													
15...	9.8	2.0	2.0	19	--	--	10.2	82	2	<.020	1.48	<.040	<.01
MAY													
19...	11.9	2.1	2.1	28	--	--	10.3	90	4	<.020	.98	<.040	.01
JUL													
21...	14.9	2.6	2.7	39	--	--	10.7	84	16	<.020	.70	<.040	.02
SEP													
29...	16.4	2.5	2.8	37	--	--	11.6	110	<2	.030	1.03	<.040	.03
01553430 Spruce Run ab Spruce Run Reservoir nr Mazeppa, PA (LAT 41 01 27N LONG 077 03 54W)													
OCT 2004													
13...	1.4	.79	.77	5	.5	<.2	3.3	48	<2	<.020	<.04	<.040	<.01
NOV													
08...	1.4	.80	.82	5	.6	<.2	3.8	58	<2	<.020	<.04	<.040	<.01
DEC													
02...	1.5	.77	.79	5	.8	<.2	4.6	14	4	<.020	<.04	<.040	<.01
JAN 2005													
10..	1.4	.74	.76	5	.7	<.2	4.6	8	<2	<.020	<.04	<.040	<.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01548476 Cedar Run above Mine Hole Run near Cedar Run, PA (LAT 41 33 19N LONG 077 27 36W)												
FEB 2005												
07...	<.010	.17	--	.9	<20	10	20	<4.0	20	<.20	<4	<4
MAR												
15...	<.010	.08	--	2.4	<10	<10	10	<4.0	20	<.20	<4	4
APR												
20...	.013	.13	--	<.2	<20	30	50	<4.0	20	<.20	<4	<4
MAY												
03...	.011	.24	--	.3	<10	<10	10	<4.0	20	<.20	<4	<4
JUN												
14...	.017	.11	--	.6	<20	20	30	<4.0	30	<.20	<4	<4
JUL												
25...	.016	.13	--	.8	<20	20	40	<4.0	30	<.20	<4	<4
AUG												
24...	.013	.17	--	.3	<10	20	30	<4.0	30	<.20	<4	<4
SEP												
07...	.017	.16	--	.7	<20	20	30	<4.0	30	<.20	<4	<4
01549590 Little Pine Creek bl Reservoir near Waterville, PA (LAT 41 21 12N LONG 077 21 20W)												
NOV 2004												
22...	<.010	.47	1.7	.6	<20	<10	30	<4.0	30	<.20	<4	<4
JAN 2005												
24...	.011	.64	--	.4	--	<10	80	--	--	--	<4	<4
MAR												
14...	<.010	1.0	--	1.8	--	<10	30	--	--	--	<4	<4
MAY												
18...	.013	.39	--	.5	--	<10	110	--	--	--	<4	7
JUL												
20...	.577	3.3	--	1.2	--	10	26200	--	--	--	<4	40
SEP												
28...	.025	.42	--	.7	--	<10	160	--	--	--	<4	<4
01553005 Muncy Creek near Muncy, PA (LAT 41 12 27N LONG 076 45 09W)												
NOV 2004												
09...	.016	1.4	--	.9	--	<10	10	--	--	--	<4	<4
JAN 2005												
20...	<.010	1.6	--	1.1	--	<10	90	--	--	--	<4	<4
MAR												
15...	.013	2.0	--	2.3	--	10	40	--	--	--	<4	<4
MAY												
19...	.019	.93	--	.5	--	10	20	--	--	--	<4	<4
JUL												
21...	.025	.72	--	.6	--	<10	60	--	--	--	<4	<4
SEP												
29...	.036	1.1	--	.4	--	<10	10	--	--	--	<4	<4
01553430 Spruce Run ab Spruce Run Reservoir nr Mazeppa, PA (LAT 41 01 27N LONG 077 03 54W)												
OCT 2004												
13...	<.010	<.06	--	1.1	<20	20	20	<4.0	10	<.20	<4	<4
NOV												
08...	<.010	.11	--	.5	<20	20	20	<4.0	10	<.20	<4	<4
DEC												
02...	<.010	.07	--	.9	<20	40	50	<4.0	10	<.20	<4	<4
JAN 2005												
10...	<.010	<.06	--	.6	10	20	50	<4.0	10	<.20	<4	<4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01548476 Cedar Run above Mine Hole Run near Cedar Run, PA (LAT 41 33 19N LONG 077 27 36W)											
FEB 2005											
07...	<20	20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
MAR											
15...	<20	20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
APR											
20...	30	70	<1.0	<1.0	<2.0	3.8	<4.0	<4.0	<5.0	<5.0	<5
MAY											
03...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
JUN											
14...	<20	20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
JUL											
25...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
AUG											
24...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	5.8	21	<5
SEP											
07...	<20	<20	<1.0	<1.0	<2.0	<2.0	<4.0	<4.0	<5.0	<5.0	<5
01549590 Little Pine Creek bl Reservoir near Waterville, PA (LAT 41 21 12N LONG 077 21 20W)											
NOV 2004											
22...	<20	80	<1.0	<1.0	90	110	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
24...	20	170	<1.0	<1.0	260	280	4.6	5.7	<5.0	5.8	--
MAR											
14...	<20	40	<1.0	<1.0	60	60	<4.0	<4.0	<5.0	<5.0	--
MAY											
18...	90	380	<1.0	<1.0	470	500	<4.0	4.7	<5.0	6.9	--
JUL											
20...	170	36100	<1.0	41	1030	2130	<4.0	81	8.6	250	--
SEP											
28...	40	640	<1.0	<1.0	400	450	5.6	7.0	5.9	9.5	--
01553005 Muncy Creek near Muncy, PA (LAT 41 12 27N LONG 076 45 09W)											
NOV 2004											
09...	<20	30	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	--
JAN 2005											
20...	<20	170	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	--
MAR											
15...	<20	40	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	--
MAY											
19...	--	--	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	--
JUL											
21...	20	130	<1.0	<1.0	10	10	<4.0	<4.0	<5.0	<5.0	--
SEP											
29...	<20	30	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	--
01553430 Spruce Run ab Spruce Run Reservoir nr Mazeppa, PA (LAT 41 01 27N LONG 077 03 54W)											
OCT 2004											
13...	<20	<20	<1.0	<1.0	2.6	3.5	<4.0	<4.0	<5.0	<5.0	<5
NOV											
08...	<20	<20	<1.0	<1.0	2.3	3.3	<4.0	<4.0	<5.0	<5.0	<5
DEC											
02...	30	30	<1.0	<1.0	5.3	7.5	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
10...	<20	20	<1.0	<1.0	2.9	5.0	<4.0	<4.0	--	--	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
		01553990 Susquehanna River above Dam at Sunbury, PA (LAT 40 51 10N LONG 076 48 10W)											
NOV 2004													
09...	0930	1028	9813	22700	40	13.2	7.8	7.8	232	237	7.5	89	--
JAN 2005													
06...	0930	1028	9813	72200	40	12.1	6.7	7.7	170	172	2.8	65	--
MAR													
14...	1030	1028	9813	27500	40	15.3	7.3	7.9	227	240	1.9	75	--
MAY													
02...	1030	1028	9813	23800	40	10.6	7.7	7.9	217	223	11.7	78	--
JUL													
25...	0900	1028	9813	4400	40	7.0	8.5	8.4	319	336	26.8	120	--
SEP													
06...	1030	1028	9813	5710	40	5.1	8.4	8.5	323	325	23.1	110	--
		01554665 Elk Creek at Spring Bank near Millheim, PA (LAT 40 55 24N LONG 077 28 40W)											
FEB 2005													
22...	1300	1028	9813	50	40	12.7	7.6	7.9	253	251	5.2	120	--
MAR													
16...	1245	1028	9813	33	40	12.1	7.8	7.8	287	278	6.4	140	--
APR													
18...	1345	1028	9813	45	40	10.5	7.7	8.0	251	248	11.0	120	--
MAY													
17...	1245	1028	9813	24	40	10.7	8.0	8.2	271	272	13.0	130	--
JUN													
13...	1030	1028	9813	15	40	10.0	8.1	8.2	287	281	13.9	150	--
JUL													
19...	1030	1028	9813	10	40	10.0	7.8	8.0	296	300	14.0	150	--
AUG													
22...	1000	1028	9813	6.1	40	7.8	6.5	7.6	245	250	13.7	130	--
SEP													
12...	0945	1028	9813	6.2	40	8.6	7.5	7.8	316	313	11.6	150	--
		01555210 Middle Creek near Selinsgrove, PA (LAT 40 46 29N LONG 076 52 11W)											
NOV 2004													
09...	1450	1028	9813	138	30	15.6	8.9	8.7	193	183	7.2	87	--
JAN 2005													
06...	1445	1028	9813	2400	30	11.9	7.2	7.6	123	123	3.0	55	--
MAR													
14...	0930	1028	9813	254	30	15.2	8.5	8.2	172	172	1.9	74	--
MAY													
02...	0900	1028	9813	178	30	11.8	8.5	8.0	171	162	10.6	74	--
JUL													
18...	1215	1028	9813	56	30	7.5	7.8	8.0	252	259	25.7	110	--
SEP													
06...	0930	1028	9813	17	30	8.5	8.1	8.1	286	295	19.2	130	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
		01553990 Susquehanna River above Dam at Sunbury, PA (LAT 40 51 10N LONG 076 48 10W)											
NOV 2004													
09...	24.9	--	6.4	53	--	--	32.3	134	16	<.020	.48	<.040	<.01
JAN 2005													
06...	17.9	--	4.9	35	--	--	26.5	100	38	.050	.73	<.040	.04
MAR													
14...	20.3	--	5.8	40	--	--	30.1	154	8	.040	.88	<.040	.02
MAY													
02...	21.7	--	5.8	49	--	--	29.1	134	<2	<.020	.56	<.040	<.01
JUL													
25...	31.9	--	9.4	68	--	--	47.6	292	<2	.030	.24	<.040	.02
SEP													
06...	30.2	--	8.6	63	--	--	44.8	272	<2	.020	.28	<.040	.01
		01554665 Elk Creek at Spring Bank near Millheim, PA (LAT 40 55 24N LONG 077 28 40W)											
FEB 2005													
22...	42.7	--	4.0	104	5.7	<.2	9.7	166	<2	<.020	2.45	<.040	.01
MAR													
16...	47.8	--	4.6	118	7.4	<.2	10.7	168	6	<.020	2.74	<.040	.01
APR													
18...	42.8	--	4.0	102	5.8	<.2	10.1	196	6	<.020	2.38	<.040	.01
MAY													
17...	43.4	--	4.3	112	5.9	<.2	10.7	182	2	<.020	2.49	<.040	.01
JUN													
13...	49.7	--	5.2	122	6.3	<.2	10.2	184	<2	.030	2.44	<.040	.02
JUL													
19...	51.0	--	5.2	126	7.5	<.2	10.7	210	<2	.030	2.45	<.040	.01
AUG													
22...	44.0	--	3.9	104	5.5	<.2	11.2	146	14	.020	1.71	<.040	.05
SEP													
12...	51.4	--	4.7	135	7.0	<.2	10.5	226	6	.030	2.40	<.040	.01
		01555210 Middle Creek near Selinsgrove, PA (LAT 40 46 29N LONG 076 52 11W)											
NOV 2004													
09...	24.8	--	6.1	69	--	--	13.9	126	2	<.020	1.38	<.040	<.01
JAN 2005													
06...	15.7	--	3.9	36	--	--	9.8	104	300	.080	1.49	<.040	.09
MAR													
14...	21.0	--	5.1	52	--	--	13.1	118	8	<.020	1.78	<.040	.01
MAY													
02...	21.8	--	4.8	58	--	--	13.3	134	4	.030	1.05	<.040	<.01
JUL													
18...	33.2	--	7.3	88	--	--	18.9	194	6	.040	1.62	<.040	.05
SEP													
06...	36.7	--	9.8	106	--	--	20.3	184	<2	.030	1.23	<.040	.05

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
		01553990 Susquehanna River above Dam at Sunbury, PA (LAT 40 51 10N LONG 076 48 10W)										
NOV 2004												
09...	.012	.70	2.1	--	--	--	<200	--	--	--	--	<10
JAN 2005												
06...	.061	1.1	2.1	--	--	--	1400	--	--	--	--	<10
MAR												
14...	.019	1.1	1.5	--	--	--	310	--	--	--	--	<10
MAY												
02...	.020	.85	--	--	--	--	220	--	--	--	--	<10
JUL												
25...	.028	.63	--	--	--	--	<200	--	--	--	--	<10
SEP												
06...	.040	.80	--	--	--	--	<200	--	--	--	--	<10
		01554665 Elk Creek at Spring Bank near Millheim, PA (LAT 40 55 24N LONG 077 28 40W)										
FEB 2005												
22...	.014	2.3	--	.6	80	<10	170	<4.0	20	<.20	<4	<4
MAR												
16...	.014	2.8	--	.6	<20	<10	130	<4.0	20	<.20	4	<4
APR												
18...	.017	2.3	--	.6	20	<10	150	<4.0	20	<.20	<4	<4
MAY												
17...	.027	2.5	--	.4	40	<10	150	<4.0	20	<.20	<4	<4
JUN												
13...	.022	2.5	--	.7	180	20	200	<4.0	20	<.20	<4	<4
JUL												
19...	.023	2.3	--	.7	160	20	110	<4.0	20	<.20	<4	<4
AUG												
22...	.033	1.9	--	1.0	100	20	310	<4.0	20	<.20	<4	<4
SEP												
12...	.015	2.5	--	1.2	320	20	90	<4.0	20	<.20	<4	<4
		01555210 Middle Creek near Selinsgrove, PA (LAT 40 46 29N LONG 076 52 11W)										
NOV 2004												
09...	.012	1.6	2.3	--	--	--	<200	--	--	--	--	<10
JAN 2005												
06...	.360	2.5	4.0	--	--	--	4800	--	--	--	--	<10
MAR												
14...	.016	2.0	2.0	--	--	--	<200	--	--	--	--	<10
MAY												
02...	.019	1.2	--	--	--	--	<200	--	--	--	--	<10
JUL												
18...	.101	1.9	--	--	--	--	560	--	--	--	--	<10
SEP												
06...	.062	1.5	--	--	--	--	230	--	--	--	--	<10

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mangan- ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen- olic com- pounds, water, unfltrd µg/L (32730)
		01553990 Susquehanna River above Dam at Sunbury, PA (LAT 40 51 10N LONG 076 48 10W)									
NOV 2004											
09...	--	240	--	<1.0	--	100	--	<50	--	<10	--
JAN 2005											
06...	--	2000	--	1.4	--	220	--	<50	--	10	--
MAR											
14...	--	600	--	<1.0	--	180	--	<50	--	20	--
MAY											
02...	--	460	--	<1.0	--	80	--	<50	--	<10	--
JUL											
25...	--	140	--	<1.0	--	50	--	<50	--	<10	--
SEP											
06...	--	260	--	<1.0	--	120	--	<50	--	<10	--
		01554665 Elk Creek at Spring Bank near Millheim, PA (LAT 40 55 24N LONG 077 28 40W)									
FEB 2005											
22...	<20	150	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
MAR											
16...	30	180	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
APR											
18...	<20	230	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
MAY											
17...	<20	130	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN											
13...	20	230	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUL											
19...	<20	170	<1.0	<1.0	<10	<10	<4.0	<4.0	--	--	<5
AUG											
22...	<20	460	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	<5.0	<5
SEP											
12...	<20	<20	<1.0	<1.0	10	10	--	--	<5.0	<5.0	<5
		01555210 Middle Creek near Selinsgrove, PA (LAT 40 46 29N LONG 076 52 11W)									
NOV 2004											
09...	--	180	--	<1.0	--	20	--	<50	--	30	--
JAN 2005											
06...	--	7970	--	7.4	--	340	--	<50	--	30	--
MAR											
14...	--	280	--	<1.0	--	20	--	<50	--	<10	--
MAY											
02...	--	240	--	<1.0	--	20	--	<50	--	<10	--
JUL											
18...	--	760	--	<1.0	--	60	--	<50	--	<10	--
SEP											
06...	--	350	--	<1.0	--	40	--	<50	--	<10	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01555859 Beaverdam Br Juniata River near Hollidaysburg, PA (LAT 40 25 50N LONG 078 21 50W)													
NOV 2004													
03...	0930	1028	9813	115	30	8.8	7.8	7.3	397	402	12.7	160	--
JAN 2005													
11...	1030	1028	9813	319	30	12.5	7.5	7.7	265	260	5.2	95	--
MAR													
21...	1150	1028	9813	126	30	14.3	7.8	7.7	389	391	5.2	120	--
MAY													
24...	1100	1028	9813	55	30	9.2	7.4	7.8	435	412	12.1	160	--
JUL													
07...	1400	1028	9813	19	30	8.4	7.8	7.9	601	650	20.3	230	--
SEP													
22...	0945	1028	9813	14	30	6.8	7.8	7.8	659	736	16.7	240	--
01556009 Frankstown Br Juniata R at RR at Williamsburg, PA (LAT 40 28 19N LONG 078 11 13W)													
NOV 2004													
03...	1045	1028	9813	322	30	11.0	8.1	8.0	422	426	12.9	180	--
JAN 2005													
11...	0940	1028	9813	1180	30	12.8	7.9	8.0	257	253	5.2	100	--
MAR													
21...	1300	1028	9813	390	30	15.1	8.5	8.3	391	389	7.1	150	--
MAY													
24...	1245	1028	9813	231	30	9.7	8.1	8.3	456	446	13.2	180	--
JUL													
07...	1300	1028	9813	98	30	10.7	8.3	8.4	548	593	20.8	230	--
SEP													
22...	0815	1028	9813	75	30	7.4	7.9	8.0	591	662	15.0	230	--
01557990 Sinking Run near Spruce Creek, PA (LAT 40 36 39N LONG 078 11 17W)													
FEB 2005													
23...	0915	1028	9813	9.3	40	14.4	8.1	8.1	249	150	4.1	120	--
MAR													
21...	1430	1028	9813	1.1	40	14.5	9.0	8.6	193	196	7.5	91	--
APR													
25...	1300	1028	9813	1.3	40	13.7	8.8	8.6	196	185	7.7	91	--
MAY													
18...	1245	1028	9813	1.6	40	7.9	8.7	8.5	159	160	17.3	74	--
JUN													
06...	1330	1028	9813	.35	40	8.4	9.0	8.8	153	145	23.4	68	--
JUL													
06...	1200	1028	9813	.36	40	13.9	9.0	9.1	172	178	20.6	89	--
AUG													
29...	1400	1028	9813	.14	40	10.7	9.0	8.9	153	157	19.9	73	--
SEP													
14...	0800	1028	9813	.13	40	6.4	7.4	7.7	177	180	15.3	88	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
	01555859 Beaverdam Br Juniata River near Hollidaysburg, PA (LAT 40 25 50N LONG 078 21 50W)												
NOV 2004													
03...	41.0	--	13.5	63	--	--	79.5	248	16	<.020	1.47	<.040	.06
JAN 2005													
11...	25.6	--	7.5	44	--	--	50.4	166	6	<.020	1.30	<.040	.01
MAR													
21...	31.0	--	10.3	45	--	--	65.4	270	10	<.020	1.48	<.040	.03
MAY													
24...	40.7	--	13.8	58	--	--	91.4	296	8	.040	1.95	<.040	.07
JUL													
07...	61.7	--	18.0	95	--	--	98.9	422	14	.040	5.86	<.040	.55
SEP													
22...	64.9	--	19.1	106	--	--	106	500	<2	.030	5.85	.080	.55
	01556009 Frankstown Br Juniata R at RR at Williamsburg, PA (LAT 40 28 19N LONG 078 11 13W)												
NOV 2004													
03...	46.9	--	15.3	122	--	--	44.1	274	4	<.020	2.05	<.040	.04
JAN 2005													
11...	28.1	--	8.3	73	--	--	29.9	172	18	.040	1.95	<.040	.03
MAR													
21...	37.7	--	12.6	97	--	--	43.3	276	8	.030	2.17	<.040	.03
MAY													
24...	45.1	--	15.5	122	--	--	59.9	268	6	.020	2.50	<.040	.08
JUL													
07...	58.8	--	21.2	166	--	--	57.7	368	<2	.020	3.18	<.040	.18
SEP													
22...	57.1	--	21.6	169	--	--	66.4	448	<2	<.020	3.42	<.040	.21
	01557990 Sinking Run near Spruce Creek, PA (LAT 40 36 39N LONG 078 11 17W)												
FEB 2005													
23...	31.1	--	10.6	96	6.9	<.2	12.8	158	10	.030	2.56	<.040	.02
MAR													
21...	22.1	--	8.7	73	4.2	<.2	11.7	166	<2	<.020	2.37	<.040	.03
APR													
25...	22.8	--	8.2	76	3.5	<.2	11.5	154	8	<.020	2.26	<.040	.02
MAY													
18...	19.8	--	6.0	62	3.2	<.2	10.6	136	4	<.020	1.13	<.040	.02
JUN													
06...	19.4	--	4.8	62	2.8	<.2	9.9	102	6	<.020	.37	<.040	.02
JUL													
06...	24.9	--	6.6	79	3.1	<.2	9.5	102	4	.020	.32	<.040	.02
AUG													
29...	21.6	--	4.7	71	1.7	<.2	7.3	166	<2	.030	.13	<.040	.01
SEP													
14...	27.0	--	5.0	84	1.8	<.2	7.3	122	<2	.030	.05	<.040	.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01555859 Beaverdam Br Juniata River near Hollidaysburg, PA (LAT 40 25 50N LONG 078 21 50W)												
NOV 2004												
03...	.095	1.9	2.9	--	--	--	290	--	--	--	--	<10
JAN 2005												
11...	.028	1.4	1.4	--	--	--	550	--	--	--	--	<10
MAR												
21...	.075	1.5	1.6	--	--	--	480	--	--	--	--	<10
MAY												
24...	.183	2.4	--	--	--	--	560	--	--	--	--	<10
JUL												
07...	.689	6.0	--	--	--	--	440	--	--	--	--	<10
SEP												
22...	.597	5.8	--	--	--	--	<200	--	--	--	--	<10
01556009 Frankstown Br Juniata R at RR at Williamsburg, PA (LAT 40 28 19N LONG 078 11 13W)												
NOV 2004												
03...	.047	2.3	3.0	--	--	--	<200	--	--	--	--	<10
JAN 2005												
11...	.037	2.1	1.9	--	--	--	400	--	--	--	--	<10
MAR												
21...	.038	2.4	2.7	--	--	--	<200	--	--	--	--	<10
MAY												
24...	.114	2.8	--	--	--	--	<200	--	--	--	--	<10
JUL												
07...	.199	3.4	--	--	--	--	<200	--	--	--	--	<10
SEP												
22...	.240	3.4	--	--	--	--	<200	--	--	--	--	<10
01557990 Sinking Run near Spruce Creek, PA (LAT 40 36 39N LONG 078 11 17W)												
FEB 2005												
23...	.016	3.1	--	.9	500	<10	160	<4.0	40	<.20	<4	<4
MAR												
21...	.023	2.4	--	.5	20	<10	100	<4.0	20	<.20	<4	<4
APR												
25...	.032	2.2	--	1.6	280	<10	80	<4.0	20	<.20	<4	<4
MAY												
18...	.019	1.2	--	.4	500	<10	40	<4.0	20	<.20	<4	<4
JUN												
06...	.210	.58	--	1.3	720	20	60	<4.0	20	<.20	<4	<4
JUL												
06...	.026	.67	--	1.1	2600	20	60	<4.0	30	<.20	<4	<4
AUG												
29...	.027	.29	--	1.1	160	30	50	<4.0	20	<.20	<4	5
SEP												
14...	.016	.15	--	.4	140	20	40	<4.0	40	<.20	<4	<4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01555859 Beaverdam Br Juniata River near Hollidaysburg, PA (LAT 40 25 50N LONG 078 21 50W)											
NOV 2004											
03...	--	240	--	<1.0	--	850	--	<50	--	20	--
JAN 2005											
11...	--	730	--	<1.0	--	490	--	<50	--	40	--
MAR											
21...	--	710	--	<1.0	--	720	--	<50	--	30	--
MAY											
24...	--	810	--	1.2	--	910	--	<50	--	50	--
JUL											
07...	--	650	--	1.2	--	220	--	<50	--	50	--
SEP											
22...	--	180	--	<1.0	--	110	--	<50	--	20	--
01556009 Frankstown Br Juniata R at RR at Williamsburg, PA (LAT 40 28 19N LONG 078 11 13W)											
NOV 2004											
03...	--	100	--	<1.0	--	40	--	<50	--	<10	--
JAN 2005											
11...	--	530	--	<1.0	--	120	--	<50	--	<10	--
MAR											
21...	--	180	--	<1.0	--	190	--	<50	--	<10	--
MAY											
24...	--	160	--	<1.0	--	70	--	<50	--	<10	--
JUL											
07...	--	110	--	<1.0	--	50	--	<50	--	20	--
SEP											
22...	--	90	--	<1.0	--	40	--	<50	--	<10	--
01557990 Sinking Run near Spruce Creek, PA (LAT 40 36 39N LONG 078 11 17W)											
FEB 2005											
23...	<20	130	<1.0	<1.0	4.0	9.5	<4.0	<4.0	<5.0	<5.0	<5
MAR											
21...	<20	90	<1.0	<1.0	2.9	5.0	<4.0	<4.0	<5.0	<5.0	<5
APR											
25...	<20	110	<1.0	<1.0	<2.0	5.3	<4.0	<4.0	<5.0	<5.0	13
MAY											
18...	<20	60	<1.0	<1.0	3.9	5.3	<4.0	<4.0	<5.0	<5.0	<5
JUN											
06...	<20	60	<1.0	<1.0	6.5	8.7	<4.0	<4.0	<5.0	<5.0	<5
JUL											
06...	<20	90	<1.0	<1.0	5.2	8.1	<4.0	<4.0	<5.0	<5.0	<5
AUG											
29...	30	90	<1.0	<1.0	5.7	9.1	<4.0	<4.0	<5.0	8.6	<5
SEP											
14...	20	90	<1.0	<1.0	33	37	<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 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01564515 Aughwick Creek at Aughwick Mills, PA (LAT 40 20 05N LONG 077 51 36W)													
OCT 2004													
21...	1400	1028	9813	247	30	10.6	7.7	7.5	168	165	10.7	68	--
NOV													
02...	1130	1028	9813	157	30	9.7	7.5	7.4	169	166	12.9	67	--
DEC													
07...	1300	1028	9813	592	30	12.1	6.9	7.1	118	135	5.3	46	--
JAN 2005													
11...	1330	1028	9813	1250	30	13.5	7.5	7.8	105	106	4.7	38	--
MAR													
21...	1020	1028	9813	247	30	13.2	8.1	7.8	150	150	6.5	54	--
MAY													
24...	1430	1028	9813	143	30	9.1	7.7	7.9	171	166	15.0	66	--
JUL													
07...	1100	1028	9813	59	30	7.9	7.8	8.1	198	217	24.7	92	--
SEP													
22...	1315	1028	9813	27	30	8.0	8.1	8.0	301	329	19.9	130	--
01566005 East Licking Creek ab Reservoir nr Lewistown, PA (LAT 40 32 48N LONG 077 31 40W)													
FEB 2005													
22...	1015	1028	9813	38	40	13.6	6.7	7.3	45	43	2.1	17	--
MAR													
21...	0930	1028	9813	37	40	10.8	6.9	6.8	47	45	4.4	19	--
APR													
25...	0945	1028	9813	97	40	12.1	6.3	7.2	45	41	6.5	17	--
MAY													
17...	0930	1028	9813	16	40	10.1	7.0	7.5	55	53	10.2	23	--
JUN													
06...	0900	1028	9813	12	40	9.1	7.0	7.4	63	60	15.6	27	--
JUL													
18...	0845	1028	9813	13	40	7.8	6.7	7.4	59	58	20.2	27	--
AUG													
29...	0915	1028	9813	5.2	40	8.2	7.2	7.7	77	79	17.9	36	--
SEP													
20...	0930	1028	9813	3.6	40	7.7	7.1	7.7	92	91	17.3	45	--
01567795 Letort Spring Run at Bonny Brook near Carlisle, PA (LAT 40 10 39N LONG 077 11 10W)													
OCT 2004													
19...	1115	1028	9813	38	30	9.4	7.3	7.6	542	541	10.9	280	--
NOV													
01...	0900	1028	9813	39	30	9.4	7.4	7.8	546	550	10.3	290	--
DEC													
01...	0945	1028	9813	34	30	10.3	7.3	7.8	547	532	10.5	280	--
JAN 2005													
18...	1100	1028	9813	39	30	11.5	7.7	7.8	551	474	8.5	290	--
FEB													
14...	0830	1028	9813	34	30	9.2	7.5	7.9	545	545	9.5	270	--
MAR													
07...	0845	1028	9813	33	30	9.3	6.9	7.9	543	547	9.6	290	--
APR													
27...	0830	1028	9813	48	30	8.7	7.4	7.9	548	528	10.8	270	--
MAY													
10...	0830	1028	9813	32	30	9.6	7.2	7.9	543	550	10.9	280	--
JUN													
07...	1130	1028	9813	30	30	10.4	7.6	8.0	547	544	12.6	270	--
JUL													
11...	1400	1028	9813	23	30	12.7	7.7	8.0	533	549	14.1	260	--
AUG													
17...	1100	1028	9813	21	30	9.7	7.6	8.0	534	508	11.9	280	--
SEP													
19...	0830	1028	9813	19	30	8.8	7.0	7.7	532	551	10.9	290	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01564515 Aughwick Creek at Aughwick Mills, PA (LAT 40 20 05N LONG 077 51 36W)													
OCT 2004													
21...	19.7	--	4.6	53	8.9	<.2	11.9	116	4	<.020	.45	<.040	<.01
NOV													
02...	19.3	--	4.6	55	9.2	<.2	12.2	104	<2	<.020	.24	<.040	<.01
DEC													
07...	13.0	--	3.2	33	6.2	<.2	11.2	96	10	<.020	.93	<.040	.01
JAN 2005													
11...	10.5	--	2.8	27	5.3	<.2	11.2	62	10	<.020	1.18	<.040	.01
MAR													
21...	15.5	--	3.7	41	--	--	12.2	104	6	.020	.72	<.040	.01
MAY													
24...	19.6	--	4.2	51	--	--	12.9	110	<2	.030	.50	<.040	.01
JUL													
07...	27.2	--	5.8	73	--	--	14.5	136	2	.030	.31	<.040	.03
SEP													
22...	36.8	--	9.2	107	--	--	21.9	172	6	.020	.08	<.040	.01
01566005 East Licking Creek ab Reservoir nr Lewistown, PA (LAT 40 32 48N LONG 077 31 40W)													
FEB 2005													
22...	4.6	--	1.4	13	.91	<.2	5.7	48	2	<.020	.64	<.040	<.01
MAR													
21...	5.1	--	1.5	11	.90	<.2	5.9	74	6	<.020	.57	<.040	<.01
APR													
25...	4.7	--	1.3	11	.85	<.2	5.9	66	4	<.020	.44	<.040	<.01
MAY													
17...	6.5	--	1.7	18	.84	<.2	5.7	58	<2	<.020	.36	<.040	<.01
JUN													
06...	7.7	--	1.8	23	.97	<.2	5.2	38	<2	<.020	.38	<.040	<.01
JUL													
18...	7.9	--	1.7	23	.77	<.2	5.3	76	<2	.020	.22	<.040	.01
AUG													
29...	10.6	--	2.3	34	.73	<.2	4.1	66	<2	<.020	.22	<.040	<.01
SEP													
20...	13.5	--	2.7	43	.83	<.2	4.1	54	<2	.040	.17	<.040	<.01
01567795 Letort Spring Run at Bonny Brook near Carlisle, PA (LAT 40 10 39N LONG 077 11 10W)													
OCT 2004													
19...	86.1	--	16.1	229	9.6	<.2	19.9	372	2	<.020	6.92	<.040	<.01
NOV													
01...	89.6	--	16.5	228	11.6	<.2	20.0	334	<2	<.020	6.99	<.040	<.01
DEC													
01...	87.1	--	15.9	226	11.4	<.2	19.6	332	10	<.020	7.01	<.040	.01
JAN 2005													
18...	87.5	--	16.3	229	11.5	<.2	20.7	356	14	.030	7.36	<.040	<.01
FEB													
14...	84.6	--	15.2	230	12.0	<.2	20.8	366	6	<.020	7.35	<.040	<.01
MAR													
07...	87.9	--	16.4	230	12.1	<.2	20.7	302	<2	<.020	7.30	<.040	<.01
APR													
27...	81.4	--	16.1	231	11.8	<.2	22.6	356	<2	<.020	7.14	<.040	<.01
MAY													
10...	87.4	--	15.9	227	11.7	<.2	21.5	364	<2	.030	7.30	<.040	2.22
JUN													
07...	83.8	--	14.8	227	11.8	<.2	20.8	406	<2	<.020	7.09	<.040	<.01
JUL													
11...	80.4	--	14.8	230	12.1	<.2	21.0	432	<2	.030	7.18	<.040	<.01
AUG													
17...	84.8	--	16.0	232	12.1	<.2	21.1	424	<2	.030	7.23	<.040	.01
SEP													
19...	87.9	--	16.4	229	12.0	<.2	21.0	386	<2	.020	7.44	<.040	<.01

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover -able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)
01564515 Aughwick Creek at Aughwick Mills, PA (LAT 40 20 05N LONG 077 51 36W)												
OCT 2004												
21...	<.010	.55	--	.7	80	<10	50	<4.0	50	<.20	<4	<4
NOV												
02...	.013	.45	--	.7	40	<10	40	<4.0	50	<.20	<4	<4
DEC												
07...	.014	1.2	--	.6	180	<10	100	<4.0	40	<.20	<4	<4
JAN 2005												
11...	.013	1.2	--	1.5	240	20	230	<4.0	40	<.20	<4	<4
MAR												
21...	.013	.71	1.5	--	--	--	<200	--	--	--	--	<10
MAY												
24...	.013	.75	--	--	--	--	<200	--	--	--	--	<10
JUL												
07...	.027	.58	--	--	--	--	270	--	--	--	--	<10
SEP												
22...	.013	.40	--	--	--	--	<200	--	--	--	--	<10
01566005 East Licking Creek ab Reservoir nr Lewistown, PA (LAT 40 32 48N LONG 077 31 40W)												
FEB 2005												
22...	<.010	.56	--	1.1	140	<10	60	<4.0	20	<.20	<4	<4
MAR												
21...	<.010	.54	--	1.1	<20	10	80	<4.0	20	<.20	<4	<4
APR												
25...	<.010	.39	--	1.1	40	20	70	<4.0	20	<.20	<4	<4
MAY												
17...	<.010	.55	--	.2	40	10	40	7.9	30	<.20	<4	<4
JUN												
06...	.247	.48	--	.7	<20	30	60	<4.0	30	<.20	<4	<4
JUL												
18...	.013	.30	--	.4	170	40	200	<4.0	30	<.20	<4	<4
AUG												
29...	<.010	.25	--	1.2	360	30	70	<4.0	30	<.20	<4	<4
SEP												
20...	<.010	.50	--	<.2	80	20	30	<4.0	30	<.20	<4	<4
01567795 Letort Spring Run at Bonny Brook near Carlisle, PA (LAT 40 10 39N LONG 077 11 10W)												
OCT 2004												
19...	<.010	7.0	--	.5	80	<10	20	<4.0	50	<.20	<4	<4
NOV												
01...	.017	7.5	--	.5	100	<10	10	<4.0	50	<.20	<4	<4
DEC												
01...	.022	7.7	--	<.2	280	<10	50	<4.0	40	<.20	<4	<4
JAN 2005												
18...	<.010	7.4	--	1.1	<10	10	30	<4.0	50	<.20	<4	<4
FEB												
14...	<.010	7.3	--	.5	30	<10	30	<4.0	50	<.20	<4	<4
MAR												
07...	<.010	7.8	--	.8	<20	<10	30	<4.0	50	<.20	<4	<4
APR												
27...	<.010	7.1	--	.6	70	<10	10	<4.0	40	<.20	<4	<4
MAY												
10...	<.010	6.9	--	.6	100	20	30	<4.0	40	<.20	<4	<4
JUN												
07...	.211	7.5	--	<.2	200	<10	20	<4.0	50	<.20	<4	<4
JUL												
11...	.012	7.0	--	.6	140	30	40	<4.0	40	<.20	<4	<4
AUG												
17...	.014	7.3	--	.2	80	<10	20	<4.0	40	<.20	<4	<4
SEP												
19...	.015	7.0	--	.3	40	20	20	<4.0	40	<.20	<4	<4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
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WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01564515 Aughwick Creek at Aughwick Mills, PA (LAT 40 20 05N LONG 077 51 36W)											
OCT 2004											
21...	50	200	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
NOV											
02...	60	160	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
DEC											
07...	<20	180	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	<5.0	<5
JAN 2005											
11...	20	330	<1.0	<1.0	<10	20	<4.0	<4.0	<5.0	<5.0	<5
MAR											
21...	--	190	--	<1.0	--	20	--	<50	--	<10	--
MAY											
24...	--	180	--	<1.0	--	20	--	<50	--	<10	--
JUL											
07...	--	410	--	<1.0	--	40	--	<50	--	20	--
SEP											
22...	--	120	--	<1.0	--	30	--	<50	--	<10	--
01566005 East Licking Creek ab Reservoir nr Lewistown, PA (LAT 40 32 48N LONG 077 31 40W)											
FEB 2005											
22...	<20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
MAR											
21...	20	70	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
APR											
25...	30	80	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	<5.0	<5
MAY											
17...	<20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN											
06...	30	100	<1.0	<1.0	<10	20	<4.0	5.2	7.2	7.5	15
JUL											
18...	80	300	<1.0	<1.0	10	30	<4.0	<4.0	--	--	<5
AUG											
29...	20	140	<1.0	<1.0	<10	20	<4.0	<4.0	--	--	<5
SEP											
20...	30	130	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	8.2	<5
01567795 Letort Spring Run at Bonny Brook near Carlisle, PA (LAT 40 10 39N LONG 077 11 10W)											
OCT 2004											
19...	<20	70	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
NOV											
01...	<20	40	<1.0	<1.0	<10	<10	7.6	7.6	<5.0	<5.0	<5
DEC											
01...	40	130	<1.0	<1.0	<10	10	<4.0	<4.0	<5.0	62	<5
JAN 2005											
18...	<20	60	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
FEB											
14...	<20	70	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
MAR											
07...	<20	50	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
APR											
27...	<20	40	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
MAY											
10...	<20	40	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN											
07...	<20	40	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUL											
11...	<20	50	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
AUG											
17...	<20	50	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
SEP											
19...	<20	90	<1.0	<1.0	<10	<10	<4.0	8.1	7.4	19	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conduct-ance, wat unf lab, µS/cm 25 degC (90095)	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01569195 Conodoguinet Creek ab Reservoir near Roxbury, PA (LAT 40 05 38N LONG 077 43 15W)													
FEB 2005													
14...	1115	1028	9813	32	40	13.0	7.1	7.5	61	59	.4	25	--
MAR													
09...	1130	1028	9813	61	40	13.9	6.9	7.2	56	55	-.1	19	--
APR													
27...	1145	1028	9813	30	40	9.8	7.3	7.5	60	57	11.0	25	--
MAY													
10...	1130	1028	9813	20	40	10.7	7.7	7.7	71	71	13.0	30	--
JUN													
07...	0900	1028	9813	67	40	8.7	6.8	7.4	55	54	16.0	24	--
JUL													
11...	1100	1028	9813	9.0	40	9.9	7.4	7.1	87	89	18.2	38	--
AUG													
17...	0830	1028	9813	12	40	7.4	7.3	7.7	98	94	18.3	47	--
SEP													
19...	1045	1028	9813	3.0	40	7.6	7.6	8.0	128	132	15.5	66	--
01571505 Yellow Breeches Creek at New Cumberland, PA (LAT 40 13 27N LONG 076 51 38W)													
OCT 2004													
19...	0845	1028	9813	340	40	11.3	7.7	8.0	315	314	11.1	140	--
NOV													
01...	1115	1028	9813	298	40	10.2	8.1	8.1	328	330	12.8	150	--
DEC													
01...	0800	1028	9813	605	40	12.0	7.7	8.0	263	254	8.6	110	--
02...	0745	1028	9813	711	40	12.1	7.5	7.9	221	209	7.5	93	--
14...	0900	1028	9813	554	40	12.1	7.8	8.0	250	245	6.0	110	--
JAN 2005													
13...	1000	1028	9813	572	40	12.4	8.0	8.0	261	240	7.1	110	--
MAR													
09...	0830	1028	9813	514	40	13.1	7.6	8.0	293	293	3.2	110	--
29...	0900	1028	9813	2660	40	10.7	6.6	7.7	162	159	6.5	73	--
APR													
14...	0945	1028	9813	554	40	9.8	7.5	8.1	268	269	11.2	120	--
MAY													
10...	0730	1028	9813	306	40	9.8	8.3	8.2	309	309	15.9	140	--
JUN													
07...	0800	1028	9813	594	40	9.5	7.9	8.1	285	285	18.9	120	--
16...	0845	1028	9813	222	40	8.5	8.1	8.2	296	286	21.8	130	--
JUL													
13...	0915	1028	9813	217	40	8.1	7.8	8.2	318	329	21.3	150	--
AUG													
18...	0915	1028	9813	175	40	9.0	8.1	8.0	322	325	20.7	150	--
SEP													
27...	0845	1028	9813	131	40	8.7	7.9	8.2	346	356	17.5	160	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phos-phate, water, unfltrd mg/L as P (70507)
01569195 Conodoguinet Creek ab Reservoir near Roxbury, PA (LAT 40 05 38N LONG 077 43 15W)													
FEB 2005													
14...	7.1	--	1.6	22	1.6	<.2	4.9	52	<2	<.020	.58	<.040	<.01
MAR													
09...	5.4	--	1.4	14	3.3	<.2	5.3	60	6	.020	.78	<.040	<.01
APR													
27...	7.1	--	1.7	21	1.5	<.2	5.2	34	4	<.020	.47	<.040	<.01
MAY													
10...	8.8	--	2.0	28	1.5	<.2	4.7	60	<2	.020	.40	<.040	<.01
JUN													
07...	7.1	--	1.6	17	1.2	<.2	4.8	100	26	<.020	.43	<.040	.02
JUL													
11...	11.3	--	2.3	40	1.5	<.2	4.4	88	<2	.030	.25	<.040	<.01
AUG													
17...	14.2	--	2.8	44	1.4	<.2	5.2	136	4	<.020	.25	<.040	<.01
SEP													
19...	20.0	--	3.9	64	1.1	<.2	3.4	96	<2	.020	.09	<.040	<.01
01571505 Yellow Breeches Creek at New Cumberland, PA (LAT 40 13 27N LONG 076 51 38W)													
OCT 2004													
19...	39.2	--	10.1	114	--	--	14.0	214	2	<.020	--	--	.02
NOV													
01...	41.8	--	11.1	119	--	--	14.5	196	<2	<.020	--	--	.02
DEC													
01...	31.6	--	7.7	87	--	--	13.2	180	14	.020	--	--	.03
02...	25.9	--	6.8	75	--	--	12.4	140	26	.020	--	--	.04
14...	29.3	--	8.2	86	--	--	13.9	164	8	.030	--	--	.02
JAN 2005													
13...	30.9	--	7.6	91	--	--	15.6	126	4	.050	--	--	.02
MAR													
09...	31.7	--	7.7	86	--	--	14.8	198	20	.030	--	--	.02
29...	19.5	--	6.0	48	--	--	11.0	126	186	.100	--	--	.06
APR													
14...	32.4	--	9.3	92	--	--	15.6	180	10	.100	--	--	.02
MAY													
10...	37.3	--	10.3	112	--	--	15.1	196	<2	.030	--	--	.01
JUN													
07...	33.2	--	9.9	104	--	--	14.8	216	120	.060	--	--	.05
16...	34.3	--	10.7	108	--	--	13.8	184	14	.030	--	--	.05
JUL													
13...	40.1	--	11.0	116	--	--	15.7	222	18	.070	--	--	.04
AUG													
18...	39.5	--	11.4	124	--	--	14.7	220	<2	.120	--	--	.04
SEP													
27...	43.3	--	12.6	134	--	--	16.6	238	<2	.060	--	--	.03

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01569195 Conodoguinet Creek ab Reservoir near Roxbury, PA (LAT 40 05 38N LONG 077 43 15W)												
FEB 2005												
14...	<.010	.76	--	1.1	60	10	80	<4.0	30	<.20	<4	<4
MAR												
09...	<.010	.71	--	1.1	<20	30	140	<4.0	30	<.20	<4	<4
APR												
27...	<.010	.47	--	1.1	40	20	70	<4.0	30	<.20	<4	<4
MAY												
10...	.012	.80	--	1.7	60	20	60	<4.0	30	<.20	<4	<4
JUN												
07...	.261	1.1	--	1.0	9000	70	920	<4.0	40	<.20	<4	<4
JUL												
11...	.011	.38	--	.5	100	100	100	<4.0	30	<.20	<4	<4
AUG												
17...	<.010	.28	--	.3	240	<10	70	<4.0	30	<.20	<4	<4
SEP												
19...	<.010	.12	--	.4	90	20	40	<4.0	30	<.20	<4	<4
01571505 Yellow Breeches Creek at New Cumberland, PA (LAT 40 13 27N LONG 076 51 38W)												
OCT 2004												
19...	.029	2.8	1.7	--	--	--	<200	--	--	--	--	<10
NOV												
01...	.028	2.7	2.1	--	--	--	<200	--	--	--	--	<10
DEC												
01...	.046	2.0	2.4	--	--	--	310	--	--	--	--	<10
02...	.057	1.8	2.8	--	--	--	330	--	--	--	--	<10
14...	.025	2.3	1.9	--	--	--	<200	--	--	--	--	<10
JAN 2005												
13...	.029	2.1	1.8	--	--	--	240	--	--	--	--	<10
MAR												
09...	.034	2.0	2.3	--	--	--	360	--	--	--	--	<10
29...	.319	2.2	4.5	--	--	--	5900	--	--	--	--	10
APR												
14...	.036	2.3	1.6	--	--	--	290	--	--	--	--	<10
MAY												
10...	.018	2.4	1.5	--	--	--	<200	--	--	--	--	<10
JUN												
07...	.808	3.1	4.0	--	--	--	1900	--	--	--	--	<10
16...	.066	2.5	2.3	--	--	--	340	--	--	--	--	<10
JUL												
13...	.071	2.5	2.0	--	--	--	410	--	--	--	--	<10
AUG												
18...	.042	2.5	1.7	--	--	--	<200	--	--	--	--	<10
SEP												
27...	.036	2.8	1.4	--	--	--	<200	--	--	--	--	<10

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01569195 Conodoguinet Creek ab Reservoir near Roxbury, PA (LAT 40 05 38N LONG 077 43 15W)											
FEB 2005											
14...	20	120	<1.0	<1.0	20	20	<4.0	<4.0	<5.0	<5.0	<5
MAR											
09...	30	140	<1.0	<1.0	20	30	<4.0	<4.0	<5.0	<5.0	<5
APR											
27...	50	160	<1.0	<1.0	20	20	<4.0	<4.0	<5.0	<5.0	<5
MAY											
10...	50	140	<1.0	<1.0	10	20	<4.0	<4.0	<5.0	<5.0	<5
JUN											
07...	130	1100	<1.0	<1.0	30	90	<4.0	<4.0	<5.0	13	<5
JUL											
11...	90	230	<1.0	<1.0	20	20	<4.0	<4.0	<5.0	<5.0	<5
AUG											
17...	30	250	<1.0	<1.0	20	40	<4.0	<4.0	<5.0	<5.0	<5
SEP											
19...	<20	90	<1.0	<1.0	20	20	<4.0	<4.0	--	--	<5
01571505 Yellow Breeches Creek at New Cumberland, PA (LAT 40 13 27N LONG 076 51 38W)											
OCT 2004											
19...	--	130	--	<1.0	--	10	--	<50	--	<10	--
NOV											
01...	--	140	--	<1.0	--	20	--	<50	--	<10	--
DEC											
01...	--	450	--	1.1	--	40	--	<50	--	<10	--
02...	--	620	--	1.1	--	50	--	<50	--	<10	--
14...	--	330	--	<1.0	--	20	--	<50	--	<10	--
JAN 2005											
13...	--	370	--	<1.0	--	30	--	<50	--	<10	--
MAR											
09...	--	510	--	<1.0	--	40	--	<50	--	<10	--
29...	--	6830	--	8.7	--	240	--	<50	--	40	--
APR											
14...	--	390	--	<1.0	--	30	--	<50	--	10	--
MAY											
10...	--	180	--	2.4	--	20	--	<50	--	10	--
JUN											
07...	--	2590	--	4.7	--	170	--	<50	--	<10	--
16...	--	390	--	<1.0	--	30	--	<50	--	<10	--
JUL											
13...	--	460	--	<1.0	--	30	--	<50	--	10	--
AUG											
18...	--	230	--	<1.0	--	20	--	<50	--	<10	--
SEP											
27...	--	140	--	<1.0	--	20	--	<50	--	<10	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
01573750 Conewago Creek near Arendtsville, PA (LAT 39 56 13N LONG 077 21 58W)													
OCT 2004													
20...	1030	1028	9813	7.3	30	10.9	6.4	6.9	66	65	10.1	19	4.8
NOV													
02...	0815	1028	9813	5.0	30	10.5	7.0	6.9	65	64	10.5	18	4.4
DEC													
01...	1215	1028	9813	37	30	12.2	6.3	7.0	60	56	8.2	18	4.5
JAN 2005													
18...	1315	1028	9813	20	30	14.8	7.2	6.8	59	63	.0	15	3.6
01575900 Chickies Creek near Marietta, PA (LAT 40 03 46N LONG 076 30 57W)													
NOV 2004													
01...	1315	1028	9813	--	30	11.1	8.1	8.3	490	493	12.9	220	--
JAN 2005													
13...	1145	1028	9813	--	30	12.7	8.0	8.0	409	371	7.1	180	--
MAR													
07...	1145	1028	9813	--	30	13.7	8.1	8.2	519	524	5.7	220	--
MAY													
10...	1130	1028	9813	--	30	8.8	7.9	8.2	533	522	14.8	210	--
JUL													
13...	1100	1028	9813	--	30	8.0	8.0	8.1	540	558	21.1	240	--
SEP													
01...	1145	1028	9813	--	30	7.9	7.9	7.8	617	640	20.9	250	--

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, unfltrd mg/L (00951)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)
01573750 Conewago Creek near Arendtsville, PA (LAT 39 56 13N LONG 077 21 58W)													
OCT 2004													
20...	4.8	1.8	1.8	14	5.1	<.2	6.1	64	<2	<.020	.52	<.040	<.01
NOV													
02...	4.5	1.6	1.7	16	4.8	<.2	5.5	54	<2	<.020	.48	<.040	<.01
DEC													
01...	4.5	1.6	1.6	11	3.7	<.2	7.3	66	2	<.020	.60	<.040	.01
JAN 2005													
18...	3.7	1.4	1.5	11	3.6	<.2	7.2	74	8	<.020	.93	<.040	<.01
01575900 Chickies Creek near Marietta, PA (LAT 40 03 46N LONG 076 30 57W)													
NOV 2004													
01...	60.3	--	17.1	149	--	--	23.3	296	<2	<.020	9.63	<.040	.07
JAN 2005													
13...	47.5	--	14.1	121	--	--	25.3	278	12	.070	8.94	<.040	.09
MAR													
07...	60.7	--	17.5	141	--	--	26.3	314	12	.020	10.5	.040	.04
MAY													
10...	58.8	--	16.3	156	--	--	27.0	342	<2	.050	11.2	.070	.06
JUL													
13...	66.7	--	18.0	167	--	--	33.5	372	12	.030	10.4	<.040	.08
SEP													
01...	71.2	--	18.5	185	--	--	29.8	438	<2	.030	11.1	<.040	.07

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS STATION ANALYSES

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Fecal coli-form, M-FC 0.45µMF col/ 100 mL (31616)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Barium, water, unfltrd recover-able, µg/L (01007)	Cadmium water, fltrd, µg/L (01025)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover-able, µg/L (01042)
01573750 Conewago Creek near Arendtsville, PA (LAT 39 56 13N LONG 077 21 58W)												
OCT 2004												
20...	<.010	.84	--	.6	80	20	40	<4.0	20	<.20	<4	<4
NOV												
02...	<.010	.69	3.5	<.2	<10	10	30	<4.0	30	<.20	<4	<4
DEC												
01...	.014	1.4	--	.8	160	100	280	<4.0	30	<.20	<4	<4
JAN 2005												
18...	<.010	1.1	--	1.7	20	40	50	<4.0	20	<.20	<4	<4
01575900 Chickies Creek near Marietta, PA (LAT 40 03 46N LONG 076 30 57W)												
NOV 2004												
01...	.076	11	3.5	--	--	--	<200	--	--	--	--	<10
JAN 2005												
13...	.102	8.9	2.8	--	--	--	700	--	--	--	--	<10
MAR												
07...	.034	11	2.2	--	--	--	<200	--	--	--	--	<10
MAY												
10...	.071	11	--	--	--	--	<200	--	--	--	--	10
JUL												
13...	.092	10	--	--	--	--	360	--	--	--	--	<10
SEP												
01...	.086	12	--	--	--	--	<200	--	--	--	--	<10

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)	Phen-olic com-pounds, water, unfltrd µg/L (32730)
01573750 Conewago Creek near Arendtsville, PA (LAT 39 56 13N LONG 077 21 58W)											
OCT 2004											
20...	60	130	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
NOV											
02...	50	110	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
DEC											
01...	130	350	<1.0	<1.0	10	30	<4.0	<4.0	8.6	16	<5
JAN 2005											
18...	30	80	<1.0	<1.0	<10	<10	<4.0	<4.0	<5.0	<5.0	<5
01575900 Chickies Creek near Marietta, PA (LAT 40 03 46N LONG 076 30 57W)											
NOV 2004											
01...	--	120	--	<1.0	--	10	--	<50	--	10	--
JAN 2005											
13...	--	770	--	1.5	--	40	--	<50	--	<10	--
MAR											
07...	--	280	--	<1.0	--	30	--	<50	--	<10	--
MAY											
10...	--	220	--	<1.0	--	30	--	<50	--	<10	--
JUL											
13...	--	450	--	<1.0	--	40	--	<50	--	30	--
SEP											
01...	--	160	--	<1.0	--	20	--	<50	--	20	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS LAKE ANALYSES

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Sampling depth, meters (00098)	Sampling method, code (82398)	Transparency Secchi disc, meters (00078)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduct-tance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)
01534380 Crystal Lake near Dundaff, PA (LAT 41 38 08N LONG 075 31 55W)													
AUG 2005													
03...	1100	1028	9813	1.0	30	7.5	7.8	8.1	98	26.0	28	9.5	1.0
03...	1110	1028	9813	19.0	30	--	5.0	6.2	102	6.0	29	10.1	1.0
01543896 George B. Stevenson Lake near First Fork, PA (LAT 41 24 35N LONG 078 01 15W)													
AUG 2005													
17...	1530	1028	9813	1.0	30	1.8	6.9	7.4	79	28.3	25	6.9	1.9
17...	1600	1028	9813	7.0	30	--	1.0	6.2	93	23.0	30	8.4	2.2
01544800 Kettle Creek Lake at Kettle Creek Dam, PA (LAT 41 21 37N LONG 077 55 27W)													
AUG 2005													
17...	1100	1028	9813	1.0	30	2.7	6.5	7.2	69	27.2	24	7.0	1.7
17...	1130	1028	9813	8.0	30	--	1.0	6.1	84	24.3	31	8.9	2.0
01552070 Rose Valley Lake near Bodines, PA (LAT 41 23 12N LONG 076 59 54W)													
AUG 2005													
15...	1600	1028	9813	1.0	30	.5	7.8	7.6	60	24.4	21	6.6	1.1
15...	1630	1028	9813	5.0	30	--	.8	6.7	67	21.7	27	8.7	1.3
01553650 Lake Chillisquaque near White Hall, PA (LAT 41 06 08N LONG 076 39 41W)													
AUG 2005													
15...	1230	1028	9813	1.0	30	1.2	5.3	8.6	185	28.7	78	20.9	6.2
15...	1300	1028	9813	9.0	30	--	1.4	6.6	199	13.3	64	18.3	4.5
01555124 Faylor Lake at Beaver Springs, PA (LAT 40 45 47N LONG 077 12 51W)													
AUG 2005													
16...	1040	1028	9813	1.0	30	1.5	5.7	9.2	142	27.2	64	16.9	5.4
16...	1110	1028	9813	3.0	30	--	.9	6.8	318	21.7	89	25.8	5.9
01555142 Walker Lake at Troxelville, PA (LAT 40 47 48N LONG 077 11 47W)													
AUG 2005													
16...	1400	1028	9813	1.0	30	2.7	7.3	9.7	115	27.0	50	14.9	3.2
16...	1430	1028	9813	7.5	30	--	1.1	6.6	182	13.0	55	15.6	3.8
01564950 Laurel Creek Reservoir near Milroy, PA (LAT 40 43 48N LONG 077 37 45W)													
AUG 2005													
18...	1100	1028	9813	1.0	30	6.0	7.1	7.2	75	25.5	16	3.9	1.6
18...	1130	1028	9813	29.0	30	--	4.9	4.9	83	6.0	14	3.5	1.4
01569200 Letterkenny Reservoir near Roxbury, PA (LAT 40 06 52N LONG 077 41 18W)													
JUL 2005													
07...	1130	1028	9813	1.0	30	3.8	7.7	7.8	97	25.2	38	11.3	2.4
07...	1148	1028	9813	9.0	30	--	.2	6.3	79	8.7	23	6.6	1.7
01569765 Opossum Lake near Plainfield, PA (LAT 40 13 32N LONG 077 16 32W)													
JUL 2005													
13...	1045	1028	9813	1.0	30	1.6	11.4	9.4	116	27.9	32	6.7	3.8
13...	1056	1028	9813	7.0	30	--	.2	6.9	176	8.9	38	8.5	4.1
01603700 Lake Koon near Cooks Mills, PA (LAT 39 45 52N LONG 078 39 54W)													
JUL 2005													
20...	1230	1028	9813	1.0	30	6.5	8.4	8.5	171	28.0	66	20.8	3.5
20...	1240	1028	9813	13.0	30	--	3.3	6.7	165	5.9	69	21.9	3.4
01603800 Lake Gordon near Cooks Mills, PA (LAT 39 44 52N LONG 078 40 34W)													
JUL 2005													
21...	1030	1028	9813	1.0	30	1.9	6.9	7.6	187	25.1	78	24.8	3.9
21...	1040	1028	9813	14.0	30	--	4.3	7.2	197	22.6	85	27.2	4.1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS LAKE ANALYSES

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, uncorr, µg/L (32230)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover -able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover -able, µg/L (01045)
01534380 Crystal Lake near Dundaff, PA (LAT 41 38 08N LONG 075 31 55W)													
AUG 2005													
03...	22	6.5	2	<.020	.013	.08	.000	20	30	<4	<4	<20	<20
03...	23	6.3	<2	<.020	.019	.22	--	20	30	<4	<4	<20	100
01543896 George B. Stevenson Lake near First Fork, PA (LAT 41 24 35N LONG 078 01 15W)													
AUG 2005													
17...	23	6.9	8	.020	.014	.17	.000	20	30	<4	<4	90	240
17...	29	6.1	20	.340	.065	.39	--	20	50	<4	<4	1270	2340
01544800 Kettle Creek Lake at Kettle Creek Dam, PA (LAT 41 21 37N LONG 077 55 27W)													
AUG 2005													
17...	22	6.3	<2	<.020	.013	.10	.000	20	30	<4	<4	60	150
17...	33	4.6	4	.620	.156	.71	--	20	40	<4	<4	5390	5670
01552070 Rose Valley Lake near Bodines, PA (LAT 41 23 12N LONG 076 59 54W)													
AUG 2005													
15...	17	5.7	16	.030	.030	.78	.048	30	30	<4	<4	40	130
15...	32	3.5	16	.590	.107	1.1	--	20	20	<4	<4	2980	3730
01553650 Lake Chillisquaque near White Hall, PA (LAT 41 06 08N LONG 076 39 41W)													
AUG 2005													
15...	39	43.4	2	<.020	.015	.34	.012	60	70	<4	<4	30	110
15...	77	5.5	58	2.49	.172	3.1	--	30	1400	<4	<4	9440	13000
01555124 Faylor Lake at Beaver Springs, PA (LAT 40 45 47N LONG 077 12 51W)													
AUG 2005													
16...	53	8.6	6	<.020	.026	.44	.011	20	50	<4	<4	30	210
16...	78	8.0	30	.050	.158	1.3	--	20	130	<4	<4	30	1240
01555142 Walker Lake at Troxelville, PA (LAT 40 47 48N LONG 077 11 47W)													
AUG 2005													
16...	42	8.3	2	.020	.091	2.3	.211	30	400	<4	<4	20	490
16...	70	<1.0	<2	2.81	.335	3.4	--	20	80	<4	<4	5700	5780
01564950 Laurel Creek Reservoir near Milroy, PA (LAT 40 43 48N LONG 077 37 45W)													
AUG 2005													
18...	10	5.7	8	.050	.145	.18	.000	30	30	<4	<4	30	50
18...	6	7.0	6	.110	<.010	.09	--	30	70	<4	<4	20	190
01569200 Letterkenny Reservoir near Roxbury, PA (LAT 40 06 52N LONG 077 41 18W)													
JUL 2005													
07...	34	4.3	<2	.020	.012	.30	.006	10	20	<4	<4	120	180
07...	22	5.2	8	.340	.034	.70	--	10	30	<4	<4	200	700
01569765 Opossum Lake near Plainfield, PA (LAT 40 13 32N LONG 077 16 32W)													
JUL 2005													
13...	28	8.9	<2	<.020	.026	.46	.017	10	10	<4	<4	20	110
13...	58	2.9	4	1.67	.085	2.1	--	<10	30	<4	<4	4700	6110
01603700 Lake Koon near Cooks Mills, PA (LAT 39 45 52N LONG 078 39 54W)													
JUL 2005													
20...	58	11.1	16	.030	<.010	.49	.000	20	20	<4	<4	30	<20
20...	59	11.7	12	.030	.018	.48	--	10	20	<4	<4	60	30
01603800 Lake Gordon near Cooks Mills, PA (LAT 39 44 52N LONG 078 40 34W)													
JUL 2005													
21...	65	12.1	10	.030	.015	.43	.006	<10	40	<4	<4	<20	90
21...	71	12.5	10	.080	.016	.54	--	10	250	<4	<4	40	330

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

MISCELLANEOUS LAKE ANALYSES

Date	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mangan- ese, water, unfltrd recover -able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
01534380 Crystal Lake near Dundaff, PA (LAT 41 38 08N LONG 075 31 55W)						
AUG 2005						
03...	<1.0	<1.0	<2	10	<5.0	8.0
03...	<1.0	<1.0	20	140	<5.0	<5.0
01543896 George B. Stevenson Lake near First Fork, PA (LAT 41 24 35N LONG 078 01 15W)						
AUG 2005						
17...	<1.0	<1.0	3	30	<5.0	<5.0
17...	<1.0	<1.0	760	1040	5.5	<5.0
01544800 Kettle Creek Lake at Kettle Creek Dam, PA (LAT 41 21 37N LONG 077 55 27W)						
AUG 2005						
17...	<1.0	<1.0	2	30	<5.0	<5.0
17...	<1.0	<1.0	1320	1290	<5.0	<5.0
01552070 Rose Valley Lake near Bodines, PA (LAT 41 23 12N LONG 076 59 54W)						
AUG 2005						
15...	<1.0	<1.0	6	60	<5.0	<5.0
15...	<1.0	<1.0	2020	2050	6.0	6.1
01553650 Lake Chillisquaque near White Hall, PA (LAT 41 06 08N LONG 076 39 41W)						
AUG 2005						
15...	<1.0	<1.0	4	40	<5.0	<5.0
15...	<1.0	1.3	4620	4660	<5.0	<5.0
01555124 Faylor Lake at Beaver Springs, PA (LAT 40 45 47N LONG 077 12 51W)						
AUG 2005						
16...	<1.0	<1.0	2	80	<5.0	<5.0
16...	<1.0	<1.0	1070	1430	<5.0	<5.0
01555142 Walker Lake at Troxelville, PA (LAT 40 47 48N LONG 077 11 47W)						
AUG 2005						
16...	<1.0	<1.0	<2	30	<5.0	<5.0
16...	<1.0	<1.0	1140	1200	<5.0	<5.0
01564950 Laurel Creek Reservoir near Milroy, PA (LAT 40 43 48N LONG 077 37 45W)						
AUG 2005						
18...	<1.0	<1.0	<2	10	<5.0	<5.0
18...	<1.0	<1.0	310	360	<5.0	5.4
01569200 Letterkenny Reservoir near Roxbury, PA (LAT 40 06 52N LONG 077 41 18W)						
JUL 2005						
07...	<1.0	<1.0	2	20	<5.0	<5.0
07...	<1.0	<1.0	1180	1220	<5.0	<5.0
01569765 Opossum Lake near Plainfield, PA (LAT 40 13 32N LONG 077 16 32W)						
JUL 2005						
13...	<1.0	3.1	2	20	<5.0	<5.0
13...	<1.0	<1.0	5360	5830	<5.0	<5.0
01603700 Lake Koon near Cooks Mills, PA (LAT 39 45 52N LONG 078 39 54W)						
JUL 2005						
20...	<1.0	<1.0	<2	6	7.3	6.4
20...	<1.0	<1.0	120	10	5.4	<5.0
01603800 Lake Gordon near Cooks Mills, PA (LAT 39 44 52N LONG 078 40 34W)						
JUL 2005						
21...	<1.0	<1.0	2	40	<5.0	6.4
21...	<1.0	<1.0	80	120	<5.0	13

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. A dash (--) indicates there were no observations of the organism in the sample. Samples represent counts per 100 animal (approximate) subsamples.

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01502771	01531000	01531490	01532950	01534090	01537700	01538600
Date	10/27/04	08/03/04	08/03/04	08/25/04	10/13/04	10/13/04	08/26/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count	Count
Platyhelminthes							
Turbellaria (FLATWORMS)							
Tricladida							
Planariidae	--	--	--	--	1	--	--
Nematoda (NEMATODES)	--	--	--	--	--	--	--
Mollusca							
Gastropoda (SNAILS)							
Basommatophora							
Ancylidae							
Ferrissia	2	4	--	--	--	--	--
Physidae							
Physa	--	--	--	--	--	--	--
Planorbidae							
Gyraulus	--	--	--	--	--	--	--
Bivalvia (CLAMS)							
Veneroida							
Corbiculidae							
Corbicula fluminea	--	--	--	--	--	--	--
Sphaeriidae							
Sphaerium	--	10	--	--	22	--	--
Annelida							
Oligochaeta (AQUATIC EARTHWORMS)							
Lumbricina	--	--	--	--	1	--	--
Lumbriculida							
Lumbriculidae	4	--	--	8	7	--	2
Tubificida							
Enchytraeidae	--	--	--	--	--	--	--
Naididae	--	--	--	--	--	--	--
Tubificidae	--	3	2	1	1	--	--
Arthropoda							
Acariformes							
Hydrachnidia (WATER MITES)	--	--	--	2	--	--	--
Crustacea							
Amphipoda (SCUDS)	--	--	--	--	--	--	--
Crangonyctidae							
Crangonyx	--	--	--	--	--	--	--
Gammaridae							
Gammarus	2	--	--	--	--	--	--
Isopoda (AQUATIC SOWBUGS)							
Asellidae							
Caecidotea	--	--	--	--	--	--	3

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

015400021	01542790	01547400	01547980	01548075	01548085	01549590	Station number
10/25/04	10/20/04	08/26/04	08/26/04	09/15/04	10/28/04	10/26/04	Date
Count	Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
							Platyhelminthes
							Turbellaria (FLATWORMS)
							Tricladida
--	--	6	--	5	3	--	Planariidae
2	--	--	--	1	--	--	Nematoda (NEMATODES)
							Mollusca
							Gastropoda (SNAILS)
							Basommatophora
							Ancylidae
1	--	--	--	--	1	--	*Ferrissia*
							Physidae
--	--	--	--	2	--	--	*Physa*
							Planorbidae
--	--	--	--	1	--	--	*Gyraulus*
							Bivalvia (CLAMS)
							Veneroida
							Corbiculidae
--	--	--	--	--	4	--	*Corbicula fluminea*
							Sphaeriidae
--	--	--	--	--	--	4	*Sphaerium*
							Annelida
							Oligochaeta (AQUATIC EARTHWORMS)
--	--	1	--	--	--	--	Lumbricina
							Lumbriculida
11	4	--	--	--	--	--	Lumbriculidae
							Tubificida
--	--	--	32	--	--	--	Enchytraeidae
--	--	--	--	1	6	--	Naididae
1	--	--	--	5	1	--	Tubificidae
							Arthropoda
							Acariformes
1	1	--	--	4	--	2	Hydrachnidia (WATER MITES)
							Crustacea
1	--	--	--	--	--	--	Amphipoda (SCUDS)
							Crangonyctidae
--	--	--	--	--	3	--	*Crangonyx*
							Gammaridae
1	--	--	--	45	--	--	*Gammarus*
							Isopoda (AQUATIC SOWBUGS)
							Asellidae
--	--	4	1	2	11	--	*Caecidotea*

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01502771	01531000	01531490	01532950	01534090	01537700	01538600
Date	10/27/04	08/03/04	08/03/04	08/25/04	10/13/04	10/13/04	08/26/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count	Count
Insecta							
Ephemeroptera (MAYFLIES)							
Baetidae	--	--	--	--	--	--	--
Acentrella	--	--	--	7	--	--	--
Acerpenna	--	--	--	--	--	--	--
Baetis	--	--	2	1	1	--	--
Plauditus	--	1	--	3	--	--	--
Caenidae							
Caenis	--	--	9	2	--	--	--
Ephemerellidae							
Ephemerella	30	--	1	--	--	--	--
Eurylophella	--	--	--	--	--	--	--
Serratella	26	4	3	8	1	4	--
Heptageniidae	13	6	8	--	--	4	--
Epeorus	1	--	--	--	--	--	--
Leucrocuta	18	1	--	10	--	--	--
Rhithrogena	--	--	--	--	1	--	--
Stenacron	--	--	--	--	2	--	--
Stenonema	20	18	5	13	5	10	--
Isonychiidae							
Isonychia	5	21	--	10	8	12	--
Leptophlebiidae	--	--	--	--	--	--	--
Paraleptophlebia	--	--	--	1	--	--	--
Polymitarcyidae							
Ephoron	--	2	--	--	--	--	--
Potamanthidae							
Anthopotamus	3	--	--	--	6	29	--
Odonata (DRAGONFLIES AND DAMSELFLIES)							
Coenagrionidae							
Argia	--	--	--	--	--	--	--
Gomphidae	--	--	--	--	--	--	--
Dromogomphus	--	--	--	--	--	1	--
Lanthus	--	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

015400021	01542790	01547400	01547980	01548075	01548085	01549590	Station number
10/25/04	10/20/04	08/26/04	08/26/04	09/15/04	10/28/04	10/26/04	Date
Count	Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
							Insecta
							Ephemeroptera (MAYFLIES)
--	--	--	--	1	--	--	Baetidae
--	--	1	1	--	--	--	*Acentrella*
1	--	--	--	--	--	--	*Acerpenna*
--	--	45	--	6	--	--	*Baetis*
--	--	--	--	--	--	--	*Plauditus*
							Caenidae
--	--	--	--	--	--	--	*Caenis*
							Ephemerellidae
9	--	--	--	--	--	1	*Ephemerella*
--	1	--	--	--	1	1	*Eurylophella*
1	--	1	--	--	--	--	*Serratella*
2	--	3	--	--	1	--	Heptageniidae
3	--	--	--	--	--	--	*Epeorus*
5	--	2	--	--	--	--	*Leucrocuta*
--	--	--	--	--	--	--	*Rhithrogena*
1	--	2	--	--	6	6	*Stenacron*
2	--	12	--	2	12	28	*Stenonema*
							Isonychiidae
1	--	--	--	--	--	40	*Isonychia*
5	2	--	--	1	1	--	Leptophlebiidae
--	--	1	--	--	--	--	*Paraleptophlebia*
							Polymitarcyidae
--	--	--	--	--	--	--	*Ephoron*
							Potamanthidae
--	--	--	--	--	--	--	*Anthopotamus*
							Odonata (DRAGONFLIES AND DAMSELFLIES)
							Coenagrionidae
--	--	--	--	--	--	2	*Argia*
--	1	--	--	--	--	--	Gomphidae
--	--	--	--	--	--	--	*Dromogomphus*
--	--	--	--	--	--	1	*Lanthus*

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01502771	01531000	01531490	01532950	01534090	01537700	01538600
Date	10/27/04	08/03/04	08/03/04	08/25/04	10/13/04	10/13/04	08/26/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count	Count
Plecoptera (STONEFLIES)	--	--	--	--	--	--	--
Capniidae	--	--	--	--	--	--	--
Allocapnia	--	--	--	--	--	--	--
Chloroperlidae							
Alloperla	--	--	--	--	--	--	--
Sweltsa	1	--	--	--	--	--	--
Leuctridae							
Leuctra	--	--	--	--	--	--	--
Perlidae							
Acroneuria	--	--	1	--	--	--	--
Agnetina	2	2	--	2	7	1	--
Paragnetina	1	--	--	--	--	--	--
Perlodidae							
Isoperla	--	--	--	--	--	--	--
Pteronarcyidae							
Pteronarcys	--	--	--	--	--	--	--
Taeniopterygidae							
Taenionema	3	--	--	--	--	--	--
Taeniopteryx	12	--	--	--	--	1	--
Megaloptera							
Corydalidae (FISHFLIES AND DOBSONFLIES)							
Nigronia	--	--	--	--	--	--	10
Sialidae (ALDERFLIES)							
Sialis	--	--	--	--	--	--	--
Trichoptera (CADDISFLIES)							
Apataniidae							
Apatania	--	--	--	--	--	--	--
Brachycentridae							
Brachycentrus	--	--	--	--	--	--	--
Glossosomatidae	--	1	--	--	--	--	--
Glossosoma	--	--	--	--	--	--	--
Hydropsychidae	--	--	--	--	--	--	--
Cheumatopsyche	2	24	3	9	7	38	--
Diplectrona	--	--	--	--	--	--	--
Hydropsyche	12	8	5	10	2	1	33
Potamyia	1	--	--	--	--	--	--
Hydroptilidae							
Leucotrichia	--	--	--	--	--	--	--
Lepidostomatidae							
Lepidostoma	--	--	--	--	1	--	--
Limnephilidae	--	--	--	--	--	--	--
Philopotamidae							
Chimarra	4	4	3	9	2	3	--
Psychomyiidae							
Psychomyia	9	--	--	--	--	--	--
Rhyacophilidae							
Rhyacophila	--	--	--	--	--	--	--
Uenoidae							
Neophylax	--	--	1	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

015400021	01542790	01547400	01547980	01548075	01548085	01549590	Station number
10/25/04	10/20/04	08/26/04	08/26/04	09/15/04	10/28/04	10/26/04	Date
Count	Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
2	--	--	--	--	--	--	Plecoptera (STONEFLIES)
--	3	--	--	--	--	--	Capniidae
--	--	--	--	--	--	2	*Allocapnia*
							Chloroperlidae
1	--	--	--	--	--	--	*Alloperla*
--	--	--	--	--	--	--	*Sweltsa*
							Leuctridae
--	--	--	1	--	--	--	*Leuctra*
							Perlidae
1	--	--	--	--	--	3	*Acroneuria*
--	--	--	--	--	--	--	*Agnetina*
--	--	--	--	--	--	--	*Paragnetina*
							Perlodidae
2	1	--	--	--	--	1	*Isoperla*
							Pteronarcyidae
--	1	--	--	--	--	--	*Pteronarcys*
							Taeniopterygidae
1	1	--	--	--	1	--	*Taenionema*
4	--	--	--	--	3	16	*Taeniopteryx*
							Megaloptera
							Corydalidae (FISHFLIES AND DOBSONFLIES)
--	--	--	3	--	--	--	*Nigronia*
							Sialidae (ALDERFLIES)
--	--	--	4	--	--	--	*Sialis*
							Trichoptera (CADDISFLIES)
							Apataniidae
6	--	--	--	--	--	1	*Apatania*
							Brachycentridae
--	--	--	--	6	1	--	*Brachycentrus*
--	--	--	--	--	--	--	Glossosomatidae
--	--	--	--	1	--	--	*Glossosoma*
--	--	--	--	--	1	--	Hydropsychidae
9	--	1	--	2	56	--	*Cheumatopsyche*
--	4	--	--	--	--	--	*Diplectrona*
5	18	7	1	--	3	13	*Hydropsyche*
--	--	--	--	--	--	--	*Potamyia*
							Hydroptilidae
--	--	--	--	--	--	1	*Leucotrichia*
							Lepidostomatidae
2	--	--	--	--	--	--	*Lepidostoma*
--	1	--	--	--	--	--	Limnephilidae
							Philopotamidae
3	--	--	--	--	--	--	*Chimarra*
							Psychomyiidae
--	--	--	--	--	--	1	*Psychomyia*
							Rhyacophilidae
2	--	--	--	--	--	--	*Rhyacophila*
							Uenoidae
--	--	--	--	--	--	2	*Neophylax*

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01502771	01531000	01531490	01532950	01534090	01537700	01538600
Date	10/27/04	08/03/04	08/03/04	08/25/04	10/13/04	10/13/04	08/26/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count	Count
Coleoptera (BEETLES)							
Elmidae (RIFFLE BEETLES)							
Dubiraphia	4	--	--	--	--	--	--
Macronychus	--	--	--	--	--	--	--
Optioservus	6	4	1	12	4	--	1
Oulimnius	--	--	--	--	--	--	--
Stenelmis	6	18	53	7	33	33	--
Psephenidae (WATER PENNIES)							
Psephenus	4	10	13	1	--	--	--
Diptera (TRUE FLIES)							
Athericidae							
Atherix	--	--	2	1	--	--	--
Ceratopogonidae (BITING MIDGES)	--	--	--	--	--	--	--
Chironomidae (MIDGES)	29	19	1	11	4	--	44
Empididae (DANCE FLIES)							
Chelifera	--	--	--	--	--	--	--
Hemerodromia	--	1	1	--	--	--	23
Simuliidae (BLACK FLIES)							
Simulium	--	--	--	--	--	--	--
Tabanidae							
Chrysops	--	--	--	--	--	--	--
Tipulidae (CRANE FLIES)							
Antocha	--	--	--	--	--	--	--
Dicranota	--	--	--	--	--	--	5
Hexatoma	--	--	1	--	--	--	1
Molophilus	--	--	--	--	--	--	2
Total Organisms	220	161	115	128	116	137	124
Total Taxa	26	20	19	21	20	12	10

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

015400021	01542790	01547400	01547980	01548075	01548085	01549590	Station number
10/25/04	10/20/04	08/26/04	08/26/04	09/15/04	10/28/04	10/26/04	Date
Count	Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
							Coleoptera (BEETLES)
							Elmidae (RIFFLE BEETLES)
--	--	--	--	--	--	--	*Dubiraphia*
--	--	--	--	--	1	--	*Macronychus*
33	2	2	1	34	--	1	*Optioservus*
--	3	--	--	3	--	--	*Oulimnius*
1	--	1	--	--	--	--	*Stenelmis*
							Psephenidae (WATER PENNIES)
11	--	1	--	--	--	3	*Psephenus*
							Diptera (TRUE FLIES)
							Athericidae
--	--	--	--	--	--	--	*Atherix*
	5	--	--	--	--	--	Ceratopogonidae (BITING MIDGES)
4	51	40	38	19	44	6	Chironomidae (MIDGES)
							Empididae (DANCE FLIES)
--	--	--	--	2	--	--	*Chelifera*
--	--	--	47	--	2	--	*Hemerodromia*
							Simuliidae (BLACK FLIES)
--	1	1	--	--	--	--	*Simulium*
							Tabanidae
--	--	--	1	--	--	--	*Chrysops*
							Tipulidae (CRANE FLIES)
1	--	5	1	--	4	2	*Antocha*
1	1	--	--	--	--	--	*Dicranota*
--	--	--	--	--	--	--	*Hexatoma*
--	--	--	--	--	--	--	*Molophilus*
137	101	136	131	143	166	137	Total Organisms
35	18	19	12	20	22	22	Total Taxa

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01553005	01553990	01555210	01555859	01556009	01570400
Date	08/04/04	10/25/04	10/18/04	09/14/04	09/14/04	10/13/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	--	--	1	--	5	8
Nematoda (NEMATODES)	--	--	1	--	3	--
Nemertea (PROBOSCIS WORMS)						
Enopla						
Hoplonemertea						
Tetrastemmatidae						
Prostoma	--	--	--	--	--	--
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancylidae						
Ferrissia	--	--	--	--	1	1
Hydrobiidae						
Amnicola	--	--	--	--	--	--
Physidae						
Physa	1	--	--	--	--	--
Planorbidae						
Gyraulus	--	--	--	--	--	2
Pleuroceridae						
Elimia	--	--	--	--	--	--
Leptoxis carinata	--	--	1	--	--	28
Bivalvia (CLAMS)						
Veneroida						
Corbiculidae						
Corbicula fluminea	--	6	1	--	1	7
Sphaeriidae						
Pisidium	--	--	--	--	--	3
Sphaerium	--	--	--	--	1	--
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Lumbriculida						
Lumbriculidae	--	--	1	--	1	--
Tubificida						
Enchytraeidae	--	--	--	--	--	--
Naididae	1	1	--	--	--	--
Tubificidae	--	5	3	--	--	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	--	--	--	1	1	--
Crustacea						
Amphipoda (SCUDS)	--	--	--	1	--	--
Crangonyctidae						
Crangonyx	--	--	--	--	--	--
Stygonectes	1	--	--	--	--	--
Gammaridae						
Gammarus	--	--	--	--	--	37

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

01571505	01573610	01575900	01576003	01613500	01614500	Station number
10/18/04	10/14/04	10/14/04	10/19/04	08/11/04	08/11/04	Date
Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
						Platyhelminthes
						Turbellaria (FLATWORMS)
						Tricladida
5	3	1	4	1	5	Planariidae
--	--	3	3	2	2	Nematoda (NEMATODES)
						Nemertea (PROBOSCIS WORMS)
						Enopla
						Hoplonemertea
						Tetrastemmatidae
--	--	--	--	1	--	*Prostoma*
						Mollusca
						Gastropoda (SNAILS)
						Basommatophora
						Ancylidae
--	--	1	--	2	6	*Ferrissia*
						Hydrobiidae
--	--	--	3	--	--	*Amnicola*
						Physidae
--	--	--	--	--	--	*Physa*
						Planorbidae
--	--	--	--	--	--	*Gyraulus*
						Pleuroceridae
--	--	--	1	--	--	*Elimia*
--	1	--	2	1	11	*Leptoxis carinata*
						Bivalvia (CLAMS)
						Veneroida
						Corbiculidae
--	--	2	--	3	2	*Corbicula fluminea*
						Sphaeriidae
--	--	--	--	--	--	*Pisidium*
--	--	--	--	--	--	*Sphaerium*
						Annelida
						Oligochaeta (AQUATIC EARTHWORMS)
						Lumbriculida
20	--	--	1	--	--	Lumbriculidae
						Tubificida
--	--	1	--	--	--	Enchytraeidae
--	2	2	3	--	--	Naididae
1	4	5	4	--	--	Tubificidae
						Arthropoda
						Acariformes
2	3	5	--	1	1	Hydrachnidia (WATER MITES)
						Crustacea
--	--	--	--	--	--	Amphipoda (SCUDS)
						Crangonyctidae
--	--	1	--	--	--	*Crangonyx*
--	--	--	--	--	--	*Stygonectes*
						Gammaridae
6	2	3	8	--	--	*Gammarus*

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01553005	01553990	01555210	01555859	01556009	01570400
Date	08/04/04	10/25/04	10/18/04	09/14/04	09/14/04	10/13/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Isopoda (AQUATIC SOWBUGS)						
Asellidae						
Caecidotea	--	--	--	--	2	1
Decapoda						
Cambaridae (CRAYFISH)						
Orconectes	--	--	--	--	--	--
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae						
Acentrella	2	--	--	1	--	--
Baetis	4	--	--	--	18	--
Plauditus	--	--	--	--	--	--
Caenidae						
Caenis	--	--	1	--	--	3
Ephemerellidae	--	--	--	--	--	1
Ephemerella	--	--	--	--	--	--
Serratella	9	--	1	--	5	--
Ephemeridae						
Ephemera	--	--	1	--	--	--
Heptageniidae						
Leucrocuta	5	9	11	--	--	--
Stenacron	--	1	--	--	--	1
Stenonema	20	17	40	2	33	4
Isonychiidae						
Isonychia	12	6	7	--	1	--
Leptophlebiidae						
Paraleptophlebia	1	--	4	--	--	--
Potamanthidae						
Anthopotamus	--	30	--	--	--	1
Tricorythidae						
Tricorythodes	--	--	--	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Coenagrionidae						
Argia	--	--	--	--	--	1
Gomphidae						
Lanthus	--	3	--	--	--	--
Plecoptera (STONEFLIES)						
Capniidae	--	--	--	--	--	--
Chloroperlidae						
Alloperla	4	--	--	--	--	--
Sweltsa	2	--	--	--	--	--
Leuctridae						
Leuctra	--	--	--	--	--	--
Perlidae						
Acroneuria	--	--	--	1	--	--
Agnetina	--	6	--	--	--	--
Attaneuria	--	--	--	--	--	--
Taeniopterygidae						
Taeniopteryx	--	2	18	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

01571505	01573610	01575900	01576003	01613500	01614500	Station number
10/18/04	10/14/04	10/14/04	10/19/04	08/11/04	08/11/04	Date
Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
						Isopoda (AQUATIC SOWBUGS)
						Asellidae
--	--	2	--	--	--	*Caecidotea*
						Decapoda
						Cambaridae (CRAYFISH)
--	--	--	1	--	--	*Orconectes*
						Insecta
						Ephemeroptera (MAYFLIES)
						Baetidae
--	--	--	1	2	--	*Acentrella*
1	1	2	1	10	37	*Baetis*
--	--	--	--	--	1	*Plauditus*
						Caenidae
--	1	--	--	6	4	*Caenis*
--	--	--	--	3		Ephemerellidae
4	29	--	--	--	--	*Ephemerella*
--	--	--	--	2	17	*Serratella*
						Ephemeridae
--	--	--	--	--	--	*Ephemera*
						Heptageniidae
1	3	--	6	1	2	*Leucrocuta*
--	--	4	--	--	--	*Stenacron*
8	12	26	40	16	14	*Stenonema*
						Isonychiidae
--	2	--	--	5	3	*Isonychia*
						Leptophlebiidae
--	--	--	--	--	--	*Paraleptophlebia*
						Potamanthidae
--	28	--	3	--	2	*Anthopotamus*
						Tricorythidae
--	1	1	--	--	--	*Tricorythodes*
						Odonata (DRAGONFLIES AND DAMSELFLIES)
						Coenagrionidae
--	--	--	--	--	--	*Argia*
						Gomphidae
--	--	--	--	--	--	*Lanthus*
						Plecoptera (STONEFLIES)
--	2	--	--	--	--	Capniidae
						Chloroperlidae
--	--	--	--	--	--	*Alloperla*
--	--	--	1	--	--	*Sweltsa*
						Leuctridae
1	--	--	--	--	--	*Leuctra*
						Perlidae
--	--	--	--	1	--	*Acroneuria*
--	--	--	--	--	--	*Agnetina*
1	--	--	--	--	--	*Attaneuria*
						Taeniopterygidae
12	28	4	2	--	--	*Taeniopteryx*

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

Station number	01553005	01553990	01555210	01555859	01556009	01570400
Date	08/04/04	10/25/04	10/18/04	09/14/04	09/14/04	10/13/04
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Megaloptera						
Corydalidae (FISHFLIES AND DOBSONFLIES)						
Corydalus	--	--	--	--	--	--
Nigronia	1	--	--	--	--	--
Trichoptera (CADDISFLIES)						
Glossosomatidae						
Protoptila	--	--	--	--	--	--
Hydropsychidae	--	--	--	--	--	--
Cheumatopsyche	1	17	3	5	1	--
Hydropsyche	9	2	--	112	10	--
Macrostemum	--	1	--	--	--	--
Hydroptilidae						
Leucotrichia	--	--	1	--	9	--
Lepidostomatidae						
Lepidostoma	1	--	--	--	--	--
Leptoceridae						
Ceraclea	--	--	--	--	--	1
Philopotamidae						
Chimarra	--	2	--	--	--	--
Psychomyiidae						
Psychomyia	--	--	1	--	--	--
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
Dubiraphia	--	--	--	--	--	4
Optioservus	13	1	12	--	1	9
Stenelmis	2	6	11	3	25	28
Psephenidae (WATER PENNIES)						
Psephenus	2	2	7	1	7	--
Diptera (TRUE FLIES)						
Athericidae						
Atherix	3	--	--	--	--	--
Chironomidae (MIDGES)	19	10	8	3	12	3
Empididae (DANCE FLIES)						
Chelifera	3	--	--	--	--	--
Hemerodromia	--	--	--	--	--	--
Simuliidae (BLACK FLIES)						
Simulium	--	--	--	--	--	--
Tipulidae (CRANE FLIES)						
Antocha	3	--	--	--	--	--
Hexatoma	1	--	--	--	--	--
Total Organisms	120	127	134	130	137	143
Total Taxa	24	19	21	10	19	19

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2005**
BENTHIC MACROINVERTEBRATES

01571505	01573610	01575900	01576003	01613500	01614500	Station number
10/18/04	10/14/04	10/14/04	10/19/04	08/11/04	08/11/04	Date
Count	Count	Count	Count	Count	Count	Benthic macroinvertebrate
						Megaloptera
						Corydalidae (FISHFLIES AND DOBSONFLIES)
--	--	--	--	2	--	*Corydalus*
--	--	--	--	--	--	*Nigronia*
						Trichoptera (CADDISFLIES)
						Glossosomatidae
--	1	--	--	4	--	*Protoptila*
--	--	--	--	1	7	Hydropsychidae
4	1	4	5	15	9	*Cheumatopsyche*
4	1	2	--	7	4	*Hydropsyche*
--	--	--	--	--	--	*Macrostemum*
						Hydroptilidae
1	--	--	--	2	--	*Leucotrichia*
						Lepidostomatidae
--	--	--	--	--	--	*Lepidostoma*
						Leptoceridae
--	--	--	--	--	--	*Ceraclea*
						Philopotamidae
1	--	--	--	1	--	*Chimarra*
						Psychomyiidae
1	--	--	--	--	--	*Psychomyia*
						Coleoptera (BEETLES)
						Elmidae (RIFFLE BEETLES)
--	1	--	1	--	--	*Dubiraphia*
13	7	7	1	28	12	*Optioservus*
2	7	23	18	29	21	*Stenelmis*
						Psephenidae (WATER PENNIES)
1	--	7	1	3	2	*Psephenus*
						Diptera (TRUE FLIES)
						Athericidae
--	--	--	--	--	--	*Atherix*
30	64	41	14	2	4	Chironomidae (MIDGES)
						Empididae (DANCE FLIES)
--	--	--	--	--	--	*Chelifera*
--	1	1	--	--	--	*Hemerodromia*
						Simuliidae (BLACK FLIES)
36	5	--	--	--	--	*Simulium*
						Tipulidae (CRANE FLIES)
--	--	--	--	2	--	*Antocha*
--	--	--	--	--	--	*Hexatoma*
155	210	148	124	153	166	Total Organisms
22	25	23	23	28	21	Total Taxa

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. A dash (--) indicates there were no observations of the organism in the sample. Samples represent counts per 200 animal (approximate) subsamples.

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2004**
BENTHIC MACROINVERTEBRATES AT REFERENCE SITES

Station number	01533610	01539350	01553430	01564515	01567795	01573750
Date	12/29/03	11/25/03	11/20/03	11/26/03	11/18/03	11/18/03
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Platyhelminthes						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae	--	--	--	--	5	--
Nematoda (NEMATODES)	--	--	1	--	--	--
Mollusca						
Gastropoda (SNAILS)						
Basommatophora						
Ancylidae						
Ferrissia	--	--	--	--	--	1
Hydrobiidae						
Fontigens nickliniana	--	--	--	--	1	--
Physidae						
Physa	--	--	--	--	4	--
Bivalvia (CLAMS)						
Veneroida						
Corbiculidae						
Corbicula fluminea	--	--	--	8	--	--
Sphaeriidae	--	2	--	--	--	--
Pisidium	--	--	--	--	2	2
Sphaerium	--	--	1	--	--	--
Annelida						
Oligochaeta (AQUATIC EARTHWORMS)						
Lumbricina	--	--	--	2	--	--
Lumbriculida						
Lumbriculidae	--	--	4	--	--	1
Tubificida						
Enchytraeidae	--	--	1	--	--	--
Naididae	--	1	5	--	--	--
Tubificidae	--	--	--	1	16	--
Arthropoda						
Acariformes						
Hydrachnidia (WATER MITES)	--	4	4	2	6	1
Crustacea						
Amphipoda (SCUDS)						
Gammaridae						
Gammarus	--	--	--	--	109	--
Isopoda (AQUATIC SOWBUGS)						
Asellidae						
Lirceus	--	--	--	--	77	--
Entognatha						
Collembola (SPRINGTAILS)						
Isotomidae						
Isotomurus palustria	--	--	1	--	--	--
Poduridae						
Podura aquatica	--	--	1	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2004**
BENTHIC MACROINVERTEBRATES AT REFERENCE SITES

Station number	01533610	01539350	01553430	01564515	01567795	01573750
Date	12/29/03	11/25/03	11/20/03	11/26/03	11/18/03	11/18/03
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae	--	--	--	--	1	--
Acerpenna	--	1	--	2	--	--
Baetis	31	6	14	--	--	--
Plauditus	--	--	--	--	--	9
Caenidae						
Caenis	--	--	--	4	--	--
Ephemerellidae	--	--	--	--	--	3
Drunella	1	--	--	--	--	--
Ephemerella	31	29	27	21	--	--
Eurylophella	--	9	1	1	--	1
Serratella	4	19	1	2	--	3
Heptageniidae	7	5	--	--	--	--
Epeorus	68	9	15	--	--	9
Leucrocuta	--	6	--	3	--	--
Rhithrogena	4	--	--	--	--	--
Stenacron	--	1	--	--	--	--
Stenonema	--	3	9	8	--	5
Isonychiidae						
Isonychia	--	7	--	9	--	4
Leptophlebiidae						
Paraleptophlebia	10	16	11	3	--	7
Odonata						
Coenagrionidae						
Argia	--	--	--	1	--	--
Gomphidae						
Lanthus	--	3	2	--	--	3
Plecoptera (STONEFLIES)						
Capniidae	--	--	2	--	--	--
Allocapnia	--	3	--	58	--	--
Paracapnia	6	--	1	--	--	--
Chloroperlidae						
Alloperla	3	--	--	--	--	--
Sweltsa	--	--	2	--	--	--
Leuctridae						
Leuctra	1	--	2	--	--	5
Nemouridae	3	--	--	--	--	--
Amphinemura	2	--	5	--	--	--
Peltoperlidae						
Tallaperla	1	--	2	--	--	--
Perlidae	--	--	--	1	--	--
Acroneuria	1	1	4	--	--	4
Perlodidae	--	1	--	--	--	--
Isoperla	10	6	1	--	--	--
Malirekus	--	--	1	--	--	--
Pteronarcyidae						
Pteronarcys	--	--	2	--	--	--
Taeniopterygidae						
Taenionema	11	6	7	18	--	--
Taeniopteryx	--	1	--	69	--	3
Megaloptera						
Corydalidae						
Nigronia	--	--	--	--	--	2
Sialidae						
Sialis	--	--	1	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

BIOLOGICAL DATA, **WATER YEARS OCTOBER 2003 TO SEPTEMBER 2004**
BENTHIC MACROINVERTEBRATES AT REFERENCE SITES

Station number	01533610	01539350	01553430	01564515	01567795	01573750
Date	12/29/03	11/25/03	11/20/03	11/26/03	11/18/03	11/18/03
Benthic macroinvertebrate	Count	Count	Count	Count	Count	Count
Trichoptera (CADDISFLIES)						
Apataniidae						
Apatania	--	3	4	--	--	--
Glossosomatidae	--	--	3	--	--	--
Agapetus	--	--	7	--	--	--
Glossosoma	--	1	--	--	13	4
Hydropsychidae						
Cheumatopsyche	--	6	--	1	--	10
Diplectrona	1	--	31	--	--	1
Hydropsyche	2	7	2	1	--	14
Lepidostomatidae						
Lepidostoma	1	5	9	1	1	--
Limnephilidae	--	--	--	--	1	--
Hydatophylax	1	--	1	10	--	--
Pycnopsyche	--	1	--	--	--	--
Philopotamidae						
Dolophilodes	--	2	5	--	--	15
Polycentropodidae						
Neureclipsis	--	--	--	--	--	2
Psychomyiidae						
Psychomyia	--	1	--	--	--	--
Rhyacophilidae						
Rhyacophila	1	1	14	--	--	5
Uenoidae						
Neophylax	2	7	2	--	--	--
Coleoptera (BEETLES)						
Elmidae (RIFFLE BEETLES)						
Dubiraphia	--	--	--	1	--	--
Optioservus	2	1	--	3	26	--
Oulimnius	--	--	19	--	--	11
Promoresia	--	--	9	1	--	4
Stenelmis	--	--	--	3	1	--
Psephenidae (WATER PENNIES)						
Psephenus	--	1	--	--	--	1
Diptera (TRUE FLIES)						
Ceratopogonidae (BITING MIDGES)	--	--	--	2	--	--
Chironomidae (MIDGES)	8	57	57	7	8	107
Empididae (DANCE FLIES)						
Chelifera	--	--	1	--	--	--
Hemerodromia	--	--	1	1	--	--
Simuliidae (BLACK FLIES)						
Prosimulium	19	10	9	1	--	16
Simulium	--	--	--	2	4	1
Tipulidae (CRANE FLIES)						
Antocha	--	3	1	--	1	2
Dicranota	--	2	--	--	--	--
Hexatoma	1	--	1	--	--	2
Tipula	--	--	--	1	--	--
Total Organisms	232	247	304	248	276	258
Total Taxa	27	38	46	32	17	32

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT

EVALUATION OF LIMESTONE TREATMENT OF ACIDIC MINE DRAINAGE IN SWATARA CREEK BASIN, SCHUYLKILL COUNTY, PENNSYLVANIA

Acidic mine drainage (AMD) from abandoned anthracite mines has degraded water resources in the 48 mi^2 northern Swatara Creek Basin. To neutralize the AMD, with a goal of remediating approximately 25 miles (67 percent) of degraded streams in the basin, a variety of limestone treatment systems have been constructed (fig. XX). Most of the limestone treatment systems were installed during fall 1996 and spring 1997. The type and size of the treatment system was based on streamflow rates and chemistry determined by preliminary monitoring and field trials. The treatments, which include limestone-sand dosing, open limestone channels, anoxic and oxic limestone drains, limestone diversion wells, and constructed wetlands were constructed by the Schuylkill County Conservation District and the Northern Swatara Creek Watershed Association, with technical assistance from the USGS and the Pennsylvania Department of Environmental Protection (PaDEP). Each treatment has different advantages and disadvantages; however, all suffer from possible complication associated with variability of flow rates and chemistry of the AMD-contaminated water and from uncertainties about efficiency and longevity of the treatment.

To resolve uncertainties about treatment designs (efficiency and longevity), limestone dissolution in response to variations in water chemistry and coating (armoring) by iron and aluminum hydroxides, and appropriate uses of the various limestone treatments, the USGS has established monitoring stations upstream and downstream of each treatment. During base-flow and high-flow conditions in 1995-2005, data on discharge rate and water quality at 30 stations in the Swatara Creek basin (table XX) were collected to characterize untreated mine drainage, treatment-system performance, and cumulative downstream effects. In spring-summer 1996, two streamflow stations on Swatara Creek, Site C3, at Newtown (station 0157155014) and Swatara Creek near Ravine (station 01571820) were installed for continuous streamflow and water-quality monitoring. The data for these stations indicate cumulative effects of AMD remediation throughout the northern Swatara Creek basin.

Limestone sand dosing and open limestone channels are the simplest treatment systems where limestone is added directly to the stream channel semiannually or less frequently. Limestone sand, which can dissolve rapidly because of its small size (<1/8 inch), was dumped into Coal Run (14 tons) between stations C4 and C6 on September 4, 1996, and into Lorberry Creek (150 tons) below station E2 on February 13-14, 1997 (fig. XX). An open limestone channel was constructed within a 110-ft long segment of Swatara Creek at station B2 (fig. 9) on March 21, 1997. A total of 44 tons of sand-size fragments and 70 tons of larger fragments (1-4 inches) were installed as a series of alternating berms extending part way across the 15-ft-wide channel from opposite sides of the stream.

A limestone drain is another relatively simple treatment method, which involves the burial of limestone in air-tight trenches that intercept acidic discharge water. Keeping oxygen out of contact with the discharge water minimizes the potential for oxidation of ferrous iron and the consequent precipitation of ferric-iron armoring as iron hydroxides. Furthermore, keeping carbon dioxide within the drain can enhance limestone dissolution and alkalinity production. Limestone drains were constructed on March 15, 1995, at station E3 to treat a small acidic discharge (10-30 gpm, oxic inflow; 44 tons limestone) along Lower Rausch Creek May 21, 1997, at station A1 to treat a large discharge (50-200 gpm, anoxic inflow; 400 tons limestone) at the headwaters of Swatara Creek; and on May 20, 2000, at station C0-1 to treat a large discharge (50-500 gpm; oxic inflow; 880 tons limestone) near the headwaters of Swatara Creek (fig. XX).

In a limestone diversion well, acidic water is diverted from upstream points and the hydraulic force of the piped flow is deflected upward through limestone fragments inside 4-ft diameter "wells." Hydraulic churning abrades limestone forming fine particles and preventing the buildup of iron or aluminum hydroxides armoring. On November 14, 1995, a pair of diversion wells was installed to treat water diverted from Swatara Creek at station C2; on July 13, 1997, a single diversion well was installed to treat water from Martin Run at station C8 (fig. XX); and, on November 18-19, 1998, another pair of diversion wells was installed to treat water diverted from Lorberry Creek above station E2-0. Approximately 1 ton of limestone is consumed weekly by each operating diversion well.

Constructed wetlands for treatment of mine drainage can attenuate the transport of dissolved and suspended pollutants by promoting the production of alkalinity and the precipitation and deposition of iron and other metals. For net acidic water (acidity > alkalinity), wetlands that have compost and/or limestone substrates can be appropriate. The organic matter in the compost provides a substrate for plant rooting and for microbial reduction of sulfate. In December 1998, a 3-acre aerobic wetland system with limestone and compost substrate was installed near the mouth of Lower Rausch Creek between stations E3-1 and E3-2, and in December 2001, a 3-acre aerobic wetland system that intercepts outflow from the limestone diversion wells on Lorberry Creek below station E2-0 began operation. At the inflow to the Lorberry wetlands, a hopper with water-powered auger was installed to deliver pelletized lime or limestone as needed. The main objective for these wetlands is to reduce the downstream transport of metals, with a secondary objective of providing additional alkalinity.

Data for this project can be found in this report on pages XXX-XXX and XXX-XXX. For additional information, contact Charles Cravotta at the USGS Pennsylvania Water Science Center, 215 Limekiln Road, New Cumberland, PA 17070; 717-730-6963 (email: cravotta@usgs.gov).

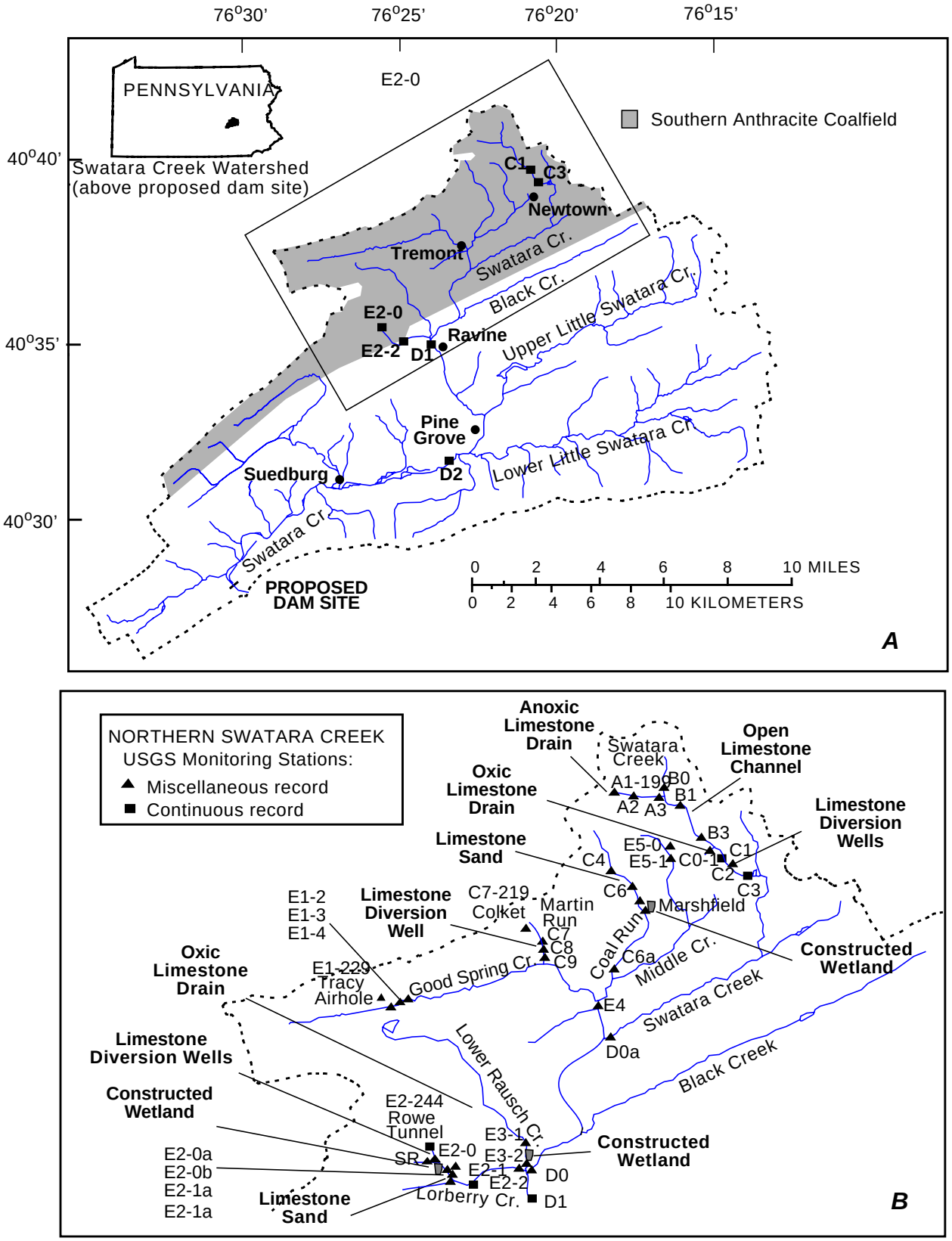


Figure 9.--Locations of water-quality and streamflow monitoring stations in the Swatara Creek Basin, Lebanon and Schuylkill Counties, Pennsylvania: *A*, continuous monitoring stations on Swatara Creek above the proposed dam for Swatara State Park Reservoir; B, monitoring stations within the Southern Anthracite Coalfield, above Ravine (area denoted in *A*).

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

TABLE 3.--Swatara Creek project station list.

REMARKS.--All samples collected by the U.S. Geological Survey. Abbreviations used in the following table include: AB-above; BL-below; NR-near; DS-downstream, US-upstream, ALD-anoxic limestone drain; OLD-oxic limestone drain; OLC-open limestone channel; LS-limestone sand; LDW-limestone diversion well; n.a.-not applicable.

LOCAL ID	STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DRAINAGE AREA
		CONTINUOUS-RECORD STATIONS			
C1	0157155010	SWATARA CREEK, SITE C1, 350 FT AB LDW, AB SR209 BRIDGE AT NEWTOWN, PA	40°39'34"	76°20'50"	2.58
C3	0157155014	SWATARA CREEK, SITE C3, 350 FT BL LDW, BL SR209 BRIDGE AT NEWTOWN, PA	40°39'28"	76°20'43"	2.92
E2-244	403542076263201	ROWE DRAINAGE TUNNEL, SITE E2-244, NEAR JOLIETT	40°35′42"	76°26′32"	n.a.
E2-1	01571778	LORBERRY CREEK NEAR LORBERRY JUNCTION, PA	40°35′15"	76°25′35"	3.59
D1	01571820	SWATARA CREEK NEAR RAVINE, PA	40°34'50"	76°24'18"	43.3
		MISCELLANEOUS-RECORD STATIONS			
A1-199	404032076222901	WM CARL BUCK MTN MINE, SITE A1-199, NEAR NEWTOWN	40°40′32"	76°22′29"	n.a.
A2	0157154970	NORTHWEST TRIBIUTARY TO SWATARA CREEK, SITE A2, AT ALD OUTFLOW, NEAR NEWTOWN, PA	40°40'32"	76°22'25"	.25
A3	0157154972	NORTHWEST TRIBIUTARY TO SWATARA CREEK, SITE A3, 1500 FT BELOW ALD, NEAR NEWTOWN, PA	40°40'32"	76°21'59"	.40
B0	0157154960	SWATARA CREEK, ABOVE NORTHWEST TRIBUTARY, SITE B0, NEAR NEWTOWN, PA	40°40'34"	76°21'57"	1.14
B3	0157154984	SWATARA CREEK, BELOW NORTHWEST TRIBUTARY, SITE B3, 400 FT BELOW OLC, NEAR NEWTOWN, PA	40°40'22"	76°21'36"	1.90
C0-1	403955076211801	HEGINS MINE DISCHARGE, SITE C0-1, AT NEWTOWN, PA	40°39′55"	76°21′18"	n.a.
	403955076211802	HEGINS MINE DISCHARGE, TREATED, AT NEWTOWN, PA	40°39′55"	76°21′18"	n.a.
C2	0157155012	SWATARA CREEK, SITE C2, AT LDW OUTFLOW, AT NEWTOWN, PA	40°39'31"	76°20'47"	2.65
D0a	01571552	SWATARA CREEK AT TREMONT, PA	40°37′08"	76°23′09"	9.81
E4	01571593	GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA	40°37'35"	76°23'15"	14.0
E3-1	01571758	LOWER RAUSCH CREEK, SITE E3-1 ABOVE WETLAND, NEAR LORBERRY JUNCTION, PA	40°35'34"	76°24'40"	4.65
E3-2	01571760	LOWER RAUSCH CREEK, SITE E3-2 BELOW WETLAND, AT LORBERRY JUNCTION, PA	40°35'22"	76°24'42"	4.65
E2-0b	01571773	LORBERRY CREEK DIV WELLS OUTFLOW NR LORBERRY,PA	40°35′36"	76°26′25"	1.01
E2-0	01571774	LORBERRY CREEK, SITE E2-0, AT LORBERRY, PA	40°35′32"	76°26′22"	1.15
SR	01571776	STUMPS RUN AT LORBERRY, PA	40°35'30"	76°26'23"	.65
	0157177610	LORBERRY CREEK WETLANDS INFLOW AT LORBERRY, PA	40°35′29"	76°26′23"	
	0157177614	LORBERRY CR WETLANDS CELL 2 OUTFLOW AT LORBERRY	40°35′28"	76°26′20"	
	0157177618	LORBERRY CR WETLANDS CELL 4 OUTFLOW AT LORBERRY	40°35′27"	76°26′19"	
	0157177620	LORBERRY CREEK BELOW WETLANDS AT LORBERRY, PA	40°35′27"	76°26'17"	1.80
SH	403521076260601	SHADLE MINE SHAFT AT LORBERRY, PA	40°35'21"	76°26'06"	n.a.
	01571777	LORBERRY CREEK ABOVE PANTHER HEAD DISCHARGE NEAR LORBERRY JUNCTION, PA	40°35'11"	76°25'55"	2.11
	0157177780	PANTHER HEAD, 500 FT BELOW DISCHARGE TO LORBERRY CREEK NEAR LORBERRY JUNCTION, PA	40°35'10"	76°25'56"	.01
	0157177790	UNNAMED TRIBUTARY TO LORBERRY CREEK NEAR LORBERRY JUNCTION, PA	40°35'07"	76°25'48"	1.14
E2-2	01571780	LORBERRY CREEK ABOVE LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA	40°35'20"	76°24'43"	4.17
D0	01571798	SWATARA CREEK BELOW TR412 BRIDGE AT LORBERRY JUNCTION, PA	40°35'18"	76°24'37"	42.3

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

404032076222901 -- WM Carl Buck Mtn Mine, Site A1-199, nr Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1345	1028	89203	.02	416	.0	1.5	14	4.8	5.0
DEC										
22...	1300	1028	89203	.02	436	2.5	2.4	22	4.9	5.0
FEB										
09...	1415	1028	89203	.02	397	--	2.0	17	4.8	4.9
MAY										
05...	1235	1028	89203	.02	392	.4	1.2	10	4.8	5.0
JUN										
22...	1315	1028	89203	.02	389	2.3	.9	8	4.8	4.9
JUL										
18...	1645	1028	89203	.02	413	--	1.3	11	4.5	4.9
SEP										
01...	1645	1028	89203	.02	410	--	.7	6	4.7	5.0

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
NOV										
02...	199	11.4	3.80	3.8	6.20	6.2	1.20	1.2	10.3	10.4
DEC										
22...	196	10.1	4.00	4.0	8.40	8.0	1.40	1.4	11.7	11.5
FEB										
09...	195	9.6	3.50	3.3	6.80	6.8	1.20	1.3	10.7	10.8
MAY										
05...	203	9.3	3.40	3.5	6.60	6.6	1.40	1.2	12.1	11.6
JUN										
22...	199	9.7	3.40	3.3	6.80	6.5	1.10	1.1	10.9	10.3
JUL										
18...	185	10.4	3.50	3.0	6.10	5.2	1.30	1.2	10.7	9.5
SEP										
01...	196	10.8	3.60	3.7	6.70	7.0	1.40	1.4	11.6	11.8

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

404032076222901 -- WM Carl Buck Mtn Mine, Site A1-199, nr Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	3	17.9	--	56.3	--	--	--	400	400	--
DEC										
22...	3	15.6	--	65.9	--	--	--	500	500	--
FEB										
09...	3	16.1	--	60.7	--	--	--	400	400	--
MAY										
05...	3	16.6	<.01	51.7	<.01	<.030	<.020	400	400	.18
JUN										
22...	4	15.6	<.01	47.7	<.01	<.030	<.020	300	--	.32
JUL										
18...	4	15.5	--	60.6	--	--	--	300	300	--
SEP										
01...	4	16.8	--	58.6	--	--	--	300	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	10100	10300	890	880	70.0	70.0	130	130
DEC								
22...	13100	12400	1110	1060	85.0	85.0	175	165
FEB								
09...	10000	10100	960	980	70.0	70.0	150	150
MAY								
05...	10200	10100	880	830	70.0	70.0	150	155
JUN								
22...	14100	13400	960	900	75.0	70.0	165	145
JUL								
18...	10000	8680	820	720	65.0	55.0	130	115
SEP								
01...	11200	11600	1000	1000	65.0	70.0	135	130

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154970 -- NW Trib to Swatara Cr, Site A2, near Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1330	1028	89203	.37	250	.0	4.2	33	6.6	6.4
DEC										
22...	1245	1028	89203	.51	242	.0	5.7	48	6.7	6.8
FEB										
09...	1400	1028	89203	.03	270	--	5.5	49	6.4	6.7
MAY										
05...	1210	1028	89203	.03	256	2.5	3.0	26	6.5	6.6
JUN										
22...	1300	1028	89203	.02	213	.9	2.5	22	6.6	6.7
JUL										
18...	1630	1028	89203	.06	261	--	2.2	19	6.3	6.7
SEP										
01...	1630	1028	--	.00	--	--	--	--	--	--

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
NOV										
02...	303	12.9	35.2	36.3	5.00	5.1	1.30	1.3	11.0	11.0
DEC										
22...	274	10.8	36.4	33.3	6.40	5.7	1.40	1.3	12.9	11.6
FEB										
09...	269	8.7	30.3	30.5	5.00	5.0	1.20	1.2	10.8	10.9
MAY										
05...	283	7.8	28.7	28.5	5.00	5.1	1.30	1.2	13.4	12.7
JUN										
22...	280	8.7	31.1	29.2	5.20	5.0	1.10	1.0	13.0	12.3
JUL										
18...	264	9.4	26.3	22.6	5.00	4.2	1.40	1.2	13.4	11.6
SEP										
01...	--	--	--	--	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154970 -- NW Trib to Swatara Cr, Site A2, near Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	71	19.2	--	43.3	--	--	--	<100	<100	--
DEC										
22...	65	14.9	--	51.6	--	--	--	200	<100	--
FEB										
09...	64	13.9	--	44.2	--	--	--	<100	<100	--
MAY										
05...	63	19.7	<.01	38.0	<.01	<.030	<.020	<100	<100	.19
JUN										
22...	--	20.1	<.01	33.4	<.01	<.030	<.020	<100	<100	.20
JUL										
18...	59	21.1	--	39.5	--	--	--	<100	<100	--
SEP										
01...	--	--	--	--	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	6140	6170	800	800	45.0	50.0	90.0	90.0
DEC								
22...	8910	8180	940	820	60.0	55.0	120	105
FEB								
09...	5820	5890	790	810	45.0	45.0	95.0	95.0
MAY								
05...	5820	5740	750	700	45.0	45.0	95.0	100
JUN								
22...	7030	6450	840	780	50.0	45.0	115	110
JUL								
18...	6120	5270	780	680	50.0	40.0	105	95.0
SEP								
01...	--	--	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154972 -- NW Trib to Swatara Cr, Site A3, near Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1300	1028	89203	2.3	237	5.1	10.2	92	6.9	6.7
DEC										
22...	1215	1028	89203	.52	155	3.6	12.1	99	7.2	6.8
FEB										
09...	1300	1028	89203	.91	323	--	11.7	96	6.2	6.6
MAR										
23...	1445	1028	89203	1.4	255	--	12.2	94	7.2	6.4
MAY										
04...	1450	1028	89203	.93	237	11	11.4	99	7.2	6.8
JUN										
22...	1145	1028	89203	.34	189	11	9.7	92	7.1	7.3
JUL										
18...	1500	1028	89203	1.5	217	--	9.0	92	6.6	6.7
SEP										
01...	1545	1028	89203	.25	203	--	9.5	96	6.8	6.9

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	205	10.7	17.8	18.4	5.20	5.3	1.20	1.2	9.20	9.2
DEC										
22...	205	6.8	17.5	15.7	6.90	6.1	1.70	1.5	11.4	10.3
FEB										
09...	199	6.6	15.7	15.6	5.60	5.6	1.40	1.4	9.70	9.6
MAR										
23...	132	4.4	9.50	10.3	3.70	4.0	1.40	1.5	6.40	7.0
MAY										
04...	211	9.1	15.9	16.4	5.60	5.8	1.70	1.6	10.9	11.0
JUN										
22...	210	13.0	18.5	19.7	6.00	6.5	1.10	1.2	10.5	10.8
JUL										
18...	161	16.8	10.6	9.2	4.40	3.7	1.70	1.5	9.30	8.4
SEP										
01...	197	15.9	17.5	18.0	5.80	6.1	1.50	1.5	10.4	10.8

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154972 -- NW Trib to Swatara Cr, Site A3, near Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	19	15.8	--	48.5	--	--	--	<100	<100	--
DEC										
22...	17	14.1	--	55.8	--	--	--	<100	200	--
FEB										
09...	18	13.6	--	49.5	--	--	--	<100	200	--
MAR										
23...	12	8.0	<.01	29.9	.57	<.030	<.020	<100	400	.18
MAY										
04...	22	15.2	<.01	42.2	.50	<.030	<.020	<100	200	.19
JUN										
22...	21	14.9	<.01	41.5	.45	<.030	<.020	<100	<100	.22
JUL										
18...	10	13.8	--	38.7	--	--	--	<100	200	--
SEP										
01...	18	15.2	--	47.1	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	990	1550	590	590	40.0	40.0	50.0	65.0
DEC								
22...	4390	4550	900	830	55.0	50.0	125	120
FEB								
09...	2670	3140	780	780	45.0	45.0	85.0	95.0
MAR								
23...	2560	3670	540	560	30.0	30.0	95.0	110
MAY								
04...	1450	2880	660	650	40.0	45.0	60.0	80.0
JUN								
22...	890	2800	600	620	40.0	45.0	85.0	75.0
JUL								
18...	2120	2300	590	520	35.0	30.0	85.0	110
SEP								
01...	160	1750	1000	1000	30.0	35.0	45.0	55.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154960 -- Swatara Creek, ab NW Trib, Site B0, nr Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1245	1028	89203	7.5	600	4.4	10.3	92	4.2	4.4
DEC										
22...	1200	1028	89203	3.6	636	.7	13.9	102	4.1	4.5
FEB										
09...	1245	1028	89203	.68	596	--	12.5	95	4.1	4.4
MAR										
23...	1430	1028	89203	3.5	531	--	12.4	94	4.5	4.4
MAY										
04...	1440	1028	89203	.56	511	.7	11.9	101	4.3	4.5
JUN										
22...	1115	1028	89203	.55	516	3.0	9.3	92	4.3	4.4
JUL										
18...	1445	1028	89203	2.2	616	--	8.3	90	4.0	4.3
SEP										
01...	1515	1028	89203	.23	488	--	8.4	90	4.3	4.4

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	71	10.3	1.10	1.1	1.00	1.0	.50	.5	5.00	5.0
DEC										
22...	68	2.8	1.10	1.0	1.20	1.1	.50	.4	4.50	3.8
FEB										
09...	67	3.8	1.10	1.0	1.00	1.1	.40	.4	4.20	4.2
MAR										
23...	74	3.7	1.20	1.3	1.10	1.2	.50	.6	5.20	5.6
MAY										
04...	71	8.1	1.10	1.2	1.10	1.2	.60	.5	4.50	4.5
JUN										
22...	70	14.9	1.10	1.2	1.10	1.2	.20	.2	4.10	4.1
JUL										
18...	80	19.0	1.20	1.0	.90	.8	.60	.6	6.90	6.0
SEP										
01...	78	18.4	1.20	1.3	1.40	1.4	.60	.6	6.00	6.2

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154960 -- Swatara Creek, ab NW Trib, Site B0, nr Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	.0	11.1	--	10.7	--	--	--	700	800	--
DEC										
22...	.0	6.9	--	13.0	--	--	--	1000	900	--
FEB										
09...	.0	8.4	--	11.6	--	--	--	800	800	--
MAR										
23...	.0	8.6	<.01	11.0	.47	<.030	<.020	700	900	.19
MAY										
04...	.0	7.5	<.01	11.4	<.01	<.030	<.020	700	700	.19
JUN										
22...	.0	7.6	<.01	9.8	.40	<.030	<.020	700	800	.24
JUL										
18...	.0	11.3	--	11.2	--	--	--	600	600	--
SEP										
01...	.0	11.4	--	9.9	--	--	--	500	600	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	170	230	160	160	10.0	10.0	35.0	35.0
DEC								
22...	170	180	160	150	10.0	10.0	40.0	40.0
FEB								
09...	150	190	170	170	10.0	10.0	40.0	35.0
MAR								
23...	150	250	150	150	10.0	10.0	50.0	55.0
MAY								
04...	120	150	160	150	10.0	10.0	40.0	45.0
JUN								
22...	140	230	170	180	10.0	10.0	40.0	55.0
JUL								
18...	250	360	140	130	10.0	10.0	35.0	40.0
SEP								
01...	200	340	220	230	10.0	10.0	35.0	30.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154984 -- Swatara Cr, bl NW Trib, Site B3, near Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1230	1028	89203	9.7	382	12	10.5	94	6.3	6.0
DEC										
22...	1130	1028	89203	4.1	342	3.5	13.6	102	6.3	6.3
FEB										
09...	1215	1028	89203	1.6	369	--	12.6	97	6.0	6.1
MAR										
23...	1400	1028	89203	5.0	450	--	12.2	92	5.7	5.2
MAY										
04...	1410	1028	89203	1.5	344	5.0	12.0	102	6.6	6.4
JUN										
22...	1015	1028	89203	.82	255	7.5	9.5	93	6.7	6.5
JUL										
18...	1400	1028	89203	4.5	394	--	8.7	93	5.5	5.7
SEP										
01...	1415	1028	89203	.48	351	--	8.6	92	6.5	6.7

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	96	10.4	5.70	5.7	2.50	2.4	.70	.7	6.20	6.0
DEC										
22...	98	3.5	6.40	5.7	3.10	2.8	.80	.8	6.50	5.6
FEB										
09...	89	4.4	5.00	5.0	2.30	2.3	.70	.7	5.70	5.7
MAR										
23...	75	3.9	3.30	3.7	1.80	2.2	.70	.8	5.60	6.1
MAY										
04...	97	8.4	5.50	5.5	2.50	2.6	.90	.8	6.40	6.2
JUN										
22...	110	14.5	7.60	8.2	3.00	3.3	.50	.6	6.40	6.6
JUL										
18...	92	18.5	4.40	3.8	2.30	2.0	1.00	.9	7.50	6.5
SEP										
01...	130	18.2	9.60	10.0	3.80	4.0	1.00	1.1	8.50	8.4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157154984 -- Swatara Cr, bl NW Trib, Site B3, near Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	4	11.8	--	22.5	--	--	--	200	600	--
DEC										
22...	4	9.1	--	29.5	--	--	--	<100	600	--
FEB										
09...	3	9.7	--	23.5	--	--	--	<100	600	--
MAR										
23...	1	8.4	<.01	15.7	.47	<.030	<.020	400	800	.19
MAY										
04...	5	9.5	<.01	20.2	.42	<.030	<.020	<100	500	.18
JUN										
22...	4	10.0	<.01	21.7	.42	<.030	<.020	<100	500	.21
JUL										
18...	3	11.6	--	20.5	--	--	--	300	500	--
SEP										
01...	8	13.5	--	29.4	--	--	--	<100	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	250	500	280	270	20.0	15.0	45.0	45.0
DEC								
22...	1360	1510	400	360	25.0	25.0	70.0	60.0
FEB								
09...	700	960	320	330	20.0	20.0	50.0	55.0
MAR								
23...	630	970	240	270	15.0	15.0	60.0	75.0
MAY								
04...	400	800	290	280	20.0	20.0	50.0	55.0
JUN								
22...	250	1020	300	320	20.0	20.0	45.0	180
JUL								
18...	700	920	290	270	20.0	20.0	60.0	100
SEP								
01...	60.0	520	280	300	20.0	20.0	35.0	35.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

403955076211801 -- Hegins Mine Discharge Site C0-1, at Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1200	1028	89203	3.7	686	.0	10.0	89	3.5	3.8
DEC										
22...	1045	1028	89203	.22	702	.5	10.7	95	3.7	3.7
FEB										
09...	1145	1028	89203	.09	666	--	10.1	89	3.4	3.7
MAR										
23...	1325	1028	89203	.26	651	--	9.7	86	3.8	3.7
MAY										
04...	1329	1028	89203	.09	604	4.2	10.9	97	3.6	3.7
JUN										
21...	1445	1028	89203	.07	614	.9	9.2	82	3.6	3.7
JUL										
18...	1330	1028	89203	.22	737	--	9.9	88	3.5	3.7
SEP										
01...	1345	1028	89203	.09	503	--	10.0	89	3.5	3.7

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	447	10.2	7.70	7.9	27.5	28.2	1.50	1.5	5.60	5.5
DEC										
22...	387	10.0	7.50	6.5	28.3	24.3	1.60	1.5	5.10	4.9
FEB										
09...	393	10.0	6.40	6.5	24.5	24.8	1.50	1.5	5.50	5.5
MAR										
23...	388	9.9	6.90	7.9	24.8	29.3	1.70	1.9	6.20	7.0
MAY										
04...	384	10.0	6.40	6.3	22.9	22.9	1.70	1.5	5.50	5.4
JUN										
21...	427	10.1	7.50	8.2	27.0	29.7	1.50	1.6	5.70	5.5
JUL										
18...	448	10.3	8.00	7.0	29.9	25.5	1.80	1.5	5.20	4.7
SEP										
01...	449	10.3	8.20	8.6	32.1	33.9	1.80	1.9	6.90	6.1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

403955076211801 -- Hegins Mine Discharge Site C0-1, at Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	.0	6.5	--	174	--	--	--	4000	4100	--
DEC										
22...	.0	5.5	--	155	--	--	--	3300	2900	--
FEB										
09...	.0	6.9	--	151	--	--	--	3000	3100	--
MAR										
23...	.0	6.0	<.01	156	.44	<.030	<.020	3200	3900	.21
MAY										
04...	.0	5.5	<.01	143	.43	<.030	<.020	2900	2800	.21
JUN										
21...	.0	5.3	<.01	151	.39	<.030	<.020	3700	3900	.33
JUL										
18...	.0	4.8	--	186	--	--	--	4000	3500	--
SEP										
01...	.0	5.2	--	182	--	--	--	3700	3900	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	160	160	1140	1150	120	120	290	295
DEC								
22...	160	140	1060	940	110	95.0	280	245
FEB								
09...	120	130	1020	1040	100	100	265	265
MAR								
23...	150	190	1010	1100	100	115	300	345
MAY								
04...	120	120	960	900	95.0	95.0	265	275
JUN								
21...	140	160	1210	1260	120	125	330	360
JUL								
18...	130	120	1190	1040	120	105	320	275
SEP								
01...	130	130	1000	1000	125	130	340	350

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

403955076211802 -- Hegins Mine Discharge, Treated, at Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1145	1028	89203	3.7	561	.0	10.7	95	4.4	4.4
DEC										
22...	1030	1028	89203	.22	637	1.1	11.5	100	4.2	4.3
FEB										
09...	1130	1028	89203	.09	549	--	10.8	94	4.4	4.4
MAR										
23...	1305	1028	89203	.26	552	--	10.4	91	4.5	4.3
MAY										
04...	1254	1028	89203	.09	512	<1.0	11.3	101	4.4	4.3
JUN										
21...	1400	1028	89203	.07	499	<1.0	9.8	90	4.4	4.4
JUL										
18...	1315	1028	89203	.22	678	--	10.1	93	4.1	4.3
SEP										
01...	1330	1028	89203	.09	447	--	10.3	96	4.5	4.7

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	376	10.1	12.5	12.7	27.4	28.1	1.50	1.5	5.50	5.4
DEC										
22...	333	9.2	11.9	10.4	28.9	25.1	1.70	1.5	5.40	4.4
FEB										
09...	332	9.4	10.8	10.8	24.4	24.4	1.50	1.5	5.40	5.5
MAR										
23...	349	9.3	10.8	12.3	25.3	29.6	1.70	1.9	6.20	6.9
MAY										
04...	328	9.9	10.5	10.6	22.7	23.1	1.70	1.5	5.50	5.4
JUN										
21...	357	11.3	12.8	13.2	28.3	29.0	1.60	1.6	5.70	5.5
JUL										
18...	386	11.5	12.0	10.2	30.2	25.2	1.80	1.5	5.10	4.5
SEP										
01...	380	12.0	14.5	15.3	31.6	33.4	1.80	1.8	6.40	6.1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

403955076211802 -- Hegins Mine Discharge, Treated, at Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	.0	6.5	--	172	--	--	--	3700	3800	--
DEC										
22...	.0	5.5	--	154	--	--	--	3200	2900	--
FEB										
09...	.0	6.8	--	148	--	--	--	2800	2800	--
MAR										
23...	.0	5.8	<.01	154	.44	<.030	<.020	3200	3900	.21
MAY										
04...	.0	5.3	<.01	140	.43	<.030	<.020	2700	2600	.21
JUN										
21...	.0	10.7	<.01	298	.86	2.41	<.020	3500	3500	.60
JUL										
18...	.0	4.9	--	187	--	--	--	3900	3400	--
SEP										
01...	1	5.3	--	185	--	--	--	2900	3100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	90.0	100	1100	1110	115	115	285	285
DEC								
22...	110	100	1070	940	110	95.0	285	240
FEB								
09...	70.0	70.0	990	1000	95.0	100	250	260
MAR								
23...	100	130	1000	1090	100	115	295	355
MAY								
04...	60.0	70.0	920	880	90.0	95.0	260	270
JUN								
21...	70.0	80.0	1190	1210	120	120	325	350
JUL								
18...	90.0	80.0	1160	1010	120	105	320	265
SEP								
01...	40.0	40.0	1000	1000	115	120	315	325

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157155012 -- Swatara Creek, Site C2, at Newtown, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	1100	1028	--	<0.01	412	3.5	9.9	85	5.9	--
DEC										
22...	1000	1028	89203	<0.01	436	.0	9.4	72	5.8	--
FEB										
09...	1030	1028	89203	<0.01	330	--	3.9	31	6.4	--
MAR										
23...	1230	1028	--	<0.01	279	--	.7	6	6.8	--
MAY										
04...	1200	1028	89203	<0.01	354	3.3	9.8	84	6.0	--
JUN										
21...	1300	1028	89203	<0.01	299	6.1	7.0	69	6.1	--
JUL										
18...	1215	1028	89203	<0.01	365	--	6.1	64	5.6	--
SEP										
01...	1215	1028	--	<0.01	200	--	.5	5	6.8	--

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	129	10.0	--	--	--	--	--	--	--	--
DEC										
22...	92	4.6	--	--	--	--	--	--	--	--
FEB										
09...	147	4.7	--	--	--	--	--	--	--	--
MAR										
23...	178	4.8	--	--	--	--	--	--	--	--
MAY										
04...	138	8.9	--	--	--	--	--	--	--	--
JUN										
21...	136	14.7	--	--	--	--	--	--	--	--
JUL										
18...	124	17.6	--	--	--	--	--	--	--	--
SEP										
01...	195	18.6	--	--	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157155012 -- Swatara Creek, Site C2, at Newtown, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
22...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	--	--	--	--	--	--	--	--	--	--
MAR										
23...	--	--	--	--	--	--	--	--	--	--
MAY										
04...	--	--	--	--	--	--	--	--	--	--
JUN										
21...	--	--	--	--	--	--	--	--	--	--
JUL										
18...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	--	--	--	--	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	--	--	--	--	--	--	--	--
DEC								
22...	--	--	--	--	--	--	--	--
FEB								
09...	--	--	--	--	--	--	--	--
MAR								
23...	--	--	--	--	--	--	--	--
MAY								
04...	--	--	--	--	--	--	--	--
JUN								
21...	--	--	--	--	--	--	--	--
JUL								
18...	--	--	--	--	--	--	--	--
SEP								
01...	--	--	--	--	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571593 -- Good Spring Creek bl Middle Creek at Tremont, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
05...	1115	1028	--	33	281	6.7	11.8	107	7.1	--
NOV										
02...	0930	1028	89203	23	291	1.6	10.5	94	7.0	6.6
DEC										
22...	0930	1028	89203	28	295	9.2	13.4	102	6.9	6.5
FEB										
09...	0945	1028	89203	28	302	--	12.0	96	7.1	6.8
MAR										
23...	1115	1028	89203	47	298	--	12.1	96	7.3	6.5
MAY										
04...	1102	1028	89203	19	278	9.8	11.5	100	7.0	6.7
JUN										
21...	1145	1028	89203	11	210	5.0	9.6	98	7.0	6.9
JUL										
18...	1045	1028	89203	35	270	--	8.7	93	6.6	6.8
SEP										
01...	1130	1028	89203	7.6	244	--	9.2	97	6.9	6.8

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
05...	298	11.1	--	--	--	--	--	--	--	--
NOV										
02...	309	10.3	22.3	22.1	16.7	16.8	1.70	1.7	7.70	7.7
DEC										
22...	289	3.8	21.2	21.5	18.2	18.6	1.60	1.6	7.50	7.6
FEB										
09...	305	5.8	20.0	19.8	16.4	16.2	1.80	1.8	8.40	8.1
MAR										
23...	239	5.6	15.1	17.6	10.5	12.4	1.50	1.7	9.80	11.3
MAY										
04...	312	9.5	21.3	21.1	16.9	17.2	1.70	1.6	8.30	8.0
JUN										
21...	336	16.4	24.5	24.3	18.6	18.5	1.60	1.6	9.10	9.1
JUL										
18...	198	19.0	12.8	11.3	8.10	6.9	2.80	2.5	9.00	8.1
SEP										
01...	355	18.2	27.3	26.8	20.0	19.4	2.90	2.8	11.2	10.9

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571593 -- Good Spring Creek bl Middle Creek at Tremont, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
NOV										
02...	12	15.5	--	107	--	--	--	<100	200	--
DEC										
22...	11	12.5	--	110	--	--	--	<100	500	--
FEB										
09...	9	16.3	--	105	--	--	--	<100	500	--
MAR										
23...	8	17.3	<.01	66.9	.58	<.030	<.020	<100	1100	.19
MAY										
04...	14	12.9	<.01	107	.50	<.030	<.020	<100	400	.20
JUN										
21...	14	10.7	<.01	57.3	2.11	<.030	<.020	<100	200	.21
JUL										
18...	11	14.6	--	56.6	--	--	--	200	400	--
SEP										
01...	12	17.5	--	121	--	--	--	<100	900	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
05...	--	--	--	--	--	--	--	--
NOV								
02...	920	1130	970	920	35.0	35.0	90.0	60.0
DEC								
22...	1410	2150	1070	1030	40.0	40.0	120	90.0
FEB								
09...	1200	1970	960	950	35.0	35.0	70.0	80.0
MAR								
23...	760	3850	640	720	25.0	30.0	65.0	90.0
MAY								
04...	1080	1950	880	830	35.0	35.0	75.0	85.0
JUN								
21...	730	1410	890	900	30.0	30.0	55.0	55.0
JUL								
18...	620	1090	480	440	20.0	20.0	40.0	40.0
SEP								
01...	130	2230	1000	1000	25.0	30.0	25.0	60.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571552 -- Swatara Creek at Tremont, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
NOV										
02...	0915	1028	89203	8.6	367	2.1	10.3	93	7.2	6.5
DEC										
22...	0915	1028	89203	10	378	6.7	14.6	103	6.5	6.2
FEB										
09...	0930	1028	89203	10	368	--	12.7	97	7.2	7.1
MAR										
23...	1045	1028	89203	19	348	--	12.6	96	7.2	6.7
MAY										
04...	1030	1028	89203	9.4	369	2.5	11.8	100	6.6	6.6
JUN										
21...	1100	1028	89203	4.5	353	3.3	10.4	105	6.7	6.5
JUL										
18...	1000	1028	89203	26	428	--	8.4	91	5.5	6.1
SEP										
01...	1030	1028	89203	2.9	369	--	8.4	91	6.9	6.9

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
NOV										
02...	158	10.7	15.7	12.2	7.90	6.8	.90	.9	4.30	3.9
DEC										
22...	152	1.3	14.1	11.9	8.40	7.8	.90	1.0	4.40	4.1
FEB										
09...	161	4.1	11.5	11.6	7.20	7.3	.90	.9	4.00	4.0
MAR										
23...	120	4.1	7.80	9.0	4.60	5.5	.80	.9	3.70	4.2
MAY										
04...	158	8.3	11.4	11.5	6.90	7.1	1.10	1.0	4.40	4.5
JUN										
21...	220	15.0	17.2	17.9	9.40	9.9	1.40	1.6	7.30	7.3
JUL										
18...	119	19.6	9.30	8.4	4.70	4.3	1.10	1.0	4.10	3.4
SEP										
01...	251	19.4	21.0	20.7	11.2	10.9	2.20	2.1	9.00	8.7

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571552 -- Swatara Creek at Tremont, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
NOV										
02...	7	7.2	--	51.2	--	--	--	300	<100	--
DEC										
22...	5	18.8	--	53.8	--	--	--	200	500	--
FEB										
09...	7	7.6	--	54.1	--	--	--	<100	500	--
MAR										
23...	6	5.4	<.01	31.5	.60	<.030	<.020	<100	900	.19
MAY										
04...	6	6.0	<.01	45.9	1.05	<.030	<.020	<100	200	.19
JUN										
21...	8	95.4	.41	94.9	.85	<.030	<.020	<100	<100	.56
JUL										
18...	4	5.4	--	37.8	--	--	--	200	500	--
SEP										
01...	11	13.1	--	73.2	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
NOV								
02...	1940	130	1310	470	30.0	25.0	510	50.0
DEC								
22...	1650	550	1110	510	30.0	30.0	390	70.0
FEB								
09...	300	540	620	660	30.0	30.0	70.0	85.0
MAR								
23...	250	760	360	410	20.0	25.0	90.0	80.0
MAY								
04...	170	310	390	380	25.0	25.0	65.0	70.0
JUN								
21...	20.0	110	320	350	25.0	25.0	45.0	50.0
JUL								
18...	230	630	480	450	25.0	25.0	70.0	60.0
SEP								
01...	80.0	130	250	240	20.0	20.0	35.0	25.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571773 -- Lorberry Cr Div Wells Outflow nr Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1500	1028	--	1.6	399	12	10.9	101	5.5	--
DEC										
21...	1400	1028	89203	.15	429	45	9.8	90	5.5	--
FEB										
16...	1500	1028	89203	1.7	415	28	10.3	95	5.7	--
JUN										
08...	1520	1028	89203	1.2	367	15	10.4	98	5.7	5.6
JUL										
20...	1515	1028	89203	.86	347	--	10.0	94	5.8	6.2
AUG										
30...	1745	1028	89203	.59	306	--	9.6	89	6.3	6.4

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	286	12.1	--	--	--	--	--	--	--	--
DEC										
21...	242	11.3	--	--	--	--	--	--	--	--
FEB										
16...	280	11.6	--	--	--	--	--	--	--	--
JUN										
08...	299	12.4	16.5	16.2	24.1	23.0	1.20	1.1	3.20	2.9
JUL										
20...	415	12.2	13.8	12.5	37.6	32.5	1.40	1.3	3.90	3.4
AUG										
30...	297	12.2	12.0	11.6	25.5	24.3	1.20	1.2	3.50	3.4

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	--	--	--	--	--	--	--	--	--	--
DEC										
21...	--	--	--	--	--	--	--	--	--	--
FEB										
16...	--	--	--	--	--	--	--	--	--	--
JUN										
08...	3	2.8	<.01	121	<.01	<.030	<.020	200	700	.20
JUL										
20...	13	3.7	--	184	--	--	--	<100	800	--
AUG										
30...	18	3.6	--	119	--	--	--	<100	500	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	--	--	--	--	--	--	--	--
DEC								
21...	--	--	--	--	--	--	--	--
FEB								
16...	--	--	--	--	--	--	--	--
JUN								
08...	5750	6850	1760	1700	80.0	75.0	195	195
JUL								
20...	6900	6580	1390	1250	65.0	60.0	120	180
AUG								
30...	7830	7920	2000	1000	50.0	50.0	75.0	70.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571774 -- Lorberry Creek, Site E2-0, at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1445	1028	89203	3.2	315	14	11.4	106	6.2	6.2
DEC										
21...	1345	1028	89203	8.9	397	45	11.1	100	6.0	5.8
FEB										
16...	1445	1028	89203	4.8	384	21	11.0	100	6.0	5.9
JUN										
08...	1450	1028	89203	3.5	289	16	10.9	104	6.5	5.9
JUL										
20...	1215	1028	89203	1.1	236	--	10.3	99	6.6	6.7
AUG										
30...	1700	1028	89203	.67	202	--	9.9	94	6.8	6.5

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	278	12.0	13.5	14.4	20.9	21.7	1.00	1.1	2.70	2.8
DEC										
21...	227	10.7	10.2	8.9	20.5	17.6	1.20	1.0	3.80	3.3
FEB										
16...	275	10.9	11.9	12.5	20.2	21.0	1.10	1.2	3.40	3.6
JUN										
08...	292	12.9	15.8	15.2	22.7	22.1	1.10	1.1	3.20	2.7
JUL										
20...	393	13.4	13.1	11.9	33.9	30.2	1.30	1.2	3.60	3.5
AUG										
30...	283	13.2	12.4	12.1	23.8	23.1	1.20	1.2	3.40	3.3

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	4	2.9	--	129	--	--	--	<100	800	--
DEC										
21...	4	3.2	--	92.3	--	--	--	200	600	--
FEB										
16...	3	4.7	--	117	--	--	--	<100	700	--
JUN										
08...	4	2.9	<.01	118	<.01	<.030	<.020	<100	600	.19
JUL										
20...	9	3.8	--	174	--	--	--	<100	700	--
AUG										
30...	12	3.6	--	113	--	--	--	<100	400	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	3880	5220	1390	1440	70.0	75.0	165	175
DEC								
21...	1810	3600	1400	1250	65.0	60.0	160	140
FEB								
16...	2780	4090	1320	1370	65.0	70.0	170	180
JUN								
08...	5020	6220	1640	1620	75.0	75.0	190	180
JUL								
20...	5340	5310	1210	1110	55.0	55.0	105	100
AUG								
30...	5930	6190	1000	1000	50.0	45.0	70.0	65.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571776 -- Stumps Run at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1430	1028	89203	.68	391	.0	11.3	104	6.2	6.3
DEC										
21...	1330	1028	89203	1.4	416	3.4	14.4	107	6.0	5.1
FEB										
16...	1430	1028	89203	4.0	419	3.9	13.0	100	6.2	6.2
JUN										
08...	1425	1028	89203	.24	394	.9	9.6	97	6.1	6.0
JUL										
20...	1245	1028	89203	.19	447	--	8.8	94	5.8	6.4
AUG										
30...	1715	1028	89203	.07	415	--	8.4	87	6.0	6.0

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	39	11.5	5.10	5.2	2.30	2.5	.50	.5	.50	.7
DEC										
21...	48	2.9	3.90	3.4	2.90	2.3	.60	.5	.50	.7
FEB										
16...	41	4.4	3.10	3.0	2.00	2.0	.50	.5	.60	.7
JUN										
08...	32	15.9	2.50	2.3	1.60	1.5	.30	.2	<.10	<.1
JUL										
20...	46	18.5	3.80	3.4	2.30	2.0	.60	.5	.70	.6
AUG										
30...	33	16.6	3.40	3.5	2.00	2.1	.40	.4	.60	.6

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	4	.7	--	13.6	--	--	--	<100	<100	--
DEC										
21...	5	.6	--	16.3	--	--	--	<100	<100	--
FEB										
16...	4	1.3	--	14.1	--	--	--	<100	<100	--
JUN										
08...	5	.9	<.01	8.5	.41	<.030	<.020	<100	<100	.17
JUL										
20...	6	.7	--	14.5	--	--	--	<100	<100	--
AUG										
30...	5	.8	--	8.1	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	1730	1890	90.0	90.0	<5.00	<5.00	20.0	20.0
DEC								
21...	100	210	50.0	50.0	10.0	<5.00	30.0	25.0
FEB								
16...	40.0	90.0	50.0	50.0	10.0	<5.00	20.0	20.0
JUN								
08...	110	80.0	<10.0	20.0	<5.00	<5.00	15.0	10.0
JUL								
20...	30.0	90.0	<10.0	30.0	<5.00	<5.00	15.0	10.0
AUG								
30...	860	960	50.0	70.0	<5.00	<5.00	25.0	25.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177610 -- Lorberry Creek Wetlands Inflow at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1415	1028	89203	1.6	401	15	11.3	106	5.5	6.1
DEC										
21...	1315	1028	89203	1.3	437	44	10.1	92	5.5	5.5
FEB										
16...	1415	1028	89203	1.3	429	24	10.3	96	5.5	5.7
JUN										
08...	1340	1028	89203	1.2	354	16	10.3	97	5.7	5.5
JUL										
20...	1330	1028	89203	1.5	326	--	10.6	101	6.1	6.3
AUG										
30...	1630	1028	89203	.59	290	--	10.1	94	6.4	6.4

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	286	12.1	14.0	15.5	21.9	22.6	1.10	1.1	2.60	2.8
DEC										
21...	239	11.2	9.70	10.0	19.2	19.2	1.10	1.1	3.60	3.4
FEB										
16...	294	11.6	12.9	14.0	22.1	22.4	1.20	1.2	3.10	3.4
JUN										
08...	298	12.6	15.4	15.6	22.3	21.9	1.10	1.1	3.20	2.8
JUL										
20...	280	13.2	14.0	12.4	37.9	32.4	1.40	1.3	3.90	3.5
AUG										
30...	298	12.3	12.0	11.6	25.4	24.6	1.30	1.2	3.60	3.2

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	5	2.9	--	132	--	--	--	300	800	--
DEC										
21...	6	3.2	--	95.8	--	--	--	400	600	--
FEB										
16...	5	4.0	--	127	--	--	--	400	800	--
JUN										
08...	5	8.0	<.01	138	.45	<.030	<.020	200	600	.20
JUL										
20...	12	3.7	--	189	--	--	--	<100	900	--
AUG										
30...	17	3.7	--	119	--	--	--	<100	400	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	4060	5260	1460	1510	80.0	80.0	180	185
DEC								
21...	1700	4060	1380	1380	65.0	65.0	150	150
FEB								
16...	3180	4550	1480	1530	75.0	75.0	190	195
JUN								
08...	5120	6540	1630	1630	75.0	75.0	185	185
JUL								
20...	6830	6730	1400	1230	65.0	55.0	120	100
AUG								
30...	7510	7530	2000	1000	55.0	50.0	75.0	70.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177614 -- Lorberry Cr Wetlands Cell 2 Outflow at Lorberry,PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1400	1028	89203	.41	423	1.4	11.8	117	5.5	5.5
DEC										
21...	1240	1028	89203	3.6	419	5.5	12.8	104	5.7	5.4
FEB										
16...	1345	1028	89203	.52	416	2.6	10.6	94	5.8	5.7
JUN										
08...	1250	1028	89203	.89	384	.8	10.1	117	5.7	5.5
JUL										
20...	1145	1028	89203	1.4	459	--	9.5	100	5.1	5.2
AUG										
30...	1545	1028	89203	.52	432	--	9.2	93	5.6	5.6

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	274	15.1	14.6	14.9	21.6	22.0	1.00	1.1	2.90	3.0
DEC										
21...	252	6.2	12.1	11.7	20.5	19.9	1.20	1.1	3.40	3.6
FEB										
16...	267	9.8	12.4	12.3	20.6	20.8	1.10	1.1	3.20	3.2
JUN										
08...	284	22.6	15.5	16.2	21.8	23.1	1.00	1.0	3.40	3.0
JUL										
20...	413	17.9	17.3	15.3	37.4	32.3	1.40	1.3	4.00	3.5
AUG										
30...	290	15.8	13.4	12.9	25.3	24.6	1.30	1.2	3.40	3.4

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	2	2.9	--	129	--	--	--	<100	<100	--
DEC										
21...	3	3.1	--	103	--	--	--	<100	200	--
FEB										
16...	2	4.0	--	114	--	--	--	<100	200	--
JUN										
08...	3	2.9	<.02	114	<.02	<.060	<.040	<100	<100	.20
JUL										
20...	2	3.3	--	196	--	--	--	200	200	--
AUG										
30...	3	3.6	--	125	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	230	400	1360	1370	75.0	80.0	170	175
DEC								
21...	250	600	1360	1350	80.0	75.0	215	210
FEB								
16...	430	800	1310	1330	65.0	65.0	165	170
JUN								
08...	270	630	1500	1590	70.0	75.0	165	175
JUL								
20...	1300	1160	1490	1320	75.0	65.0	150	130
AUG								
30...	1080	1140	2000	2000	60.0	55.0	95.0	105

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177618 -- Lorberry Cr Wetlands Cell 4 Outflow at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1350	1028	89203	1.6	392	.0	11.4	114	5.9	5.8
DEC										
21...	1230	1028	89203	3.2	386	.8	14.2	101	6.0	5.7
FEB										
16...	1330	1028	89203	2.5	416	.4	11.0	96	5.8	6.2
JUN										
08...	1210	1028	89203	2.1	373	<1.0	9.6	115	6.0	5.8
JUL										
20...	1130	1028	89203	2.1	528	--	9.6	106	4.8	4.9
AUG										
30...	1530	1028	89203	1.5	445	--	9.4	101	5.5	5.6

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	267	15.4	14.2	14.6	21.1	21.4	1.00	1.0	2.90	2.9
DEC										
21...	239	7.5	11.4	10.9	19.4	18.1	1.10	1.0	3.20	3.3
FEB										
16...	256	9.1	11.7	11.4	20.2	19.7	1.10	1.1	3.00	3.4
JUN										
08...	271	24.6	14.5	15.1	20.4	21.4	.90	1.0	3.30	2.8
JUL										
20...	409	20.0	18.4	16.0	36.5	30.7	1.40	1.3	3.70	3.5
AUG										
30...	293	18.4	14.9	14.2	25.6	24.6	1.30	1.2	3.50	3.3

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	2	2.9	--	125	--	--	--	<100	<100	--
DEC										
21...	4	2.8	--	97.1	--	--	--	<100	<100	--
FEB										
16...	4	3.9	--	108	--	--	--	<100	<100	--
JUN										
08...	3	3.0	<.01	109	<.01	<.030	<.020	<100	<100	.22
JUL										
20...	1	3.1	--	193	--	--	--	200	200	--
AUG										
30...	3	3.1	--	129	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	100	120	820	820	70.0	75.0	160	170
DEC								
21...	30.0	80.0	1160	1090	75.0	70.0	215	210
FEB								
16...	30.0	110	1170	1120	60.0	60.0	155	155
JUN								
08...	30.0	80.0	1260	1350	65.0	70.0	135	150
JUL								
20...	140	150	1500	1320	75.0	65.0	170	165
AUG								
30...	40.0	60.0	80.0	80.0	60.0	60.0	125	120

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177620 -- Lorberry Creek below Wetlands at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1300	1028	89203	5.5	289	11	11.1	103	6.2	6.2
DEC										
21...	1215	1028	89203	9.4	350	36	11.6	101	6.1	5.7
FEB										
16...	1315	1028	89203	7.9	358	18	10.9	96	6.1	6.1
JUN										
08...	1135	1028	89203	4.4	286	11	10.4	103	6.3	6.0
JUL										
20...	1045	1028	89203	2.8	325	--	9.7	98	6.2	6.3
AUG										
30...	1515	1028	89203	1.7	276	--	9.5	96	6.5	6.4

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	260	12.2	13.5	13.4	19.6	20.1	1.00	1.0	2.60	2.6
DEC										
21...	220	9.2	9.30	8.8	18.0	16.5	1.00	1.0	3.20	2.9
FEB										
16...	234	9.7	10.7	10.7	17.1	17.4	1.00	1.0	2.80	2.8
JUN										
08...	272	15.1	13.8	14.9	19.4	21.2	.90	1.1	3.20	2.8
JUL										
20...	363	15.9	15.0	12.8	31.8	27.2	1.30	1.2	3.60	3.2
AUG										
30...	267	15.4	12.7	12.3	23.0	21.9	1.20	1.1	3.20	3.0

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	4	2.7	--	120	--	--	--	<100	700	--
DEC										
21...	4	2.8	--	88.1	--	--	--	<100	600	--
FEB										
16...	3	4.1	--	97.5	--	--	--	<100	600	--
JUN										
08...	4	2.8	<.01	104	<.01	<.030	<.020	<100	500	.21
JUL										
20...	6	3.1	--	163	--	--	--	<100	400	--
AUG										
30...	8	3.2	--	112	--	--	--	<100	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	3620	4240	1240	1270	70.0	70.0	155	160
DEC								
21...	1430	3580	1190	1150	60.0	55.0	145	135
FEB								
16...	2260	3670	1090	1100	55.0	55.0	145	155
JUN								
08...	3290	4670	1310	1520	65.0	70.0	160	175
JUL								
20...	2660	2720	1200	1040	60.0	55.0	130	105
AUG								
30...	2750	3310	1000	1000	50.0	50.0	90.0	85.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

403521076260601 -- Shadle Mine Shaft at Lorberry, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1245	1028	89203	.00	201	.0	.9	8	4.7	5.0
DEC										
21...	1200	1028	89203	.01	214	.0	.9	8	5.3	4.6
FEB										
16...	1245	1028	89203	.02	295	.0	.9	9	5.0	5.2
JUN										
08...	1055	1028	89203	.01	106	.0	1.4	13	5.0	5.0
AUG										
30...	1445	1028	89203	.02	247	--	.6	6	4.9	5.0

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	1490	12.3	210	201	47.4	49.6	4.70	4.9	1.60	1.8
DEC										
21...	1670	12.1	215	217	47.4	48.7	4.90	5.0	1.90	1.8
FEB										
16...	1390	12.0	185	193	37.9	38.6	5.00	5.0	1.70	1.7
JUN										
08...	1370	12.1	176	182	37.3	38.8	5.30	5.6	.90	.6
AUG										
30...	1400	12.3	179	186	42.0	42.8	6.40	6.4	1.40	1.4

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	5	1.7	--	947	--	--	--	3300	3400	--
DEC										
21...	.0	1.5	--	1020	--	--	--	1000	1100	--
FEB										
16...	12	1.8	--	828	--	--	--	1100	1100	--
JUN										
08...	14	2.8	<.01	763	<.01	<.030	<.020	1200	1300	.83
AUG										
30...	11	1.9	--	842	--	--	--	2200	2200	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	163000	157000	5810	5950	115	120	160	170
DEC								
21...	161000	162000	5420	5530	85.0	90.0	125	130
FEB								
16...	128000	135000	4540	4590	85.0	85.0	110	115
JUN								
08...	124000	127000	4480	4670	90.0	100	115	125
AUG								
30...	111000	115000	5000	5000	120	120	140	145

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571777 -- Lorberry Cr ab Panther Head Disch nr Lorberry Jct, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1200	1028	89203	5.4	309	10	11.3	104	6.3	6.0
DEC										
21...	1100	1028	89203	15	441	33	12.0	102	6.1	5.6
FEB										
16...	1145	1028	89203	14	360	14	11.5	99	6.3	6.0
APR										
20...	1500	1028	89203	13	308	31	10.5	102	5.0	4.7
JUN										
07...	1625	1028	89203	3.8	215	8.3	10.2	105	6.9	6.4
AUG										
30...	1315	1028	89203	1.8	295	--	9.3	93	6.5	6.3

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	251	11.4	13.5	13.7	18.3	18.5	1.00	1.0	2.50	2.6
DEC										
21...	214	8.0	8.70	9.2	14.4	15.3	.90	.9	3.00	3.2
FEB										
16...	216	9.1	10.3	10.6	14.7	15.0	.90	.9	2.90	2.7
APR										
20...	223	13.9	10.3	12.1	15.1	18.2	1.10	1.2	2.70	2.9
JUN										
07...	220	17.2	11.6	11.4	15.9	15.9	.90	.8	3.00	2.5
AUG										
30...	275	15.5	15.4	15.9	22.1	22.3	1.20	1.2	3.10	3.1

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	3	2.9	--	114	--	--	--	<100	700	--
DEC										
21...	3	3.1	--	84.3	--	--	--	<100	500	--
FEB										
16...	3	4.2	--	87.8	--	--	--	<100	500	--
APR										
20...	.0	.9	<.01	83.2	<.01	<.030	<.020	400	700	.21
JUN										
07...	6	3.0	<.01	77.4	.39	<.030	<.020	<100	300	.19
AUG										
30...	5	3.0	--	118	--	--	--	<100	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	2800	4100	1160	1170	65.0	65.0	140	150
DEC								
21...	1140	2930	1010	1040	50.0	55.0	120	130
FEB								
16...	1620	2660	950	960	50.0	50.0	125	125
APR								
20...	730	2610	1050	1150	60.0	70.0	190	225
JUN								
07...	2350	3350	1100	1090	45.0	45.0	85.0	85.0
AUG								
30...	2720	3300	1000	1000	50.0	50.0	225	120

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177780 -- Panther Head Disch to Lorberry Cr nr Lorberry Jct, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1215	1028	89203	<.01	617	.0	8.2	73	3.6	3.7
DEC										
21...	1115	1028	89203	.04	560	.0	11.5	90	3.6	3.8
FEB										
16...	1215	1028	89203	.13	542	.0	11.4	92	3.7	3.7
APR										
20...	1535	1028	89203	.05	475	1.2	9.9	92	3.5	3.5
JUN										
07...	1650	1028	89203	.01	570	<1.0	7.6	83	3.6	3.6
AUG										
30...	1345	1028	89203	.00	489	--	5.4	61	4.0	3.9

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	247	10.1	9.30	9.8	7.00	7.3	.70	.8	.90	.8
DEC										
21...	316	4.9	7.90	8.2	7.90	8.1	.90	.9	1.40	1.2
FEB										
16...	224	5.5	5.50	5.5	5.30	5.4	.70	.7	1.10	1.0
APR										
20...	281	11.7	7.60	9.1	7.30	9.0	1.00	1.1	1.00	1.1
JUN										
07...	140	19.3	7.40	7.4	6.50	6.6	.60	.6	1.30	.7
AUG										
30...	231	21.6	13.4	13.9	10.9	11.4	1.10	1.1	1.60	1.6

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	.0	1.1	--	89.1	--	--	--	3900	4200	--
DEC										
21...	.0	.9	--	97.4	--	--	--	4200	4300	--
FEB										
16...	.0	1.7	--	64.1	--	--	--	3000	3000	--
APR										
20...	.0	1.0	<.01	84.1	<.01	<.030	<.020	3600	4500	.22
JUN										
07...	.0	1.2	<.01	67.2	<.01	<.030	.660	3000	3100	.22
AUG										
30...	.0	1.2	--	88.9	--	--	--	1200	1200	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recoverable, µg/L (01045)	Manganese, water, fltrd, µg/L (01056)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT								
28...	700	960	1090	1180	140	150	330	350
DEC								
21...	560	590	1180	1200	145	150	375	385
FEB								
16...	310	320	810	830	100	100	250	255
APR								
20...	410	500	1070	1190	135	160	375	495
JUN								
07...	690	710	1060	1070	120	120	335	330
AUG								
30...	330	1310	1000	1000	80.0	85.0	140	140

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177790 -- Unnamed Trib to Lorberry Cr nr Lorberry Jct, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1230	1028	89203	5.7	488	.0	11.4	100	5.2	5.3
DEC										
21...	1130	1028	89203	5.7	485	1.4	14.5	103	5.3	5.2
FEB										
16...	1230	1028	89203	3.9	515	2.8	13.8	100	4.9	5.2
APR										
20...	1615	1028	89203	4.0	308	5.6	10.4	95	5.0	5.0
JUN										
07...	1735	1028	89203	2.3	456	7.0	10.2	100	5.3	5.3
JUL										
20...	1030	1028	89203	2.1	596	--	8.5	91	4.1	5.3
AUG										
30...	1400	1028	89203	1.1	463	--	8.4	87	5.5	5.5

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	14	9.7	1.00	.9	.50	.6	.30	.3	.70	.6
DEC										
21...	20	1.4	1.00	.9	.60	.6	.30	.3	.50	.5
FEB										
16...	19	2.1	.80	.9	.60	.6	.30	.3	.80	.8
APR										
20...	16	11.2	.90	.9	.50	.6	.40	.3	.60	.5
JUN										
07...	14	14.7	.90	.9	.50	.5	<.10	<.1	.70	.2
JUL										
20...	15	18.8	1.30	1.2	.80	.7	.40	.3	.90	.7
AUG										
30...	16	17.3	1.40	1.5	.80	.8	.30	.3	.70	.7

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

0157177790 -- Unnamed Trib to Lorberry Cr nr Lorberry Jct, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	2	1.0	--	2.8	--	--	--	200	200	--
DEC										
21...	2	1.0	--	5.2	--	--	--	<100	<100	--
FEB										
16...	2	1.7	--	4.3	--	--	--	<100	<100	--
APR										
20...	1	1.1	<.01	4.3	.40	<.030	<.020	200	200	.17
JUN										
07...	2	1.1	<.05	3.7	.40	<.100	<.100	200	300	.20
JUL										
20...	2	1.0	--	1.6	--	--	--	300	300	--
AUG										
30...	3	.9	--	2.9	--	--	--	200	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	210	270	40.0	40.0	<5.00	<5.00	15.0	15.0
DEC								
21...	80.0	90.0	40.0	30.0	<5.00	<5.00	15.0	15.0
FEB								
16...	80.0	100	40.0	40.0	<5.00	<5.00	15.0	10.0
APR								
20...	160	230	30.0	30.0	<5.00	<5.00	25.0	15.0
JUN								
07...	470	590	30.0	30.0	<5.00	<5.00	15.0	15.0
JUL								
20...	780	820	50.0	50.0	<5.00	<5.00	20.0	20.0
AUG								
30...	350	630	40.0	80.0	<5.00	<5.00	10.0	<5.00

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571780 -- Lorberry Creek at Lorberry Junction, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
05...	1500	1028	--	23	395	16	12.0	103	5.9	--
28...	1100	1028	89203	9.4	312	7.3	11.3	101	6.4	6.1
DEC										
21...	0945	1028	89203	20	483	23	12.7	102	6.0	5.9
FEB										
16...	1030	1028	89203	17	375	12	12.3	101	6.5	6.4
APR										
20...	1320	1028	89203	16	243	20	11.2	107	5.5	5.3
JUN										
07...	1400	1028	89203	5.3	287	10	10.5	106	6.6	6.3
JUL										
19...	1215	1028	89203	5.8	338	--	9.6	99	6.0	5.8
AUG										
30...	1100	1028	89203	2.4	417	--	9.2	94	6.2	6.1

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
05...	195	12.2	--	--	--	--	--	--	--	--
28...	204	10.3	30.8	35.0	18.1	19.6	2.50	2.6	12.7	13.3
DEC										
21...	171	5.7	7.50	9.9	11.1	12.6	.80	.9	3.00	3.2
FEB										
16...	167	6.8	8.10	8.3	10.1	10.2	.80	.8	3.70	4.1
APR										
20...	180	13.7	8.70	9.9	11.5	13.3	1.00	1.1	3.30	3.3
JUN										
07...	169	16.1	9.00	9.0	10.3	10.4	.70	.7	4.40	3.2
JUL										
19...	302	16.7	14.6	13.0	23.3	20.3	1.30	1.1	5.30	4.5
AUG										
30...	249	16.3	15.0	15.8	18.0	18.7	1.30	1.3	5.70	5.4

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571780 -- Lorberry Creek at Lorberry Junction, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
28...	3	14.9	--	147	--	--	--	<100	700	--
DEC										
21...	4	8.6	--	64.5	--	--	--	<100	600	--
FEB										
16...	3	7.2	--	59.6	--	--	--	<100	400	--
APR										
20...	2	3.4	<.01	66.8	.42	<.030	<.020	200	500	.19
JUN										
07...	3	4.6	<.01	51.5	.43	<.030	<.020	<100	200	.18
JUL										
19...	3	5.8	--	123	--	--	--	<100	400	--
AUG										
30...	3	6.5	--	99.5	--	--	--	<100	200	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
05...	--	--	--	--	--	--	--	--
28...	680	3220	940	1790	45.0	45.0	65.0	515
DEC								
21...	630	2870	720	1200	40.0	45.0	95.0	330
FEB								
16...	730	1320	620	630	35.0	35.0	85.0	90.0
APR								
20...	340	1560	740	820	45.0	55.0	140	160
JUN								
07...	440	1140	650	680	30.0	30.0	60.0	70.0
JUL								
19...	540	1510	860	800	50.0	45.0	115	110
AUG								
30...	220	1140	1000	1000	40.0	45.0	100	105

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571758 -- Lower Rausch Creek near Lorberry Junction, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1130	1028	89203	6.2	232	5.5	11.4	102	6.9	6.8
DEC										
21...	1030	1028	89203	11	380	15	13.3	104	6.8	6.2
FEB										
16...	1100	1028	89203	17	254	7.0	11.8	99	7.1	7.0
APR										
20...	1400	1028	89203	9.8	161	16	9.9	102	7.2	7.0
JUN										
07...	1540	1028	89203	4.0	237	34	10.2	107	7.4	7.1
JUL										
19...	1330	1028	89203	4.5	263	--	9.4	100	7.3	7.5
AUG										
30...	1200	1028	89203	1.6	268	--	9.1	93	7.4	7.3

Date	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recoverable, mg/L (00929)
OCT										
28...	354	10.5	30.7	31.8	18.1	18.7	2.40	2.5	12.6	12.3
DEC										
21...	351	4.7	25.3	26.2	16.6	17.5	2.10	2.2	9.30	9.9
FEB										
16...	313	7.5	21.1	21.7	12.3	12.6	2.30	2.4	14.1	14.4
APR										
20...	381	16.6	28.6	32.4	17.2	19.8	3.00	3.4	11.4	12.9
JUN										
07...	454	17.9	38.1	40.1	14.4	15.2	11.3	11.8	20.6	21.0
JUL										
19...	419	18.3	32.4	28.9	15.1	13.3	5.60	4.9	24.2	21.4
AUG										
30...	429	16.4	34.5	36.2	18.8	19.7	4.80	4.9	21.8	22.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571758 -- Lower Rausch Creek near Lorberry Junction, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	15	14.8	--	149	--	--	--	<100	600	--
DEC										
21...	11	11.8	--	129	--	--	--	<100	700	--
FEB										
16...	12	24.3	--	93.1	--	--	--	<100	400	--
APR										
20...	14	13.2	<.01	144	.44	<.030	<.020	<100	800	.21
JUN										
07...	19	15.0	<.02	141	.85	<.060	<.040	<100	500	.37
JUL										
19...	24	22.0	--	138	--	--	--	300	500	--
AUG										
30...	23	20.7	--	152	--	--	--	<100	300	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	1140	2000	980	1000	45.0	50.0	60.0	70.0
DEC								
21...	1170	2260	1060	1110	45.0	50.0	80.0	95.0
FEB								
16...	820	1270	760	800	30.0	30.0	50.0	70.0
APR								
20...	250	1690	950	1040	40.0	50.0	60.0	90.0
JUN								
07...	60.0	2010	810	880	25.0	30.0	25.0	45.0
JUL								
19...	1010	2110	670	620	25.0	25.0	30.0	50.0
AUG								
30...	50.0	1270	1000	1000	25.0	30.0	185	35.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571760 -- Lower Rausch Creek at Lorberry Junction, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1115	1028	89203	6.2	231	3.7	11.4	102	7.1	6.9
DEC										
21...	1000	1028	89203	11	423	12	13.9	104	6.5	6.0
FEB										
16...	1045	1028	89203	17	284	5.5	12.1	100	6.9	6.9
APR										
20...	1300	1028	89203	9.8	126	20	9.9	100	7.0	7.0
JUN										
07...	1430	1028	89203	4.0	309	18	9.0	107	7.5	7.3
JUL										
19...	1300	1028	89203	4.5	288	--	8.7	101	7.3	7.5
AUG										
30...	1130	1028	89203	1.6	368	--	8.7	94	7.4	7.4

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	370	10.0	11.5	11.7	14.1	14.3	.90	.9	2.80	2.9
DEC										
21...	349	3.2	25.5	26.5	16.6	17.3	2.20	2.3	10.1	10.2
FEB										
16...	314	6.8	20.9	21.3	11.9	12.2	2.30	2.4	14.8	14.9
APR										
20...	383	16.0	27.2	33.3	16.2	19.8	2.80	3.5	12.0	14.7
JUN										
07...	399	24.0	32.9	34.4	13.2	14.1	6.60	7.1	15.7	16.2
JUL										
19...	395	22.6	30.4	26.6	14.9	13.0	4.50	4.0	20.8	18.5
AUG										
30...	429	18.9	34.7	36.1	18.6	19.5	4.80	5.0	21.2	21.7

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571760 -- Lower Rausch Creek at Lorberry Junction, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	19	3.8	--	87.7	--	--	--	<100	400	--
DEC										
21...	12	12.2	--	127	--	--	--	<100	600	--
FEB										
16...	14	25.8	--	91.2	--	--	--	<100	300	--
APR										
20...	15	14.8	<.01	142	.45	<.030	<.020	<100	600	.21
JUN										
07...	21	15.1	<.01	125	.47	<.030	<.020	<100	300	.23
JUL										
19...	22	21.8	--	128	--	--	--	<100	200	--
AUG										
30...	22	21.7	--	154	--	--	--	<100	200	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	1240	2090	840	860	50.0	50.0	110	125
DEC								
21...	940	1900	1050	1090	45.0	45.0	80.0	100
FEB								
16...	670	1060	720	760	30.0	30.0	50.0	65.0
APR								
20...	240	1430	880	1050	40.0	45.0	65.0	95.0
JUN								
07...	30.0	870	670	740	20.0	25.0	25.0	35.0
JUL								
19...	--	710	660	590	25.0	20.0	25.0	30.0
AUG								
30...	30.0	600	1000	1000	25.0	25.0	30.0	20.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571798 -- Swatara Creek at Lorberry Junction, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Oxidation reduction potential, mV (00090)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)
OCT										
28...	1030	1028	89203	52	304	1.2	11.6	99	7.2	6.5
DEC										
21...	0930	1028	89203	95	419	7.2	14.8	103	6.7	6.0
FEB										
16...	1000	1028	89203	142	368	12	13.0	99	6.9	6.5
APR										
20...	1030	1028	89203	79	169	9.9	10.9	103	6.7	6.7
JUN										
07...	1305	1028	89203	67	309	130	9.9	104	7.0	6.7
JUL										
19...	1145	1028	89203	45	299	--	9.1	100	6.7	7.0
AUG										
30...	1030	1028	89203	15	409	--	8.9	96	7.0	6.9

Date	Specif. conduct-ance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recover-able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover-able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Potas-sium, water, unfltrd recover-able, mg/L (00937)	Sodium, water, fltrd, mg/L (00930)	Sodium, water, unfltrd recover-able, mg/L (00929)
OCT										
28...	207	8.6	16.1	16.6	11.3	11.5	1.10	1.1	4.90	4.9
DEC										
21...	194	.6	12.5	13.1	9.90	9.9	1.00	1.0	4.50	4.4
FEB										
16...	151	4.0	9.30	9.5	6.40	6.6	1.10	1.1	5.40	5.5
APR										
20...	203	13.1	13.3	15.1	10.4	12.0	1.20	1.3	4.90	5.3
JUN										
07...	178	17.8	11.4	11.8	7.30	7.6	1.60	1.8	7.10	6.2
JUL										
19...	185	20.1	12.9	11.3	8.20	7.1	1.80	1.6	7.40	6.7
AUG										
30...	271	18.9	21.9	22.4	14.6	15.2	1.90	2.0	8.50	8.6

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
SWATARA CREEK PROJECT--Continued

01571798 -- Swatara Creek at Lorberry Junction, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Bromine water unfltrd mg/L (71871)
OCT										
28...	8	10.1	--	74.8	--	--	--	<100	200	--
DEC										
21...	10	7.7	--	62.7	--	--	--	<100	400	--
FEB										
16...	6	11.2	--	42.7	--	--	--	<100	300	--
APR										
20...	9	7.5	<.01	65.2	.47	<.030	<.020	<100	400	.19
JUN										
07...	8	14.4	<.01	42.2	.72	<.030	<.020	<100	800	.19
JUL										
19...	9	12.0	--	53.8	--	--	--	<100	200	--
AUG										
30...	11	13.1	--	90.1	--	--	--	<100	<100	--

Date	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover-able, µg/L (01045)	Mangan-ese, water, fltrd, µg/L (01056)	Mangan-ese, water, unfltrd recover-able, µg/L (01055)	Nickel, water, fltrd, µg/L (01065)	Nickel, water, unfltrd recover-able, µg/L (01067)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
28...	100	520	530	620	30.0	25.0	50.0	90.0
DEC								
21...	460	1170	520	660	25.0	25.0	60.0	130
FEB								
16...	330	630	400	420	20.0	20.0	45.0	50.0
APR								
20...	130	860	430	480	25.0	25.0	55.0	70.0
JUN								
07...	270	2140	370	450	15.0	20.0	30.0	45.0
JUL								
19...	120	640	360	350	20.0	20.0	30.0	40.0
AUG								
30...	40.0	210	160	200	15.0	15.0	40.0	25.0

ANALYSIS OF DATA COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA FLUVIAL GEOMORPHIC REFERENCE REACH NETWORK

Restoration designs for impaired stream reaches frequently are based on the dimension, pattern, and profile of reference stream reaches that effectively accommodate streamflow and sediment without excessive channel erosion or deposition. Long-term data documenting stream-channel adjustments provide a basis to effectively assess the suitability of a particular reference reach for stream stabilization or other fluvial-geomorphology based projects. Approximately 1,000 feet of Bermudian Creek in Adams County, Pennsylvania (see map below) was selected as the first reference reach within the Pennsylvania Fluvial Geomorphic Reference Reach Network. This reference reach is located near the USGS streamgaging station located near Heidlersburg, PA (USGS station number 01573849). Streamflow data collected at this station also are presented in this report on pages 312-313.

The reference reach was initially surveyed in September 2000 (White, 2001) and again in September 2004 (Durlin and Schaffstall, 2005). The data presented on the following pages were collected from a third survey completed in July 2005. All surveys were consistent with guidelines established by Powell and others (2002). Selected components of the reference-reach surveys are described in more detail below.

The longitudinal profile is a survey along the length of the stream displayed as if viewed from the side, or in profile. There are three components to the longitudinal profile; the bankfull water surface (bankfull stage); the water surface; and the streambed along the line of maximum depth and velocity (thalweg). Locations of surveyed cross sections are plotted on the longitudinal profile along with their respective distance along the reach (station). The slope of the water surface assigned to the longitudinal profile is 0.00661 feet per foot.

Cross-sections are surveyed perpendicular to the stream channel and are displayed as if looking in the downstream direction with station zero being located in the left overbank area. There are four components to the cross-section survey; the streambed, streambanks, and overbank areas (bed and bank surfaces); the water surface on the day of the survey; the bankfull-water surface (bankfull stage); and the water surface at two times the maximum bankfull water depth, or flood-prone width.

For additional information, contact Pete Cinotto at the USGS Pennsylvania Water Science Center, Exton Office, 770 Pennsylvania Drive, Suite 116, Exton, PA 19341; 610-321-2434 (email pcinotto@usgs.gov).

References

Durlin, R.R. and Schaffstall, W.P., 2005, Water resources data, Pennsylvania, water year 2004, v. 2 - Susquehanna and Potomac River Basins: U.S. Geological Survey Water-Data Report PA-04-2.

Powell, R.O., Miller, S.J., Westergard, B.E., Mulvihill, C. I., Baldigo, B.P., Gallagher, A.S., Starr, R.R., 2002, Guidelines for surveying bankfull channel geometry and developing regional hydraulic-geometry relations for streams of New York State: U.S. Geological Survey Open-File Report 03-92, 12p. plus appendixes.

White, K.E., 2001, Regional curve development and selection of a reference reach in the non-urban, lowland sections of the Piedmont Physiographic Province, Pennsylvania and Maryland: U.S. Geological Survey Water-Resources Investigations Report 01-4146, 20p.

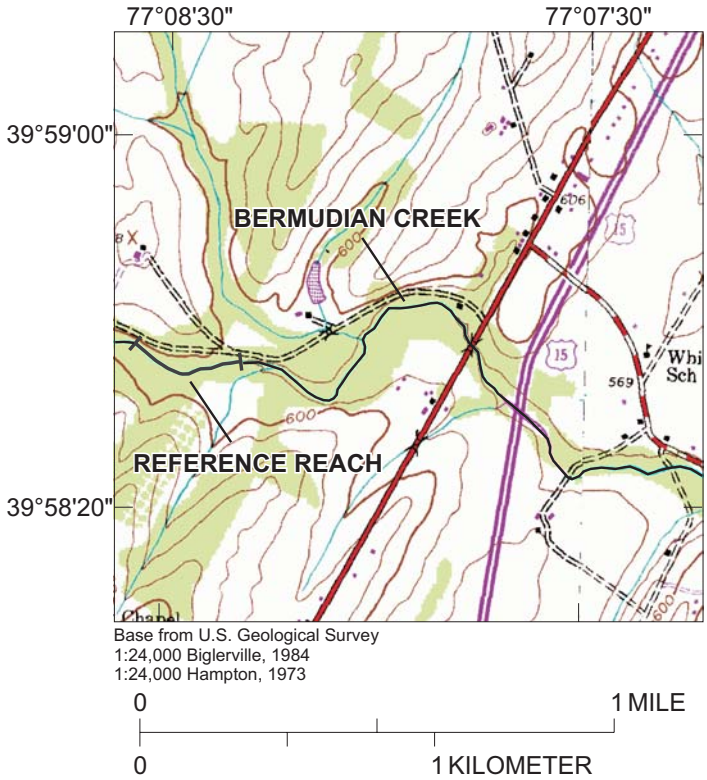
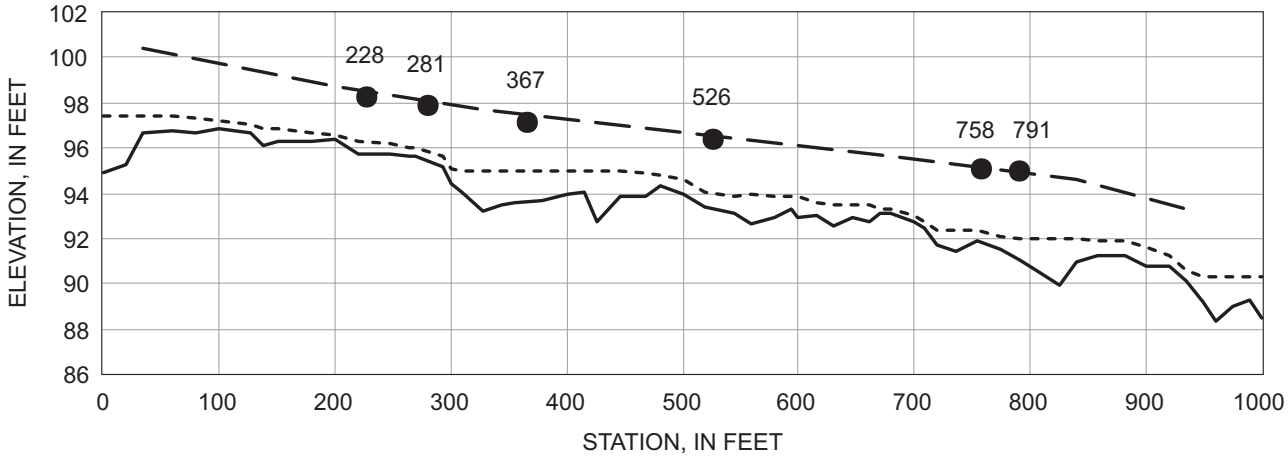


Figure 10.--Map showing the location of a reference reach on Bermudian Creek, Adams County, Pennsylvania.

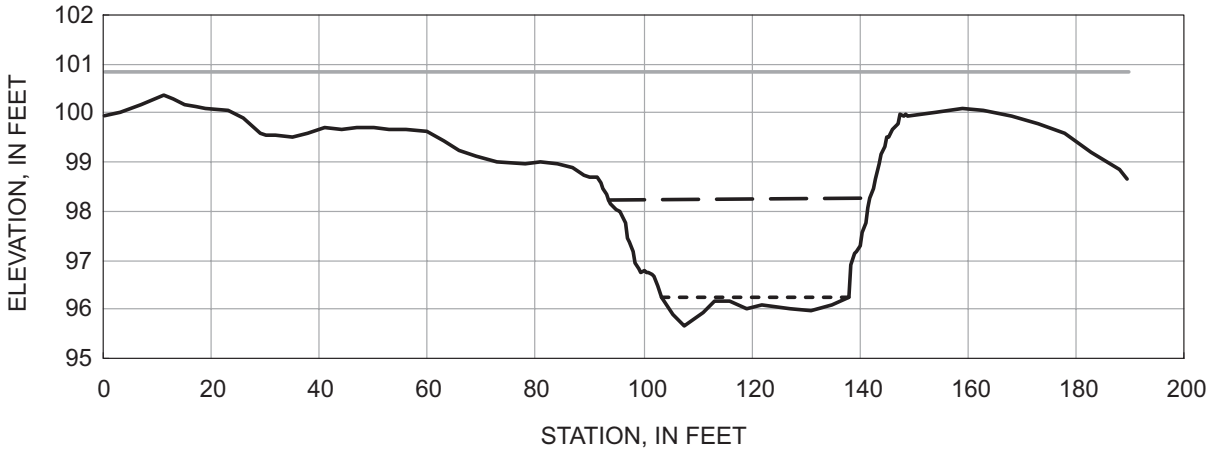
ANALYSIS OF DATA COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA FLUVIAL GEOMORPHIC REFERENCE REACH NETWORK

BERMUDIAN CREEK LONGITUDINAL PROFILE



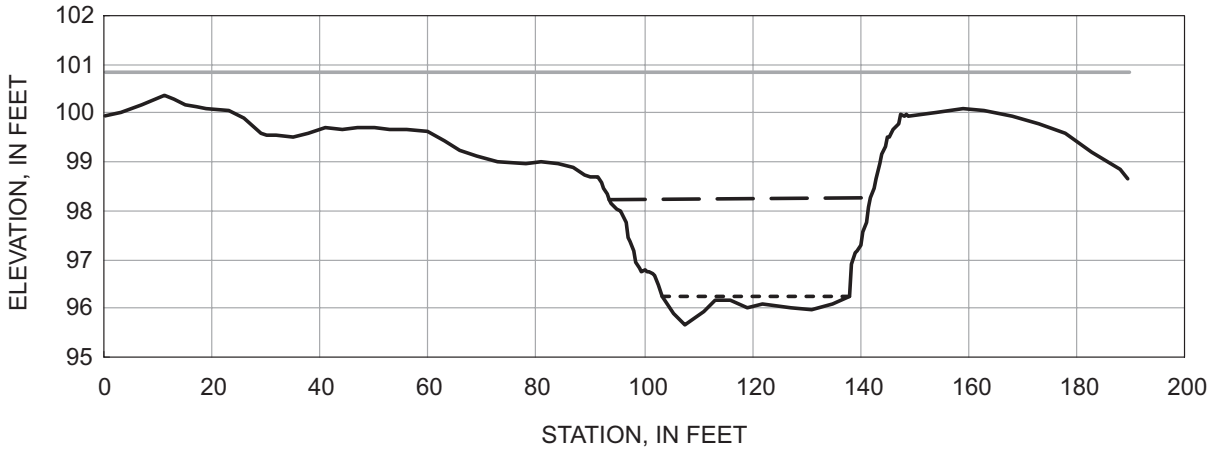
EXPLANATION

BERMUDIAN CREEK CROSS SECTION STATION 228



EXPLANATION

BERMUDIAN CREEK CROSS SECTION STATION 228



EXPLANATION

BED AND BANK SURFACE

WATER SURFACE

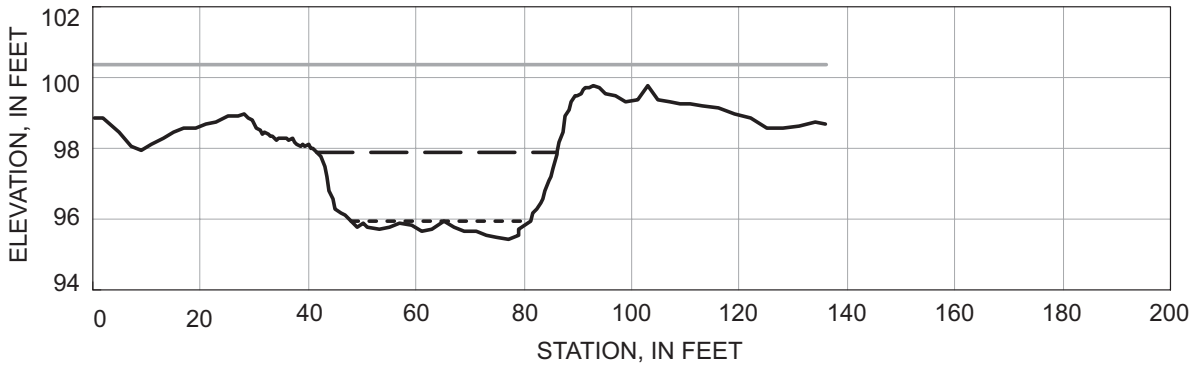
BANKFULL STAGE

TWICE BANKFULL STAGE

Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
228	RIFFLE	91.1	1.9	48.5	C4	37.8	116.9

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. $D_{50,}$ particle size larger than 50 percent of cumulative sample.
c. $D_{84,}$ particle size larger than 84 percent of the cumulative sample.

BERMUDIAN CREEK CROSS SECTION STATION 281



EXPLANATION

BED AND BANK SURFACE

WATER SURFACE

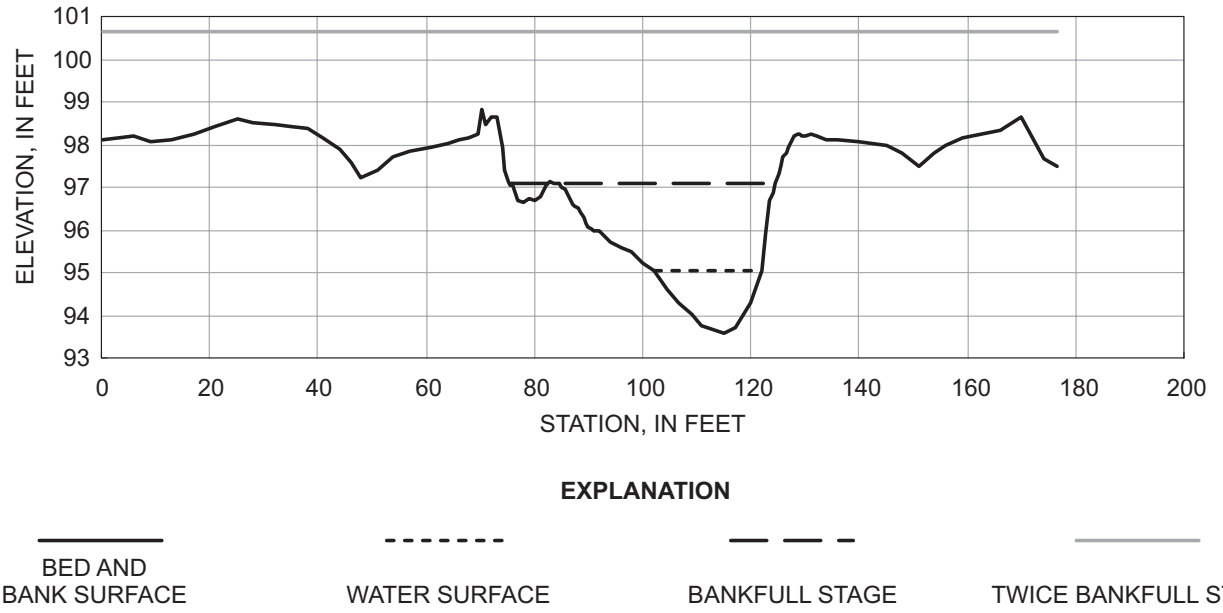
BANKFULL STAGE

TWICE BANKFULL STAGE

Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
281	RIFFLE	85.2	1.9	44.7	C4	63.4	115.9

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. $D_{50,}$ particle size larger than 50 percent of cumulative sample.
c. $D_{84,}$ particle size larger than 84 percent of the cumulative sample.

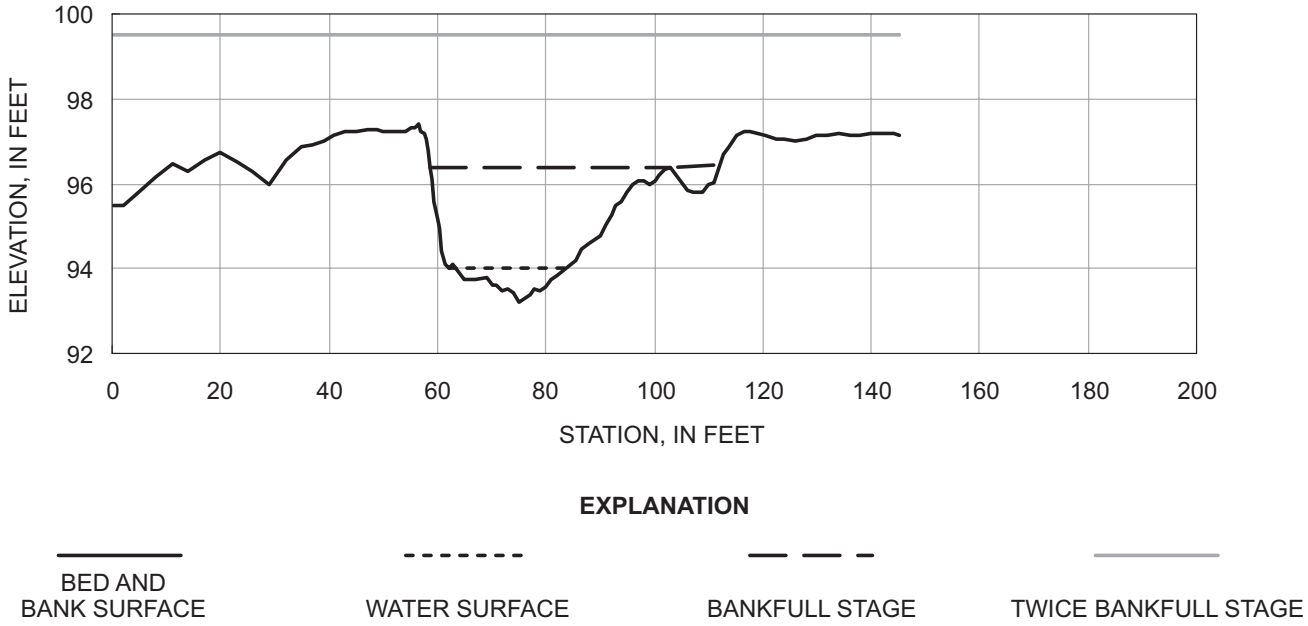
BERMUDIAN CREEK CROSS SECTION STATION 367



Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
367	POOL	83.8	1.2	48	N/A	21.3	49.6

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. $D_{50,}$ particle size larger than 50 percent of cumulative sample.
c. $D_{84,}$ particle size larger than 84 percent of the cumulative sample.

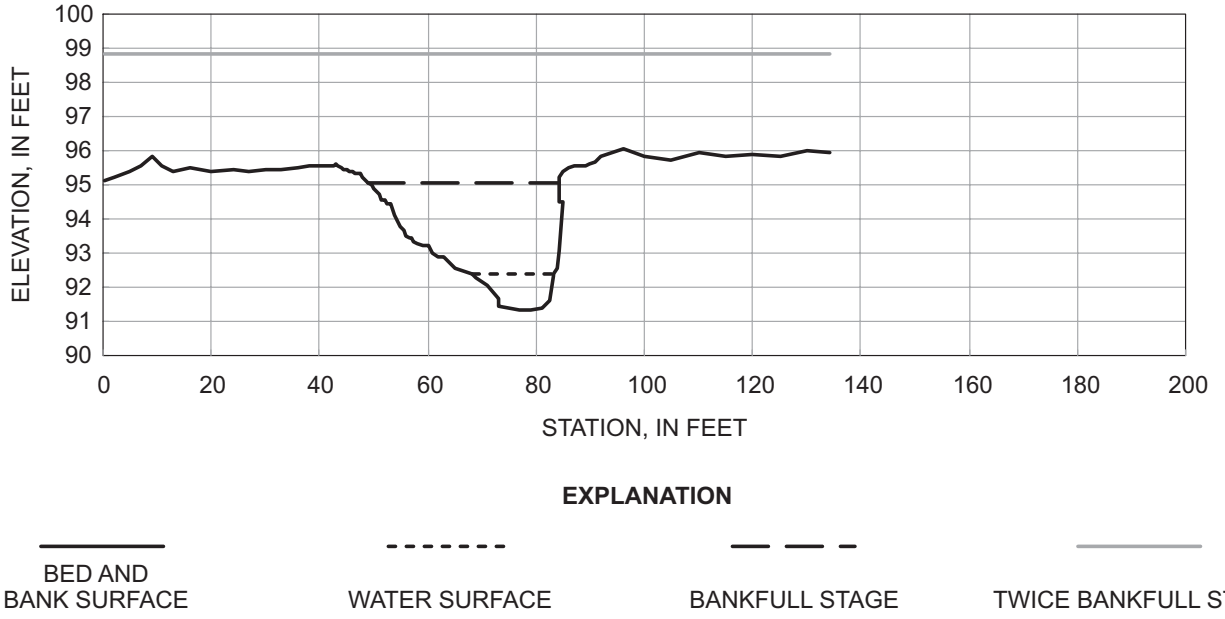
BERMUDIAN CREEK CROSS SECTION STATION 526



Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
526	RIFFLE	87.2	1.2	53.2	C4	70.8	147.5

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. D_{50}, particle size larger than 50 percent of cumulative sample.
c. D_{84}, particle size larger than 84 percent of the cumulative sample.

BERMUDIAN CREEK CROSS SECTION STATION 758



EXPLANATION

BED AND BANK SURFACE

WATER SURFACE

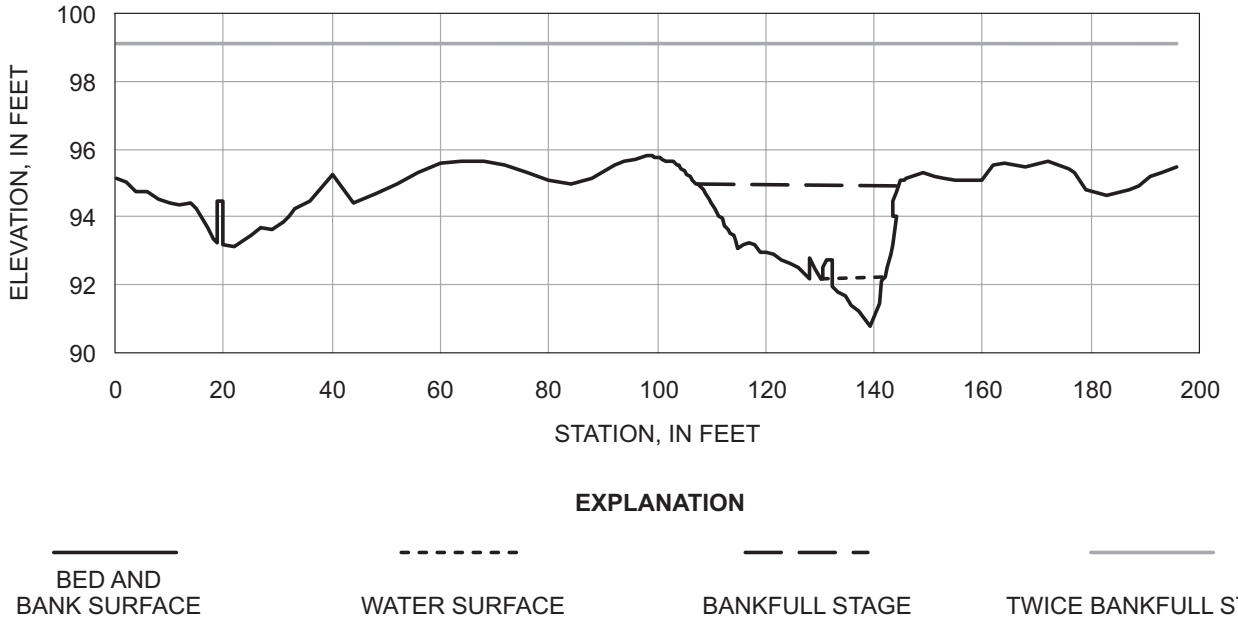
BANKFULL STAGE

TWICE BANKFULL STAGE

Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
758	POOL	85.8	2.4	35.3	N/A	46.4	188.8

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. $D_{50,}$ particle size larger than 50 percent of cumulative sample.
c. $D_{84,}$ particle size larger than 84 percent of the cumulative sample.

BERMUDIAN CREEK CROSS SECTION STATION 791



Cross-section station	Cross-section type	Bankfull area (ft^2)	Bankfull mean depth (ft)	Bankfull width (ft)	Stream type[a]	D_{50}[b]	D_{84}[c]
791	POOL	82.8	2.2	37	N/A	86.4	170.4

a. Rosgen, 1996 (Stream only classified in riffle sections).
b. $D_{50,}$ particle size larger than 50 percent of cumulative sample.
c. $D_{84,}$ particle size larger than 84 percent of the cumulative sample.

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

****

NOTES--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter(µG/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 µG/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:

MBASCOR = M - 0.0088N - 0.00019C

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:

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

(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

(84164) SAMPLER TYPE: (partial list)

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

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(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 --USGS Water Science Center, 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 AND GROUND-WATER-QUALITY STATION RECORDS

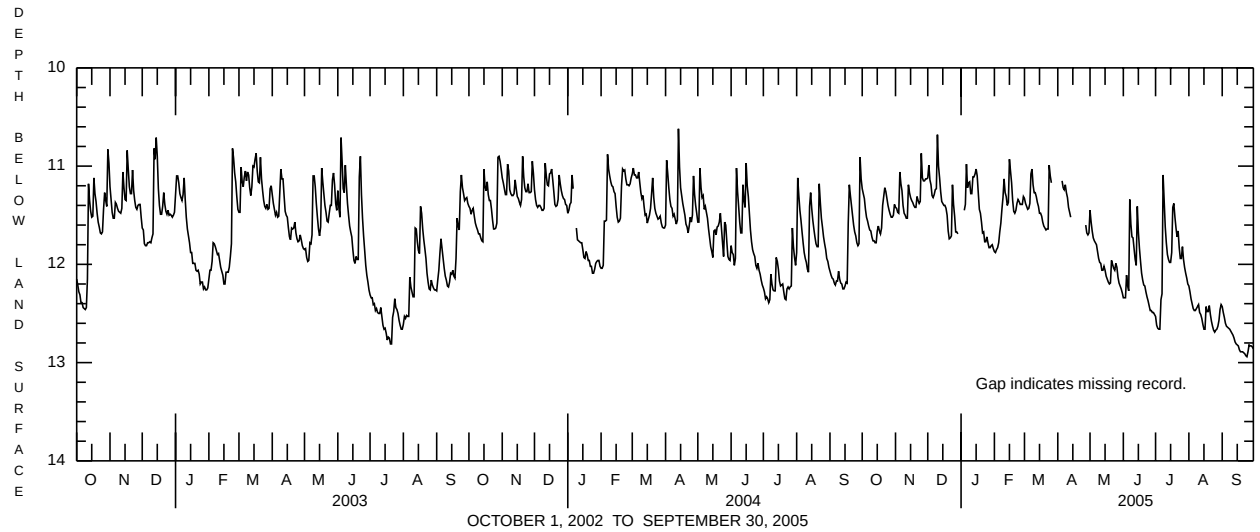
ADAMS COUNTY

395846077040601. Local number, AD 146.

LOCATION.--Lat 39°58'46", long 77°04'06", Hydrologic Unit 02050306, at State Game Land No. 249, and near York Springs.
Owner: U.S. Geological Survey.
AQUIFER.--Gettysburg Formation, Late Triassic age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 17 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.00 ft above land-surface datum.
REMARKS.--Well shows significant response to earth tides. Water-quality records for 1973-75 are available in files of the USGS Pennsylvania Water Science Center. 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--January 1968 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, 9.51 ft below land-surface datum, Dec. 11, 2003; lowest, 14.02 ft below land-surface datum, July 16-18, 1988.
EXTREMES FOR CURRENT YEAR.--Highest recorded water level, 9.97 ft below land-surface datum, Jan. 14 (may have been higher during period of no record, Mar. 27 to Apr. 4); lowest, 12.94 ft below land-surface datum, Sept. 24.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.23	11.42	11.12	---	11.87	11.33	---	11.45	12.34	12.53	12.22	12.43
2	11.28	11.43	10.99	---	11.88	11.38	---	11.57	12.34	12.62	12.28	12.49
3	11.33	11.47	11.14	---	11.85	11.41	---	11.66	12.34	12.65	12.35	12.54
4	11.44	11.48	11.19	11.45	11.83	11.44	---	11.73	12.11	12.66	12.40	12.60
5	11.52	11.06	11.30	11.39	11.78	11.43	11.15	11.76	12.22	12.66	12.45	12.63
6	11.56	11.18	11.32	10.98	11.67	11.38	11.22	11.78	12.27	12.36	12.47	12.64
7	11.61	11.25	11.29	11.22	11.58	11.08	11.24	11.80	11.34	12.30	12.47	12.65
8	11.65	11.40	11.24	11.17	11.44	11.03	11.19	11.87	11.59	11.09	12.45	12.66
9	11.66	11.48	11.23	11.16	11.32	11.19	11.27	11.94	11.72	11.36	12.43	12.68
10	11.72	11.50	10.68	11.28	11.13	11.27	11.32	11.98	11.73	11.62	12.41	12.70
11	11.76	11.53	11.00	11.28	11.27	11.27	11.42	11.99	11.84	11.78	12.49	12.72
12	11.76	11.53	11.12	11.11	11.31	11.31	11.47	12.06	11.95	11.90	12.51	12.75
13	11.78	11.19	11.26	11.11	11.40	11.37	11.52	12.06	12.01	11.95	12.55	12.79
14	11.78	11.27	11.36	11.08	11.37	11.41	---	12.02	11.41	11.98	12.61	12.81
15	11.66	11.32	11.38	11.03	10.93	11.48	---	12.06	11.67	11.98	12.66	12.82
16	11.61	11.35	11.40	11.10	11.05	11.48	---	12.12	11.84	11.88	12.66	12.83
17	11.66	11.37	11.40	11.27	11.17	11.51	---	12.15	11.97	11.42	12.43	12.87
18	11.69	11.40	11.43	11.44	11.35	11.57	---	12.18	12.09	11.38	12.48	12.89
19	11.63	11.42	11.50	11.48	11.46	11.61	---	12.20	12.16	11.52	12.48	12.89
20	11.40	11.42	11.66	11.57	11.48	11.63	---	12.19	12.21	11.63	12.42	12.89
21	11.31	11.31	11.74	11.68	11.45	11.65	---	11.96	12.22	11.72	12.51	12.90
22	11.22	11.35	11.73	11.67	11.38	11.64	---	12.00	12.28	11.66	12.58	12.91
23	11.26	11.38	11.71	11.77	11.34	11.64	---	12.04	12.33	11.83	12.63	12.93
24	11.33	11.36	11.19	11.77	11.36	10.99	---	12.06	12.37	11.94	12.67	12.94
25	11.40	10.87	11.39	11.72	11.39	11.10	---	11.99	12.42	11.94	12.69	12.89
26	11.45	11.12	11.51	11.78	11.39	11.17	---	12.03	12.47	11.82	12.67	12.82
27	11.49	11.15	11.67	11.83	11.39	---	11.60	12.13	12.47	11.95	12.66	12.83
28	11.52	11.15	11.67	11.83	11.31	---	11.68	12.19	12.49	12.03	12.63	12.83
29	11.52	11.13	11.69	11.81	---	---	11.70	12.22	12.49	12.09	12.57	12.84
30	11.50	11.13	---	11.80	---	---	11.68	12.25	12.51	12.14	12.46	12.86
31	11.39	---	---	11.84	---	---	---	12.29	---	12.20	12.41	---
MEAN	11.52	11.31	11.36	11.45	11.43	11.38	11.42	11.99	12.11	11.95	12.51	12.77
MAX	11.78	11.53	11.74	11.84	11.88	11.65	11.70	12.29	12.51	12.66	12.69	12.94
MIN	11.22	10.87	10.68	10.98	10.93	10.99	11.15	11.45	11.34	11.09	12.22	12.43



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

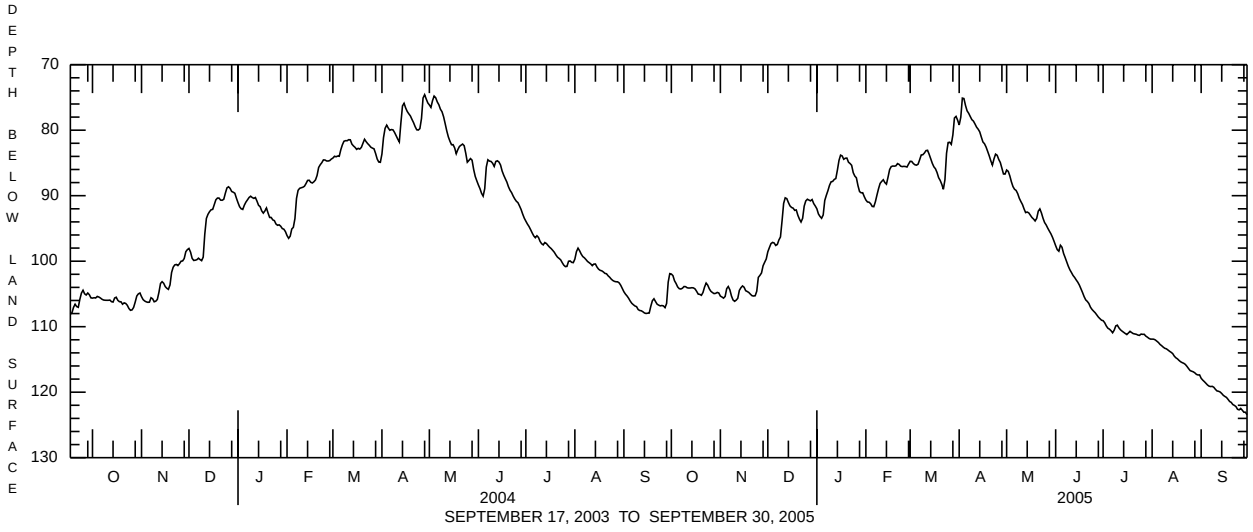
ADAMS COUNTY

394430077225001. Local number, AD 808.

LOCATION.--Lat 39°44'30", long 77°22'50", Hydrologic Unit 02050306, on lot P-176 in Carroll Valley, Adams County.
Owner: Carroll Valley Borough.
AQUIFER.--Metabasalt.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 234 ft, cased to 20 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 790 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of steel shelf, 2.82 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 2003 to current year.
EXTREMES FOR PERIOD OF RECORD.--The extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 74.50 ft below land-surface datum, Apr. 28, 2004; lowest, 123.57 ft below land-surface datum, Sept. 30, 2005.
EXTREMES FOR CURRENT YEAR.--Highest water level, 74.81 ft below land-surface datum, Apr. 3; lowest, 123.57 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101.96	105.33	98.56	92.00	90.66	84.75	79.20	86.08	97.64	109.08	111.90	117.88
2	102.21	105.47	97.92	92.79	90.96	84.77	78.03	86.28	98.24	109.40	111.91	118.16
3	102.99	105.64	97.31	93.17	90.99	85.09	75.10	86.96	98.48	109.88	112.02	118.39
4	103.41	105.39	97.13	93.45	91.22	85.28	75.17	87.87	97.57	110.23	112.22	118.64
5	103.93	104.19	97.22	92.95	91.64	85.34	76.24	88.61	97.87	110.38	112.42	118.90
6	104.20	103.87	97.60	90.73	91.68	85.20	77.05	89.02	98.82	110.61	112.71	119.08
7	104.25	104.38	97.45	89.94	90.93	84.52	77.42	89.20	99.45	110.93	112.90	119.14
8	104.13	105.31	96.76	89.23	89.91	83.78	77.91	89.69	100.11	110.54	113.12	119.11
9	103.87	105.92	96.30	88.42	88.93	83.75	78.39	90.39	100.77	109.88	113.30	119.25
10	103.89	106.13	93.83	87.88	88.12	83.49	78.61	90.89	101.32	109.77	113.38	119.56
11	104.06	105.95	91.18	87.82	87.82	83.12	79.05	91.35	101.74	110.18	113.56	119.81
12	104.10	105.67	90.33	87.52	87.57	83.07	79.54	92.01	102.18	110.48	113.75	119.86
13	104.09	104.46	90.45	87.38	88.00	83.67	79.85	92.58	102.49	110.68	113.91	119.97
14	104.05	104.05	91.04	86.09	88.24	84.37	80.26	92.50	102.87	110.86	114.11	120.20
15	104.08	103.78	91.55	84.61	87.19	85.06	81.06	92.63	103.21	111.04	114.49	120.48
16	104.24	103.98	91.80	83.81	86.02	85.59	81.80	92.98	103.66	111.20	114.75	120.65
17	104.61	104.51	91.90	83.93	85.56	85.90	82.07	93.33	104.22	110.96	114.91	120.80
18	105.03	104.63	92.24	84.44	85.47	86.47	82.57	93.56	104.79	110.71	115.15	121.10
19	105.07	104.78	92.18	84.28	85.49	87.25	83.24	93.86	105.42	110.89	115.35	121.42
20	105.21	105.04	93.00	84.26	85.44	87.67	83.92	93.47	105.91	111.05	115.49	121.56
21	104.78	105.27	93.58	84.89	85.10	88.27	84.68	92.36	106.14	111.11	115.59	121.88
22	103.94	105.32	94.02	85.09	85.22	89.02	85.33	92.02	106.46	111.16	115.76	122.02
23	103.34	105.28	93.46	85.36	85.49	87.56	84.38	92.63	107.02	111.28	116.06	122.20
24	103.66	104.58	91.59	86.49	85.56	83.52	83.66	93.45	107.37	111.33	116.39	122.61
25	104.22	102.47	90.80	87.00	85.52	81.89	83.83	94.10	107.63	111.13	116.70	122.70
26	104.60	102.17	90.54	87.27	85.55	81.84	84.46	94.47	107.88	111.17	116.80	122.48
27	104.79	101.80	90.67	88.46	85.62	82.16	84.93	94.96	108.20	111.16	116.89	122.75
28	104.95	100.70	90.79	89.37	85.17	80.72	85.81	95.40	108.53	111.44	117.05	123.06
29	104.91	100.17	90.59	89.56	---	78.14	86.69	95.82	108.78	111.60	117.28	123.06
30	104.77	99.66	91.20	89.55	---	77.90	86.70	96.35	109.01	111.79	117.37	123.45
31	104.85	---	91.57	90.16	---	78.47	---	96.98	---	111.90	117.36	---
MEAN	104.14	104.20	93.37	88.00	87.68	84.12	81.23	91.99	103.46	110.77	114.66	120.67
MAX	105.21	106.13	98.56	93.45	91.68	89.02	86.70	96.98	109.01	111.90	117.37	123.45
MIN	101.96	99.66	90.33	83.81	85.10	77.90	75.10	86.08	97.57	109.08	111.90	117.88



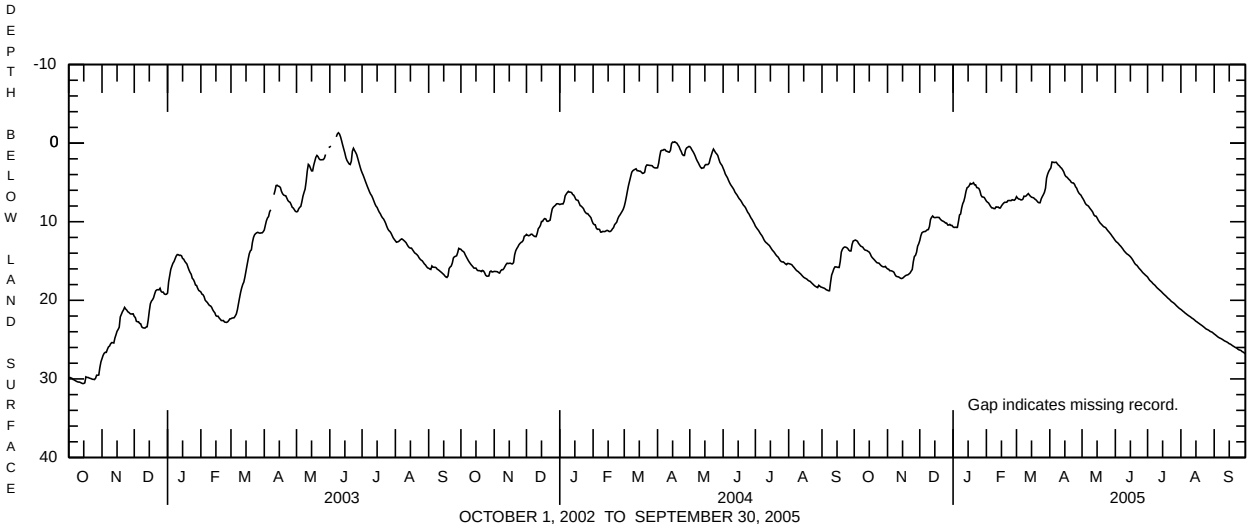
BEDFORD COUNTY

400217078281901. Local number, BD 150.

LOCATION.--Lat 40°02'17", long 78°28'19", Hydrologic Unit 02050303, at Bedford.
Owner: U.S. Geological Survey.
AQUIFER.--Onondaga Formation, Middle Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 150 ft, cased to 47 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 3.07 ft above land-surface datum. Prior to Oct. 18, 2001, measuring point, top of casing, 3.10 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since June 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 1965 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, 1.40 ft above land-surface datum, June 9, 2003; lowest, 41.42 ft below land-surface datum, Feb. 12, 13, 1966.
EXTREMES FOR CURRENT YEAR.--Highest water level, 2.30 ft below land-surface datum, Apr. 3; lowest, 26.79 ft below land-surface datum, Sept. 30.

DEPTH ABOVE (-) AND BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.40	16.01	12.39	10.66	7.38	6.81	3.36	6.89	12.41	17.04	21.16	24.28
2	12.33	16.04	11.79	10.73	7.52	6.99	3.15	7.10	12.57	17.26	21.27	24.38
3	12.39	16.23	11.41	10.70	7.61	7.11	2.41	7.35	12.66	17.45	21.40	24.49
4	12.49	16.23	11.31	10.73	7.84	7.13	2.42	7.65	12.81	17.58	21.50	24.61
5	12.75	16.27	11.25	10.72	8.07	7.22	2.47	7.84	12.98	17.70	21.63	24.71
6	12.92	16.33	11.25	9.97	8.24	7.22	2.45	7.92	13.11	17.87	21.73	24.79
7	13.10	16.44	11.15	9.14	8.25	7.12	2.43	8.02	13.29	17.99	21.84	24.85
8	13.17	16.74	11.02	9.02	8.33	6.75	2.62	8.23	13.47	18.11	21.94	24.92
9	13.24	16.93	11.00	8.24	8.33	6.78	2.79	8.41	13.68	18.28	22.03	25.01
10	13.46	16.99	10.60	7.70	8.11	6.72	2.90	8.58	13.84	18.43	22.12	25.11
11	13.60	17.01	9.71	7.40	8.14	6.56	3.09	8.79	13.99	18.55	22.24	25.19
12	13.64	17.08	9.44	6.86	8.13	6.42	3.20	9.12	14.12	18.67	22.32	25.25
13	13.68	17.19	9.27	6.14	8.26	6.60	3.41	9.27	14.20	18.79	22.42	25.32
14	13.79	17.23	9.44	5.68	8.25	6.76	3.66	9.29	14.32	18.92	22.54	25.41
15	13.87	17.19	9.48	5.59	7.99	6.88	4.04	9.50	14.45	19.07	22.67	25.52
16	14.11	17.07	9.46	5.42	7.80	6.92	4.25	9.78	14.62	19.20	22.75	25.57
17	14.42	16.94	9.44	5.12	7.64	6.96	4.33	9.99	14.82	19.33	22.86	25.66
18	14.60	16.84	9.45	5.21	7.53	7.11	4.49	10.19	15.05	19.45	22.95	25.77
19	14.74	16.79	9.46	5.16	7.53	7.20	4.64	10.32	15.29	19.59	23.06	25.85
20	14.89	16.75	9.66	5.04	7.52	7.35	4.76	10.47	15.46	19.73	23.15	25.94
21	15.05	16.64	9.80	5.31	7.32	7.52	4.99	10.62	15.54	19.84	23.25	26.02
22	15.20	16.52	9.90	5.31	7.30	7.59	5.06	10.69	15.72	19.97	23.36	26.08
23	15.25	16.29	9.95	5.65	7.31	7.58	5.07	10.76	15.91	20.12	23.47	26.21
24	15.27	16.08	10.04	5.69	7.32	7.10	5.24	10.96	16.06	20.22	23.60	26.30
25	15.43	15.09	10.17	5.77	7.20	6.81	5.56	11.14	16.21	20.31	23.68	26.34
26	15.58	14.42	10.17	6.09	7.24	6.56	5.73	11.29	16.39	20.42	23.74	26.39
27	15.68	14.28	10.42	6.62	7.27	6.27	6.08	11.46	16.54	20.56	23.82	26.53
28	15.74	13.89	10.42	6.84	7.13	5.74	6.34	11.63	16.66	20.71	23.93	26.59
29	15.74	13.12	10.34	6.86	---	4.45	6.50	11.84	16.80	20.83	24.00	26.70
30	15.68	12.81	10.47	6.92	---	3.95	6.62	12.01	16.91	20.96	24.05	26.79
31	15.87	---	10.47	7.15	---	3.60	---	12.22	---	21.07	24.16	---
MEAN	14.20	16.11	10.33	7.21	7.73	6.64	4.14	9.66	14.66	19.16	22.73	25.55
MAX	15.87	17.23	12.39	10.73	8.33	7.59	6.62	12.22	16.91	21.07	24.16	26.79
MIN	12.33	12.81	9.27	5.04	7.13	3.60	2.41	6.89	12.41	17.04	21.16	24.28



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

BEDFORD COUNTY

400450078303001. Local number, BD 654.

LOCATION.--Lat 40°04'50", long 78°30'30", Hydrologic Unit 02050303, at Bedford County Airport 3.0 mi north of Bedford.
Owner: Bedford Township.
AQUIFER.--Bloomsburg and Mifflintown undifferentiated.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 245 ft, cased to 105 ft, open hole.
INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.
DATUM.--Elevation of land surface is 1,190 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.05 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--October 1999 to October 2005. (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, 49.85 ft below land-surface datum, June 9, 2003; lowest, 84.89 ft below land-surface datum, Nov. 24, 25, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 52.89 ft below land-surface datum, Jan. 16; lowest, 80.95 ft below land-surface datum, Sept. 29.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

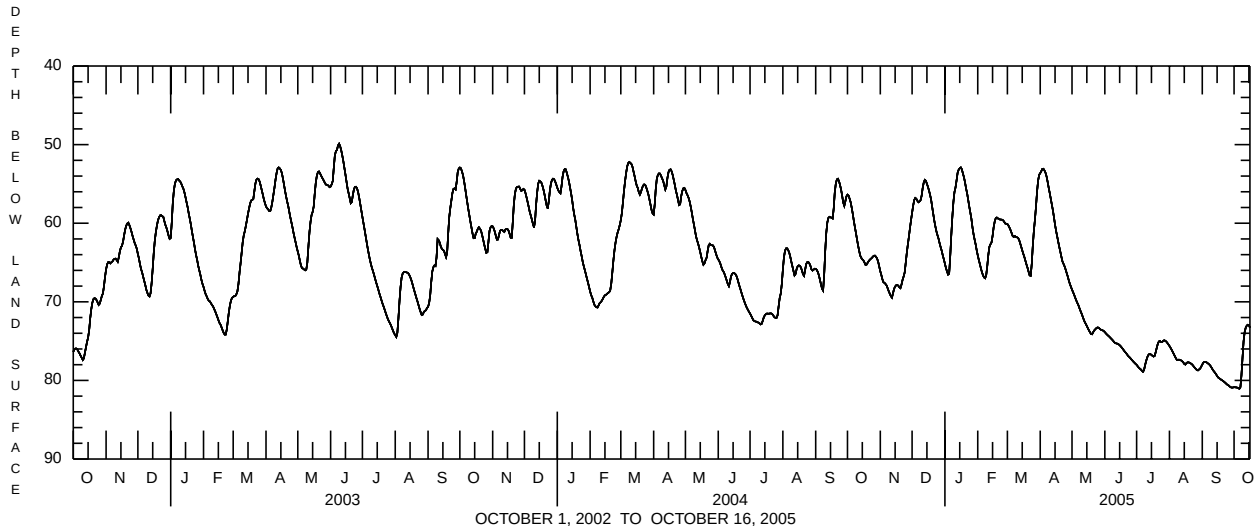
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56.37	66.12	58.68	65.16	64.08	60.10	53.63	68.45	73.86	78.02	75.62	77.98
2	56.48	66.61	57.79	65.71	64.67	60.31	53.38	68.77	74.02	78.20	75.84	77.74
3	56.87	67.15	57.06	66.14	65.19	60.58	53.09	69.10	74.16	78.37	76.08	77.64
4	57.33	67.52	56.79	66.53	65.75	60.89	53.07	69.47	74.29	78.50	76.35	77.64
5	58.03	67.59	56.89	66.42	66.25	61.26	53.29	69.82	74.41	78.61	76.62	77.70
6	58.82	67.75	57.15	64.27	66.64	61.64	53.59	70.13	74.55	78.76	76.89	77.80
7	59.69	67.93	57.33	61.58	66.90	61.74	54.07	70.42	74.69	78.90	77.16	77.90
8	60.50	68.30	57.23	59.23	67.00	61.64	54.74	70.80	74.83	78.68	77.38	78.03
9	61.25	68.67	57.08	57.32	66.59	61.74	55.50	71.15	74.99	78.06	77.38	78.21
10	62.05	68.99	56.52	56.06	65.42	61.79	56.19	71.48	75.16	77.53	77.36	78.43
11	62.82	69.29	55.53	55.46	64.03	61.87	56.92	71.85	75.26	77.08	77.39	78.67
12	63.50	69.47	54.84	54.55	63.00	62.10	57.65	72.23	75.30	76.79	77.46	78.85
13	64.12	68.91	54.49	53.59	62.68	62.53	58.39	72.56	75.33	76.64	77.56	79.02
14	64.40	68.35	54.60	53.19	62.46	62.98	59.29	72.81	75.41	76.65	77.70	79.21
15	64.60	68.06	54.99	53.01	61.63	63.45	60.20	73.08	75.52	76.76	77.90	79.44
16	64.73	67.89	55.38	52.91	60.53	63.89	61.00	73.37	75.66	76.87	77.98	79.63
17	64.98	67.86	55.85	53.14	59.79	64.30	61.68	73.64	75.83	76.96	77.80	79.73
18	65.29	67.95	56.40	53.68	59.37	64.77	62.36	73.88	76.00	76.89	77.71	79.82
19	65.27	68.16	57.02	54.16	59.28	65.25	63.03	74.10	76.19	76.42	77.70	79.93
20	65.04	68.26	57.94	54.81	59.40	65.68	63.65	74.13	76.37	75.86	77.75	80.01
21	64.83	67.82	58.83	55.59	59.43	66.17	64.29	73.86	76.51	75.35	77.83	80.11
22	64.66	67.22	59.70	56.22	59.53	66.64	64.87	73.64	76.70	75.05	77.92	80.22
23	64.53	66.79	60.41	57.06	59.54	66.68	65.18	73.49	76.89	74.99	78.06	80.34
24	64.42	66.27	61.05	57.89	59.56	65.15	65.50	73.35	77.01	75.10	78.24	80.47
25	64.25	65.06	61.54	58.65	59.64	62.85	65.90	73.27	77.15	75.13	78.41	80.58
26	64.14	63.79	61.97	59.44	59.83	60.96	66.35	73.29	77.32	74.99	78.55	80.65
27	64.13	62.71	62.55	60.49	60.04	59.54	66.79	73.40	77.47	74.90	78.70	80.79
28	64.28	61.73	63.06	61.37	60.07	57.91	67.30	73.53	77.62	74.95	78.72	80.88
29	64.51	60.63	63.52	62.06	---	55.98	67.73	73.59	77.76	75.06	78.60	80.92
30	64.92	59.62	64.10	62.69	---	54.57	68.09	73.64	77.90	75.23	78.50	80.90
31	65.52	---	64.60	63.43	---	53.84	---	73.72	---	75.42	78.25	---
MEAN	62.66	66.75	58.42	58.77	62.44	61.90	60.22	72.26	75.81	76.67	77.59	79.31
MAX	65.52	69.47	64.60	66.53	67.00	66.68	68.09	74.13	77.90	78.90	78.72	80.92
MIN	56.37	59.62	54.49	52.91	59.28	53.84	53.07	68.45	73.86	74.90	75.62	77.64

BEDFORD COUNTY

400450078303001. Local number, BD 654--Continued.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80.86	---	---	---	---	---	---	---	---	---	---	---
2	80.88	---	---	---	---	---	---	---	---	---	---	---
3	80.89	---	---	---	---	---	---	---	---	---	---	---
4	80.92	---	---	---	---	---	---	---	---	---	---	---
5	80.97	---	---	---	---	---	---	---	---	---	---	---
6	81.07	---	---	---	---	---	---	---	---	---	---	---
7	80.86	---	---	---	---	---	---	---	---	---	---	---
8	79.34	---	---	---	---	---	---	---	---	---	---	---
9	77.13	---	---	---	---	---	---	---	---	---	---	---
10	75.02	---	---	---	---	---	---	---	---	---	---	---
11	73.86	---	---	---	---	---	---	---	---	---	---	---
12	73.31	---	---	---	---	---	---	---	---	---	---	---
13	73.03	---	---	---	---	---	---	---	---	---	---	---
14	72.92	---	---	---	---	---	---	---	---	---	---	---
15	72.96	---	---	---	---	---	---	---	---	---	---	---
16	73.29	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	77.33	---	---	---	---	---	---	---	---	---	---	---
MAX	81.07	---	---	---	---	---	---	---	---	---	---	---
MIN	72.92	---	---	---	---	---	---	---	---	---	---	---



OCTOBER 1, 2002 TO OCTOBER 16, 2005

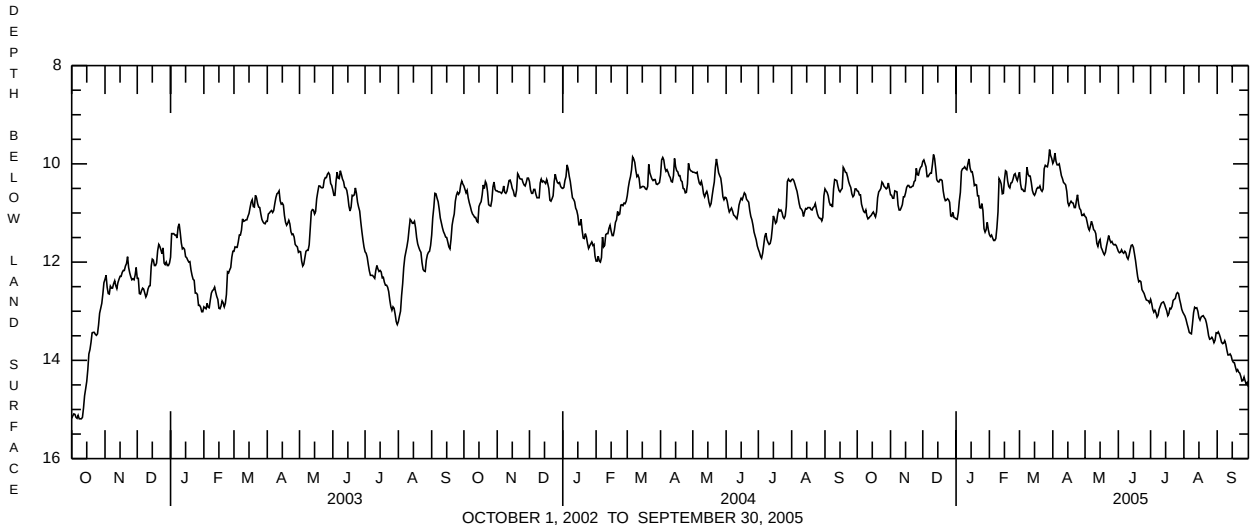
BLAIR COUNTY

402452078271301. Local number, BA 74.

LOCATION.--Lat 40°24'52", long 78°27'13", Hydrologic Unit 02050302, at Allegheny Portage Railroad National Historic Site, and southwest of Duncansville.
Owner: U.S. Geological Survey.
AQUIFER.--Brallier Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 150 ft, cased to 14 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.06 ft above land-surface datum. Prior to June 10, 1999, 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 June 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--August 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, 9.48 ft below land-surface datum, Mar. 29, 2005; lowest, 18.65 ft below land-surface datum, Oct. 29, 30, 1969.
EXTREMES FOR CURRENT YEAR.--Highest water level, 9.48 ft below land-surface datum, Mar. 29; lowest, 14.54 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.55	10.63	9.95	11.12	11.44	10.17	9.99	11.07	11.78	12.76	13.06	13.45
2	10.56	10.64	9.92	11.13	11.48	10.41	9.94	11.09	11.81	12.84	13.10	13.42
3	10.63	10.70	9.99	11.00	11.45	10.52	9.78	11.19	11.80	12.96	13.17	13.47
4	10.63	10.70	10.06	10.76	11.51	10.52	9.95	11.30	11.75	13.02	13.26	13.54
5	10.82	10.55	10.26	10.58	11.56	10.56	10.02	11.35	11.80	12.98	13.34	13.63
6	10.90	10.56	10.26	10.15	11.56	10.56	10.02	11.27	11.82	13.03	13.43	13.66
7	10.97	10.57	10.22	10.10	11.52	10.38	10.00	11.17	11.78	13.12	13.45	13.65
8	10.99	10.84	10.19	10.09	11.30	10.07	10.12	11.24	11.81	13.08	13.46	13.60
9	10.94	10.94	10.19	10.06	10.98	10.21	10.24	11.34	11.90	12.96	13.26	13.67
10	11.06	10.94	10.01	10.10	10.30	10.25	10.30	11.36	11.94	12.90	13.03	13.79
11	11.12	10.89	9.81	10.12	10.34	10.25	10.38	11.42	11.86	12.84	12.92	13.89
12	11.10	10.83	9.89	10.00	10.41	10.38	10.40	11.62	11.75	12.82	12.94	13.89
13	11.07	10.67	10.09	9.90	10.61	10.54	10.43	11.68	11.66	12.81	12.93	13.87
14	11.05	10.67	10.32	10.08	10.60	10.61	10.56	11.58	11.65	12.86	13.00	13.91
15	11.01	10.59	10.36	10.16	10.33	10.64	10.79	11.54	11.70	12.93	13.13	14.00
16	10.98	10.48	10.37	10.16	10.14	10.59	10.85	11.70	11.83	12.99	13.18	14.04
17	11.03	10.44	10.32	10.27	10.16	10.51	10.80	11.75	11.97	13.09	13.12	14.05
18	11.08	10.44	10.32	10.44	10.35	10.48	10.76	11.81	12.14	13.05	13.10	14.14
19	10.98	10.48	10.34	10.42	10.46	10.49	10.79	11.85	12.30	12.94	13.09	14.22
20	10.69	10.48	10.55	10.43	10.49	10.45	10.80	11.80	12.40	12.95	13.13	14.19
21	10.57	10.46	10.68	10.65	10.39	10.53	10.89	11.67	12.38	12.90	13.16	14.24
22	10.54	10.45	10.75	10.65	10.38	10.56	10.89	11.57	12.40	12.78	13.24	14.26
23	10.50	10.36	10.74	10.89	10.31	10.51	10.75	11.46	12.56	12.76	13.36	14.33
24	10.37	10.34	10.71	10.90	10.22	10.10	10.63	11.54	12.60	12.74	13.50	14.42
25	10.40	10.09	10.73	10.81	10.20	10.03	10.81	11.60	12.64	12.65	13.57	14.41
26	10.46	10.22	10.78	10.95	10.29	10.05	10.91	11.58	12.71	12.62	13.56	14.34
27	10.48	10.23	11.06	11.32	10.34	10.06	10.94	11.63	12.77	12.64	13.53	14.42
28	10.51	10.13	11.07	11.39	10.25	9.95	11.05	11.65	12.78	12.76	13.57	14.48
29	10.49	10.07	10.99	11.34	---	9.71	11.05	11.64	12.79	12.85	13.64	14.45
30	10.39	10.05	11.09	11.19	---	9.83	11.02	11.66	12.83	12.96	13.59	14.54
31	10.51	---	11.10	11.34	---	9.89	---	11.72	---	13.02	13.44	---
MEAN	10.75	10.51	10.42	10.60	10.69	10.32	10.53	11.51	12.13	12.89	13.27	14.00
MAX	11.12	10.94	11.10	11.39	11.56	10.64	11.05	11.85	12.83	13.12	13.64	14.54
MIN	10.37	10.05	9.81	9.90	10.14	9.71	9.78	11.07	11.65	12.62	12.92	13.42



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

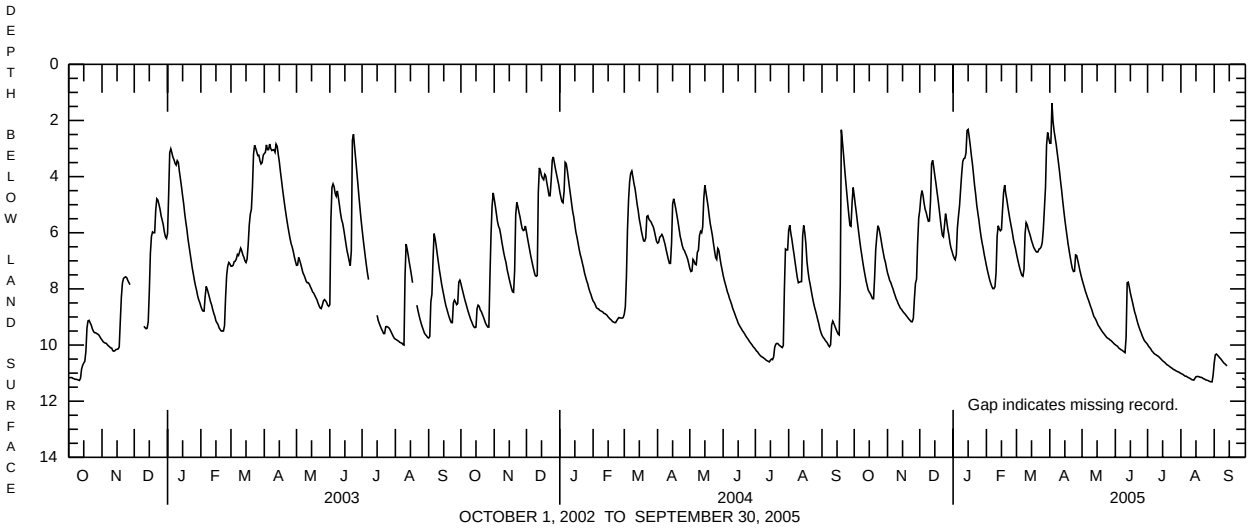
BRADFORD COUNTY

414330076280501. Local number, BR 92.

LOCATION.--Lat 41°43'26", long 76°28'08", Hydrologic Unit 02050106, at Monroeton.
Owner: U.S. Geological Survey.
AQUIFER.--Lock Haven Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 117 ft, cased to 55 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 750 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.05 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since September 1998, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--May 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, 1.02 ft below land-surface datum, Apr. 3, 2005; lowest, 11.99 ft below land-surface datum, Sept. 20, 24, 1991.
EXTREMES FOR CURRENT YEAR.--Highest water level, 1.02 ft below land-surface datum, Apr. 3; lowest recorded, 11.31 ft below land-surface datum, Aug. 29, 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.68	7.43	5.20	6.80	7.17	6.75	2.81	7.66	9.99	9.98	11.01	10.63
2	5.00	7.56	4.73	6.90	7.35	6.93	2.81	7.80	10.02	10.05	11.03	10.35
3	5.30	7.70	4.50	6.96	7.51	7.10	1.38	7.93	10.04	10.09	11.05	10.32
4	5.63	7.77	4.66	6.78	7.67	7.26	2.04	8.07	10.10	10.14	11.08	10.36
5	5.94	7.89	4.94	5.84	7.80	7.40	2.38	8.18	10.13	10.21	11.11	10.40
6	6.25	7.99	5.17	5.41	7.91	7.52	2.62	8.30	10.16	10.25	11.11	10.45
7	6.54	8.12	5.28	5.04	7.99	7.55	2.87	8.40	10.18	10.30	11.14	10.49
8	6.79	8.23	5.45	4.46	7.99	7.30	3.18	8.51	10.21	10.33	11.16	10.54
9	7.05	8.35	5.59	3.90	7.92	6.03	3.48	8.63	10.24	10.35	11.18	10.59
10	7.29	8.43	5.58	3.46	7.42	5.64	3.80	8.73	10.27	10.38	11.20	10.64
11	7.50	8.53	4.87	3.36	6.12	5.72	4.16	8.86	9.74	10.40	11.23	10.67
12	7.71	8.61	3.54	3.34	5.75	5.88	4.48	8.98	7.78	10.44	11.24	10.71
13	7.88	8.69	3.42	3.16	5.87	6.00	4.86	9.04	7.76	10.48	11.25	10.74
14	8.04	8.73	3.67	2.36	5.93	6.13	5.20	9.11	7.94	10.52	11.19	---
15	8.11	8.79	3.96	2.32	5.89	6.28	5.53	9.20	8.15	10.56	11.13	---
16	8.17	8.84	4.23	2.59	5.19	6.40	5.83	9.29	8.32	10.59	11.12	---
17	8.26	8.88	4.53	2.89	4.57	6.52	6.11	9.35	8.48	10.62	11.12	---
18	8.35	8.93	4.81	3.24	4.30	6.59	6.39	9.41	8.66	10.66	11.13	---
19	8.35	8.98	5.14	3.55	4.60	6.66	6.63	9.47	8.83	10.70	11.15	---
20	7.57	9.03	5.48	3.92	4.82	6.69	6.87	9.53	8.95	10.72	11.15	---
21	6.60	9.08	5.81	4.31	5.08	6.68	7.09	9.58	9.10	10.75	11.17	---
22	6.15	9.12	6.08	4.63	5.32	6.58	7.28	9.63	9.24	10.78	11.20	---
23	5.75	9.17	6.14	5.01	5.55	6.56	7.38	9.68	9.36	10.81	11.21	---
24	5.84	9.17	5.74	5.28	5.75	6.50	7.37	9.73	9.47	10.83	11.24	---
25	6.03	9.04	5.32	5.55	5.96	6.34	6.79	9.76	9.56	10.87	11.25	---
26	6.26	8.34	5.56	5.86	6.20	5.86	6.81	9.78	9.67	10.88	11.26	---
27	6.50	7.80	5.85	6.13	6.39	5.12	6.98	9.82	9.76	10.91	11.28	11.19
28	6.70	7.65	6.06	6.36	6.55	4.38	7.16	9.84	9.84	10.93	11.30	11.20
29	6.91	6.38	6.34	6.55	---	2.87	7.35	9.88	9.89	10.95	11.31	11.22
30	7.05	5.48	6.54	6.78	---	2.43	7.51	9.92	9.93	10.96	11.31	11.24
31	7.25	---	6.66	6.97	---	2.64	---	9.96	---	10.99	11.07	---
MEAN	6.82	8.29	5.19	4.83	6.31	6.07	5.17	9.10	9.39	10.56	11.17	10.69
MAX	8.35	9.17	6.66	6.97	7.99	7.55	7.51	9.96	10.27	10.99	11.31	11.24
MIN	4.68	5.48	3.42	2.32	4.30	2.43	1.38	7.66	7.76	9.98	11.01	10.32



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

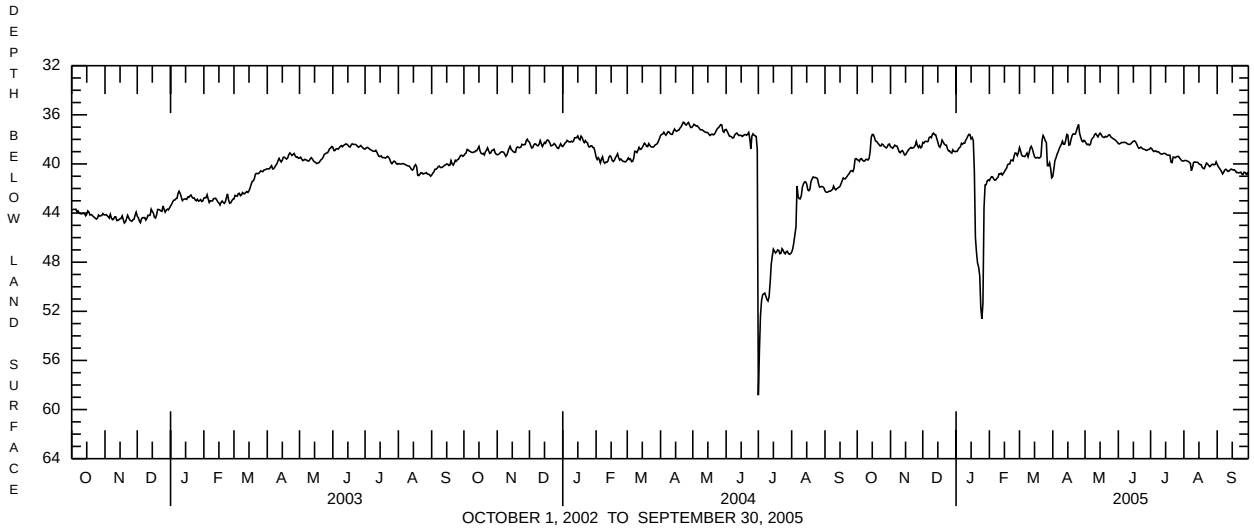
CAMBRIA COUNTY

403434078302201. Local number, CA 459.

LOCATION.--Lat 40°34'34", long 78°30'22", Hydrologic Unit 02050201, at State Game Lands No. 184.
Owner: U.S. Geological Survey.
AQUIFER.--Pottsville Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 146 ft, cased to 18 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 2,070 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 2.00 ft above land-surface datum.
REMARKS.--Cause of large water-level fluctuations are unknown, but could be related to nearby mining operations. In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 2002 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, 36.57 ft below land-surface datum, Apr. 22, 2004; lowest, 61.05 ft below land-surface datum, July 1, 2004.
EXTREMES FOR CURRENT YEAR.--Highest water level, 36.62 ft below land-surface datum, Apr. 25; lowest, 52.79 ft below land-surface datum, Jan. 25, 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.67	38.61	38.25	38.97	41.36	38.67	41.01	38.15	38.34	38.70	39.75	40.03
2	39.68	38.65	38.31	38.98	41.17	38.93	40.42	38.32	38.37	38.74	39.72	40.22
3	39.79	38.72	38.17	38.81	41.04	39.27	39.72	38.43	38.32	38.90	39.72	40.34
4	39.59	38.60	38.16	38.68	41.06	39.37	39.50	38.39	38.25	38.99	39.76	40.47
5	39.57	38.47	38.19	38.61	41.22	39.38	39.20	38.47	38.26	38.96	39.79	40.62
6	39.70	38.54	38.16	38.32	41.32	39.40	39.01	38.40	38.25	38.94	39.86	40.81
7	39.77	38.55	37.84	38.39	41.30	39.27	38.76	38.04	38.24	39.02	39.95	40.68
8	39.76	38.76	37.80	38.30	41.17	39.12	38.56	37.90	38.27	39.00	40.55	40.50
9	39.63	39.01	37.86	38.31	41.09	39.41	38.40	37.81	38.33	39.06	40.28	40.43
10	39.62	39.09	37.57	38.06	40.80	39.09	38.15	37.60	38.39	39.16	39.88	40.51
11	39.68	38.97	37.49	37.92	40.83	38.71	38.40	37.53	38.41	39.20	39.84	40.61
12	39.57	38.91	37.62	37.72	40.75	38.57	38.40	37.67	38.40	39.19	39.86	40.58
13	39.04	39.05	37.62	37.59	40.90	38.78	38.09	37.80	38.32	39.15	39.86	40.48
14	37.86	39.27	37.93	37.62	40.78	39.11	37.60	37.62	38.23	39.14	39.88	40.42
15	37.60	39.25	38.21	37.96	40.63	39.42	37.65	37.49	38.15	39.17	39.99	40.46
16	37.61	39.09	38.54	37.85	40.47	39.52	38.47	37.60	38.12	39.25	40.05	40.50
17	37.83	38.95	38.64	38.09	40.35	39.49	38.43	37.76	38.20	39.28	40.06	40.48
18	38.13	38.82	38.42	40.54	40.06	39.47	38.00	37.83	38.36	39.29	40.28	40.57
19	38.16	38.73	38.06	45.98	40.01	39.53	37.69	37.84	38.58	39.29	40.36	40.71
20	38.28	38.65	38.21	47.21	40.00	39.49	37.55	37.75	38.72	39.85	40.39	40.69
21	38.39	38.72	38.38	48.08	39.69	39.38	37.57	37.80	38.70	39.89	40.15	40.73
22	38.51	38.70	38.46	48.40	39.70	38.07	37.57	37.75	38.63	39.44	39.93	40.70
23	38.54	38.62	38.47	49.10	39.75	37.69	37.30	37.63	38.72	39.46	39.99	40.67
24	38.38	38.49	38.78	51.69	39.35	37.85	37.00	37.64	38.78	39.50	40.11	40.83
25	38.43	38.18	38.94	52.62	39.11	38.12	36.79	37.80	38.81	39.41	40.22	40.86
26	38.56	38.49	38.94	51.37	39.13	38.24	37.53	37.87	38.84	39.40	40.16	40.67
27	38.62	38.66	39.07	43.58	39.32	40.14	37.83	37.93	38.90	39.38	40.04	40.70
28	38.70	38.51	39.12	41.71	39.08	40.15	38.12	37.99	38.87	39.51	40.02	40.84
29	38.60	38.69	38.85	41.69	---	39.91	38.20	38.04	38.82	39.63	40.08	40.74
30	38.41	38.63	38.97	41.37	---	40.38	38.08	38.13	38.80	39.73	40.04	40.91
31	38.38	---	39.00	41.30	---	41.12	---	38.22	---	39.77	39.83	---
MEAN	38.84	38.75	38.32	41.77	40.41	39.20	38.30	37.91	38.48	39.27	40.01	40.59
MAX	39.79	39.27	39.12	52.62	41.36	41.12	41.01	38.47	38.90	39.89	40.55	40.91
MIN	37.60	38.18	37.49	37.59	39.08	37.69	36.79	37.49	38.12	38.70	39.72	40.03



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

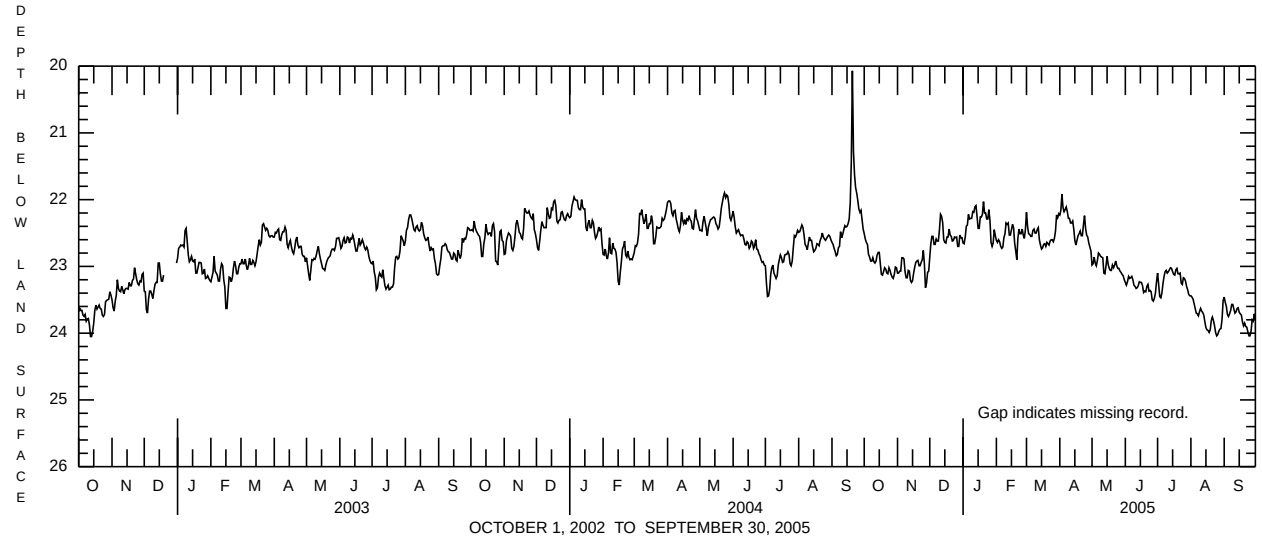
CAMERON COUNTY

412732078034201. Local number, CM 13.

LOCATION.--Lat 41°27'32", long 78°03'42", Hydrologic Unit 02050202, at Sinnemahoning State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 102 ft, cased to 57 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,010 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.04 ft above land-surface datum.
REMARKS.--Water levels reported Apr. 1-8, 1993 affected by surface-water impounded by George B. Stevenson Dam (wellhead submerged April 3). 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 USGS Pennsylvania Water Science Center.
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, 3.21 ft above land-surface datum, Apr. 3, 1993 (see Remarks); lowest, 25.98 ft below land-surface datum, Sept. 10, 1972.
EXTREMES FOR CURRENT YEAR.--Highest water level, 21.73 ft below land-surface datum, Apr. 3; lowest, 24.04 ft below land-surface datum, Aug. 25, Sept. 24, 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.51	23.10	22.86	22.65	22.61	22.19	22.23	22.98	23.24	23.10	23.44	23.46
2	22.59	23.10	22.66	22.66	22.64	22.40	22.16	22.96	23.28	23.27	23.46	23.54
3	22.64	23.07	22.55	22.56	22.60	22.51	21.92	22.86	23.23	23.45	23.49	23.60
4	22.67	23.07	22.55	22.40	22.63	22.52	22.12	22.95	23.15	23.47	23.56	23.72
5	22.82	22.87	22.67	22.38	22.70	22.55	22.18	22.99	23.18	23.40	23.63	23.75
6	22.86	22.87	22.67	22.22	22.73	22.55	22.15	22.91	23.17	23.26	23.70	23.71
7	22.92	22.89	22.59	22.29	22.71	22.46	22.11	22.80	23.15	23.15	23.71	23.66
8	22.92	23.08	22.62	22.28	22.57	22.44	22.18	22.82	23.20	23.08	23.74	23.57
9	22.87	23.17	22.62	22.28	22.51	22.50	22.28	22.85	23.28	23.06	23.68	23.57
10	22.93	23.17	22.45	22.18	22.35	22.50	22.28	22.86	23.30	23.10	23.63	23.64
11	22.95	23.06	22.22	22.19	22.37	22.45	22.35	22.87	23.33	23.08	23.67	23.70
12	22.92	23.07	22.25	22.11	22.35	22.42	22.35	23.10	23.32	23.05	23.69	23.68
13	22.83	23.21	22.34	22.09	22.53	22.60	22.32	23.11	23.29	23.02	23.73	23.63
14	22.79	23.24	22.60	22.25	22.53	22.68	22.44	22.99	23.23	23.03	23.83	23.62
15	22.79	23.21	22.64	22.43	22.45	22.74	22.61	22.85	23.24	23.08	23.92	23.69
16	22.96	23.10	22.65	22.43	22.37	22.72	22.68	22.97	23.24	23.12	23.95	23.71
17	23.12	23.01	22.56	22.26	22.42	22.67	22.61	23.03	23.29	23.13	23.96	23.73
18	23.13	22.94	22.56	22.26	22.65	22.66	22.54	23.06	23.39	23.05	23.99	23.83
19	23.08	22.92	22.44	22.22	22.77	22.70	22.51	23.06	23.37	23.03	23.95	23.89
20	23.02	22.91	22.53	22.03	22.90	22.64	22.47	22.98	23.38	23.11	23.81	23.85
21	23.04	22.99	22.55	22.20	22.58	22.66	22.54	23.02	23.30	23.11	23.76	23.90
22	23.10	22.99	22.62	22.20	22.44	22.68	22.54	22.98	23.27	23.10	23.81	23.91
23	23.11	22.94	22.61	22.29	22.51	22.62	22.38	22.92	23.37	23.25	23.89	23.98
24	23.02	22.90	22.56	22.29	22.51	22.60	22.24	22.99	23.36	23.27	23.99	24.04
25	23.06	22.76	22.57	22.15	22.44	22.60	22.43	23.03	23.38	23.17	24.04	24.04
26	23.12	22.96	22.56	22.31	22.53	22.63	22.53	23.03	23.50	23.18	24.02	23.97
27	23.16	23.32	22.70	22.64	22.58	22.58	22.56	23.07	23.52	23.22	23.97	23.80
28	23.18	23.25	22.70	22.70	22.45	22.47	22.65	23.09	23.48	23.30	23.94	23.82
29	23.12	23.09	22.53	22.65	---	22.23	22.71	23.12	23.40	23.35	23.93	23.71
30	23.01	23.07	22.57	22.45	---	22.27	22.77	23.14	23.23	23.42	23.79	23.79
31	23.02	---	22.57	22.54	---	22.21	---	23.20	---	23.44	23.51	---
MEAN	22.94	23.04	22.57	22.34	22.55	22.53	22.39	22.99	23.30	23.19	23.78	23.75
MAX	23.18	23.32	22.86	22.70	22.90	22.74	22.77	23.20	23.52	23.47	24.04	24.04
MIN	22.51	22.76	22.22	22.03	22.35	22.19	21.92	22.80	23.15	23.02	23.44	23.46



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

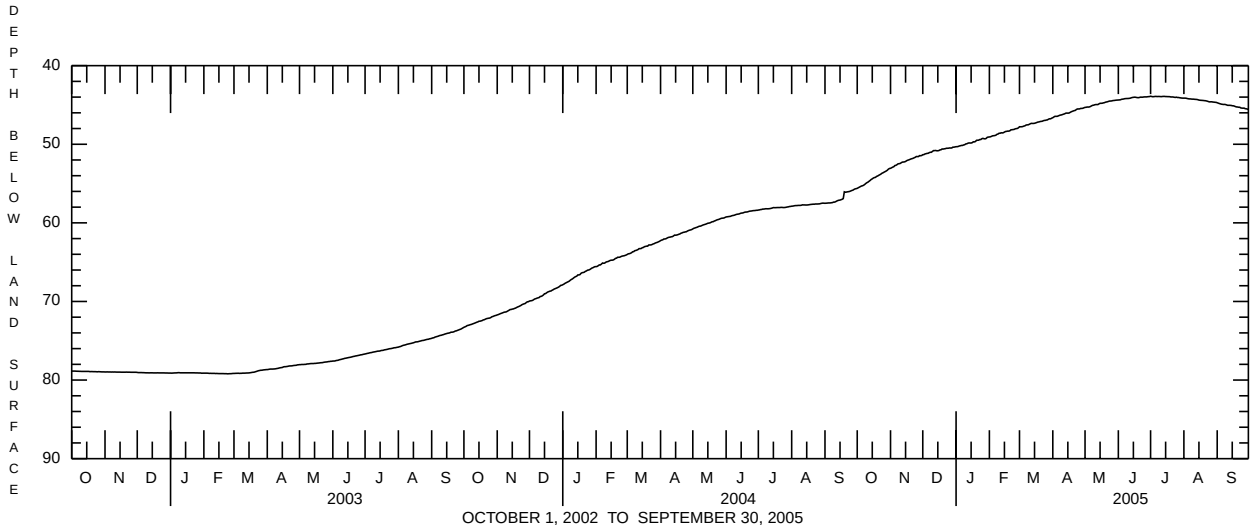
CENTRE COUNTY

404518077575501. Local number, CE 118.

LOCATION.--Lat 40°45'18", long 77°57'55", Hydrologic Unit 02050302, at State Game Land No. 176, and near Fairbrook. Owner: U.S. Geological Survey.
AQUIFER.--Gatesburg Formation, Late Cambrian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 130 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.
DATUM.--Elevation of land surface is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.89 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since June 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--January 1968 to June 1981, July 1984 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, 43.86 ft below land-surface datum, July 1, 2005; lowest, 80.14 ft below land-surface datum, Mar. 26, 1970.
EXTREMES FOR CURRENT YEAR.--Highest water level, 43.86 ft below land-surface datum, July 1; lowest, 55.61 ft below land-surface datum, Oct. 1.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55.61	53.06	51.33	50.31	49.07	47.77	46.62	45.31	44.37	43.89	44.13	44.72
2	55.53	52.99	51.32	50.31	49.05	47.78	46.53	45.30	44.36	43.92	44.13	44.77
3	55.46	52.91	51.24	50.28	48.99	47.77	46.45	45.26	44.34	43.95	44.14	44.82
4	55.38	52.86	51.20	50.22	48.93	47.75	46.45	45.27	44.28	43.94	44.18	44.86
5	55.31	52.71	51.16	50.19	48.91	47.69	46.45	45.25	44.26	43.92	44.21	44.90
6	55.28	52.68	51.15	50.15	48.89	47.66	46.40	45.20	44.24	43.91	44.23	44.92
7	55.21	52.60	51.07	50.15	48.85	47.57	46.34	45.12	44.20	43.93	44.23	44.94
8	55.11	52.49	51.02	50.09	48.74	47.53	46.29	45.05	44.19	43.92	44.25	44.93
9	54.99	52.47	51.02	50.06	48.70	47.53	46.27	45.03	44.18	43.92	44.26	44.96
10	54.89	52.44	50.91	49.96	48.60	47.47	46.22	44.98	44.18	43.93	44.26	45.01
11	54.82	52.35	50.81	49.94	48.60	47.40	46.17	44.95	44.16	43.94	44.28	45.05
12	54.71	52.27	50.81	49.87	48.54	47.34	46.13	44.95	44.14	43.92	44.29	45.04
13	54.61	52.26	50.79	49.83	48.56	47.35	46.05	44.95	44.09	43.91	44.30	45.05
14	54.48	52.24	50.83	49.84	48.53	47.35	46.03	44.86	44.05	43.91	44.33	45.06
15	54.40	52.19	50.83	49.84	48.45	47.33	46.04	44.79	44.03	43.93	44.38	45.10
16	54.30	52.09	50.80	49.80	48.38	47.29	46.03	44.79	44.01	43.93	44.40	45.11
17	54.24	52.03	50.72	49.69	48.36	47.24	45.96	44.78	44.02	43.94	44.41	45.15
18	54.21	51.99	50.70	49.70	48.33	47.18	45.88	44.74	44.05	43.94	44.42	45.21
19	54.09	51.93	50.60	49.65	48.33	47.16	45.82	44.71	44.07	43.95	44.43	45.25
20	54.04	51.87	50.61	49.50	48.29	47.12	45.77	44.65	44.07	43.99	44.45	45.26
21	53.95	51.83	50.58	49.49	48.17	47.09	45.72	44.62	44.03	43.98	44.46	45.29
22	53.88	51.79	50.56	49.48	48.15	47.08	45.69	44.59	44.00	43.99	44.49	45.29
23	53.80	51.72	50.51	49.40	48.13	47.02	45.57	44.54	44.02	44.02	44.53	45.38
24	53.69	51.66	50.51	49.40	48.11	46.97	45.51	44.50	44.00	44.04	44.58	45.40
25	53.63	51.56	50.50	49.29	48.04	46.96	45.51	44.50	43.98	44.01	44.61	45.41
26	53.55	51.57	50.47	49.25	48.01	46.92	45.50	44.48	43.97	44.05	44.60	45.40
27	53.48	51.56	50.48	49.30	47.99	46.90	45.44	44.44	43.98	44.05	44.60	45.47
28	53.40	51.45	50.47	49.31	47.91	46.81	45.44	44.43	43.96	44.08	44.63	45.49
29	53.31	51.46	50.37	49.26	---	46.76	45.42	44.41	43.94	44.10	44.64	45.52
30	53.17	51.43	50.37	49.12	---	46.76	45.36	44.39	43.93	44.12	44.66	45.58
31	53.08	---	50.34	49.09	---	46.68	---	44.38	---	44.13	44.67	---
MEAN	54.37	52.15	50.78	49.73	48.49	47.27	45.97	44.81	44.10	43.97	44.39	45.14
MAX	55.61	53.06	51.33	50.31	49.07	47.78	46.62	45.31	44.37	44.13	44.67	45.58
MIN	53.08	51.43	50.34	49.09	47.91	46.68	45.36	44.38	43.93	43.89	44.13	44.72



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

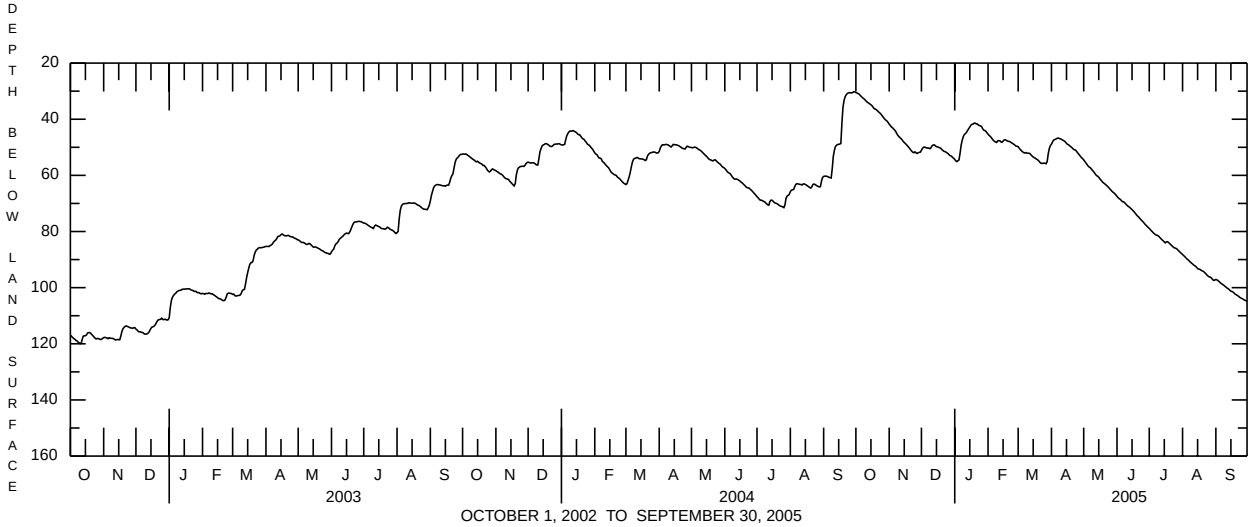
CENTRE COUNTY

404556077525101. Local number, CE 686.

LOCATION.--Lat 40°45'56", long 77°52'51", Hydrologic Unit 02050302, at State College.
Owner: Privately owned.
AQUIFER.--Nittany Formation, Early-Lower Ordovician Age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 345 ft, 6 in. steel casing to 84 ft, 4 in. slotted pvc casing from 0-345 ft..
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,222.6 ft above National Geodetic Vertical Datum of 1929, from local survey. Measuring point: Top of casing, 1.80 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily minimum and maximum water levels, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 30.17 ft below land-surface datum, Sept. 29, 2004; lowest, 142.15 ft below land-surface datum, Mar. 14, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 30.42 ft below land-surface datum, Oct. 1; lowest, 105.03 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.49	41.80	51.06	54.34	45.31	49.77	48.88	54.52	67.50	78.88	88.20	97.08
2	30.63	42.18	50.37	54.86	45.78	50.32	48.07	55.01	67.94	79.31	88.54	97.23
3	30.86	42.73	49.98	55.08	46.10	50.81	47.43	55.53	68.27	79.74	88.93	97.49
4	31.04	43.02	49.92	54.79	46.55	51.18	47.27	56.09	68.54	80.15	89.34	97.82
5	31.51	43.41	50.09	54.47	47.08	51.55	47.07	56.61	68.95	80.55	89.73	98.19
6	31.89	43.85	50.28	51.96	47.56	51.88	46.88	56.99	69.35	80.85	90.06	98.52
7	32.26	44.32	50.19	49.14	47.88	52.03	46.71	57.22	69.40	81.19	90.40	98.79
8	32.59	45.07	50.35	47.42	48.14	51.86	46.79	57.66	69.72	81.34	90.82	99.04
9	32.87	45.70	50.50	46.18	48.26	52.05	46.96	58.14	70.14	81.44	91.14	99.35
10	33.30	46.17	50.08	45.41	47.70	52.13	47.09	58.59	70.52	81.78	91.46	99.68
11	33.73	46.56	49.39	45.12	47.64	52.09	47.34	59.07	70.92	82.19	91.82	100.0
12	34.03	46.92	49.21	44.64	47.68	52.25	47.55	59.64	71.17	82.61	92.11	100.29
13	34.27	47.33	49.14	43.94	48.09	52.71	47.76	60.08	71.47	82.99	92.37	100.54
14	34.58	47.89	49.50	43.34	48.21	53.10	48.14	60.29	71.85	83.32	92.71	100.92
15	34.85	48.28	49.77	42.79	47.78	53.46	48.60	60.66	72.22	83.72	93.17	101.24
16	35.17	48.64	49.84	42.12	47.38	53.69	48.96	61.19	72.60	84.03	93.41	101.38
17	35.71	49.06	50.01	41.82	47.33	53.88	49.14	61.66	73.05	83.70	93.44	101.58
18	36.25	49.46	50.17	41.78	47.51	54.21	49.46	62.11	73.50	83.63	93.73	101.94
19	36.35	49.94	50.34	41.41	47.75	54.44	49.80	62.54	73.99	83.92	93.99	102.33
20	36.60	50.39	50.84	41.40	47.91	54.74	50.09	62.84	74.44	84.32	94.13	102.55
21	36.95	50.93	51.12	41.65	47.89	55.25	50.52	63.16	74.79	84.68	94.39	102.77
22	37.34	51.40	51.47	41.66	48.18	55.62	50.83	63.48	75.21	85.05	94.79	103.03
23	37.69	51.78	51.52	42.07	48.44	55.74	50.92	63.84	75.67	85.41	95.21	103.39
24	38.01	51.92	51.77	42.29	48.67	55.71	51.26	64.23	76.09	85.76	95.63	103.64
25	38.53	51.61	52.06	42.36	48.91	55.62	51.79	64.68	76.46	85.89	95.98	103.83
26	39.04	52.00	52.30	42.61	49.23	55.71	52.27	65.07	76.90	86.03	96.18	104.02
27	39.53	52.21	52.79	43.39	49.60	55.85	52.70	65.54	77.38	86.32	96.29	104.29
28	40.02	51.96	53.02	43.89	49.63	55.08	53.25	65.93	77.76	86.75	96.60	104.49
29	40.38	51.80	53.17	44.04	---	52.30	53.71	66.19	78.17	87.13	97.11	104.65
30	40.66	51.72	53.61	44.31	---	50.43	54.02	66.56	78.55	87.50	97.42	104.90
31	41.17	---	53.90	44.85	---	49.40	---	67.00	---	87.85	97.28	---
MEAN	35.43	48.00	50.90	45.65	47.79	53.06	49.38	61.04	72.75	83.48	93.11	101.17
MAX	41.17	52.21	53.90	55.08	49.63	55.85	54.02	67.00	78.55	87.85	97.42	104.90
MIN	30.49	41.80	49.14	41.40	45.31	49.40	46.71	54.52	67.50	78.88	88.20	97.08



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

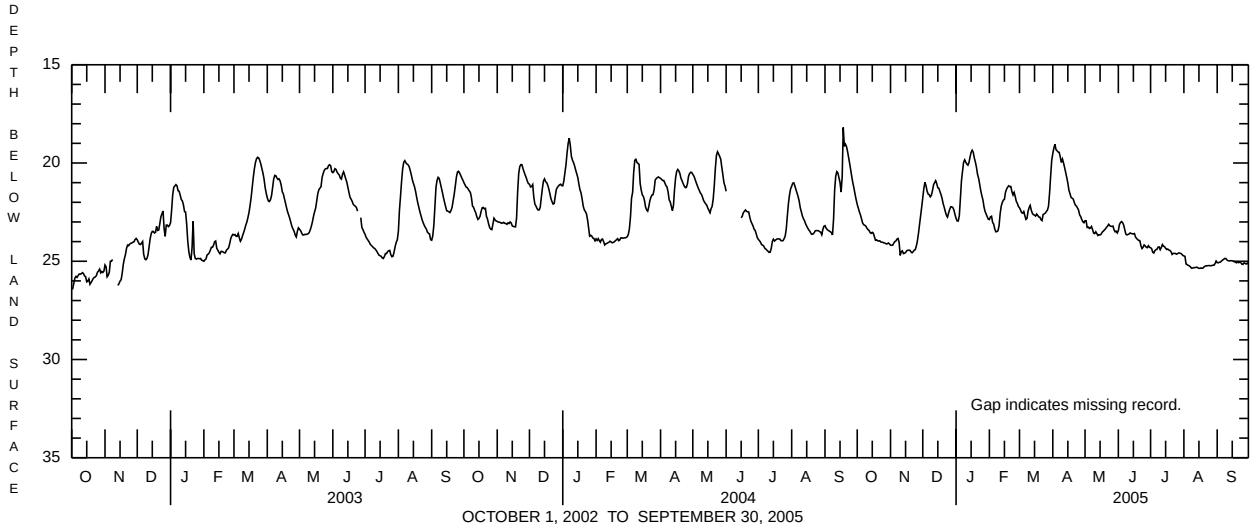
CLEARFIELD COUNTY

410627078313601. Local number, CF 321.

LOCATION.--Lat 41°06'27", long 78°31'36", Hydrologic Unit 02050201, at S. B. Elliott State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Burgoon Member of Pocono Formation.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 150 ft, cased to 26 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 2,160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.40 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 15.56 ft below land-surface datum, Sept. 18, 2004; lowest, 34.66 ft below land-surface datum, Sept. 21, 22, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 18.94 ft below land-surface datum, Apr. 3; lowest recorded, 25.37 ft below land-surface datum, Aug. 15, 16, 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.11	24.18	21.77	22.82	22.88	22.28	19.52	22.94	23.44	24.31	24.73	25.07
2	22.29	24.19	21.30	22.95	22.74	22.39	19.24	22.94	23.13	24.36	24.75	25.08
3	22.48	24.18	20.98	22.95	22.71	22.53	19.05	23.28	23.03	24.54	25.14	25.05
4	22.64	24.08	21.15	22.69	23.02	22.55	19.32	23.26	22.98	24.58	25.17	25.04
5	22.84	24.00	21.43	21.83	23.11	22.47	19.38	23.33	23.04	24.46	25.21	24.99
6	23.05	23.97	21.58	20.90	23.36	22.68	19.44	23.31	23.16	24.41	25.23	24.94
7	23.14	23.87	21.61	20.42	23.50	22.87	19.46	23.23	23.40	24.39	25.28	24.90
8	23.17	23.84	21.72	19.96	23.49	22.82	19.71	23.38	23.62	24.28	25.35	24.86
9	23.21	24.04	21.65	19.84	23.45	22.45	19.97	23.57	23.66	24.27	25.35	24.86
10	23.31	24.70	21.41	19.96	23.19	22.27	19.80	23.59	23.64	24.41	25.33	24.93
11	23.39	24.51	21.12	20.05	22.59	22.16	20.00	23.50	23.61	24.30	25.32	24.97
12	23.43	24.47	21.00	20.11	22.20	22.41	20.23	23.59	23.56	24.15	25.32	24.98
13	23.54	24.61	20.90	19.98	22.01	22.56	20.48	23.69	23.59	24.23	25.30	24.98
14	23.58	24.59	21.05	19.69	21.89	22.63	20.74	23.65	23.60	24.26	25.33	24.97
15	23.53	24.56	21.26	19.46	21.85	22.65	21.02	23.66	23.61	24.34	25.36	24.98
16	23.57	24.47	21.29	19.35	21.48	22.70	21.38	23.62	23.59	24.40	25.36	25.00
17	23.75	24.44	21.46	19.46	21.33	22.60	21.56	23.52	23.77	24.38	25.34	25.02
18	23.93	24.44	21.61	19.75	21.23	22.67	21.75	23.47	23.84	24.43	25.36	25.05
19	23.91	24.44	21.81	19.96	21.16	22.75	21.79	23.41	23.90	24.45	25.34	25.08
20	23.96	24.52	22.08	20.23	21.20	22.76	21.83	23.35	23.94	24.51	25.27	25.04
21	23.97	24.57	22.26	20.59	21.20	22.88	22.01	23.27	23.95	24.65	25.25	25.07
22	23.96	24.52	22.48	20.78	21.47	22.93	22.14	23.21	24.21	24.60	25.23	25.05
23	24.02	24.44	22.65	21.10	21.63	22.62	22.19	23.12	24.35	24.60	25.23	25.07
24	24.03	24.41	22.75	21.42	21.50	22.59	22.29	23.19	24.29	24.60	25.22	25.15
25	24.04	24.23	22.55	21.67	21.69	22.55	22.40	23.22	24.17	24.64	25.22	25.16
26	24.07	23.97	22.37	21.88	21.95	22.47	22.64	23.23	24.22	24.62	25.23	25.08
27	24.08	23.58	22.23	22.24	22.05	22.40	22.73	23.21	24.29	24.58	25.22	25.11
28	24.12	23.13	22.23	22.47	22.21	22.20	22.88	23.40	24.31	24.58	25.20	25.14
29	24.11	22.69	22.27	22.60	---	21.53	22.99	23.50	24.21	24.60	25.20	25.09
30	24.07	22.24	22.39	22.74	---	20.67	23.04	23.47	24.29	24.64	25.12	25.14
31	24.12	---	22.63	22.86	---	19.87	---	23.56	---	24.70	24.99	---
MEAN	23.53	24.13	21.77	21.06	22.22	22.38	21.03	23.38	23.75	24.46	25.22	25.03
MAX	24.12	24.70	22.75	22.95	23.50	22.93	23.04	23.69	24.35	24.70	25.36	25.16
MIN	22.11	22.24	20.90	19.35	21.16	19.87	19.05	22.94	22.98	24.15	24.73	24.86



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

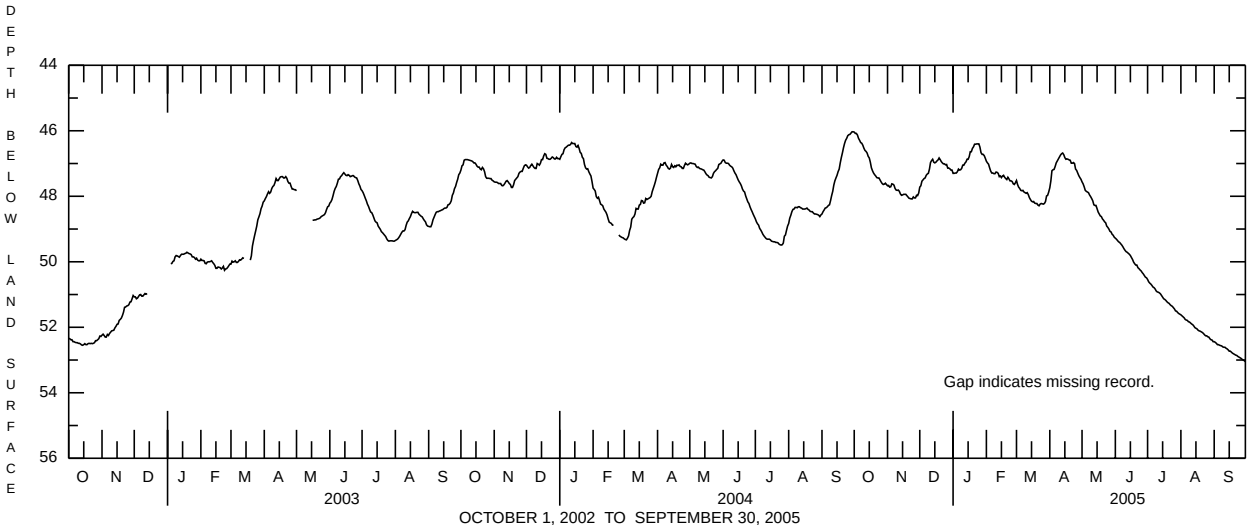
CLINTON COUNTY

411424077462201. Local number, CN 1.

LOCATION.--Lat 41°14'24", long 77°46'22", Hydrologic Unit 02050203, at Sproul State Forest, and at State Camp.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Huntley Mountain Formation, Early Mississippian-Late Devonian age.
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 78 ft, cased to 38 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 2,050 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of platform, 3.20 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--August 1950 to March 1964, instantaneous water levels obtained several times per month. April 1964 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, 44.00 ft below land-surface datum, Jan. 13, 1951; lowest, 57.24 ft below land-surface datum, Dec. 21, 1964.
EXTREMES FOR CURRENT YEAR.--Highest water level, 46.01 ft below land-surface datum, Oct. 2; lowest, 53.05 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.04	47.68	47.72	47.30	46.93	47.52	47.74	47.56	49.28	50.54	51.62	52.44
2	46.08	47.67	47.68	47.30	46.98	47.64	47.53	47.62	49.31	50.61	51.65	52.46
3	46.08	47.72	47.54	47.29	47.02	47.72	47.22	47.71	49.35	50.65	51.68	52.49
4	46.13	47.71	47.50	47.29	47.13	47.76	47.19	47.82	49.39	50.68	51.71	52.53
5	46.23	47.62	47.46	47.25	47.23	47.82	47.18	47.85	49.41	50.72	51.76	52.53
6	46.29	47.63	47.44	47.17	47.29	47.83	47.09	47.87	49.45	50.77	51.78	52.55
7	46.36	47.66	47.36	47.20	47.29	47.82	46.98	47.89	49.49	50.79	51.79	52.56
8	46.38	47.76	47.32	47.19	47.31	47.87	46.92	47.96	49.54	50.83	51.83	52.57
9	46.44	47.81	47.30	47.15	47.31	47.89	46.86	48.01	49.60	50.89	51.84	52.60
10	46.53	47.82	47.17	47.05	47.26	47.91	46.80	48.07	49.65	50.92	51.87	52.61
11	46.60	47.81	46.97	47.05	47.27	47.89	46.74	48.14	49.69	50.93	51.90	52.61
12	46.63	47.85	46.91	46.99	47.30	47.95	46.70	48.26	49.71	50.95	51.92	52.64
13	46.68	47.93	46.87	46.95	47.40	48.04	46.68	48.28	49.74	50.98	51.96	52.66
14	46.78	47.97	46.96	46.87	47.38	48.10	46.73	48.28	49.77	51.03	52.01	52.69
15	46.83	47.96	46.98	46.87	47.43	48.15	46.82	48.38	49.81	51.08	52.03	52.73
16	46.96	47.94	46.96	46.79	47.38	48.17	46.87	48.48	49.87	51.13	52.05	52.73
17	47.13	47.94	46.92	46.64	47.36	48.16	46.86	48.54	49.93	51.15	52.09	52.76
18	47.22	47.94	46.89	46.64	47.42	48.21	46.87	48.60	50.01	51.18	52.11	52.79
19	47.29	47.98	46.83	46.54	47.46	48.22	46.89	48.62	50.06	51.22	52.12	52.81
20	47.34	48.02	46.88	46.49	47.49	48.22	46.90	48.69	50.10	51.25	52.14	52.83
21	47.38	48.06	46.94	46.41	47.42	48.27	46.99	48.73	50.10	51.27	52.16	52.85
22	47.43	48.07	46.98	46.41	47.47	48.29	46.99	48.78	50.18	51.31	52.19	52.86
23	47.44	48.08	47.01	46.40	47.53	48.24	46.97	48.81	50.21	51.34	52.23	52.89
24	47.44	48.08	47.01	46.40	47.53	48.22	47.00	48.91	50.25	51.36	52.26	52.91
25	47.50	48.02	47.04	46.40	47.55	48.23	47.17	48.95	50.28	51.40	52.26	52.93
26	47.56	48.05	47.03	46.50	47.62	48.24	47.21	49.00	50.33	51.44	52.29	52.95
27	47.61	48.05	47.14	46.67	47.64	48.22	47.29	49.07	50.37	51.50	52.30	52.98
28	47.64	47.97	47.14	46.72	47.59	48.16	47.37	49.09	50.42	51.51	52.35	53.00
29	47.63	47.98	47.16	46.72	---	47.99	47.43	49.16	50.47	51.55	52.38	53.02
30	47.60	47.90	47.20	46.76	---	47.97	47.48	49.19	50.49	51.58	52.39	53.05
31	47.64	---	47.20	46.84	---	47.87	---	49.25	---	51.60	52.44	---
MEAN	46.93	47.89	47.15	46.85	47.36	48.02	47.05	48.44	49.88	51.10	52.04	52.73
MAX	47.64	48.08	47.72	47.30	47.64	48.29	47.74	49.25	50.49	51.60	52.44	53.05
MIN	46.04	47.62	46.83	46.40	46.93	47.52	46.68	47.56	49.28	50.54	51.62	52.44



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

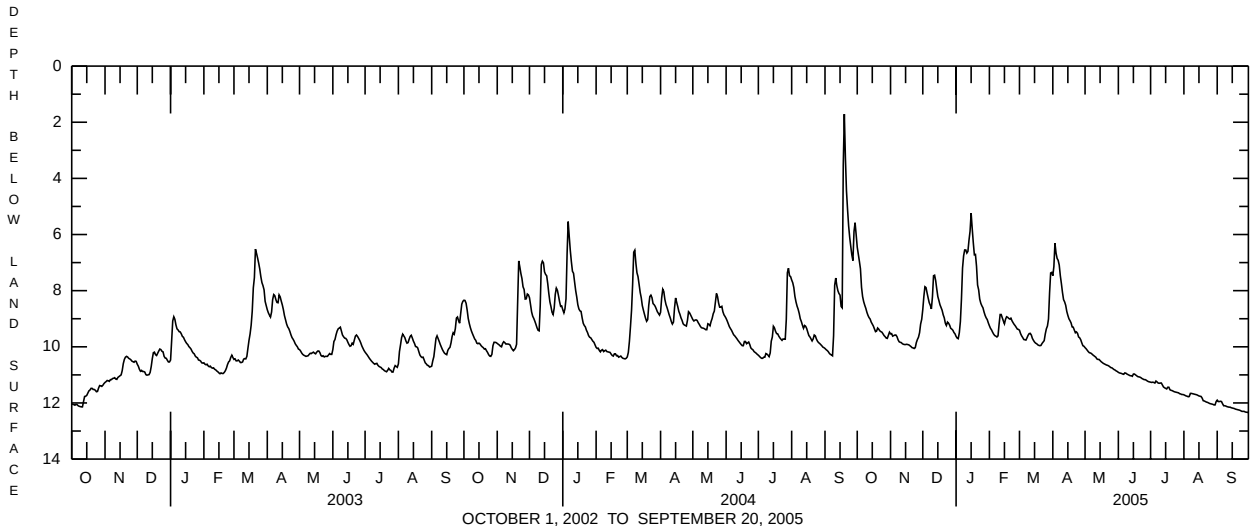
CLINTON COUNTY

410738077262702. Local number, CN 398.
(Drake Chemical Superfund Project)

LOCATION.--Lat 41°07'38", long 77°26'27" , North American Datum of 1983, Hydrologic Unit 02050204, at the Drake Chemical Site in Castanea Township
Owner: Privately owned.
AQUIFER.--Gravel, sand, and clay of the Quaternary System
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 4 in., depth 36.4 ft, cased to 21.5 ft, screened from 21.5-36.4 ft.
INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.
DATUM.--Elevation of land surface is 552.43 ft above National Geodetic Vertical Datum of 1929, from levels. Measuring point: Top of PVC casing, 2.20 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--December 13, 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, 1.54 ft below land-surface datum, Sept. 19, 2004; lowest, 12.36 ft below land-surface datum, Sept. 30, 2005.
EXTREMES FOR CURRENT YEAR.--Highest water level 5.08 ft below land-surface datum, Jan. 15; lowest 12.36 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.45	9.54	8.67	9.63	9.25	9.41	7.47	10.03	10.91	11.26	11.71	11.90
2	6.70	9.53	8.21	9.69	9.34	9.53	7.14	10.07	10.93	11.27	11.73	11.95
3	6.95	9.62	7.86	9.71	9.40	9.61	6.31	10.12	10.94	11.26	11.75	11.95
4	7.22	9.60	7.89	9.50	9.48	9.67	6.66	10.17	10.95	11.27	11.76	11.94
5	7.88	9.58	8.08	9.10	9.55	9.74	6.85	10.21	10.97	11.29	11.78	11.95
6	8.21	9.58	8.26	8.30	9.60	9.75	6.92	10.22	10.98	11.22	11.77	12.03
7	8.39	9.64	8.43	7.19	9.62	9.76	7.09	10.24	10.93	11.25	11.66	12.10
8	8.52	9.75	8.52	6.76	9.65	9.68	7.47	10.28	10.94	11.29	11.66	12.10
9	8.63	9.82	8.65	6.55	9.61	9.59	7.75	10.31	10.97	11.30	11.67	12.11
10	8.77	9.84	8.22	6.55	9.20	9.53	8.06	10.34	10.99	11.29	11.68	12.13
11	8.88	9.85	7.47	6.66	8.85	9.52	8.32	10.37	11.01	11.29	11.69	12.14
12	8.96	9.89	7.45	6.60	8.85	9.58	8.40	10.43	11.03	11.36	11.70	12.15
13	9.01	9.91	7.64	6.20	8.97	9.70	8.52	10.45	11.03	11.43	11.71	12.15
14	9.12	9.92	7.94	5.88	9.08	9.77	8.74	10.45	11.05	11.46	11.73	12.17
15	9.19	9.92	8.21	5.24	9.18	9.83	8.88	10.49	10.97	11.48	11.75	12.18
16	9.26	9.91	8.35	5.78	9.02	9.87	9.00	10.53	10.97	11.50	11.76	12.19
17	9.36	9.92	8.50	6.29	8.93	9.89	9.07	10.56	11.00	11.44	11.77	12.20
18	9.46	9.93	8.60	6.72	8.95	9.93	9.15	10.59	11.03	11.44	11.83	12.22
19	9.44	9.96	8.70	6.71	8.99	9.95	9.29	10.61	11.06	11.53	11.92	12.23
20	9.33	9.99	8.86	7.13	9.01	9.96	9.30	10.63	11.07	11.55	11.93	12.24
21	9.37	10.03	8.97	7.80	8.98	9.95	9.40	10.65	11.08	11.56	11.95	12.25
22	9.43	10.04	9.16	7.97	9.07	9.88	9.50	10.66	11.10	11.58	11.97	12.26
23	9.46	10.06	9.24	8.30	9.14	9.83	9.47	10.68	11.13	11.60	11.98	12.28
24	9.48	10.03	9.12	8.45	9.20	9.78	9.52	10.71	11.15	11.61	12.00	12.30
25	9.54	9.85	9.16	8.54	9.25	9.54	9.65	10.74	11.17	11.62	12.02	12.30
26	9.60	9.74	9.23	8.61	9.31	9.36	9.68	10.75	11.17	11.63	12.03	12.30
27	9.64	9.66	9.34	8.76	9.37	9.26	9.75	10.78	11.19	11.64	12.04	12.32
28	9.69	9.50	9.37	8.88	9.38	9.01	9.86	10.81	11.22	11.67	12.05	12.33
29	9.70	9.19	9.41	8.97	---	8.07	9.96	10.83	11.24	11.68	12.07	12.33
30	9.59	9.02	9.49	9.03	---	7.37	9.98	10.86	11.25	11.70	12.07	12.35
31	9.48	---	9.54	9.15	---	7.35	---	10.88	---	11.70	11.95	---
MEAN	8.86	9.76	8.60	7.76	9.22	9.47	8.57	10.50	11.05	11.46	11.84	12.17
MAX	9.70	10.06	9.54	9.71	9.65	9.96	9.98	10.88	11.25	11.70	12.07	12.35
MIN	6.45	9.02	7.45	5.24	8.85	7.35	6.31	10.03	10.91	11.22	11.66	11.90



OCTOBER 1, 2002 TO SEPTEMBER 20, 2005

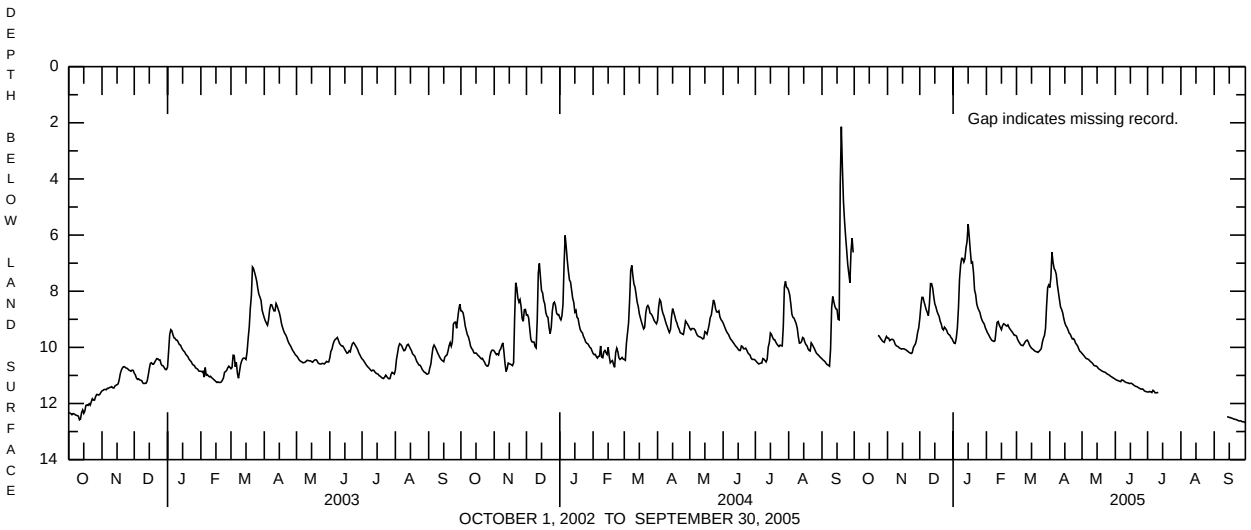
CLINTON COUNTY

410740077262501. Local number, CN 399.
(Drake Chemical Superfund Project)

LOCATION.--Lat 41°07’ 40.38”, long 77°26’ 25.46”, North American Datum of 1983, Hydrologic Unit 02050204, at the Drake Chemical Site in Castanea Township
Owner: Privately owned.
AQUIFER.--Gravel, sand, and clay of the Quaternary System
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 2 in., depth 41.0 ft, cased to 36 ft, screened from 36-41 ft.
INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.
DATUM.--Elevation of land surface is 552.91 ft above National Geodetic Vertical Datum of 1929, from levels. Measuring point: Top of PVC casing, 0.25 ft below 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--December 13, 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, 1.99 ft below land-surface datum, Sept. 19, 2004; lowest, 12.75 ft below land-surface datum, Oct. 11, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 5.50 ft below land-surface datum, Jan. 15; lowest, 12.69 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.67	8.98	9.78	9.39	9.60	7.87	10.22	11.14	11.59	---	---
2	---	9.67	8.53	9.85	9.48	9.71	7.52	10.26	11.16	11.59	---	---
3	---	9.76	8.22	9.86	9.54	9.79	6.61	10.31	11.18	11.57	---	---
4	---	9.73	8.22	9.66	9.62	9.85	6.97	10.36	11.19	11.59	---	---
5	---	9.71	8.38	9.31	9.69	9.91	7.19	10.40	11.21	11.61	---	---
6	---	9.72	8.52	8.59	9.75	9.93	7.26	10.41	11.22	11.53	---	---
7	---	9.77	8.66	7.57	9.77	9.94	7.40	10.43	11.16	11.56	---	---
8	---	9.88	8.76	7.07	9.79	9.88	7.76	10.47	11.17	11.62	---	---
9	---	9.94	8.87	6.83	9.76	9.81	8.03	10.51	11.20	11.62	---	---
10	---	9.96	8.43	6.83	9.40	9.76	8.31	10.54	11.23	11.61	---	---
11	---	9.98	7.73	6.96	9.11	9.74	8.56	10.58	11.25	11.61	---	---
12	---	10.02	7.73	6.85	9.08	9.80	8.65	10.64	11.26	---	---	---
13	---	10.04	7.89	6.46	9.21	9.91	8.77	10.66	11.27	---	---	12.47
14	---	10.06	8.20	6.23	9.29	9.98	8.97	10.66	11.29	---	---	12.48
15	---	10.05	8.45	5.61	9.37	10.03	9.13	10.69	11.28	---	---	12.50
16	---	10.05	8.56	6.04	9.23	10.06	9.23	10.74	11.28	---	---	12.50
17	---	10.07	8.71	6.55	9.16	10.09	9.29	10.78	11.31	---	---	12.52
18	---	10.08	8.81	6.99	9.18	10.13	9.38	10.80	11.34	---	---	12.53
19	---	10.12	8.90	6.96	9.22	10.15	9.49	10.83	11.37	---	---	12.55
20	---	10.14	9.07	7.33	9.24	10.16	9.53	10.85	11.39	---	---	12.56
21	---	10.18	9.17	7.96	9.20	10.18	9.62	10.87	11.40	---	---	12.57
22	---	10.20	9.33	8.12	9.29	10.14	9.70	10.88	11.42	---	---	12.58
23	9.58	10.22	9.38	8.45	9.35	10.10	9.69	10.90	11.45	---	---	12.60
24	9.59	10.19	9.28	8.59	9.40	10.05	9.74	10.94	11.47	---	---	12.62
25	9.65	10.01	9.33	8.68	9.45	9.83	9.85	10.96	11.49	---	---	12.62
26	9.71	9.94	9.39	8.76	9.51	9.68	9.90	10.98	11.48	---	---	12.62
27	9.76	9.87	9.50	8.93	9.57	9.58	9.96	11.01	11.50	---	---	12.65
28	9.80	9.72	9.54	9.04	9.57	9.33	10.06	11.04	11.55	---	---	12.65
29	9.82	9.47	9.57	9.11	---	8.53	10.14	11.06	11.57	---	---	12.66
30	9.70	9.31	9.65	9.17	---	7.87	10.17	11.09	11.58	---	---	12.68
31	9.61	---	9.69	9.30	---	7.78	---	11.11	---	---	---	---
MEAN	9.69	9.92	8.82	7.98	9.41	9.72	8.82	10.71	11.33	11.59	---	12.58
MAX	9.82	10.22	9.69	9.86	9.79	10.18	10.17	11.11	11.58	11.62	---	12.68
MIN	9.58	9.31	7.73	5.61	9.08	7.78	6.61	10.22	11.14	11.53	---	12.47



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

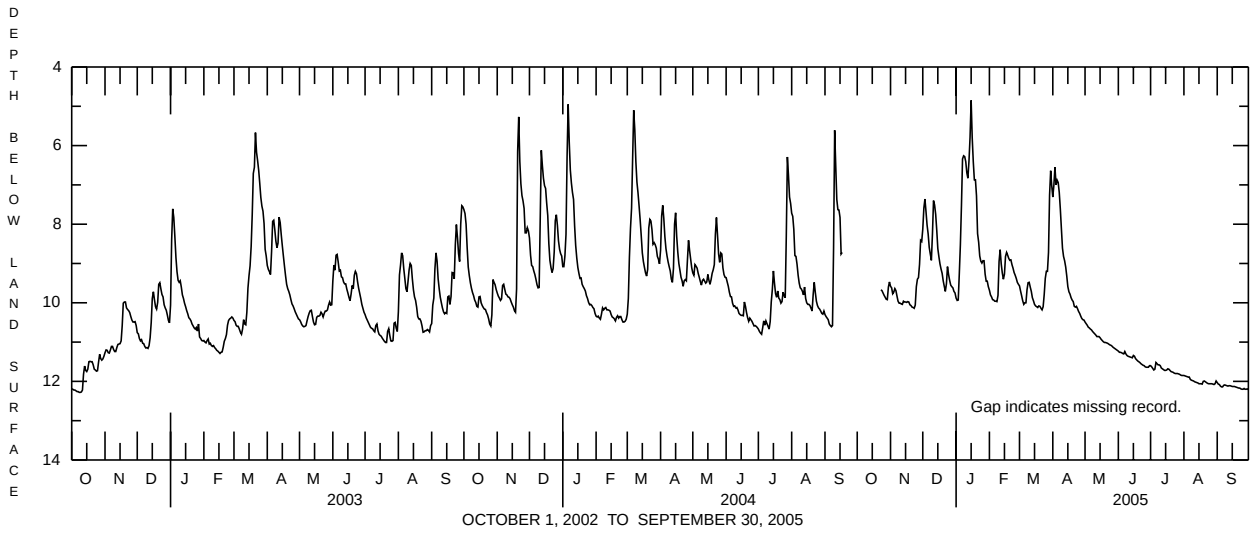
CLINTON COUNTY

410734077262102. Local number, CN 419.
(Drake Chemical Superfund Project)

LOCATION.--Lat 41°07’ 33.55”, long 77°26’ 21.44”, North American Datum of 1983, Hydrologic Unit 02050204, at the Drake Chemical Site in Castanea Township
Owner: Privately owned.
AQUIFER.--Gravel, sand, and clay of the Quaternary System
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 2 in., depth 39.3 ft, cased to 30.3 ft, screened from 30.3-39.3 ft.
INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.
DATUM.--Elevation of land surface is 551.5 ft above National Geodetic Vertical Datum of 1929, from levels. Measuring point: Top of PVC casing, 1.4 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 USGS Pennsylvania Water Science Center. Well inundated by flood waters of Bald Eagle Creek on Sept. 18, 2004.
PERIOD OF RECORD.--December 13, 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 recorded, 0.95 ft above land-surface datum, Sept. 18, 2004; lowest, 12.29 ft below land-surface datum, Oct. 9, 10, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level recorded, 4.58 ft above land-surface datum, Jan. 15; lowest, 12.22 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.58	8.13	9.88	9.68	9.57	7.31	10.49	11.23	11.60	11.85	12.03
2	---	9.62	7.59	9.94	9.80	9.70	7.01	10.53	11.26	11.63	11.86	12.07
3	---	9.77	7.36	9.93	9.85	9.82	6.55	10.57	11.26	11.67	11.87	12.08
4	---	9.73	7.68	9.26	9.92	9.95	7.00	10.62	11.27	11.71	11.88	12.12
5	---	9.64	8.02	8.53	9.93	10.04	6.88	10.64	11.29	11.69	11.89	12.14
6	---	9.69	8.25	7.52	9.96	10.00	6.94	10.67	11.30	11.52	11.89	12.14
7	---	9.83	8.59	6.34	9.96	10.0	7.19	10.69	11.24	11.55	11.95	12.10
8	---	9.96	8.76	6.26	9.97	9.67	7.61	10.73	11.30	11.58	11.97	12.09
9	---	10.01	8.92	6.28	9.81	9.49	8.11	10.76	11.34	11.58	11.98	12.10
10	---	10.01	8.25	6.41	8.95	9.48	8.61	10.79	11.36	11.60	11.99	12.11
11	---	10.03	7.40	6.69	8.65	9.60	8.82	10.82	11.37	11.66	12.01	12.12
12	---	10.04	7.51	6.83	9.01	9.71	8.93	10.86	11.38	11.68	12.02	12.11
13	---	9.96	7.75	6.39	9.24	9.87	9.09	10.86	11.39	11.70	12.03	12.11
14	---	9.98	8.15	5.79	9.40	9.95	9.32	10.86	11.40	11.72	12.04	12.12
15	---	9.98	8.62	4.85	9.27	10.04	9.59	10.89	11.34	11.72	12.06	12.13
16	---	9.99	8.83	5.80	8.82	10.08	9.72	10.93	11.36	11.71	12.06	12.13
17	---	9.97	9.01	6.41	8.72	10.10	9.78	10.96	11.42	11.68	12.06	12.13
18	---	9.98	9.14	6.87	8.79	10.12	9.87	10.99	11.45	11.69	12.07	12.14
19	---	10.05	9.25	6.87	8.87	10.08	9.93	11.01	11.48	11.72	12.00	12.15
20	---	10.07	9.44	7.28	8.92	10.09	9.97	11.01	11.50	11.75	11.99	12.16
21	---	10.11	9.58	8.24	8.91	10.14	10.09	11.02	11.52	11.76	12.01	12.17
22	---	10.12	9.71	8.46	9.03	10.18	10.11	11.03	11.55	11.77	12.03	12.17
23	9.67	10.14	9.52	8.81	9.12	10.10	10.09	11.05	11.57	11.79	12.05	12.19
24	9.69	10.06	9.08	8.94	9.23	9.79	10.15	11.07	11.59	11.80	12.06	12.20
25	9.75	9.59	9.28	8.99	9.30	9.38	10.22	11.08	11.60	11.80	12.06	12.20
26	9.81	9.40	9.43	8.93	9.38	9.20	10.27	11.10	11.63	11.80	12.06	12.18
27	9.86	9.36	9.55	8.93	9.48	9.20	10.34	11.13	11.64	11.81	12.06	12.20
28	9.91	9.02	9.59	9.27	9.53	8.72	10.40	11.15	11.64	11.82	12.07	12.20
29	9.92	8.41	9.62	9.45	---	7.26	10.43	11.17	11.64	11.84	12.08	12.19
30	9.60	8.44	9.71	9.45	---	6.64	10.44	11.19	11.60	11.85	12.06	12.21
31	9.47	---	9.75	9.59	---	7.02	---	11.21	---	11.85	11.99	---
MEAN	9.74	9.75	8.76	7.84	9.34	9.52	9.03	10.90	11.43	11.71	12.00	12.14
MAX	9.92	10.14	9.75	9.94	9.97	10.18	10.44	11.21	11.64	11.85	12.08	12.21
MIN	9.47	8.41	7.36	4.85	8.65	6.64	6.55	10.49	11.23	11.52	11.85	12.03



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

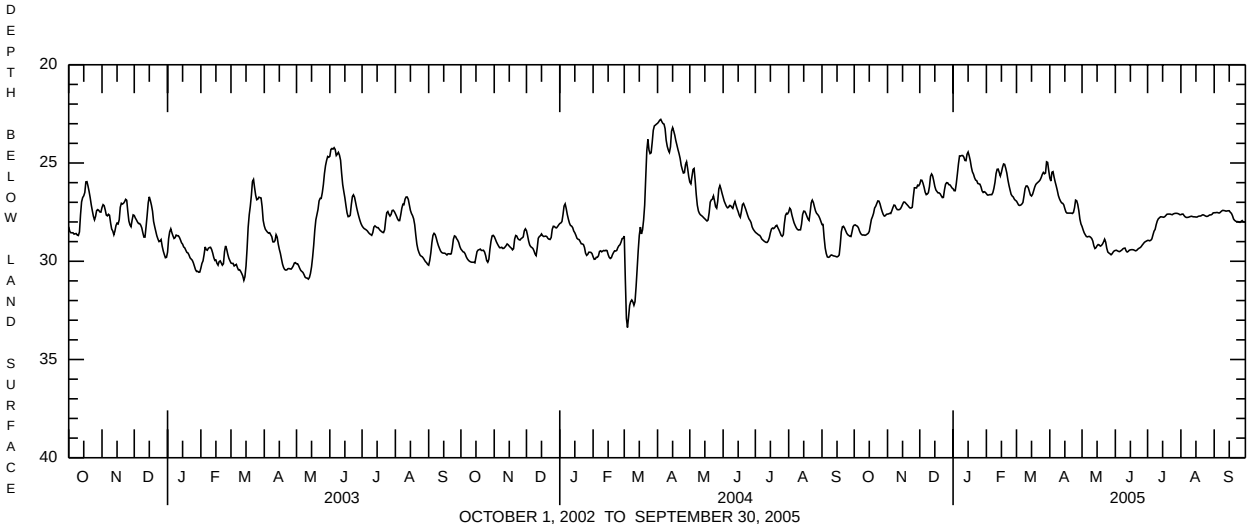
COLUMBIA COUNTY

410705076334901. Local number, CO 589.

LOCATION.--Lat 41°07'05", long 76°33'49", Hydrologic Unit 02050107, at State Game Land No. 226, near Millville.
Owner: U.S. Geological Survey.
AQUIFER.--Hamilton Group.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 241 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 720 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.79 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 22.76 ft below land-surface datum, Apr. 4, 2004; lowest, 38.01 ft below land-surface datum, Sept. 17, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 24.39 ft below land-surface datum, Jan. 14, 15; lowest, 29.68 ft below land-surface datum, May 28, 29.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.16	27.60	26.07	26.31	26.56	26.94	25.76	28.23	29.45	28.94	27.63	27.53
2	28.15	27.59	25.87	26.41	26.63	27.04	25.92	28.40	29.44	28.94	27.60	27.53
3	28.19	27.56	25.88	26.41	26.63	27.14	25.47	28.55	29.47	28.96	27.60	27.52
4	28.22	27.57	26.03	26.04	26.61	27.16	25.44	28.65	29.50	28.93	27.68	27.52
5	28.31	27.43	26.23	25.56	26.61	27.14	25.72	28.74	29.51	28.86	27.74	27.54
6	28.47	27.27	26.48	25.04	26.61	27.09	25.96	28.76	29.47	28.66	27.77	27.54
7	28.59	27.14	26.61	24.64	26.51	27.01	26.17	28.74	29.43	28.47	27.77	27.49
8	28.65	27.16	26.58	24.64	26.29	26.67	26.40	28.74	29.37	28.38	27.76	27.44
9	28.67	27.29	26.51	24.62	25.98	26.30	26.66	28.78	29.34	28.14	27.74	27.41
10	28.66	27.37	26.20	24.62	25.54	26.17	26.82	28.84	29.33	27.95	27.72	27.42
11	28.68	27.38	25.68	24.70	25.32	26.17	26.94	28.97	29.47	27.84	27.71	27.43
12	28.66	27.37	25.56	24.87	25.31	26.26	27.03	29.21	29.53	27.79	27.73	27.45
13	28.62	27.33	25.66	24.88	25.49	26.45	27.05	29.35	29.50	27.74	27.74	27.44
14	28.58	27.23	25.91	24.55	25.66	26.63	27.13	29.31	29.44	27.74	27.74	27.43
15	28.48	27.10	26.19	24.44	25.47	26.68	27.32	29.21	29.42	27.75	27.75	27.43
16	28.17	26.99	26.37	24.64	25.22	26.59	27.49	29.15	29.41	27.76	27.75	27.51
17	27.87	26.99	26.45	24.88	25.05	26.41	27.55	29.17	29.41	27.73	27.72	27.56
18	27.73	27.05	26.52	25.21	25.07	26.22	27.55	29.23	29.42	27.67	27.70	27.68
19	27.56	27.11	26.52	25.45	25.27	26.09	27.55	29.20	29.45	27.61	27.70	27.85
20	27.29	27.17	26.57	25.57	25.51	26.03	27.55	29.13	29.47	27.60	27.68	27.92
21	27.20	27.24	26.67	25.75	25.85	25.98	27.55	29.02	29.44	27.60	27.64	27.96
22	27.06	27.29	26.76	25.87	26.13	25.93	27.57	28.88	29.38	27.60	27.64	27.99
23	26.93	27.29	26.75	25.90	26.37	25.86	27.52	29.02	29.34	27.62	27.67	27.98
24	26.94	27.25	26.36	26.04	26.59	25.74	27.28	29.33	29.31	27.63	27.70	28.01
25	27.08	26.72	26.08	26.06	26.68	25.58	26.89	29.53	29.26	27.59	27.72	28.02
26	27.29	26.26	26.00	26.08	26.73	25.48	26.92	29.58	29.18	27.57	27.71	27.97
27	27.47	26.26	26.01	26.22	26.84	25.55	27.10	29.62	29.11	27.56	27.67	27.93
28	27.62	26.27	26.10	26.42	26.90	25.51	27.42	29.67	29.04	27.56	27.64	27.99
29	27.70	26.13	26.11	26.50	---	24.94	27.85	29.62	29.00	27.57	27.64	28.00
30	27.68	26.16	26.18	26.46	---	24.97	28.10	29.53	28.97	27.59	27.61	28.02
31	27.61	---	26.27	26.49	---	25.38	---	29.47	---	27.63	27.54	---
MEAN	27.94	27.09	26.23	25.52	26.05	26.23	26.92	29.08	29.36	27.97	27.69	27.68
MAX	28.68	27.60	26.76	26.50	26.90	27.16	28.10	29.67	29.53	28.96	27.77	28.02
MIN	26.93	26.13	25.56	24.44	25.05	24.94	25.44	28.23	28.97	27.56	27.54	27.41



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

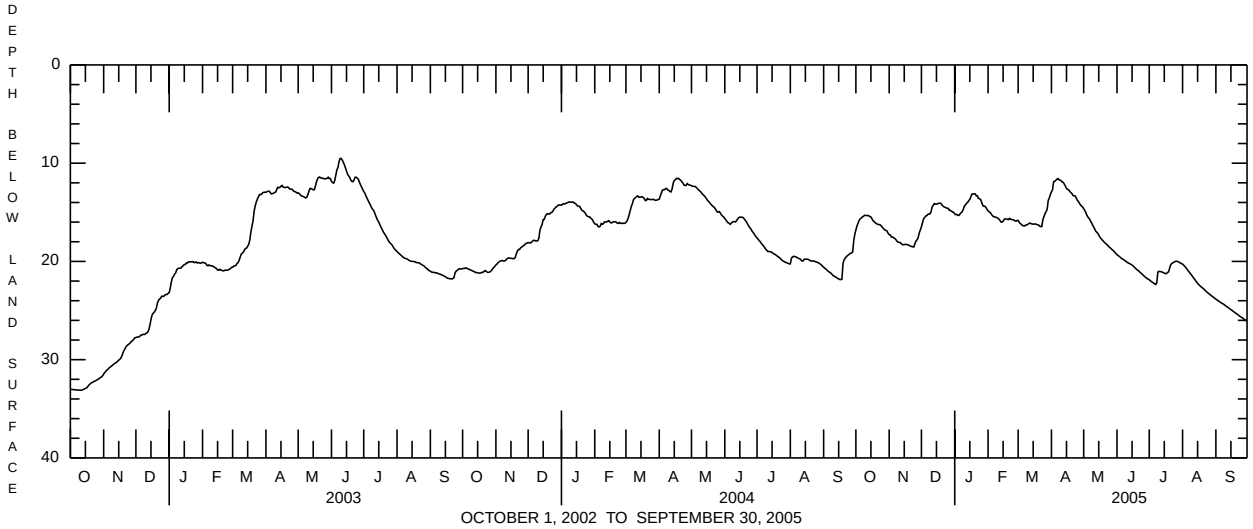
CUMBERLAND COUNTY

400209077183301. Local number, CU 2.

LOCATION.--Lat 40°02'09", long 77°l8'33", Hydrologic Unit 02050305, at Michaux State Forest, and at Pine Grove Furnace.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Metarhyolite, Precambrian age.
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 37 ft, cased to 19 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 955 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.29 ft above land-surface datum. Prior to June 2, 1999, top of casing, 1.56 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since June 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--June 1951 to March 1955, instantaneous water levels obtained several times per month. July 1955 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, 8.96 ft below land-surface datum, May 14, 1998; lowest, 33.50 ft below land-surface datum, Feb. 3, 1955.
EXTREMES FOR CURRENT YEAR.--Highest water level, 11.51 ft below land-surface datum, Apr. 7; lowest, 26.10 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.80	17.27	16.47	15.17	14.86	15.83	12.92	14.63	19.31	21.87	20.28	23.84
2	16.41	17.31	16.05	15.23	14.95	16.02	12.71	14.81	19.41	21.97	20.38	23.91
3	16.10	17.50	15.67	15.22	15.02	16.15	11.89	15.03	19.48	22.05	20.49	23.99
4	15.82	17.50	15.53	15.32	15.18	16.22	11.85	15.30	19.58	22.13	20.62	24.07
5	15.67	17.60	15.38	15.31	15.34	16.34	11.75	15.50	19.68	22.19	20.77	24.15
6	15.58	17.65	15.34	15.16	15.44	16.38	11.63	15.61	19.75	22.29	20.92	24.22
7	15.48	17.74	15.21	15.04	15.45	16.39	11.57	15.80	19.80	22.35	21.06	24.29
8	15.41	17.91	15.18	14.94	15.51	16.30	11.68	16.02	19.89	22.20	21.21	24.34
9	15.31	18.03	15.16	14.68	15.53	16.30	11.73	16.23	19.97	21.09	21.35	24.42
10	15.31	18.06	14.93	14.36	15.60	16.22	11.79	16.44	20.05	21.01	21.48	24.51
11	15.34	18.07	14.44	14.25	15.69	16.14	11.92	16.64	20.13	21.03	21.65	24.59
12	15.32	18.16	14.30	14.08	15.81	16.09	11.96	16.89	20.19	21.05	21.79	24.67
13	15.35	18.27	14.11	14.00	15.99	16.16	12.14	17.01	20.24	21.08	21.93	24.74
14	15.44	18.31	14.16	13.82	16.00	16.19	12.35	17.13	20.30	21.13	22.09	24.83
15	15.48	18.28	14.17	13.68	15.91	16.21	12.58	17.31	20.37	21.19	22.24	24.91
16	15.66	18.26	14.14	13.42	15.72	16.20	12.67	17.51	20.46	21.24	22.35	24.98
17	15.86	18.28	14.09	13.14	15.66	16.18	12.72	17.65	20.56	21.24	22.46	25.07
18	15.95	18.29	14.08	13.16	15.69	16.24	12.87	17.79	20.69	21.13	22.56	25.15
19	16.06	18.34	14.08	13.12	15.72	16.27	12.99	17.90	20.79	21.06	22.65	25.23
20	16.14	18.39	14.24	13.12	15.74	16.29	13.09	18.03	20.87	20.67	22.74	25.31
21	16.20	18.46	14.36	13.32	15.62	16.41	13.28	18.13	20.94	20.34	22.84	25.38
22	16.25	18.48	14.45	13.31	15.70	16.46	13.32	18.23	21.06	20.21	22.94	25.46
23	16.26	18.52	14.49	13.58	15.75	16.45	13.34	18.32	21.16	20.13	23.05	25.56
24	16.31	18.52	14.54	13.61	15.75	15.75	13.52	18.47	21.26	20.09	23.15	25.63
25	16.44	18.18	14.60	13.69	15.78	15.44	13.77	18.56	21.36	20.01	23.24	25.70
26	16.57	17.92	14.60	13.97	15.87	15.15	13.88	18.65	21.47	19.98	23.33	25.77
27	16.70	17.79	14.80	14.29	15.90	14.93	14.08	18.76	21.57	19.99	23.41	25.87
28	16.80	17.56	14.82	14.38	15.84	14.69	14.24	18.85	21.65	20.04	23.51	25.93
29	16.84	17.08	14.87	14.38	---	13.80	14.37	18.96	21.75	20.10	23.59	26.02
30	16.91	16.80	14.98	14.51	---	13.54	14.46	19.07	21.79	20.17	23.67	26.10
31	17.14	---	15.00	14.70	---	13.18	---	19.20	---	20.22	23.75	---
MEAN	16.03	17.95	14.78	14.19	15.61	15.80	12.77	17.24	20.52	21.01	22.18	24.95
MAX	17.14	18.52	16.47	15.32	16.00	16.46	14.46	19.20	21.79	22.35	23.75	26.10
MIN	15.31	16.80	14.08	13.12	14.86	13.18	11.57	14.63	19.31	19.98	20.28	23.84



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

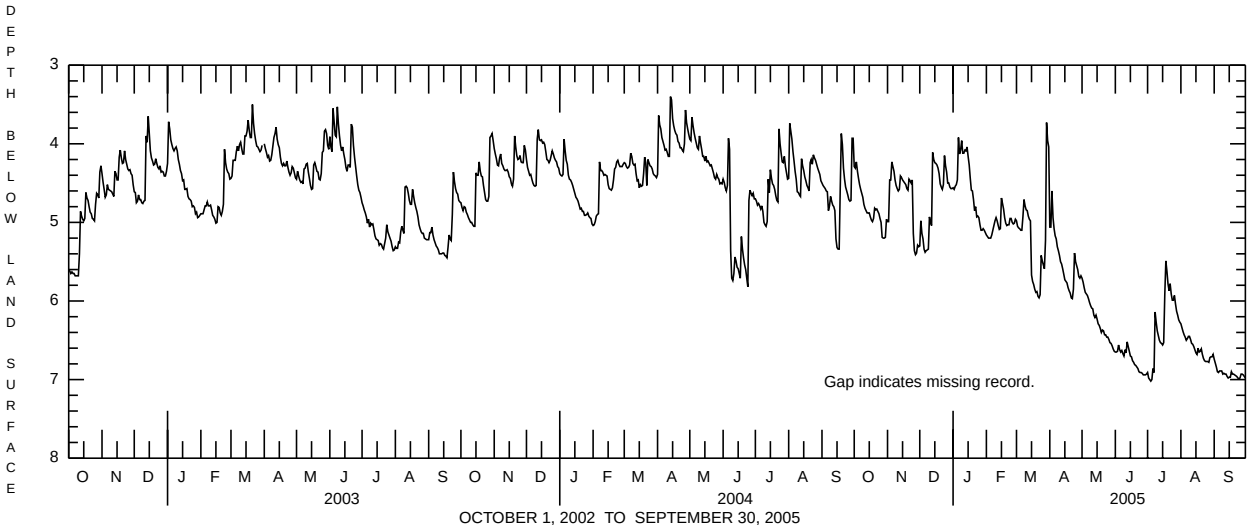
DAUPHIN COUNTY

402118076462201. Local number, DA 350.

LOCATION.--Lat 40°21'18", long 76°46'22", Hydrologic Unit 02050305, at R. D. l, Linglestown.
Owner: Privately owned.
AQUIFER.--Hamburg sequence, Early-Middle Ordovician age.
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 225 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.30 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 1964 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, 1.15 ft below land-surface datum, June 22, 1972; lowest, 7.02 ft below land-surface datum, July 4, 2005.
EXTREMES FOR CURRENT YEAR.--Highest water level, 2.47 ft below land-surface datum, Mar. 28; lowest, 7.02 ft below land-surface datum, (result of nearby pumping), July 4.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.29	4.99	5.30	4.56	5.16	4.98	5.06	5.71	6.65	6.91	6.29	6.74
2	4.31	4.99	4.98	4.58	5.18	5.05	5.06	5.76	6.65	6.98	6.34	6.79
3	4.23	4.46	5.14	4.54	5.20	5.07	4.60	5.83	6.64	7.00	6.39	6.84
4	4.35	4.46	5.21	4.52	5.20	5.08	4.94	5.89	6.56	7.02	6.43	6.90
5	4.44	4.23	5.34	4.46	5.20	5.10	5.08	5.91	6.62	7.00	6.46	6.91
6	4.52	4.29	5.38	3.92	5.16	5.10	5.17	5.93	6.65	6.86	6.50	6.89
7	4.58	4.35	5.36	4.13	5.10	4.93	5.21	5.97	6.63	6.91	6.48	6.89
8	4.63	4.46	5.35	4.08	5.04	4.71	5.31	6.02	6.67	6.14	6.45	6.89
9	4.68	4.53	5.34	3.96	4.98	4.79	5.36	6.06	6.70	6.27	6.45	6.93
10	4.77	4.57	4.93	4.12	4.94	4.84	5.42	6.09	6.62	6.38	6.49	6.92
11	4.82	4.60	5.00	4.12	4.98	4.85	5.50	6.10	6.66	6.44	6.54	6.93
12	4.85	4.58	5.04	4.08	5.04	4.92	5.53	6.18	6.52	6.50	6.55	6.93
13	4.88	4.41	4.11	4.09	5.09	4.96	5.59	6.21	6.58	6.53	6.58	6.96
14	4.88	4.43	4.20	4.04	5.08	4.98	5.66	6.18	6.64	6.54	6.62	6.98
15	4.88	4.46	4.24	4.16	4.69	5.67	5.73	6.23	6.70	6.56	6.66	6.97
16	4.93	4.48	4.25	4.27	4.76	5.75	5.75	6.29	6.71	6.53	6.68	6.97
17	4.97	4.50	4.27	4.44	4.83	5.79	5.77	6.31	6.76	5.92	6.60	6.90
18	4.99	4.52	4.31	4.59	4.94	5.85	5.83	6.35	6.78	5.49	6.65	6.93
19	4.95	4.57	4.38	4.60	5.01	5.89	5.87	6.40	6.81	5.62	6.64	6.93
20	4.82	4.59	4.51	4.71	5.04	5.88	5.90	6.37	6.82	5.78	6.61	6.94
21	4.84	4.45	4.55	4.85	5.03	5.94	5.96	6.38	6.84	5.87	6.68	6.95
22	4.83	4.47	4.58	4.80	5.03	5.96	5.97	6.43	6.86	5.78	6.73	6.96
23	4.86	4.50	4.52	4.93	4.95	5.92	5.85	6.43	6.90	5.91	6.76	6.98
24	4.89	4.46	4.15	4.92	4.95	5.42	5.39	6.46	6.91	5.99	6.77	6.99
25	4.95	5.14	4.28	4.94	5.00	5.49	5.50	6.46	6.91	5.99	6.77	6.98
26	5.00	5.36	4.36	5.03	5.02	5.54	5.55	6.49	6.92	5.93	6.77	6.93
27	5.19	5.41	4.50	5.10	5.01	5.59	5.60	6.53	6.94	6.04	6.78	6.93
28	5.20	5.39	4.50	5.10	4.96	5.23	5.69	6.54	6.94	6.13	6.72	6.94
29	5.20	5.29	4.55	5.08	---	3.73	5.71	6.57	6.94	6.18	6.71	6.96
30	5.19	5.31	4.57	5.10	---	3.96	5.68	6.61	6.93	6.24	6.71	6.98
31	4.96	---	4.57	5.13	---	4.04	---	6.64	---	6.27	6.68	---
MEAN	4.80	4.67	4.70	4.55	5.02	5.19	5.51	6.24	6.75	6.31	6.60	6.92
MAX	5.20	5.41	5.38	5.13	5.20	5.96	5.97	6.64	6.94	7.02	6.78	6.99
MIN	4.23	4.23	4.11	3.92	4.69	3.73	4.60	5.71	6.52	5.49	6.29	6.74



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

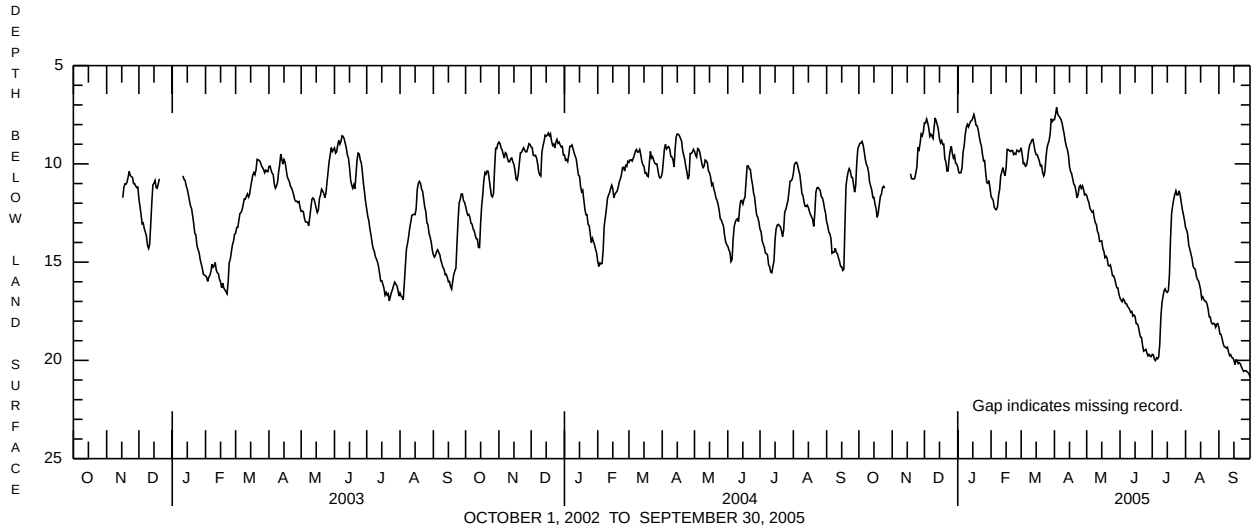
DAUPHIN COUNTY

402255076422001. Local number, DA 868.

LOCATION.--Lat 40°22'55", long 76°42'20", Hydrologic Unit 02050305, at Ft. Indiantown Gap.
Owner: Ft. Indiantown Gap.
AQUIFER.--Hamburg Formation, Ordovician age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 141 ft, cased to 17 ft, open hole.
INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.
DATUM.--Elevation of land surface is 510 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.70 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level shown below, daily minimum and maximum water levels are also available from the USGS Pennsylvania Water Science Center. Water level affected by pumping.
PERIOD OF RECORD.--November 15, 2002 to current year.
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the instantaneous depth below land-surface datum. Highest water level, 6.82 ft below land-surface datum, Apr. 3, 2005; lowest, 21.18 ft below land-surface datum, Sept. 30, 2005.
EXTREMES FOR CURRENT YEAR.--Highest water level, 6.82 ft below land-surface datum, Apr. 3; lowest, 21.18 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.08	---	7.91	10.16	11.65	9.18	7.75	11.60	16.83	19.69	13.24	18.31
2	8.95	---	7.92	10.44	11.76	9.53	7.48	11.82	16.94	19.71	13.36	18.66
3	8.94	---	7.72	10.47	11.86	9.99	7.12	11.96	17.02	19.95	13.60	18.68
4	8.86	---	7.90	10.44	12.21	9.96	7.45	12.25	16.87	20.01	14.14	18.89
5	9.05	---	8.17	10.19	12.30	10.12	7.57	12.36	16.94	19.87	14.35	19.15
6	9.39	---	8.60	9.38	12.33	10.07	7.63	12.46	17.11	19.92	14.58	19.30
7	9.77	---	8.49	9.08	12.17	9.77	7.73	12.40	17.11	19.82	14.82	19.32
8	10.02	---	8.58	8.48	11.60	9.31	7.90	12.74	17.25	19.18	15.21	19.38
9	10.15	---	8.70	8.14	11.30	9.03	8.20	12.99	17.32	17.81	15.31	19.33
10	10.44	---	8.14	7.99	10.61	8.93	8.47	13.09	17.42	17.10	15.36	19.58
11	10.93	---	7.66	8.12	10.40	8.78	8.84	13.43	17.56	16.75	15.69	19.76
12	11.14	---	7.83	7.96	10.19	8.75	9.11	13.56	17.51	16.45	15.88	19.71
13	11.34	---	8.02	7.83	10.43	9.06	9.27	13.95	17.75	16.36	15.94	19.85
14	11.71	---	8.28	7.79	10.61	9.37	9.55	13.94	17.69	16.50	16.16	19.88
15	11.71	---	8.73	7.67	10.19	9.53	10.14	13.92	17.76	16.54	16.40	19.99
16	12.05	---	8.93	7.49	9.26	9.54	10.38	14.30	18.12	16.45	16.87	20.21
17	12.27	---	8.81	7.71	9.27	9.71	10.50	14.45	18.14	15.65	16.77	19.98
18	12.72	10.50	9.01	8.03	9.33	9.87	10.77	14.77	18.25	13.85	16.90	20.01
19	12.50	10.75	9.00	8.06	9.37	10.11	11.03	14.70	18.55	12.53	16.99	20.17
20	12.06	10.76	9.74	8.26	9.32	10.07	11.11	14.80	18.81	12.13	17.00	20.12
21	11.66	10.78	9.90	8.60	9.32	10.44	11.38	15.16	18.83	11.79	17.13	20.18
22	11.54	10.73	10.37	8.90	9.52	10.61	11.73	15.20	19.24	11.56	17.40	20.33
23	11.21	10.46	10.35	9.09	9.46	10.43	11.58	15.14	19.53	11.37	17.78	20.45
24	11.14	10.14	9.71	9.50	9.51	9.76	11.17	15.38	19.49	11.58	17.79	20.56
25	11.24	9.16	9.32	9.85	9.30	9.21	11.10	15.69	19.44	11.57	18.07	20.53
26	---	9.28	9.10	9.83	9.33	8.98	11.25	15.69	19.62	11.37	18.15	20.52
27	---	8.94	9.47	10.43	9.39	8.82	11.12	15.84	19.77	11.59	18.11	20.56
28	---	8.48	9.70	10.95	9.33	8.47	11.28	16.08	19.70	11.95	18.14	20.62
29	---	8.57	9.58	10.99	---	7.70	11.58	16.30	19.79	12.32	18.31	20.68
30	---	8.36	9.96	10.85	---	7.84	11.54	16.31	19.81	12.58	18.15	20.85
31	---	---	10.01	11.21	---	7.75	---	16.63	---	12.87	18.13	---
MEAN	10.79	9.76	8.89	9.16	10.40	9.38	9.72	14.16	18.21	15.38	16.31	19.85
MAX	12.72	10.78	10.37	11.21	12.33	10.61	11.73	16.63	19.81	20.01	18.31	20.85
MIN	8.86	8.36	7.66	7.49	9.26	7.70	7.12	11.60	16.83	11.37	13.24	18.31



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

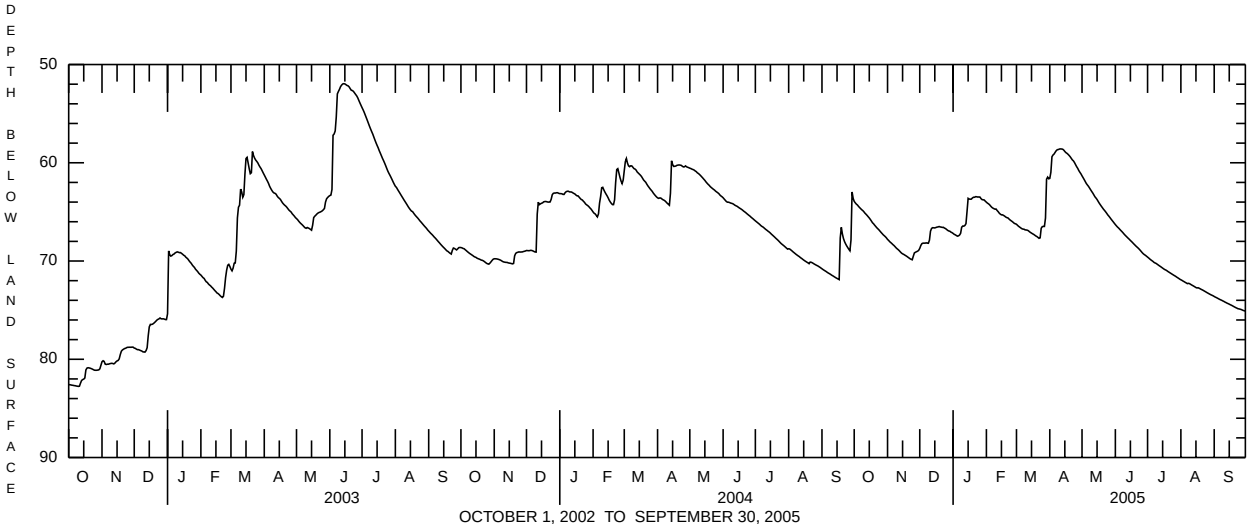
FRANKLIN COUNTY

395322077365301. Local number, FR 818.

LOCATION.--Lat 39°53'22", long 77°36'53", Hydrologic Unit 02070004, near Chambersburg.
Owner: Privately owned.
AQUIFER.--Zullinger Formation, Cambrian age.
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 202 ft, cased to 37 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.90 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 28, 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, 51.93 ft above land-surface datum, June 14, 2002; lowest, 82.97 ft below land-surface datum, Sept. 22, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 58.58 ft below land-surface datum, Apr. 10-12; lowest, 75.12 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63.93	67.80	68.71	67.19	64.01	66.26	61.59	61.33	66.29	69.60	71.91	73.61
2	64.08	67.90	68.41	67.28	64.11	66.37	60.97	61.52	66.42	69.69	71.97	73.67
3	64.21	68.03	68.23	67.33	64.18	66.47	59.39	61.71	66.54	69.79	72.04	73.72
4	64.30	68.12	68.18	67.40	64.28	66.55	59.21	61.91	66.64	69.88	72.10	73.78
5	64.44	68.22	68.18	67.47	64.41	66.63	59.11	62.11	66.76	69.96	72.17	73.84
6	64.56	68.33	68.18	67.44	64.53	66.71	58.93	62.26	66.88	70.04	72.23	73.90
7	64.67	68.42	68.15	67.36	64.61	66.75	58.77	62.40	66.99	70.14	72.30	73.95
8	64.78	68.54	68.18	67.18	64.67	66.76	58.67	62.57	67.11	70.20	72.27	74.00
9	64.87	68.66	68.19	66.56	64.72	66.83	58.65	62.75	67.24	70.25	72.30	74.06
10	64.99	68.76	67.88	66.44	64.71	66.84	58.60	62.92	67.36	70.33	72.37	74.11
11	65.13	68.85	66.96	66.45	64.86	66.86	58.59	63.08	67.47	70.41	72.44	74.18
12	65.24	68.96	66.68	66.38	64.98	66.91	58.60	63.27	67.58	70.49	72.50	74.23
13	65.36	69.08	66.61	66.20	65.13	67.01	58.62	63.46	67.69	70.56	72.56	74.29
14	65.49	69.19	66.62	64.95	65.23	67.09	58.71	63.59	67.79	70.64	72.63	74.34
15	65.62	69.27	66.63	63.62	65.30	67.16	58.85	63.74	67.91	70.72	72.70	74.39
16	65.77	69.32	66.59	63.69	65.30	67.23	58.97	63.93	68.01	70.80	72.74	74.45
17	65.93	69.39	66.55	63.71	65.36	67.29	59.04	64.11	68.12	70.87	72.72	74.50
18	66.10	69.46	66.53	63.70	65.43	67.37	59.14	64.27	68.24	70.92	72.77	74.56
19	66.21	69.53	66.49	63.58	65.52	67.45	59.26	64.43	68.35	70.99	72.83	74.62
20	66.35	69.61	66.53	63.51	65.58	67.51	59.39	64.58	68.46	71.07	72.89	74.68
21	66.48	69.69	66.55	63.51	65.61	67.60	59.55	64.73	68.56	71.14	72.94	74.74
22	66.61	69.77	66.58	63.45	65.72	67.69	59.71	64.86	68.66	71.21	73.00	74.79
23	66.72	69.83	66.57	63.46	65.82	67.64	59.81	65.00	68.77	71.28	73.07	74.85
24	66.83	69.87	66.65	63.49	65.90	66.67	59.98	65.15	68.89	71.35	73.13	74.87
25	66.96	69.51	66.70	63.48	65.98	66.50	60.19	65.31	69.02	71.42	73.20	74.90
26	67.09	69.17	66.79	63.49	66.07	66.48	60.40	65.44	69.15	71.49	73.26	74.93
27	67.21	69.11	66.88	63.65	66.17	66.48	60.57	65.58	69.26	71.55	73.32	74.98
28	67.33	69.05	66.94	63.75	66.21	65.63	60.79	65.73	69.35	71.63	73.38	75.03
29	67.43	69.00	66.97	63.77	---	61.67	60.97	65.87	69.42	71.70	73.44	75.06
30	67.53	68.91	67.06	63.79	---	61.46	61.13	66.01	69.51	71.77	73.49	75.10
31	67.65	---	67.11	63.91	---	61.63	---	66.15	---	71.85	73.54	---
MEAN	65.80	68.98	67.20	65.07	65.16	66.37	59.54	63.86	67.95	70.77	72.72	74.40
MAX	67.65	69.87	68.71	67.47	66.21	67.69	61.59	66.15	69.51	71.85	73.54	75.10
MIN	63.93	67.80	66.49	63.45	64.01	61.46	58.59	61.33	66.29	69.60	71.91	73.61



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

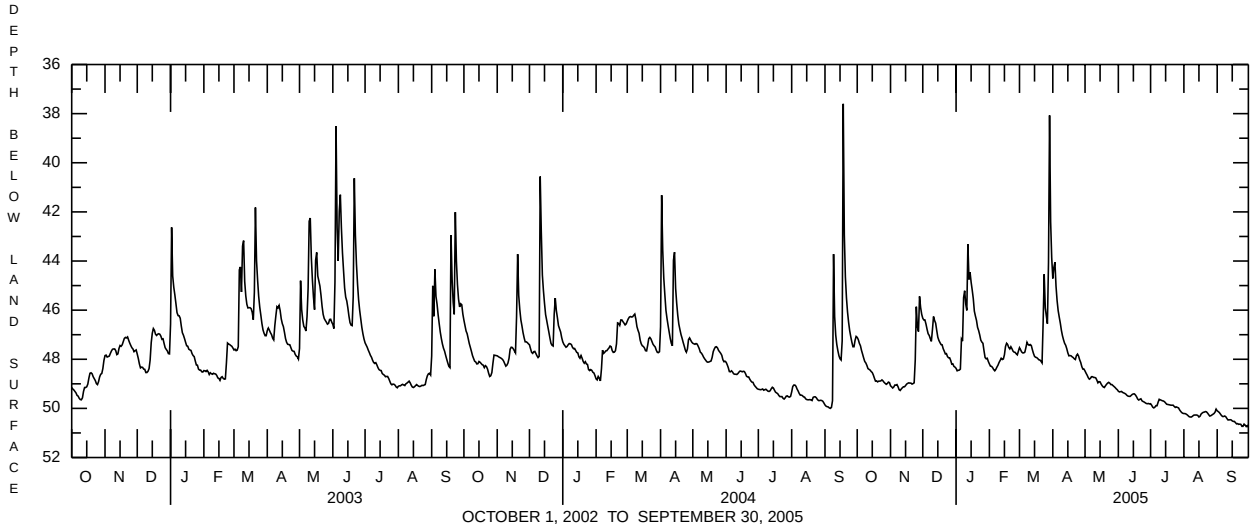
FULTON COUNTY

394755078135001. Local number, FU 249.

LOCATION.--Lat 39°47'55", long 78°13'50", Hydrologic Unit 02070004, at State Game Land No. 128, at Deneen Gap.
Owner: U.S. Geological Survey.
AQUIFER.--Stonehenge Formation, Early Ordovician age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 122 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood shelf, 3.30 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 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, 34.98 ft below land-surface datum, Sept. 18, 2004; lowest, 50.80 ft below land-surface datum, Sept. 30, 2005.
EXTREMES FOR CURRENT YEAR.--Highest water level, 36.64 ft below land-surface datum, Mar. 29; lowest, 50.80 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.11	49.08	46.33	48.37	48.19	47.53	44.71	48.48	49.30	49.81	50.21	50.10
2	47.20	49.12	46.40	48.47	48.28	47.61	44.26	48.57	49.33	49.87	50.21	50.13
3	47.35	49.17	46.40	48.45	48.29	47.70	44.05	48.65	49.32	49.95	50.23	50.17
4	47.45	49.13	46.57	48.44	48.34	47.74	45.03	48.75	49.31	49.98	50.26	50.23
5	47.64	49.05	46.78	48.40	48.42	47.74	45.61	48.81	49.35	49.95	50.30	50.29
6	47.79	49.05	46.96	47.18	48.47	47.71	46.02	48.78	49.37	49.89	50.34	50.33
7	47.95	49.03	47.03	47.26	48.41	47.52	46.28	48.71	49.39	49.89	50.35	50.33
8	48.09	49.12	47.16	45.49	48.32	47.31	46.53	48.71	49.42	49.75	50.35	50.31
9	48.15	49.24	47.27	45.21	48.24	47.40	46.82	48.74	49.47	49.63	50.32	50.34
10	48.25	49.27	46.79	45.76	48.13	47.43	47.04	48.74	49.50	49.65	50.28	50.41
11	48.38	49.21	46.26	46.01	48.05	47.40	47.21	48.76	49.51	49.67	50.27	50.47
12	48.41	49.16	46.42	43.32	47.96	47.44	47.35	48.85	49.51	49.69	50.27	50.47
13	48.44	49.12	46.53	44.75	48.01	47.61	47.43	48.96	49.47	49.70	50.27	50.46
14	48.50	49.12	46.83	44.46	47.99	47.76	47.57	48.91	49.43	49.73	50.29	50.47
15	48.54	49.07	47.10	44.86	47.82	47.88	47.74	48.92	49.41	49.78	50.35	50.51
16	48.64	49.01	47.23	45.18	47.48	47.92	47.86	49.01	49.41	49.83	50.32	50.53
17	48.77	48.98	47.32	45.53	47.35	47.93	47.85	49.08	49.46	49.84	50.23	50.53
18	48.89	48.96	47.40	46.04	47.40	47.97	47.86	49.13	49.53	49.85	50.19	50.58
19	48.88	48.97	47.41	46.24	47.52	48.02	47.90	49.15	49.62	49.86	50.16	50.63
20	48.92	48.97	47.57	46.42	47.58	48.03	47.93	49.08	49.66	49.87	50.15	50.62
21	48.89	49.01	47.67	46.70	47.49	48.08	47.98	49.02	49.63	49.87	50.13	50.65
22	48.89	48.99	47.78	46.83	47.57	48.15	48.01	48.97	49.61	49.87	50.14	50.64
23	48.88	48.96	47.77	47.01	47.67	46.54	47.85	48.94	49.69	49.92	50.19	50.65
24	48.84	48.03	47.89	47.22	47.71	44.54	47.79	48.97	49.72	49.96	50.25	50.73
25	48.88	45.86	47.94	47.30	47.72	45.91	47.87	49.03	49.74	49.94	50.31	50.73
26	48.94	46.68	47.94	47.35	47.78	46.24	48.02	49.03	49.77	49.96	50.30	50.64
27	48.98	46.87	48.05	47.66	47.82	46.55	48.13	49.07	49.80	49.98	50.27	50.68
28	49.02	45.44	48.20	47.93	47.67	44.06	48.30	49.11	49.81	50.06	50.24	50.74
29	48.99	45.89	48.19	47.98	---	38.07	48.40	49.15	49.80	50.12	50.21	50.70
30	48.93	46.17	48.29	47.96	---	42.40	48.40	49.20	49.82	50.17	50.15	50.77
31	48.95	---	48.32	48.09	---	43.86	---	49.24	---	50.20	50.03	---
MEAN	48.44	48.46	47.28	46.71	47.92	46.71	47.13	48.92	49.54	49.88	50.24	50.49
MAX	49.02	49.27	48.32	48.47	48.47	48.15	48.40	49.24	49.82	50.20	50.35	50.77
MIN	47.11	45.44	46.26	43.32	47.35	38.07	44.05	48.48	49.30	49.63	50.03	50.10



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

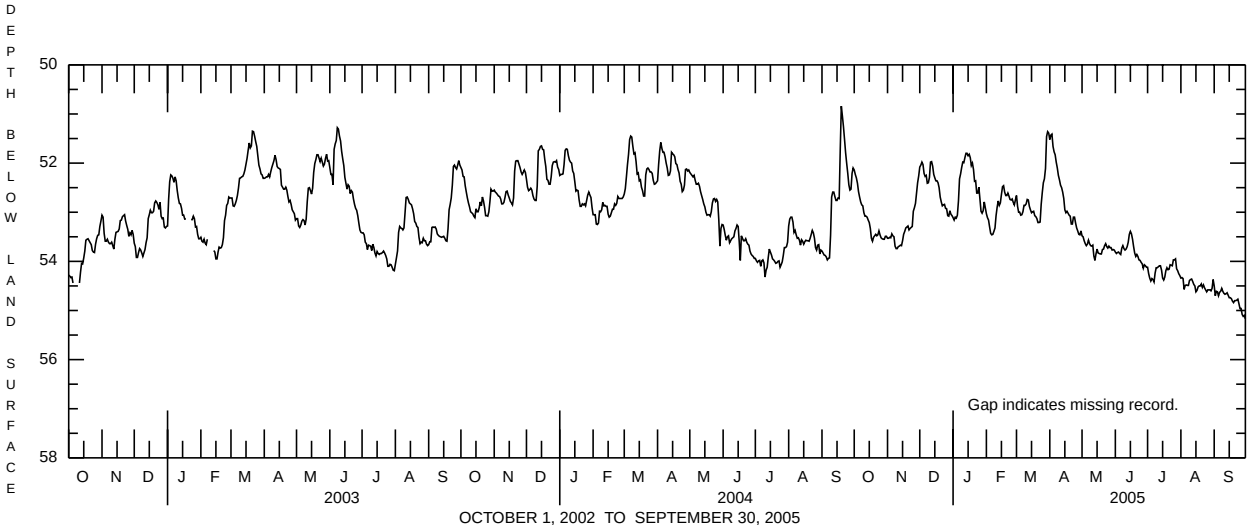
HUNTINGDON COUNTY

401843078075401. Local number, HU 301.

LOCATION.--Lat 40°18'43", long 78°07'54", Hydrologic Unit 02050303, at Trough Creek State Park, and near Newburg.
Owner: U.S. Geological Survey.
AQUIFER.--Pocono Formation, Early Mississippian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 105 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 3.63 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--August 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, 48.82 ft below land-surface datum, June 23, l972; lowest, 55.96 ft below land-surface datum, Aug. 28, 30, 1981.
EXTREMES FOR CURRENT YEAR.--Highest water level, 51.10 ft below land-surface datum, Apr. 3; lowest, 55.17 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.14	53.53	52.08	53.11	53.03	52.66	51.52	53.48	53.81	54.12	54.34	54.50
2	52.23	53.53	52.04	53.16	53.11	52.88	51.43	53.50	53.84	54.25	54.33	54.70
3	52.30	53.51	51.98	53.10	53.16	53.00	51.41	53.58	53.82	54.34	54.35	54.61
4	52.41	53.52	52.03	53.12	53.30	53.00	51.66	53.64	53.81	54.40	54.57	54.62
5	52.58	53.44	52.21	53.06	53.43	53.06	51.77	53.68	53.84	54.35	54.49	54.70
6	52.69	53.48	52.27	52.77	53.46	53.05	51.83	53.65	53.86	54.37	54.48	54.63
7	52.79	53.50	52.25	52.32	53.45	52.99	51.98	53.57	53.73	54.42	54.49	54.61
8	52.85	53.69	52.41	52.22	53.39	52.86	52.10	53.64	53.68	54.24	54.49	54.55
9	52.87	53.74	52.40	52.09	53.32	52.86	52.25	53.68	53.74	54.13	54.39	54.61
10	53.01	53.74	52.29	51.98	53.07	52.83	52.34	53.69	53.77	54.13	54.37	54.65
11	53.08	53.70	51.98	51.99	52.90	52.74	52.45	53.67	53.75	54.11	54.36	54.67
12	53.08	53.69	51.97	51.89	52.77	52.75	52.50	53.89	53.70	54.09	54.41	54.66
13	53.10	53.67	52.06	51.80	52.86	52.88	52.59	53.98	53.61	54.09	54.47	54.64
14	53.16	53.68	52.23	51.80	52.81	52.95	52.72	53.85	53.45	54.18	54.50	54.69
15	53.21	53.58	52.30	51.85	52.64	53.01	52.95	53.75	53.39	54.34	54.62	54.74
16	53.33	53.45	52.36	51.82	52.48	52.99	53.01	53.83	53.44	54.38	54.59	54.74
17	53.53	53.39	52.36	51.89	52.46	52.98	52.98	53.84	53.55	54.32	54.52	54.76
18	53.59	53.32	52.40	52.05	52.59	53.07	53.02	53.85	53.70	54.19	54.50	54.81
19	53.51	53.30	52.50	52.00	52.66	53.09	53.06	53.85	53.83	54.13	54.50	54.84
20	53.48	53.28	52.69	52.13	52.66	53.13	53.08	53.76	53.90	54.17	54.46	54.80
21	53.45	53.36	52.79	52.37	52.61	53.21	53.24	53.75	53.86	54.16	54.53	54.80
22	53.48	53.33	52.87	52.36	52.67	53.21	53.24	53.68	53.90	54.07	54.48	54.79
23	53.46	53.31	52.85	52.61	52.74	53.20	53.10	53.64	53.97	54.08	54.54	54.77
24	53.38	53.29	52.84	52.61	52.75	52.84	53.10	53.70	53.98	54.09	54.58	54.86
25	53.46	52.98	52.92	52.49	52.73	52.60	53.22	53.73	54.02	53.97	54.62	54.96
26	53.52	52.91	52.93	52.73	52.80	52.40	53.32	53.69	54.05	53.97	54.58	54.96
27	53.54	52.82	53.07	52.98	52.85	52.32	53.38	53.72	54.14	53.95	54.58	55.08
28	53.55	52.61	53.08	53.02	52.75	52.11	53.45	53.72	54.07	54.15	54.58	55.12
29	53.55	52.40	52.97	52.97	---	51.46	53.46	53.77	54.09	54.19	54.60	55.10
30	53.49	52.26	53.04	52.79	---	51.36	53.38	53.76	54.12	54.25	54.55	55.17
31	53.49	---	53.07	52.91	---	51.39	---	53.77	---	54.29	54.37	---
MEAN	53.14	53.33	52.49	52.45	52.91	52.74	52.65	53.72	53.81	54.19	54.49	54.77
MAX	53.59	53.74	53.08	53.16	53.46	53.21	53.46	53.98	54.14	54.42	54.62	55.17
MIN	52.14	52.26	51.97	51.80	52.46	51.36	51.41	53.48	53.39	53.95	54.33	54.50



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

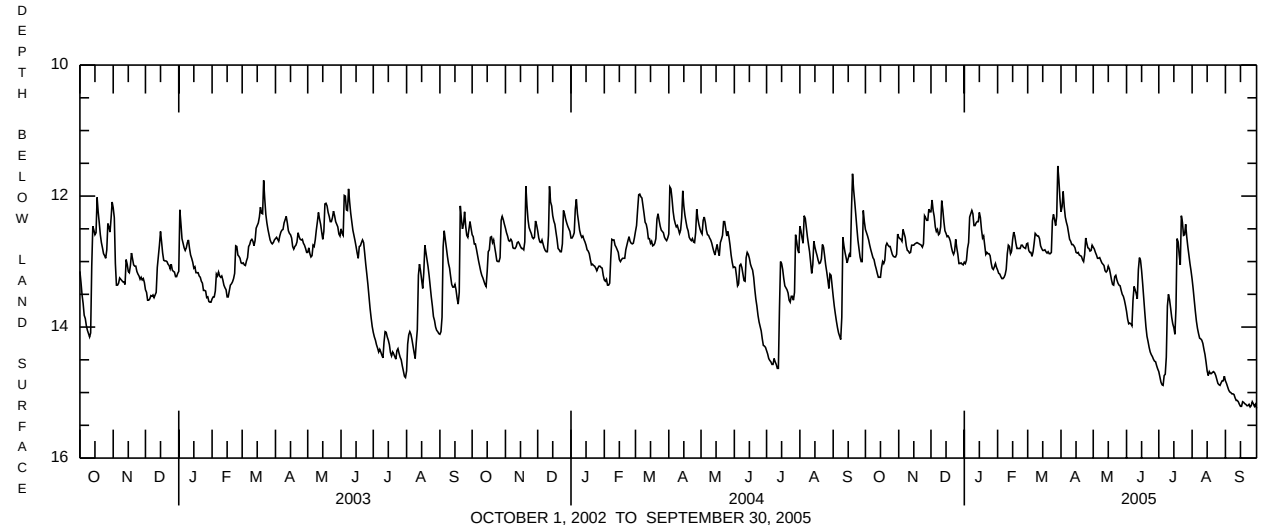
JUNIATA COUNTY

402411077374801. Local number, JU 351.

LOCATION.--Lat 40°24'11", long 77°37'48", Hydrologic Unit 02050304, at State Game Land No. 215, and near Reeds Gap.
Owner: U.S. Geological Survey.
AQUIFER.--Brailler and Harrell Formations, undivided, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 110 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 635 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal cover, 3.55 ft above land-surface datum.
REMARKS.--This well shows significant response to Earth tides. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since June 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--June 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes 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, Feb. 7, l996; lowest, 16.62 ft below land-surface datum, June 10, 1994.
EXTREMES FOR CURRENT YEAR.--Highest water level, 11.18 ft below land-surface datum, Mar. 29; lowest, 15.24 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.51	12.63	12.24	13.01	13.13	12.72	12.24	12.78	13.76	14.68	13.27	14.82
2	12.56	12.65	12.06	13.03	13.18	12.83	12.16	12.81	13.88	14.76	13.42	14.86
3	12.61	12.66	12.22	12.98	13.19	12.86	11.93	12.86	13.95	14.84	13.59	14.91
4	12.67	12.69	12.31	12.80	13.23	12.86	12.16	12.90	13.94	14.88	13.76	14.96
5	12.75	12.51	12.47	12.71	13.26	12.92	12.32	12.95	13.95	14.89	13.91	14.99
6	12.82	12.57	12.54	12.32	13.26	12.85	12.40	12.95	13.98	14.74	14.02	15.00
7	12.88	12.63	12.51	12.27	13.24	12.72	12.46	12.94	13.59	14.72	14.10	15.02
8	12.94	12.76	12.59	12.22	13.20	12.57	12.56	12.98	13.38	14.46	14.17	15.02
9	12.97	12.83	12.57	12.27	13.12	12.59	12.66	13.02	13.43	13.68	14.18	15.03
10	13.05	12.84	12.47	12.45	12.88	12.61	12.69	13.04	13.49	13.50	14.20	15.08
11	13.11	12.87	12.07	12.45	12.75	12.61	12.74	13.06	13.57	13.58	14.25	15.12
12	13.18	12.86	12.21	12.41	12.77	12.65	12.74	13.14	13.12	13.71	14.34	15.12
13	13.24	12.75	12.39	12.39	12.88	12.76	12.76	13.16	12.94	13.85	14.42	15.14
14	13.24	12.75	12.53	12.39	12.84	12.80	12.79	13.14	12.98	13.95	14.54	15.18
15	13.24	12.75	12.57	12.25	12.66	12.83	12.86	13.07	13.14	14.01	14.67	15.21
16	13.09	12.73	12.62	12.33	12.55	12.83	12.87	13.11	13.34	14.11	14.74	15.21
17	13.00	12.72	12.61	12.51	12.61	12.82	12.86	13.19	13.56	13.71	14.68	15.14
18	13.03	12.71	12.64	12.64	12.72	12.85	12.90	13.28	13.78	12.65	14.71	15.15
19	12.98	12.72	12.69	12.61	12.80	12.87	12.91	13.35	13.99	12.70	14.71	15.17
20	12.76	12.73	12.78	12.75	12.80	12.85	12.92	13.36	14.14	12.90	14.69	15.18
21	12.72	12.74	12.85	12.89	12.80	12.88	12.97	13.23	14.22	13.05	14.68	15.20
22	12.75	12.75	12.89	12.86	12.80	12.88	13.00	13.21	14.31	12.30	14.70	15.20
23	12.77	12.78	12.84	12.88	12.75	12.86	12.89	13.28	14.38	12.40	14.74	15.18
24	12.77	12.73	12.66	12.88	12.75	12.38	12.64	13.33	14.42	12.60	14.80	15.22
25	12.83	12.30	12.79	12.91	12.78	12.28	12.72	13.36	14.45	12.59	14.86	15.20
26	12.89	12.33	12.89	13.02	12.79	12.36	12.79	13.37	14.49	12.43	14.88	15.14
27	12.92	12.37	13.03	13.10	12.80	12.45	12.80	13.44	14.52	12.62	14.89	15.17
28	12.93	12.37	13.03	13.12	12.73	12.31	12.84	13.50	14.53	12.77	14.85	15.21
29	12.93	12.20	13.02	13.08	---	11.54	12.83	13.53	14.59	12.90	14.82	15.18
30	12.89	12.24	13.04	13.03	---	11.75	12.75	13.59	14.64	13.03	14.82	15.24
31	12.58	---	13.05	13.09	---	12.04	---	13.67	---	13.14	14.75	---
MEAN	12.89	12.64	12.62	12.70	12.90	12.62	12.67	13.18	13.88	13.55	14.42	15.11
MAX	13.24	12.87	13.05	13.12	13.26	12.92	13.00	13.67	14.64	14.89	14.89	15.24
MIN	12.51	12.20	12.06	12.22	12.55	11.54	11.93	12.78	12.94	12.30	13.27	14.82



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

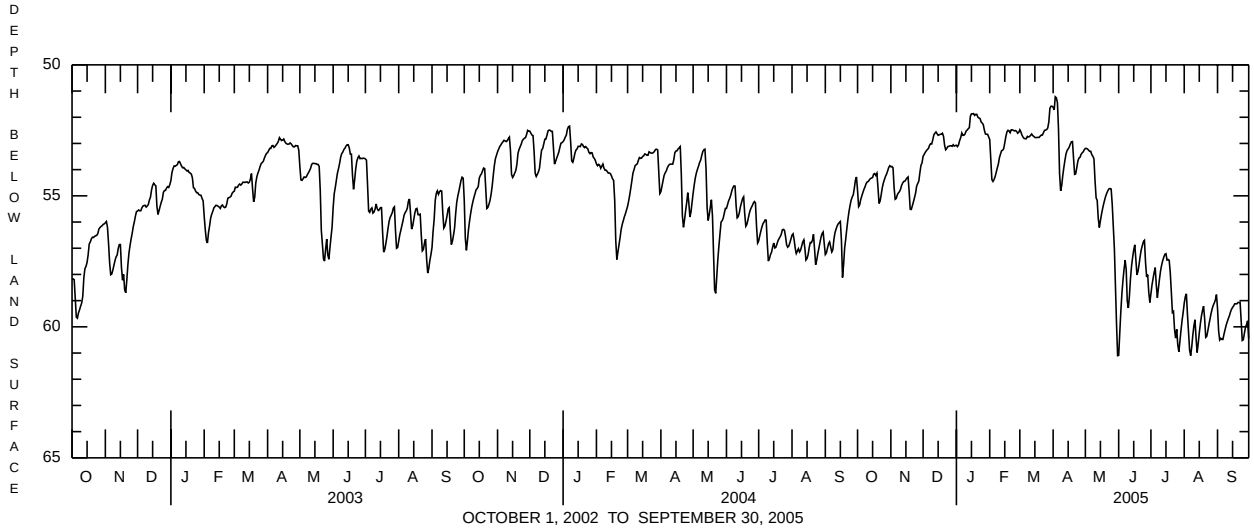
LACKAWANNA COUNTY

413346075421301. Local number, LK 508.

LOCATION.--Lat 41°33'46", long 75°42'13", Hydrologic Unit 02050106, at Lackawanna State Park, near Dalton.
Owner: U.S. Geological Survey.
AQUIFER.--Quaternary System.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 202 ft, cased to 90 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.84 ft above land-surface datum.
REMARKS.--Water levels affected by pumping. In addition to the daily mean water level table shown below, daily maximum and minimum water levels, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 51.15 ft below land-surface datum, Apr. 3, 2005; lowest, 62.96 ft below land-surface datum, Oct. 24, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 51.15 ft below land-surface datum, Apr. 3; lowest, 61.42 ft below land-surface datum, May 31.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54.80	53.89	53.49	53.07	52.85	52.48	51.62	53.19	61.09	58.74	59.10	59.30
2	55.41	53.88	53.42	53.12	53.60	52.56	51.72	53.19	60.25	58.41	58.85	60.16
3	55.34	53.93	53.34	53.05	54.38	52.68	51.22	53.21	59.43	58.16	58.74	60.50
4	55.13	54.68	53.28	52.89	54.45	52.76	51.26	53.26	58.73	57.92	59.52	60.44
5	55.00	55.13	53.23	52.78	54.38	52.81	51.44	53.30	58.22	57.74	60.19	60.48
6	54.87	55.10	53.19	52.60	54.27	52.82	52.45	53.30	57.81	58.40	60.89	60.48
7	54.75	54.96	53.07	52.69	54.11	52.82	54.14	53.43	57.46	58.89	61.10	60.28
8	54.65	54.89	53.01	52.69	53.94	52.73	54.81	53.49	57.81	58.52	60.76	60.11
9	54.53	54.84	53.02	52.64	53.79	52.75	54.60	53.59	59.02	58.17	60.32	59.94
10	54.47	54.75	52.86	52.53	53.55	52.74	54.22	54.42	59.28	57.85	59.96	59.81
11	54.45	54.60	52.67	52.49	53.41	52.69	53.91	55.08	58.82	57.64	59.73	59.69
12	54.39	54.51	52.61	52.44	53.28	52.64	53.64	55.17	58.15	57.47	60.41	59.58
13	54.34	54.45	52.56	52.40	53.26	52.70	53.40	55.86	57.68	57.34	60.98	59.44
14	54.32	54.44	52.63	51.96	53.20	52.73	53.27	56.21	57.34	57.23	60.64	59.33
15	54.30	54.38	52.69	51.87	52.98	52.77	53.21	55.95	57.07	57.21	60.24	59.26
16	54.17	54.32	52.67	51.87	52.74	52.78	53.14	55.71	56.87	57.45	59.89	59.20
17	54.15	54.28	52.65	51.86	52.56	52.77	53.02	55.50	57.44	57.43	59.59	59.12
18	54.22	54.82	52.65	51.93	52.50	52.77	52.94	55.31	58.02	57.46	59.38	59.12
19	54.14	55.51	52.61	51.89	52.52	52.77	52.93	55.15	57.88	57.92	59.21	59.12
20	54.68	55.52	52.73	51.89	52.59	52.72	53.56	55.00	57.61	58.66	59.69	59.07
21	55.29	55.38	53.07	52.00	52.48	52.68	54.18	54.89	57.31	59.45	60.40	59.07
22	55.20	55.23	53.24	52.03	52.48	52.68	54.16	54.80	57.06	59.41	60.36	59.06
23	54.96	55.07	53.19	52.05	52.50	52.59	53.93	54.73	56.90	60.10	60.14	59.78
24	54.69	54.90	53.12	52.18	52.52	52.50	53.68	54.72	56.75	60.43	59.91	60.52
25	54.51	54.63	53.11	52.22	52.51	52.49	53.56	54.74	56.70	60.09	59.70	60.49
26	54.38	54.53	53.09	52.28	52.54	52.47	53.53	55.32	57.54	60.69	59.49	60.24
27	54.26	54.44	53.09	52.49	52.61	52.41	53.42	56.17	58.10	60.95	59.31	60.02
28	54.17	54.12	53.11	52.64	52.58	52.18	53.36	57.02	58.01	60.55	59.18	59.91
29	54.05	53.84	53.05	52.65	---	51.66	53.32	58.46	58.68	60.13	59.09	59.77
30	53.92	53.74	53.10	52.65	---	51.58	53.24	59.88	59.07	59.76	58.97	60.45
31	53.85	---	53.08	52.75	---	51.58	---	61.10	---	59.45	58.77	---
MEAN	54.56	54.63	52.99	52.41	53.16	52.56	53.23	55.20	58.07	58.70	59.82	59.79
MAX	55.41	55.52	53.49	53.12	54.45	52.82	54.81	61.10	61.09	60.95	61.10	60.52
MIN	53.85	53.74	52.56	51.86	52.48	51.58	51.22	53.19	56.70	57.21	58.74	59.06



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

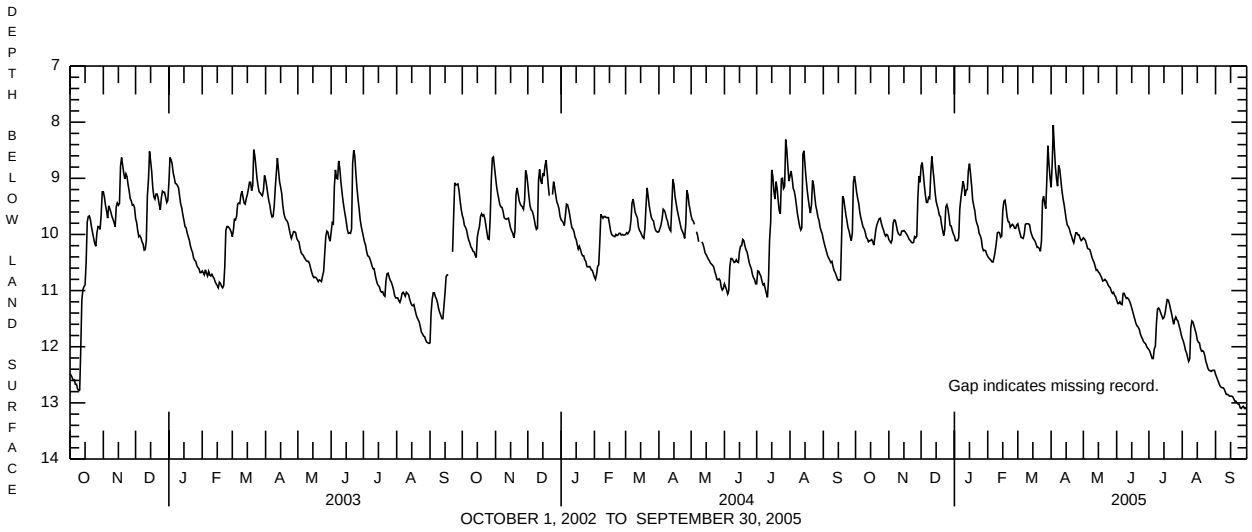
LANCASTER COUNTY

401637076071501. Local number, LN 1351.

LOCATION.--Lat 40°16'37", long 76°07'15", Hydrologic Unit 02050306, at State Game Lands 220, near Blainsport.
Owner: Pennsylvania Game Commission.
AQUIFER.--Hammer Creek Formation, Triassic age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 135 ft, cased to 50 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 480 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.89 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--March 8, 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, 7.93 ft below land-surface datum, Apr. 3, 2005; lowest, 13.32 ft below land-surface datum, Sept. 25, 26, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 7.93 ft below land-surface datum, Apr. 3; lowest, 13.13 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.09	10.09	8.78	10.03	10.39	9.81	9.16	10.06	11.17	12.05	11.85	12.49
2	9.25	10.12	8.72	10.11	10.42	9.90	8.74	10.08	11.23	12.09	11.90	12.54
3	9.36	10.15	8.90	10.11	10.44	9.98	8.05	10.11	11.23	12.15	11.97	12.59
4	9.45	10.10	9.12	10.11	10.46	10.05	8.46	10.18	11.20	12.21	12.06	12.64
5	9.61	9.80	9.30	10.06	10.49	10.06	8.80	10.25	11.24	12.21	12.11	12.69
6	9.71	9.74	9.43	9.55	10.49	10.07	9.01	10.26	11.25	12.04	12.19	12.72
7	9.79	9.75	9.43	9.36	10.40	9.99	9.14	10.27	11.05	11.99	12.26	12.73
8	9.87	9.84	9.34	9.21	10.29	9.82	8.77	10.33	11.05	11.59	12.21	12.73
9	9.90	9.94	9.36	9.05	10.15	9.81	8.84	10.41	11.10	11.33	11.66	12.75
10	9.96	9.99	8.92	9.14	9.97	9.81	9.02	10.46	11.14	11.31	11.54	12.80
11	10.05	10.01	8.61	9.31	9.96	9.81	9.21	10.50	11.13	11.34	11.56	12.85
12	10.08	10.01	8.83	9.21	9.97	9.83	9.35	10.57	11.15	11.40	11.63	12.85
13	10.13	9.94	9.02	9.20	10.05	9.95	9.46	10.64	11.19	11.45	11.70	12.86
14	10.11	9.94	9.25	8.86	10.03	10.01	9.59	10.63	11.24	11.50	11.77	12.88
15	10.11	9.93	9.41	8.74	9.58	10.06	9.73	10.67	11.31	11.48	11.88	12.88
16	10.09	9.95	9.49	8.92	9.41	10.09	9.83	10.69	11.38	11.41	11.92	12.88
17	10.13	9.98	9.56	9.13	9.39	10.12	9.86	10.73	11.45	11.28	11.93	12.89
18	10.19	10.01	9.66	9.39	9.51	10.17	9.90	10.77	11.52	11.16	12.03	12.93
19	10.05	10.05	9.68	9.49	9.68	10.23	9.98	10.83	11.59	11.17	12.08	12.97
20	9.90	10.09	9.82	9.58	9.77	10.23	10.03	10.82	11.63	11.23	12.07	12.97
21	9.82	10.11	9.92	9.74	9.78	10.25	10.10	10.80	11.65	11.32	12.09	13.00
22	9.77	10.14	10.02	9.81	9.87	10.30	10.15	10.82	11.69	11.40	12.16	13.02
23	9.72	10.15	9.92	9.86	9.84	10.12	10.06	10.85	11.77	11.50	12.26	13.03
24	9.71	10.14	9.51	9.98	9.82	9.40	9.97	10.90	11.82	11.60	12.32	13.09
25	9.80	10.04	9.47	10.02	9.84	9.32	9.97	10.93	11.86	11.52	12.39	13.10
26	9.87	10.06	9.55	10.08	9.89	9.45	10.01	10.95	11.91	11.47	12.42	13.07
27	9.92	10.03	9.68	10.23	9.89	9.54	10.01	11.01	11.93	11.52	12.43	13.06
28	9.99	9.34	9.84	10.29	9.83	9.03	10.07	11.05	11.95	11.54	12.44	13.10
29	10.03	8.96	9.85	10.28	---	8.42	10.11	11.03	12.00	11.62	12.42	13.09
30	10.00	9.07	9.93	10.29	---	8.75	10.09	11.08	12.03	11.69	12.42	13.12
31	10.02	---	9.99	10.35	---	8.99	---	11.11	---	11.78	12.42	---
MEAN	9.85	9.92	9.43	9.66	9.99	9.79	9.52	10.64	11.46	11.59	12.07	12.88
MAX	10.19	10.15	10.02	10.35	10.49	10.30	10.15	11.11	12.03	12.21	12.44	13.12
MIN	9.09	8.96	8.61	8.74	9.39	8.42	8.05	10.06	11.05	11.16	11.54	12.49



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

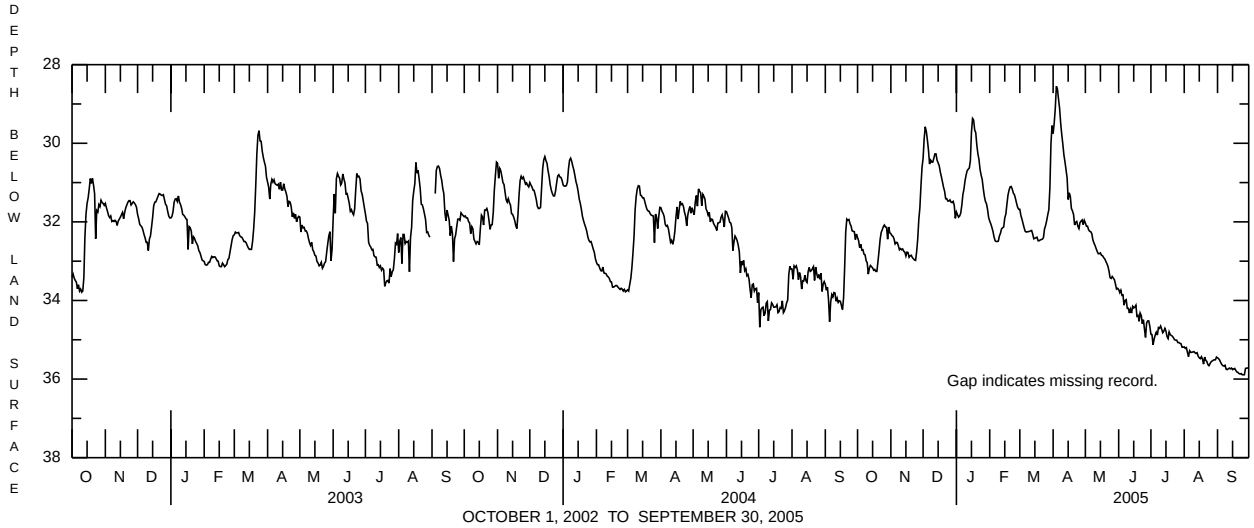
LUZERNE COUNTY

411756076162701. Local number, LU 294.

LOCATION.--Lat 41°17'56", long 76°16'27", Hydrologic Unit 02050107, at Ricketts Glen Park, and near Red Rock.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 167 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Electronic data logger with 60-minute recording interval. Landline telemetry at station.
DATUM.--Elevation of land surface is 1,245 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.79 ft above land-surface datum; 2.79 ft above land-surface datum since April 19, 1999.
REMARKS.--Well levels affected by nearby intermittent pumpage. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since April 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--November 1994 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, 28.41 ft below land-surface datum, Apr. 4, 2005; lowest, 38.20 ft below land-surface datum, Oct. 18, 19, 1998.
EXTREMES FOR CURRENT YEAR.--Highest water level, 28.41 ft below land-surface datum, Apr. 4; lowest, 35.89 ft below land-surface datum, Sept. 24-26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.40	32.30	30.38	31.75	31.98	31.68	29.75	32.03	33.72	34.86	35.18	35.46
2	32.48	32.35	29.88	31.82	32.05	31.84	29.49	32.11	33.80	34.87	35.22	35.48
3	32.66	32.37	29.58	31.88	32.14	31.93	29.12	32.11	33.74	35.13	35.20	35.52
4	32.57	32.44	29.70	31.85	32.24	32.04	28.55	32.20	33.87	34.98	35.32	35.58
5	32.72	32.56	29.92	31.78	32.38	32.15	28.62	32.24	33.86	34.88	35.43	35.63
6	32.71	32.52	30.17	31.58	32.48	32.24	28.87	32.25	34.12	34.81	35.28	35.66
7	32.82	32.53	30.53	31.31	32.50	32.26	29.10	32.30	34.00	34.88	35.32	35.67
8	32.84	32.61	30.43	31.17	32.50	32.25	29.48	32.46	33.98	34.69	35.32	35.65
9	32.99	32.71	30.48	30.96	32.49	32.25	29.77	32.54	34.20	34.71	35.31	35.75
10	33.04	32.68	30.48	30.81	32.36	32.24	30.01	32.60	34.20	34.65	35.30	35.76
11	33.33	32.71	30.38	30.70	32.29	32.23	30.29	32.68	34.32	34.73	35.33	35.74
12	33.18	32.69	30.27	30.66	32.18	32.22	30.47	32.75	34.22	34.82	35.35	35.72
13	33.11	32.75	30.27	30.63	32.15	32.31	30.67	32.81	34.32	34.78	35.33	35.74
14	33.14	32.77	30.43	30.44	32.13	32.43	30.88	32.81	34.15	34.71	35.42	35.72
15	33.17	32.87	30.50	29.72	31.90	32.42	31.43	32.79	34.19	34.78	35.46	35.76
16	33.23	32.77	30.57	29.37	31.80	32.40	31.26	32.85	34.17	34.92	35.48	35.74
17	33.21	32.78	30.73	29.41	31.55	32.39	31.35	32.86	34.12	34.97	35.43	35.73
18	33.26	32.90	30.85	29.66	31.32	32.48	31.66	32.91	34.40	34.80	35.49	35.78
19	33.26	32.86	30.98	29.73	31.19	32.48	31.72	32.94	34.38	34.87	35.62	35.82
20	33.01	32.85	31.12	30.05	31.11	32.46	31.81	33.00	34.53	34.89	35.44	35.83
21	32.74	32.91	31.22	30.27	31.10	32.45	32.08	33.06	34.32	34.91	35.52	35.86
22	32.45	32.94	31.41	30.41	31.17	32.44	32.01	33.13	34.38	34.95	35.55	35.87
23	32.27	32.97	31.41	30.67	31.27	32.40	31.99	33.25	34.59	35.00	35.63	35.86
24	32.20	32.98	31.47	30.81	31.31	32.18	32.11	33.42	34.49	35.01	35.66	35.89
25	32.12	32.76	31.47	30.92	31.41	32.09	32.17	33.44	34.73	35.01	35.61	35.89
26	32.08	32.44	31.44	31.15	31.53	31.97	32.02	33.39	34.94	35.07	35.56	35.89
27	32.13	31.94	31.50	31.35	31.63	31.82	31.98	33.43	34.57	35.07	35.54	35.73
28	32.14	31.64	31.51	31.48	31.68	31.69	31.95	33.47	34.52	35.09	35.52	35.72
29	32.44	31.09	31.48	31.54	---	31.12	32.07	33.58	34.52	35.10	35.51	35.72
30	32.13	30.61	31.58	31.69	---	30.00	31.96	33.71	34.66	35.19	35.51	35.71
31	32.28	---	31.91	31.89	---	29.55	---	33.69	---	35.19	35.44	---
MEAN	32.71	32.51	30.78	30.89	31.85	32.01	30.82	32.86	34.27	34.91	35.43	35.73
MAX	33.33	32.98	31.91	31.89	32.50	32.48	32.17	33.71	34.94	35.19	35.66	35.89
MIN	32.08	30.61	29.58	29.37	31.10	29.55	28.55	32.03	33.72	34.65	35.18	35.46



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

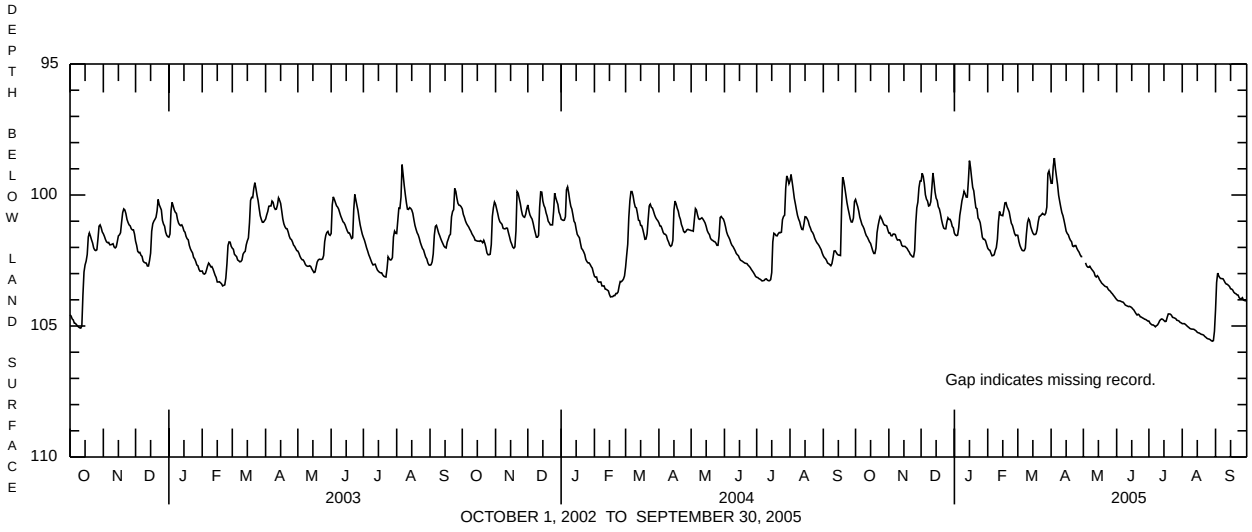
LYCOMING COUNTY

412427076594401. Local number, LY 112.

LOCATION.--Lat 41°24'27", long 76°59'44", Hydrologic Unit 02050206, at State Game Land No. 133, and near Trout Run.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 23 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of recorder shelf, 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 September 1995, are also available from the USGS Pennsylvania Water Science Center. Water level was lowered when nearby well was drilled in Aug. 1999.
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, 76.10 ft below land-surface datum, June 23, l972; lowest recorded, 107.22 ft below land-surface datum, Sept. 6, 1999.
EXTREMES FOR CURRENT YEAR.--Highest water level, 97.75 ft below land-surface datum, Jan. 14; lowest, 105.58 ft below land-surface datum, Aug. 29.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100.17	101.45	99.47	101.46	102.03	101.54	99.55	---	103.99	104.81	104.91	104.38
2	100.31	101.45	99.17	101.53	102.09	101.77	99.55	---	104.03	104.89	104.91	103.34
3	100.44	101.55	99.29	101.55	102.11	101.93	98.90	102.59	104.04	104.93	104.91	102.98
4	100.62	101.56	99.57	101.53	102.22	102.03	98.59	102.70	104.04	104.96	104.94	103.09
5	100.85	101.49	99.99	101.25	102.32	102.11	98.99	102.75	104.06	104.96	104.98	103.16
6	100.99	101.49	100.16	100.78	102.31	102.13	99.31	102.76	104.08	104.99	105.02	103.19
7	101.13	101.51	100.23	100.52	102.28	102.12	99.61	102.72	104.09	105.03	105.05	103.19
8	101.20	101.64	100.42	100.22	102.12	102.03	100.01	102.79	104.14	104.99	105.09	103.20
9	101.30	101.72	100.40	100.05	102.01	101.49	100.25	102.85	104.20	104.96	105.11	103.27
10	101.44	101.71	100.26	99.86	101.69	101.06	100.47	102.90	104.22	104.89	105.12	103.35
11	101.55	101.71	99.74	99.95	101.01	100.91	100.67	102.96	104.24	104.80	105.12	103.40
12	101.61	101.78	99.16	100.08	100.63	100.99	100.79	103.09	104.26	104.75	105.13	103.41
13	101.70	101.92	99.49	100.08	100.76	101.21	100.97	103.13	104.25	104.73	105.16	103.45
14	101.79	101.96	99.89	99.46	100.78	101.34	101.17	103.08	104.27	104.75	105.19	103.49
15	101.85	101.96	100.12	98.69	100.79	101.45	101.38	103.13	104.30	104.79	105.24	103.58
16	101.99	101.96	100.21	98.95	100.57	101.51	101.47	103.23	104.35	104.83	105.26	103.59
17	102.13	102.00	100.45	99.34	100.30	101.51	101.52	103.29	104.39	104.82	105.27	103.63
18	102.23	102.04	100.53	99.71	100.29	101.48	101.64	103.36	104.46	104.67	105.30	103.71
19	102.23	102.12	100.71	99.84	100.45	101.32	101.73	103.40	104.53	104.54	105.32	103.75
20	102.03	102.18	100.94	100.18	100.54	101.02	101.78	103.44	104.58	104.54	105.33	103.77
21	101.44	102.27	101.12	100.49	100.65	100.82	101.95	103.48	104.55	104.55	105.35	103.81
22	101.17	102.31	101.26	100.52	100.88	100.80	101.97	103.50	104.58	104.59	105.40	103.82
23	100.96	102.36	101.29	100.88	101.08	100.75	101.93	103.51	104.65	104.67	105.43	103.92
24	100.81	102.36	101.29	100.94	101.16	100.70	101.93	103.59	104.66	104.68	105.47	103.96
25	100.88	102.12	101.03	101.06	101.31	100.74	102.04	103.64	104.69	104.70	105.49	103.96
26	100.98	101.09	100.87	101.32	101.47	100.76	102.12	103.67	104.71	104.72	105.50	103.92
27	101.09	100.49	100.93	101.61	101.55	100.69	102.18	103.73	104.74	104.78	105.52	104.01
28	101.15	100.27	100.93	101.69	101.53	100.46	102.28	103.77	104.75	104.79	105.56	104.03
29	101.16	99.72	101.03	101.69	---	99.18	102.35	103.83	104.78	104.81	105.58	104.03
30	101.18	99.47	101.20	101.75	---	99.08	102.35	103.88	104.81	104.86	105.56	104.06
31	101.33	---	101.25	101.89	---	99.30	---	103.94	---	104.88	105.20	---
MEAN	101.28	101.59	100.40	100.61	101.32	101.10	100.98	103.27	104.38	104.80	105.24	103.61
MAX	102.23	102.36	101.29	101.89	102.32	102.13	102.35	103.94	104.81	105.03	105.58	104.38
MIN	100.17	99.47	99.16	98.69	100.29	99.08	98.59	102.59	103.99	104.54	104.91	102.98



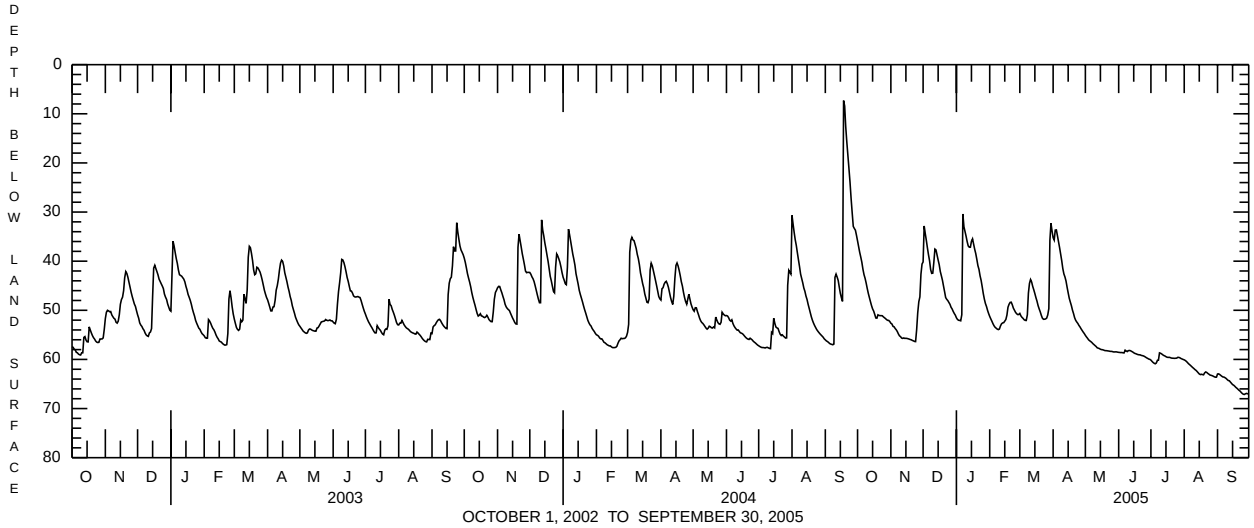
MIFFLIN COUNTY

404140077354001. Local number, MF 344.

LOCATION.--Lat 40°41'40", long 77°35'48", Hydrologic Unit 02050304, at Roseann.
Owner: Privately owned.
AQUIFER.--Bellefonte Formation, Early-Middle Ordovician age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 42 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 800 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of shelter platform, 2.92 ft above land-surface datum. Prior to July 1998, measuring point was 1.0 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since August 1998, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 4.25 ft below land-surface datum, Sept. 18, 2004; lowest, 77.13 ft below land-surface datum, Oct. 11, 1983.
EXTREMES FOR CURRENT YEAR.--Highest water level, 28.57 ft below land-surface datum, Jan. 7; lowest, 67.13 ft below land-surface datum, Sept. 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.88	52.64	40.16	51.52	51.25	50.64	35.23	55.10	58.56	60.14	60.09	62.97
2	37.04	52.79	32.83	51.86	51.74	51.13	35.71	55.41	58.58	60.39	60.22	62.94
3	38.20	53.27	34.36	52.03	52.22	51.43	33.67	55.69	58.61	60.61	60.40	63.07
4	39.18	53.36	35.76	52.06	52.72	51.64	33.64	56.01	58.60	60.78	60.63	63.25
5	40.23	53.70	37.27	52.14	53.14	51.92	34.80	56.20	58.65	60.89	60.87	63.43
6	41.62	53.96	38.67	50.91	53.46	52.05	36.01	56.36	58.68	60.74	61.06	63.57
7	42.72	54.33	39.92	30.39	53.64	52.07	37.21	56.54	58.12	60.20	61.26	63.60
8	43.49	54.81	41.69	33.00	53.83	50.93	38.56	56.79	58.29	60.16	61.47	63.72
9	44.44	55.19	42.48	33.95	53.93	46.50	39.89	56.98	58.40	58.67	61.67	63.88
10	45.53	55.37	42.44	34.93	53.82	44.52	41.47	57.18	58.22	58.75	61.86	64.10
11	46.55	55.65	40.19	36.02	53.19	43.74	42.59	57.37	58.18	58.88	62.07	64.29
12	47.40	55.72	37.54	36.90	52.75	44.24	43.21	57.63	58.23	59.06	62.23	64.35
13	48.23	55.63	37.72	37.16	52.57	45.13	44.04	57.71	58.36	59.20	62.47	64.62
14	49.05	55.72	38.77	37.16	52.52	45.82	45.31	57.79	58.48	59.30	62.72	64.87
15	49.72	55.70	39.77	35.95	52.21	46.60	46.45	57.93	58.64	59.44	62.96	65.12
16	50.17	55.73	40.72	35.46	51.87	47.42	47.54	58.00	58.77	59.55	63.09	65.25
17	50.83	55.79	42.11	36.52	50.99	48.15	48.31	58.03	58.84	59.59	63.02	65.45
18	51.57	55.86	42.98	37.56	49.38	49.05	49.06	58.10	58.94	59.57	63.09	65.68
19	51.60	55.95	43.88	38.45	48.76	49.71	49.96	58.19	59.02	59.63	63.13	65.86
20	50.93	56.01	45.08	39.64	48.39	50.31	50.67	58.22	59.06	59.72	62.74	66.07
21	51.05	56.14	46.22	40.90	48.35	51.01	51.51	58.23	59.07	59.75	62.55	66.29
22	51.09	56.22	47.41	41.67	48.87	51.60	52.04	58.27	59.18	59.76	62.66	66.45
23	51.09	56.34	47.77	42.98	49.56	51.83	52.38	58.30	59.23	59.78	62.86	66.72
24	51.11	56.37	48.03	43.92	49.98	51.82	52.68	58.36	59.29	59.76	63.01	66.93
25	51.33	53.94	48.41	45.20	50.40	51.76	53.08	58.36	59.39	59.74	63.18	67.09
26	51.51	50.53	48.78	46.58	50.69	51.59	53.38	58.39	59.53	59.58	63.24	67.13
27	51.68	48.27	49.38	47.73	50.87	50.95	53.76	58.47	59.68	59.59	63.31	66.99
28	51.90	47.27	49.73	48.62	50.86	49.65	54.11	58.48	59.79	59.68	63.41	66.92
29	52.04	42.65	50.22	49.23	---	35.74	54.44	58.46	59.93	59.82	63.54	66.99
30	52.06	40.58	50.64	50.03	---	32.30	54.73	58.47	59.99	59.91	63.62	67.06
31	52.29	---	51.00	50.68	---	33.86	---	58.52	---	60.01	63.61	---
MEAN	47.47	53.52	42.97	42.62	51.50	47.91	45.51	57.53	58.88	59.76	62.32	65.16
MAX	52.29	56.37	51.00	52.14	53.93	52.07	54.73	58.52	59.99	60.89	63.62	67.13
MIN	35.88	40.58	32.83	30.39	48.35	32.30	33.64	55.10	58.12	58.67	60.09	62.94



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

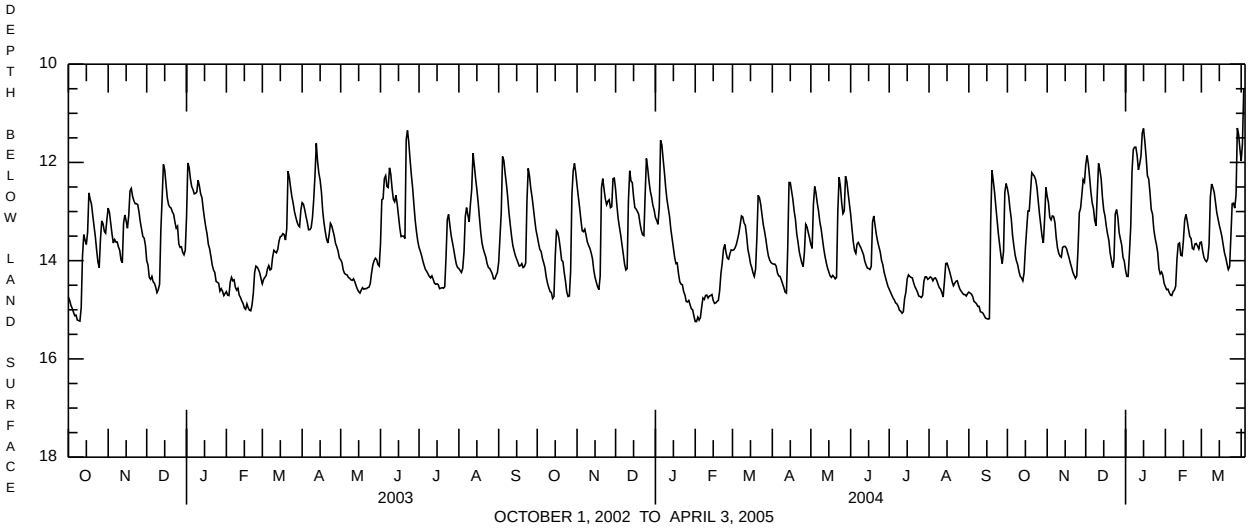
MONTOUR COUNTY

405738076343501. Local number, MT 256.

LOCATION.--Lat 40°57'38", long 76°34'35", Hydrologic Unit 02050106, at Danville.
Owner: U.S. Geological Survey.
AQUIFER.--Hamilton Group.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 121 ft, cased to 25 ft, open hole, well destroyed in 2005.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.80 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 2001 to April 2005. (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, 10.37 ft below land-surface datum, Apr. 3, 2005; lowest, 15.89 ft below land-surface datum, Sept. 14, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 10.37 ft below land-surface datum, Apr. 3; lowest, 14.77 ft below land-surface datum, Feb. 6.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.53	12.69	12.05	14.20	14.53	13.62	11.97	---	---	---	---	---
2	12.68	12.82	11.86	14.32	14.59	13.80	11.62	---	---	---	---	---
3	12.94	13.12	12.03	14.32	14.58	13.93	10.49	---	---	---	---	---
4	13.14	13.17	12.30	13.85	14.65	13.99	---	---	---	---	---	---
5	13.48	13.09	12.60	13.32	14.70	14.02	---	---	---	---	---	---
6	13.69	13.10	12.82	12.19	14.71	13.96	---	---	---	---	---	---
7	13.88	13.22	12.94	11.74	14.63	13.67	---	---	---	---	---	---
8	14.00	13.53	13.18	11.69	14.60	12.71	---	---	---	---	---	---
9	14.08	13.74	13.29	11.69	14.52	12.44	---	---	---	---	---	---
10	14.22	13.85	12.62	11.86	13.97	12.51	---	---	---	---	---	---
11	14.32	13.91	12.02	12.15	13.66	12.61	---	---	---	---	---	---
12	14.35	13.93	12.15	12.03	13.64	12.81	---	---	---	---	---	---
13	14.41	13.73	12.34	11.87	13.89	13.02	---	---	---	---	---	---
14	14.25	13.71	12.71	11.40	13.90	13.15	---	---	---	---	---	---
15	13.75	13.71	12.97	11.31	13.59	13.28	---	---	---	---	---	---
16	13.36	13.75	13.09	11.57	13.18	13.39	---	---	---	---	---	---
17	12.99	13.85	13.30	11.89	13.06	13.51	---	---	---	---	---	---
18	12.99	13.94	13.46	12.27	13.19	13.68	---	---	---	---	---	---
19	12.61	14.05	13.59	12.34	13.36	13.84	---	---	---	---	---	---
20	12.21	14.14	13.85	12.61	13.51	13.94	---	---	---	---	---	---
21	12.25	14.24	13.99	12.96	13.55	14.07	---	---	---	---	---	---
22	12.28	14.30	14.14	13.05	13.75	14.18	---	---	---	---	---	---
23	12.35	14.36	13.97	13.37	13.77	14.12	---	---	---	---	---	---
24	12.51	14.31	13.05	13.54	13.66	13.50	---	---	---	---	---	---
25	12.78	13.75	12.96	13.67	13.65	12.84	---	---	---	---	---	---
26	13.05	13.02	13.12	13.83	13.70	12.83	---	---	---	---	---	---
27	13.28	12.93	13.43	14.17	13.76	12.93	---	---	---	---	---	---
28	13.51	12.65	13.56	14.27	13.63	12.66	---	---	---	---	---	---
29	13.64	12.35	13.68	14.23	---	11.30	---	---	---	---	---	---
30	13.14	12.40	13.93	14.30	---	11.43	---	---	---	---	---	---
31	12.51	---	14.01	14.46	---	11.72	---	---	---	---	---	---
MEAN	13.26	13.51	13.06	12.92	13.93	13.21	11.36	---	---	---	---	---
MAX	14.41	14.36	14.14	14.46	14.71	14.18	11.97	---	---	---	---	---
MIN	12.21	12.35	11.86	11.31	13.06	11.30	10.49	---	---	---	---	---



OCTOBER 1, 2002 TO APRIL 3, 2005

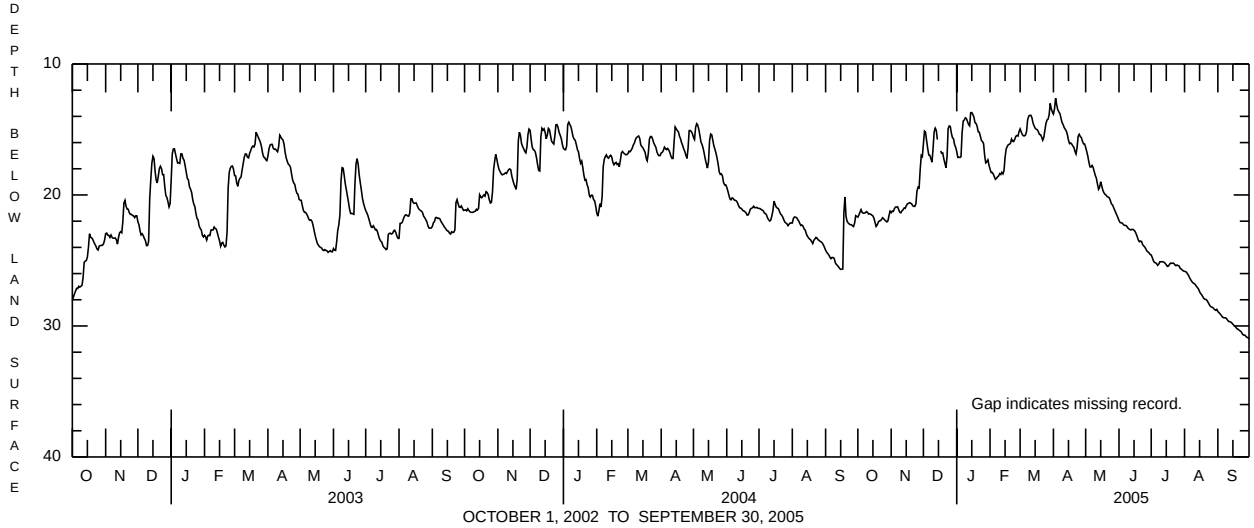
NORTHUMBERLAND COUNTY

404239076362001. Local number, NU 567.

LOCATION.--Lat 40°42'39", long 76°36'20", Hydrologic Unit 02050301, at 0.3 mi southwest of intersection T371 and T488, 1.2 mi east of Leck Kill. Owner: U.S. Department of Agriculture.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 156 ft, cased to 23.5 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 946.47 ft above National Geodetic Vertical Datum of 1929, from survey. 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 minimum and maximum water levels since Mar. 20, 2001 are also available from the USGS Pennsylvania Water Science Center. Data from January 1, 1995 to March 16, 2001 collected by Agricultural Research Service (ARS). Well is part of the ground-water monitoring network within the ARS experimental watershed WE-38.
PERIOD OF RECORD.--January 1995 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, 12.41 ft below land-surface datum, Apr. 3, 2005; lowest, 32.65 ft below land-surface datum, Dec. 11, 12, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 12.41 ft below land-surface datum, Apr. 3; lowest, 31.04 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.69	21.35	16.11	16.68	18.02	14.96	13.82	16.37	21.95	24.58	25.83	28.90
2	21.52	21.23	15.13	17.13	18.28	15.18	13.43	16.69	22.10	24.78	25.85	28.98
3	21.31	21.25	15.22	17.12	18.28	15.38	12.61	17.04	22.13	25.02	25.92	29.06
4	21.12	21.05	15.86	17.14	18.40	15.48	13.10	17.49	22.14	25.15	26.05	29.17
5	21.34	20.92	16.46	17.07	18.61	15.49	13.49	17.85	22.25	25.18	26.19	29.29
6	21.39	20.93	16.95	15.26	18.80	15.42	13.65	17.87	22.32	25.24	26.37	29.36
7	21.39	20.90	16.98	14.36	18.73	15.14	13.78	17.75	22.32	25.37	26.50	29.38
8	21.35	21.12	17.23	14.28	18.61	14.27	14.12	17.91	22.36	25.28	26.63	29.37
9	21.27	21.32	17.50	14.11	18.55	13.98	14.47	18.23	22.49	25.10	26.72	29.43
10	21.33	21.36	16.43	14.17	18.37	13.92	14.62	18.52	22.58	25.10	26.76	29.55
11	21.46	21.22	15.19	14.39	18.44	13.92	14.85	18.73	22.63	25.09	26.84	29.65
12	21.44	21.14	14.90	14.61	18.27	14.11	14.99	19.19	22.67	25.11	26.97	29.67
13	21.47	21.00	15.07	14.72	18.39	14.51	15.12	19.56	22.63	25.14	27.07	29.70
14	21.54	21.02	15.77	13.72	18.14	14.73	15.40	19.40	22.63	25.22	27.18	29.77
15	21.60	20.84	---	13.71	17.12	14.90	15.82	18.99	22.69	25.33	27.38	29.87
16	21.78	20.69	---	13.85	16.50	14.98	16.08	19.32	22.79	25.45	27.53	29.95
17	22.10	20.65	16.64	14.07	16.30	15.02	16.03	19.65	22.97	25.43	27.62	30.02
18	22.40	20.59	16.82	14.48	16.16	15.18	16.11	19.83	23.20	25.30	27.77	30.13
19	22.29	20.62	16.80	14.54	16.13	15.38	16.26	19.95	23.44	25.20	27.90	30.23
20	22.08	20.67	17.25	14.76	16.05	15.40	16.36	20.01	23.57	25.22	27.96	30.25
21	21.98	20.82	17.57	15.17	15.73	15.57	16.66	20.12	23.52	25.20	27.98	30.34
22	21.96	20.87	17.92	15.21	15.90	15.82	16.87	20.17	23.55	25.22	28.06	30.39
23	21.87	20.87	17.07	15.51	15.92	15.62	16.38	20.22	23.79	25.33	28.21	30.48
24	21.74	20.68	14.94	15.85	15.75	15.10	15.52	20.43	23.89	25.40	28.36	30.63
25	21.81	19.70	14.73	15.92	15.52	14.56	15.37	20.68	23.98	25.35	28.50	30.70
26	21.91	19.41	14.77	16.09	15.46	14.28	15.54	20.76	24.12	25.39	28.55	30.69
27	21.98	19.46	15.27	16.98	15.50	14.21	15.62	20.96	24.28	25.43	28.58	30.78
28	22.06	18.06	15.62	17.55	15.16	13.89	15.90	21.16	24.35	25.61	28.65	30.87
29	21.97	16.98	15.71	17.47	---	13.01	16.10	21.35	24.43	25.66	28.76	30.89
30	21.56	17.07	16.15	17.32	---	13.43	16.11	21.54	24.54	25.74	28.80	31.00
31	21.24	---	16.36	17.72	---	13.66	---	21.73	---	25.80	28.73	---
MEAN	21.68	20.46	16.15	15.51	17.18	14.73	15.14	19.34	23.08	25.27	27.43	29.95
MAX	22.40	21.36	17.92	17.72	18.80	15.82	16.87	21.73	24.54	25.80	28.80	31.00
MIN	21.12	16.98	14.73	13.71	15.16	13.01	12.61	16.37	21.95	24.58	25.83	28.90



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

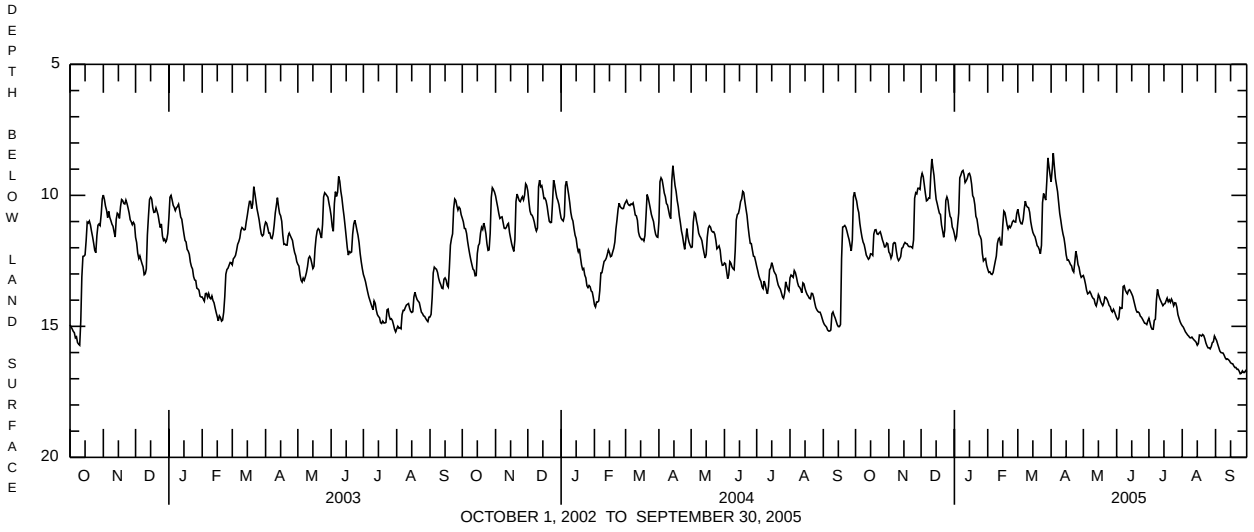
PERRY COUNTY

402735077100901. Local number, PE 684.

LOCATION.--Lat 40°27'35", long 77°10'09", Hydrologic Unit 02050301, at Little Buffalo State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Trimmers Rock.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 150 ft, cased to 18 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 495 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of steel cover, 2.90 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--September 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, 8.20 ft below land-surface datum, Apr. 3, 2005; lowest, 17.83 ft below land-surface datum, Nov. 24, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 8.20 ft below land-surface datum, Apr. 3; lowest, 16.83 ft below land-surface datum, Sept. 24.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.07	12.16	9.33	11.48	12.82	10.53	9.48	13.06	14.67	14.69	14.98	15.46
2	10.21	12.23	9.16	11.69	12.94	10.76	9.01	13.20	14.74	14.86	15.03	15.54
3	10.49	12.40	9.29	11.58	12.92	10.98	8.39	13.39	14.68	15.03	15.12	15.68
4	10.66	12.29	9.60	11.12	13.00	11.08	8.89	13.62	14.28	15.11	15.21	15.81
5	11.07	11.85	9.93	10.68	13.02	11.09	9.35	13.76	14.32	15.11	15.27	15.94
6	11.36	11.80	10.21	9.33	12.95	10.91	9.61	13.73	14.31	14.77	15.33	16.00
7	11.60	11.82	10.18	9.23	12.73	10.51	9.86	13.67	13.48	14.73	15.37	16.01
8	11.78	12.13	10.10	9.09	12.52	10.22	10.27	13.75	13.45	14.00	15.43	16.02
9	11.88	12.39	10.11	9.05	12.32	10.39	10.69	13.86	13.62	13.59	15.44	16.10
10	12.07	12.49	9.23	9.21	11.84	10.45	10.95	13.93	13.70	13.80	15.41	16.20
11	12.28	12.43	8.61	9.51	11.66	10.47	11.24	13.96	13.76	13.93	15.47	16.26
12	12.36	12.34	8.95	9.44	11.62	10.64	11.47	14.14	13.63	14.03	15.52	16.24
13	12.44	12.02	9.24	9.35	11.89	11.00	11.64	14.22	13.60	14.12	15.56	16.27
14	12.39	11.99	9.75	9.19	11.89	11.23	11.92	14.05	13.67	14.21	15.61	16.32
15	12.23	11.87	10.15	9.16	11.15	11.41	12.27	13.79	13.76	14.15	15.72	16.39
16	12.24	11.80	10.32	9.29	10.60	11.51	12.47	13.88	13.86	14.13	15.66	16.42
17	12.29	11.84	10.51	9.57	10.66	11.58	12.46	14.04	14.03	14.02	15.33	16.43
18	11.48	11.85	10.68	10.01	10.88	11.74	12.54	14.13	14.20	13.92	15.34	16.51
19	11.32	11.93	10.73	10.10	11.13	11.92	12.64	14.21	14.37	14.06	15.37	16.57
20	11.31	11.96	11.13	10.36	11.28	11.97	12.69	14.11	14.46	13.99	15.31	16.57
21	11.47	11.95	11.35	10.80	11.17	12.07	12.86	13.88	14.45	14.08	15.35	16.64
22	11.49	11.97	11.60	10.91	11.23	12.23	12.93	13.90	14.49	13.96	15.47	16.64
23	11.43	12.01	11.33	11.20	11.15	11.91	12.56	13.97	14.61	14.05	15.63	16.71
24	11.39	11.70	10.20	11.49	11.01	10.28	12.13	14.07	14.65	14.21	15.74	16.81
25	11.53	10.11	10.06	11.57	10.96	9.93	12.33	14.20	14.72	14.10	15.82	16.79
26	11.70	9.90	10.19	11.69	11.01	10.07	12.64	14.25	14.80	14.11	15.82	16.70
27	11.82	9.94	10.56	12.22	11.02	10.18	12.75	14.39	14.88	14.27	15.86	16.76
28	11.97	9.73	10.80	12.50	10.69	9.45	12.99	14.45	14.89	14.55	15.77	16.76
29	11.96	9.73	10.87	12.44	---	8.57	13.13	14.35	14.93	14.69	15.62	16.69
30	11.82	9.77	11.21	12.41	---	8.91	13.09	14.44	14.79	14.82	15.59	16.74
31	11.85	---	11.31	12.67	---	9.22	---	14.56	---	14.91	15.37	---
MEAN	11.61	11.61	10.22	10.59	11.72	10.75	11.51	13.97	14.26	14.32	15.47	16.33
MAX	12.44	12.49	11.60	12.67	13.02	12.23	13.13	14.56	14.93	15.11	15.86	16.81
MIN	10.07	9.73	8.61	9.05	10.60	8.57	8.39	13.06	13.45	13.59	14.98	15.46



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

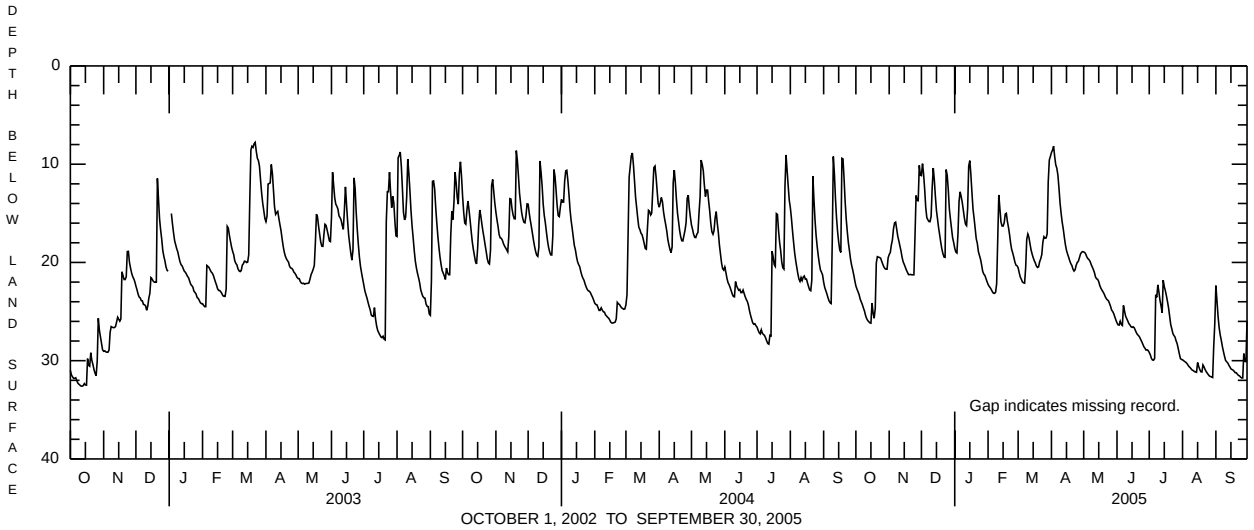
POTTER COUNTY

414640077493801. Local number, PO 72.

LOCATION.--Lat 41°46'40", long 77°49'38", Hydrologic Unit 02050205, at Denton Hill State Park, and near Walton.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 110 ft, cased to 21 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,810 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal shelf, 3.68 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 USGS Pennsylvania Water Science Center.
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, 5.20 ft below land-surface datum, Mar. 23, 1968; lowest, 39.12 ft below land-surface datum, Dec. 11, 1987.
EXTREMES FOR CURRENT YEAR.--Highest water level, 7.72 ft below land-surface datum, Apr. 3; lowest, 31.76 ft below land-surface datum, Sept. 25, 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.39	19.20	11.16	18.55	22.23	20.55	8.82	18.93	26.15	29.16	29.91	22.36
2	22.70	18.99	9.95	18.94	22.43	21.05	8.56	18.99	26.35	29.41	30.00	23.86
3	22.99	18.23	10.98	19.04	22.57	21.49	8.17	19.18	26.38	29.76	30.09	25.42
4	23.28	17.70	12.52	17.12	22.76	21.72	9.22	19.46	25.99	29.93	30.16	26.60
5	23.73	16.57	14.38	13.79	22.98	21.99	10.06	19.62	26.31	29.95	30.28	27.35
6	24.01	15.98	15.43	12.81	23.13	22.07	10.42	19.73	26.41	29.78	30.44	27.90
7	24.29	15.90	15.66	13.30	23.15	22.11	11.12	19.91	24.38	23.29	30.60	28.52
8	24.63	16.61	15.84	13.91	23.04	20.53	12.43	20.22	24.96	23.55	30.70	29.05
9	24.95	17.36	15.85	14.70	22.18	17.65	13.97	20.47	25.47	22.28	30.84	29.53
10	25.39	17.82	15.32	15.50	17.69	17.11	15.01	20.73	25.71	23.02	30.96	29.96
11	25.71	18.33	12.40	16.09	13.13	17.43	15.91	21.04	25.95	23.85	31.01	30.11
12	25.91	18.85	10.39	16.25	14.50	18.08	16.61	21.48	26.22	24.44	31.10	30.22
13	26.03	19.48	11.61	14.50	15.86	18.72	17.46	21.67	26.36	25.13	31.15	30.44
14	26.15	19.94	13.30	10.18	16.29	19.15	18.21	21.72	26.54	21.80	31.18	30.62
15	26.18	20.20	14.73	9.64	16.30	19.51	18.77	21.96	26.61	22.47	30.19	30.83
16	24.14	20.49	15.61	11.04	15.98	19.82	19.15	22.36	26.55	22.88	30.58	30.90
17	25.14	20.78	16.50	12.87	15.08	20.06	19.47	22.62	26.65	23.41	30.89	30.96
18	25.68	21.01	17.21	14.59	15.00	20.36	19.83	22.82	26.89	23.99	31.12	31.08
19	24.70	21.24	17.97	15.50	15.83	20.51	20.12	23.00	27.15	24.65	31.15	31.22
20	20.05	21.24	18.63	16.53	16.42	20.45	20.31	23.20	27.34	25.49	30.43	31.23
21	19.41	21.22	19.10	17.58	17.16	19.93	20.68	23.47	27.44	26.33	30.63	31.37
22	19.46	21.26	19.45	18.06	18.05	19.63	20.88	23.68	27.60	26.75	30.91	31.50
23	19.50	21.26	19.48	18.89	18.69	19.20	20.75	23.81	27.83	27.24	31.11	31.54
24	19.56	21.26	10.55	19.29	19.06	17.94	20.29	23.90	28.06	27.44	31.27	31.67
25	19.87	17.44	11.14	19.68	19.49	17.38	20.00	24.16	28.31	27.60	31.43	31.76
26	20.18	13.19	12.63	20.25	19.97	17.53	19.89	24.48	28.58	27.99	31.56	31.76
27	20.44	13.69	14.58	20.90	20.28	17.51	19.53	24.85	28.73	28.28	31.62	29.28
28	20.62	13.72	15.60	21.19	20.34	17.09	19.15	25.00	28.92	28.78	31.65	30.07
29	20.69	10.12	16.55	21.31	---	11.80	18.97	25.23	28.89	29.31	31.71	30.10
30	20.69	11.10	17.48	21.63	---	9.57	18.90	25.56	28.97	29.78	28.54	25.94
31	19.54	---	17.97	21.94	---	9.21	---	25.88	---	29.88	26.24	---
MEAN	22.84	18.01	14.84	16.63	18.91	18.62	16.42	22.23	26.92	26.37	30.63	29.44
MAX	26.18	21.26	19.48	21.94	23.15	22.11	20.88	25.88	28.97	29.95	31.71	31.76
MIN	19.41	10.12	9.95	9.64	13.13	9.21	8.17	18.93	24.38	21.80	26.24	22.36



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

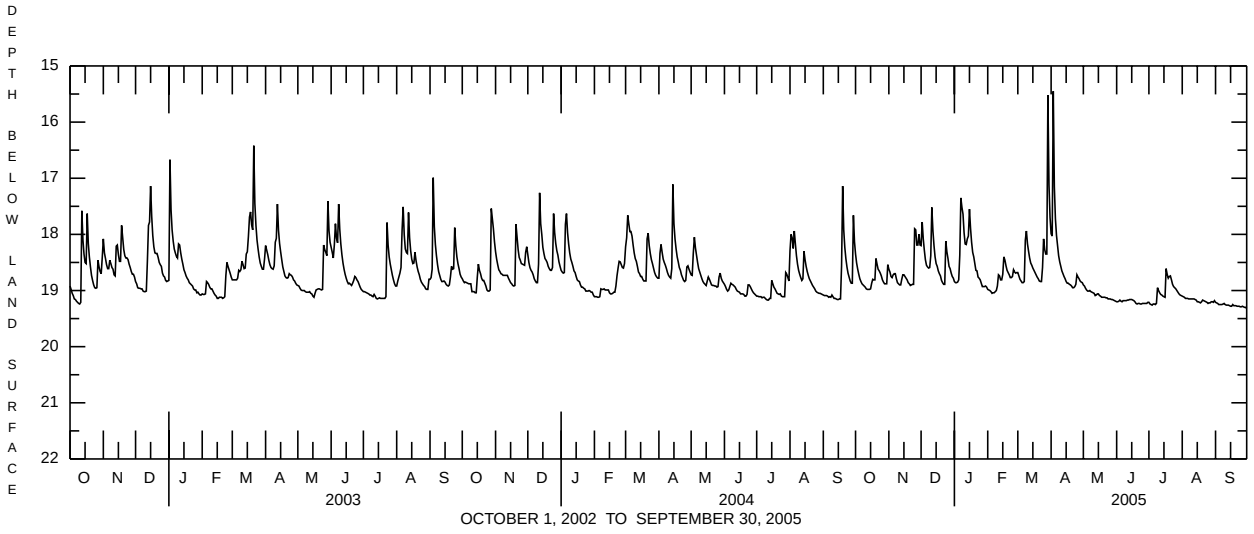
SNYDER COUNTY

403939076591001. Local number, SN 130.

LOCATION.--Lat 40°39'39", long 76°59'10", Hydrologic Unit 02050301, at State Game Land No. 194, and at Meiserville.
Owner: U.S. Geological Survey.
AQUIFER.--Irish Valley member of Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 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 is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal shelf, 3.47 ft above land-surface datum. Prior to July 3, 2000, measuring point was 3.55 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 1997, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--June 1968 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, 11.00 ft below land-surface datum, Sept. 18, 2004; lowest, 19.63 ft below land-surface datum, Jan. 1, 2, 1999.
EXTREMES FOR CURRENT YEAR.--Highest water level, 12.92 ft below land-surface datum, Mar. 29; lowest, 19.32 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.35	18.62	18.20	18.84	18.98	18.68	17.99	18.90	19.20	19.21	19.10	19.21
2	18.51	18.67	17.78	18.86	18.99	18.74	18.03	18.92	19.20	19.24	19.11	19.22
3	18.62	18.75	18.08	18.86	19.00	18.80	15.45	18.96	19.19	19.25	19.12	19.23
4	18.71	18.77	18.28	18.85	19.02	18.83	17.15	18.99	19.17	19.26	19.14	19.25
5	18.79	18.72	18.45	18.81	19.05	18.86	17.72	19.01	19.19	19.24	19.14	19.25
6	18.84	18.70	18.55	18.37	19.04	18.86	18.02	19.01	19.20	19.24	19.14	19.25
7	18.88	18.70	18.58	17.35	19.04	18.84	18.20	19.00	19.18	19.25	19.15	19.25
8	18.90	18.79	18.60	17.52	19.02	18.10	18.38	19.02	19.18	19.23	19.15	19.24
9	18.92	18.86	18.59	17.64	19.00	17.94	18.49	19.03	19.18	18.95	19.15	19.23
10	18.94	18.88	18.38	17.97	18.92	18.17	18.57	19.04	19.18	19.00	19.15	19.25
11	18.97	18.90	17.52	18.17	18.72	18.30	18.65	19.05	19.17	19.04	19.15	19.26
12	18.98	18.90	17.94	18.18	18.74	18.42	18.70	19.09	19.17	19.07	19.15	19.26
13	18.98	18.80	18.20	18.08	18.81	18.51	18.75	19.08	19.16	19.08	19.16	19.26
14	18.98	18.72	18.40	18.03	18.81	18.55	18.79	19.06	19.16	19.10	19.17	19.27
15	18.97	18.72	18.52	17.55	18.71	18.60	18.84	19.06	19.16	19.11	19.20	19.28
16	18.87	18.75	18.57	17.89	18.40	18.64	18.87	19.09	19.17	19.12	19.20	19.28
17	18.80	18.78	18.65	18.14	18.46	18.68	18.87	19.10	19.18	18.61	19.21	19.25
18	18.81	18.81	18.70	18.32	18.56	18.72	18.89	19.12	19.20	18.71	19.22	19.27
19	18.81	18.86	18.74	18.40	18.64	18.76	18.90	19.12	19.23	18.78	19.20	19.27
20	18.43	18.88	18.82	18.52	18.68	18.79	18.92	19.12	19.24	18.75	19.17	19.27
21	18.53	18.91	18.86	18.64	18.72	18.83	18.95	19.12	19.23	18.74	19.18	19.28
22	18.62	18.90	18.89	18.65	18.77	18.84	18.95	19.13	19.23	18.81	19.19	19.28
23	18.65	18.89	18.89	18.76	18.77	18.84	18.93	19.13	19.24	18.89	19.20	19.28
24	18.69	18.89	18.12	18.78	18.75	18.59	18.89	19.15	19.24	18.93	19.21	19.29
25	18.74	17.90	18.31	18.81	18.63	18.08	18.72	19.15	19.23	18.95	19.23	19.29
26	18.81	17.92	18.43	18.87	18.67	18.27	18.76	19.15	19.23	18.97	19.22	19.28
27	18.85	18.19	18.57	18.93	18.69	18.35	18.79	19.16	19.23	19.00	19.22	19.29
28	18.88	18.19	18.61	18.93	18.68	18.35	18.83	19.16	19.23	19.03	19.20	19.30
29	18.88	18.00	18.69	18.93	---	15.52	18.85	19.17	19.23	19.06	19.20	19.30
30	18.88	18.19	18.75	18.92	---	17.12	18.86	19.18	19.21	19.08	19.21	19.32
31	18.54	---	18.78	18.94	---	17.70	---	19.19	---	19.09	19.18	---
MEAN	18.78	18.65	18.47	18.44	18.80	18.40	18.49	19.08	19.20	19.03	19.17	19.27
MAX	18.98	18.91	18.89	18.94	19.05	18.86	18.95	19.19	19.24	19.26	19.23	19.32
MIN	18.35	17.90	17.52	17.35	18.40	15.52	15.45	18.90	19.16	18.61	19.10	19.21



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

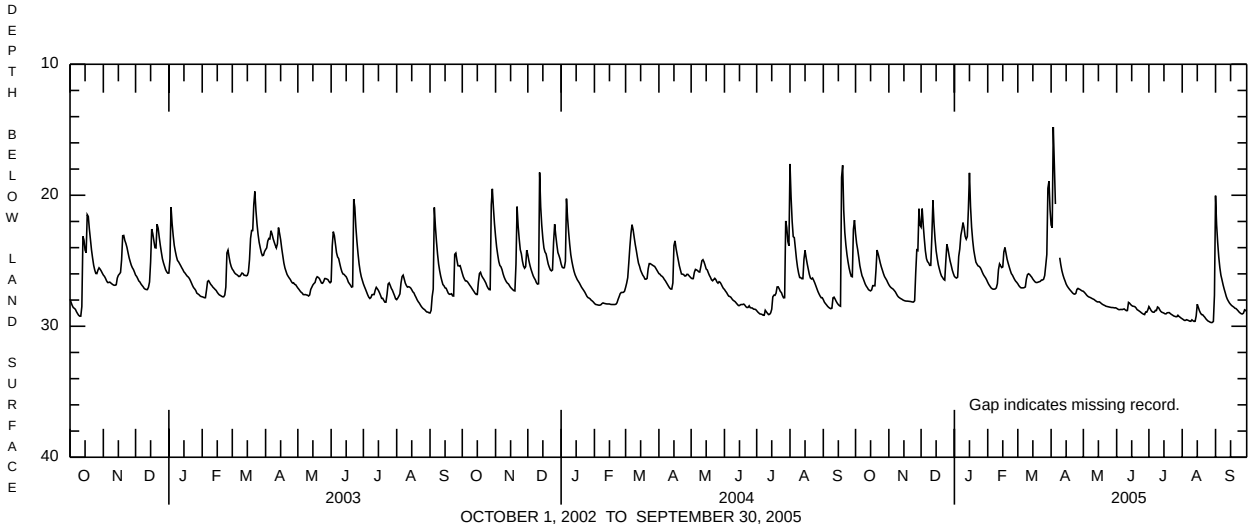
SULLIVAN COUNTY

413026076352901. Local number, SU 34.

LOCATION.--Lat 41°30'26", long 76°35'29", Hydrologic Unit 02050206, near Forksville.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 50 ft, cased to 34 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,060 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.72 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--April 1965 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, 7.42 ft below land-surface datum, June 23, 1972; lowest, 31.12 ft below land-surface datum, Sept. 4, 1966.
EXTREMES FOR CURRENT YEAR.--Highest water level, 12.63 ft below land-surface datum, Apr. 3; lowest, 29.72 ft below land-surface datum, Aug. 28.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.92	26.83	22.43	26.19	26.65	26.76	22.27	27.33	28.63	28.50	29.43	20.03
2	23.67	26.96	21.02	26.28	26.81	26.90	22.48	27.42	28.69	28.64	29.49	22.25
3	24.16	27.05	22.29	26.32	26.93	27.00	14.79	27.51	28.73	28.79	29.55	23.60
4	24.74	27.11	23.33	26.25	27.06	27.07	17.67	27.62	28.73	28.89	29.55	24.72
5	25.37	27.17	24.25	24.67	27.13	27.07	20.67	27.70	28.71	28.93	29.50	25.52
6	25.78	27.27	24.84	24.10	27.17	27.07	---	27.76	28.73	28.92	29.53	26.10
7	26.14	27.37	25.07	23.06	27.17	27.05	---	27.79	28.70	28.79	29.57	26.45
8	26.33	27.52	25.16	22.62	27.15	27.00	---	27.83	28.68	28.80	29.61	26.83
9	26.56	27.67	25.35	22.09	27.07	26.39	24.77	27.88	28.75	28.53	29.62	27.15
10	26.78	27.77	25.35	22.49	26.75	26.06	25.31	27.92	28.81	28.58	29.51	27.43
11	26.94	27.83	23.20	23.13	25.67	25.99	25.75	27.96	28.80	28.73	29.58	27.73
12	27.06	27.89	20.39	23.35	25.24	26.05	26.08	28.03	28.18	28.86	29.63	27.94
13	27.20	27.93	22.15	23.15	25.39	26.16	26.34	28.09	28.24	28.93	29.62	28.09
14	27.26	27.99	23.35	21.09	25.52	26.26	26.55	28.14	28.34	28.96	29.21	28.23
15	27.30	28.03	24.24	18.29	25.47	26.40	26.78	28.14	28.42	29.00	28.32	28.33
16	27.22	28.06	24.82	20.85	24.33	26.51	26.94	28.14	28.47	29.05	28.56	28.42
17	26.90	28.08	25.30	22.43	23.99	26.61	27.06	28.21	28.48	29.05	28.81	28.48
18	26.90	28.08	25.63	23.45	24.42	26.66	27.17	28.28	28.51	28.97	28.99	28.54
19	26.91	28.09	25.94	24.19	24.87	26.66	27.27	28.34	28.60	28.96	29.11	28.62
20	25.72	28.10	26.17	24.67	25.18	26.63	27.36	28.38	28.73	28.96	29.12	28.65
21	24.18	28.11	26.28	25.10	25.47	26.60	27.46	28.42	28.78	29.04	29.22	28.73
22	24.46	28.13	26.42	25.26	25.74	26.57	27.53	28.47	28.84	29.10	29.31	28.82
23	24.81	28.15	26.48	25.39	25.98	26.47	27.55	28.49	28.90	29.15	29.43	28.92
24	25.17	28.15	25.03	25.43	26.10	26.47	27.49	28.51	28.97	29.21	29.52	28.99
25	25.47	28.05	23.75	25.52	26.27	26.41	27.19	28.53	29.03	29.24	29.60	29.05
26	25.73	25.89	24.10	25.68	26.43	26.13	27.11	28.55	29.08	29.27	29.64	29.06
27	25.99	24.17	24.58	25.88	26.56	25.35	27.16	28.57	29.11	29.27	29.69	29.00
28	26.21	24.22	25.02	26.06	26.65	24.52	27.20	28.57	28.91	29.16	29.72	28.75
29	26.35	21.03	25.35	26.19	---	19.47	27.26	28.58	28.92	29.25	29.71	28.81
30	26.49	22.29	25.71	26.31	---	18.92	27.31	28.60	28.75	29.31	29.63	28.75
31	26.67	---	25.97	26.46	---	21.09	---	28.59	---	29.38	27.64	---
MEAN	25.92	27.03	24.48	24.26	26.04	25.82	25.50	28.14	28.71	28.97	29.34	27.40
MAX	27.30	28.15	26.48	26.46	27.17	27.07	27.55	28.60	29.11	29.38	29.72	29.06
MIN	22.92	21.03	20.39	18.29	23.99	18.92	14.79	27.33	28.18	28.50	27.64	20.03



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

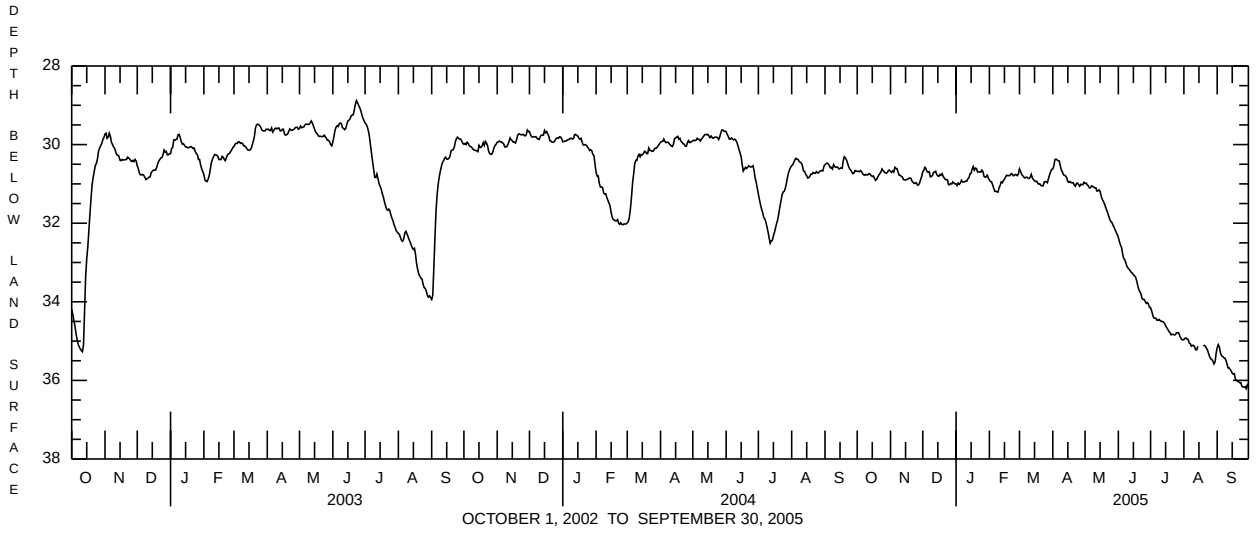
SUSQUEHANNA COUNTY

415323077451301. Local number, SQ 61.

LOCATION.--Lat 41°53'23", long 75°45'13", Hydrologic Unit 02050101, at State Game Land No. 175, and at New Milford.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 175 ft, cased to 80 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 1972 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, 21.49 ft below land-surface datum, Apr. 3, 1978; lowest, 38.94 ft below land-surface datum, May 31, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 30.25 ft below land-surface datum, Apr. 4; lowest, 36.21 ft below land-surface datum, Sept. 28.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.68	30.68	30.69	31.00	30.90	30.62	30.62	30.99	32.36	34.15	34.96	35.17
2	30.68	30.71	30.65	31.04	30.94	30.68	30.54	30.98	32.47	34.23	34.93	35.09
3	30.69	30.67	30.58	30.98	30.95	30.76	30.38	31.02	32.56	34.34	34.92	35.15
4	30.66	30.70	30.62	31.01	31.02	30.79	30.37	31.05	32.62	34.41	34.95	35.30
5	30.69	30.58	30.69	30.98	31.11	30.83	30.39	31.10	32.78	34.42	34.96	35.37
6	30.74	30.61	30.70	30.91	31.19	30.85	30.41	31.10	32.90	34.42	35.05	35.39
7	30.77	30.61	30.69	30.95	31.19	30.83	30.42	31.05	32.93	34.47	35.07	35.42
8	30.78	30.70	30.82	30.95	31.20	30.83	30.54	31.06	33.01	34.47	35.13	35.43
9	30.76	30.78	30.81	30.95	31.21	30.86	30.65	31.08	33.10	34.45	35.11	35.48
10	30.77	30.78	30.79	30.93	31.10	30.86	30.70	31.10	33.14	34.48	35.11	35.57
11	30.77	30.81	30.71	30.93	31.04	30.83	30.77	31.10	33.17	34.50	35.15	35.68
12	30.74	30.82	30.70	30.87	30.95	30.76	30.78	31.18	33.21	34.50	35.22	35.68
13	30.75	30.89	30.68	30.84	30.97	30.85	30.80	31.18	33.25	34.52	35.22	35.72
14	30.79	30.90	30.76	30.74	30.92	30.89	30.85	31.15	33.27	34.55	35.13	35.76
15	30.81	30.90	30.80	30.73	30.88	30.92	30.94	31.19	33.31	34.61	---	35.82
16	30.80	30.89	30.81	30.62	30.83	30.94	30.96	31.31	33.34	34.66	---	35.84
17	30.85	30.88	30.76	30.56	30.78	30.93	30.94	31.39	33.37	34.70	---	35.83
18	30.91	30.86	30.78	30.65	30.79	30.98	30.97	31.44	33.46	34.75	---	35.98
19	30.89	30.85	30.74	30.60	30.79	31.01	30.97	31.50	33.58	34.78	35.12	36.00
20	30.83	30.86	30.81	30.61	30.79	31.00	30.97	31.58	33.69	34.84	35.11	36.02
21	30.78	30.93	30.85	30.70	30.75	31.04	31.03	31.66	33.74	34.83	35.13	36.04
22	30.74	30.96	30.89	30.69	30.74	31.05	31.06	31.73	33.79	34.83	35.18	36.06
23	30.70	30.99	30.89	30.70	30.79	31.05	30.99	31.82	33.91	34.84	35.23	36.06
24	30.62	30.98	30.90	30.70	30.79	30.95	30.98	31.90	33.94	34.84	35.32	36.15
25	30.66	30.97	31.02	30.65	30.76	30.94	31.02	31.96	33.94	34.79	35.40	36.17
26	30.69	31.03	31.02	30.69	30.77	30.95	31.06	31.98	33.99	34.79	35.45	36.17
27	30.72	31.03	30.99	30.81	30.79	30.97	31.01	32.05	34.04	34.79	35.47	36.16
28	30.73	30.98	31.00	30.83	30.74	30.86	31.02	32.10	34.02	34.85	35.51	36.21
29	30.71	30.89	30.95	30.82	---	30.77	31.02	32.17	34.06	34.92	35.58	36.12
30	30.66	30.81	30.98	30.78	---	30.69	30.96	32.23	34.14	34.96	35.53	36.18
31	30.65	---	31.00	30.85	---	30.63	---	32.29	---	34.97	35.31	---
MEAN	30.74	30.84	30.81	30.81	30.92	30.87	30.80	31.47	33.37	34.63	35.19	35.77
MAX	30.91	31.03	31.02	31.04	31.21	31.05	31.06	32.29	34.14	34.97	35.58	36.21
MIN	30.62	30.58	30.58	30.56	30.74	30.62	30.37	30.98	32.36	34.15	34.92	35.09



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

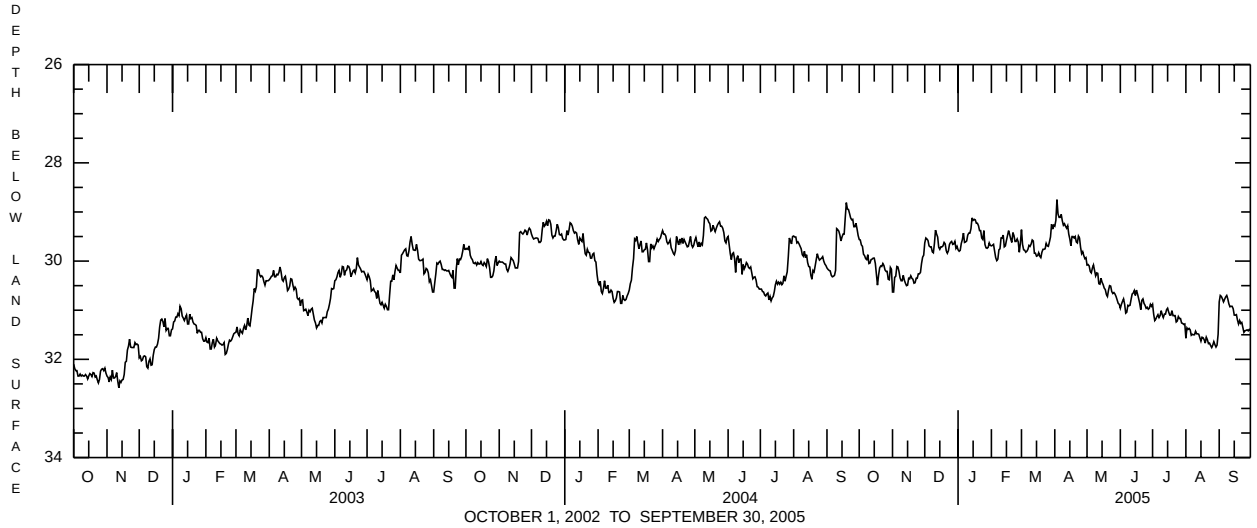
TIOGA COUNTY

414513077333701. Local number, TI 100.

LOCATION.--Lat 41°45'13", long 77°33'37", Hydrologic Unit 02050205, at State Game Land No. 208, and at Gaines.
Owner: U.S. Geological Survey.
AQUIFER.--Catskill Formation, Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 5 in., depth 77 ft, cased to 67 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,310 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 4.00 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since July 1999, are also available from the USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--July 1972 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, 28.57 ft below land-surface datum, Apr. 3, 2005; lowest, 35.88 ft below land-surface datum, Oct. 11, 1988.
EXTREMES FOR CURRENT YEAR.--Highest water level, 28.57 ft below land-surface datum, Apr. 3; lowest, 31.76 ft below land-surface datum, Aug. 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.56	30.63	29.63	29.77	29.69	29.36	29.29	30.08	30.96	30.88	31.57	30.83
2	29.57	30.63	29.53	29.80	29.68	29.66	29.17	30.07	30.88	31.08	31.36	30.70
3	29.67	30.33	29.55	29.78	29.66	29.77	28.75	30.10	30.82	31.21	31.39	30.72
4	29.70	30.31	29.58	29.64	29.80	29.78	29.04	30.21	30.77	31.18	31.37	30.77
5	29.86	30.11	29.69	29.56	29.93	29.82	29.11	30.24	30.88	31.13	31.40	30.83
6	29.89	30.12	29.71	29.43	29.99	29.80	29.11	30.14	31.06	31.09	31.51	30.78
7	29.95	30.21	29.71	29.62	29.96	29.76	29.05	30.08	31.04	31.15	31.49	30.73
8	29.97	30.34	29.81	29.61	29.77	29.68	29.18	30.19	30.90	31.11	31.50	30.70
9	29.87	30.40	29.83	29.59	29.75	29.70	29.27	30.30	30.91	31.01	31.50	30.77
10	30.05	30.40	29.64	29.47	29.53	29.65	29.24	30.24	30.90	31.09	31.43	30.87
11	30.04	30.29	29.37	29.43	29.53	29.57	29.29	30.25	30.78	31.15	31.48	30.93
12	29.97	30.39	29.45	29.43	29.47	29.59	29.33	30.46	30.67	31.08	31.48	30.92
13	29.96	30.45	29.51	29.34	29.71	29.84	29.28	30.47	30.65	31.08	31.49	30.92
14	29.94	30.50	29.72	29.12	29.69	29.84	29.45	30.35	30.60	30.99	31.56	30.97
15	29.94	30.49	29.76	29.17	29.58	29.90	29.55	30.43	30.70	30.96	31.63	31.10
16	30.05	30.35	29.71	29.15	29.48	29.89	29.69	30.48	30.59	31.04	31.55	31.10
17	30.27	30.36	29.71	29.16	29.38	29.83	29.50	30.55	30.67	31.10	31.56	31.09
18	30.49	30.30	29.69	29.23	29.46	29.90	29.50	30.58	30.76	31.10	31.60	31.20
19	30.29	30.35	29.62	29.23	29.55	29.93	29.53	30.68	30.86	31.01	31.67	31.28
20	30.14	30.37	29.65	29.28	29.62	29.82	29.50	30.72	30.99	31.11	31.55	31.21
21	30.10	30.45	29.79	29.38	29.42	29.76	29.61	30.59	30.80	31.11	31.60	31.27
22	30.11	30.44	29.84	29.38	29.48	29.76	29.63	30.50	30.77	31.11	31.68	31.25
23	30.05	30.35	29.79	29.53	29.60	29.75	29.49	30.51	30.86	31.24	31.67	31.35
24	30.09	30.35	29.66	29.56	29.60	29.64	29.53	30.62	30.90	31.22	31.72	31.45
25	30.18	30.26	29.62	29.38	29.55	29.69	29.72	30.66	30.96	31.13	31.76	31.42
26	30.21	30.26	29.60	29.66	29.61	29.70	29.85	30.64	30.94	31.17	31.71	31.41
27	30.21	30.23	29.66	29.73	29.82	29.61	29.81	30.67	30.98	31.17	31.64	31.40
28	30.37	30.05	29.65	29.74	29.63	29.51	29.89	30.72	30.96	31.26	31.70	31.42
29	30.38	29.92	29.60	29.72	---	29.25	29.95	30.79	30.88	31.27	31.75	31.39
30	30.13	29.88	29.74	29.63	---	29.35	29.93	30.86	30.92	31.29	31.71	31.41
31	30.17	---	29.70	29.68	---	29.27	---	30.88	---	31.28	31.49	---
MEAN	30.04	30.32	29.66	29.49	29.64	29.69	29.44	30.45	30.85	31.12	31.57	31.07
MAX	30.49	30.63	29.84	29.80	29.99	29.93	29.95	30.88	31.06	31.29	31.76	31.45
MIN	29.56	29.88	29.37	29.12	29.38	29.25	28.75	30.07	30.59	30.88	31.36	30.70



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

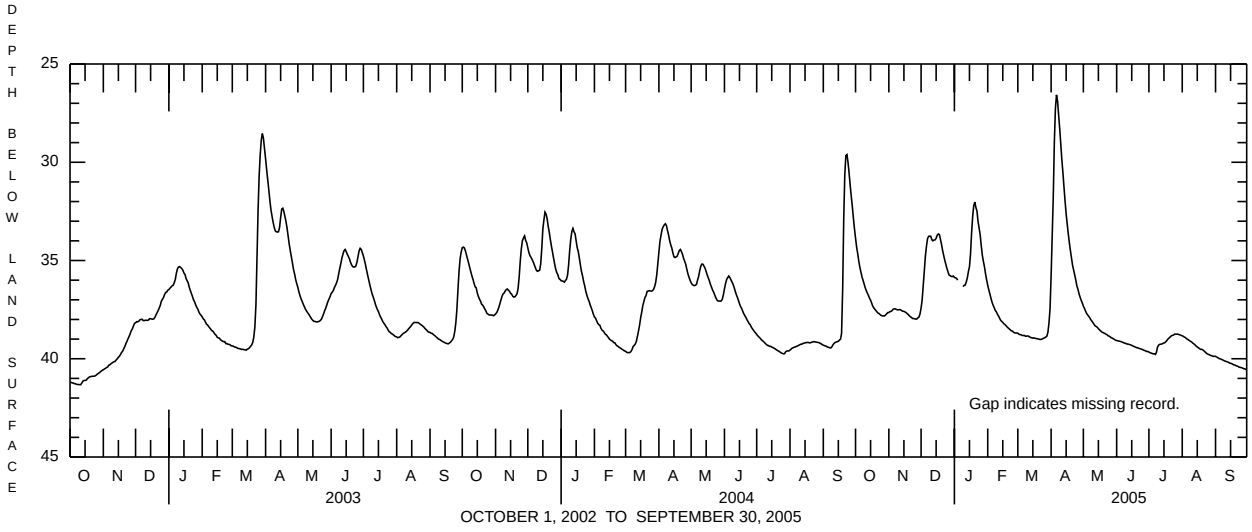
UNION COUNTY

405928077115501. Local number, UN 51.

LOCATION.--Lat 40°59'28", long 77°11'55", Hydrologic Unit 02050206, at Raymond B. Winter Park, and 5.5 mi east of Livonia. Owner: U.S. Geological Survey.
AQUIFER.--Reedsville Formation, Late Ordovician age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 115 ft, cased to 91 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,550 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of recorder shelf, 3.54 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 USGS Pennsylvania Water Science Center.
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, 25.26 ft below land-surface datum, Apr. 10, 1978; lowest, 42.31 ft below land-surface datum, Jan. 18, 1999.
EXTREMES FOR CURRENT YEAR.--Highest water level, 26.49 ft below land-surface datum, Apr. 6; lowest, 40.55 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.86	37.65	37.42	35.86	36.26	38.70	35.77	37.32	39.07	39.66	38.83	39.88
2	34.31	37.60	36.99	35.88	36.49	38.75	33.75	37.44	39.09	39.69	38.86	39.91
3	34.65	37.59	36.26	35.91	36.70	38.77	31.75	37.57	39.10	39.71	38.90	39.94
4	35.03	37.55	35.53	36.00	36.92	38.78	28.99	37.69	39.11	39.73	38.92	39.98
5	35.34	37.48	34.77	---	37.12	38.81	27.26	37.77	39.13	39.75	38.98	40.00
6	35.59	37.46	34.27	---	37.27	38.82	26.57	37.84	39.15	39.75	39.01	40.02
7	35.84	37.46	33.89	---	37.40	38.81	26.89	37.92	39.17	39.78	39.05	40.04
8	36.01	37.49	33.77	---	37.54	38.85	27.61	38.02	39.20	39.68	39.09	40.07
9	36.20	37.51	33.76	36.33	37.61	38.85	28.31	38.09	39.21	39.41	39.12	40.10
10	36.39	37.51	33.77	36.27	37.73	38.84	29.09	38.17	39.24	39.31	39.16	40.12
11	36.53	37.50	33.94	36.25	37.82	38.85	29.88	38.25	39.25	39.27	39.21	40.14
12	36.67	37.51	34.00	36.10	37.93	38.89	30.55	38.33	39.26	39.26	39.25	40.16
13	36.78	37.56	33.96	35.89	38.04	38.92	31.29	38.36	39.28	39.25	39.30	40.18
14	36.92	37.58	33.95	35.57	38.10	38.93	31.99	38.40	39.29	39.22	39.36	40.22
15	37.02	37.59	33.87	35.32	38.15	38.95	32.64	38.47	39.32	39.20	39.40	40.23
16	37.17	37.62	33.71	34.66	38.22	38.94	33.16	38.53	39.35	39.17	39.44	40.25
17	37.32	37.65	33.65	33.59	38.26	38.96	33.66	38.58	39.37	39.12	39.48	40.28
18	37.41	37.70	33.68	32.74	38.32	38.97	34.11	38.63	39.40	39.05	39.52	40.31
19	37.49	37.75	33.92	32.20	38.38	38.98	34.52	38.66	39.42	38.98	39.52	40.32
20	37.55	37.81	34.18	32.03	38.43	38.99	34.89	38.69	39.44	38.93	39.54	40.35
21	37.62	37.86	34.48	32.30	38.48	39.01	35.26	38.71	39.45	38.88	39.59	40.37
22	37.68	37.90	34.74	32.49	38.53	39.02	35.50	38.75	39.48	38.83	39.64	40.39
23	37.70	37.95	34.98	33.02	38.58	39.01	35.75	38.78	39.49	38.81	39.69	40.43
24	37.76	37.95	35.19	33.35	38.59	38.98	36.01	38.83	39.51	38.79	39.74	40.44
25	37.80	37.97	35.40	33.71	38.65	38.96	36.30	38.85	39.53	38.75	39.77	40.45
26	37.82	37.98	35.57	34.26	38.68	38.93	36.47	38.89	39.56	38.75	39.79	40.47
27	37.82	37.98	35.74	34.74	38.69	38.90	36.70	38.93	39.58	38.75	39.82	40.50
28	37.82	37.92	35.77	35.06	38.69	38.85	36.87	38.95	39.60	38.75	39.84	40.51
29	37.77	37.88	35.81	35.33	---	38.66	37.03	38.99	39.63	38.77	39.86	40.54
30	37.71	37.72	35.82	35.69	---	38.18	37.16	39.02	39.63	38.79	39.88	40.55
31	37.65	---	35.79	35.99	---	37.44	---	39.06	---	38.81	39.87	---
MEAN	36.75	37.69	34.79	34.69	37.91	38.82	32.86	38.40	39.34	39.18	39.40	40.24
MAX	37.82	37.98	37.42	36.33	38.69	39.02	37.16	39.06	39.63	39.78	39.88	40.55
MIN	33.86	37.46	33.65	32.03	36.26	37.44	26.57	37.32	39.07	38.75	38.83	39.88



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

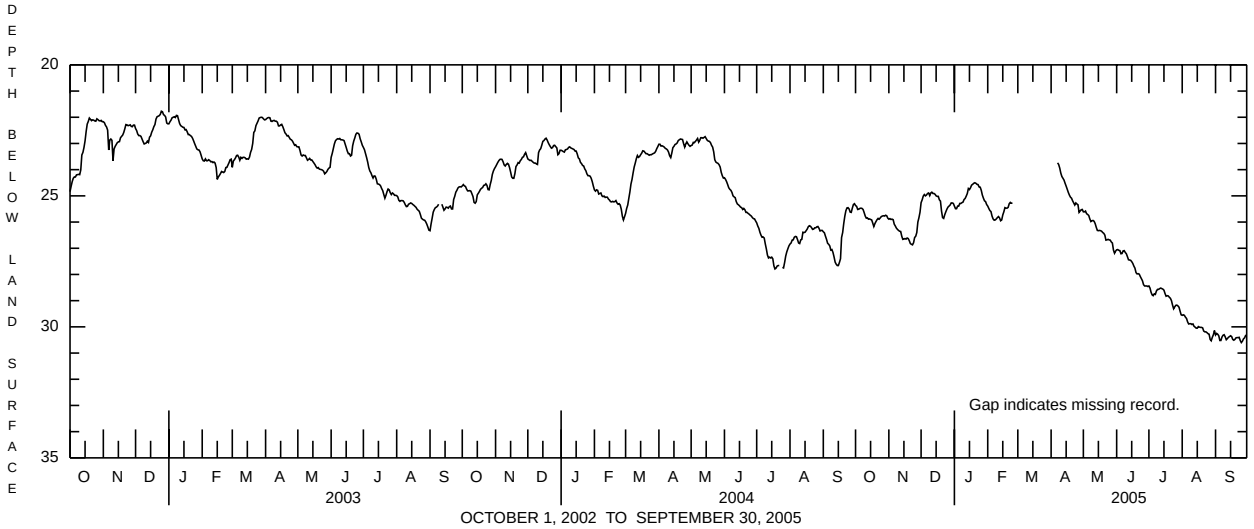
WYOMING COUNTY

412826076083301. Local number, WY 179.

LOCATION.--Lat 41°28'26", long 76°08'33", Hydrologic Unit 02050302, at State Game Land No. 57, and near Forkston.
Owner: Pennsylvania Game Commission.
AQUIFER.--Catskill Formation.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 122 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 1,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.78 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--August 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, 21.69 ft below land-surface datum, Dec. 25, 2002; lowest, 31.13 ft below land-surface datum, Aug. 25, 2001.
EXTREMES FOR CURRENT YEAR.--Highest recorded water level, 23.71 ft below land-surface datum, Apr. 7; lowest, 31.01 ft below land-surface datum, Sept. 1.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.37	25.89	25.26	25.39	25.39	---	---	25.61	27.06	28.44	29.56	30.31
2	25.40	25.87	25.15	25.49	25.48	---	---	25.61	27.05	28.52	29.54	30.25
3	25.52	25.90	25.01	25.49	25.56	---	---	25.58	27.08	28.68	29.56	30.28
4	25.51	25.89	24.95	25.39	25.60	---	---	25.68	27.09	28.78	29.63	30.34
5	25.48	25.91	25.00	25.39	25.77	---	---	25.71	27.21	28.81	29.68	30.52
6	25.47	26.08	24.97	25.29	25.88	---	---	25.75	27.20	28.74	29.81	30.52
7	25.48	26.15	24.91	25.29	25.93	---	23.74	25.88	27.10	28.76	29.89	30.39
8	25.52	26.23	24.89	25.26	25.92	---	23.80	25.98	27.09	28.63	29.88	30.32
9	25.64	26.28	24.99	25.24	25.88	---	23.94	25.95	27.16	28.57	29.88	30.30
10	25.77	26.32	24.89	25.14	25.83	---	24.13	25.94	27.21	28.57	29.91	30.38
11	25.85	26.35	24.86	25.10	25.79	---	24.26	25.97	27.32	28.54	29.89	30.49
12	25.84	26.36	24.91	25.01	25.84	---	24.33	26.06	27.44	28.52	29.98	30.45
13	25.89	26.54	24.91	24.91	25.95	---	24.40	26.20	27.45	28.54	30.01	30.40
14	25.88	26.66	24.94	24.72	25.92	---	24.52	26.32	27.46	28.56	30.05	30.37
15	25.90	26.65	25.00	24.76	25.73	---	24.63	26.33	27.51	28.60	30.05	30.34
16	25.92	26.63	25.02	24.69	25.61	---	24.75	26.32	27.58	28.73	29.99	30.37
17	26.04	26.65	25.02	24.59	25.45	---	24.87	26.33	27.68	28.83	30.01	30.48
18	26.17	26.61	25.15	24.56	25.47	---	24.97	26.35	27.76	28.81	30.02	30.51
19	26.06	26.63	25.20	24.52	25.47	---	25.05	26.40	27.93	28.82	30.02	30.48
20	25.98	26.71	25.58	24.50	25.44	---	25.09	26.43	27.98	28.87	30.04	30.42
21	25.91	26.82	25.83	24.52	25.30	---	25.19	26.50	27.97	28.91	30.16	30.41
22	25.86	26.85	25.86	24.56	25.25	---	25.27	26.69	27.99	29.00	30.19	30.41
23	25.89	26.87	25.72	24.57	25.28	---	25.35	26.68	28.08	29.17	30.19	30.40
24	25.84	26.79	25.61	24.66	25.28	---	25.27	26.66	28.16	29.31	30.22	30.52
25	25.79	26.59	25.51	24.67	---	---	25.31	26.68	28.24	29.24	30.26	30.60
26	25.77	26.54	25.43	24.79	---	---	25.34	26.69	28.39	29.18	30.28	30.55
27	25.76	26.40	25.39	24.97	---	---	25.63	26.76	28.44	29.17	30.48	30.46
28	25.77	26.00	25.35	25.09	---	---	25.58	26.80	28.44	29.20	30.53	30.42
29	25.74	25.83	25.27	25.19	---	---	25.53	27.07	28.44	29.25	30.40	30.33
30	25.76	25.62	25.27	25.22	---	---	25.52	27.19	28.46	29.40	30.30	30.33
31	25.85	---	25.29	25.33	---	---	---	27.11	---	29.54	30.14	---
MEAN	25.76	26.35	25.20	24.98	25.63	---	24.85	26.30	27.67	28.86	30.02	30.41
MAX	26.17	26.87	25.86	25.49	25.95	---	25.63	27.19	28.46	29.54	30.53	30.60
MIN	25.37	25.62	24.86	24.50	25.25	---	23.74	25.58	27.05	28.44	29.54	30.25



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

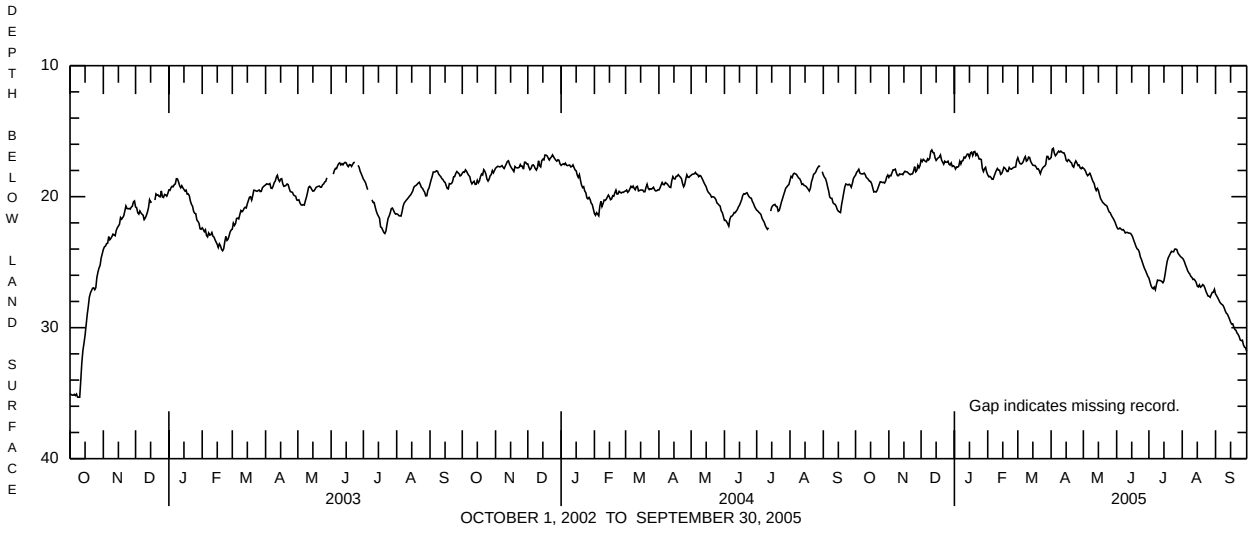
YORK COUNTY

400916076492301. Local number, YO 1147.

LOCATION.--Lat 40°09'16", long 76°49'23", Hydrologic Unit 02050305, at I83 south rest stop between exits 34 and 35.
Owner: U.S. Geological Survey.
AQUIFER.--Gettysburg Formation, Triassic age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 182 ft, cased to 41 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land surface is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of recorder shelf, 2.25 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--March 7, 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, 16.08 ft below land-surface datum, Apr. 3, 2005; lowest, 38.90 ft below land-surface datum, Sept. 24, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 16.08 ft below land-surface datum, Apr. 3; lowest, 31.85 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.36	18.53	17.19	17.70	18.33	17.03	17.00	17.83	22.29	26.21	24.68	27.43
2	18.15	18.38	17.32	17.89	18.48	17.28	16.38	17.91	22.45	26.51	24.78	27.56
3	18.04	18.40	17.15	17.73	18.45	17.47	16.31	18.05	22.46	26.80	24.96	27.71
4	17.91	18.15	17.22	17.75	18.53	17.51	16.68	18.27	22.39	26.96	25.20	27.88
5	18.19	17.95	17.31	17.68	18.67	17.46	16.88	18.40	22.47	27.03	25.41	28.05
6	18.25	17.95	17.34	17.30	18.67	17.33	16.78	18.31	22.54	26.90	25.64	28.16
7	18.26	17.90	17.11	17.51	18.43	17.09	16.63	18.21	22.51	27.10	25.80	28.23
8	18.26	18.19	17.20	17.28	18.20	16.94	16.52	18.39	22.61	26.70	25.90	28.30
9	18.20	18.39	17.07	17.24	18.00	17.29	16.60	18.64	22.77	26.37	26.08	28.48
10	18.32	18.40	16.54	16.98	17.85	17.22	16.52	18.85	22.73	26.40	26.16	28.71
11	18.53	18.26	16.43	17.04	17.98	16.98	16.60	18.98	22.73	26.39	26.32	28.89
12	18.60	18.30	16.63	16.90	17.98	17.01	16.65	19.33	22.78	26.42	26.30	28.97
13	18.70	18.28	16.65	16.75	18.30	17.31	16.66	19.53	22.78	26.47	26.40	29.15
14	18.82	18.32	17.03	16.76	18.23	17.47	16.86	19.37	22.81	26.57	26.55	29.35
15	18.84	18.16	17.23	16.99	18.03	17.60	17.22	19.52	22.93	26.42	26.83	29.58
16	19.02	18.06	17.12	16.66	17.76	17.62	17.31	19.86	23.11	25.95	26.89	29.73
17	19.33	18.10	17.03	16.60	17.82	17.62	17.17	20.14	23.35	25.42	26.73	29.71
18	19.64	18.11	16.98	16.86	17.94	17.73	17.23	20.29	23.57	24.94	26.91	29.95
19	19.61	18.19	16.82	16.58	18.08	17.89	17.36	20.44	23.81	24.66	26.85	30.14
20	19.65	18.27	17.19	16.55	18.07	17.87	17.42	20.51	23.98	24.50	26.71	30.20
21	19.54	18.32	17.36	16.85	17.77	18.02	17.67	20.61	24.04	24.33	26.77	30.41
22	19.32	18.27	17.52	16.72	17.88	18.24	17.75	20.65	24.22	24.17	26.95	30.51
23	19.07	18.26	17.29	16.88	17.90	17.98	17.44	20.73	24.59	24.20	27.21	30.68
24	18.86	18.04	17.37	17.13	17.84	17.83	17.27	20.97	24.78	24.21	27.40	30.94
25	18.88	17.71	17.37	17.12	17.77	17.72	17.42	21.16	25.03	24.01	27.58	30.99
26	18.92	18.10	17.29	17.17	17.75	17.67	17.62	21.23	25.28	24.00	27.60	30.96
27	18.90	18.00	17.52	17.85	17.73	17.54	17.59	21.42	25.50	24.04	27.68	31.32
28	18.96	17.61	17.59	18.08	17.24	16.93	17.80	21.56	25.67	24.31	27.47	31.49
29	18.81	17.80	17.43	17.87	---	16.93	17.87	21.70	25.88	24.42	27.30	31.54
30	18.49	17.62	17.69	17.76	---	17.15	17.76	21.86	26.08	24.53	27.30	31.80
31	18.35	---	17.64	18.12	---	17.11	---	22.06	---	24.62	27.08	---
MEAN	18.73	18.13	17.18	17.24	18.06	17.45	17.10	19.83	23.60	25.53	26.50	29.56
MAX	19.65	18.53	17.69	18.12	18.67	18.24	17.87	22.06	26.08	27.10	27.68	31.80
MIN	17.91	17.61	16.43	16.55	17.24	16.93	16.31	17.83	22.29	24.00	24.68	27.43



OCTOBER 1, 2002 TO SEPTEMBER 30, 2005

YORK COUNTY

394937076390701. Local number, YO 1223.

LOCATION.--Lat 39°49'37", long 76°39'07", Hydrologic Unit 02050306, in Spring Valley County Park, at Glen Rock.
Owner: U.S. Geological Survey.
AQUIFER.--Wissahickon Formation, Paleozoic age.
WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 150 ft, cased to 24 ft.
INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.
DATUM.--Elevation of land surface is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 2.80 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 USGS Pennsylvania Water Science Center.
PERIOD OF RECORD.--January 27, 2003 to November 2, 2005. (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, 6.88 ft below land-surface datum, Apr. 3, 2005; lowest, 22.60 ft below land-surface datum, Oct. 6, 7, 2005.
EXTREMES FOR CURRENT YEAR.--Highest recorded water level, 6.88 ft below land-surface datum, Apr. 3; lowest recorded, 22.42 ft below land-surface datum, Sept. 30.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
MEAN VALUES

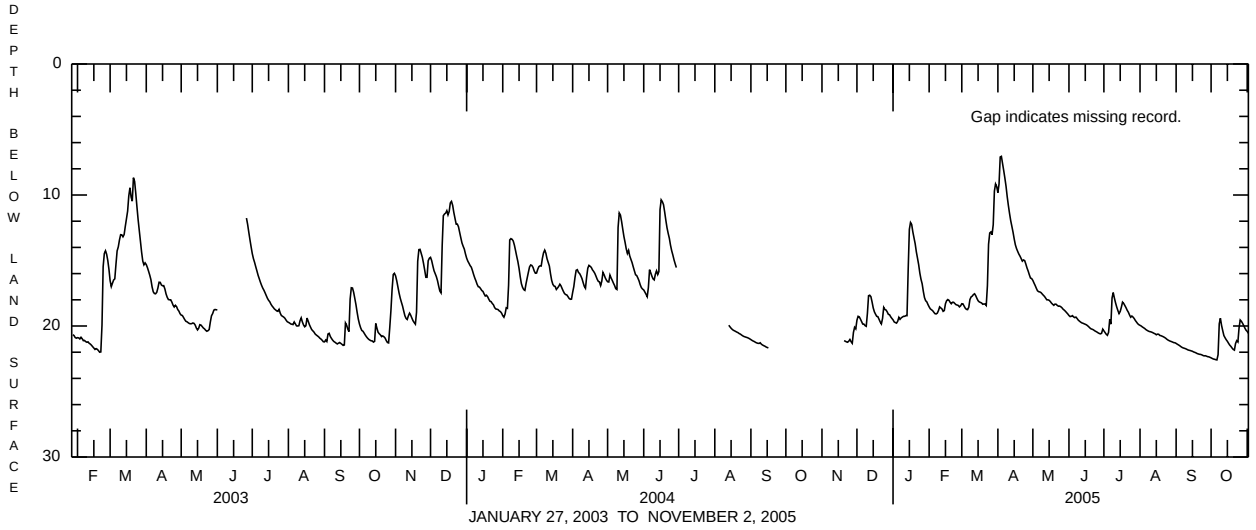
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	19.56	19.53	18.54	18.30	9.82	16.52	19.20	20.37	19.95	21.33
2	---	---	19.26	19.69	18.69	18.31	9.16	16.72	19.28	20.50	20.00	21.39
3	---	---	19.30	19.74	18.76	18.48	7.10	16.91	19.26	20.63	20.07	21.44
4	---	---	19.47	19.78	18.83	18.64	7.05	17.12	19.21	20.71	20.13	21.50
5	---	---	19.66	19.64	18.95	18.73	7.60	17.31	19.31	20.49	20.19	21.57
6	---	---	19.85	19.34	19.06	18.75	8.13	17.38	19.36	19.49	20.27	21.63
7	---	---	19.86	19.49	19.08	18.57	8.71	17.40	19.32	19.86	20.33	21.67
8	---	---	19.97	19.38	19.02	17.98	9.34	17.45	19.43	17.86	20.38	21.70
9	---	---	20.02	19.32	18.82	17.78	10.12	17.55	19.55	17.45	20.42	21.73
10	---	---	19.03	19.26	18.54	17.72	10.80	17.65	19.63	17.87	20.44	21.77
11	---	---	17.69	19.26	18.62	17.60	11.41	17.74	19.70	18.23	20.47	21.82
12	---	---	17.65	19.21	18.70	17.54	11.95	17.87	19.76	18.55	20.51	21.85
13	---	---	17.76	19.21	18.88	17.69	12.39	18.00	19.79	18.82	20.56	21.87
14	---	---	18.16	15.69	18.82	17.89	12.84	18.00	19.83	19.05	20.60	21.90
15	---	---	18.62	12.62	18.30	18.07	13.36	18.04	19.87	18.89	20.67	21.93
16	---	---	18.92	12.10	18.07	18.16	13.80	18.13	19.91	18.56	20.62	21.98
17	---	---	19.10	12.25	17.98	18.20	14.09	18.25	19.98	18.18	20.63	22.01
18	---	---	19.26	12.82	18.04	18.24	14.31	18.34	20.06	18.28	20.72	22.05
19	---	---	19.29	13.27	18.19	18.34	14.51	18.42	20.15	18.44	20.74	22.10
20	---	21.12	19.49	13.72	18.30	18.32	14.67	18.33	20.22	18.61	20.78	22.13
21	---	21.16	19.69	14.34	18.19	18.32	14.86	18.34	20.25	18.80	20.82	22.16
22	---	21.21	19.84	14.82	18.19	18.43	15.05	18.43	20.29	18.95	20.87	22.17
23	---	21.24	19.42	15.32	18.28	16.93	14.96	18.49	20.36	19.16	20.93	22.20
24	---	21.16	18.58	15.96	18.37	13.76	15.01	18.48	20.41	19.33	21.01	22.25
25	---	21.03	18.74	16.43	18.40	12.90	15.27	18.53	20.46	19.24	21.07	22.28
26	---	21.20	18.78	16.78	18.43	12.82	15.57	18.61	20.52	19.32	21.12	22.27
27	---	21.32	18.92	17.36	18.54	13.03	15.81	18.72	20.57	19.43	21.16	22.30
28	---	20.49	19.11	17.83	18.46	12.27	16.09	18.79	20.60	19.58	21.19	22.34
29	---	20.10	19.14	18.07	---	9.70	16.34	18.88	20.56	19.70	21.23	22.35
30	---	20.22	19.30	18.16	---	9.16	16.38	18.98	20.24	19.82	21.27	22.39
31	---	---	19.42	18.36	---	9.36	---	19.08	---	19.90	21.28	---
MEAN	---	20.93	19.12	17.06	18.54	16.45	12.55	18.01	19.90	19.16	20.66	21.94
MAX	---	21.32	20.02	19.78	19.08	18.75	16.38	19.08	20.60	20.71	21.28	22.39
MIN	---	20.10	17.65	12.10	17.98	9.16	7.05	16.52	19.20	17.45	19.95	21.33

YORK COUNTY

394937076390701. Local number, YO 1223--Continued.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.43	20.41	---	---	---	---	---	---	---	---	---	---
2	22.48	20.56	---	---	---	---	---	---	---	---	---	---
3	22.52	---	---	---	---	---	---	---	---	---	---	---
4	22.54	---	---	---	---	---	---	---	---	---	---	---
5	22.57	---	---	---	---	---	---	---	---	---	---	---
6	22.59	---	---	---	---	---	---	---	---	---	---	---
7	22.19	---	---	---	---	---	---	---	---	---	---	---
8	19.83	---	---	---	---	---	---	---	---	---	---	---
9	19.41	---	---	---	---	---	---	---	---	---	---	---
10	19.96	---	---	---	---	---	---	---	---	---	---	---
11	20.36	---	---	---	---	---	---	---	---	---	---	---
12	20.73	---	---	---	---	---	---	---	---	---	---	---
13	20.90	---	---	---	---	---	---	---	---	---	---	---
14	21.05	---	---	---	---	---	---	---	---	---	---	---
15	21.17	---	---	---	---	---	---	---	---	---	---	---
16	21.32	---	---	---	---	---	---	---	---	---	---	---
17	21.46	---	---	---	---	---	---	---	---	---	---	---
18	21.56	---	---	---	---	---	---	---	---	---	---	---
19	21.68	---	---	---	---	---	---	---	---	---	---	---
20	21.79	---	---	---	---	---	---	---	---	---	---	---
21	21.84	---	---	---	---	---	---	---	---	---	---	---
22	21.34	---	---	---	---	---	---	---	---	---	---	---
23	21.12	---	---	---	---	---	---	---	---	---	---	---
24	21.22	---	---	---	---	---	---	---	---	---	---	---
25	20.16	---	---	---	---	---	---	---	---	---	---	---
26	19.54	---	---	---	---	---	---	---	---	---	---	---
27	19.64	---	---	---	---	---	---	---	---	---	---	---
28	19.79	---	---	---	---	---	---	---	---	---	---	---
29	19.96	---	---	---	---	---	---	---	---	---	---	---
30	20.16	---	---	---	---	---	---	---	---	---	---	---
31	20.32	---	---	---	---	---	---	---	---	---	---	---
MEAN	21.08	20.48	---	---	---	---	---	---	---	---	---	---
MAX	22.59	20.56	---	---	---	---	---	---	---	---	---	---
MIN	19.41	20.41	---	---	---	---	---	---	---	---	---	---



GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

The following tables contain water-quality data from wells sampled in Pennsylvania during the third year of the Ground Water Pesticides Network project. The 5-year study is being conducted by the U.S. Geological Survey in cooperation with the Pennsylvania Department of Agriculture. Sites were selected to meet project objectives in the Annual Baseline, Baseline Trends, and Hot-Spot Trends networks. In fiscal year 2005, 28 Annual-Baseline sites were selected in the Devonian-Silurian carbonate hydrogeologic setting to fill a data gap in ground-water quality. Sites in this network are sampled one time as part of an occurrence survey. The Baseline Trend network was discontinued in 2005 due to the relatively low concentrations of pesticides (compared to previous samples collected at the sites) and the higher analytical reporting levels which led to a preponderance of censored data (less-than values). A research component was added to the project in 2005 which involved reconnaissance re-sampling for pesticide parent compounds, breakdown products (degradates), nitrate, bromide, and chloride in wells at and near the three concentration “hot spots” identified and sampled as part of the original project. Data from samples collected at and near “hot spot” Local Well BA 437 and at Local Well LN 1842 are included in this volume. The well locations are shown in Figure 10.

The following analytical methods were used for the October and December 2004 samples analyzed at the PA Department of Environmental Protection Laboratory (PADEP) (Analyzing Agency Code 9813), pesticides -SAC USGS2 (EPA 525.2) solid phase extraction gas chromatography/mass spectrometry, nitrate/nitrite - colorimetry (cadmium reduction), total coliform and E. coli bacteria - Colilert Quantitray. The pesticides for the May - September 2005 samples were analyzed at the USGS National Water Quality Laboratory (NWQL) (Analyzing Agency Code 80020) using solid-phase extraction and capillary-column gas chromatography/mass spectrometry with selected-ion monitoring, and the nitrate/nitrite and total coliform and *E. coli* continued to be analyzed at the PADEP Laboratory. Pesticides analyzed for this study are identified in the table which follows study area maps. Pesticide samples collected at Local Well BA 437 on September 7, 2005 at 0930 and other Blair County wells were analyzed at the USGS Organic Geochemistry Research Laboratory in Lawrence, Kansas (Analyzing Agency Code 82013) using liquid chromatography and mass spectrometry; nitrate was analyzed by colorimetry, automated-segmented flow (ASF), cadmium reduction-diazotization; bromide by colorimetry, automated-segmented flow, fluorescein; and chloride by ion chromatography were done at the USGS NWQL. Other data for the project can be found in the annual Water Data Report PA-05-1. For additional information, contact Kevin Breen (717-730-6970; email - kjbreen@usgs.gov) or Connie Loper (717-730-6976; email - caloper@usgs.gov) at the USGS Pennsylvania Water Science Center, 215 Limekiln Road, New Cumberland, PA 17070.

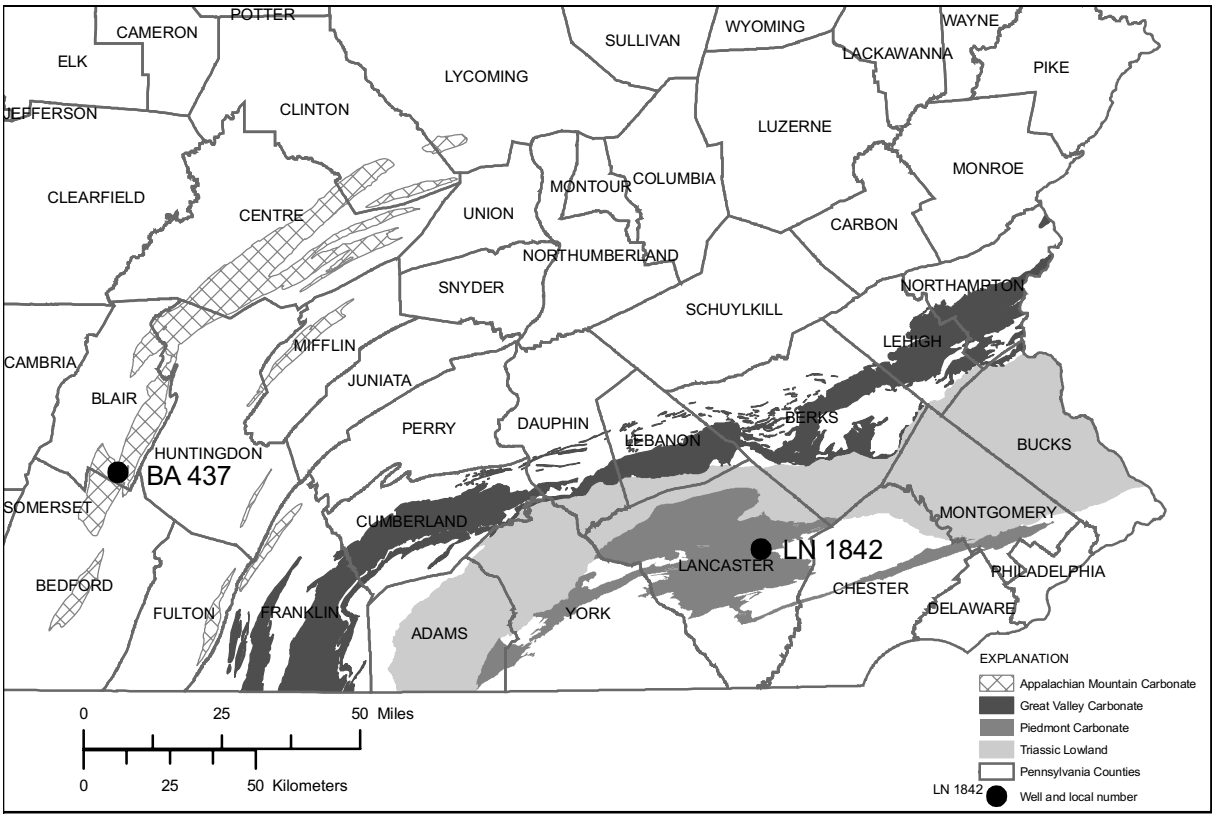


Figure 11.--Locations of the Hot-Spot Trend Network wells, in the Susquehanna River Basin, sampled as part of the Ground Water Pesticides Network project.

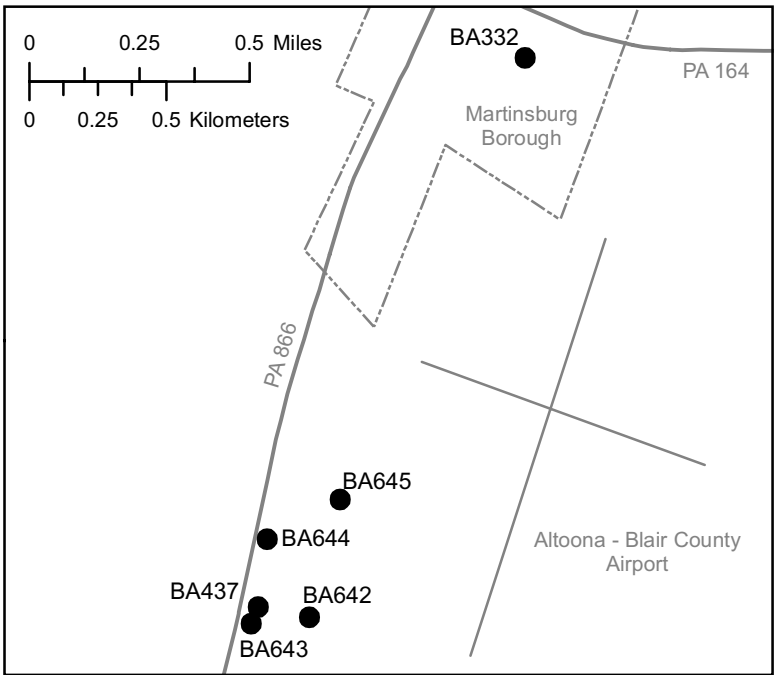


Figure 12.--Locations of ground-water wells sampled in August and September 2005 as part of the Ground Water Pesticides Network project, North Woodbury Township, Blair County.

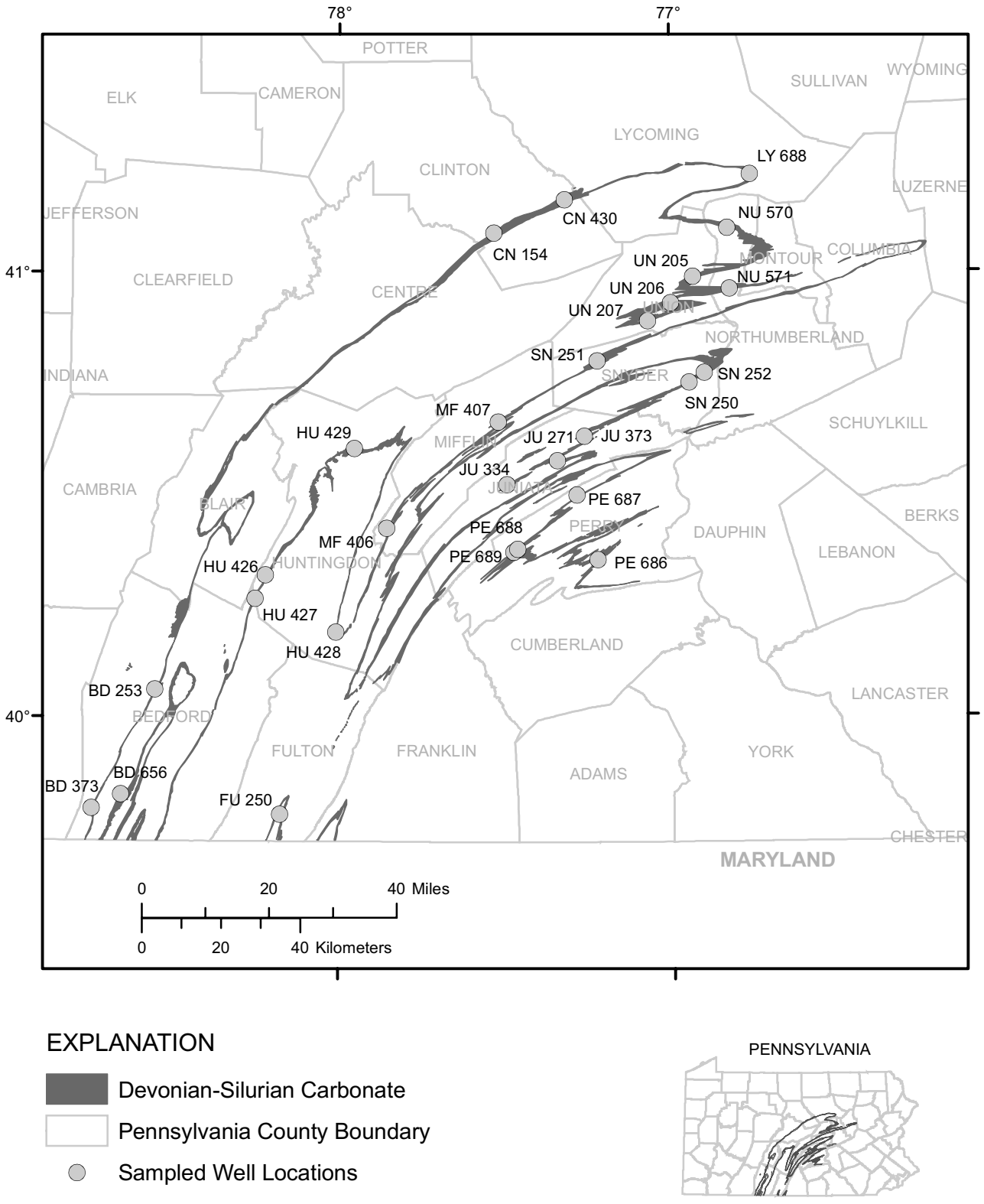


Figure 13.--Locations of the Annual Baseline Network wells sampled as part of the Ground Water Pesticides Network project in the Devonian-Silurian carbonate hydrogeologic setting.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

REMARKS.--Explanation of column headings--Station number: 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix; Altitude of land surface: land-surface at well site in feet above sea level; Sampling method code 4040 = submersible pump; Sampling condition code 8 = pumping; µS/cm: microsiemens per centimeter at 25 degrees Celsius; deg C: degrees Celsius; µg/L: micrograms per liter (parts per billion); mg/L = milligrams per liter (parts per million); "<" = less than; ">" = more than; "E" = estimated; MPN = Most Probable Number; GF = Glass fiber filter; Type of sample related QA data code (99111) "1" = no associated quality-assurance samples, "10" = blank, "30" = replicate, "100" = more than one type QA sample: Network Identifier Annual Baseline = "AB", Annual Baseline Quality Assurance = "AB-QA", Hot-Spot Trends = "HST", Hot-Spot Trends Quality Assurance = "HST-QA". Quality-control data for replicates are shown for Local Well ID BA 437 (bacteria) on September 7, 2005 at 0945, 0950, and 0955; Local Well ID FU 250 (bacteria) on August 2, 2005 at 0821 and 0822; Local Well ID MF 407 (bacteria) on August 15, 2005 at 1051, 1052, andc 1053; Local Well ID NU 570 (nitrate/nitrite) on June 21, 2005 at 0946 and 0947; Local Well ID PE 686 (nitrate/nitrite) on June 8, 2005 at 0841 and 0842; and Local Well ID (bacteria) on June 21, 2005 at 1131 and 1132.

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Station number	Local Well ID	Network Identifier	Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Depth of well, feet below LSD (72008)	Depth to water level, feet below LSD (72019)	Altitude of land surface feet (72000)	Pump or flow period prior to sampling, minutes (72004)	Sampling method, code (82398)	Turbdty white light, det ang 90+/-30 degrees NTU (63675)
BEDFORD COUNTY												
394744078435401	BD 373	AB	08-31-05	1500	1028	80020	224	--	1125	35	4040	--
394938078383901	BD 656	AB	08-01-05	1020	1028	80020	125	-.80	1160	55	4040	--
400351078324401	BD 253	AB	08-01-05	1325	1028	80020	223	--	1291	50	4040	--
BLAIR COUNTY												
401724078195801	BA 437	HST	10-05-04	0910	1028	9813	105	14.78	1435	40	4040	--
401724078195801	BA 437	HST	12-16-04	0950	1028	9813	105	15.10	1435	60	4040	--
401724078195801	BA 437	HST	05-25-05	1005	1028	80020	105	24.98	1435	55	4040	.2
401724078195801	BA 437	HST	06-28-05	1135	1028	80020	105	28.00	1435	45	4040	.4
401724078195801	BA 437	HST	09-07-05	0940	1028	80020	105	36.15	1435	90	4040	--
401724078195801	BA 437	HST-QA	09-07-05	0955	1028	9813	105	36.15	1435	90	4040	--
401724078195801	BA 437	HST-QA	09-07-05	0950	1028	9813	105	36.15	1435	90	4040	--
401724078195801	BA 437	HST-QA	09-07-05	0945	1028	83914	105	36.15	1435	90	4040	--
CLINTON COUNTY												
410529077315501	CN 154	AB	08-10-05	1105	1028	80020	200	55.90	620	45	4040	--
410955077190201	CN 430	AB	08-09-05	1045	1028	80020	125	20.80	560	50	4040	--
FULTON COUNTY												
394703078102102	FU 250	AB	08-02-05	0820	1028	80020	--	39.00	600	45	4040	--
394703078102102	FU 250	AB-QA	08-02-05	0821	1028	9813	--	39.00	600	45	4040	--
394703078102102	FU 250	AB-QA	08-02-05	0822	1028	9813	--	39.00	600	45	4040	--
HUNTINGDON COUNTY												
401139078002001	HU 428	AB	08-02-05	1040	1028	80020	140	15.22	760	45	4040	--
401607078145501	HU 427	AB	06-28-05	1330	1028	80020	80	25.47	980	45	4040	3.2
401920078130101	HU 426	AB	06-28-05	0950	1028	80020	247	15.52	920	40	4040	.5
403623077570901	HU 429	AB	08-29-05	1253	1028	80020	160	43.90	900	45	4040	--
JUNIATA COUNTY												
403130077293601	JU 334	AB	06-01-05	0910	1028	80020	150	22.48	610	60	4040	.6
403443077202901	JU 271	AB	08-30-05	1000	1028	80020	160	43.45	540	50	4040	--
403801077153701	JU 373	AB	08-08-05	1035	1028	80020	150	33.80	700	50	4040	--
LANCASTER COUNTY												
400456076065701	LN 1842	HST	10-06-04	1305	1028	9813	65	31.32	440	45	4040	--
400456076065701	LN 1842	HST	12-15-04	1320	1028	9813	65	32.95	440	45	4040	--
400456076065701	LN 1842	HST	05-24-05	1215	1028	80020	65	32.20	440	40	4040	--
400456076065701	LN 1842	HST	06-29-05	0915	1028	80020	65	34.65	440	40	4040	--
400456076065701	LN 1842	HST	08-11-05	0910	1028	80020	65	36.45	440	40	4040	--
LYCOMING COUNTY												
411319076452401	LY 688	AB	08-09-05	1355	1028	80020	124	28.82	530	55	4040	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf µS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
BEDFORD COUNTY											
08-31-05	3.0	--	3.1	--	7.5	401	--	12.2	--	1.21	<.010
08-01-05	1.0	739	9.1	91	7.3	339	35.0	13.9	--	1.47	<.010
08-01-05	610	733	6.2	62	7.0	704	27.0	13.7	--	6.12	<.010
BLAIR COUNTY											
10-05-04	--	735	1.0	10	6.8	2720	14.1	12.3	55.0	55.0	.010
12-16-04	--	738	2.1	21	7.1	1970	15.6	11.9	--	48.2	<.010
05-25-05	--	720	.4	4	6.8	1500	15.5	12.0	--	45.6	<.010
06-28-05	--	728	.7	7	6.9	1650	25.0	12.1	56.6	56.6	.010
09-07-05	3.0	734	.5	5	6.9	1910	19.5	12.9	--	E65.0	<.010
09-07-05	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--
CLINTON COUNTY											
08-10-05	1.6	--	3.7	34	7.7	372	33.0	11.9	2.86	2.90	.040
08-09-05	1.2	--	4.0	37	8.5	242	35.0	12.4	--	.660	<.010
FULTON COUNTY											
08-02-05	1.9	--	1.3	--	7.1	654	27.0	12.7	--	2.51	<.010
08-02-05	--	--	--	--	--	--	--	--	--	--	--
08-02-05	--	--	--	--	--	--	--	--	--	--	--
HUNTINGDON COUNTY											
08-02-05	1.8	746	.2	2	6.9	2370	27.0	13.0	--	.050	<.010
06-28-05	--	741	1.1	10	6.8	359	29.5	13.3	--	<.040	<.010
06-28-05	--	741	.3	3	7.5	496	20.5	11.9	--	1.01	<.010
08-29-05	3.5	740	6.6	62	7.3	521	23.9	11.3	--	4.58	<.010
JUNIATA COUNTY											
06-01-05	--	748	2.5	24	7.4	449	15.5	12.6	--	2.27	<.010
08-30-05	72	752	.1	.0	7.1	1000	33.5	13.2	--	.670	<.010
08-08-05	4.0	--	6.0	56	7.3	512	23.1	12.3	4.29	4.31	.020
LANCASTER COUNTY											
10-06-04	--	766	6.3	60	7.2	943	23.4	13.6	--	34.0	<.010
12-15-04	--	767	5.8	54	7.2	958	4.1	12.2	--	33.1	<.010
05-24-05	--	742	--	--	7.2	1010	50.0	13.5	--	36.6	<.010
06-29-05	--	752	6.2	62	7.1	972	37.0	14.2	30.5	30.9	.400
08-11-05	1.3	--	8.2	--	7.1	961	30.0	14.6	--	27.3	<.010
LYCOMING COUNTY											
08-09-05	4.1	--	9.4	--	7.2	427	35.0	11.8	--	6.27	<.010

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)	Total coli-form, Defined Tech., MPN/ 100 mL (50569)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7µ GF percent recovry (91065)	Atra-zine, water, fltrd, µg/L (39632)	Azin-phos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben-flur-alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl-ate, water, fltrd, µg/L (04028)	Car-baryl, water, fltrd 0.7µ GF µg/L (82680)
BEDFORD COUNTY													
08-31-05	2	74	<.006	<.006	<.006	<.005	<.005	85.8	<.007	<.050	<.010	<.004	<.041
08-01-05	<1	<1	<.006	<.006	<.006	<.005	<.005	85.2	<.007	<.050	<.010	<.004	<.041
08-01-05	3	450	<.006	E.035	<.006	<.005	<.005	88.0	.036	<.050	<.010	<.004	<.041
BLAIR COUNTY													
10-05-04	27	>200	--	--	--	--	--	--	--	--	--	--	--
12-16-04	1	34	--	--	<.100	.20	--	--	.59	--	--	--	--
05-25-05	<1	<1	E.002	E.133	<.006	.200	<.005	83.1	.578	<.050	<.010	E.004	<.041
06-28-05	<1	2	E.002	E.146	<.006	.280	<.005	102	.734	<.050	<.010	.006	<.041
09-07-05	2	200	<.006	E.121	<.006	.397	<.005	82.7	.917	<.050	<.010	.009	<.041
09-07-05	<1	200	--	--	--	--	--	--	--	--	--	--	--
09-07-05	3	130	--	--	--	--	--	--	--	--	--	--	--
09-07-05	<1	200	--	--	--	--	--	--	--	--	--	--	--
CLINTON COUNTY													
08-10-05	<1	200	<.006	E.021	<.006	<.005	<.005	80.6	.017	<.050	<.010	<.004	<.041
08-09-05	<1	<1	<.006	<.006	<.006	<.005	<.005	93.9	<.007	<.050	<.010	<.004	<.041
FULTON COUNTY													
08-02-05	<1	6	<.006	E.014	<.006	<.005	<.005	87.0	.008	<.050	<.010	<.004	<.041
08-02-05	<1	1	--	--	--	--	--	--	--	--	--	--	--
08-02-05	<1	3	--	--	--	--	--	--	--	--	--	--	--
HUNTINGDON COUNTY													
08-02-05	14	200	<.006	<.006	<.006	<.005	<.005	87.3	<.007	<.050	<.010	<.004	<.041
06-28-05	<1	>200	<.006	<.006	<.006	<.005	<.005	104	<.007	<.050	<.010	<.004	<.041
06-28-05	<1	<1	<.006	<.006	<.006	<.005	<.005	108	<.007	<.050	<.010	<.004	<.041
08-29-05	<1	59	<.006	E.062	<.006	<.005	<.005	80.2	.052	<.050	<.010	<.004	<.041
JUNIATA COUNTY													
06-01-05	<1	5	<.006	<.006	<.006	<.005	<.005	106	<.007	<.050	<.010	<.004	<.041
08-30-05	<1	<1	<.006	<.006	.029	<.005	<.005	80.8	<.007	<.050	<.010	<.004	<.041
08-08-05	<1	95	<.006	E.013	<.006	<.005	<.005	90.8	E.004	<.050	<.010	<.004	<.041
LANCASTER COUNTY													
10-06-04	<1	<1	--	--	--	--	--	--	--	--	--	--	--
12-15-04	<1	<1	--	--	.400	1.50	--	--	.15	--	--	--	--
05-24-05	<1	1	E.003	E.184	.515	1.43	<.005	94.9	.244	<.050	<.010	.026	<.041
06-29-05	<1	2	<.006	E.242	.393	1.16	<.005	103	.219	<.050	<.010	.018	<.041
08-11-05	<1	<1	<.030	E.173	.364	1.13	<.025	85.1	.187	<.250	<.050	<.016	<.205
LYCOMING COUNTY													
08-09-05	<1	1	<.006	E.061	<.006	<.005	<.005	83.8	.048	<.050	<.010	<.004	<.041

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Carbo-furan, water, fltrd 0.7µ GF µg/L (82674)	Chloro-thalo-nil, water, fltrd 0.7µ GF µg/L (49306)	Chlor-pyrifos water, fltrd, µg/L (38933)	cis-Per-methrin water fltrd 0.7µ GF µg/L (82687)	Cyana-zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Desulf-inyl fipro-nil, water, fltrd, µg/L (62170)	Diazi-non, water, fltrd, µg/L (39572)	Diazi-non-d10 surrog. wat flt 0.7µ GF percent recovry (91063)	Dichlo-benil, water, fltrd, µg/L (63009)	Diel-drin, water, fltrd, µg/L (39381)	Disul-foton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)
BEDFORD COUNTY													
08-31-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	101	--	<.009	<.02	<.004
08-01-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	95.7	--	<.009	<.02	<.004
08-01-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	92.9	--	<.009	<.02	<.004
BLAIR COUNTY													
10-05-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-16-04	--	<.10	<.10	--	--	--	--	--	--	<.10	--	--	--
05-25-05	E.015	--	<.005	<.006	<.140	<.003	<.012	<.005	105	--	.026	<.02	.009
06-28-05	E.014	--	<.005	<.006	<.220	<.003	<.012	<.005	124	--	.029	<.02	.014
09-07-05	<.020	--	<.005	<.006	E.084	<.003	<.012	<.005	99.0	--	.025	<.02	.016
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
CLINTON COUNTY													
08-10-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	89.6	--	<.009	<.02	<.004
08-09-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	97.1	--	<.009	<.02	<.004
FULTON COUNTY													
08-02-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	91.4	--	<.009	<.02	<.004
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
HUNTINGDON COUNTY													
08-02-05	<.020	--	<.038	<.006	<.018	<.003	<.012	<.005	104	--	<.009	<.02	<.004
06-28-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	112	--	<.009	<.02	<.004
06-28-05	<.020	--	<.005	<.006	<.030	<.003	<.012	<.005	112	--	<.009	<.02	<.004
08-29-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	96.6	--	<.009	<.02	<.004
JUNIATA COUNTY													
06-01-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	114	--	<.009	<.02	<.004
08-30-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	101	--	<.009	<.02	<.004
08-08-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	97.4	--	<.009	<.02	<.004
LANCASTER COUNTY													
10-06-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-15-04	--	<.10	<.10	--	--	--	--	--	--	<.10	--	--	--
05-24-05	<.020	--	<.005	<.006	.413	<.003	<.012	<.005	84.2	--	<.009	<.02	.148
06-29-05	<.020	--	<.005	<.006	<.680	<.003	<.012	<.005	118	--	<.009	<.02	.139
08-11-05	<.100	--	<.156	<.030	<.337	<.015	<.060	<.025	94.0	--	<.045	<.10	.108
LYCOMING COUNTY													
08-09-05	<.020	--	<.005	<.006	<.018	<.003	<.012	<.005	97.8	--	<.009	<.02	<.004

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fenpropathrin, water, fltrd, µg/L (64044)	Desulfinylfipronil amide, wat flt µg/L (62169)	Fipronil sulfide water, fltrd, µg/L (62167)	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)
BEDFORD COUNTY													
08-31-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-01-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-01-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
BLAIR COUNTY													
10-05-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-16-04	--	--	<.10	--	--	--	--	--	<.1	--	--	--	--
05-25-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
06-28-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
09-07-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
CLINTON COUNTY													
08-10-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-09-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
FULTON COUNTY													
08-02-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
HUNTINGDON COUNTY													
08-02-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
06-28-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
06-28-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-29-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
JUNIATA COUNTY													
06-01-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-30-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
08-08-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015
LANCASTER COUNTY													
10-06-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-15-04	--	--	<.10	--	--	--	--	--	<.1	--	--	--	--
05-24-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	.082	<.027	<.015
06-29-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	.108	<.027	<.015
08-11-05	<.045	<.025	--	<.145	<.065	<.120	<.080	<.015	--	<.020	E.117	<.135	<.075
LYCOMING COUNTY													
08-09-05	<.009	<.005	--	<.029	<.013	<.024	<.016	<.003	--	<.004	<.035	<.027	<.015

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p'-DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Phosmet water, fltrd, µg/L (61601)	Prometon, water, fltrd, µg/L (04037)	Propyzamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)
BEDFORD COUNTY													
08-31-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-01-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-01-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
BLAIR COUNTY													
10-05-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-16-04	E23.6	<.10	--	--	--	--	--	<.100	--	<.100	--	--	--
05-25-05	E22.0	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	.16	<.004	<.025
06-28-05	17.9	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	.23	<.004	<.025
09-07-05	E22.5	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	.27	<.004	<.025
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
09-07-05	--	--	--	--	--	--	--	--	--	--	--	--	--
CLINTON COUNTY													
08-10-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-09-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
FULTON COUNTY													
08-02-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-02-05	--	--	--	--	--	--	--	--	--	--	--	--	--
HUNTINGDON COUNTY													
08-02-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
06-28-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
06-28-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-29-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
JUNIATA COUNTY													
06-01-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-30-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
08-08-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025
LANCASTER COUNTY													
10-06-04	--	--	--	--	--	--	--	--	--	--	--	--	--
12-15-04	E56.7	<.10	--	--	--	--	--	.390	--	<.100	--	--	--
05-24-05	E131	<.006	<.003	.038	<.003	<.010	<.005	<.094	<.011	--	.03	<.004	<.144
06-29-05	E117	<.010	<.003	.040	<.003	<.010	<.005	<.022	<.011	--	.03	<.004	<.025
08-11-05	E112	<.030	<.015	E.029	<.015	<.050	<.020	<.110	<.055	--	E.02	<.020	<.091
LYCOMING COUNTY													
08-09-05	<.006	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	--	<.01	<.004	<.025

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Pro-panil, water, fltrd 0.7µ GF µg/L (82679)	Propar-gite, water, fltrd 0.7µ GF µg/L (82685)	Sima-zine, water, fltrd, µg/L (04035)	Tebu-thiuron water fltrd 0.7µ GF µg/L (82670)	Terba-cil, water, fltrd 0.7µ GF µg/L (82665)	Terbu-fos, water, fltrd 0.7µ GF µg/L (82675)	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)	Purpose site visit, code (50280)	Sample purpose code (71999)	Sample volume, Sched-ule 2001, mL (99856)	Sam-pling condi-tion, code (72006)
BEDFORD COUNTY													
08-31-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	917	8.00
08-01-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	932	8.00
08-01-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	962	8.00
BLAIR COUNTY													
10-05-04	--	--	--	--	--	--	--	--	--	2001	50.00	--	8.00
12-16-04	--	--	.10	--	--	--	--	--	--	2001	50.00	--	8.00
05-25-05	<.011	<.02	.100	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	919	8.00
06-28-05	<.011	<.02	.123	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	974	8.00
09-07-05	<.011	<.02	.110	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	962	8.00
09-07-05	--	--	--	--	--	--	--	--	--	2098	50.00	--	8.00
09-07-05	--	--	--	--	--	--	--	--	--	2098	50.00	--	8.00
09-07-05	--	--	--	--	--	--	--	--	--	2098	50.00	--	8.00
CLINTON COUNTY													
08-10-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	904	8.00
08-09-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	927	8.00
FULTON COUNTY													
08-02-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	936	8.00
08-02-05	--	--	--	--	--	--	--	--	--	2098	50.00	--	8.00
08-02-05	--	--	--	--	--	--	--	--	--	2098	50.00	--	8.00
HUNTINGDON COUNTY													
08-02-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	926	8.00
06-28-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	928	8.00
06-28-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	968	8.00
08-29-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	917	8.00
JUNIATA COUNTY													
06-01-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	924	8.00
08-30-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	918	8.00
08-08-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	911	8.00
LANCASTER COUNTY													
10-06-04	--	--	--	--	--	--	--	--	--	2001	50.00	--	8.00
12-15-04	--	--	<.10	--	--	--	--	--	--	2001	50.00	--	8.00
05-24-05	<.011	<.02	.067	E.01	E.155	<.02	<.010	<.006	<.009	2001	50.00	912	8.00
06-29-05	<.011	<.02	.054	E.01	E.214	<.02	<.010	<.006	<.009	2001	50.00	930	8.00
08-11-05	<.055	<.12	.031	<.08	E.118	<.09	<.050	<.030	<.045	2001	50.00	944	8.00
LYCOMING COUNTY													
08-09-05	<.011	<.02	<.005	<.02	<.034	<.02	<.010	<.006	<.009	2001	50.00	937	8.00

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Type of sample related QA data, code (99111)	Type of repli-cate, code (99105)	County	Data base number	Medium code
BEDFORD COUNTY					
08-31-05	1	--	009	01	6
08-01-05	10	--	009	01	6
08-01-05	1	--	009	01	6
BLAIR COUNTY					
10-05-04	1	--	013	01	6
12-16-04	1	--	013	01	6
05-25-05	1	--	013	01	6
06-28-05	100	--	013	01	6
09-07-05	30	20.00	013	01	6
09-07-05	--	20.00	013	02	S
09-07-05	--	20.00	013	02	S
09-07-05	--	20.00	013	02	S
CLINTON COUNTY					
08-10-05	1	--	035	01	6
08-09-05	1	--	035	01	6
FULTON COUNTY					
08-02-05	30	20.00	057	01	6
08-02-05	--	20.00	057	02	S
08-02-05	--	20.00	057	02	S
HUNTINGDON COUNTY					
08-02-05	1	--	061	01	6
06-28-05	1	--	061	01	6
06-28-05	1	--	061	01	6
08-29-05	1	--	061	01	6
JUNIATA COUNTY					
06-01-05	1	--	067	01	6
08-30-05	1	--	067	01	6
08-08-05	100	--	067	01	6
LANCASTER COUNTY					
10-06-04	1	--	071	01	6
12-15-04	1	--	071	01	6
05-24-05	1	--	071	01	6
06-29-05	1	--	071	01	6
08-11-05	1	--	071	01	6
LYCOMING COUNTY					
08-09-05	1	--	081	01	6

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Station number	Local Well ID	Network Identifier	Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Depth of well, feet below LSD (72008)	Depth to water level, feet below LSD (72019)	Altitude of land surface feet (72000)	Pump or flow period prior to sampling, minutes (72004)	Sampling method, code (82398)	Turbdty white light, det ang 90+/-30 degrees NTU (63675)
MIFFLIN COUNTY												
402539077511701	MF 406	AB	08-02-05	1250	1028	80020	129	4.87	660	35	4040	--
403959077311101	MF 407	AB	08-15-05	1050	1028	80020	100	8.40	620	50	4040	--
403959077311101	MF 407	AB-QA	08-15-05	1051	1028	9813	100	8.40	620	50	4040	--
403959077311101	MF 407	AB-QA	08-15-05	1052	1028	9813	100	8.40	620	50	4040	--
403959077311101	MF 407	AB-QA	08-15-05	1053	1028	83914	100	8.40	620	50	4040	--
NORTHUMBERLAND COUNTY												
405754076491601	NU 571	AB	06-20-05	1140	1028	80020	123	16.33	460	45	4040	.5
410604076493401	NU 570	AB	06-21-05	0945	1028	80020	147	34.60	570	45	4040	1.0
410604076493401	NU 570	AB-QA	06-21-05	0946	1028	9813	147	34.60	570	45	4040	--
410604076493401	NU 570	AB-QA	06-21-05	0947	1028	9813	147	34.60	570	45	4040	--
PERRY COUNTY												
402122077131601	PE 686	AB	06-08-05	0840	1028	80020	240	83.80	610	50	4040	.4
402122077131601	PE 686	AB-QA	06-08-05	0841	1028	9813	240	83.80	610	50	4040	--
402122077131601	PE 686	AB-QA	06-08-05	0842	1028	9813	240	83.80	610	50	4040	--
402223077282501	PE 689	AB	08-31-05	0945	1028	80020	240	47.20	830	45	4040	--
402248077274001	PE 688	AB	06-01-05	1320	1028	80020	120	34.60	780	45	4040	.3
403005077170201	PE 687	AB	06-01-05	1115	1028	9813	180	13.79	630	45	4040	3.7
403005077170201	PE 687	AB	06-22-05	1215	1028	80020	180	14.00	630	60	4040	2.9
SNYDER COUNTY												
404516076564101	SN 250	AB	06-08-05	1135	1028	80020	201	66.10	590	55	4040	.4
404634076535701	SN 252	AB	06-08-05	1335	1028	80020	126	18.70	550	55	4040	1.2
404810077131601	SN 251	AB	06-22-05	0935	1028	80020	176	45.40	780	35	4040	.9
UNION COUNTY												
405333077040801	UN 207	AB	06-20-05	0930	1028	80020	180	47.10	340	40	4040	.3
405557076595401	UN 206	AB	06-20-05	1330	1028	80020	95	23.90	580	40	4040	.6
405931076555601	UN 205	AB	06-21-05	1130	1028	80020	147	38.75	485	35	4040	.6
405931076555601	UN 205	AB-QA	06-21-05	1131	1028	9813	147	38.75	485	35	4040	--
405931076555601	UN 205	AB-QA	06-21-05	1132	1028	9813	147	38.75	485	35	4040	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf µS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
MIFFLIN COUNTY											
08-02-05	3.8	748	.1	1	7.5	475	27.0	12.7	.31	.330	.020
08-15-05	.9	754	.2	2	7.0	1780	33.0	12.4	--	<.040	<.010
08-15-05	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--
NORTHUMBERLAND COUNTY											
06-20-05	--	757	4.1	39	7.1	687	22.0	12.3	--	4.72	<.010
06-21-05	--	750	1.6	15	7.6	469	27.3	11.1	--	4.10	<.010
06-21-05	--	--	--	--	--	--	--	--	--	3.79	<.010
06-21-05	--	--	--	--	--	--	--	--	--	3.99	<.010
PERRY COUNTY											
06-08-05	--	748	.1	1	7.4	697	--	12.9	1.24	1.27	.030
06-08-05	--	--	--	--	--	--	--	--	1.26	1.29	.030
06-08-05	--	--	--	--	--	--	--	--	1.24	1.27	.030
08-31-05	1.9	--	3.8	--	7.5	452	33.0	12.8	4.58	4.60	.020
06-01-05	--	747	5.0	47	7.3	488	21.1	11.6	--	9.60	<.010
06-01-05	--	749	2.3	21	7.5	355	--	11.7	--	2.13	<.010
06-22-05	--	748	2.9	28	7.6	321	26.0	13.2	--	--	--
SNYDER COUNTY											
06-08-05	--	747	4.8	50	7.3	473	--	15.4	--	3.32	<.010
06-08-05	--	751	1.6	16	7.1	2190	--	13.5	--	<.040	<.010
06-22-05	--	742	1.8	17	7.4	452	25.0	11.8	4.96	4.98	.020
UNION COUNTY											
06-20-05	--	753	2.2	20	7.2	592	24.5	11.1	--	4.99	<.010
06-20-05	--	755	5.5	52	7.0	777	26.0	12.6	--	6.05	<.010
06-21-05	--	752	1.4	13	6.9	817	28.0	12.9	--	11.8	<.010
06-21-05	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)	Total coli-form, Defined Tech., MPN/ 100 mL (50569)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7µ GF percent recovry (91065)	Atra-zine, water, fltrd, µg/L (39632)	Azin-phos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben-flur-alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl-ate, water, fltrd, µg/L (04028)	Car-baryl, water, fltrd 0.7µ GF µg/L (82680)
MIFFLIN COUNTY													
08-02-05	<1	5	<.006	<.006	<.006	<.005	<.005	82.5	<.007	<.050	<.010	<.004	<.041
08-15-05	<1	1	<.006	<.006	<.006	<.006	<.005	85.2	<.007	<.050	<.010	<.004	<.041
08-15-05	<1	1	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<1	1	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<1	<1	--	--	--	--	--	--	--	--	--	--	--
NORTHUMBERLAND COUNTY													
06-20-05	<1	95	<.006	E.032	<.006	<.005	<.005	99.9	.015	<.050	<.010	<.004	<.041
06-21-05	<1	<1	<.006	E.034	<.006	<.005	<.005	103	.032	<.050	<.010	<.004	<.041
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
PERRY COUNTY													
06-08-05	<1	<1	<.006	<.006	<.006	<.005	<.005	93.7	<.007	<.050	<.010	<.004	<.041
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-31-05	<1	18	<.006	E.014	<.006	<.005	<.005	82.2	.017	<.050	<.010	<.004	<.041
06-01-05	<1	1	<.006	E.056	<.006	<.005	<.005	106	.023	<.050	<.010	<.004	<.041
06-01-05	<1	<1	--	--	--	--	--	--	--	--	--	--	--
06-22-05	--	--	<.006	<.006	<.006	<.005	<.005	100	<.007	<.050	<.010	<.004	<.041
SNYDER COUNTY													
06-08-05	5	200	<.006	E.033	<.006	<.005	<.005	92.2	.027	<.050	<.010	<.004	<.041
06-08-05	<1	11	<.006	<.006	<.006	<.005	<.005	99.7	<.007	<.050	<.010	<.004	<.041
06-22-05	<1	1	<.006	E.015	<.006	<.005	<.005	98.8	.024	<.050	<.010	<.004	<.041
UNION COUNTY													
06-20-05	<1	<1	<.006	E.019	<.006	<.005	<.005	92.4	.045	<.050	<.010	<.004	<.041
06-20-05	<1	<1	<.006	E.052	<.006	<.005	<.005	102	.052	<.050	<.010	<.004	<.041
06-21-05	<1	3	<.006	E.009	<.006	<.005	<.005	97.6	.054	<.050	<.010	<.004	<.041
06-21-05	<1	1	--	--	--	--	--	--	--	--	--	--	--
06-21-05	<1	2	--	--	--	--	--	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Carbo-furan, water, fltrd 0.7µ GF µg/L (82674)	Chlor-pyrifos water, fltrd, µg/L (38933)	cis-Per-methrin water fltrd 0.7µ GF µg/L (82687)	Cyana-zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Desulf-inyl fipro-nil, water, fltrd, µg/L (62170)	Diazi-non, water, fltrd, µg/L (39572)	Diazi-non-d10 surrog. wat flt 0.7µ GF percent recovry (91063)	Diel-drin, water, fltrd, µg/L (39381)	Disul-foton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal-flur-alin, water, fltrd 0.7µ GF µg/L (82663)	Etho-prop, water, fltrd 0.7µ GF µg/L (82672)
MIFFLIN COUNTY													
08-02-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	93.3	<.009	<.02	<.004	<.009	<.005
08-15-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	95.8	<.009	<.02	<.004	<.009	<.005
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTHUMBERLAND COUNTY													
06-20-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	100	<.009	<.02	<.004	<.009	<.005
06-21-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	110	<.009	<.02	<.004	<.009	<.005
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
PERRY COUNTY													
06-08-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	93.2	<.009	<.02	<.004	<.009	<.005
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-31-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	96.0	<.009	<.02	<.004	<.009	<.005
06-01-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	108	<.009	<.02	<.004	<.009	<.005
06-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	105	<.009	<.02	<.004	<.009	<.005
SNYDER COUNTY													
06-08-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	93.0	<.009	<.02	<.004	<.009	<.005
06-08-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	95.6	<.009	<.02	<.004	<.009	<.005
06-22-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	103	<.009	<.02	<.004	<.009	<.005
UNION COUNTY													
06-20-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	96.4	<.009	<.02	<.004	<.009	<.005
06-20-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	110	<.009	<.02	<.004	<.009	<.005
06-21-05	<.020	<.005	<.006	<.018	<.003	<.012	<.005	103	<.009	<.02	<.004	<.009	<.005
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Desulfinyl-fipronil amide, wat flt µg/L (62169)	Fipronil sulfide water, fltrd, µg/L (62167)	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)
MIFFLIN COUNTY													
08-02-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
08-15-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTHUMBERLAND COUNTY													
06-20-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-21-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
PERRY COUNTY													
06-08-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-31-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-01-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
SNYDER COUNTY													
06-08-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-08-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-22-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
UNION COUNTY													
06-20-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-20-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007
06-21-05	<.029	<.013	<.024	<.016	<.003	<.004	<.035	<.027	<.015	.008	<.006	<.003	<.007
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	p,p'-DDE, water, fltrd, µg/L (34653)	Para-thion, water, fltrd, µg/L (39542)	Peb-ulate, water, fltrd 0.7µ GF µg/L (82669)	Pendi-meth-alin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prome-ton, water, fltrd, µg/L (04037)	Propy-zamide, water, fltrd 0.7µ GF µg/L (82676)	Propa-chlor, water, fltrd, µg/L (04024)	Pro-panil, water, fltrd 0.7µ GF µg/L (82679)	Propar-gite, water, fltrd 0.7µ GF µg/L (82685)	Sima-zine, water, fltrd, µg/L (04035)	Tebu-thiuron water fltrd 0.7µ GF µg/L (82670)	Terba-cil, water, fltrd 0.7µ GF µg/L (82665)
MIFFLIN COUNTY													
08-02-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
08-15-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	--	--	--	--	--	--	--	--	--	--	--	--	--
NORTHUMBERLAND COUNTY													
06-20-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-21-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.010	<.02	<.034
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
PERRY COUNTY													
06-08-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-31-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-01-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.013	<.02	<.034
06-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
SNYDER COUNTY													
06-08-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-08-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-22-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	.008	<.02	<.034
UNION COUNTY													
06-20-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-20-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-21-05	<.003	<.010	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-21-05	--	--	--	--	--	--	--	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Terbu-fos, water, fltrd 0.7µ GF µg/L (82675)	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)	Purpose site visit, code (50280)	Sample purpose code (71999)	Sample volume, Sched-ule 2001, mL (99856)	Sam-pling condi-tion, code (72006)	Type of sample related QA data, code (99111)	Type of repli-cate, code (99105)	County	Data base number	Medium code
						MIFFLIN COUNTY							
08-02-05	<.02	<.010	<.006	<.009	2001	50.00	937	8.00	1	--	087	01	6
08-15-05	<.02	<.010	<.006	<.009	2001	50.00	933	8.00	100	20.00	087	01	6
08-15-05	--	--	--	--	2098	50.00	--	8.00	--	20.00	087	02	S
08-15-05	--	--	--	--	2098	50.00	--	8.00	--	20.00	087	02	S
08-15-05	--	--	--	--	2098	50.00	--	--	--	20.00	087	02	S
						NORTHUMBERLAND COUNTY							
06-20-05	<.02	<.010	<.006	<.009	2001	50.00	924	8.00	1	--	097	01	6
06-21-05	<.02	<.010	<.006	<.009	2001	50.00	930	8.00	100	30.00	097	01	6
06-21-05	--	--	--	--	2098	50.00	--	8.00	--	30.00	097	02	S
06-21-05	--	--	--	--	2001	50.00	--	8.00	--	30.00	097	02	S
						PERRY COUNTY							
06-08-05	<.02	<.010	<.006	<.009	2001	50.00	932	8.00	30	30.00	099	01	6
06-08-05	--	--	--	--	2098	50.00	--	8.00	--	30.00	099	02	S
06-08-05	--	--	--	--	2098	50.00	--	8.00	--	30.00	099	02	S
08-31-05	<.02	<.010	<.006	<.009	2001	50.00	925	8.00	1	--	099	01	6
06-01-05	<.02	<.010	<.006	<.009	2001	50.00	928	8.00	1	--	099	01	6
06-01-05	--	--	--	--	2001	50.00	--	8.00	1	--	099	01	6
06-22-05	<.02	<.010	<.006	<.009	2001	50.00	912	8.00	10	--	099	01	6
						SNYDER COUNTY							
06-08-05	<.02	<.010	<.006	<.009	2001	50.00	938	8.00	10	--	109	01	6
06-08-05	<.02	<.010	<.006	<.009	2001	50.00	950	8.00	1	--	109	01	6
06-22-05	<.02	<.010	<.006	<.009	2001	50.00	925	8.00	1	--	109	01	6
						UNION COUNTY							
06-20-05	<.02	<.010	<.006	<.009	2001	50.00	941	8.00	1	--	119	01	6
06-20-05	<.02	<.010	<.006	<.009	2001	50.00	991	8.00	1	--	119	01	6
06-21-05	<.02	<.010	<.006	<.009	2001	50.00	931	8.00	100	20.00	119	01	6
06-21-05	--	--	--	--	2098	50.00	--	8.00	--	20.00	119	02	S
06-21-05	--	--	--	--	2098	50.00	--	8.00	--	20.00	119	02	S

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
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WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Depth to water level, feet below LSD (72019)	Sam-pling method, code (82398)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf µS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Bromide water, fltrd, mg/L (71870)	Chlor-ide, water, fltrd, mg/L (00940)	Nitrite + nitrate water fltrd, mg/L as N (00631)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	1450	28.00	4040	--	733	7.0	7.0	722	--	12.4	.19	33.8	8.82
07...	1500	28.00	4040	--	733	--	--	--	--	--	--	--	--
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	1400	--	4040	--	720	.3	7.1	1840	21.9	13.0	.27	196	61.7
31...	1500	--	4040	--	712	V2.0	7.5	1570	23.4	14.2	E.02	228	28.8
SEP													
07...	0930	--	4040	--	734	.5	6.9	1910	19.5	12.9	.34	206	66.1
07...	0940	36.15	4040	3.0	734	.5	6.9	1910	19.5	12.9	--	--	E65.0
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	1630	41.73	4040	--	731	1.8	7.4	1420	30.0	12.0	.23	270	1.10
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	0830	45.50	4040	--	729	.1	7.0	1600	14.5	12.0	.32	106	64.3
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	1200	--	4040	--	734	.1	7.3	813	--	13.0	.22	63.7	2.20
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	1000	--	4040	--	729	5.3	7.2	890	--	12.0	.21	76.3	11.7

Date	Nitrite water, fltrd, mg/L as N (00613)	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)	Total coli-form, Defined Tech., MPN/ 100 mL (50569)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	2-[(2-Ethyl-6methyl phenyl) amino]2 oxoESA µg/L (62850)	CIAT, water, fltrd, µg/L (04040)	CEAT, water, fltrd, µg/L (04038)	Ala-chlor 2nd amide, water, fltrd, µg/L (63781)	Aceto-chlor 3rd amide, water, fltrd, µg/L (63782)	OIAT, water, fltrd 0.7µ GF µg/L (62676)	OIET, water, fltrd, µg/L (50355)	OEAT, water, fltrd 0.7µ GF µg/L (62678)	Aceto-chlor ESA, water, fltrd 0.7µ GF µg/L (61029)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	<.008	--	--	<.006	--	E.063	--	--	--	--	--	--	--
07...	--	--	--	--	.06	.120	<.025	<.02	<.02	<.025	<.025	<.025	.05
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	E.004	--	--	--	.10	.070	.060	<.02	<.02	<.025	<.025	1.0	.19
31...	E.006	--	--	--	.08	.290	.160	<.02	<.02	.030	.040	<.025	.46
SEP													
07...	.009	--	--	--	.15	.270	.120	<.02	<.02	<.025	<.025	<.025	.19
07...	<.010	2	200	<.006	--	E.121	--	--	--	--	--	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	<.008	--	--	--	<.02	.030	.040	<.02	<.02	.040	<.025	<.025	<.02
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	<.008	--	--	--	.17	.260	.100	<.02	<.02	<.025	<.025	<.025	.09
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	<.008	--	--	--	<.02	.080	.030	<.02	<.02	<.025	<.025	<.025	<.02
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	<.008	--	--	--	.09	.120	<.025	<.02	<.02	<.025	<.025	<.025	.37

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
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WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Aceto-chlor OA, water, fltrd 0.7µ GF µg/L (61030)	Aceto-chlor SAA, water, fltrd, µg/L (62847)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor ESA SA, water, fltrd, µg/L (62849)	Ala-chlor ESA, water, fltrd 0.7µ GF µg/L (50009)	Ala-chlor OA, water, fltrd 0.7µ GF µg/L (61031)	Ala-chlor SAA, water, fltrd, µg/L (62848)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7µ GF percent recovry (91065)	Atra-zine, water, fltrd, µg/L (39632)	Azin-phos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben-flur-alin, water, fltrd 0.7µ GF µg/L (82673)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	--	--	<.006	--	--	--	--	<.005	<.005	83.9	.070	<.050	<.010
07...	<.02	<.02	<.02	<.02	.09	<.02	<.02	<.02	--	--	<.025	--	--
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	.05	<.02	<.02	.02	.84	3.10	<.02	.34	--	--	.600	--	--
31...	.68	<.02	<.02	<.02	1.99	3.74	<.02	.09	--	--	.110	--	--
SEP													
07...	<.02	<.02	<.02	.02	.99	3.96	<.02	.36	--	--	.510	--	--
07...	--	--	<.006	--	--	--	--	.397	<.005	82.7	.917	<.050	<.010
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	<.02	<.02	<.02	<.02	.04	<.02	<.02	<.02	--	--	.030	--	--
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	<.02	<.02	<.02	.03	1.44	4.27	<.02	.82	--	--	1.2	--	--
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	<.02	<.02	<.02	.03	.51	4.14	<.02	.83	--	--	.190	--	--
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	<.02	<.02	<.02	<.02	.57	<.02	<.02	<.02	--	--	.070	--	--

Date	Broma-cil, water, fltrd, µg/L (04029)	Butyl-ate, water, fltrd, µg/L (04028)	Car-baryl, water, fltrd 0.7µ GF µg/L (82680)	Carbo-furan, water, fltrd 0.7µ GF µg/L (82674)	Chloro-di-amino-s-tri-azine, wat flt µg/L (04039)	Chlor-pyrifos water, fltrd, µg/L (38933)	cis-Per-methrin water fltrd 0.7µ GF µg/L (82687)	Cyana-zine acid, water, wat flt µg/L (61745)	Cyana-zine amide, water, fltrd, µg/L (61709)	Cyana-zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	De-chloro-aceto-chlor, water, fltrd, µg/L (63778)	De-chloro-ala-chlor, water, fltrd, µg/L (63777)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	--	<.004	<.041	<.020	--	<.005	<.006	--	--	<.018	<.003	--	--
07...	<.025	--	--	--	.200	--	--	<.025	<.025	<.025	--	<.02	<.02
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	1.7	--	--	--	<.025	--	--	.080	.100	.060	--	<.02	.25
31...	.220	--	--	--	.200	--	--	.620	.660	.100	--	<.02	.29
SEP													
07...	1.4	--	--	--	.800	--	--	.090	.120	.080	--	<.02	.26
07...	--	.009	<.041	<.020	--	<.005	<.006	--	--	E.084	<.003	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	<.025	--	--	--	.140	--	--	<.025	<.025	<.025	--	<.02	<.02
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	2.6	--	--	--	.400	--	--	.250	.350	.210	--	<.02	.36
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	.140	--	--	--	.060	--	--	.160	.230	.110	--	<.02	.11
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	<.025	--	--	--	.100	--	--	<.025	<.025	<.025	--	<.02	<.02

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
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Date	De-chloro-dimeth-enamid, water, fltrd, µg/L (63779)	De-chloro-metola-chlor, water, fltrd, µg/L (63780)	De-ethyl cyana-zine acid, wat flt µg/L (61750)	De-ethyl cyana-zine amide, wat flt µg/L (61751)	De-ethyl cyana-zine, water, fltrd, µg/L (61749)	De-methyl fluo-meturon water, fltrd, µg/L (61755)	Desulf-inyl fipro-nil, water, fltrd, µg/L (62170)	Diazi-non, water, fltrd, µg/L (39572)	Diazi-non-d10 surrog. wat flt 0.7µ GF percent recovry (91063)	Diel-drin, water, fltrd, µg/L (39381)	Dimeth-enamid ESA, water, fltrd, µg/L (61951)	Dimeth-enamid OA, water, fltrd, µg/L (62482)	Dimeth-enamid water, fltrd, µg/L (61588)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	--	--	--	--	--	--	<.012	<.005	101	<.009	--	--	--
07...	<.02	<.02	<.025	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	<.02	.26	.330	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
31...	<.02	.16	.300	.030	<.20	<.2	--	--	--	--	<.02	<.02	.02
SEP													
07...	<.02	.22	.200	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
07...	--	--	--	--	--	--	<.012	<.005	99.0	.025	--	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	<.02	<.02	<.025	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	<.02	.24	.380	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	<.02	.02	.090	<.025	<.20	<.2	--	--	--	--	<.02	<.02	<.02
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	<.02	<.02	<.025	<.025	<.20	<.2	--	--	--	--	.04	<.02	<.02

Date	Disul-foton, water, fltrd 0.7µ GF µg/L (82677)	Diuron, water, fltrd, µg/L (50374)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal-flur-alin, water, fltrd 0.7µ GF µg/L (82663)	Etho-prop, water, fltrd 0.7µ GF µg/L (82672)	Desulf-inyl-fipro-nil amide, wat flt µg/L (62169)	Fipro-nil sulfide water, fltrd, µg/L (62167)	Fipro-nil sulfone water, fltrd, µg/L (62168)	Fipro-nil, water, fltrd, µg/L (62166)	Flufen-acet ESA, water, fltrd, µg/L (61952)	Flufe-nacet OA, water, fltrd, µg/L (62483)	Flufe-nacet, water, fltrd, µg/L (62481)	Fluo-meturon water fltrd 0.7µ GF µg/L (38811)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	<.02	--	<.004	<.009	<.005	<.029	<.013	<.024	<.016	--	--	--	--
07...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
31...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
SEP													
07...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
07...	<.02	--	.016	<.009	<.005	<.029	<.013	<.024	<.016	--	--	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	--	.3	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	--	<.2	--	--	--	--	--	--	--	<.02	<.02	<.02	<.2

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
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WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Fonofos water, fltrd, µg/L (04095)	Hydroxy aceto-chlor, water, fltrd, µg/L (63784)	Hydroxy ala-chlor, water, fltrd, µg/L (63783)	Hydroxy dimeth-enamid, water, fltrd, µg/L (64045)	Hydroxy metola-chlor, water, fltrd, µg/L (63785)	Hy-droxy-sim-azine, water, fltrd, µg/L (63154)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (38478)	Linuron water fltrd 0.7µ GF µg/L (82666)	Mala-thion, water, fltrd, µg/L (39532)	Methyl para-thion, water, fltrd 0.7µ GF µg/L (82667)	Metola-chlor ESA, water, fltrd 0.7µ GF µg/L (61043)	Metola-chlor OA, water, fltrd 0.7µ GF µg/L (61044)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	<.003	--	--	--	--	--	<.004	--	<.035	<.027	<.015	--	--
07...	--	<.02	<.02	<.02	<.02	<.025	--	<.2	--	--	--	1.27	.11
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	--	<.02	.53	<.02	.32	<.025	--	<.2	--	--	--	2.93	6.76
31...	--	<.02	<.02	<.02	.08	.030	--	<.2	--	--	--	3.30	6.93
SEP													
07...	--	<.02	.51	<.02	.30	<.025	--	<.2	--	--	--	3.36	7.29
07...	<.003	--	--	--	--	--	<.004	--	<.035	<.027	<.015	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	--	<.02	<.02	<.02	<.02	<.025	--	<.2	--	--	--	.40	.05
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	--	<.02	.83	<.02	.37	<.025	--	<.2	--	--	--	3.17	7.53
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	--	<.02	.75	<.02	.03	.030	--	<.2	--	--	--	.35	.36
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	--	<.02	<.02	<.02	<.02	<.025	--	<.2	--	--	--	1.91	.37

Date	Metola-chlor, water, fltrd, µg/L (39415)	Metri-buzin, water, fltrd, µg/L (82630)	Moli-nate, water, fltrd 0.7µ GF µg/L (82671)	Naprop-amide, water, fltrd 0.7µ GF µg/L (82684)	p,p'-DDE, water, fltrd, µg/L (34653)	Para-thion, water, fltrd, µg/L (39542)	Peb-ulate, water, fltrd 0.7µ GF µg/L (82669)	Pendi-meth-alin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prome-ton, water, fltrd, µg/L (04037)	Propy-zamide, water, fltrd 0.7µ GF µg/L (82676)	Propa-chlor ESA, water, fltrd 0.7µ GF µg/L (62766)	Propa-chlor OA, water, fltrd 0.7µ GF µg/L (62767)
BA 332 (LAT 40 18 --N LONG 078 19 --W)													
SEP 2005													
07...	E.005	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	.02	<.004	--	--
07...	.14	--	--	--	--	--	--	--	--	.030	--	<.05	<.02
401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)													
AUG 2005													
30...	18.1	--	--	--	--	--	--	--	--	.210	--	<.05	<.02
31...	6.57	--	--	--	--	--	--	--	--	.030	--	<.05	<.02
SEP													
07...	19.8	--	--	--	--	--	--	--	--	.190	--	<.05	<.02
07...	E22.5	<.006	<.003	<.007	<.003	<.010	<.004	<.022	<.011	.27	<.004	--	--
401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)													
SEP 2005													
06...	<.02	--	--	--	--	--	--	--	--	<.025	--	<.05	<.02
401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)													
SEP 2005													
08...	<.02	--	--	--	--	--	--	--	--	.390	--	<.05	<.02
401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)													
SEP 2005													
07...	2.20	--	--	--	--	--	--	--	--	.040	--	<.05	<.02
401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)													
SEP 2005													
08...	.03	--	--	--	--	--	--	--	--	<.025	--	<.05	<.02

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

WATER-QUALITY DATA, WATER YEARS OCTOBER 2004 TO SEPTEMBER 2005

Date	Propa-chlor, water, fltrd, µg/L (04024)	Pro-panil, water, fltrd 0.7µ GF µg/L (82679)	Propar-gite, water, fltrd 0.7µ GF µg/L (82685)	Propa-zine, water, fltrd, µg/L (38535)	Sima-zine, water, fltrd, µg/L (04035)	Tebu-thiuron water fltrd 0.7µ GF µg/L (82670)	Terba-cil, water, fltrd 0.7µ GF µg/L (82665)	Terbu-fos, water, fltrd 0.7µ GF µg/L (82675)	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)
		BA 332 (LAT 40 18 --N LONG 078 19 --W)									
SEP 2005											
07...	<.025	<.011	<.02	--	.009	<.02	<.034	<.02	<.010	<.006	<.009
07...	<.02	--	--	<.025	<.025	--	--	--	--	--	--
		401724078195801 BA 437 (LAT 40 17 24N LONG 078 19 58W)									
AUG 2005											
30...	<.02	--	--	<.025	<.025	--	--	--	--	--	--
31...	<.02	--	--	<.025	<.025	--	--	--	--	--	--
SEP											
07...	<.02	--	--	<.025	.090	--	--	--	--	--	--
07...	<.025	<.011	<.02	--	.110	<.02	<.034	<.02	<.010	<.006	<.009
		401724078194801 BA 642 (LAT 40 17 24N LONG 078 19 48W)									
SEP 2005											
06...	<.02	--	--	<.025	<.025	--	--	--	--	--	--
		401723078195701 BA 643 (LAT 40 17 23N LONG 078 19 57W)									
SEP 2005											
08...	<.02	--	--	.040	.100	--	--	--	--	--	--
		401733078195501 BA 644 (LAT 40 17 33N LONG 078 19 55W)									
SEP 2005											
07...	<.02	--	--	.040	<.025	--	--	--	--	--	--
		401738078194301 BA 645 (LAT 40 17 38N LONG 078 19 43W)									
SEP 2005											
08...	<.02	--	--	<.025	<.025	--	--	--	--	--	--

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

RESULTS FROM BLANK SAMPLES

REMARKS.--The following are quality-control samples (blanks) processed during the 2005 water year. "<" = less than; µg/L = micrograms per liter (parts per billion); mg/L = milligrams per liter (parts per million); F. blk-N = field blank for nitrate/nitrite; F. blk-P = field blank for pesticides; F. blk-B = field blank for bacteria.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Station	number	Local well ID	Quality assurance Type	Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Depth of well, feet below LSD (72008)	Altitude of land surface feet (72000)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	E coli, Defined Substr. Tech., water, MPN/ 100 mL (50468)	Total coliform, Defined Tech., MPN/ 100 mL (50569)
404516076564101		SN 250	F. blk-N	06-08-05	1136	1028	9813	201	590	.040	<.010	--	--
403005077170201		PE 687	F. blk-P	06-22-05	1200	1028	80020	180	630	--	--	--	--
401724078195801		BA 437	F. blk-N	06-28-05	1136	1028	9813	105	1435.00	<.040	<.010	--	--
401724078195801		BA 437	F. blk-P	06-28-05	1137	1028	80020	105	1435.00	--	--	--	--
394938078383901		BD 656	F. blk-B	08-01-05	1021	1028	9813	125	1160	--	--	<1	<1
403959077311101		MF 407	F. blk-P	08-15-05	1100	1028	80020	100	620	--	--	--	--

Date	2,6-Diethylaniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	alpha-HCH-d6, surrog, wat flt 0.7µ GF percent recovry (91065)	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.006	<.006	<.006	<.005	<.005	100	<.007	<.050	<.010	<.004	<.041	<.020	<.005
06-28-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-28-05	<.006	<.006	<.006	<.005	<.005	108	<.007	<.050	<.010	<.004	<.041	<.020	<.005
08-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<.006	<.006	<.006	<.005	<.005	81.8	<.007	<.050	<.010	<.004	<.041	<.020	<.005

Date	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Desulfinyl fipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Diazinon-d10 surrog. wat flt 0.7µ GF percent recovry (91063)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Desulfinyl-fipronil amide, wat flt µg/L (62169)	Fipronil sulfide water, fltrd, µg/L (62167)
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.006	<.018	<.003	<.012	<.005	104	<.009	<.02	<.004	<.009	<.005	<.029	<.013
06-28-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-28-05	<.006	<.018	<.003	<.012	<.005	117	<.009	<.02	<.004	<.009	<.005	<.029	<.013
08-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<.006	<.018	<.003	<.012	<.005	93.7	<.009	<.02	<.004	<.009	<.005	<.029	<.013

Date	Fipronil sulfone water, fltrd, µg/L (62168)	Fipronil, water, fltrd, µg/L (62166)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p'-DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010
06-28-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-28-05	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010
08-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<.024	<.016	<.003	<.004	<.035	<.027	<.015	<.006	<.006	<.003	<.007	<.003	<.010

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

RESULTS FROM BLANK SAMPLES--Continued

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Propyzamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)	Thiobencarb water fltrd 0.7µ GF µg/L (82681)
06-08-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-22-05	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010
06-28-05	--	--	--	--	--	--	--	--	--	--	--	--	--
06-28-05	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010
08-01-05	--	--	--	--	--	--	--	--	--	--	--	--	--
08-15-05	<.004	<.022	<.011	<.01	<.004	<.025	<.011	<.02	<.005	<.02	<.034	<.02	<.010

Date	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)	Purpose site visit, code (50280)	Sample purpose code (71999)	Sample volume, Schedule 2001, mL (99856)	Source of blank solution, code (99101)	Reference material or spike lot number (99104)	Type of blank sample, code (99102)	Type of blank solution, code (99100)
06-08-05	--	--	2098	50.00	--	10.00	2330	100.00	10.00
06-22-05	<.006	<.009	2098	50.00	916	10.00	80401	100.00	40.00
06-28-05	--	--	2098	50.00	--	10.00	2330	100.00	10.00
06-28-05	<.006	<.009	2098	50.00	934	10.00	80401	100.00	40.00
08-01-05	--	--	2098	50.00	--	80.00	--	100.00	200.00
08-15-05	<.006	<.009	2098	50.00	933	10.00	80501	100.00	40.00

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

Compounds analyzed at the Pennsylvania Department of Environmental Protection Laboratory

Pesticide Schedule Used for Annual Baseline Trends and Hot-Spot Trends Networks (SAC USGS2)	
Analyte	NWIS Parameter Code
EPA 525.2	
Acetochlor	49260
Alachlor	46342
Atrazine	39632
Chlorothalonil	49306
Chlorpyriphos (Dursban)	38933
Dichlobenil	63009
Fenpropathrin	64044
Hexachlorocyclopentadiene	34386
Metolachlor	39415
Metribuzin	82630
Pendimethalin	82683
Phosmet (added after April 2004)	61601
Simazine	04035

Compounds analyzed at the U.S. Geological Survey National Water-Quality Laboratory

Pesticide Schedule (SH2001)		Pesticide Schedule (SH2001)	
Analyte	NWIS Parameter Code	Analyte	NWIS Parameter Code
Alpha-HC	34253	Parathion-methyl	82667
Acetochlor	49260	Metolachlor	39415
Alachlor	46342	Metribuzin	82630
2,6 –Diethylaniline	82660	Molinate	82671
Atrazine	39632	Napropamide	82684
Desethyl atrazine (currentlyCIAT {2-chloro-4-isopropylamino-6-amino-s-trizine})	04040	p,p'-DDE	34653
Azinphos-methyl	82686	Parathion	39542
Benfluralin	82673	Pebulate	82669
Butylate	04028	Pendimethalin	82683
Carbaryl	82680	Phorate	82664
Carbofuran	82674	Prometon	04037
Chlorpyrifos	38933	Propyzamide	82676
cis-Permethrin	82687	Propachlor	04024
Cyanazine	04041	Propanil	82679
Dacthal (DCPA)	82682	Propargite	82685
Desulfinylfipronil	62170	Simazine	04035
Desulfinylfipronil amide	62169	Tebuthiuron	82670
Diazinon	39572	Terbacil	82665
Diazinon-d10 (surrogate)	91063	Terbufos	82675
Dieldrin	39381	Thiobencarb	82681
Disulfoton	82677	Triallate	82678
EPTC	82668	Trifluralin	82661
Ethalfluralin	82663		
Ethoprophos	82672		
Fipronil	62166		
Fipronil sulfide	62167		
Fipronil sulfone	62168		
Fonofos	04095		
alpha-HCH-d6 (surrogate)	91065		
Lindane	39341		
Linuron	82666		
Malathion	39532		

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water May 24, 2005 (times are 1030, 1040, and 1050) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample (time was 1100) which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
		Assumed for blank water	Spiked Blank (05/24/05 @ 1030)	Calculated concentration in spiked blank [a]	Recovery in percent
Parameter code	Constituent	A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.412	.40	103
46342	Alachlor	<0.005	0.395	.40	99
34253	Alpha HCH	<0.005	0.365	.40	91
39632	Atrazine	<0.007	0.435	.40	109
82673	Benfluralin	<0.010	0.314	.40	78
04028	Butylate	<0.004	0.340	.40	85
82680	Carbaryl	<0.041	E0.263	.40	66
82674	Carbofuran	<0.020	E0.290	.40	72
38933	Chlorpyrifos	<0.005	0.351	.40	88
04041	Cyanazine	<0.018	0.369	.40	92
82682	DCPA (Dacthal)	<0.003	0.520	.40	130
04040	CIAT (Desethyl Atrazine)	<0.006	E0.072	.40	18
62170	Desulfinylfipronil	<0.012	0.510	.40	128
62169	Desulfinylfipronil amide	<0.029	E0.275	.40	69
39572	Diazinon	<0.005	0.361	.40	90
39381	Dieldrin	<0.009	0.264	.40	66
82660	2,6-Diethyl Aniline	<0.006	0.025	.40	6
82677	Disulfoton	<0.021	0.112	.40	28
82668	EPTC	<0.004	0.350	.40	88
82663	Ethalfluralin	<0.009	0.306	.40	76
82672	Ethoprophos	<0.005	0.301	.40	75
62166	Fipronil	<0.016	E0.475	.40	119
62167	Fipronil sulfide	<0.013	0.531	.40	133
62168	Fipronil sulfone	<0.024	0.349	.40	87
04095	Fonofos	<0.003	0.283	.40	71
39341	Lindane	<0.004	0.404	.40	101
82666	Linuron	<0.035	0.252	.40	63
39532	Malathion	<0.027	0.377	.40	94
82686	Methyl Azinphos	<0.050	E0.189	.40	47
82667	Methyl Parathion	<0.015	0.434	.40	108
39415	Metolachlor	<0.006	0.388	.40	97
82630	Metribuzin	<0.006	0.202	.40	50
82671	Molinate	<0.003	0.344	.40	86
82684	Napropamide	<0.007	0.260	.40	65
34653	P, P' DDE	<0.003	0.173	.40	43
39542	Parathion	<0.010	0.481	.40	120
82669	Pebulate	<0.004	0.349	.40	87
82683	Pendimethalin	<0.022	0.299	.40	75
82687	Permethrin, cis	<0.006	0.132	.40	33
82664	Phorate	<0.011	0.176	.40	44
04037	Prometon	<0.010	0.375	.40	94
04024	Propachlor	<0.025	0.354	.40	88
82679	Propanil	<0.011	0.335	.40	84
82685	Propargite	<0.023	0.275	.40	69
82676	Propyzamide	<0.004	0.352	.40	88
04035	Simazine	<0.005	0.374	.40	94
82670	Tebuthiuron	<0.016	0.367	.40	92
82665	Terbacil	<0.034	E0.140	.40	35
82675	Terbufos	<0.017	0.294	.40	74
82681	Thiobencarb	<0.010	0.473	.40	118
82678	Triallate	<0.006	0.296	.40	74
82661	Trifluralin	<0.009	0.280	.40	70

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water May 24, 2005 (times are 1030, 1040, and 1050) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample (time was 1100) which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
		Assumed for blank water	Spiked Blank (05/24/05 @ 1040)	Calculated concentration[a] in spiked blank	Recovery in percent
Parameter code	Constituent	A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.424	.40	106
46342	Alachlor	<0.005	0.409	.40	102
34253	Alpha HCH	<0.005	0.360	.40	90
39632	Atrazine	<0.007	0.447	.40	112
82673	Benfluralin	<0.010	0.310	.40	78
04028	Butylate	<0.004	0.337	.40	84
82680	Carbaryl	<0.041	E0.298	.40	74
82674	Carbofuran	<0.020	E0.307	.40	77
38933	Chlorpyrifos	<0.005	0.352	.40	88
04041	Cyanazine	<0.018	0.384	.40	96
82682	DCPA (Dacthal)	<0.003	0.511	.40	128
04040	CIAT (Desethyl Atrazine)	<0.006	E0.074	.40	18
62170	Desulfinylfipronil	<0.012	0.525	.40	131
62169	Desulfinylfipronil amide	<0.029	E0.286	.40	72
39572	Diazinon	<0.005	0.359	.40	90
39381	Dieldrin	<0.009	0.253	.40	63
82660	2,6-Diethyl Aniline	<0.006	0.020	.40	5
82677	Disulfoton	<0.021	0.086	.40	22
82668	EPTC	<0.004	0.335	.40	82
82663	Ethalfluralin	<0.009	0.294	.40	74
82672	Ethoprophos	<0.005	0.311	.40	78
62166	Fipronil	<0.016	E0.498	.40	124
62167	Fipronil sulfide	<0.013	0.561	.40	140
62168	Fipronil sulfone	<0.024	0.354	.40	88
04095	Fonofos	<0.003	0.284	.40	71
39341	Lindane	<0.004	0.395	.40	99
82666	Linuron	<0.035	0.271	.40	68
39532	Malathion	<0.027	0.405	.40	101
82686	Methyl Azinphos	<0.050	E0.197	.40	49
82667	Methyl Parathion	<0.015	0.463	.40	116
39415	Metolachlor	<0.006	0.412	.40	103
82630	Metribuzin	<0.006	0.207	.40	52
82671	Molinate	<0.003	0.340	.40	85
82684	Napropamide	<0.007	0.265	.40	66
34653	P, P' DDE	<0.003	0.166	.40	42
39542	Parathion	<0.010	0.507	.40	127
82669	Pebulate	<0.004	0.350	.40	88
82683	Pendimethalin	<0.022	0.303	.40	76
82687	Permethrin, cis	<0.006	0.134	.40	34
82664	Phorate	<0.011	0.144	.40	36
04037	Prometon	<0.010	0.390	.40	98
04024	Propachlor	<0.010	0.375	.40	94
82679	Propanil	<0.011	0.362	.40	91
82685	Propargite	<0.023	0.263	.40	66
82676	Propyzamide	<0.004	0.368	.40	92
04035	Simazine	<0.005	0.391	.40	98
82670	Tebuthiuron	<0.016	0.388	.40	97
82665	Terbacil	<0.034	E0.143	.40	36
82675	Terbufos	<0.017	0.271	.40	68
82681	Thiobencarb	<0.010	0.463	.40	116
82678	Triallate	<0.006	0.295	.40	74
82661	Trifluralin	<0.009	0.285	.40	71

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water May 24, 2005 (times are 1030, 1040, and 1050) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample (time was 1100) which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
		Laboratory results			
Parameter code	Constituent	Assumed for blank water	Spiked Blank (05/24/05 @ 1050)	Calculated[a] concentration in spiked blank	Recovery in percent
		A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.520	.40	130
46342	Alachlor	<0.005	0.504	.40	126
34253	Alpha HCH	<0.005	0.422	.40	105
39632	Atrazine	<0.007	0.451	.40	113
82673	Benfluralin	<0.010	0.247	.40	62
04028	Butylate	<0.004	0.395	.40	99
82680	Carbaryl	<0.041	E0.206	.40	52
82674	Carbofuran	<0.020	E0.233	.40	58
38933	Chlorpyrifos	<0.005	0.387	.40	97
04041	Cyanazine	<0.018	0.377	.40	94
82682	DCPA (Dacthal)	<0.003	0.423	.40	106
04040	CIAT (Desethyl Atrazine)	<0.006	E0.100	.40	25
62170	Desulfinylfipronil	<0.012	0.412	.40	103
62169	Desulfinylfipronil amide	<0.029	E0.257	.40	64
39572	Diazinon	<0.005	0.456	.40	114
39381	Dieldrin	<0.009	0.518	.40	130
82660	2,6-Diethyl Aniline	<0.006	0.028	.40	7
82677	Disulfoton	<0.021	0.133	.40	33
82668	EPTC	<0.004	0.376	.40	94
82663	Ethalfluralin	<0.009	0.273	.40	68
82672	Ethoprophos	<0.005	0.356	.40	89
62166	Fipronil	<0.016	E0.346	.40	86
62167	Fipronil sulfide	<0.013	0.396	.40	99
62168	Fipronil sulfone	<0.024	0.328	.40	82
04095	Fonofos	<0.003	0.424	.40	106
39341	Lindane	<0.004	0.457	.40	114
82666	Linuron	<0.035	0.324	.40	81
39532	Malathion	<0.027	0.419	.40	105
82686	Methyl Azinphos	<0.050	E0.218	.40	54
82667	Methyl Parathion	<0.015	0.354	.40	88
39415	Metolachlor	<0.006	0.514	.40	128
82630	Metribuzin	<0.006	0.248	.40	62
82671	Molinate	<0.003	0.374	.40	94
82684	Napropamide	<0.007	0.500	.40	125
34653	P, P' DDE	<0.003	0.240	.40	60
39542	Parathion	<0.010	0.393	.40	98
82669	Pebulate	<0.004	0.393	.40	98
82683	Pendimethalin	<0.022	0.408	.40	102
82687	Permethrin, cis	<0.006	0.186	.40	46
82664	Phorate	<0.011	0.208	.40	52
04037	Prometon	<0.010	0.437	.40	109
04024	Propachlor	<0.010	0.409	.40	102
82679	Propanil	<0.011	0.372	.40	93
82685	Propargite	<0.023	0.310	.40	78
82676	Propyzamide	<0.004	0.425	.40	106
04035	Simazine	<0.005	0.388	.40	97
82670	Tebuthiuron	<0.016	0.372	.40	93
82665	Terbacil	<0.034	E0.187	.40	47
82675	Terbufos	<0.017	0.285	.40	71
82681	Thiobencarb	<0.010	0.443	.40	111
82678	Triallate	<0.006	0.364	.40	91
82661	Trifluralin	<0.009	0.257	.40	64

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water May 24, 2005 (times are 1030, 1040, and 1050) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample (time was 1100) which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) for the interlab split are shown in the table below. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
Parameter code	Constituent	Assumed for blank water	Spiked Blank (05/24/05 @ 1100)	Calculated concentration[a] in spiked blank	Recovery in percent
		A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.350	.40	88
46342	Alachlor	<0.005	0.390	.40	98
39632	Atrazine	<0.007	0.370	.40	92
38933	Chlorpyrifos	<0.005	0.360	.40	90
39415	Metolachlor	<0.006	0.410	.40	102
82630	Metribuzin	<0.006	0.180	.40	45
82683	Pendimethalin	<0.022	0.240	.40	60
04035	Simazine	<0.005	0.280	.40	70

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 3 liters of organic-free blank water June 21, 2005 (times were 1020, 1030, and 1040) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005--Continued

		Concentration, in micrograms per liter			
		Laboratory results			
Parameter code	Constituent	Assumed for blank water	Spiked Blank (06/21/05 @ 1020)	Calculated concentration in spiked blank[a]	Recovery in percent
		A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.495	.40	124
46342	Alachlor	<0.005	0.489	.40	122
34253	Alpha HCH	<0.005	0.415	.40	104
39632	Atrazine	<0.007	0.476	.40	119
82673	Benfluralin	<0.010	0.388	.40	97
04028	Butylate	<0.004	0.410	.40	102
82680	Carbaryl	<0.041	E0.482	.40	120
82674	Carbofuran	<0.020	E0.495	.40	124
38933	Chlorpyrifos	<0.005	0.401	.40	100
04041	Cyanazine	<0.018	0.408	.40	102
82682	DCPA (Dacthal)	<0.003	0.482	.40	120
04040	CIAT (Desethyl Atrazine)	<0.006	E0.114	.40	28
62170	Desulfinylfipronil	<0.012	0.552	.40	138
62169	Desulfinylfipronil amide	<0.029	E0.388	.40	97
39572	Diazinon	<0.005	0.408	.40	102
39381	Dieldrin	<0.009	0.318	.40	80
82660	2,6-Diethyl Aniline	<0.006	0.317	.40	79
82677	Disulfoton	<0.021	0.194	.40	48
82668	EPTC	<0.004	0.366	.40	92
82663	Ethalfluralin	<0.009	0.362	.40	90
82672	Ethoprophos	<0.005	0.364	.40	91
62166	Fipronil	<0.016	E0.561	.40	140
62167	Fipronil sulfide	<0.013	0.513	.40	128
62168	Fipronil sulfone	<0.024	0.471	.40	118
04095	Fonofos	<0.003	0.406	.40	102
39341	Lindane	<0.004	0.438	.40	110
82666	Linuron	<0.035	0.242	.40	60
39532	Malathion	<0.027	0.472	.40	118
82686	Methyl Azinphos	<0.050	E0.235	.40	59
82667	Methyl Parathion	<0.015	0.366	.40	92
39415	Metolachlor	<0.006	0.464	.40	116
82630	Metribuzin	<0.006	0.273	.40	68
82671	Molinate	<0.003	0.361	.40	90
82684	Napropamide	<0.007	0.366	.40	92
34653	P, P' DDE	<0.003	0.260	.40	65
39542	Parathion	<0.010	0.502	.40	126
82669	Pebulate	<0.004	0.373	.40	93
82683	Pendimethalin	<0.022	0.369	.40	92
82687	Permethrin, cis	<0.006	0.201	.40	50
82664	Phorate	<0.011	0.214	.40	54
04037	Prometon	<0.010	0.455	.40	114
04024	Propachlor	<0.010	0.436	.40	109
82679	Propanil	<0.011	0.379	.40	95
82685	Propargite	<0.023	0.300	.40	75
82676	Propyzamide	<0.004	0.440	.40	110
04035	Simazine	<0.005	0.448	.40	112
82670	Tebuthiuron	<0.016	0.437	.40	109
82665	Terbacil	<0.034	0.279	.40	70
82675	Terbufos	<0.017	0.329	.40	82
82681	Thiobencarb	<0.010	0.395	.40	99
82678	Triallate	<0.006	0.333	.40	83
82661	Trifluralin	<0.009	0.377	.40	94

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 3 liters of organic-free blank water June 21, 2005 (times were 1020, 1030, and 1040) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
		Assumed for blank water	Spiked Blank (06/21/05 @ 1030)	Calculated concentration in spiked blank [a]	Recovery in percent
Parameter code	Constituent	A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.462	.40	116
46342	Alachlor	<0.005	0.453	.40	113
34253	Alpha HCH	<0.005	0.405	.40	101
39632	Atrazine	<0.007	0.430	.40	108
82673	Benfluralin	<0.010	0.364	.40	91
04028	Butylate	<0.400	0.402	.40	100
82680	Carbaryl	<0.041	E0.324	.40	81
82674	Carbofuran	<0.020	E0.260	.40	65
38933	Chlorpyrifos	<0.005	0.380	.40	95
04041	Cyanazine	<0.018	0.165	.40	41
82682	DCPA (Dacthal)	<0.003	0.467	.40	117
04040	CIAT (Desethyl Atrazine)	<0.006	E0.046	.40	12
62170	Desulfinylfipronil	<0.012	0.494	.40	124
62169	Desulfinylfipronil amide	<0.029	E0.080	.40	20
39572	Diazinon	<0.005	0.387	.40	97
39381	Dieldrin	<0.009	0.334	.40	84
82660	2,6-Diethyl Aniline	<0.006	0.302	.40	76
82677	Disulfoton	<0.021	0.158	.40	40
82668	EPTC	<0.004	0.354	.40	88
82663	Ethalfluralin	<0.009	0.343	.40	86
82672	Ethoprophos	<0.005	0.362	.40	90
62166	Fipronil	<0.016	E0.454	.40	114
62167	Fipronil sulfide	<0.013	0.434	.40	108
62168	Fipronil sulfone	<0.024	0.392	.40	98
04095	Fonofos	<0.003	0.390	.40	98
39341	Lindane	<0.004	0.418	.40	104
82666	Linuron	<0.035	0.212	.40	53
39532	Malathion	<0.027	0.430	.40	108
82686	Methyl Azinphos	<0.050	E0.193	.40	48
82667	Methyl Parathion	<0.015	0.326	.40	82
39415	Metolachlor	<0.006	0.417	.40	104
82630	Metribuzin	<0.006	0.158	.40	40
82671	Molinate	<0.003	0.358	.40	90
82684	Napropamide	<0.007	0.350	.40	88
34653	P, P' DDE	<0.003	0.264	.40	66
39542	Parathion	<0.010	0.462	.40	116
82669	Pebulate	<0.004	0.362	.40	90
82683	Pendimethalin	<0.022	0.378	.40	94
82687	Permethrin, cis	<0.006	0.199	.40	50
82664	Phorate	<0.011	0.184	.40	46
04037	Prometon	<0.010	0.411	.40	103
04024	Propachlor	<0.010	0.405	.40	101
82679	Propanil	<0.011	0.334	.40	84
82685	Propargite	<0.023	0.278	.40	70
82676	Propyzamide	<0.004	0.412	.40	103
04035	Simazine	<0.005	0.293	.40	73
82670	Tebuthiuron	<0.016	0.246	.40	62
82665	Terbacil	<0.034	E0.135	.40	34
82675	Terbufos	<0.010	0.376	.40	94
82678	Triallate	<0.006	0.314	.40	78
82661	Trifluralin	<0.009	0.367	.40	92

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 3 liters of organic-free blank water June 21, 2005 (times were 1020, 1030, and 1040) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
Parameter code	Constituent	Assumed for blank water	Spiked Blank (06/21/05 @ 1040)	Calculated concentration[a] in spiked blank	Recovery in percent
		A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.466	.40	116
46342	Alachlor	<0.005	0.464	.40	116
34253	Alpha HCH	<0.005	0.403	.40	100
39632	Atrazine	<0.007	0.442	.40	110
82673	Benfluralin	<0.010	0.360	.40	90
04028	Butylate	<0.004	0.414	.40	104
82680	Carbaryl	<0.041	E0.345	.40	86
82674	Carbofuran	<0.020	E0.265	.40	66
38933	Chlorpyrifos	<0.005	0.388	.40	97
04041	Cyanazine	<0.018	0.182	.40	46
82682	DCPA (Dacthal)	<0.003	0.472	.40	118
04040	CIAT (Desethyl Atrazine)	<0.006	E0.046	.40	12
62170	Desulfinylfipronil	<0.012	0.537	.40	134
62169	Desulfinylfipronil amide	<0.029	E0.090	.40	22
39572	Diazinon	<0.005	0.407	.40	102
39381	Dieldrin	<0.009	0.328	.40	82
82660	2,6-Diethyl Aniline	<0.006	0.314	.40	78
82677	Disulfoton	<0.021	0.176	.40	44
82668	EPTC	<0.004	0.364	.40	91
82663	Ethalfluralin	<0.009	0.356	.40	89
82672	Ethoprophos	<0.005	0.348	.40	87
62166	Fipronil	<0.016	E0.512	.40	128
62167	Fipronil sulfide	<0.013	0.477	.40	118
62168	Fipronil sulfone	<0.024	0.422	.40	106
04095	Fonofos	<0.003	0.397	.40	99
39341	Lindane	<0.004	0.424	.40	106
82666	Linuron	<0.035	0.225	.40	56
39532	Malathion	<0.027	0.434	.40	108
82686	Methyl Azinphos	<0.050	E0.219	.40	55
82667	Methyl Parathion	<0.015	0.338	.40	84
39415	Metolachlor	<0.006	0.436	.40	109
82630	Metribuzin	<0.006	0.169	.40	42
82671	Molinate	<0.003	0.364	.40	91
82684	Napropamide	<0.007	0.365	.40	91
34653	P, P' DDE	<0.003	0.270	.40	68
39542	Parathion	<0.010	0.494	.40	124
82669	Pebulate	<0.004	0.361	.40	90
82683	Pendimethalin	<0.022	0.382	.40	96
82687	Permethrin, cis	<0.006	0.222	.40	56
82664	Phorate	<0.011	0.201	.40	50
04037	Prometon	<0.010	0.427	.40	107
04024	Propachlor	<0.010	0.424	.40	106
82679	Propanil	<0.011	0.352	.40	88
82685	Propargite	<0.023	0.305	.40	76
82676	Propyzamide	<0.004	0.424	.40	106
04035	Simazine	<0.005	0.300	.40	75
82670	Tebuthiuron	<0.016	0.249	.40	62
82665	Terbacil	<0.034	E0.149	.40	37
82675	Terbufos	<0.017	0.338	.40	84
82681	Thiobencarb	<0.010	0.378	.40	94
82678	Triallate	<0.006	0.321	.40	80
82661	Trifluralin	<0.009	0.369	.40	92

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water August 8, 2005 (times 1100, 1105, and 1110) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. The interlab sample was ruined at the lab and had to be discarded. The triplicate spiked pesticide samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations;
E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
		Assumed for blank water	Spiked Blank (08/08/05 @ 1100)	Calculated concentration in spiked blank [a]	Recovery in percent
Parameter code	Constituent	A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.503	.40	126
46342	Alachlor	<0.005	0.478	.40	119
34253	Alpha HCH	<0.005	0.490	.40	122
39632	Atrazine	<0.007	0.476	.40	119
82673	Benfluralin	<0.010	0.261	.40	65
04028	Butylate	<0.004	0.418	.40	104
82680	Carbaryl	<0.041	E0.280	.40	70
82674	Carbofuran	<0.020	E0.304	.40	76
38933	Chlorpyrifos	<0.005	0.448	.40	112
04041	Cyanazine	<0.018	0.401	.40	100
82682	DCPA (Dacthal)	<0.003	0.513	.40	128
04040	CIAT (Desethyl Atrazine)	<0.006	E0.110	.40	27
62170	Desulfinylfipronil	<0.012	0.462	.40	115
62169	Desulfinylfipronil amide	<0.029	E0.221	.40	55
39572	Diazinon	<0.005	0.494	.40	123
39381	Dieldrin	<0.009	0.516	.40	129
82660	2,6-Diethyl Aniline	<0.006	0.323	.40	81
82677	Disulfoton	<0.021	E0.244	.40	61
82668	EPTC	<0.004	0.369	.40	92
82663	Ethalfluralin	<0.009	0.252	.40	63
82672	Ethoprophos	<0.005	0.353	.40	88
62166	Fipronil	<0.016	E0.314	.40	78
62167	Fipronil sulfide	<0.013	0.432	.40	108
62168	Fipronil sulfone	<0.024	0.282	.40	70
04095	Fonofos	<0.003	0.503	.40	126
39341	Lindane	<0.004	0.490	.40	122
82666	Linuron	<0.035	E0.618	.40	154
39532	Malathion	<0.027	0.375	.40	94
82686	Methyl Azinphos	<0.050	E0.251	.40	63
82667	Methyl Parathion	<0.015	0.414	.40	103
39415	Metolachlor	<0.006	0.477	.40	119
82630	Metribuzin	<0.006	0.253	.40	63
82671	Molinate	<0.003	0.392	.40	98
82684	Napropamide	<0.007	0.453	.40	113
34653	P, P' DDE	<0.003	0.225	.40	56
39542	Parathion	<0.010	0.421	.40	105
82669	Pebulate	<0.004	0.382	.40	95
82683	Pendimethalin	<0.022	0.278	.40	69
82687	Permethrin, cis	<0.006	0.149	.40	37
82664	Phorate	<0.011	0.284	.40	71
04037	Prometon	<0.010	0.380	.40	95
04024	Propachlor	<0.010	0.454	.40	113
82679	Propanil	<0.011	0.432	.40	108
82685	Propargite	<0.023	0.250	.40	62
82676	Propyzamide	<0.004	0.450	.40	112
04035	Simazine	<0.016	0.406	.40	101
82665	Terbacil	<0.034	E0.166	.40	41
82675	Terbufos	<0.017	0.296	.40	74
82681	Thiobencarb	<0.010	0.514	.40	128
82678	Triallate	<0.006	0.481	.40	120
82661	Trifluralin	<0.009	0.260	.40	65

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A USGS-certified mixture of pesticides and herbicides was spiked into approximately 6 liters of organic-free blank water August 8, 2005 (times 1100, 1105, and 1110) to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory and one 2-L sample which was submitted as an interlab spiked pesticide split to the PA Department of Environmental Protection lab. The interlab sample was ruined at the lab and had to be discarded. The triplicate spiked pesticide samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations;
E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
		Assumed for blank water	Spiked Blank (08/08/05 @ 1105)	Calculated concentration[a] in spiked blank	Recovery in percent
Parameter code	Constituent	A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.506	.40	126
46342	Alachlor	<0.005	0.477	.40	119
34253	Alpha HCH	<0.005	0.491	.40	123
39632	Atrazine	<0.007	0.468	.40	117
82673	Benfluralin	<0.010	0.277	.40	69
04028	Butylate	<0.004	0.419	.40	105
82680	Carbaryl	<0.041	E0.226	.40	56
82674	Carbofuran	<0.020	E0.259	.40	65
38933	Chlorpyrifos	<0.005	0.446	.40	111
04041	Cyanazine	<0.018	0.341	.40	85
82682	DCPA (Dacthal)	<0.003	0.513	.40	128
04040	CIAT (Desethyl Atrazine)	<0.006	E0.080	.40	20
62170	Desulfinylfipronil	<0.012	0.474	.40	118
62169	Desulfinylfipronil amide	<0.029	E0.177	.40	44
39572	Diazinon	<0.005	0.502	.40	125
39381	Dieldrin	<0.009	0.560	.40	140
82660	2,6-Diethyl Aniline	<0.006	0.347	.40	87
82677	Disulfoton	<0.021	E0.292	.40	73
82668	EPTC	<0.004	0.364	.40	91
82663	Ethalfluralin	<0.009	0.262	.40	65
82672	Ethoprophos	<0.005	0.350	.40	87
62166	Fipronil	<0.016	E0.311	.40	78
62167	Fipronil sulfide	<0.013	0.444	.40	111
62168	Fipronil sulfone	<0.024	0.304	.40	76
04095	Fonofos	<0.003	0.506	.40	126
39341	Lindane	<0.004	0.496	.40	124
82666	Linuron	<0.035	E0.590	.40	147
39532	Malathion	<0.027	0.366	.40	91
82686	Methyl Azinphos	<0.050	E0.233	.40	58
82667	Methyl Parathion	<0.015	0.394	.40	98
39415	Metolachlor	<0.006	0.476	.40	119
82630	Metribuzin	<0.006	0.198	.40	49
82671	Molinate	<0.003	0.392	.40	98
82684	Napropamide	<0.007	0.477	.40	119
34653	P, P' DDE	<0.003	0.240	.40	60
39542	Parathion	<0.010	0.410	.40	102
82669	Pebulate	<0.004	0.385	.40	96
82683	Pendimethalin	<0.022	0.293	.40	73
82687	Permethrin, cis	<0.006	0.159	.40	40
82664	Phorate	<0.011	0.324	.40	81
04037	Prometon	<0.010	0.388	.40	97
04024	Propachlor	<0.010	0.428	.40	107
82679	Propanil	<0.011	0.414	.40	103
82685	Propargite	<0.023	0.279	.40	70
82676	Propyzamide	<0.004	0.446	.40	111
04035	Simazine	<0.005	0.382	.40	95
82670	Tebuthiuron	<0.016	0.356	.40	89
82665	Terbacil	<0.034	E0.116	.40	29
82675	Terbufos	<0.017	0.294	.40	73
82681	Thiobencarb	<0.010	0.505	.40	126
82678	Triallate	<0.006	0.483	.40	121
82661	Trifluralin	<0.009	0.272	.40	68

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A commercially-available and USGS-certified mixture of pesticides and herbicides was spiked into approximately 3 liters of organic-free blank water August 8, 2005 to create three 1-L triplicate quality-assurance samples which were submitted to the U.S. Geological Survey National Water Quality Laboratory. These samples are used to determine both precision and accuracy. Concentrations of pesticides and herbicides (in µg/L) and calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculations; E = estimated value; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

		Concentration, in micrograms per liter			
			Laboratory results		
Parameter code	Constituent	Assumed for blank water	Spiked Blank (08/08/05 @ 1110)	Calculated concentration in spiked blank [a]	Recovery in percent
		A	B	C	[(B-A)/C] x 100
49260	Acetochlor	<0.006	0.544	.40	136
46342	Alachlor	<0.005	0.506	.40	126
34253	Alpha HCH	<0.005	0.507	.40	127
39632	Atrazine	<0.007	0.493	.40	123
82673	Benfluralin	<0.010	0.281	.40	70
04028	Butylate	<0.004	0.428	.40	107
82680	Carbaryl	<0.041	E0.274	.40	68
82674	Carbofuran	<0.020	E0.312	.40	78
38933	Chlorpyrifos	<0.005	0.475	.40	119
04041	Cyanazine	<0.018	0.407	.40	102
82682	DCPA (Dacthal)	<0.003	0.532	.40	133
04040	CIAT (Desethyl Atrazine)	<0.006	E0.106	.40	26
62170	Desulfinylfipronil	<0.012	0.493	.40	123
62169	Desulfinylfipronil amide	<0.029	E0.221	.40	55
39572	Diazinon	<0.005	0.513	.40	128
39381	Dieldrin	<0.009	0.540	.40	135
82660	2,6-Diethyl Aniline	<0.006	0.342	.40	85
82677	Disulfoton	<0.021	E0.278	.40	69
82668	EPTC	<0.004	0.380	.40	95
82663	Ethalfluralin	<0.009	0.272	.40	68
82672	Ethoprophos	<0.005	0.368	.40	92
62166	Fipronil	<0.016	E0.339	.40	85
62167	Fipronil sulfide	<0.013	0.465	.40	116
62168	Fipronil sulfone	<0.024	0.310	.40	77
04095	Fonofos	<0.003	0.524	.40	131
39341	Lindane	<0.004	0.511	.40	128
82666	Linuron	<0.035	E0.655	.40	164
39532	Malathion	<0.027	0.395	.40	99
82686	Methyl Azinphos	<0.050	E0.263	.40	66
82667	Methyl Parathion	<0.015	0.440	.40	110
39415	Metolachlor	<0.006	0.500	.40	125
82630	Metribuzin	<0.006	0.267	.40	67
82671	Molinate	<0.003	0.402	.40	100
82684	Napropamide	<0.007	0.481	.40	120
34653	P, P' DDE	<0.003	0.235	.40	59
39542	Parathion	<0.010	0.453	.40	113
82669	Pebulate	<0.004	0.395	.40	99
82683	Pendimethalin	<0.022	0.306	.40	76
82687	Permethrin, cis	<0.006	0.162	.40	40
82664	Phorate	<0.011	0.311	.40	78
04037	Prometon	<0.010	0.405	.40	101
04024	Propachlor	<0.010	0.445	.40	111
82679	Propanil	<0.011	0.444	.40	111
82685	Propargite	<0.023	0.271	.40	68
82676	Propyzamide	<0.004	0.471	.40	118
04035	Simazine	<0.005	0.430	.40	107
82670	Tebuthiuron	<0.016	0.401	.40	100
82665	Terbacil	<0.034	E0.172	.40	43
82675	Terbufos	<0.017	0.310	.40	77
82681	Thiobencarb	<0.010	0.536	.40	134
82678	Triallate	<0.006	0.504	.40	126
82661	Trifluralin	<0.009	0.278	.40	69

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.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM SPIKED SAMPLES

REMARKS.--A commercially-available anion solution (including nitrate-N and nitrite-N) of known concentration was spiked into 1-L of inorganic blank water. Three triplicate spiked samples (August 8, 2005 at 0850, 0900, and 0910) were submitted for analysis to the Pennsylvania Department of Environmental Protection Laboratory for estimates of precision and accuracy. One interlab sample (time = 0920) was submitted to the USGS NWQL. Concentrations of analytes in blank water were assumed to be less than the reporting limits for purposes of calculations. Concentrations of nitrate-N and nitrite-N (in mg/L) and calculated recoveries (in percent) are shown in the table below for estimations of accuracy. Less-than values were set equal to zero for calculations; "<" = less than.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

	Concentration, in milligrams per liter								
	Laboratory results								
	Assumed Concentration of Blank			Spiked Blank		Calculated[a] concentration in spiked blank		Recovery in percent	
Sample Time	Nitrate A	Nitrite A	Nitrate + Nitrite-N	Nitrate-N B	Nitrite-N B	Nitrate-N C	Nitrite-N C	Nitrate-N [(B-A)/C] x 100	Nitrite-N
0850	<0.04	<0.01	9.82	7.91	1.91	8.68	1.83	91	104
0900	<0.04	<0.01	9.96	8.02	1.94	8.68	1.83	92	106
0910	<0.04	<0.01	9.78	7.87	1.91	8.68	1.83	91	104
Nitrate + nitrite									
0920	<0.06	<0.008	10.38	8.59	1.80	8.68	1.83	99	98

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

Using the results from these spiked triplicate samples (times 0850, 0900, and 0910), the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated as a measure of precision using the following formula:

RSD = standard deviation of triplicate results divided by the mean concentration of the triplicate results

RSD Nitrate-N = 0.01 mg/L
RSD Nitrite-N = 0.01 mg/L

401435076540910 - QUALITY-ASSURANCE RESULTS FROM REFERENCE MATERIAL

REMARKS.--A U.S. Geological Survey Nutrient Standard Reference Water Sample (SRWS) N86 was submitted to the Pennsylvania Department of Environmental Protection, Bureau of Laboratories, on June 21, 2005 for estimation of accuracy. Blank water concentration is assumed to be less than the reporting limits for purpose of calculation. The concentrations of nitrate-N (in mg/L) and nitrite-N (in mg/L) and the calculated recoveries (in percent) are shown in the table below for estimation of accuracy. Less-than values were set equal to zero for calculation; "<" = less than; "mg/L" = milligrams per liter.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

	Concentration, in milligrams per liter			
	Laboratory results			
Constituent	Assumed Concentration of Blank Nitrate A	Reported Value of Nitrate in SRWS B	Prepared Sample Value of Nitrate in SRWS C	Recovery in percent [(B-A)/C] x 100
Nitrate-N	<0.04	0.62	0.637	97
Nitrite-N	<0.01	0.06	0.054	111

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

401435076540910 - QUALITY-ASSURANCE RESULTS FROM PESTICIDE-SPIKED SAMPLES

Analyte	Percent Relative Standard Deviation of Pesticide Recoveries, by Date of Triplicate Spike			Median Percent Recovery	Analyte	Percent Relative Standard Deviation of Pesticide Recoveries, by Date of Triplicate Spike			Median Percent Recovery
	May 24, 2005	June 21, 2005	Aug. 8, 2005			May 24, 2005	June 21, 2005	Aug. 8, 2005	
Alpha-HC	8.8	2.0	2.1	104	Parathion-methyl	14	6.2	5.8	98
Acetochlor	13	3.9	4.5	124	Metolachlor	15	5.5	2.9	116
Alachlor	14	3.9	3.3	119	Metribuzin	12	31	16	52
2,6 –Diethylaniline	17	2.0	3.6	78	Molinate	5.6	0.6	1.2	91
Atrazine	1.9	5.2	2.6	113	Napropamide	40	2.3	3.2	92
Desethyl atrazine (currently CIAT {2-chloro-4-isopropy-lamino-6-amino-s-trizine})	20	53	16	20	p,p’-DDE	21	2.3	3.6	60
Azinphos-methyl	7.2	10	6.5	55	Parathion	13	4.3	5.3	116
Benfluralin	13	4.1	3.9	78	Pebulate	6.7	1.9	2.2	93
Butylate	9.4	2.0	1.5	102	Pendimethalin	18	2.1	4.8	76
Carbaryl	17	22	12	70	Phorate	18	8.0	6.7	52
Carbofuran	14	40	9.6	72	Prometon	7.7	5.2	3.1	101
Chlorpyrifos	5.7	2.6	3.8	97	Propyzamide	9.9	3.3	3.3	106
cis-Permethrin	19	6.7	4.4	40	Propachlor	7.4	3.8	2.8	106
Cyanazine	2.1	54	9.7	94	Propanil	5.3	6.3	3.8	93
Dacthal (DCPA)	11	1.3	2.2	128	Propargite	8.8	4.4	6.2	70
Desulfinylfipronil	13	5.5	3.4	124	Simazine	2.2	25	6.1	97
Desulfinylfipronil amide	5.9	95	12	55	Tebuthiuron	2.8	35	6.9	93
Diazinon	14	2.9	2.0	102	Terbacil	17	42	20	37
Diazinon-d10 (surrogate)	--	--	--	--	Terbufos	4.2	3.1	2.8	74
Dieldrin	44	2.4	4.1	84	Thiobencarb	3.1	3.0	3.2	116
Disulfoton	20	9.1	9.0	44	Triallate	12	3.1	2.6	83
EPTC	6.8	2.3	2.2	91	Trifluralin	5.5	1.2	3.1	70
Ethalfluralin	5.7	2.4	3.9	74					
Ethoprophos	9.1	2.3	3.0	88					
Fipronil	19	10	5.0	114					
Fipronil sulfide	18	8.5	3.6	116					
Fipronil sulfone	3.8	9.4	5.1	87					
Fonofos	2.4	2.1	2.3	102					
alpha-HCH-d6 (surrogate)	--	--	--	--					
Lindane	7.8	2.9	2.5	110					
Linuron	13	6.2	5.5	68					
Malathion	5.6	5.2	4.3	101					

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

402122077131601 - PE 686 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate nitrate and samples were submitted June 8, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results.

OCTOBER 2004 TO SEPTEMBER 2005

	Concentration, in milligrams per liter	
	Laboratory results	
Sample Time	Nitrate-N	Nitrite-N
0840	1.24	0.03
0841	1.26	0.03
0842	1.24	0.03

Using the results from triplicate samples, the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean concentration of the triplicate results

RSD Nitrate-N = 0.001 mg/L
RSD Nitrite-N = 0.0 mg/L

410604076493401 - NU 570 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate nitrate and nitrite samples were submitted June 21, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results.

OCTOBER 2004 TO SEPTEMBER 2005

	Concentration, in milligrams per liter	
	Laboratory results	
Sample Time	Nitrate-N	Nitrite-N
0945	4.10	<0.01
0946	3.99	<0.01
0947	3.79	<0.01

Using the results from triplicate samples, the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean concentration of the triplicate results

RSD Nitrate-N = 0.04 mg/L
RSD Nitrite-N = 0.0 mg/L

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

405931076555601 - UN 205 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate samples of total coliform and *E. coli* bacteria were submitted June 21, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results.

OCTOBER 2004 TO SEPTEMBER 2005

	Most Probable Number per 100 Milliliters		Number of Bacteria			
	Laboratory results		Colilert tray method variability			
			Total coliform		*E. coli*	
			95% confidence limits			
Sample Time	Total coliform	*E. coli*	Lower	Upper	Lower	Upper
1130	3	0	1	9	0	4
1131	1	0	<1	6	0	4
1132	2	0	1	7	0	4

Using the results from triplicate samples, the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean most probable number of the triplicate results

RSD Total Coliform = 0.5 MPN colonies
RSD *E. coli* = 0.0 MPN colonies

394703078102101 - FU 250 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate samples of total coliform and *E. coli* bacteria were submitted August 2, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results.

OCTOBER 2004 TO SEPTEMBER 2005

	Most Probable Number per 100 Milliliters		Number of Bacteria			
	Laboratory results		Colilert tray method variability			
			Total coliform		*E. coli*	
			95% confidence limits			
Sample Time	Total coliform	*E. coli*	Lower	Upper	Lower	Upper
0820	6	0	3	14	0	4
0821	1	0	<1	6	0	4
0822	3	0	1	9	0	4

Using the results from triplicate samples, the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean most probable number of the triplicate results

RSD Total Coliform = 0.75 MPN colonies
RSD *E. coli* = 0.0 MPN colonies

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

403959077311101 - MF 407 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate samples (times = 1050, 1051, and 1052) of total coliform and *E. coli* bacteria were submitted August 15, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results. An interlab sample (time = 1053) was also submitted to the USGS Ohio Microbiology Laboratory.

OCTOBER 2004 TO SEPTEMBER 2005

	Most Probable Number per 100 Milliliters		Number of Bacteria			
	Laboratory results		Colilert tray method variability			
			Total coliform		*E. coli*	
			95% confidence limits			
Sample Time	Total coliform	*E. coli*	Lower	Upper	Lower	Upper
1050	1	0	<1	6	0	4
1051	1	0	<1	6	0	4
1052	1	0	<1	6	0	4
1053	0	0	0	4	0	4

Using the results from triplicate samples (times 1050, 1051, and 1052), the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean most probable number of the triplicate results

RSD Total Coliform = 0.0 MPN colonies
RSD *E. coli* = 0.0 MPN colonies

401724078195801 - BA 437 - QUALITY-ASSURANCE RESULTS FROM REPLICATE SAMPLES

REMARKS.--Replicate samples (times = 0940, 0950, and 0955) of total coliform and *E. coli* bacteria were submitted September 7, 2005 to the Pennsylvania Department of Environmental Protection Laboratory for estimation of precision in results. An interlab sample (time = 0945) was also submitted to the USGS Ohio Microbiology Laboratory.

OCTOBER 2004 TO SEPTEMBER 2005

	Most Probable Number per 100 Milliliters		Number of Bacteria			
	Laboratory results		Colilert tray method variability			
			Total coliform		*E. coli*	
			95% confidence limits			
Sample Time	Total coliform	*E. coli*	Lower	Upper	Lower	Upper
0940	200	2	136	388	1	7
0950	130	3	93	195	1	9
0955	200	0	136	388	0	4
0945	198	1	136	388	<1	6

Using the results from triplicate samples (times = 0940, 0950, 0955), the Relative Standard Deviation (RSD), otherwise known as the coefficient of variation, was calculated using the following formula:

RSD = standard deviation of triplicate results divided by the mean most probable number of the triplicate results

RSD Total Coliform = 0.23 MPN colonies
RSD *E. coli* = 0.92 MPN colonies

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
GROUND WATER PESTICIDES NETWORK PROJECT

QUALITY-ASSURANCE RESULTS FROM BACTERIA INTERLAB-SEQUENTIAL DUPLICATE SAMPLES

REMARKS.-- Twelve total coliform and *E. coli* bacteria-interlab-duplicate samples were submitted to the Pennsylvania Department of Agriculture (PDA) Microbiology lab for comparison of results with those obtained from the Pennsylvania Department of Environmental Protection laboratory (PADEP). MPN = Most Probable Number.

Local Well No.	Station ID	Date and Time of Sample Collection	Total Coliform, MPN per 100 mL		*E. coli*, MPN per 100 mL	
			PADEP	PDA	PADEP	PDA
BD-656	394938078383901	08/01/05 @ 1020	<1	<1	< 1	<1
BD-253	400351078324401	08/01/05 @ 1325	450	>200.5	3	2
FU-250	394703078102102	08/02/05 @ 0820	6	4.2	<1	<1
MF-406	402539077511701	08/02/05 @ 1250	5	8.7	<1	<1
HU-428	401139078002001	08/02/05 @ 1040	200	>200.5	14	4.2
JU-373	403801077153701	08/08/05 @ 1035	95	59	<1	<1
CN-430	410955077190201	08/09/05 @ 1045	<1	11	<1	<1
LY-688	411319076452401	08/09/05 @ 1355	1	1	<1	<1
CN-154	410529077315501	08/10/05 @ 1105	200	>200	<1	<1
PE-850	402223077282501	08/31/05 @ 0945	18	25	<1	2
BD-373	394744078435401	08/31/05 @ 1500	74	66	2	1
BA-437	401724078195801	09/07/05 @ 0940	200	83	2	<1

QUALITY-ASSURANCE RESULTS FROM PESTICIDE INTERLAB-SEQUENTIAL DUPLICATE SAMPLES

REMARKS.-- Two sets of pesticide interlab-sequential duplicates were submitted to the the USGS National Water Quality Lab (NWQL) in Denver, CO and the USGS Organic Geochemistry Research Laboratory (OGRL) in Lawrence, KS on September 7, 2005 for comparison of results.

Site ID: 401724078195801 (BA 437)

9/7/05 at 0940 (NWQL) and 0930 (OGRL)

Pesticide	USGS NWQL Concentration in µg/L	USGS OGRL Concentration in µg/L
Triazine Parents		
Atrazine	0.917	0.51
Cyanazine	E0.084	0.08
Prometon	0.265	0.19
Simazine	0.110	0.09
Triazine Degradation Product		
Deethylatrazine (DEA); also known as CIAT	E0.121	0.27
Phenylurea Parent		
Linuron	<0.035	<0.20
Acetamide Parents		
Acetochlor	<0.006	<0.02
Alachlor	0.397	0.36
Metolachlor	E22.5	20
Propachlor	<0.025	<0.02

Site ID: 401832078191901 (BA 332)

9/7/05 at 1450 (NWQL) and 1500 (OGRL)

Pesticide	USGS NWQL Concentration in µg/L	USGS OGRL Concentration in µg/L
Triazine Parents		
Atrazine	0.071	<0.025
Cyanazine	<0.018	<0.025
Prometon	0.023	0.03
Simazine	0.009	<0.025
Triazine Degradation Product		
Deethylatrazine (DEA); also known as CIAT	E0.063	0.12
Phenylurea Parent		
Linuron	<0.035	<0.20
Acetamide Parents		
Acetochlor	<0.006	<0.02
Alachlor	<0.005	<0.02
Metolachlor	E0.005	0.14
Propachlor	<0.025	<0.02

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