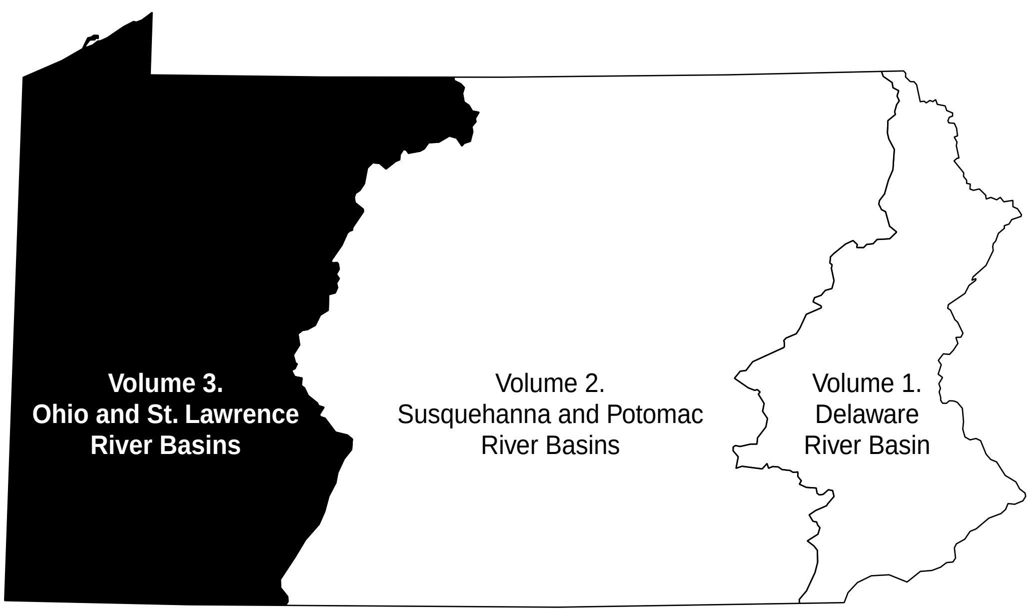
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data Pennsylvania Water Year 2002

Volume 3. Ohio and St. Lawrence River Basins

By Raymond W. Siwicki

Water-Data Report PA-02-3



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

U.S. DEPARTMENT OF THE INTERIOR

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U.S. GEOLOGICAL SURVEY

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2003

PREFACE

This volume of the annual hydrologic data report of Pennsylvania is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Pennsylvania are contained in 3 volumes.

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

Volume 3 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of William H. Werkheiser, District Chief, Pennsylvania District; Robert A. Hainly, Assistant District Chief for Hydrologic Surveillance and Data Management; Raymond W. Siwicki, Chief of the Hydrologic Surveillance Program, Pittsburgh, and Steven McAuley, Chief, Pittsburgh Project Office. It is the product of a team effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the author, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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CONTENTS

CONTENTS--Continued

ILLLUSTRATIONS

TABLES

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, (e) elevation, gage heights, or contents.]

OHIO RIVER BASIN

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

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

OHIO RIVER BASIN--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 DATA COLLECTED AT SPECIAL-STUDY SITES

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

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
OHIO AND ST. LAWRENCE RIVER BASINS			
Newell Creek near Port Allegany	03008000	7.79	1966-78
Potato Creek at Smethport	03009680	160	1975-95
Allegheny River at Larabee	03010000	530	1921 1926-39
Kinzua Creek at Dewdrop	03012000	171	1909-16
Allegheny River at Kinzua Dam	03012550	2,180	1936-91
Jackson Run near North Warren	03015280	12.8	1963-78
Allegheny River at Warren	03015310*	3,131	1989-94
Tionesta Creek at Sheffield	03016500	128	1942-46
South Branch Tionesta Creek at Barnes	03017000	85.3	1942-46
Tionesta Creek at Lynch	03017500*	233	1938-79
Tionesta Creek at Mayburg	03018000	307	1942-46
Tionesta Creek at Butler Bridge (near Nebraska)	03018500	420	1919-23
Tionesta Creek at Nebraska	03019000	469	1910-11 1924-40
Tionesta Creek at Tionesta Dam	03020000	479	1941-91
Oil Creek near Rouseville	03021000	315	1910-32
West Branch French Creek near Lowville	03021410	52.3	1975-93
French Creek at Carters Corners	03021500	208	1910-71
French Creek near Union City	03021520	221	1972-91
Little Conneauttee Creek near McKean	03021700	3.60	1961-78
French Creek at Venango	03022000*	597	1939-46
French Creek at Saegerstown	03022500	629	1921-39
Woodcock Creek at Blooming Valley	03022540*	31.1	1975-95
Woodcock Creek at Woodcock Creek Dam	03022554	45.6	1975-91
Cussewago Creek near Meadville	03023000	90.2	1911-38
French Creek at Carlton	03023500	998	1908-25

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS—Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Sugar Creek at Wyattville	03024500	153	1910-16
Sugar Creek at Sugarcreek	03025000*	166	1933-79
Patchel Run near Franklin	03025200	5.69	1965-78
E. Branch Clarion River at E. Branch Clarion River Dam	03027500	73.2	1949-91
Clarion River at Johnsonburg	03028500*	204	1946-95
Clarion River at Ridgway	03029000*	303	1941-53
Toms Run at Cooksburg	03029400	12.6	1960-78
Clarion River near Clarion	03030000	930	1919-23
Clarion River at Callensburg	03030852*	1,163	1979-85
Clarion River at St. Petersburg	03031000	1,246	1942-53,1974-75
Big Run near Sprankle Mills	03031950	7.38	1964-81
Allegheny River near Rimer	03033000	8,389	1939-45
Stump Creek at Cramer	03033500	22.1	1942-46
Mahoning Creek at Dayton	03035000	321	1921-40
Mahoning Creek at Mahoning Creek Dam	03036000	344	1939-91
Crooked Creek at Creekside	03037000	67.6	1942-46
South Branch Plum Creek at Five Points	03037350	33.3	1996-98
South Branch Plum Creek at Willet	03037500	30.0	1942-46
Crooked Creek at Crooked Creek Dam	03039000	278	1910-91
Clear Run near Buckstown	03039200	3.68	1965-78
Stony Creek at Hollsopple	03039500	244	1937-40
North Fork Bens Creek at North Fork Reservoir	03039925	3.45	1985,1988-98
Little Conemaugh River at East Conemaugh	03041000*	183	1939-95
Little Yellow Creek near Strongstown	03042200	7.36	1961-78,1987-88
Yellow Creek near Penn Run	03042250	50.4	1964-67
Blacklick Creek at Blacklick	03043000	390	1908-51
Conemaugh River at Tunnelton	03044000	1,358	1940-91
Loyalhanna Creek at New Alexandria	03045500	265	1920-23,1926-40
Loyalhanna Creek at Loyalhanna Dam	03047000	292	1940-91
Kiskiminetas River at Avonmore	03047500	1,723	1908-37

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS—Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Deer Creek near Dorseyville	03049646	27.0	1996-98
Monongahela River at Point Marion	03063000	2,720	1937-55
Stony Fork Tributary near Gibbon Glade	03070420	0.93	1977-95
Stony Fork near Elliottsville	03070455	7.44	1977-85
Monongahela River at Greensboro	03072500	[a]4,367	1939-95
Georges Creek at Smithfield	03072590	16.3	1964-78
Tenmile Creek near Clarksville	03072840	133	1969-79
South Fork Tenmile Creek at Jefferson	03073000	180	1932-95
Dunlap Creek at Allison	03074000	33.1	1943-51
Lick Run at Hopwood	03074300	3.80	1967-78
Youghiogheny River at Youghiogheny River Dam	03077500	436	1940-91
Big Piney Run near Salisbury	03078500	24.5	1932-70
Youghiogheny River at Ohiopyle	03081500	1,062	1928-50
Poplar Run near Normalville	03082200	9.27	1962-78
Green Lick Run at Green Lick Reservoir	03083000	3.07	1942-79
Abers Creek near Murrysville	03084000	4.39	1949-93
Turtle Creek at Trafford	03084500	55.9	1921-52
Chartiers Creek at Crafton	03085500	270	1972-75
Big Sewickley Creek near Ambridge	03086100	15.6	1968-78
Shenango River near Turnersville	03100000	152	1912-22
Sugar Run at Pymatuning Dam	03101000	8.59	1934-55
Shenango River near Jamestown	03102000	181	1920-34
Pymatuning Creek near Orangeville	03103000	169	1914-23,1926-63
Shenango River at Sharpsville	03103500	584	1938-91
Shenango River at Sharon	03104000	608	1910-38
Shenango River at New Castle	03104500[*]	792	1910-11,1913-34
Cool Spring Creek near Jackson Center	03104580	13.0	1962-68
Harthegig Run near Greenfield	03104760	2.26	1969-81
Neshannock Creek at Eastbrook	03105000	228	1918-23
Wolf Creek near Slippery Rock	03106140	86.6	1977-82

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS—Continued

Station name	Station number	Drainage area (mi^2)	Period of record (water years)
Ohio River at Montgomery Island Dam	03108500	[b]22,960	1941-51
Brush Run near Buffalo	03111150	10.3	1961-78,1983-85
Enlow Fork near West Finley	03111585	38.1	1979-85
Raccoon Creek near West Springfield	04213040	2.53	1969-94

***** Currently operated as a partial-record station.
[a] Formerly published as 4,407.
[b] About.

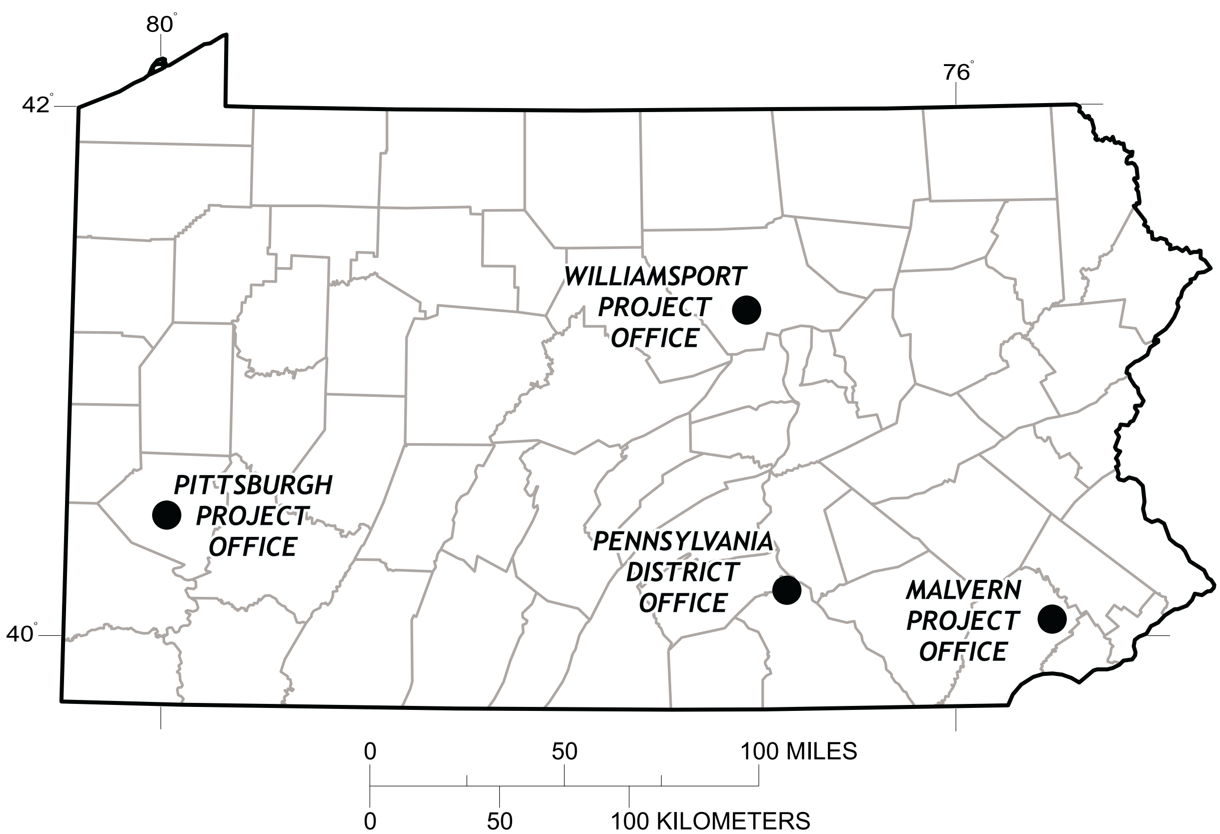
The following continuous-record water-quality stations (listed by downstream order) have been discontinued. Daily records were collected and published for the period shown for each constituent. Discontinued stations with less than 3 years of record, or stations with data collection less than daily, have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

The following are used to identify the record type: SC (specific conductance); pH; Temp (water temperature); 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)
OHIO AND ST. LAWRENCE RIVER BASINS				
Brokenstraw Creek at Youngsville	03015500	321	Sed	1969-70
Oil Creek at Rouseville	03020500	300	Sed	1971-72
Clarion River at Cooksburg	03029500	807	Sed	1971-73
Redbank Creek at St. Charles	03032500	528	Sed	1969-70,1977-79
Beaver Run near Troutville	03033222	2.21	Sed	1980-81
East Branch Mahoning Creek near Big Run	03033225	29.6	Sed	1979-81
Stonycreek River at Ferndale	03040000	451	Sed	1978-79
			Temp	1978-79,1997-98
			SC,pH	1997-98
Loyalhanna Creek at Kingston	03045000	172	Sed	1970-77
Allegheny River at New Kensington	03049625	11,500	SC	1975-81
			Temp	1975-81,1997-98
			Sed	1977-79
Stony Fork Tributary near Gibbon Glade	03070420	0.93	Sed,Temp,SC,pH	1978-88
Stony Fork near Elliotsville	03070455	7.44	Sed,Temp,SC,pH	1978-85
Whiteley Creek near Kirby	03072670	5.95	Sed	1979-82
Castile Run at Clarksville	03073030	6.21	Sed	1980-81
Champion Run at Melcroft	03082120	13.8	Sed	1986-87
Poplar Run near Normalville	03082190	8.83	Sed,Temp,SC,pH	1986-88
Indian Creek at White Bridge	03082237	91.2	Temp,SC,pH	1986-87
Monongahela River at Braddock	03085000	7,337	Temp	1973-79,1997-98
			SC	1973-75
			Sed	1973-79
Enlow Fork near West Finley	03111585	38.1	Sed	1980-85

PENNSYLVANIA DISTRICT OFFICE LOCATIONS AND ADDRESSES



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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, municipal, and Federal agencies, collects a large amount of data pertaining to the water resources of Pennsylvania each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, these data are published annually in this report series entitled "Water Resources Data - Pennsylvania, Volumes 1, 2, and 3." Volume 1 contains data for the Delaware River Basin; Volume 2, the Susquehanna and Potomac River Basins; and Volume 3, the Ohio and St. Lawrence River Basins.

This report, Volume 3, contains: (1) discharge records for 60 continuous-record streamflow-gaging stations, 5 partial-record stations, and 13 special study and miscellaneous streamflow sites; (2) elevation and contents records for 11 lakes and reservoirs; (3) water-quality records for 23 streamflow gaging stations and 33 ungaged streamsites; (4) water-level records for 23 ground-water network observation wells; and, (5) water-quality analyses at 28 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-02-3." 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 Pennsylvania District Office 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 District Information Specialist by telephone at (717) 730-6916 or by FAX at (717) 730-6997.

COOPERATION

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

The Commonwealth of Pennsylvania, Department of Environmental Protection, David E. Hess, Secretary, through the following:
Office of Water Management, Christine Martin, Deputy Secretary;
Bureau of Water Supply and Wastewater Management, Frederick Marrocco, Director;
Bureau of Watershed Management, Stuart I. Gansell, Director;
Bureau of Waterways Engineering, Michael Conway, Director.

Allegheny County Airport Authority, Richard C. Belotti, Director of Planning.
Harmony Water Authority, David Szakelyhidi, Chairman.
Indiana County Municipal Services Authority, Michael Duffalo, Executive Director.

New York State Department of Environmental Conservation, Erin M. Crotty, Commissioner.

Federal Energy Regulatory Commission Licensee:
Reliant Energy, Mid-Atlantic Power

COOPERATION--Continued

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

The following organizations aided in collecting records: Allegheny Power Service Corp. and Latrobe Municipal Authority.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Streamflows in the Upper Ohio and St. Lawrence River Basins during water year 2002 were below normal. The annual measured streamflow was 77 percent of the median of the 1961-90 annual mean streamflow at the Ohio River index gaging station, Oil Creek at Rouseville, Pa. (station 03020500).

The monthly mean streamflow (fig. 1) was above normal for May, normal for the months of October, December, January, February, April, June, July, and below normal for all the other months of the year. Several of the months defined as normal had mean streamflow that were near the long-term 25-percentile flow. For the purposes of this analysis, an above normal streamflow is defined as flow greater than the long-term 75 percent flow, and below normal streamflow is flow less than the long-term 25 percent flow.

For the last several years, a period of severe drought, followed by short-term partial recovery has occurred throughout the state, and this year is no exception. Although there were several months in the year where a recovery in streamflow began to occur, the streamflow at the Ohio River Basin index station indicates that the major trend for this year was one of partial recovery followed by short periods of drought. Most of the recovery of streamflows occurred in the winter and spring of 2001-2002, and then, with the exception of July, the remaining period of the year showed streamflow below normal. The index station streamflow for the months of August and September was below normal indicating a trend seen in previous years.

A comparison of the monthly and yearly mean streamflow during the 2002 water year with that of the 1961-90 reference period for Oil Creek at Rouseville, Pa., is shown in figure 1.

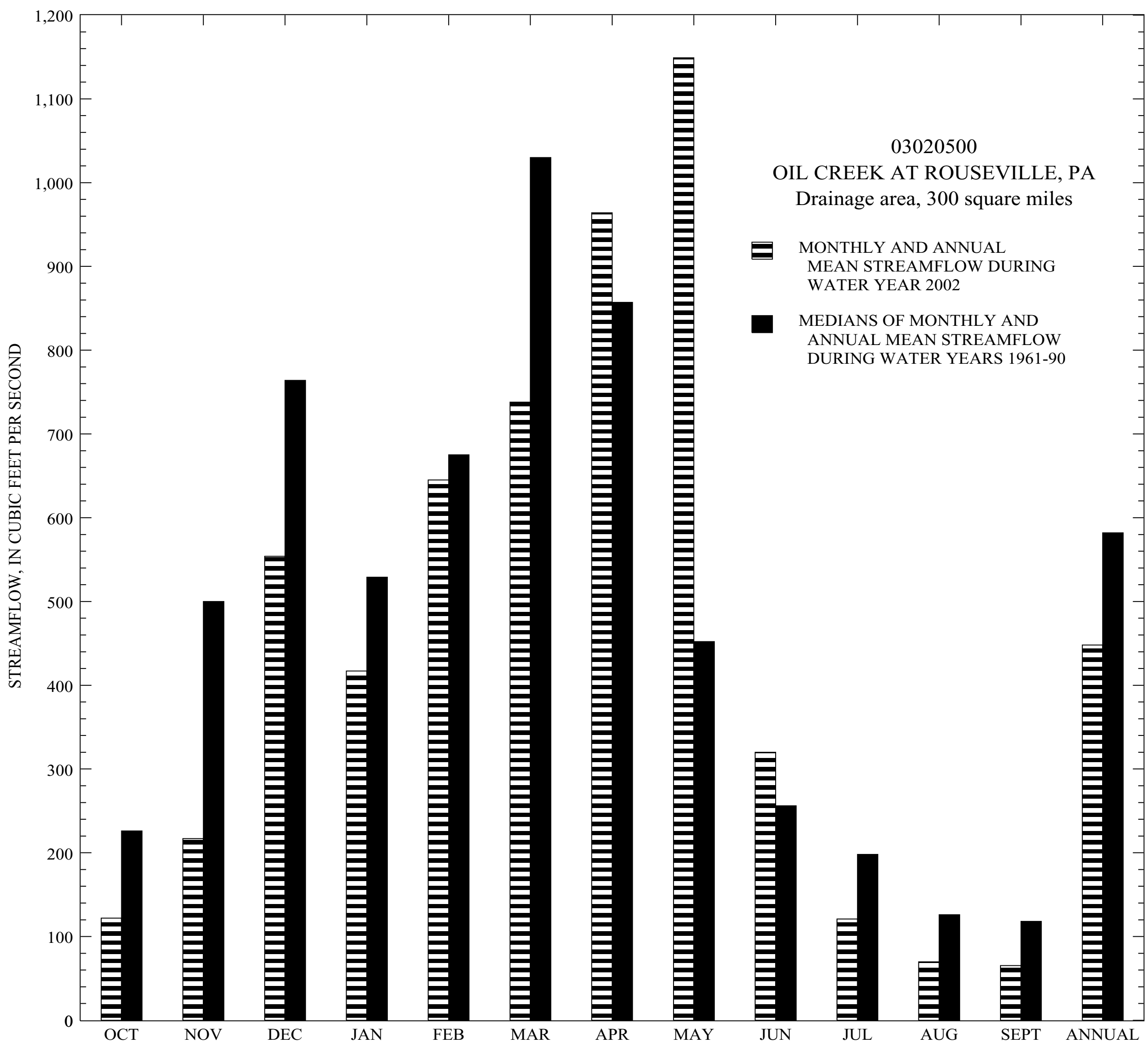

Figure 1.--Comparison of monthly and annual mean streamflow during water year 2002 with the medians of monthly and annual mean streamflow during water years 1961-90.

SUMMARY OF HYDROLOGIC CONDITIONS

Ground Water

During the 2002 water year, ground-water levels reached annual highs in most observation wells during the late winter or spring and reached annual lows during October and November of 2001 and September 2002. Water levels during the 2002 water year for 15 network wells were averaged by season and compared to the long-term water level for these seasons (fig. 2). Long-term water levels were calculated from records ranging from 20 to 65 years in length.

In the fall of 2002 water year, seasonal water levels were above normal in one well, normal in seven wells, below normal in six wells, and much-below normal in one well (fig. 2). During the winter, water levels were normal or higher in 11 wells and below-normal in 1 well and much-below normal in 3 wells.

Period of record high water levels were observed in May at BV 156, BT 311, FO 11, WR 50, and WE 300. Precipitation records in these counties indicated 1 to 3 inches of precipitation above normal for May. In March and April, precipitation in these five counties was also about 0.5 inch above normal for each of the 2 months. This wet period of 3 months resulted in above normal recharge to the ground-water system causing the period of record high water levels at the five wells. In the spring, water levels were much-above normal in four wells, above normal in five wells, normal in four wells, and below normal in two wells.

The wet spring of 2002 was followed by a dry summer with precipitation deficits reported for July, August, and September at almost all counties in western Pennsylvania. The highest precipitation deficit for Pennsylvania for the month of August was a negative 2.9 inches in Crawford County. Because of the deficit precipitation during the summer and subsequent below normal ground-water recharge, most of the wells dropped to a lower category of water-level status during the summer when compared to the spring water levels. During the summer, water levels were above normal in 1 well, normal in 10 wells, and below normal in 3 wells and much-below normal in 1 well.

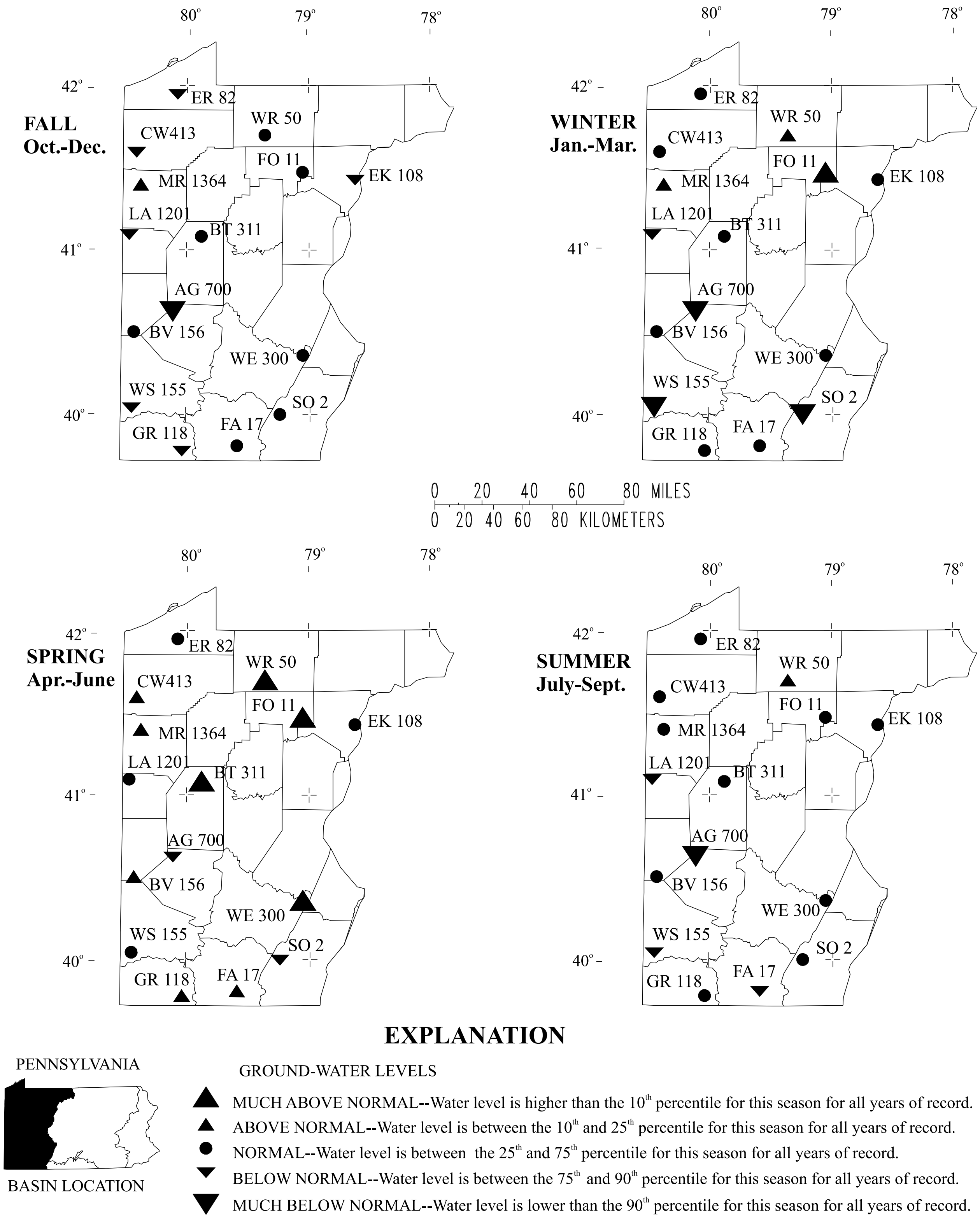

Figure 2.--Relation between 2002 seasonal mean ground-water levels and long-term mean ground-water levels *[Seasonal percentile values were determined by ranking the average monthly water levels for each month in the season from highest to lowest for all years of record and averaging the ranks for the three months. A water level that is higher than the seasonal 10th percentile value would be expected to occur only once in a ten-year period. Conversely, a water level that is lower than the seasonal 90th percentile value also would be expected to occur only once during a ten-year period.]*

SPECIAL NETWORKS AND PROGRAMS

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

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

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

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

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

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

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 2002 water year that began October 1, 2001, and ended September 30, 2002. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality 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 *03020500*, includes a 2-digit part number "*03*" plus a 6-digit downstream-order number "*020500*." The part number designates major river basins; for example, part "*03*" is the Ohio and St. Lawrence River Basins.

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. 3).

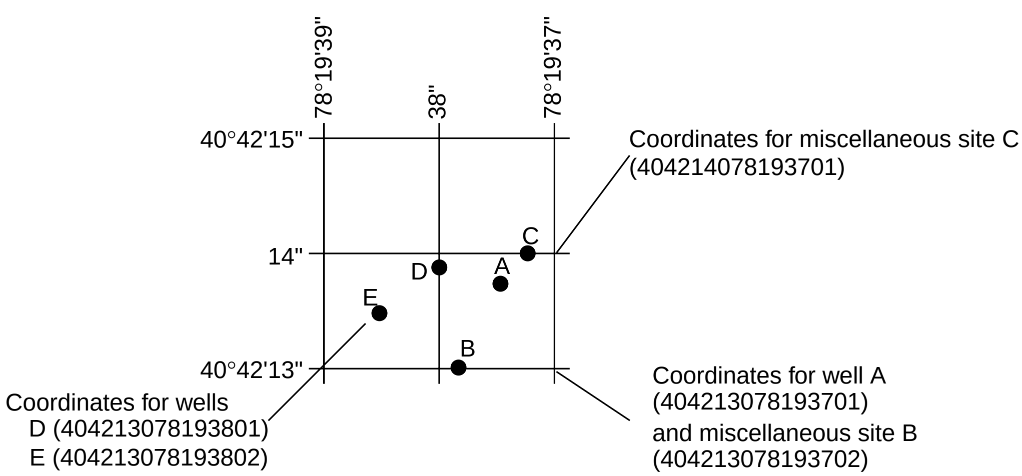

Figure 3.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "*Crest-stage partial-record stations*," or "*Low-flow partial-record stations*." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all continuous-record and partial-record stations for which data are given in this report are shown in figures 4 and 5.

Data Collection and Computation

Those data obtained at a continuous-record gaging station on a stream consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with solid-state electronic data loggers, or with data collection platforms (DCPs) that electronically record and transmit the data via satellite to ground receiving stations. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and the U.S. Geological Survey Techniques of Water-Resources Investigations (TWRIs), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations, the stage-discharge relation is affected by changing stage; at these stations, the rate of change in stage is used as a factor to compute discharge.

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

For some gaging stations, there are periods when no gage-height data are collected or when the recorded gage height is so imprecise or incorrect that it cannot be used to compute daily mean discharge or end-of-day contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "*Data Presentation*" (REMARKS paragraph) and "*Identifying Estimated Daily Discharge*."

Data Presentation

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

Station manuscript

For each continuous-record station, the manuscript provides, under various headings, descriptive information such as station location, period of record, historical extremes outside the period of record, record accuracy, and other remarks pertinent to station operation and regulation. The following comments, as appropriate, clarify information presented under the various headings of the station description.

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

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

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

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows; "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--This paragraph is used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peaks given here are similar to those found in the summary statistics table, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge (see Definition of Terms) are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

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

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

Beginning with the 1991 annual State Data report, headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, and EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the PEAK DISCHARGES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations streamflow is affected by regulation or diversion. The monthly adjusting figure for known regulation or diversion may be shown at the bottom of the daily values table or in the appropriate lake or reservoir table.

Statistics of monthly mean data

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

Summary statistics

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

Other Records Available

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

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

Records of Surface-Water Quality

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

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Specifically, a continuing record station is a site which meets one or all of the following conditions: (1) When chemical samples are collected daily or monthly for 10 or more months during the water year. (2) When water temperature records include observations taken one or more times daily. (3) When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "*continuing records*" as used in this report and "*continuous recordings*," which refers to a continuous graph or a series of discrete values 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. Location of stations for which records on the quality of surface water appear in this report are shown in figures 4 and 5.

Arrangement of Records

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

On-site Measurements and Sample Collection

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

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples collected for the National Water Quality Assessment Program (see Definition of Terms) are obtained from several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors that must be evaluated by the collector.

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

For chemical-quality stations equipped with digital monitors, the published records consist of daily maximum, minimum, and mean values for each constituent measured and are determined from data that are recorded at 15-, 30-, or 60-minute intervals by solid-state electronic data loggers, or with Data Collection Platforms (DCPs). More detailed records (measured values at a frequency greater than daily) may be obtained from the U.S. Geological Survey District Office at the address given on the back of the title page of this report or from *[http://waterdata.usgs.gov/pa/nwis/]*.

Water Temperature

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

Sediment

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

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb *[http://waterdata.usgs.gov/nwis/]*. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to insure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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

Accuracy of the Records

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

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

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

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

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

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

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

Remark Codes

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

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.

Dissolved Trace-Element Concentrations

NOTE.--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.

Change in National Trends Network Procedures

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

Water Quality-Control Data

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

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

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

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

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

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

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

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

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

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

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

Records of Ground-Water Levels

Ground-water level data from an observation well network and from ground-water projects are published herein. Locations of observation wells in the basic network are shown in figure 4. Ground-water data are grouped by counties, arranged in alphabetical order, and are listed on page x. Miscellaneous or short-term ground-water data collection projects are published following the basic network data.

Data Collection and Computation

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

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

Water-level records are obtained from direct measurements with a steel tape, from the graph of a water-level recorder, with solid-state electronic data loggers, or with Data Collection Platforms (DCPs). The water-level measurements in this report are given in feet with reference to land-surface datum (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 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 for most wells, especially historical network wells, are reported in feet above or below land surface datum. For some short term project wells the water levels may be reported as elevation (feet above sea level) for convenience of the project work. Water levels are reported daily for all wells equipped with recording gages.

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

Data Presentation

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

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

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

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

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

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

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

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

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

Data table of water levels

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

Records of Ground-Water Quality

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

Data Collection and Computation

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

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

Data Presentation

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

ACCESS TO USGS WATER DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. The Geological Survey provides near real-time stream stage, discharge, ground water well, and stream water-quality data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed at *[http://waterdata.usgs.gov/pa/nwis//]*.

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

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

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

DEFINITION OF TERMS

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

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

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

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

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also "Biomass" and "Dry weight")

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

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

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

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

Artificial substrate is a device that is purposely placed in a stream or lake for colonization of organisms. The artificial substrate 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 the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also "Biomass" and "Dry mass")

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

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

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

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

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

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

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

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

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

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

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

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

Blue-green algae (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

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

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL) or liter (L).

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

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ 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.

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

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

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

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

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

Color unit is produced by 1 milligram per liter of platinum in the form of the 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 are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] 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 concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

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

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

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

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

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

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

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

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

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

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) 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:

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

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

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

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

Dry mass refers to the mass of residue present after drying in an oven at 105 ˚C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

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

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

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 ˚C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus 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 are generally considered pollution sensitive; the index usually decreases with pollution.

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

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

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

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

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

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

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

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

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

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

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

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

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

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

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

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

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

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.co-ops.nos.noaa.gov/tideglos.html*

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

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

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

Horizontal datum (See "Datum")

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (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 utilizes the principle of Stokes law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

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

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

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

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

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

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

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

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

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

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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

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

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

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through 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 from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. (See also “Bed material”)

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

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

Return period (See “Recurrence interval”)

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

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

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

Runoff is the quantity of water that is discharged (“runs off”) from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also “Annual runoff”)

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

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as “fluvial sediment.” Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of pre-cipitation.

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

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

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

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

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

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

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

Stage (See “Gage height”)

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

Streamflow is the discharge that occurs in a natural channel. Although the term “discharge” can be applied to the flow of a canal, the word “streamflow” uniquely describes the discharge in a surface stream course. The term “streamflow” is more general than “runoff” as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

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

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

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

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of “suspended, recoverable” constituents are made either by directly analyzing the suspended mate-rial collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also “Suspended”)

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also “Sediment” and “Suspended sediment”)

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

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.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic 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:	Arthropoda
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 tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent’s physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total.” (Note that the word “total” does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also “Bacteria”)

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as “total sediment discharge,” “total chloride discharge,” and so on.

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

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

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

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

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

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

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

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

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

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

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

Vertical datum (See “Datum”)

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

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

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

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the “2002 water year.”

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

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

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

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. 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 titled the “Techniques of Water-Resources Investigations” that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

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

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.

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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.

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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.

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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.

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3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.

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3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.

3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.

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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.

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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.

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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.

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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.

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Book 7. Automated Data Processing and Computations

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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.

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Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8–A1. *Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

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

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9–A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9–A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

9–A3. *National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

9–A4. *National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

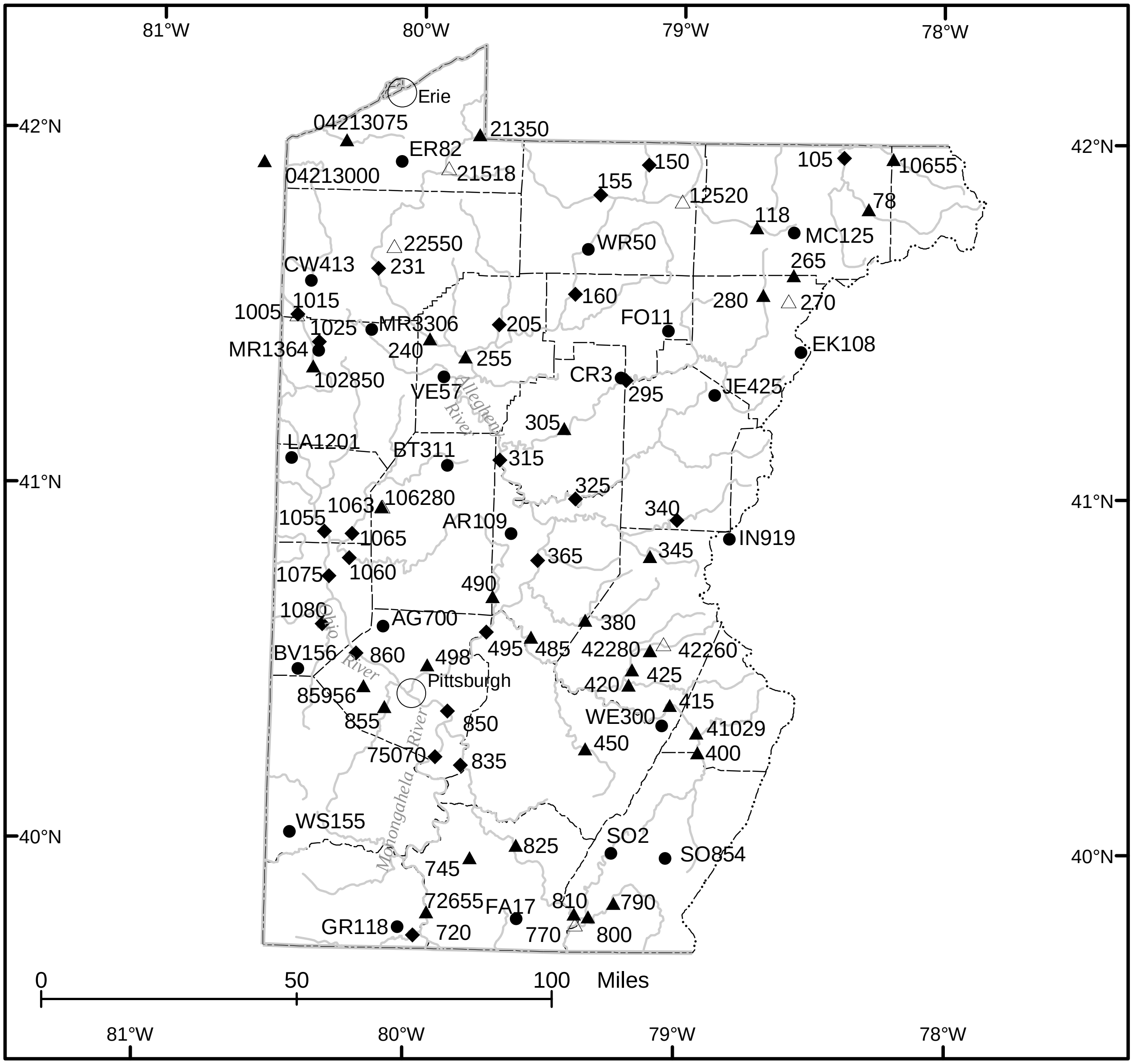
9–A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.

9–A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9–A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9–A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

9–A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.



EXPLANATION

TYPE

▲ Streamflow station

△ Lake

◆ Streamflow and water-quality station

● Observation well

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 03072000 is shown as 720, and station number 03042280 is shown as 42280).

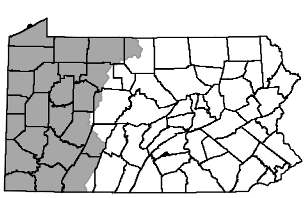
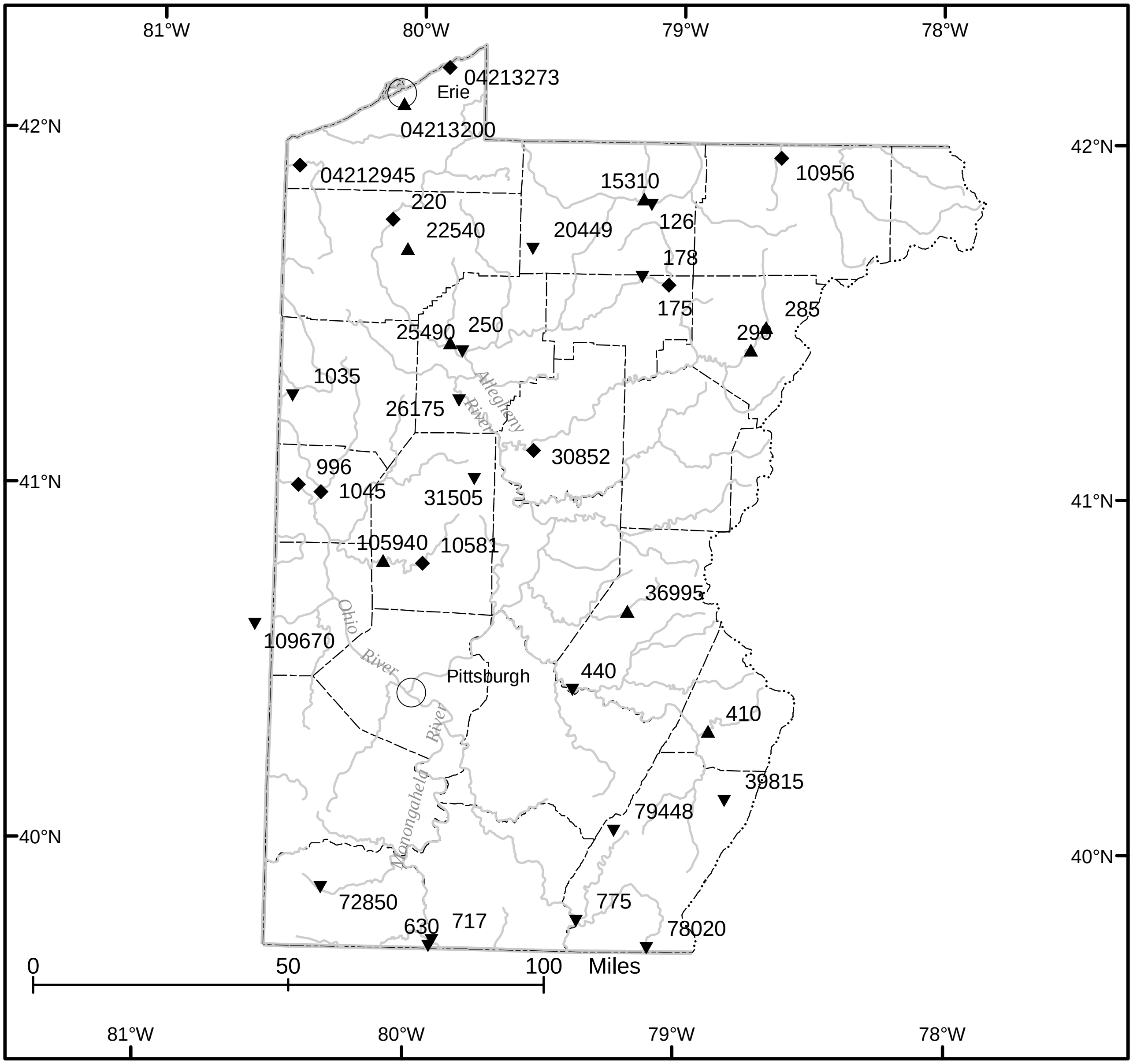
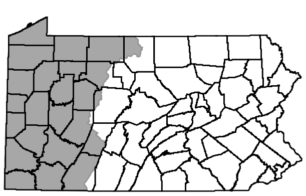


Figure 4.--Location of continuous-record data-collection stations and network observation wells.





EXPLANATION

▲ Streamflow station

◆ Streamflow and water-quality station

▼ Water-quality station

NOTE: Downstream station numbers are abbreviated; the first two digits (part number) and the last two digits (if zeros) are omitted (for example, station number 03041000 is shown as 410, and station number 03105940 is shown as 105940).

Figure 5.--Location of partial-record data-collection stations.

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:

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

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.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
ND	Material specifically analyzed for but not detected.
V	Analyte was detected in both the environmental sample and the associated blanks.

****

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

(71999) SAMPLE PURPOSE CODES:

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.)

****

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

1028 --U.S. Geological Survey

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

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

MEDIUM CODES: (partial listing)

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

SURFACE-WATER STATION RECORDS

OHIO RIVER MAIN STEM

03007800 ALLEGHENY RIVER AT PORT ALLEGANY, PA

LOCATION.--Lat 41°49'07", long 78°17'35", McKean County, Hydrologic Unit 05010001, on right bank 40 ft upstream from bridge on U.S. Highway 6 at Port Allegany, 1.1 mi upstream from Twomile Creek, 1.4 mi downstream from Allegheny Portage Creek, at mile 285.5.

DRAINAGE AREA.--248 mi^2.

PERIOD OF RECORD.--October 1974 to current year. Discharge measurements obtained by U.S. Army Corps of Engineers March 1971 to October 1974.

GAGE.--Water-stage recorder. Datum of gage is 1,454.88 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. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972 reached a stage of at least 17.5 ft, discharge, 21,700 ft^3/s, from U.S. Army Corps of Engineers discharge measurement. Actual peak discharge may have been greater.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,500 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 14	2300	*3,760	*9.56	June 6	2300	3,410	9.22

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	190	829	e208	1500	e274	1150	791	526	173	86	20
2	79	184	781	e191	1490	264	950	884	450	158	73	20
3	73	213	694	e178	1290	457	880	775	378	142	66	20
4	66	183	581	e165	1060	460	706	692	389	128	56	20
5	61	171	499	e160	806	434	585	619	556	115	176	20
6	60	162	430	e156	640	468	543	542	2760	104	172	20
7	61	154	375	e149	533	443	489	492	3050	97	125	20
8	57	149	330	e142	459	401	454	425	1970	92	101	20
9	52	152	314	e133	389	367	435	597	1270	86	86	20
10	50	140	279	e128	379	442	446	758	900	102	73	20
11	47	133	247	e121	666	364	386	685	663	82	64	19
12	45	123	220	e117	516	352	369	1110	517	74	57	19
13	47	113	228	e112	e489	343	451	2240	424	69	52	19
14	52	108	278	e109	e456	331	880	3410	1430	65	47	19
15	129	105	406	e104	e435	311	1910	3060	1710	62	48	21
16	106	103	363	e100	e412	325	1770	2030	1810	57	48	40
17	207	97	539	e95	e381	288	1370	1520	1560	53	53	30
18	196	91	1310	e90	e351	291	1060	1700	1210	50	46	22
19	168	89	1350	e87	e323	293	837	1500	909	49	39	21
20	157	115	1210	e91	309	325	694	1350	680	49	38	37
21	143	105	983	e98	379	389	564	1140	522	43	36	24
22	141	95	780	e106	e349	384	493	918	551	41	31	20
23	142	89	652	117	e325	403	426	737	557	49	34	18
24	368	85	616	225	e315	409	358	598	397	64	36	17
25	330	340	497	428	e308	403	335	502	330	44	34	16
26	304	526	420	469	e302	580	308	559	284	42	30	15
27	310	469	374	484	e296	1160	267	423	266	42	27	71
28	287	448	341	488	e287	1050	534	358	307	316	26	172
29	246	498	e295	519	---	1060	851	350	224	319	24	66
30	223	601	e260	821	---	1280	864	640	193	150	24	43
31	202	---	e225	1060	---	1230	---	579	---	106	22	---
TOTAL	4494	6031	16706	7451	15445	15581	21365	31984	26793	3023	1830	909
MEAN	145	201	539	240	552	503	712	1032	893	97.5	59.0	30.3
MAX	368	601	1350	1060	1500	1280	1910	3410	3050	319	176	172
MIN	45	85	220	87	287	264	267	350	193	41	22	15
CFSM	0.58	0.81	2.17	0.97	2.22	2.03	2.87	4.16	3.60	0.39	0.24	0.12
IN.	0.67	0.90	2.51	1.12	2.32	2.34	3.20	4.80	4.02	0.45	0.27	0.14

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

MEAN	275	450	513	443	560	812	905	502	373	184	151	204
MAX	964	1018	1082	1119	1572	1730	2006	1127	1484	598	1175	1226
(WY)	1991	1997	1978	1998	1976	1979	1993	1996	1989	1977	1994	1977
MIN	31.2	39.7	150	78.2	98.0	326	359	142	48.5	28.5	15.0	20.7
(WY)	1983	1999	1999	1981	1980	1993	1976	1985	1991	1991	1999	1991

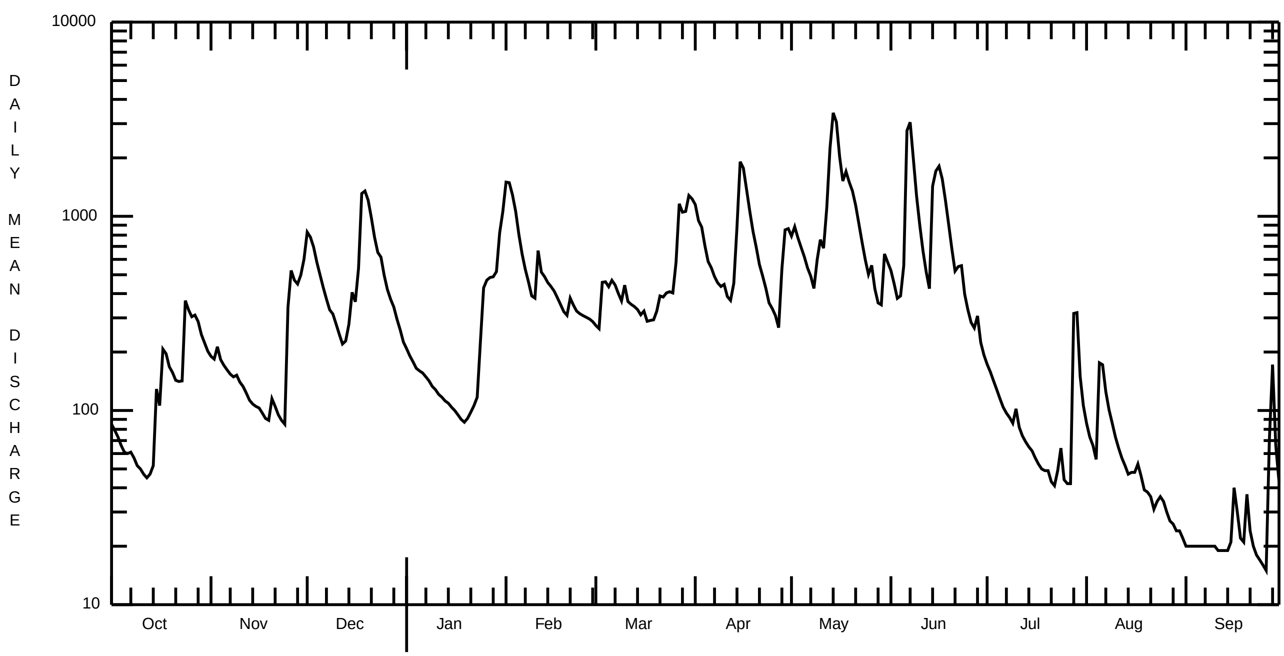
e Estimated.

OHIO RIVER MAIN STEM

03007800 ALLEGHENY RIVER AT PORT ALLEGANY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	107772		151612			
ANNUAL MEAN	295		415		446	
HIGHEST ANNUAL MEAN					670	1994
LOWEST ANNUAL MEAN					275	2001
HIGHEST DAILY MEAN	4280	Apr 10	3410	May 14	8860	Jan 20 1996
LOWEST DAILY MEAN	19	Aug 15,16	15	Sep 26	5.4	Sep 5 1999
ANNUAL SEVEN-DAY MINIMUM	23	Aug 12	19	Sep 8	6.4	Aug 31 1999
MAXIMUM PEAK FLOW			3760	May 14,15	**a**12600	Jan 19 1996
MAXIMUM PEAK STAGE			9.56	May 14,15	**b**15.37	Jan 19 1996
INSTANTANEOUS LOW FLOW			15	Sep 25,26	5.1	Sep 6 1999
ANNUAL RUNOFF (CFSM)	1.19		1.67		1.80	
ANNUAL RUNOFF (INCHES)	16.17		22.74		24.45	
10 PERCENT EXCEEDS	705		1050		1000	
50 PERCENT EXCEEDS	150		293		247	
90 PERCENT EXCEEDS	38		38		47	

a From rating curve extended above 6,700 ft^3/s.
b From peak-stage indicator.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

OHIO RIVER MAIN STEM

03010500 ALLEGHENY RIVER AT ELDRED, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°57'48", long 78°23'11", McKean County, Hydrologic Unit 05010001, on right bank at site of former highway bridge, 600 ft upstream from bridge on State Highway 346, 1,000 ft upstream from Knapp Creek, 0.5 mi north of Eldred, at mile 267.8.

DRAINAGE AREA.--550 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,416.53 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. U.S. Army Corps of Engineers satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,000 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 15	2400	*6,030	*13.91	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177	455	1790	e476	3480	759	2820	1970	1210	432	266	57
2	159	423	1580	e427	3850	724	2370	2030	1000	385	206	53
3	147	477	1410	e403	3510	994	2290	2120	849	344	168	51
4	135	501	1230	e373	2740	1360	2080	1710	756	306	159	51
5	124	429	1080	e361	2060	1030	1670	1520	1530	273	170	50
6	118	397	945	e337	1620	1180	1510	1330	3530	239	315	47
7	118	372	839	e325	1350	1120	1390	1200	4470	216	223	43
8	122	354	745	e313	1180	1020	1270	1080	4680	203	180	40
9	120	354	701	e307	1020	927	1250	1230	3770	188	155	38
10	113	350	655	e301	914	1040	1480	2080	2230	206	139	36
11	108	324	584	e295	1680	988	1240	1660	1540	212	123	33
12	103	301	528	e301	1580	902	1120	2180	1190	171	113	32
13	102	278	507	e289	1350	874	1190	3950	998	155	106	29
14	106	262	608	e289	1140	838	2050	4780	1650	147	99	27
15	145	252	1170	e289	1150	786	3440	5760	3400	140	96	41
16	268	244	987	e289	1110	838	3840	5790	3630	130	99	124
17	323	236	1090	e283	1060	823	3540	4920	3480	121	108	119
18	529	222	2760	e283	923	761	2670	4190	2770	115	135	82
19	378	213	3190	e294	822	804	2030	4030	2020	110	108	61
20	314	240	2740	e289	789	834	1740	3640	1520	109	98	57
21	281	294	2270	e295	902	1110	1480	2880	1190	108	90	79
22	292	254	1820	e298	1050	1060	1260	2240	985	99	80	65
23	292	232	1520	347	908	1030	1130	1790	1520	97	87	55
24	632	221	1610	508	830	1070	960	1470	1050	133	142	49
25	944	456	1360	1310	806	1060	859	1240	835	128	105	44
26	726	1440	1100	1230	811	1170	838	1340	715	103	92	40
27	665	1040	977	1170	945	2800	726	1210	682	100	79	67
28	718	935	e868	1150	849	2630	1040	946	812	506	71	528
29	603	1010	e769	1190	---	2520	2470	883	636	1250	67	307
30	543	1200	e646	1870	---	3080	2160	1590	500	492	64	152
31	501	---	e552	2440	---	3210	---	1370	---	296	61	---
TOTAL	9906	13766	38631	18332	40429	39342	53913	74129	55148	7514	4004	2457
MEAN	320	459	1246	591	1444	1269	1797	2391	1838	242	129	81.9
MAX	944	1440	3190	2440	3850	3210	3840	5790	4680	1250	315	528
MIN	102	213	507	283	789	724	726	883	500	97	61	27
CFSM	0.58	0.83	2.27	1.08	2.63	2.31	3.27	4.35	3.34	0.44	0.23	0.15
IN.	0.67	0.93	2.61	1.24	2.73	2.66	3.65	5.01	3.73	0.51	0.27	0.17

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

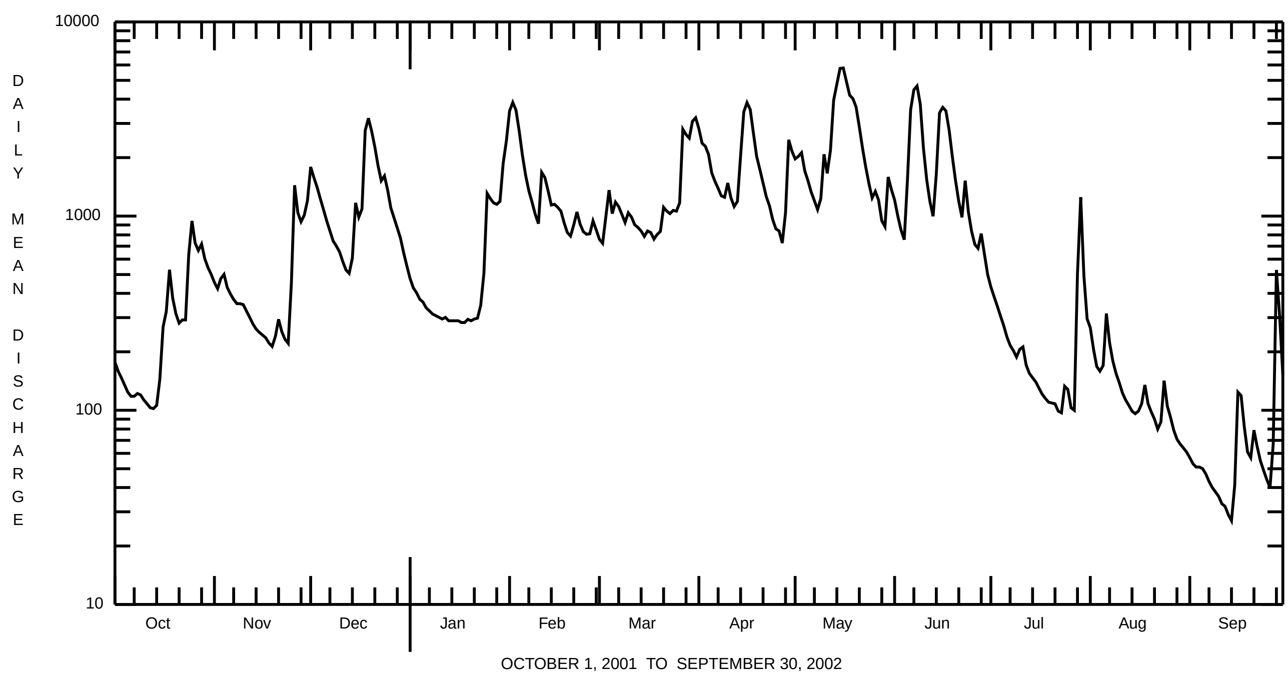
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	448	814	1067	1036	1112	1856	2053	1189	788	412	246	310
MAX	1894	3175	2390	3359	3250	4697	5314	3273	6490	3893	1699	2340
(WY)	1991	1951	1973	1952	1976	1945	1940	1943	1972	1942	1994	1977
MIN	41.6	62.0	55.1	87.3	213	728	385	292	109	57.8	43.4	34.6
(WY)	1965	1965	1961	1961	1980	1993	1946	1985	1991	1966	1957	1959

e Estimated.

03010500 ALLEGHENY RIVER AT ELDRED, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	249465		357571			
ANNUAL MEAN	683		980		942	
HIGHEST ANNUAL MEAN					1475	1972
LOWEST ANNUAL MEAN					631	1962
HIGHEST DAILY MEAN	5580	Apr 11	5790	May 16	55700	Jun 23 1972
LOWEST DAILY MEAN	39	Aug 16	27	Sep 14	16	Sep 6 1999
ANNUAL SEVEN-DAY MINIMUM	49	Aug 13	34	Sep 8	20	Sep 1 1999
MAXIMUM PEAK FLOW			6030	May 15	**a**65400	Jun 23 1972
MAXIMUM PEAK STAGE			13.91	May 15	**b**29.05	Jun 23 1972
INSTANTANEOUS LOW FLOW			26	Sep 14	15	Sep 6 1999
ANNUAL RUNOFF (CFSM)	1.24		1.78		1.71	
ANNUAL RUNOFF (INCHES)	16.87		24.18		23.28	
10 PERCENT EXCEEDS	1800		2400		2260	
50 PERCENT EXCEEDS	354		726		520	
90 PERCENT EXCEEDS	83		98		84	

a From rating curve extended above 21,000 ft^3/s on basis of slope-area measurement at gage height 27.6 ft.
b From floodmark.



03010500 ALLEGHENY RIVER AT ELDRED, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
APR 2002													
18...	0815	9813	2790	40	8.7	7.0	58	15.1	21	5.8	1.6	12	9.2
JUN													
26...	0815	9813	715	40	8.7	7.2	74	20.4	28	7.6	2.1	19	8.7
AUG													
15...	0900	9813	96	40	6.5	7.4	129	23.7	43	11.8	3.2	36	8.5

Date	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)
APR 2002													
18...	64	8	<.020	.43	<.040	.69	.04	.040	2.2	<10	460	<1.0	50
JUN													
26...	58	10	<.020	.33	<.040	.51	.01	.030	1.8	<10	1550	<1.0	100
AUG													
15...	82	8	.020	.19	<.040	.42	.02	.030	2.2	<10	610	<1.0	140

Date	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
APR 2002		
18...	<50	<10
JUN		
26...	<50	<10
AUG		
15...	<50	<10

03010655 OSWAYO CREEK AT SHINGLEHOUSE, PA

LOCATION.--Lat 41°57'42", long 78°11'54", Potter County, Hydrologic Unit 05010001, on right bank 200 ft upstream from bridge on State Highway 44 at Shinglehouse and 0.7 mi upstream from Honeoye Creek.

DRAINAGE AREA.--98.7 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,460.34 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

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

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 14	2000	1,020	7.76	June 6	2300	*1,830	*9.36

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	57	236	e87	605	119	439	331	131	59	36	11
2	25	54	232	e80	601	110	355	343	114	53	32	11
3	23	63	218	e77	508	163	350	275	98	48	29	11
4	21	53	193	e68	403	163	272	242	89	43	25	11
5	20	51	169	e64	299	175	245	220	391	39	e146	10
6	20	48	147	e56	243	181	232	198	1450	36	e142	9.3
7	20	46	130	e51	206	175	207	182	1530	33	92	8.7
8	20	44	114	e46	179	161	190	160	822	31	70	8.2
9	18	48	107	e42	154	147	185	172	481	33	55	7.8
10	17	44	94	e40	153	168	178	166	326	43	45	7.5
11	16	43	83	e36	246	149	156	144	240	31	38	7.3
12	16	39	74	e33	207	150	150	249	191	28	34	7.1
13	16	37	74	e33	209	150	173	508	157	26	30	7.1
14	16	36	95	e30	191	145	257	930	340	24	27	7.1
15	31	35	153	e27	185	138	700	878	428	23	26	11
16	27	34	143	e27	179	149	697	623	590	22	25	16
17	61	33	200	e24	165	129	520	506	534	21	25	11
18	65	31	418	e22	144	130	389	579	409	20	22	8.6
19	57	31	462	e20	130	127	302	532	298	20	22	8.0
20	53	38	421	e20	127	144	256	501	226	21	25	8.2
21	48	35	336	e25	148	158	213	411	180	19	20	8.1
22	50	33	264	e32	147	161	191	321	148	17	18	8.9
23	48	32	228	41	137	171	165	255	126	20	19	7.5
24	114	30	219	79	137	173	142	215	105	24	19	7.1
25	104	90	181	147	137	170	133	182	91	18	18	6.7
26	94	137	156	174	143	222	122	184	82	18	16	6.6
27	97	145	140	184	144	365	107	143	96	17	15	23
28	86	144	128	185	131	371	190	123	126	159	15	48
29	74	161	115	191	---	381	319	126	79	100	14	19
30	67	187	e102	319	---	465	366	173	66	58	13	15
31	61	---	e94	404	---	477	---	145	---	44	12	---
TOTAL	1411	1859	5726	2664	6258	6087	8201	10017	9944	1148	1125	336.8
MEAN	45.5	62.0	185	85.9	224	196	273	323	331	37.0	36.3	11.2
MAX	114	187	462	404	605	477	700	930	1530	159	146	48
MIN	16	30	74	20	127	110	107	123	66	17	12	6.6
CFSM	0.46	0.63	1.87	0.87	2.26	1.99	2.77	3.27	3.36	0.38	0.37	0.11
IN.	0.53	0.70	2.16	1.00	2.36	2.29	3.09	3.78	3.75	0.43	0.42	0.13

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	91.6	151	181	162	201	275	312	173	126	65.4	51.8	60.7
MAX	331	371	318	388	561	517	755	489	612	238	396	452
(WY)	1991	1997	1978	1979	1976	1979	1993	1996	1989	1977	1994	1977
MIN	8.35	9.35	28.7	27.0	41.2	120	131	50.8	6.28	7.69	7.12	6.08
(WY)	1992	1999	1999	2001	1987	1981	1976	1993	1993	1993	1991	1991

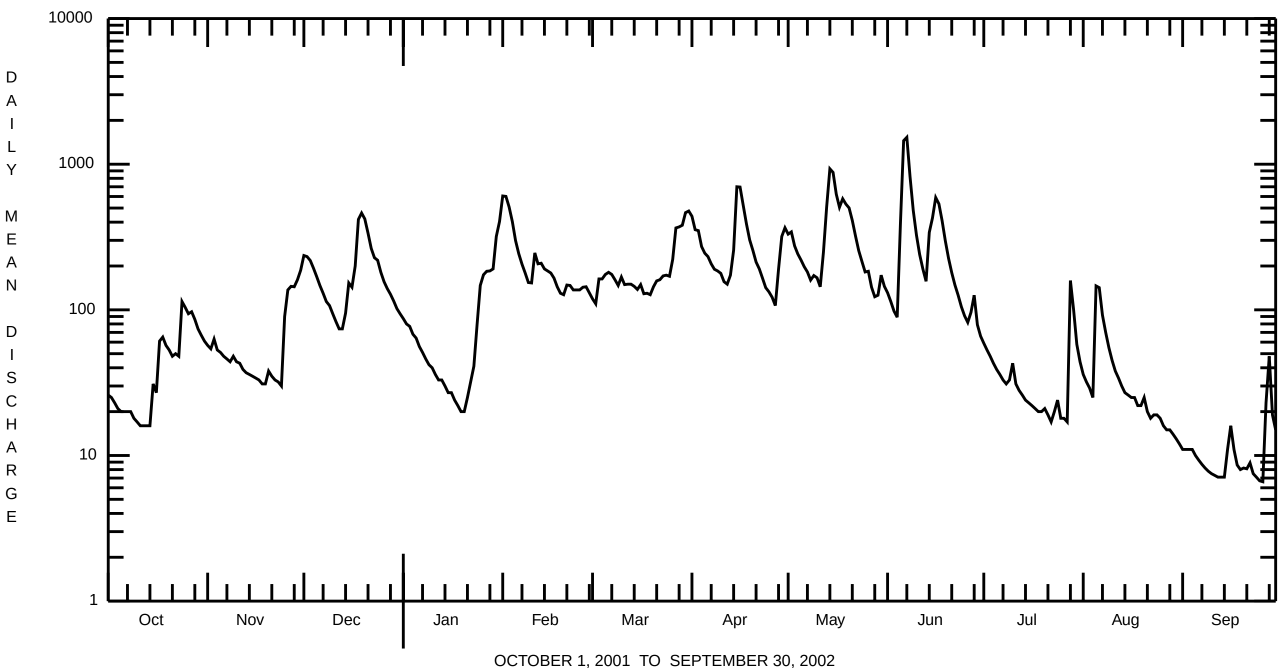
e Estimated.

OSWAYO CREEK BASIN

03010655 OSWAYO CREEK AT SHINGLEHOUSE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	34493.5		54776.8			
ANNUAL MEAN	94.5		150		154	
HIGHEST ANNUAL MEAN					222	1994
LOWEST ANNUAL MEAN					85.0	2001
HIGHEST DAILY MEAN	1210	Apr 8,9	1530	Jun 7	3270	Jun 21 1989
LOWEST DAILY MEAN	7.2	Aug 15	6.6	Sep 26	3.2	Sep 13 1989
ANNUAL SEVEN-DAY MINIMUM	7.8	Aug 12	7.4	Sep 8	4.1	Aug 31 1999
MAXIMUM PEAK FLOW			1830	Jun 6	**a**4660	Jan 19 1996
MAXIMUM PEAK STAGE			9.36	Jun 6	**b**12.74	Jan 19 1996
INSTANTANEOUS LOW FLOW			6.4	Sep 25-27	3.5	Sep 6 1999
ANNUAL RUNOFF (CFSM)	0.96		1.52		1.56	
ANNUAL RUNOFF (INCHES)	13.00		20.65		21.17	
10 PERCENT EXCEEDS	236		365		351	
50 PERCENT EXCEEDS	44		105		85	
90 PERCENT EXCEEDS	15		16		14	

a From rating curve extended above 2,600 ft^3/s.
b From peak-stage indicator.



OHIO RIVER MAIN STEM

03011020 ALLEGHENY RIVER AT SALAMANCA, NY

LOCATION.--Lat 42°09'23", long 78°42'56", Cattaraugus County, Hydrologic Unit 05010001, on left bank 230 ft upstream from Main Street bridge in Salamanca, 1.3 mi downstream from Great Valley Creek, and 1.6 mi upstream from Little Valley Creek.

DRAINAGE AREA.--1,608 mi^2.

PERIOD OF RECORD.--September 1903 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1964, published as "*at Red House*."

REVISED RECORDS.--WSP 1385: 1907, 1909-12, 1913(M), 1914-15, 1916-17(M), 1925, 1927. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,358.00 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Sept. 3, 1917, nonrecording gage and Sept. 4, 1917 to Sept. 30, 1964, water-stage recorder at site 7.5 mi downstream at different datum. Oct. 1, 1964 to Sept. 30, 1967, at present site at datum 0.04 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. U.S. Army Corps of Engineers telephone gage-height telemeter and satellite gage-height and precipitation telemeter at station. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s, June 23, 1972, gage height, 24.01 ft, from floodmarks; minimum instantaneous discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 17,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Feb. 1	1700	*18,200	*10.34	No other peak greater than base discharge.			

Minimum discharge 151 ft^3/s, Sept. 12, 13, 14, gage height, 2.58 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	1010	4250	e1300	16200	2330	8000	5020	4040	1660	1010	224
2	339	927	3820	e1250	15600	2180	6510	5000	3190	1380	783	216
3	314	1010	3200	e1200	10800	2960	7620	5200	2610	1230	641	214
4	297	1060	2800	e1200	8020	4060	7460	4340	2270	1060	533	209
5	269	975	2450	e1300	5920	3290	5610	3770	7410	936	813	200
6	258	863	2160	e1250	4700	3330	4860	3350	13200	834	1160	194
7	265	926	1920	1220	3900	3460	4360	3040	13400	760	856	188
8	256	869	1720	e1100	3390	3160	3930	2790	10900	704	675	181
9	261	828	1600	1130	2980	2910	3750	2900	8490	696	567	175
10	258	861	1510	1210	2670	3330	4360	4920	5690	831	506	168
11	244	817	1390	1290	4460	3270	3800	4070	3990	758	462	164
12	232	734	1260	1300	4770	2980	3340	5040	3150	668	419	158
13	229	669	1190	1280	3960	2920	3780	12200	2660	588	391	151
14	230	622	1330	1210	3280	2810	6990	16000	2640	548	371	155
15	274	640	3370	1190	3190	2620	10100	15800	5120	516	352	309
16	324	631	3290	1170	3200	2790	9650	13000	6040	488	368	1110
17	607	590	3220	1130	3110	2820	8290	12000	6090	459	397	878
18	994	558	7720	1080	2720	2580	6600	11100	5170	433	379	512
19	900	533	8740	897	2450	2540	5160	10400	3990	404	365	372
20	689	643	7040	860	2400	2640	4480	8710	3120	421	349	297
21	597	733	5700	e1000	2820	3520	4020	7110	2530	431	330	261
22	857	735	4600	e980	3250	3390	3530	5570	2120	391	319	255
23	880	657	3890	1070	2960	3160	3250	4560	2230	394	321	245
24	903	609	4500	1860	2620	3210	2820	3840	2200	436	336	221
25	1640	1210	4090	4520	2460	3160	2550	3360	1730	440	389	207
26	1590	3040	e3200	4200	2460	3240	2450	3510	1570	398	334	194
27	1490	2820	e2700	3650	2780	6990	2190	3380	3100	365	300	262
28	1590	2320	e2400	3540	2630	6950	2720	2700	5290	1750	277	1020
29	1410	2570	e2000	3830	---	6800	6050	2440	3260	4100	262	1180
30	1230	3150	e1700	7970	---	10800	5740	4890	2150	2050	248	693
31	1110	---	e1400	10300	---	10200	---	5040	---	1200	232	---
TOTAL	20913	33610	100160	66487	129700	120400	153970	195050	139350	27329	14745	10613
MEAN	674.6	1120	3231	2145	4632	3884	5132	6292	4645	881.6	475.6	353.8
MAX	1640	3150	8740	10300	16200	10800	10100	16000	13400	4100	1160	1180
MIN	229	533	1190	860	2400	2180	2190	2440	1570	365	232	151
CFSM	0.42	0.70	2.01	1.33	2.88	2.42	3.19	3.91	2.89	0.55	0.30	0.22
IN.	0.48	0.78	2.32	1.54	3.00	2.79	3.56	4.51	3.22	0.63	0.34	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2002, BY WATER YEAR (WY)

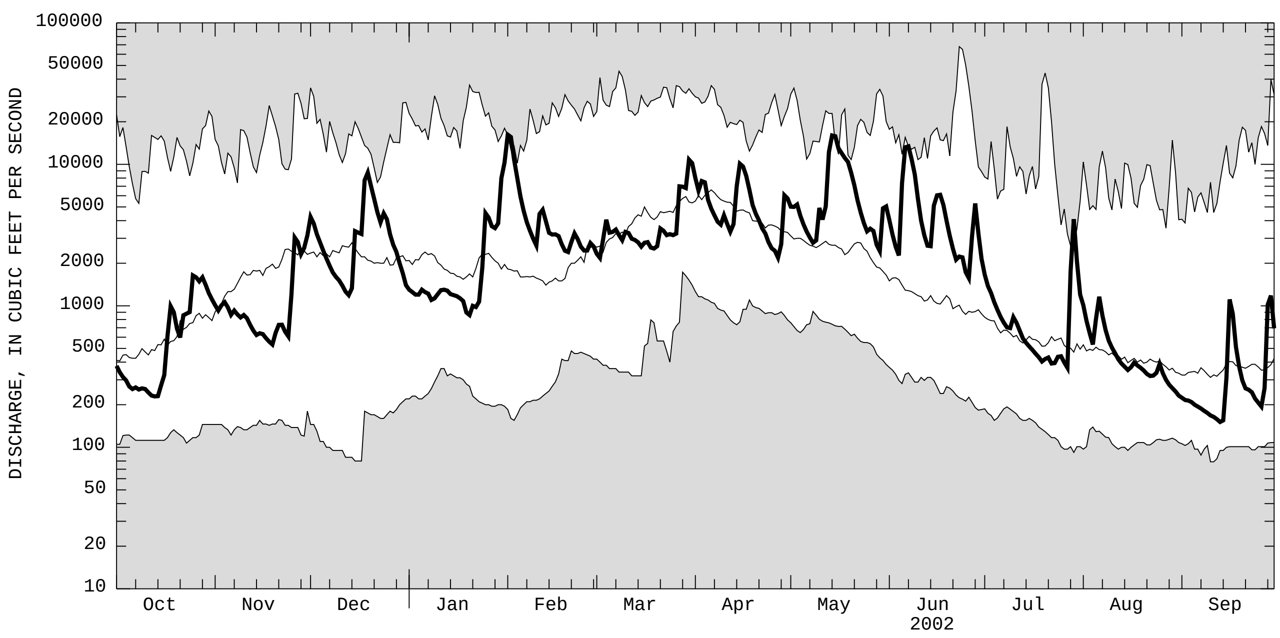
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1330	2508	3072	3324	3197	5898	5827	3469	2025	1082	712.9	820.8
MAX	5801	8605	9147	10200	9683	14850	15540	9574	11520	6074	3882	7477
(WY)	1991	1928	1928	1913	1976	1936	1940	1943	1972	1942	1977	1977
MIN	124	146	189	255	550	1983	970	796	299	150	119	118
(WY)	1931	1931	1961	1961	1905	1937	1946	1985	1934	1934	1930	1932

e Estimated.

OHIO RIVER MAIN STEM

03011020 ALLEGHENY RIVER AT SALAMANCA, NY--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1904 - 2002	
ANNUAL TOTAL	670660		1012327			
ANNUAL MEAN	1837		2773		2769	
HIGHEST ANNUAL MEAN					4174	1916
LOWEST ANNUAL MEAN					1777	1999
HIGHEST DAILY MEAN	14400	Apr 10	16200	Feb 1	67900	Jun 23 1972
LOWEST DAILY MEAN	138	Aug 17	151	Sep 13	79	Sep 10 1971
ANNUAL SEVEN-DAY MINIMUM	144	Aug 14	165	Sep 8	84	Dec 11 1908
ANNUAL RUNOFF (CFSM)	1.14		1.72		1.72	
ANNUAL RUNOFF (INCHES)	15.52		23.42		23.39	
10 PERCENT EXCEEDS	4720		6550		6700	
50 PERCENT EXCEEDS	958		2000		1500	
90 PERCENT EXCEEDS	227		289		287	



2002 WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

KINZUA CREEK BASIN

03011800 KINZUA CREEK NEAR GUFFEY, PA

LOCATION.--Lat 41°45'59", long 78°43'08", McKean County, Hydrologic Unit 05010001, in Allegheny National Forest, on right bank 130 ft upstream from bridge on U.S. Highway 219, 0.2 mi upstream from Wintergreen Run, 1.0 mi downstream from Pine Run, and 1.5 mi west of Guffey.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, published as "*at Tallyho*," water years 1959-65. October 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers 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)
May 14	2100	*483	*4.54	(No peaks above base discharge.)			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	49	170	e67	393	74	200	123	63	22	17	5.5
2	9.1	47	124	e63	289	68	170	162	53	21	15	5.5
3	8.1	70	108	e58	224	156	204	139	45	18	13	6.0
4	7.7	54	97	e52	188	131	168	115	50	17	11	6.6
5	7.6	45	88	e46	152	112	139	105	110	16	11	5.6
6	8.5	40	79	e41	128	106	129	95	247	14	9.7	5.5
7	9.9	36	70	e39	114	102	121	90	156	14	8.1	5.5
8	11	35	61	e34	103	94	115	82	114	13	7.2	5.5
9	10	39	59	e32	92	88	124	150	95	13	7.1	5.5
10	9.4	35	54	e30	97	104	143	160	81	14	6.8	5.5
11	9.2	31	48	e28	169	86	108	112	70	12	6.4	5.5
12	9.2	28	43	e26	121	83	97	253	61	12	6.4	5.1
13	10	25	49	e24	105	80	127	365	54	11	6.4	5.1
14	11	24	78	e23	98	74	213	407	137	11	6.1	5.1
15	20	24	125	e22	92	70	310	353	123	10	6.8	9.4
16	18	24	82	e21	94	87	219	251	152	9.7	7.1	12
17	44	21	121	e19	91	76	187	248	121	9.7	13	7.2
18	40	20	292	e20	80	77	159	321	98	9.7	7.9	5.9
19	23	20	217	e18	77	79	137	247	83	9.4	6.9	5.5
20	18	32	187	e20	77	94	126	200	71	9.4	7.1	5.5
21	15	29	162	e20	104	108	112	168	60	8.7	6.7	5.6
22	17	25	136	e23	106	90	102	139	60	8.5	16	5.5
23	21	23	126	45	86	89	92	117	52	11	13	5.5
24	155	21	160	103	79	92	80	103	42	11	8.7	5.1
25	104	140	119	134	76	94	78	91	37	9.2	7.5	5.5
26	73	138	102	97	83	128	73	156	36	9.1	6.9	5.5
27	68	93	96	92	88	207	62	102	40	9.3	6.3	35
28	63	85	89	97	79	163	142	83	43	14	6.1	35
29	56	105	e83	118	---	183	192	77	31	29	5.9	16
30	67	143	e78	215	---	311	138	90	25	17	5.9	11
31	57	---	e73	236	---	225	---	78	---	18	5.5	---
TOTAL	989.1	1501	3376	1863	3485	3531	4267	5182	2410	410.7	268.5	252.7
MEAN	31.9	50.0	109	60.1	124	114	142	167	80.3	13.2	8.66	8.42
MAX	155	143	292	236	393	311	310	407	247	29	17	35
MIN	7.6	20	43	18	76	68	62	77	25	8.5	5.5	5.1
CFSM	0.82	1.29	2.81	1.55	3.21	2.94	3.67	4.31	2.07	0.34	0.22	0.22
IN.	0.95	1.44	3.24	1.79	3.34	3.39	4.09	4.97	2.31	0.39	0.26	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	47.5	82.4	104	79.8	90.8	133	138	85.7	69.7	32.3	28.1	36.2
MAX	137	166	281	166	251	269	289	182	272	99.0	126	154
(WY)	1991	1971	1984	1998	1976	1979	1994	1989	1989	1992	1980	1977
MIN	6.69	15.3	32.6	19.8	18.4	61.6	67.9	23.8	9.49	6.29	4.96	5.16
(WY)	1992	1992	1990	1981	1987	1970	1976	1985	1991	1991	1991	1991

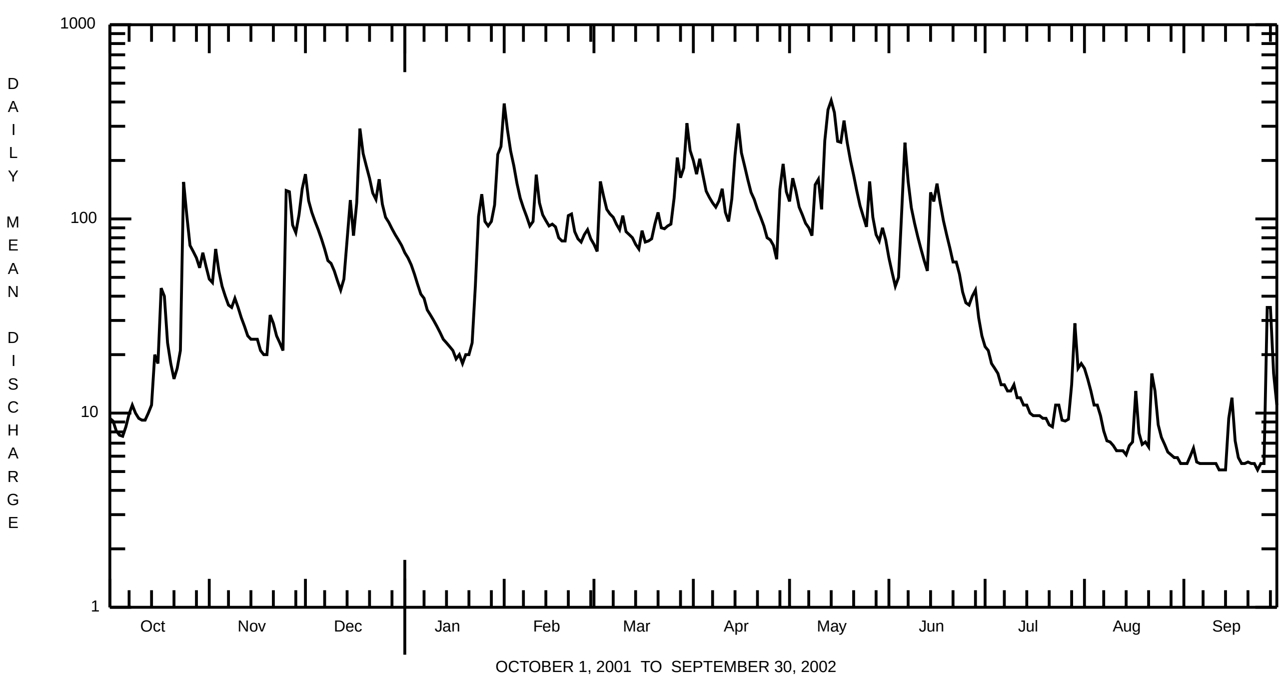
e Estimated.

KINZUA CREEK BASIN

03011800 KINZUA CREEK NEAR GUFFEY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	19166.4		27536.0			
ANNUAL MEAN	52.5		75.4		77.1	
HIGHEST ANNUAL MEAN					113	1984
LOWEST ANNUAL MEAN					49.2	2001
HIGHEST DAILY MEAN	297	Feb 10	407	May 14	2120	Jun 23 1972
LOWEST DAILY MEAN	5.2	Aug 15,16	5.1	Sep 12-14,24	2.2	Sep 30 1995
ANNUAL SEVEN-DAY MINIMUM	5.5	Aug 12	5.3	Sep 8	3.3	Sep 10 1991
MAXIMUM PEAK FLOW			483	May 14	**a**5220	Jun 22 1972
MAXIMUM PEAK STAGE			4.54	May 14	**b**8.99	Jun 22 1972
INSTANTANEOUS LOW FLOW			4.8	Sep 24	2.0	Jul 29 1978
ANNUAL RUNOFF (CFSM)	1.35		1.94		1.99	
ANNUAL RUNOFF (INCHES)	18.38		26.40		27.01	
10 PERCENT EXCEEDS	136		162		168	
50 PERCENT EXCEEDS	28		62		50	
90 PERCENT EXCEEDS	7.4		6.9		11	

a From rating curve extended above 1,300 ft^3/s on basis of slope-area measurement at gage height 8.33 ft.
b From peak-stage indicator.



CONEWANGO CREEK BASIN

03015000 CONEWANGO CREEK AT RUSSELL, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°56'17", long 79°08'00", Warren County, Hydrologic Unit 05010002, on left bank of highway bridge on SR 957 at Russell, 0.5 mi upstream from Akeley Run, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--816 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for October, November 1939, published in WSP 1305.

REVISED RECORD.--WSP 1083: 1936 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,221.77 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 10, 1941, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since November 1949 by Chautauqua Lake (station 03013946). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of 10.9 ft from floodmark, discharge, 14,600 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	520	1790	1190	5330	1790	4300	2550	1950	460	1180	175
2	175	721	1580	1220	6320	1670	4340	2360	1800	368	921	170
3	145	850	1320	1180	7460	2170	4620	2160	1260	314	644	175
4	122	834	1110	1130	7700	2660	4670	1880	956	280	515	188
5	107	763	984	1100	7180	2530	4500	1450	1750	256	462	176
6	113	680	914	1070	6450	2370	4360	1140	2720	237	392	167
7	135	632	864	1070	5630	2400	4050	1020	2700	223	280	158
8	161	610	793	1060	4870	2340	3530	978	2310	213	241	155
9	170	634	736	1030	4050	2350	3080	1020	1830	211	225	152
10	158	611	695	1040	3190	2740	3010	1500	1480	233	213	150
11	144	610	656	1110	2970	2940	2840	1370	1140	243	204	148
12	136	587	621	1170	2810	2980	2530	2020	856	235	198	144
13	130	564	609	1150	2600	2880	2520	4320	622	210	215	142
14	126	548	674	1120	2240	2640	3260	5110	575	190	237	151
15	138	536	1160	1140	1960	2450	3890	5420	640	180	227	189
16	144	535	1570	1230	1910	2440	3880	5460	844	175	218	408
17	178	526	1740	1250	1940	2400	3860	5660	981	169	215	385
18	253	513	3280	1220	1820	2250	3630	5780	891	163	212	312
19	260	516	3270	1090	1660	2050	3100	5670	680	159	204	244
20	235	630	3020	1060	1630	2020	2680	5310	528	152	204	209
21	196	807	2770	1150	1930	2420	2470	4890	466	148	196	185
22	220	826	2360	1110	2400	2390	2240	4280	429	148	202	174
23	280	701	2210	1080	2420	2220	2090	3460	409	193	203	169
24	330	630	3080	1840	2180	2120	1960	2670	370	205	214	162
25	329	1010	2980	2670	1870	2080	1790	2190	336	190	222	155
26	324	1350	2710	2450	1750	2120	1700	2280	337	176	230	152
27	420	1260	2220	2240	1970	3170	1580	2190	538	180	228	177
28	728	1110	1760	2150	1970	3150	1720	1990	889	626	211	352
29	697	1290	1470	2270	---	3300	2630	1740	734	3110	197	526
30	560	1610	1230	3500	---	4110	2740	1670	572	2150	184	451
31	483	---	1120	4310	---	4200	---	1910	---	1500	176	---
TOTAL	7793	23014	51296	47400	96210	79350	93570	91448	31593	13297	9470	6501
MEAN	251	767	1655	1529	3436	2560	3119	2950	1053	429	305	217
MAX	728	1610	3280	4310	7700	4200	4670	5780	2720	3110	1180	526
MIN	107	513	609	1030	1630	1670	1580	978	336	148	176	142
CFSM	0.31	0.94	2.03	1.87	4.21	3.14	3.82	3.62	1.29	0.53	0.37	0.27
IN.	0.36	1.05	2.34	2.16	4.39	3.62	4.27	4.17	1.44	0.61	0.43	0.30

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

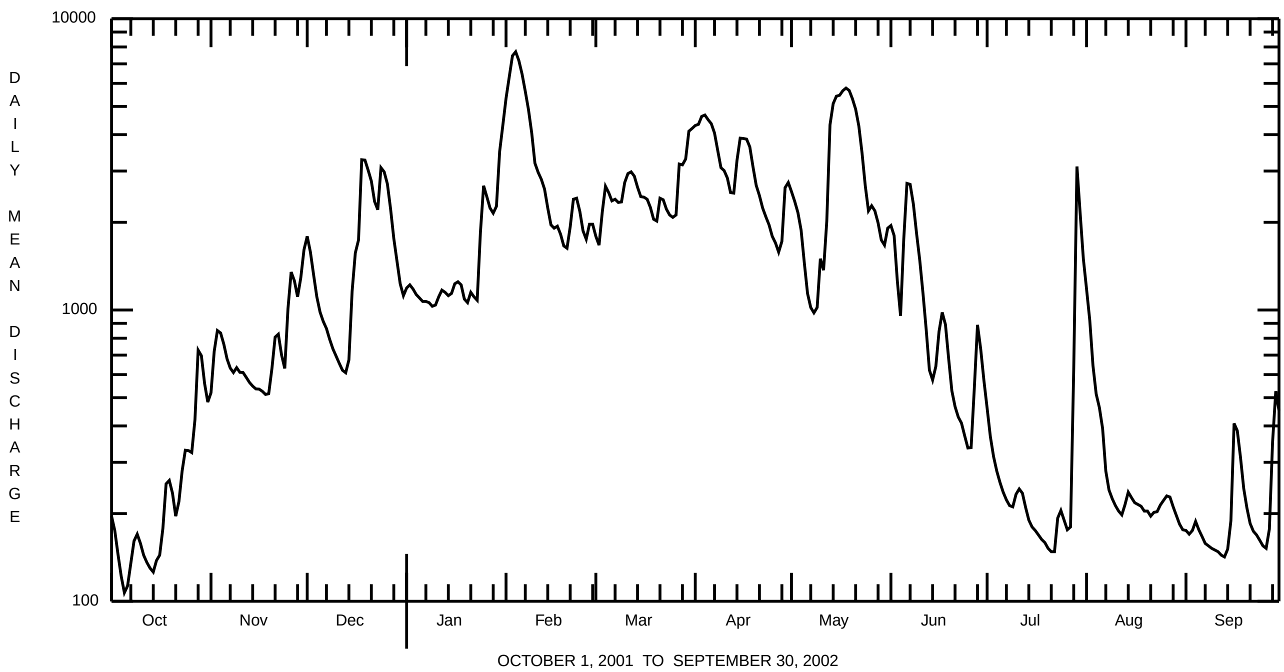
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	849	1588	2101	2019	2123	3126	2814	1384	882	469	414	581
MAX	3276	4070	4261	4986	5320	6715	6503	4016	2926	2142	2391	3891
(WY)	1991	1986	1978	1998	1976	1945	1947	1943	1986	1986	1977	1977
MIN	66.1	119	111	215	533	1344	353	296	177	108	82.4	79.9
(WY)	1964	1961	1961	1961	1963	1960	1946	1985	1949	1963	1954	1941

CONEWANGO CREEK BASIN

03015000 CONEWANGO CREEK AT RUSSELL, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	384301		550942			
ANNUAL MEAN	1053		1509		1525	
HIGHEST ANNUAL MEAN					2057	1943
LOWEST ANNUAL MEAN					915	1999
HIGHEST DAILY MEAN	4820	Feb 15	7700	Feb 4	14700	Jan 10 1998
LOWEST DAILY MEAN	78	Aug 15**a**	107	Oct 5	57	Oct 17 1960
ANNUAL SEVEN-DAY MINIMUM	83	Sep 15	136	Oct 3	59	Oct 12 1960
MAXIMUM PEAK FLOW			7780	Feb 4	**b**14900	Jan 10 1998
MAXIMUM PEAK STAGE			8.49	Feb 4	**c**10.88	Jan 10 1998
ANNUAL RUNOFF (CFSM)	1.29		1.85		1.87	
ANNUAL RUNOFF (INCHES)	17.52		25.12		25.40	
10 PERCENT EXCEEDS	2710		3360		3780	
50 PERCENT EXCEEDS	674		1070		1000	
90 PERCENT EXCEEDS	108		175		160	

a Also Aug. 16, Sept. 19.
b From rating curve extended above 13,000 ft^3/s.
c From peak-stage indicator.



03015000 CONEWANGO CREEK AT RUSSELL, 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 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
APR 2002													
15...	1230	9813	3914	40	9.8	7.3	178	11.1	77	24.3	3.9	50	11.5
JUN													
26...	1300	9813	333	40	7.7	7.7	304	23.5	140	41.7	7.4	106	14.9
AUG													
20...	1400	9813	205	40	8.6	7.9	344	24.2	130	41.1	7.2	106	17.3

Date	RESIDUE AT 105 DEG. C, DISSOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)
APR 2002												
15...	144	62	.040	.46	<.040	.99	.07	.090	5.2	<10	1850	90
JUN												
26...	206	6	<.020	.94	.040	1.4	.02	.070	4.0	<10	620	120
AUG												
20...	244	<2	<.020	.73	<.040	1.4	.06	.140	4.9	<10	560	130

Date	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)
APR 2002		
15...	<50	<10
JUN		
26...	<50	<10
AUG		
20...	<50	<10

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°51'09", long 79°19'03", Warren County, Hydrologic Unit 05010001, on right bank 150 ft downstream from bridge on Main Street at Youngsville, 500 ft upstream from Matthews Run, and 3.7 mi upstream from mouth. Records include flow of Matthews Run.

DRAINAGE AREA.--321 mi^2, including that of Matthews Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1305. Flow of Matthews Run included in records since October 1938.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1083: 1913 (M). WSP 1275: 1920, 1932, 1936. WSP 1305: 1910-15, 1928-29.

GAGE.--Water-stage recorder. Datum of gage is 1,186.92 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1933, nonrecording gage at site 150 ft upstream at datum 2.00 ft higher. Oct. 1, 1933 to June 15, 1939, nonrecording gage at site 150 ft upstream, and June 16, 1939 to Sept. 30, 1961, water-stage recorder at present site, both at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers 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)
Feb. 1	1200	5,260	7.90	May 14	0030	*6,670	*8.88

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	320	1260	e303	4760	462	1670	948	530	127	318	48
2	63	267	882	e295	4000	463	1050	1070	391	118	190	47
3	58	327	586	e286	2490	1100	2020	996	303	109	135	51
4	53	326	445	e282	1280	1270	2160	750	287	105	106	62
5	51	255	381	e271	804	757	1550	605	543	98	94	58
6	60	208	336	e265	726	701	1020	516	1160	92	86	51
7	94	182	301	e258	632	718	886	473	795	90	78	47
8	131	166	269	266	577	685	798	435	523	84	73	45
9	118	175	250	266	550	593	893	481	386	92	70	45
10	91	183	226	274	557	785	1140	771	306	125	67	43
11	76	173	204	318	919	777	918	580	261	123	64	42
12	70	153	189	349	862	684	703	2310	239	104	63	43
13	68	141	212	356	656	766	897	5470	225	89	71	43
14	75	139	316	334	489	731	1770	6380	300	82	64	68
15	95	137	614	364	511	614	2480	4750	352	79	70	131
16	99	126	602	411	524	761	1920	2710	529	74	69	290
17	232	121	772	404	571	818	1200	2260	537	70	94	175
18	283	115	2420	371	465	674	862	2250	378	67	78	108
19	210	120	2040	311	432	622	721	1760	252	67	68	79
20	149	313	1370	327	462	722	692	1170	197	70	63	68
21	132	430	885	348	710	1160	719	877	167	69	61	63
22	353	310	734	328	881	956	658	718	164	71	60	58
23	288	244	935	340	655	758	610	604	161	103	66	56
24	317	203	1960	995	514	770	528	520	149	106	73	55
25	391	868	1610	1670	476	792	501	469	140	86	67	51
26	347	908	891	1200	503	961	488	876	151	80	61	50
27	533	601	618	840	607	1900	430	840	170	83	57	98
28	614	445	505	793	519	1660	878	566	211	168	54	276
29	477	841	424	943	---	1480	1710	462	179	1390	53	227
30	433	1250	362	2150	---	2930	1440	440	142	1260	54	132
31	407	---	e329	3020	---	2610	---	639	---	689	51	---
TOTAL	6441	10047	22928	18938	27132	30680	33312	43696	10128	5970	2578	2610
MEAN	208	335	740	611	969	990	1110	1410	338	193	83.2	87.0
MAX	614	1250	2420	3020	4760	2930	2480	6380	1160	1390	318	290
MIN	51	115	189	258	432	462	430	435	140	67	51	42
CFSM	0.65	1.04	2.30	1.90	3.02	3.08	3.46	4.39	1.05	0.60	0.26	0.27
IN.	0.75	1.16	2.66	2.19	3.14	3.56	3.86	5.06	1.17	0.69	0.30	0.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	314	619	750	788	775	1235	1021	603	377	225	177	222
MAX	1413	1817	1724	2459	2248	2851	2715	1528	1535	1039	994	1428
(WY)	1991	1986	1978	1913	1976	1936	1947	1943	1928	1986	1956	1977
MIN	31.7	57.3	85.9	124	161	297	251	135	62.0	37.8	32.3	31.6
(WY)	1932	1931	1961	1918	1987	1915	1946	1934	1934	1934	1934	1936

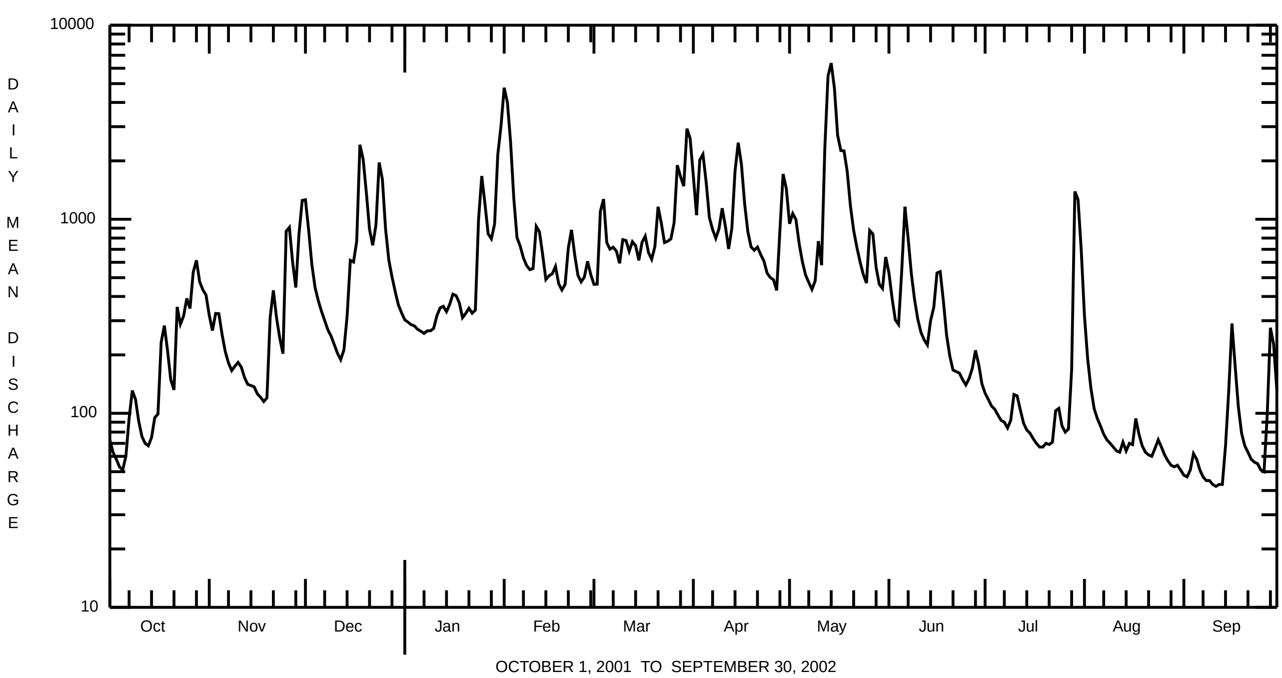
e Estimated.

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1910 - 2002	
ANNUAL TOTAL	154616		214460			
ANNUAL MEAN	424		588		591	
HIGHEST ANNUAL MEAN					864	1956
LOWEST ANNUAL MEAN					307	1931
HIGHEST DAILY MEAN	4100	Feb 10	6380	May 14	14000	Mar 25 1913
LOWEST DAILY MEAN	44	Sep 18,19	42	Sep 11	19	Oct 14 1934
ANNUAL SEVEN-DAY MINIMUM	47	Sep 13	44	Sep 7	24	Oct 11 1934
MAXIMUM PEAK FLOW			6670	May 14	**ab**18000	Mar 25 1913
MAXIMUM PEAK STAGE			8.88	May 14	14.20	Mar 25 1913
INSTANTANEOUS LOW FLOW			41	Sep 12-14	**c**19	Oct 14 1934
ANNUAL RUNOFF (CFSM)	1.32		1.83		1.84	
ANNUAL RUNOFF (INCHES)	17.92		24.85		25.02	
10 PERCENT EXCEEDS	1040		1260		1420	
50 PERCENT EXCEEDS	226		349		303	
90 PERCENT EXCEEDS	59		65		67	

a From rating curve extended above 9,400 ft^3/s.
b About.
c Minimum observed.



03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
APR 2002													
16...	0630	9813	2100	40	9.6	7.3	103	12.0	43	13.0	2.6	30	8.9
JUN													
27...	1045	9813	148	40	9.0	8.1	227	21.6	110	33.3	6.5	92	11.5
AUG													
21...	0800	9813	63	40	8.1	8.1	253	18.1	130	39.0	7.5	106	13.3

Date	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)
APR 2002													
16...	118	8	<.020	.29	<.040	.79	.04	.060	4.6	<10	640	2.4	50
JUN													
27...	150	6	<.020	.61	<.040	.77	.02	.020	2.7	<10	270	<1.0	20
AUG													
21...	198	6	<.020	.56	<.040	.75	.01	.010	2.6	<10	100	<1.0	20

Date	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
APR 2002		
16...	<50	<10
JUN		
27...	<50	<10
AUG		
21...	<50	<10

OHIO RIVER MAIN STEM

03016000 ALLEGHENY RIVER AT WEST HICKORY, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°34'15", long 79°24'29", Forest County, Hydrologic Unit 05010003, on right bank at downstream side of bridge on State Highway 127 at West Hickory, 0.6 mi upstream from Siggins Run, 0.8 mi downstream from East Hickory Creek, at mile 158.9.

DRAINAGE AREA.--3,660 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WDR PA-96-3: 1995(M).

GAGE.--Water-stage recorder. Datum of gage is 1,059.90 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1941, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since November 1949 by Chautauqua Lake (station 03013946), since October 1965 by Allegheny Reservoir (station 03012520) 39 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	1950	6640	5720	22600	4080	13800	11000	8500	4820	3110	2600
2	1950	1980	6410	5460	21600	3900	15600	8250	8110	3260	2650	2560
3	1940	2160	5760	4830	23900	5040	17300	9830	7630	2520	2320	2600
4	1900	2190	5810	4220	24400	6400	17600	12900	6850	2450	2130	2890
5	1870	2090	5540	3560	22900	5780	16600	12000	6910	2400	2020	2790
6	1900	1990	5400	3520	22000	5420	15600	11200	11000	2340	1950	2720
7	1920	1890	5220	3490	21100	5230	14600	8580	12200	2310	1870	2690
8	1940	1840	4550	3430	19700	5170	12900	8100	17200	2300	2300	2740
9	1990	1860	4420	3410	17100	4920	11600	6830	16500	2310	2310	2970
10	1950	1850	3700	3430	16000	5300	11900	6890	15800	2410	2550	2990
11	1910	1850	3060	3510	15800	5670	11300	8370	15200	2050	2560	2730
12	1910	1800	2970	3630	14000	5640	10500	11500	14700	1760	2550	2650
13	1890	1750	2970	3710	12100	5680	9670	20100	13500	1690	2560	2600
14	1890	1710	3140	3660	10900	5490	11200	22800	9460	1660	2560	2930
15	1960	1710	4060	3660	8600	5150	12900	22400	5690	1630	2620	3120
16	1650	1710	5040	3710	7230	5290	9480	22700	5810	1850	2580	3640
17	1800	1690	5410	3230	7260	5400	11000	24400	6350	2120	2760	3340
18	1970	1660	9990	3160	6930	5110	15500	26500	8630	2140	2330	2750
19	1880	1650	10000	2970	6840	4810	18100	26000	8320	2130	2320	2720
20	1790	1960	11700	3060	6790	4740	17400	26600	7870	2190	2620	2540
21	1690	2190	12400	2970	6910	5860	16900	25300	6320	2280	2510	2440
22	2050	2210	11600	2970	6390	5860	16000	24200	4840	2110	2530	2380
23	2070	2080	11100	2920	6400	5390	11900	21100	3440	2200	2610	2290
24	2250	1950	13800	3800	6050	5210	9170	21300	3320	2210	2580	2260
25	2060	3040	13400	7000	5650	5200	7320	17800	3250	1900	2520	2440
26	2000	4230	12100	7960	5470	5320	5880	14300	3240	1880	2480	2410
27	2110	3790	11200	7780	5660	8520	5610	12800	2730	1900	2000	2580
28	2500	4450	10100	7540	4460	8120	6310	10200	3140	1990	1940	2290
29	2390	4860	7800	8160	---	8770	8860	8230	5290	5330	1930	1960
30	2230	5840	7420	11100	---	13700	10700	6590	5140	5780	2350	1960
31	2110	---	6940	14900	---	13400	---	7250	---	4220	2610	---
TOTAL	61440	71930	229650	152470	354740	189570	373200	476020	246940	78140	74730	79580
MEAN	1982	2398	7408	4918	12670	6115	12440	15360	8231	2521	2411	2653
MAX	2500	5840	13800	14900	24400	13700	18100	26600	17200	5780	3110	3640
MIN	1650	1650	2970	2920	4460	3900	5610	6590	2730	1630	1870	1960
CFSM	0.54	0.66	2.02	1.34	3.46	1.67	3.40	4.20	2.25	0.69	0.66	0.72
IN.	0.62	0.73	2.33	1.55	3.61	1.93	3.79	4.84	2.51	0.79	0.76	0.81

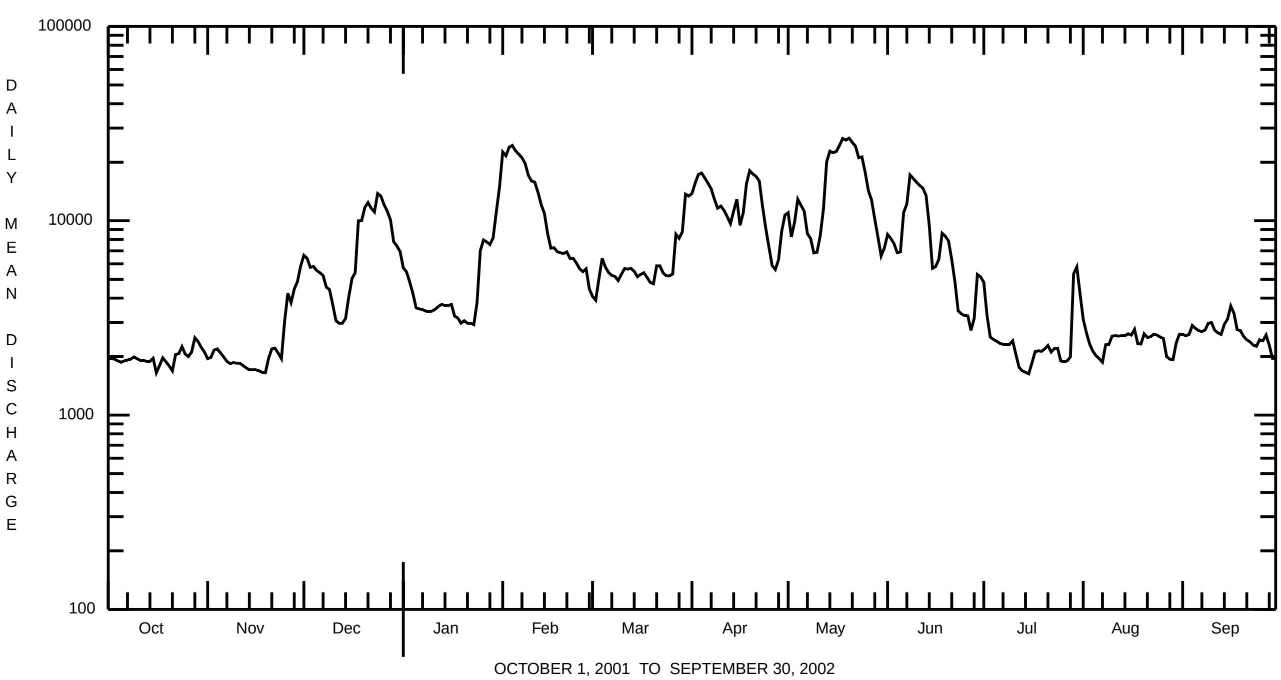
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4062	6442	8541	8482	8215	11870	11760	7581	4794	3017	2281	2692
MAX	15890	17070	17950	21260	18970	29740	25970	20020	14730	15430	10160	12160
(WY)	1991	1993	1978	1952	1990	1945	1947	1943	1989	1972	1977	1977
MIN	324	659	581	844	1725	3378	2255	1333	1430	597	490	449
(WY)	1964	1961	1961	1961	1963	1969	1946	1985	1949	1955	1954	1955

03016000 ALLEGHENY RIVER AT WEST HICKORY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1942 - 2002	
ANNUAL TOTAL	1577260		2388410			
ANNUAL MEAN	4321		6544		6635	
HIGHEST ANNUAL MEAN					9547	1956
LOWEST ANNUAL MEAN					3963	1999
HIGHEST DAILY MEAN	20900	Feb 15	26600	May 20	90800	Mar 8 1956
LOWEST DAILY MEAN	1360	Jun 15	1630	Jul 15	272	Oct 15 1963
ANNUAL SEVEN-DAY MINIMUM	1510	Jun 10	1700	Nov 13	276	Oct 14 1963
MAXIMUM PEAK FLOW			27300	May 19,20	**a**101000	Mar 8 1956
MAXIMUM PEAK STAGE			9.09	May 19,20	**b**17.20	Mar 8 1956
ANNUAL RUNOFF (CFSM)	1.18		1.79		1.81	
ANNUAL RUNOFF (INCHES)	16.03		24.28		24.63	
10 PERCENT EXCEEDS	9990		15500		15300	
50 PERCENT EXCEEDS	2500		4420		4280	
90 PERCENT EXCEEDS	1870		1940		1100	

a From rating curve extended above 99,300 ft^3/s.
b Maximum gage height, 17.83 ft., Jan. 25, 1964 (backwater from ice).



OHIO RIVER MAIN STEM

03016000 ALLEGHENY RIVER AT WEST HICKORY, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002													
16...	1130	9813	9790	40	10.5	6.9	145	11.8	52	15.9	3.1	36	11.0
JUN													
27...	1230	9813	2720	40	9.0	8.5	134	22.9	49	14.8	3.0	40	10.1
AUG													
21...	1330	9813	2510	40	9.7	8.7	142	23.8	55	16.7	3.3	40	10.3

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002													
16...	138	28	.030	.42	<.040	.86	.04	.050	3.7	<10	610	1.3	50
JUN													
27...	90	6	<.020	.22	<.040	.41	.02	.020	2.6	<10	250	<1.0	40
AUG													
21...	108	2	<.020	.25	<.040	.33	.03	.020	2.8	<10	140	<1.0	30

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002		
16...	<50	10
JUN		
27...	<50	<10
AUG		
21...	<50	<10

ALLEGHENY RIVER BASIN

LAKES AND RESERVOIRS IN ALLEGHENY RIVER BASIN

03012520 ALLEGHENY RESERVOIR.--Lat 41°50'17", long 79°00'15", Warren County, Hydrologic Unit 05010001, in Allegheny National Forest, at control house at Kinzua Dam on Allegheny River, 3 mi upstream from Hemlock Run, and 7 mi east of Warren. DRAINAGE AREA, 2,180 mi^2. PERIOD OF RECORD, October 1965 to current year. Prior to October 1966 published as Allegheny River Reservoir. GAGE, water-stage recorder. Datum of gage is sea level. Reservoir is formed by a concrete gravity dam with a gated spillway and with an earthfill section, rockfaced, at right side. Storage began during construction and reservoir acted as retention basin from October 1965 to December 1966. Dam became operational in January 1967. Reservoir first reached minimum pool elevation during period of construction. Capacity, 1,180,000 acre-ft between elevations 1,205.0 ft (invert of low level sluices) and 1,365.0 ft (full pool). Dead storage is 128 acre-ft. Minimum pool elevation, 1,240 ft (capacity, 24,240 acre-ft). Winter low-water pool elevation, 1,292 ft (capacity, 239,780 acre-ft). Summer low-water pool elevation, 1,328 ft (capacity, 572,610 acre-ft). Storage to summer pool normally occurs during period April to May. Depletion of low-water storage for augmenting flow in Allegheny River normally occurs during period July to December. Figures given herein represent total contents. Reservoir is used for flood control, low-flow augmentation and water-quality control of Allegheny River and downstream rivers, power generation, and recreation. Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,121,120 acre-ft June 27,1972, elevation, 1,362.20 ft; minimum (after first filling), 113,310 acre-ft Jan. 26, 1968, elevation 1,268.68 ft.

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

03013946 CHAUTAUQUA LAKE.--Lat 42°09'23", long 79°23'39", Chautauqua County, N.Y., Hydrologic Unit 05010002, 6 ft east of lake shore, 30 ft south of the intersection of Pauline Ave. and Lakeside Ave., 950 ft southeast of the ferry landing, at Bemus Point, N.Y. DRAINAGE AREA, 189 mi^2. PERIOD OF RECORD, November 1949 to current year. GAGE, water-stage recorder. Datum of gage is sea level. Prior to Dec. 21, 1956, non-recording gage at site near mouth of Big Inlet at datum 1,300.00 ft above National Geodetic Vertical Datum of 1929. Dec. 21, 1956 to Sept. 30, 1975, water-stage recorder at site at outlet of Muddy Creek at datum 1,300.00 ft above National Geodetic Vertical Datum of 1929. Lake is regulated at outlet by Warner Dam. Capacity of lake not determined; area of water surface, 20.98 mi^2. Figures of change in contents computed from surface area multiplied by change in stage.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,311.23 ft, Mar. 5, 1976; minimum, 1,306.20 ft, Dec. 16, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,309.62 ft, May 18; minimum, 1,306.63 ft, Dec. 13.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
	03012520 Allegheny Reservoir			03013946 Chautauqua Lake		
Sept. 30	1,304.99	337,800	---	1,307.49.	--	--
Oct. 31	1,301.79	311,230	-432	1,307.76	--	+59
Nov. 30	1,304.66	335,010	+400	1,307.00	--	-171
Dec. 31	1,304.88	336,870	+30	1,307.32	--	+70
CAL YR 2001	--	--	+33	--	--	-2.8
Jan. 31	1,308.38	367,560	+499	1,308.17	--	+185
Feb. 28	1,305.85	345,210	-402	1,307.77	--	-96
Mar. 31	1,327.89	571,290	+3,680	1,308.59	--	+178
Apr. 30	1,330.63	605,070	+568	1,308.38	--	-47
May 31	1,330.07	598,030	-114	1,308.53	--	+33
June 30	1,329.58	591,960	-102	1,308.30	--	-52
July 31	1,326.77	567,910	-391	1,308.26	--	-8.7
Aug. 31	1,320.01	481,930	-1,400	1,307.62	--	-139
Sept. 30	1,311.83	399,420	+1,390	1,307.52	--	-22
WTR YR 2002	--	--	+85	--	--	+.55

OIL CREEK BASIN

03020500 OIL CREEK AT ROUSEVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°28'54", long 79°41'44", Venango County, Hydrologic Unit 05010003, on right bank 100 ft downstream from bridge on State Highway 8, about 300 ft upstream from Cherrytree Run, and 1 mi north of Rouseville. Records include flow of Cherrytree Run.

DRAINAGE AREA.--300 mi^2, including that of Cherrytree Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1932 to current year.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1053: 1936-37(M), 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 1,028.32 ft above National Geodetic Vertical Datum of 1929. Prior to June 9, 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. U.S. Army Corps of Engineers satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 13	1900	*6,080	*7.72	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	163	989	e278	3070	349	1020	749	309	108	154	38
2	44	148	548	e251	2220	347	819	1140	266	103	114	37
3	40	159	376	e244	1060	872	1970	1060	230	96	94	41
4	37	185	299	e237	782	862	1780	707	218	89	77	54
5	35	151	261	e224	589	470	1000	571	229	82	70	46
6	40	162	239	e210	529	500	828	492	1700	75	68	42
7	43	160	221	e203	466	471	709	450	831	73	62	38
8	58	134	205	e210	437	432	616	418	483	72	57	34
9	49	136	195	e203	413	390	718	524	356	74	54	34
10	45	137	181	e230	398	497	937	605	290	123	52	33
11	41	128	166	266	775	452	687	457	258	85	50	30
12	41	119	155	286	640	410	559	1730	236	71	48	29
13	42	102	166	290	504	405	843	5230	226	66	49	28
14	46	95	228	335	373	370	1850	5520	381	64	51	29
15	66	90	440	269	410	336	2830	2890	419	62	60	79
16	76	87	356	304	399	554	1590	1380	432	60	65	220
17	111	82	465	282	424	552	1040	1790	468	57	100	122
18	178	78	2440	258	332	446	798	1870	302	55	88	74
19	117	60	1350	244	332	416	705	1410	235	55	66	58
20	87	185	784	274	369	537	690	954	198	53	61	51
21	70	253	628	302	568	954	709	772	170	51	52	48
22	103	188	516	258	579	696	585	659	153	43	62	43
23	232	152	669	253	448	580	519	563	143	86	103	41
24	290	134	1930	610	372	608	451	491	136	114	115	40
25	295	584	937	1260	357	664	433	432	130	72	83	39
26	238	687	604	695	373	870	452	669	150	70	65	38
27	259	367	470	542	466	2290	385	616	179	81	56	95
28	365	275	415	506	387	1300	774	418	190	85	52	265
29	271	509	356	504	---	1170	1610	359	150	789	48	145
30	225	808	295	1180	---	2540	1010	348	121	570	44	90
31	204	---	e288	1710	---	1530	---	353	---	252	41	---
TOTAL	3797	6518	17172	12918	18072	22870	28917	35627	9589	3736	2161	1961
MEAN	122	217	554	417	645	738	964	1149	320	121	69.7	65.4
MAX	365	808	2440	1710	3070	2540	2830	5520	1700	789	154	265
MIN	35	60	155	203	332	336	385	348	121	43	41	28
CFSM	0.41	0.72	1.85	1.39	2.15	2.46	3.21	3.83	1.07	0.40	0.23	0.22
IN.	0.47	0.81	2.13	1.60	2.24	2.84	3.59	4.42	1.19	0.46	0.27	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	253	504	677	679	737	1084	931	592	383	221	170	196
MAX	1260	1560	1784	2385	2124	2574	1958	1706	1491	896	786	1304
(WY)	1991	1986	1978	1937	1976	1936	1940	1953	1989	1987	1980	1990
MIN	34.5	65.0	80.9	108	158	400	266	129	75.2	38.3	38.8	34.5
(WY)	1964	1992	1961	1984	1987	2000	1935	1934	1934	1934	1934	1934

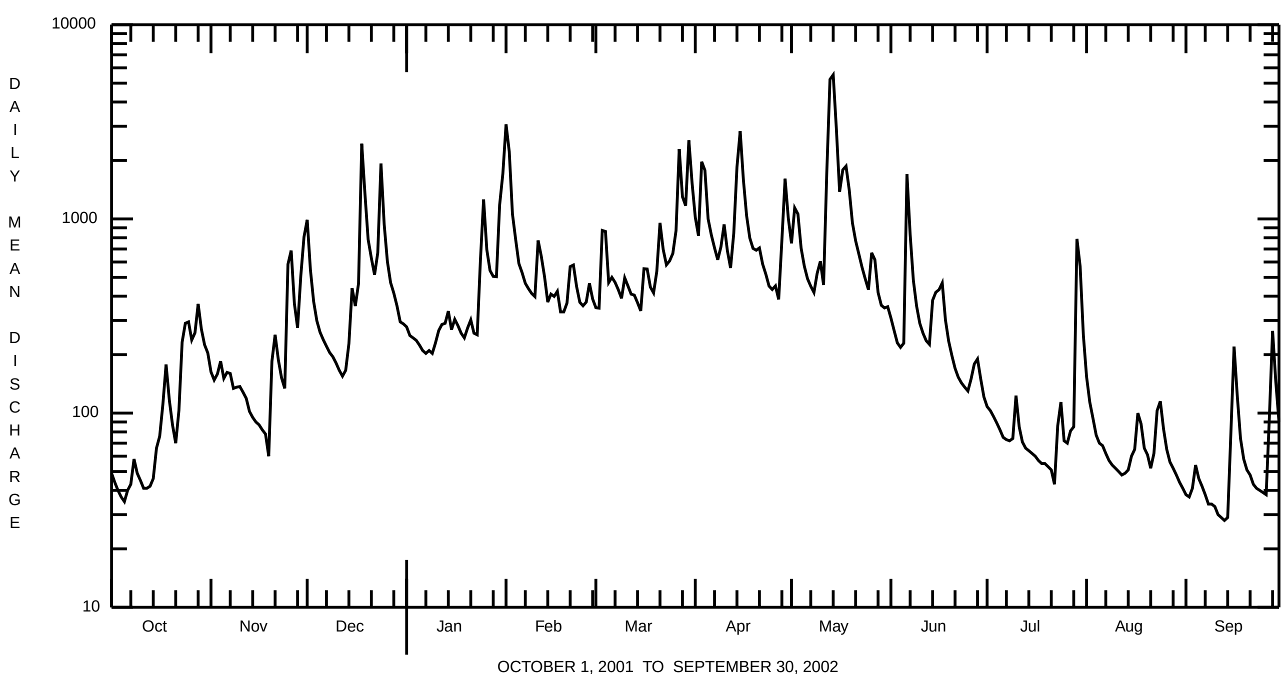
e Estimated.

OIL CREEK BASIN

03020500 OIL CREEK AT ROUSEVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1933 - 2002	
ANNUAL TOTAL	122194		163338			
ANNUAL MEAN	335		448		535	
HIGHEST ANNUAL MEAN					746	1956
LOWEST ANNUAL MEAN					303	1962
HIGHEST DAILY MEAN	4260	Feb 10	5520	May 14	16300	Jan 22 1959
LOWEST DAILY MEAN	26	Sep 12	28	Sep 13	23	Jul 26 1934
ANNUAL SEVEN-DAY MINIMUM	30	Sep 7	31	Sep 8	24	Sep 2 1934
MAXIMUM PEAK FLOW			6080	May 13	**a**21000	Jan 22 1959
MAXIMUM PEAK STAGE			7.72	May 13	11.97	Jan 22 1959
INSTANTANEOUS LOW FLOW			**b**17	Jul 22	**b**16	Oct 12 1993
ANNUAL RUNOFF (CFSM)	1.12		1.49		1.78	
ANNUAL RUNOFF (INCHES)	15.15		20.25		24.21	
10 PERCENT EXCEEDS	773		968		1210	
50 PERCENT EXCEEDS	219		266		290	
90 PERCENT EXCEEDS	41		49		61	

a From rating curve extended above 15,000 ft^3/s.
b Result of abnormal diversion.



OIL CREEK BASIN

03020500 OIL CREEK AT ROUSEVILLE, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
24...	0945	9813	456	40	8.8	7.2	149	6.9	54	15.9	3.6	40	<.2
JUN													
12...	0830	9813	237	40	6.8	7.4	215	21.3	69	20.2	4.4	56	<.2
AUG													
14...	0900	9813	52	40	8.2	7.8	269	23.6	110	34.1	6.6	94	<.2

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN-ABLE TO CHLOR-INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)
APR 2002													
24...	11.5	124	<2	<.020	.31	<.040	.50	.01	.020	2.5	<10	<1.00	350
JUN													
12...	10.8	102	6	<.020	<.04	<.040	.54	.01	.020	3.2	<10	<1.00	310
AUG													
14...	12.7	164	8	<.020	<.04	<.040	.24	.02	.040	2.8	<10	<1.00	240

Date	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
24...	<1.0	20	<50	<10	<5
JUN					
12...	<1.0	30	<50	<10	<5
AUG					
14...	<1.0	30	<50	<10	<5

03021350 FRENCH CREEK NEAR WATTSBURG, PA

LOCATION.--Lat 42°00'55", long 79°46'58", Erie County, Hydrologic Unit 05010004, on right bank at downstream side of bridge on Tanner Road, 1,200 ft east of State Highway 74, 1.1 mi west of Pennsylvania-New York border, 1.5 mi northeast of Wattsburg, and 2.4 mi above confluence with West Branch French Creek.

DRAINAGE AREA.--92.0 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,304.84 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark).

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,500 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 30	1900	2,520	7.92	May 14	0200	2,950	8.37
Feb. 1	1600	*3,320	*8.76				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	131	604	e80	3010	188	361	231	139	28	25	6.3
2	15	104	272	e77	1540	180	303	224	92	25	20	6.2
3	12	135	177	e72	432	941	1450	217	72	23	17	6.8
4	11	104	135	e68	302	493	602	156	81	21	15	8.3
5	10	82	123	e63	230	305	316	129	1270	19	14	6.8
6	58	69	105	e68	231	288	275	107	689	17	12	6.3
7	92	57	92	e65	200	410	269	105	260	16	11	5.8
8	63	52	82	e65	186	461	245	103	150	15	10	5.4
9	40	79	76	e75	187	567	519	147	106	17	9.5	5.2
10	30	73	68	e77	237	548	613	204	82	29	9.1	5.1
11	23	60	61	e85	537	327	280	123	69	24	8.6	4.5
12	21	51	60	e85	326	318	200	1030	58	17	8.4	4.6
13	20	45	73	e100	228	427	635	2480	54	15	8.3	4.0
14	24	41	228	e102	174	428	1070	2630	60	14	8.6	6.3
15	57	40	976	e109	169	298	1020	1080	92	14	10	57
16	47	39	371	e104	208	409	423	393	153	13	17	99
17	155	38	649	e114	224	292	267	1240	125	12	21	41
18	138	34	1530	e112	167	241	200	672	76	11	15	24
19	80	41	600	e112	158	210	177	385	56	10	14	18
20	55	240	360	e112	320	387	206	238	46	10	12	15
21	42	161	295	e114	891	506	191	190	39	9.6	10	13
22	115	105	233	e114	533	289	167	156	36	11	9.0	12
23	98	79	718	134	281	249	165	131	33	12	9.1	11
24	114	64	1230	590	220	250	137	111	31	13	9.8	9.6
25	140	542	395	678	232	236	129	104	29	13	11	9.1
26	137	418	198	383	254	287	127	287	34	12	10	8.6
27	280	190	144	324	262	731	105	178	66	12	9.0	90
28	293	144	e117	454	188	468	287	115	49	30	8.2	230
29	245	390	e104	890	---	840	967	96	40	145	7.6	79
30	270	678	e94	2270	---	2170	416	142	33	68	7.2	44
31	181	---	e88	1820	---	651	---	180	---	36	6.6	---
TOTAL	2885	4286	10258	9516	11927	14395	12122	13584	4120	711.6	363.0	841.9
MEAN	93.1	143	331	307	426	464	404	438	137	23.0	11.7	28.1
MAX	293	678	1530	2270	3010	2170	1450	2630	1270	145	25	230
MIN	10	34	60	63	158	180	105	96	29	9.6	6.6	4.0
CFSM	1.01	1.55	3.60	3.34	4.63	5.05	4.39	4.76	1.49	0.25	0.13	0.31
IN.	1.17	1.73	4.15	3.85	4.82	5.82	4.90	5.49	1.67	0.29	0.15	0.34

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

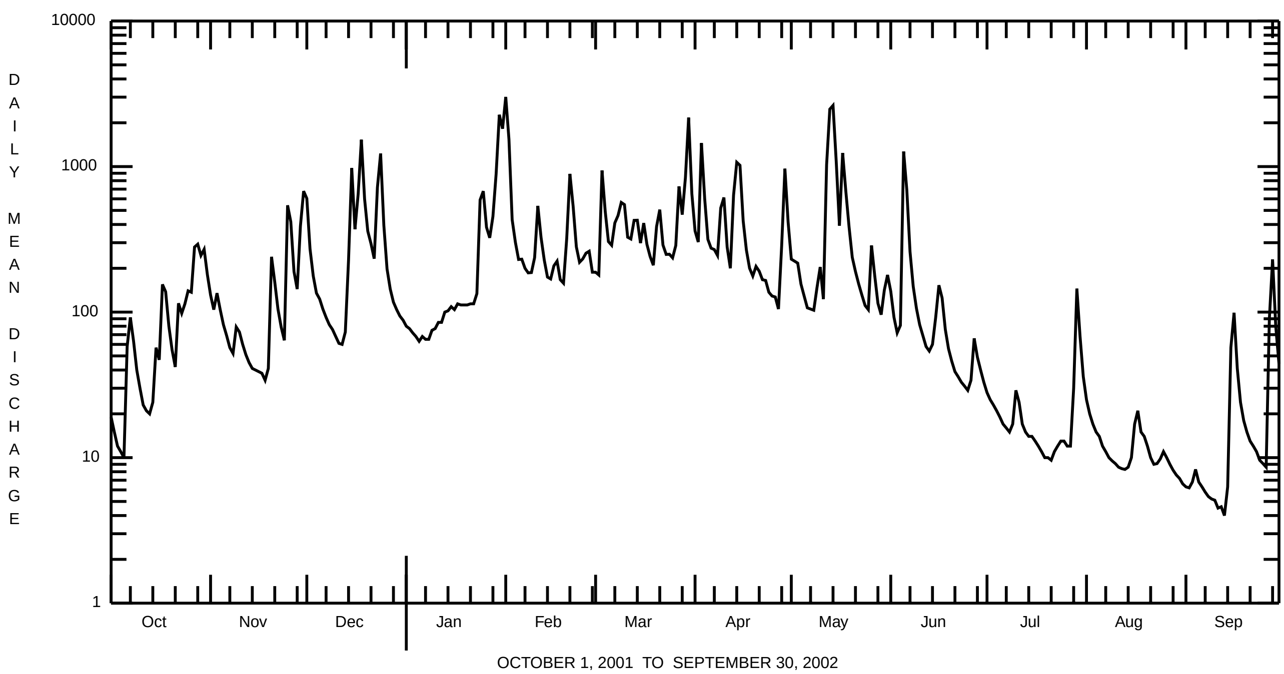
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157	302	304	256	322	423	333	156	121	64.1	76.7	111
MAX	375	669	547	624	792	779	627	438	477	334	272	563
(WY)	1982	1986	1978	1998	1976	1979	1994	2002	1986	1986	1977	1977
MIN	13.3	31.0	81.2	79.3	75.9	139	157	38.2	14.6	6.58	5.93	4.84
(WY)	1992	1992	1990	1977	1987	2000	1976	1985	1991	1999	1991	1995

e Estimated.

03021350 FRENCH CREEK NEAR WATTSBURG, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	63694.0		85009.5			
ANNUAL MEAN	175		233		218	
HIGHEST ANNUAL MEAN					289	1996
LOWEST ANNUAL MEAN					136	1999
HIGHEST DAILY MEAN	2890	Feb 10	3010	Feb 1	**e**4900	Jan 19 1996
LOWEST DAILY MEAN	6.1	Aug 15,16	4.0	Sep 13	1.7	Aug 18 1999
ANNUAL SEVEN-DAY MINIMUM	6.4	Aug 13	4.9	Sep 7	2.4	Aug 14 1999
MAXIMUM PEAK FLOW			3320	Feb 1	**a**6350	Sep 14 1979
MAXIMUM PEAK STAGE			8.76	Feb 1	11.95	Sep 14 1979
INSTANTANEOUS LOW FLOW			3.7	Sep 13	1.5	Jul 31 1999**b**
ANNUAL RUNOFF (CFSM)	1.90		2.53		2.37	
ANNUAL RUNOFF (INCHES)	25.75		34.37		32.22	
10 PERCENT EXCEEDS	419		576		522	
50 PERCENT EXCEEDS	79		105		101	
90 PERCENT EXCEEDS	9.5		10		17	

a From rating curve extended above 4,400 ft^3/s.
b Also Aug. 18, 19, 1999.
e Estimated.



FRENCH CREEK BASIN

03023100 FRENCH CREEK AT MEADVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°37'57", long 80°09'35", Crawford County, Hydrologic Unit 05010004, on left bank 30 ft upstream from bridge on Mercer Street at Meadville, 300 ft downstream from Mill Run, 2,600 ft downstream from Cussewago Creek, at mile 30.5.

DRAINAGE AREA.--788 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,058.83 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to October 27, 1989, water-stage recorder at site 2,300 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1971 by Union City Reservoir 43 mi upstream, serving as a retarding basin, and since January 1974 by Woodcock Creek Lake (station 03022550) 9.0 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge 25,800 ft^3/s April 1947, gage height, 17.05 ft; maximum gage height 17.60 ft, January 1959 (backwater from ice), site and datum then in use.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	1100	3630	1200	6620	1640	3700	2940	1520	274	1010	83
2	178	898	2940	995	7880	1520	2980	2550	1220	247	504	80
3	152	853	2510	879	7420	2190	4860	2660	965	224	378	81
4	131	914	1870	835	5620	2740	5570	2240	744	204	311	83
5	116	756	1420	798	3870	2150	4290	1860	861	186	269	77
6	134	707	1130	767	3200	1900	3390	1500	1820	170	236	79
7	168	612	899	775	2790	1950	2760	1240	2270	158	194	76
8	310	514	755	771	2510	1940	2420	1100	1940	150	174	73
9	316	498	677	754	2350	1840	2460	1170	1660	166	158	71
10	265	553	623	780	2410	1970	3180	1490	1450	190	140	69
11	223	560	563	900	2960	2080	2830	1400	1230	188	130	65
12	201	498	506	1050	2980	1940	2340	2920	1010	177	125	65
13	180	459	511	1080	2530	1910	2750	8200	755	158	121	76
14	182	433	631	1070	2140	1840	4450	10900	626	143	125	83
15	186	403	1460	1070	2010	1750	5850	9960	981	132	130	131
16	279	378	2010	1250	1990	1960	5940	7620	1330	123	134	173
17	381	352	2350	1230	2100	2170	4440	6240	1500	117	189	394
18	803	321	4530	1150	1960	1880	3470	6090	1150	112	188	316
19	742	331	4430	944	1760	1720	2720	5340	829	107	164	223
20	523	549	3650	903	1850	1750	2520	4080	612	101	143	194
21	405	1120	3110	975	2730	2500	2470	2970	492	97	129	158
22	638	984	2460	932	3040	2400	2290	2460	453	94	124	140
23	963	742	2760	945	2720	2050	2170	2160	448	108	120	122
24	933	583	4490	1830	2270	2030	1930	1990	410	114	122	111
25	1030	833	3840	3150	2010	2080	1700	1880	341	120	118	101
26	1080	1730	2960	2860	1890	2230	1580	2650	307	114	119	96
27	1320	1560	2270	2480	1940	3910	1340	2850	305	106	112	169
28	1910	1260	1950	2140	1830	3840	1610	2250	419	189	106	498
29	1920	1590	1740	2120	---	3560	3030	1860	369	3120	100	788
30	1670	2870	1510	3240	---	4410	3350	1740	315	3700	93	590
31	1350	---	1360	4850	---	4590	---	1750	---	1990	87	---
TOTAL	18900	24961	65545	44723	85380	72440	94390	106060	28332	13079	6053	5265
MEAN	610	832	2114	1443	3049	2337	3146	3421	944	422	195	176
MAX	1920	2870	4530	4850	7880	4590	5940	10900	2270	3700	1010	788
MIN	116	321	506	754	1760	1520	1340	1100	305	94	87	65
CFSM	0.77	1.06	2.68	1.83	3.87	2.97	3.99	4.34	1.20	0.54	0.25	0.22
IN.	0.89	1.18	3.09	2.11	4.03	3.42	4.46	5.01	1.34	0.62	0.29	0.25

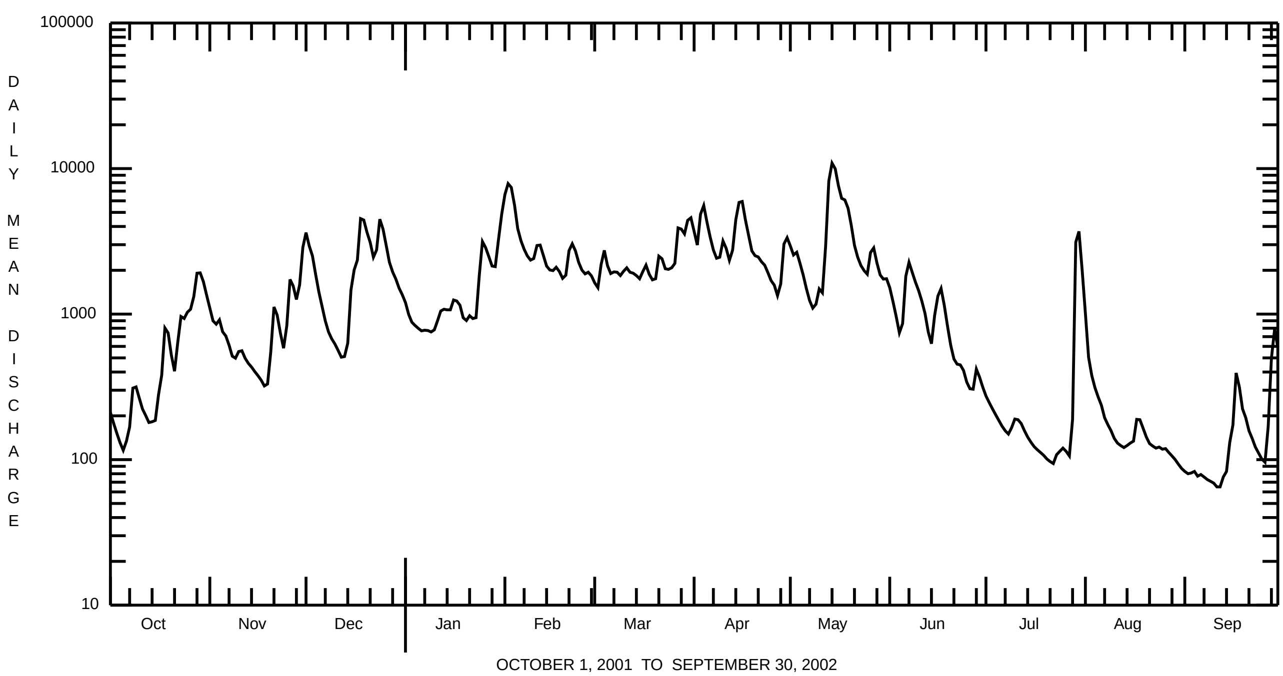
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1008	1758	1957	2297	2200	2399	2461	1493	857	437	450	657
MAX	3181	3205	3039	4233	4190	4059	4023	3421	2659	1337	1771	2786
(WY)	1991	1997	1991	1998	1990	1997	1994	2002	1989	1992	2000	1990
MIN	104	154	510	815	757	1313	1556	451	155	134	81.3	52.6
(WY)	1992	1992	1999	2001	1993	2000	1995	1993	1991	1998	1998	1991

03023100 FRENCH CREEK AT MEADVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	396767		565128			
ANNUAL MEAN	1087		1548		1493	
HIGHEST ANNUAL MEAN					1982	1996
LOWEST ANNUAL MEAN					824	1999
HIGHEST DAILY MEAN	7960	Feb 11	10900	May 14	14300	Jan 20 1996
LOWEST DAILY MEAN	84	Sep 18,19	65	Sep 11,12	37	Sep 22 1991
ANNUAL SEVEN-DAY MINIMUM	88	Sep 15	71	Sep 7	42	Sep 19 1991
MAXIMUM PEAK FLOW			11000	May 14	**a**14800	Jan 20 1996
MAXIMUM PEAK STAGE			13.27	May 14	15.52	Jan 20 1996
INSTANTANEOUS LOW FLOW			63	Sep 12	37	Sep 22 1991
ANNUAL RUNOFF (CFSM)	1.38		1.96		1.89	
ANNUAL RUNOFF (INCHES)	18.73		26.68		25.75	
10 PERCENT EXCEEDS	2480		3370		3450	
50 PERCENT EXCEEDS	740		1080		980	
90 PERCENT EXCEEDS	117		120		124	

a From rating curve extended above 10,300 ft^3/s.



03023100 FRENCH CREEK AT MEADVILLE, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002													
23...	0900	9813	2200	40	7.8	7.6	209	10.4	78	23.5	4.7	64	11.7
JUN													
11...	1400	9813	1200	40	10.5	7.6	227	21.5	88	27.1	4.8	70	9.4
AUG													
13...	1400	9813	120	40	9.3	8.2	351	25.0	140	41.4	8.1	110	18.9

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002													
23...	178	22	.050	.51	<.040	1.0	.02	.050	3.9	<10	980	1.1	80
JUN													
11...	132	18	<.020	.36	<.040	1.0	.03	.040	5.4	<10	760	<1.0	60
AUG													
13...	216	10	.060	.27	<.040	.72	.03	.050	3.7	<10	360	1.0	70

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002		
23...	<50	<10
JUN		
11...	<50	10
AUG		
13...	<50	<10

FRENCH CREEK BASIN

03024000 FRENCH CREEK AT UTICA, PA

LOCATION.--Lat 41°26'15", long 79°57'22", Venango County, Hydrologic Unit 05010004, on right bank at downstream side of bridge on SR 3017 at Utica and 2,000 ft upstream from Mill Creek.

DRAINAGE AREA.--1,028 mi^2.

PERIOD OF RECORD.--August 1932 to current year.

REVISED RECORDS.--WSP 743: Drainage area. WSP 823: 1936 (M). WSP 1275: 1933, 1936.

GAGE.--Water-stage recorder. Datum of gage is 1,019.44 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since July 1970 by Union City Reservoir (station 03021518) 50 mi upstream, serving as a retarding basin, and since January 1974 by Woodcock Creek Lake (station 03022550), 25 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1912, 15.7 ft in March 1913, discharge about 36,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e504	e1460	4160	1660	6950	2020	4480	3550	1990	418	1430	120
2	e487	e1250	3570	1450	8290	1900	3790	3610	1650	378	776	117
3	e469	e1170	3040	1310	8290	2380	5240	3390	1350	344	512	115
4	e417	e1220	2470	1230	6820	3120	6200	2970	1130	315	409	117
5	e391	e1120	1900	1190	4900	2700	5270	2550	1040	285	360	114
6	e435	e1040	1540	1110	3950	2300	4360	2160	2390	262	318	105
7	e461	e955	1290	1090	3480	2310	3660	1870	2750	242	274	104
8	e600	e891	1090	1110	3170	2330	3200	1680	2400	229	236	100
9	e608	e859	982	1080	2940	2220	3150	1740	2030	232	216	98
10	e574	e891	903	1080	2900	2290	3710	1960	1790	289	198	94
11	e530	e912	838	1190	3420	2430	3550	1970	1580	274	181	90
12	e496	e848	756	1350	3600	2310	3060	3170	1360	259	171	84
13	e498	e805	735	1440	3190	2240	3120	8240	1160	249	170	80
14	e507	e783	e948	1420	2770	2180	5060	11400	1160	228	166	93
15	e517	e762	e1840	1420	2550	2070	6530	11800	1170	209	176	133
16	e609	e740	e2300	1540	2500	2340	8470	10100	1500	193	179	238
17	e720	e708	e3120	1600	2590	2580	5800	7950	1800	184	193	290
18	e1120	e698	4850	1530	2500	2350	4660	7270	1510	184	230	417
19	e1070	e708	5140	1350	2260	2130	3780	6360	1200	174	226	319
20	e850	e945	4360	1190	2210	2150	3450	5190	930	166	214	246
21	e757	e1550	3860	1270	2940	2820	3280	4000	753	153	181	214
22	e998	e1340	3160	1340	3490	2960	3050	3310	661	145	181	186
23	e1290	e1150	3150	1300	3240	2620	2870	2900	607	163	222	170
24	e1280	e984	4780	1920	2790	2500	2640	2640	605	165	217	151
25	e1370	e1290	4680	3420	2420	2640	2370	2460	519	164	190	138
26	e1430	e2180	3700	3390	2270	2890	2180	2810	475	166	170	128
27	e1690	e1980	2930	3000	2300	4460	1970	3430	476	156	164	164
28	e2420	e1710	2500	2630	2240	4640	2140	2880	563	154	154	352
29	e2330	e2130	2310	2500	---	4240	3480	2420	562	1610	146	750
30	e2040	e3330	2060	3280	---	4860	3920	2250	475	3780	138	747
31	e1710	---	1820	5150	---	5200	---	2180	---	2470	128	---
TOTAL	29178	36409	80782	55540	100970	86180	118440	130210	37586	14240	8526	6074
MEAN	941	1214	2606	1792	3606	2780	3948	4200	1253	459	275	202
MAX	2420	3330	5140	5150	8290	5200	8470	11800	2750	3780	1430	750
MIN	391	698	735	1080	2210	1900	1970	1680	475	145	128	80
CFSM	0.92	1.18	2.53	1.74	3.51	2.70	3.84	4.09	1.22	0.45	0.27	0.20
IN.	1.06	1.32	2.92	2.01	3.65	3.12	4.29	4.71	1.36	0.52	0.31	0.22

e Estimated.

FRENCH CREEK BASIN

03024000 FRENCH CREEK AT UTICA, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1261	2255	2744	2520	2945	3542	3085	1758	1240	778	695	877
MAX	3954	6309	6029	5426	6394	5778	5101	4200	4659	2629	3297	3408
(WY)	1991	1986	1978	1993	1976	1977	1994	2002	1986	1987	1980	1990
MIN	121	176	583	869	629	1622	1655	452	209	192	112	71.7
(WY)	1992	1992	1999	1977	1987	2000	1976	1985	1991	1995	1991	1995

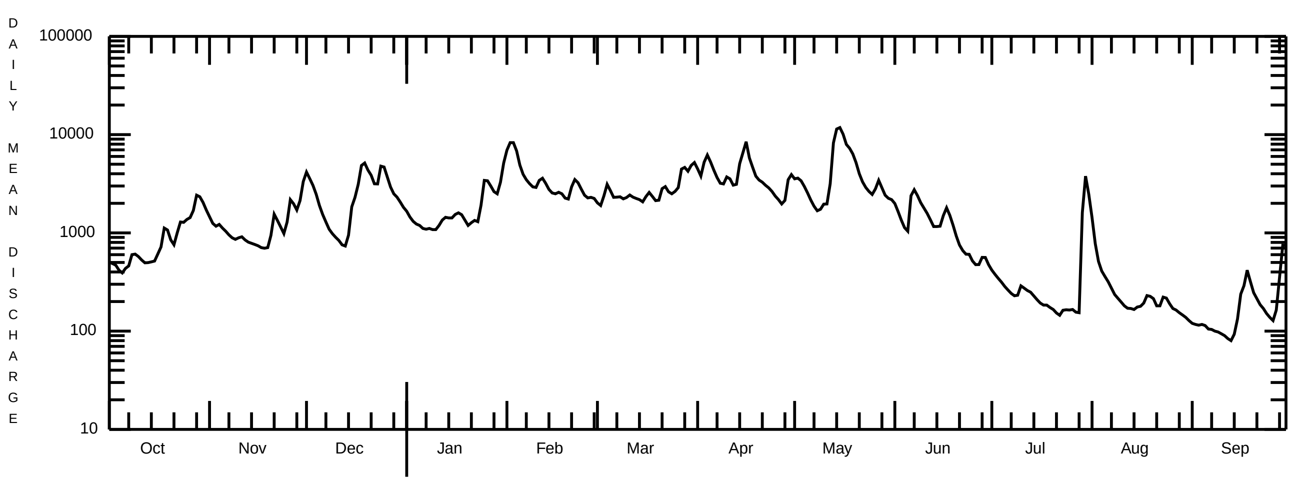
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	490796		704135			
ANNUAL MEAN	1345		1929		1969	
HIGHEST ANNUAL MEAN					2459	1997
LOWEST ANNUAL MEAN					1044	1999
HIGHEST DAILY MEAN	8870	Feb 11	11800	May 15	18100	Feb 21 1981
LOWEST DAILY MEAN	e105	Sep 18,19	80	Sep 13	60	Sep 15 1991
ANNUAL SEVEN-DAY MINIMUM	a109	Sep 15	91	Sep 8	67	Sep 7 1995
MAXIMUM PEAK FLOW			12200	May 15	18400	Feb 21 1981
MAXIMUM PEAK STAGE			9.42	May 15	11.64	Feb 21 1981
ANNUAL RUNOFF (CFSM)	1.31		1.88		1.92	
ANNUAL RUNOFF (INCHES)	17.76		25.48		26.02	
10 PERCENT EXCEEDS	3120		3970		4470	
50 PERCENT EXCEEDS	920		1440		1310	
90 PERCENT EXCEEDS	140		170		231	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	695	1506	2238	2590	2713	3915	3147	1684	953	555	408	440
MAX	3744	3983	4471	7284	5894	7359	6688	4160	3717	2015	1907	2148
(WY)	1946	1971	1951	1937	1938	1964	1947	1956	1947	1967	1956	1958
MIN	69.5	183	227	403	523	1768	575	349	124	77.1	77.8	80.4
(WY)	1964	1954	1961	1961	1934	1937	1946	1934	1934	1934	1954	1954

SUMMARY STATISTICS	WATER YEARS 1933 - 1973	
ANNUAL MEAN	1751	
HIGHEST ANNUAL MEAN	2539	1956
LOWEST ANNUAL MEAN	1146	1934
HIGHEST DAILY MEAN	23000	Mar 6 1964
LOWEST DAILY MEAN	45	Sep 1 1933
ANNUAL SEVEN-DAY MINIMUM	48	Aug 27 1933
MAXIMUM PEAK FLOW	b23800	Mar 7 1964
MAXIMUM PEAK STAGE	c13.2	Mar 7 1964
INSTANTANEOUS LOW FLOW	43	Jul 30 1934
ANNUAL RUNOFF (CFSM)	1.70	
ANNUAL RUNOFF (INCHES)	23.15	
10 PERCENT EXCEEDS	4370	
50 PERCENT EXCEEDS	940	
90 PERCENT EXCEEDS	147	

a Computed using estimated daily discharges.
b From rating curve extended above 20,700 ft^3/s.
c From floodmark in gage well.
e Estimated.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

FRENCH CREEK BASIN

LAKES AND RESERVOIRS IN FRENCH CREEK BASIN

03021518 UNION CITY RESERVOIR.--Lat 41°55'13", long 79°53'59", Erie County, Hydrologic Unit 05010004, in tower at left center of Union City Dam on French Creek, 1.4 mi upstream from South Branch French Creek, and 3.2 mi northwest of Union City. DRAINAGE AREA, 220 mi^2. PERIOD OF RECORD, July 1970 to current year. GAGE, water-stage recorder. Datum of gage is sea level (U.S. Army Corps of Engineers bench mark). Reservoir is formed by earthfill dam with sidehill, concrete-lined spillway completed September 1971. Dam became operational in July 1970. Usable capacity 47,650 acre-ft between elevation 1,210.00 ft (invert of inlet of conduit) and 1,278.00 ft (crest of spillway). No dead storage. Figures given herein represent usable contents. Reservoir is used for flood control only. Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 34,840 acre-ft, Feb. 21, 1981, elevation, 1,271.80 ft; minimum, 0.0 acre-ft, Aug. 31, 1995, elevation, 1,211.08 ft, (period of record available, July 1970 through Dec. 1999).

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

03022550 WOODCOCK CREEK LAKE.--Lat 41°41'50", long 80°06'06",Crawford County, Hydrologic Unit 05010004 in tower on right center and 200 ft upstream from center line of Woodcock Creek Dam on Woodcock Creek, 2.8 mi southeast of Saegerstown and 3.5 mi upstream from mouth. DRAINAGE AREA, 45.6 mi^2. PERIOD OF RECORD, January 1974 to current year. GAGE, water-stage recorder. Datum of gage is sea level (U.S. Army Corps of Engineers benchmark). Lake is formed by a rolled earth embankment with an impervious core. Storage began in January 1974. Total storage 20,000 acre-ft between elevation 1,138 ft inlet invert and 1,209 ft crest of spillway. Figures given herein represent usable contents. Lake is used for flood control and recreation. Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,690 acre-ft, June 13, 1986, elevation, 1,198.18 ft; minimum (after first filling) 676 acre-ft, Nov. 1, 1984, elevation, 1,159.82 ft, (period of record available, Jan. 1974 through Dec. 1999).

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
	03021518 Union City Reservoir			03022550 Woodcock Creek Lake		
Sept. 30	1,212.52	4	---	1,177.18	3,760	---
Oct. 31	1,223.39	466	+7.5	1,178.62	4,180	+6.8
Nov. 30	1,227.30	923	+7.7	1,170.44	2,180	-34
Dec. 31	1,227.05	888	-0.57	1,164.15	1,170	-16
CAL YR 2001	--	--	+1.0	--	--	-0.17
Jan. 31	1,244.38	5,570	+76	1,167.20	1,610	+7.2
Feb. 28	1,231.88	1,680	-70	1,166.78	1,550	-1.1
Mar. 31	1,255.30	11,980	+168	1,181.77	5,190	+59
Apr. 30	1,238.78	3,540	-142	1,183.63	5,860	+11
May 31	1,231.93	1,690	-30	1,181.74	5,180	-11
June 30	1,213.91	14	-28	1,181.44	5,080	-1.7
July 31	1,215.42	34	+0.33	1,183.15	5,680	+9.8
Aug. 31	1,211.91	1	-0.54	1,181.08	4,960	-12
Sept. 30	1,217.61	88	+1.5	1,180.03	4,620	-5.7
WTR YR 2002	--	--	+0.12	--	--	+1.2

OHIO RIVER MAIN STEM

03025500 ALLEGHENY RIVER AT FRANKLIN, PA

LOCATION.--Lat 41°23'22", long 79°49'14", Venango County, Hydrologic Unit 05010003, on right bank at upstream side of Eighth Street bridge on U.S. Highway 322 at Franklin, 1,000 ft downstream from French Creek, at mile 124.4.

DRAINAGE AREA.--5,982 mi^2.

PERIOD OF RECORD.--October 1914 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site since April 1905 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 743:   Drainage area. WSP 783:   1913 (M). WSP 1003:   1920 (M). WSP 1305:   1926 (M), 1928-29 (M). WSP 1385: 1920, 1932.

GAGE.--Water-stage recorder. Datum of gage is 955.84 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 16, 1932, nonrecording gage, and Sept. 16-30, 1932, water-stage recorder, at present site at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1940 by Tionesta Lake, since November 1949 by Chautauqua Lake (station 03013946), since October 1965 by Allegheny Reservoir (station 03012520), since July 1970 by Union City Reservoir (station 03021518), and since January 1974 by Woodcock Creek Lake (station 03022550). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1865 reached a stage of 25.0 ft, and that of Mar. 26, 1913 a stage of 24.6 ft, from graph based on gage readings, discharges about, 200,000 ft^3/s and 190,000 ft^3/s, respectively, from rating curve extended above 111,000 ft^3/s. Maximum discharge since at least 1864 is that of Mar. 17, 1865.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2700	4450	14300	9540	33700	8220	24200	19000	12900	6540	6080	2910
2	2620	4070	13200	8550	36900	7880	24500	17900	12100	5120	4530	2820
3	2540	4180	11800	7720	36100	9390	27800	17400	11000	3990	3590	2860
4	2410	4330	10900	7070	35600	12400	30200	19600	9880	3440	3020	3140
5	2350	4160	9750	6250	32800	11400	27100	18700	8490	3330	2780	3220
6	2360	3840	8990	5870	30300	10500	24300	16900	15500	3280	2580	3120
7	2360	3690	8360	5840	28300	10100	21900	13700	16600	3200	2420	3050
8	2410	3220	7510	5780	26300	9970	19500	12700	21400	3150	2430	3030
9	2600	3120	7040	5700	22700	9480	17800	11900	22600	3060	2770	3140
10	2630	3120	6220	5740	21200	9380	19500	11800	21100	3320	2840	3360
11	2530	3110	5420	5900	22100	10000	18700	13300	19500	3020	2980	3190
12	2500	3050	4900	6240	20600	9910	17200	17800	17600	2630	3000	2970
13	2490	2900	4860	6470	18100	9790	16600	38900	16600	2380	3100	2900
14	2460	2880	5120	6400	16700	9380	21300	47300	14100	2330	2980	2990
15	2580	2820	6610	6200	14300	8840	27900	43900	10400	2240	3090	3410
16	2510	2790	8570	6440	12000	9390	26400	40600	9540	2260	3120	4290
17	2490	2720	9740	6300	11900	10000	20900	39800	10700	2540	3550	4160
18	3000	2650	19500	5930	11400	9690	23700	42900	12100	2770	3190	3800
19	3300	2590	21000	5520	10800	9070	26600	41000	12100	2760	2840	3390
20	3020	3040	20600	5240	10800	9040	24300	39900	11300	2730	3080	3260
21	2700	3930	21000	5420	11900	11200	23300	37100	9110	2960	3030	3020
22	2780	4250	19500	5520	12000	11700	22500	34100	7110	2660	3020	2890
23	3910	3860	18600	5320	11700	10700	19900	29400	5630	2860	3750	2790
24	5140	3540	23600	6480	11000	10200	17400	27800	5230	3090	3710	2680
25	4650	4920	23400	12600	10200	10600	14700	24000	5060	2730	3350	2700
26	4720	8140	20300	14300	9720	11500	12500	20100	5000	2460	3310	2840
27	4870	7560	17900	14100	9980	18600	10900	19600	4980	2790	3020	3250
28	6030	7620	16200	13200	9250	18200	11600	16100	5010	2760	2570	3980
29	6240	8410	13100	13400	---	18300	15900	13000	6290	6100	2360	3140
30	5790	11200	11600	16200	---	24300	18800	11400	6810	12000	2340	3140
31	5020	---	10900	22900	---	25700	---	10900	---	8610	2760	---
TOTAL	103710	130160	400490	258140	538350	364830	627900	768500	345740	113110	97190	95440
MEAN	3345	4339	12920	8327	19230	11770	20930	24790	11520	3649	3135	3181
MAX	6240	11200	23600	22900	36900	25700	30200	47300	22600	12000	6080	4290
MIN	2350	2590	4860	5240	9250	7880	10900	10900	4980	2240	2340	2680
CFSM	0.56	0.73	2.16	1.39	3.21	1.97	3.50	4.14	1.93	0.61	0.52	0.53
IN.	0.64	0.81	2.49	1.61	3.35	2.27	3.90	4.78	2.15	0.70	0.60	0.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2002, BY WATER YEAR (WY)

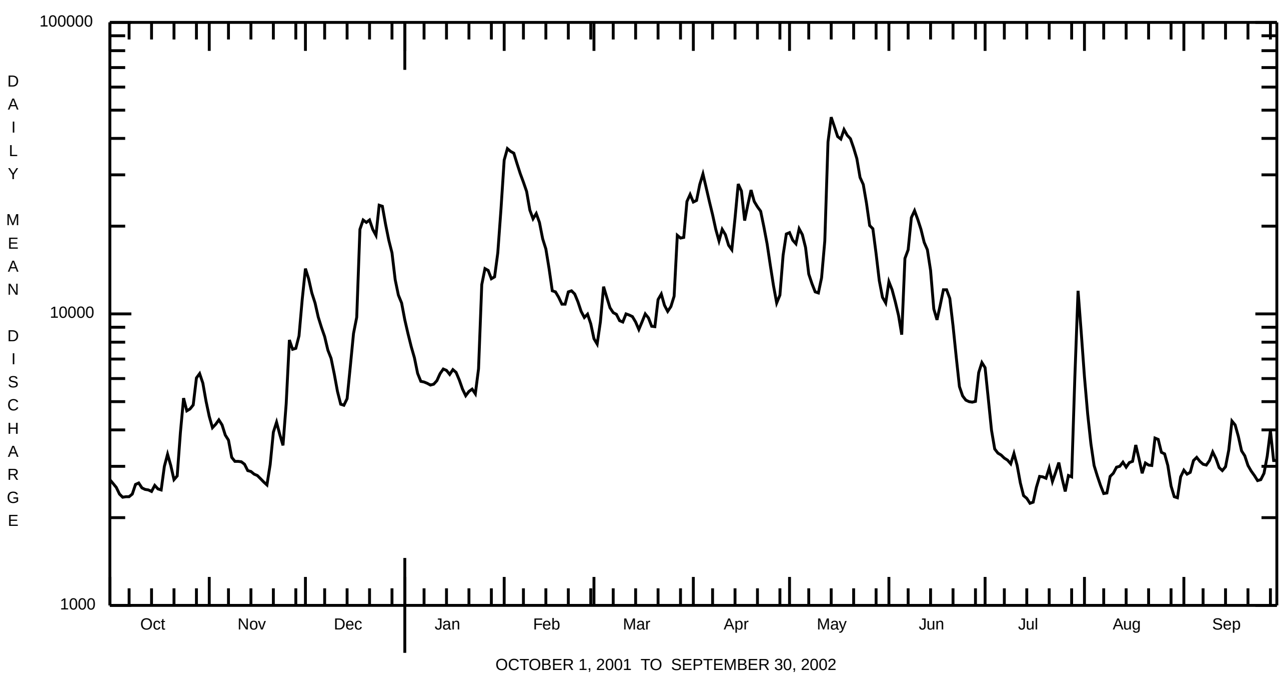
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5541	9921	13300	13790	13710	20750	19320	12160	7412	4408	3213	3530
MAX	22900	26030	33270	41420	32340	49850	49920	30070	24820	21440	13830	17730
(WY)	1991	1986	1928	1937	1976	1936	1940	1943	1989	1972	1977	1977
MIN	515	771	1125	1732	2929	6383	4203	2554	1106	555	414	435
(WY)	1931	1931	1961	1961	1963	1969	1946	1985	1934	1934	1930	1930

OHIO RIVER MAIN STEM

03025500 ALLEGHENY RIVER AT FRANKLIN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1915 - 2002	
ANNUAL TOTAL	2678090		3843560			
ANNUAL MEAN	7337		10530		10570	
HIGHEST ANNUAL MEAN					15560	1956
LOWEST ANNUAL MEAN					6482	1931
HIGHEST DAILY MEAN	34000	Feb 16	47300	May 14	130000	Mar 13 1920
LOWEST DAILY MEAN	2350	Oct 5	2240	Jul 15	335	Aug 21 1930
ANNUAL SEVEN-DAY MINIMUM	2430	Oct 3	2430	Oct 3	351	Aug 17 1930
MAXIMUM PEAK FLOW			48800	May 14	**a**138000	Mar 13 1920
MAXIMUM PEAK STAGE			11.95	May 14	**b**20.65	Mar 13 1920
ANNUAL RUNOFF (CFSM)	1.23		1.76		1.77	
ANNUAL RUNOFF (INCHES)	16.65		23.90		24.01	
10 PERCENT EXCEEDS	17600		23300		25100	
50 PERCENT EXCEEDS	4300		7110		6610	
90 PERCENT EXCEEDS	2590		2710		1420	

a From rating curve extended above 111,000 ft^3/s.
b Maximum gage height observed, 26.0 ft, Feb. 27, 1917 (backwater from ice), also Feb. 26, 1926 (backwater from ice).



03026500 SEVENMILE RUN NEAR RASSELAS, PA

LOCATION.--Lat 41°37'52", long 78°34'37", McKean County, Hydrologic Unit 05010005, on right bank 300 ft upstream from highway bridge, 600 ft upstream from Fivemile Run, and 3.2 mi northeast of Rasselas.

DRAINAGE AREA.--7.84 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,690.73 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. U.S. Army Corps of Engineers satellite 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)
June 14	1200	*559	*4.65	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	5.4	20	e9.2	69	12	32	30	11	5.3	5.8	1.3
2	0.93	5.2	16	e8.4	48	11	26	41	8.6	4.9	2.4	1.2
3	0.94	8.9	14	e7.7	36	19	30	34	7.6	4.4	3.3	1.1
4	0.99	6.8	12	e7.1	28	17	24	28	7.8	3.7	1.6	1.2
5	1.2	5.9	11	e6.5	22	17	20	24	16	3.2	2.4	1.0
6	1.2	5.2	10	e6.0	19	14	19	20	69	2.9	1.8	0.85
7	1.1	4.8	9.4	e5.5	16	14	18	19	42	2.7	1.2	0.78
8	1.3	4.4	8.7	e5.2	14	12	16	16	30	2.5	1.0	0.78
9	1.2	4.5	8.3	e5.2	13	12	16	44	22	2.6	1.00	0.69
10	1.1	4.0	7.8	e5.1	15	14	17	43	17	2.7	0.94	0.64
11	0.98	3.8	7.1	e5.1	36	12	14	33	14	2.2	0.84	0.71
12	1.0	3.4	6.6	e5.1	24	12	13	75	13	2.0	0.79	0.66
13	1.2	3.1	7.8	e5.0	20	11	19	131	13	1.9	0.73	0.64
14	1.5	2.9	13	e5.0	18	10	38	117	193	1.8	0.68	0.63
15	2.6	2.9	19	e4.8	15	9.7	70	86	102	1.7	0.74	1.3
16	2.0	2.7	14	e4.7	15	11	46	55	72	1.6	0.90	2.6
17	4.1	2.5	28	e4.6	14	10	36	49	49	1.5	10	1.1
18	2.8	2.4	65	e4.6	12	11	29	72	36	1.4	2.5	0.80
19	2.0	2.4	43	e4.5	11	11	33	56	26	1.3	1.6	0.92
20	1.7	3.7	32	e4.4	11	14	31	43	19	1.3	1.3	1.0
21	1.5	3.2	26	e4.3	16	16	27	35	15	1.3	1.1	0.87
22	1.6	2.9	21	e4.3	15	13	24	28	16	1.2	7.9	0.79
23	1.9	2.7	19	4.8	13	13	20	23	19	1.4	13	0.89
24	18	2.5	25	17	12	14	17	20	12	1.5	5.8	0.41
25	10	13	19	21	12	13	17	17	9.9	1.2	4.0	0.55
26	7.5	14	16	16	13	22	15	19	8.8	1.2	2.7	0.58
27	6.7	11	14	15	14	39	13	15	8.7	1.2	2.0	12
28	6.4	10	14	15	12	30	36	12	9.7	1.5	1.8	12
29	6.1	14	12	18	---	34	42	11	7.2	2.7	1.7	4.6
30	7.7	20	e11	39	---	54	35	13	6.2	1.7	1.5	3.1
31	6.2	---	e9.9	43	---	38	---	14	---	3.9	1.4	---
TOTAL	104.44	178.2	539.6	311.1	563	539.7	793	1223	880.5	70.4	84.42	55.69
MEAN	3.37	5.94	17.4	10.0	20.1	17.4	26.4	39.5	29.4	2.27	2.72	1.86
MAX	18	20	65	43	69	54	70	131	193	5.3	13	12
MIN	0.93	2.4	6.6	4.3	11	9.7	13	11	6.2	1.2	0.68	0.41
CFSM	0.43	0.76	2.22	1.28	2.56	2.22	3.37	5.03	3.74	0.29	0.35	0.24
IN.	0.50	0.85	2.56	1.48	2.67	2.56	3.76	5.80	4.18	0.33	0.40	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.96	14.2	17.2	14.8	17.0	27.9	29.0	17.5	11.9	5.27	5.15	5.97
MAX	29.7	49.5	35.9	56.4	49.9	70.8	70.6	47.8	74.0	26.0	32.8	39.7
(WY)	1971	1986	1978	1952	1976	1964	1970	1953	1989	1992	1956	1987
MIN	0.32	0.66	0.94	1.55	2.22	9.85	11.2	4.05	1.14	0.50	0.52	0.28
(WY)	1965	1965	1961	1961	1987	1993	1976	1985	1991	1991	1966	1964

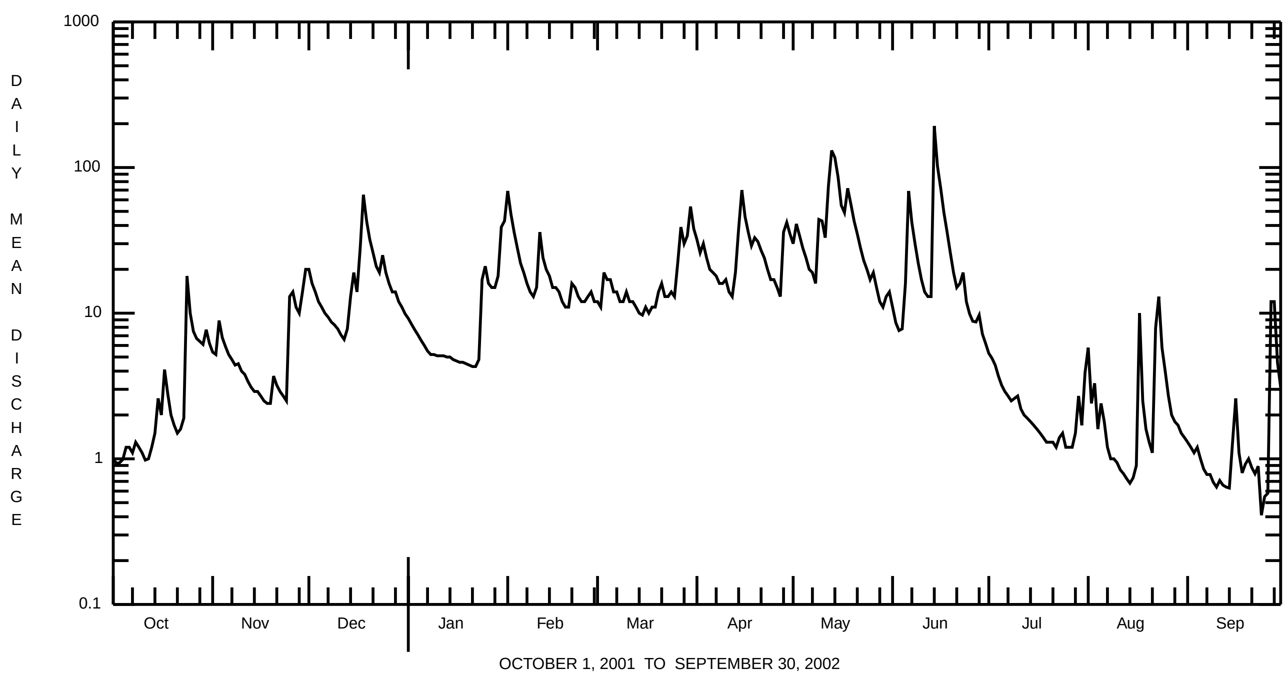
e Estimated.

CLARION RIVER BASIN

03026500 SEVENMILE RUN NEAR RASSELAS, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1952 - 2002	
ANNUAL TOTAL	3192.50		5343.05			
ANNUAL MEAN	8.75		14.6		14.4	
HIGHEST ANNUAL MEAN					21.1	1984
LOWEST ANNUAL MEAN					8.92	2001
HIGHEST DAILY MEAN	65	Dec 18	193	Jun 14	465	Jun 20 1989
LOWEST DAILY MEAN	0.29	Aug 15	0.41	Sep 24	0.07	Sep 21 1955
ANNUAL SEVEN-DAY MINIMUM	0.40	Aug 12	0.68	Sep 8	0.14	Sep 16 1955
MAXIMUM PEAK FLOW			559	Jun 14	**a**2300	Sep 13 1987
MAXIMUM PEAK STAGE			4.65	Jun 14	5.30	Sep 13 1987
INSTANTANEOUS LOW FLOW			0.17	Sep 24	0.07	Sep 21 1955
ANNUAL RUNOFF (CFSM)	1.12		1.87		1.84	
ANNUAL RUNOFF (INCHES)	15.15		25.35		24.95	
10 PERCENT EXCEEDS	23		35		32	
50 PERCENT EXCEEDS	4.6		10		8.0	
90 PERCENT EXCEEDS	0.79		1.1		1.0	

a From rating curve extended above 600 ft^3/s on basis of slope-area measurement at gage height 4.60 ft and contracted-opening measurement at gage height 5.02 ft.



CLARION RIVER BASIN

03027000 EAST BRANCH CLARION RIVER LAKE

LOCATION.--Lat 41°33'35", long 78°35'40", Elk County, Hydrologic Unit 05010005, at control tower at East Branch Clarion River Dam on East Branch Clarion River, 1.7 mi northeast of Glen Hazel, and 7.5 mi upstream from confluence with West Branch Clarion River.

DRAINAGE AREA.--72.4 mi^2 (figure from U.S. Army Corps of Engineers).

PERIOD OF RECORD.--June 1952 to current year. Prior to October 1970 published as "East Branch Clarion River Reservoir".

GAGE.--Water-stage recorder. Datum of gage is sea level (U.S. Army Corps of Engineers bench mark).

REMARKS.--Lake is formed by an earthfill dam rock-faced. Dam completed in 1952. Controlled storage began in June 1952. Capacity, 83,300 acre-ft between elevations 1,555 ft (sill of outlet gates) and 1,685 ft (full pool). Minimum pool elevation, 1,555 ft (capacity, 1,000 acre-ft). Winter low-water pool elevation, 1,651 ft (capacity, 45,600 acre-ft). Summer low-water pool elevation, 1,670 ft (capacity, 65,300 acre-ft). Storage to summer pool normally occurs during period Mar. 1 to Apr. 30. Depletion of low-water storage for augmenting flow in Clarion River occurs normally during period June to October. Figures given herein represent total contents. Lake is used for flood control, for low-flow augmentation of Clarion River and downstream rivers, and for recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 85,010 acre-ft, June 24, 1972, elevation, 1,685.55 ft; minimum, 850 acre-ft, Nov. 9, 1957, elevation, 1,553.00 ft. (Period of record available June 1952 through Dec. 1999.)

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
Sept. 30	1,640.95	36,890	---
Oct. 31	1,634.87	32,200	-76
Nov. 30	1,634.62	32,010	-3.2
Dec. 31	1,645.71	40,850	+143
CAL YR 2001	--	--	-5.9
Jan. 31	1,650.04	44,680	+62
Feb. 28	1,655.99	50,310	+101
Mar. 31	1,664.25	58,850	+139
Apr. 30	1,671.70	67,300	+142
May 31	1,670.66	66,080	-20
June 30	1,670.00	65,310	-13
July 31	1,663.94	58,520	-110
Aug. 31	1,655.71	50,040	-138
Sept. 30	1,644.50	39,820	-172
WTR YR 2002	--	--	+4.1

CLARION RIVER BASIN

03028000 WEST BRANCH CLARION RIVER AT WILCOX, PA

LOCATION.--Lat 41°34'31", long 78°41'33", Elk County, Hydrologic Unit 05010005, on right bank 20 ft downstream from bridge on Township Route 359 at Wilcox, 100 ft downstream from Wilson Run, and 0.1 mi upstream from Penn Central Railroad bridge.

DRAINAGE AREA.--63.0 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,502.02 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 18, 1953, nonrecording gage at site 20 ft upstream at same datum. Nov. 18 to Dec. 8, 1953, 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. U.S. Army Corps of Engineers satellite telemetry at station.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 14	2100	1,640	5.07	June 14	1400	*2,810	*6.74

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	32	201	e89	562	107	333	275	95	46	33	8.5
2	8.7	34	166	e78	448	101	274	353	82	43	18	8.7
3	8.7	60	146	e74	359	205	291	284	74	39	22	8.7
4	8.4	42	125	e66	292	172	233	251	72	34	13	10
5	8.2	37	111	e64	229	172	205	221	128	33	16	8.4
6	8.5	34	99	e60	192	171	191	194	556	29	13	7.4
7	9.4	32	88	e57	167	154	172	174	355	27	10	6.9
8	10	30	79	e53	145	139	158	150	278	26	9.8	6.9
9	8.9	31	74	e50	125	129	158	311	222	25	9.3	6.9
10	12	28	66	e48	140	150	156	293	180	27	9.3	6.9
11	13	26	59	e46	272	119	129	252	147	21	8.8	6.9
12	8.9	23	54	e43	200	116	121	598	127	21	8.7	6.9
13	11	21	64	e43	190	111	168	1070	111	19	9.2	6.9
14	12	21	106	e43	169	105	298	1230	1400	19	8.6	6.9
15	27	20	155	e41	160	99	505	1020	848	18	10	15
16	19	20	115	e40	152	117	388	643	609	17	13	32
17	35	19	243	e39	140	100	317	506	436	15	62	12
18	25	16	536	e39	118	102	258	677	325	15	19	9.4
19	18	17	388	e38	107	101	264	525	248	15	13	9.5
20	16	32	319	e42	111	132	238	421	197	15	12	9.5
21	14	24	256	e41	144	146	211	338	159	14	9.8	8.7
22	16	21	209	e43	133	134	194	275	137	13	30	8.7
23	21	20	191	43	118	136	172	229	125	18	72	7.7
24	179	19	230	114	111	138	147	200	100	19	29	6.9
25	79	137	179	160	111	140	142	169	87	14	20	6.8
26	53	114	160	140	127	238	126	177	74	15	15	6.3
27	51	87	147	139	129	362	111	140	82	14	12	94
28	49	82	e126	139	112	305	331	118	79	15	12	80
29	41	113	e113	159	---	314	355	112	59	28	11	25
30	40	178	e102	293	---	478	318	123	51	17	9.3	18
31	36	---	e95	349	---	380	---	113	---	17	9.3	---
TOTAL	856.1	1370	5002	2673	5263	5373	6964	11442	7443	688	547.1	456.4
MEAN	27.6	45.7	161	86.2	188	173	232	369	248	22.2	17.6	15.2
MAX	179	178	536	349	562	478	505	1230	1400	46	72	94
MIN	8.2	16	54	38	107	99	111	112	51	13	8.6	6.3
CFSM	0.44	0.72	2.56	1.37	2.98	2.75	3.68	5.86	3.94	0.35	0.28	0.24
IN.	0.51	0.81	2.95	1.58	3.11	3.17	4.11	6.76	4.39	0.41	0.32	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	70.2	124	152	127	146	238	249	146	96.4	55.8	48.5	53.8
MAX	236	390	311	319	448	494	483	369	417	252	249	231
(WY)	1982	1986	1978	1998	1976	1964	1970	2002	1972	1992	1956	1987
MIN	7.60	12.9	12.4	18.5	27.6	96.4	109	40.9	20.4	12.3	8.30	7.68
(WY)	1964	1965	1961	1961	1987	1969	1976	1985	1991	1955	1991	1955

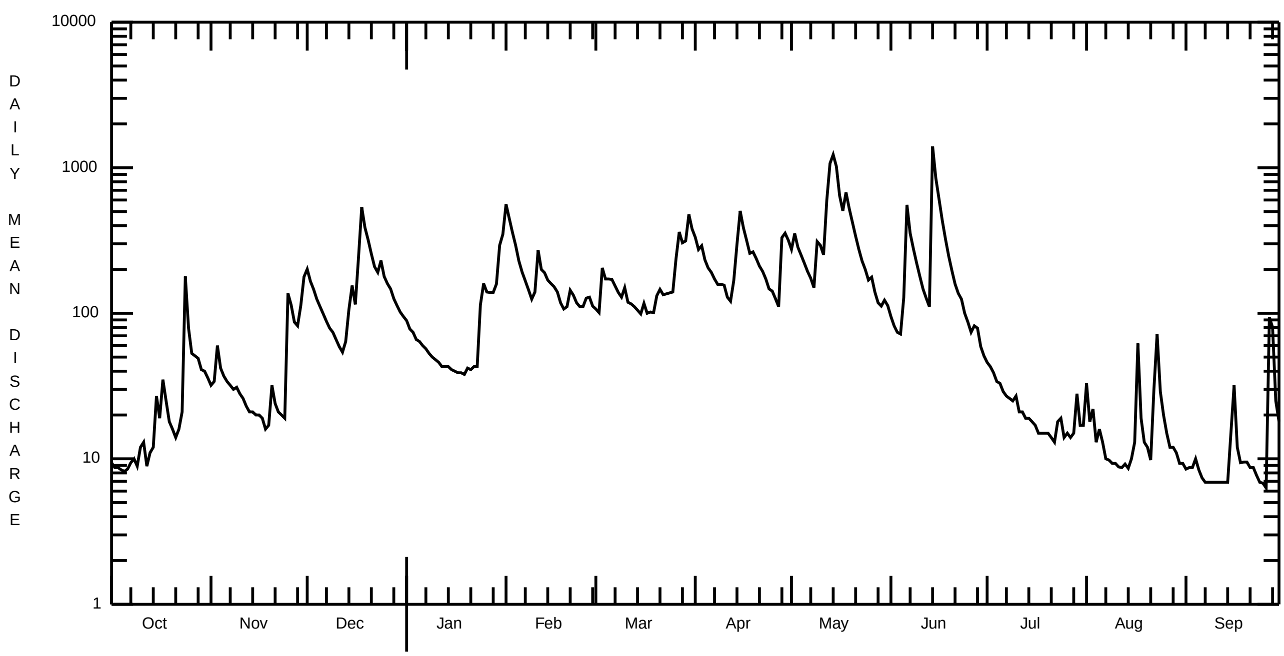
e Estimated.

CLARION RIVER BASIN

03028000 WEST BRANCH CLARION RIVER AT WILCOX, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1954 - 2002	
ANNUAL TOTAL	29486.2		48077.6			
ANNUAL MEAN	80.8		132		125	
HIGHEST ANNUAL MEAN					184	1956
LOWEST ANNUAL MEAN					80.4	2001
HIGHEST DAILY MEAN	536	Dec 18	1400	Jun 14	2870	Jun 23 1972
LOWEST DAILY MEAN	5.8	Aug 16	6.3	Sep 26	4.5	Sep 21 1955
ANNUAL SEVEN-DAY MINIMUM	6.1	Aug 12	6.9	Sep 7	5.2	Sep 16 1955
MAXIMUM PEAK FLOW			2810	Jun 14	**a**5590	Jan 19 1996
MAXIMUM PEAK STAGE			6.74	Jun 14	**b**10.23	Jan 19 1996
INSTANTANEOUS LOW FLOW			6.3	Sep 25,26	4.2	Sep 21 1955
ANNUAL RUNOFF (CFSM)	1.28		2.09		1.99	
ANNUAL RUNOFF (INCHES)	17.41		28.39		27.01	
10 PERCENT EXCEEDS	226		312		286	
50 PERCENT EXCEEDS	37		87		73	
90 PERCENT EXCEEDS	8.9		9.4		15	

a From rating curve extended above 3,000 ft^3/s.
b From peak-stage indicator.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

03029500 CLARION RIVER AT COOKSBURG, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°19'50", long 79°12'33", Clarion County, Hydrologic Unit 05010005, on right bank at downstream side of bridge on State Highway 36 at Cooksburg, 300 ft downstream from Toms Run, and 2.7 mi upstream from Cathers Run.

DRAINAGE AREA.--807 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for October, November 1938, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1939 (M). WDR PA-85-3: 1979 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,147.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 17, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since June 1952 by East Branch Clarion River Lake (station 03027000) and at low flow by industrial plants above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1935, 19 ft, Mar. 17, 1936, from floodmarks, discharge, about 56,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 10,000 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
May 14	0100	*16,100	*11.60	June 15	0100	11,800	10.16

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286	331	1650	e821	4680	1060	3470	3110	1530	628	359	257
2	252	322	1370	e772	4950	1010	2940	3870	1230	531	418	252
3	240	410	1100	e724	3740	1430	2660	4750	1020	486	346	254
4	225	611	946	e686	3080	2210	2510	3330	921	444	319	256
5	230	468	843	e676	2500	1620	2030	2670	906	413	298	266
6	234	386	769	e657	2070	1570	1800	2270	2170	386	302	258
7	226	359	707	e638	1800	1510	1620	2030	4500	370	302	239
8	225	338	656	e609	1610	1380	1460	1780	2940	357	269	237
9	235	325	643	596	1430	1260	1390	1900	2310	349	266	230
10	228	317	638	580	1260	1250	1590	3490	1910	363	261	227
11	229	308	595	582	2260	1250	1410	2880	1570	383	255	241
12	236	295	552	598	2510	1090	1200	4190	1350	343	253	229
13	230	283	539	579	2040	1030	1230	14700	1220	325	252	227
14	233	270	643	556	1730	981	2510	13700	4900	319	259	225
15	256	262	1110	535	1600	925	6470	10200	8280	310	258	257
16	327	269	1170	558	1530	969	5060	6940	5350	304	258	801
17	321	266	1210	539	1460	1110	3840	5800	4010	292	306	611
18	337	264	6540	518	1310	972	3200	7400	3430	287	357	366
19	271	262	4800	475	1170	995	2760	7250	2800	310	319	319
20	234	287	3370	409	1100	1010	2460	5640	2330	317	283	338
21	217	357	2620	e416	1330	1530	2250	4670	2000	315	269	337
22	237	355	2090	e445	1650	1490	1960	3990	1670	298	267	324
23	274	317	1750	e455	1390	1330	1680	3250	1340	342	323	313
24	752	296	2200	630	1200	1350	1430	2420	1100	621	469	304
25	1280	412	2150	1960	1130	1390	1320	2050	962	449	420	296
26	688	1460	1700	1800	1130	1640	1330	1940	815	361	336	296
27	516	1040	1500	1560	1290	5780	1260	1850	733	542	271	399
28	464	795	e1310	1500	1210	4250	1590	1480	968	457	287	1290
29	433	780	e1180	1520	---	3850	4080	1250	941	400	280	826
30	377	1070	e1050	2190	---	4590	3310	1270	736	479	272	447
31	341	---	e898	3500	---	4200	---	1650	---	419	264	---
TOTAL	10634	13515	48299	28084	54160	56032	71820	133720	65942	12200	9398	10922
MEAN	343	450	1558	906	1934	1807	2394	4314	2198	394	303	364
MAX	1280	1460	6540	3500	4950	5780	6470	14700	8280	628	469	1290
MIN	217	262	539	409	1100	925	1200	1250	733	287	252	225
CFSM	0.43	0.56	1.93	1.12	2.40	2.24	2.97	5.35	2.72	0.49	0.38	0.45
IN.	0.49	0.62	2.23	1.29	2.50	2.58	3.31	6.16	3.04	0.56	0.43	0.50

e Estimated.

CLARION RIVER BASIN

03029500 CLARION RIVER AT COOKSBURG, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2002, BY WATER YEAR (WY) (SINCE REGULATIOIN)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	773	1303	1770	1586	1771	2711	2587	1878	1204	764	615	621
MAX	2357	3906	3821	5654	4138	6185	4721	4314	5307	2565	2732	1995
(WY)	1991	1986	1978	1952	1976	1979	1994	2002	1972	1992	1994	1992
MIN	86.6	204	150	211	369	764	1217	566	325	139	117	109
(WY)	1952	1961	1961	1961	1987	1969	1976	1985	1999	1952	1952	1952

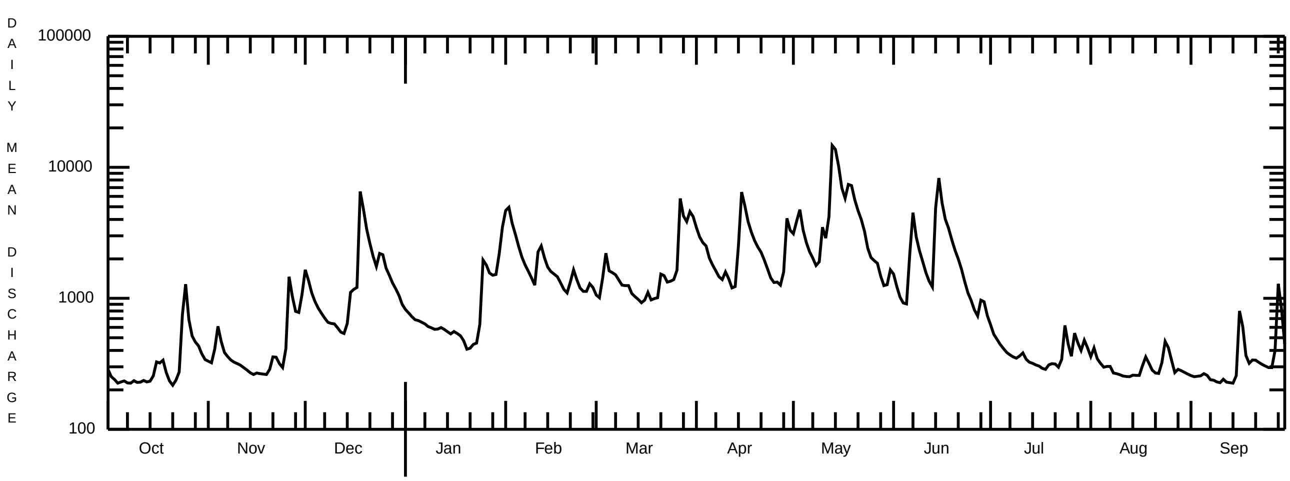
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1952 - 2002	
ANNUAL TOTAL	335270		514726			
ANNUAL MEAN	919		1410		1463	
HIGHEST ANNUAL MEAN					2066	1994
LOWEST ANNUAL MEAN					912	2001
HIGHEST DAILY MEAN	6810	Mar 22	14700	May 13	43200	Jun 23 1972
LOWEST DAILY MEAN	217	Oct 21	217	Oct 21	59	Sep 14 1952
ANNUAL SEVEN-DAY MINIMUM	229	Oct 4	229	Oct 4	67	Sep 8 1952
MAXIMUM PEAK FLOW			16100	May 14	**a**53300	Jun 23 1972
MAXIMUM PEAK STAGE			11.60	May 14	**b**18.84	Jun 23 1972
INSTANTANEOUS LOW FLOW			209	Oct 21	57	Sep 14 1952
ANNUAL RUNOFF (CFSM)	1.14		1.75		1.81	
ANNUAL RUNOFF (INCHES)	15.45		23.73		24.64	
10 PERCENT EXCEEDS	2200		3390		3200	
50 PERCENT EXCEEDS	512		821		898	
90 PERCENT EXCEEDS	257		259		295	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1951, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	590	1085	1475	1891	1961	3055	2969	1971	1154	579	288	348
MAX	2134	4241	3050	3962	3881	6815	6288	3965	2789	1765	580	1078
(WY)	1946	1951	1941	1950	1951	1945	1940	1943	1946	1942	1950	1945
MIN	113	170	337	417	764	1610	725	606	261	158	94.2	82.8
(WY)	1950	1950	1944	1944	1941	1949	1946	1941	1939	1949	1944	1943

SUMMARY STATISTICS	WATER YEARS 1939 - 1951	
ANNUAL MEAN	1444	
HIGHEST ANNUAL MEAN	2023	1951
LOWEST ANNUAL MEAN	953	1944
HIGHEST DAILY MEAN	24600	Dec 30 1942
LOWEST DAILY MEAN	43	Aug 30 1939
ANNUAL SEVEN-DAY MINIMUM	50	Aug 29 1939
MAXIMUM PEAK FLOW	32700	Jul 19 1942
MAXIMUM PEAK STAGE	14.96	Jul 19 1942
INSTANTANEOUS LOW FLOW	41	Aug 30 1939
ANNUAL RUNOFF (CFSM)	1.79	
ANNUAL RUNOFF (INCHES)	24.31	
10 PERCENT EXCEEDS	3350	
50 PERCENT EXCEEDS	793	
90 PERCENT EXCEEDS	140	

a From rating curve extended above 40,000 ft^3/s.
b From peak-stage indicator.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

03029500 CLARION RIVER AT COOKSBURG, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
APR 2002													
16...	1300	9813	4910	40	10.7	6.2	87	12.1	27	7.0	2.3	7	21.2
JUN													
25...	0930	9813	1000	40	9.1	7.7	161	21.4	51	13.3	4.2	18	45.8
AUG													
22...	1500	9813	260	40	8.8	8.2	344	26.1	69	19.1	5.2	42	87.1

Date	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)
APR 2002													
16...	90	6	<.020	.24	<.040	.47	.02	.020	1.7	<10	550	<1.0	220
JUN													
25...	<2	<2	<.020	.06	<.040	.11	.01	.020	2.3	<10	220	<1.0	90
AUG													
22...	218	4	<.020	.17	<.040	.48	.02	.035	5.4	<10	330	<1.0	220

Date	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002		
16...	<50	30
JUN		
25...	<50	20
AUG		
22...	<50	<10

CLARION RIVER BASIN

03030500 CLARION RIVER NEAR PINEY, PA

LOCATION.--Lat 41°11'33", long 79°26'25", Clarion County, Hydrologic Unit 05010005, on left bank 0.2 mi downstream from hydroelectric plant of Reliant Energy, 2.3 mi northeast of Piney, 2.4 mi upstream from Piney Creek, and 3 mi southwest of Clarion.

DRAINAGE AREA.--951 mi^2.

PERIOD OF RECORD.--October 1944 to current year (monthly discharge only October 1944 to September 1947).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,002.06 ft above National Geodetic Vertical Datum of 1929 (Reliant Energy bench mark). Prior to Dec. 23, 1947, records from hydroelectric plant 0.2 mi upstream.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since 1924 by hydroelectric plant at Piney Dam 0.2 mi upstream, and since June 1952 by East Branch Clarion River Lake (station 03027000), combined capacity of reservoirs, 113,200 acre-ft. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Mar. 18, 1936 reached a discharge of 50,000 ft^3/s, as determined by Reliant Energy, elevation, 1,028.5 ft, at lower pool of dam.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	349	2060	854	4930	1570	4590	3220	2220	608	444	106
2	291	453	1590	982	5380	496	3260	4430	1690	755	753	243
3	193	459	1270	933	4410	1500	3250	5670	1030	761	113	848
4	268	768	920	940	3680	3210	3030	4170	1280	273	203	109
5	541	884	962	242	3290	1820	2970	3390	1770	469	448	133
6	109	576	1340	768	1950	1470	2260	2990	3240	221	109	110
7	210	295	734	703	1900	1570	1070	2380	5150	587	467	110
8	104	500	608	1190	2170	1690	2050	2430	4050	895	110	379
9	159	1140	547	823	1650	1720	2320	2770	2970	273	711	462
10	419	383	1420	373	1540	1110	965	3740	2280	257	107	801
11	322	357	472	908	2830	1270	2350	3710	2080	363	106	111
12	110	956	940	261	2870	1380	1720	5270	1390	464	604	252
13	306	455	881	588	2970	1560	814	16700	1370	115	364	253
14	114	255	721	896	1500	460	3040	15400	4620	390	467	262
15	269	256	853	713	1870	1160	7240	11400	9300	426	114	309
16	399	248	1060	1190	1810	1220	7160	7560	6140	423	693	614
17	397	314	1900	893	1670	1990	5540	6420	5060	303	107	658
18	146	246	7120	352	1680	1250	4310	8370	4130	257	107	270
19	424	247	5970	486	1470	875	3680	8260	3290	767	107	485
20	106	243	4150	272	947	1670	3120	6440	2350	111	593	776
21	151	247	3310	537	1780	1490	2640	5520	2200	194	107	109
22	300	244	2330	452	2450	2290	2500	5010	2090	938	527	276
23	271	277	2260	363	1250	994	2080	3230	1660	740	673	109
24	1430	286	2580	1000	1110	895	1670	3490	1490	111	365	416
25	1840	243	2750	1970	1420	2360	1370	2320	1160	770	398	241
26	974	805	2150	2310	1340	2960	1660	1980	780	108	588	1070
27	413	1080	1380	1800	1510	5270	1570	2290	e1240	1430	432	523
28	247	908	1750	1650	1950	5700	2760	1760	e1170	791	109	1050
29	680	692	1600	1910	---	4500	3750	1430	1090	747	436	845
30	203	1270	1270	3380	---	5030	3830	1720	934	111	417	688
31	168	---	477	4010	---	5500	---	2100	---	776	104	---
TOTAL	11857	15436	57375	33749	63327	65980	88569	155570	79224	15434	10883	12618
MEAN	382	515	1851	1089	2262	2128	2952	5018	2641	498	351	421
MAX	1840	1270	7120	4010	5380	5700	7240	16700	9300	1430	753	1070
MIN	104	243	472	242	947	460	814	1430	780	108	104	106
(†)	-75	-5.2	+143	+59	+102	+142	+140	-20	-12	-110	-138	-173

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	883	1555	2140	2048	2323	3257	3128	2232	1452	909	701	707
MAX	2743	5013	4611	6884	5775	6703	5186	5018	6354	3220	3096	2469
(WY)	1991	1986	1978	1952	1976	1964	1970	2002	1972	1992	1994	1992
MIN	40.2	82.5	184	244	527	881	1517	700	345	167	135	120
(WY)	1950	1950	1961	1961	1987	1969	1968	1985	1991	1952	1952	1951

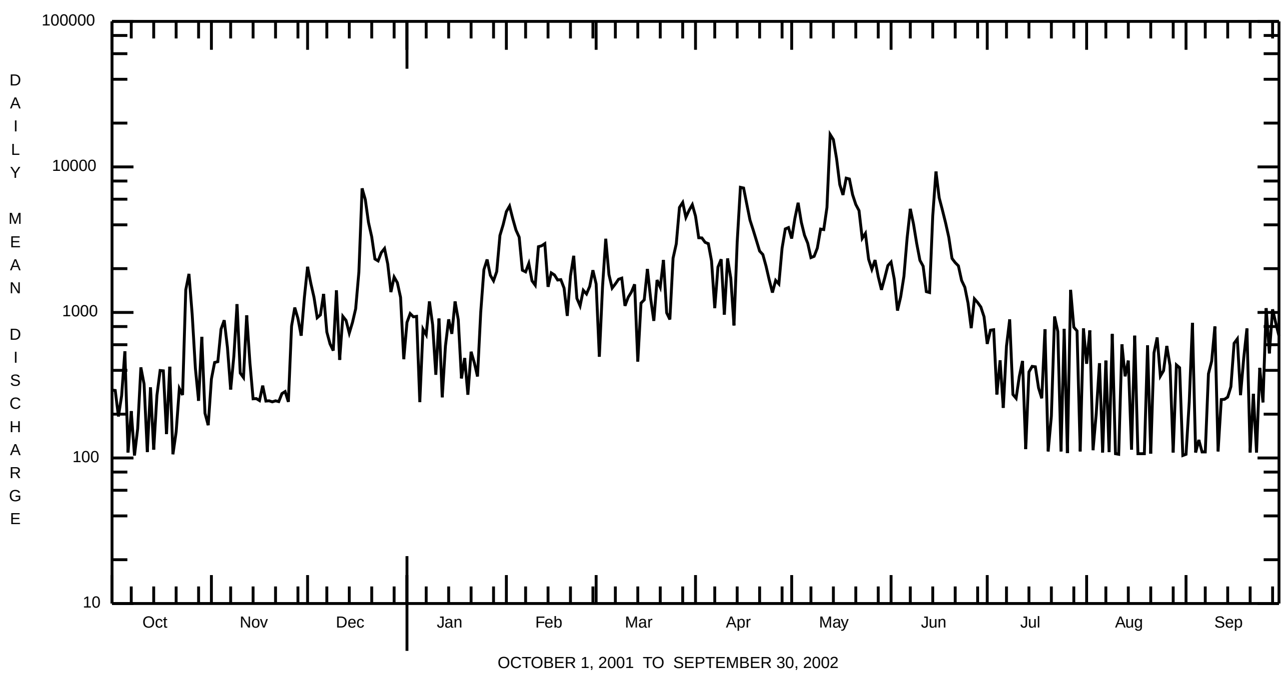
† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake and Piney Reservoir. Records of contents in Piney Reservoir furnished by Reliant Energy. Records of contents in East Branch Clarion River Lake furnished by U.S. Army Corps of Engineers.

e Estimated.

03030500 CLARION RIVER NEAR PINEY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1948 - 2002	
ANNUAL TOTAL	397937		610022			
ANNUAL MEAN	1090	† -5.5	1671	† +4.0	1774	
HIGHEST ANNUAL MEAN					2443	1994
LOWEST ANNUAL MEAN					1092	2001
HIGHEST DAILY MEAN	7230	Mar 22	16700	May 13	51600	Jun 23 1972
LOWEST DAILY MEAN	104	Jul 25**a**	104	Oct 8**b**	11	Oct 1 1966
ANNUAL SEVEN-DAY MINIMUM	135	Jul 25	205	Oct 6	26	Oct 16 1949
MAXIMUM PEAK FLOW			21100	May 13	**c**74500	Jun 23 1972
MAXIMUM PEAK STAGE			14.04	May 13	**d**28.24	Jun 23 1972
10 PERCENT EXCEEDS	2810		4080		4030	
50 PERCENT EXCEEDS	625		962		1120	
90 PERCENT EXCEEDS	167		199		130	

† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake and Piney Reservoir. Records of contents in Piney Reservoir furnished by Reliant Energy. Records of contents in East Branch Clarion River Lake furnished by U.S. Army Corps of Engineers.
a Also Sept. 1, Oct. 8.
b Also Aug. 31.
c From rating curve extended above 59,000 ft^3/s.
d From floodmark.



OHIO RIVER MAIN STEM

03031500 ALLEGHENY RIVER AT PARKER, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°06'02", long 79°40'53", Armstrong County, Hydrologic Unit 05010006, on right bank 500 ft downstream from bridge on State Highway 368 at Parker, 1.1 mi downstream from Clarion River, at mile 83.4.

DRAINAGE AREA.--7,671 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1932 to current year. Prior to October 1963, published as "*at Parkers Landing*." Gage height records collected at same site since 1885 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 845.14 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1932, U.S. Weather Bureau gages at different datums. Oct. 1-28, 1932, nonrecording gage at datum 27.00 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since 1924 by Piney Reservoir, since December 1940 by Tionesta Lake, since November 1949 by Chautauqua Lake (station 03013946), since June 1952 by East Branch Clarion River Lake (station 03027000), since October 1965 by Allegheny Reservoir (station 03012520), since July 1970 by Union City Reservoir (station 03021518), and since January 1974 by Woodcock Creek Lake (station 03022550). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1865 reached a stage of 29.4 ft, present datum, discharge, about 250,000 ft^3/s, from rating curve extended above 137,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3780	5070	17200	11600	39700	10900	31800	23200	16900	7230	7710	3170
2	3340	4910	16700	10900	48000	9650	30400	26300	15600	6750	5910	3220
3	3300	5030	14700	9520	44500	10500	30700	26600	13100	5260	4680	3410
4	3140	5000	13100	8660	43000	15700	36400	25300	12400	4560	3690	3860
5	3020	5540	11600	7340	39900	16100	33100	24300	10800	3880	3410	3440
6	3320	4930	10900	6380	34700	12600	29400	22200	20500	3970	3360	3370
7	2840	4420	10100	6750	32600	12600	25900	18200	26200	3710	2950	3290
8	2930	4080	8770	6980	30600	12300	23500	16300	25900	4250	3040	3250
9	2910	4210	8000	7030	26700	12000	21100	16400	27700	4060	3180	3510
10	3160	4330	8220	6350	24200	11200	22300	17200	26200	4010	3400	3840
11	3500	3760	6620	6760	25900	11800	22300	17800	22900	3780	3220	4000
12	3050	3940	5950	6830	26400	11700	20600	23300	20800	3530	3380	3300
13	2990	4080	5990	6990	23000	11700	19300	67700	19000	3300	3880	3340
14	3190	3630	6210	e7100	20400	11000	25400	74400	20800	2830	3680	3320
15	3080	3440	7260	7050	17900	10400	39800	64200	26000	3000	3620	3630
16	3320	3390	9390	e7160	15200	10600	42200	54400	18000	2950	3550	4410
17	3360	3340	12200	e7190	14500	12300	31900	51000	16900	3030	4510	4740
18	3470	3370	30200	7110	14100	12400	29400	57400	16500	3200	3850	4710
19	3750	3240	33000	6230	13100	10400	32100	56700	16400	3270	3340	3990
20	3830	3410	27600	5850	12800	11000	30500	51100	15100	3750	3280	4340
21	3340	3990	26400	5810	13200	13000	27800	46600	12700	3080	3880	3600
22	3340	4640	24400	6300	15800	15000	27000	42300	10100	3470	3310	3250
23	3700	4540	22300	6100	14400	13600	24200	37100	8110	3830	4100	3290
24	7180	4180	25700	6560	13200	11800	21300	32900	7260	4110	4840	3030
25	7170	4900	28700	13600	12500	13700	17800	29400	6560	3370	4270	3270
26	6560	8710	25100	18000	12000	15800	15600	24700	5750	3600	3890	3640
27	5650	9910	21700	17600	12100	28100	13500	23400	6260	4350	4000	4130
28	6020	8410	19400	16000	12000	28600	13200	20400	5840	3840	3460	5180
29	6800	9380	16800	15700	---	26200	18900	16700	6450	4800	2890	4990
30	6630	12000	13800	19200	---	30300	23300	15400	7940	11100	3030	3840
31	5720	---	12600	29400	---	35700	---	16200	---	10300	3140	---
TOTAL	127390	153780	500610	304050	652400	468650	780700	1039100	464670	136170	118450	112360
MEAN	4109	5126	16150	9808	23300	15120	26020	33520	15490	4393	3821	3745
MAX	7180	12000	33000	29400	48000	35700	42200	74400	27700	11100	7710	5180
MIN	2840	3240	5950	5810	12000	9650	13200	15400	5750	2830	2890	3030
CFSM	0.54	0.67	2.11	1.28	3.04	1.97	3.39	4.37	2.02	0.57	0.50	0.49
IN.	0.62	0.75	2.43	1.47	3.16	2.27	3.79	5.04	2.25	0.66	0.57	0.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2002, BY WATER YEAR (WY)

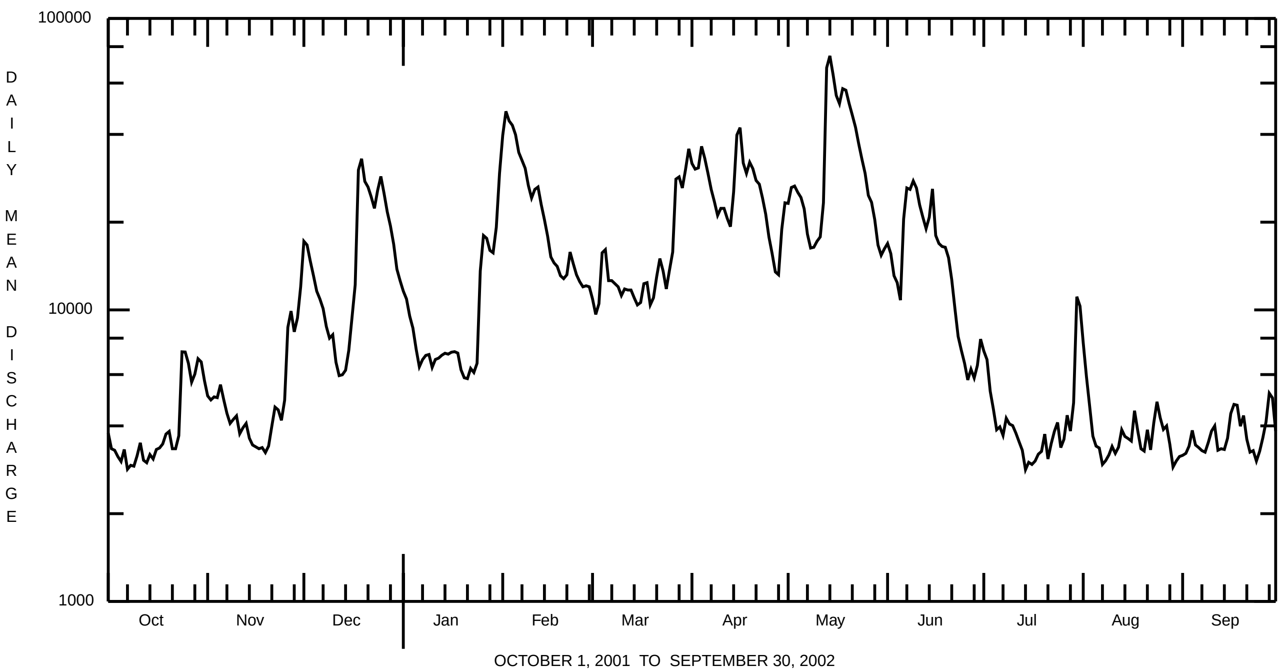
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6962	12250	17010	17510	17940	26260	24850	15610	9909	6018	4493	4927
MAX	28650	33760	38040	53560	40460	63020	58110	36220	35340	26090	16890	21370
(WY)	1991	1986	1978	1937	1976	1936	1940	1943	1989	1972	1994	1977
MIN	802	1655	1332	2111	3788	7746	5651	3610	1508	1069	1034	950
(WY)	1964	1961	1961	1961	1934	1969	1946	1934	1934	1934	1934	1936

e Estimated.

03031500 ALLEGHENY RIVER AT PARKER, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1933 - 2002	
ANNUAL TOTAL	3343030		4858330			
ANNUAL MEAN	9159		13310		13620	
HIGHEST ANNUAL MEAN					19640	1956
LOWEST ANNUAL MEAN					8175	1934
HIGHEST DAILY MEAN	43900	Feb 16	74400	May 14	160000	Jan 22 1959
LOWEST DAILY MEAN	2840	Oct 7	2830	Jul 14	454	Jul 28 1934
ANNUAL SEVEN-DAY MINIMUM	3050	Oct 4	3050	Oct 4	508	Jul 25 1934
MAXIMUM PEAK FLOW			77200	May 14	**ab**175000	Jan 22 1959
MAXIMUM PEAK STAGE			14.02	May 14	**c**29.60	Jan 21 1959
INSTANTANEOUS LOW FLOW					409	Jul 30 1934
ANNUAL RUNOFF (CFSM)	1.19		1.74		1.78	
ANNUAL RUNOFF (INCHES)	16.21		23.56		24.12	
10 PERCENT EXCEEDS	22500		29400		31600	
50 PERCENT EXCEEDS	5280		8660		8800	
90 PERCENT EXCEEDS	3270		3300		2190	

a About.
b From rating curve extended above 137,000 ft^3/s.
c Backwater from ice.



OHIO RIVER MAIN STEM

03031500 ALLEGHENY RIVER AT PARKER, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
MAY 2002													
01...	1130	9813	21050	40	13.0	7.7	154	9.8	55	16.4	3.5	30	13.1
21...	0845	9813	47070	40	11.1	7.5	132	10.4	41	11.1	3.1	22	8.7
JUN													
13...	0930	9813	18020	40	8.7	7.4	335	18.9	45	13.0	3.1	28	9.9
JUL													
24...	0930	9813	3850	40	8.4	7.5	217	26.0	74	20.9	5.4	38	15.8
AUG													
15...	0900	9813	3550	40	7.0	7.6	145	25.7	68	19.9	4.5	44	16.6
SEP													
25...	0930	9813	3340	40	9.5	8.2	200	19.4	70	20.6	4.6	48	18.5

Date	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)
MAY 2002													
01...	<.2	16.4	<2	<2	<.020	.38	<.040	.72	.03	<.010	1.6	260	--
21...	<.2	16.0	48	8	<.020	.34	<.040	.59	.02	.029	2.0	100	<4.0
JUN													
13...	<.2	14.0	100	4	<.020	.28	<.040	.66	.02	.027	2.0	100	<4.0
JUL													
24...	<.2	36.2	96	8	<.020	.04	<.040	.51	.04	.033	1.4	1300	<4.0
AUG													
15...	<.2	25.6	62	4	.030	.06	<.040	.29	.01	.015	1.0	280	<4.0
SEP													
25...	<.2	21.5	158	6	<.020	.10	<.040	.30	<.01	.011	2.1	40	<4.0

Date	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
MAY 2002													
01...	--	<4	<4	70	930	<1.0	<1.0	40	90	<4.0	<4.0	6.8	8.9
21...	--	<4	<4	40	720	<1.0	<1.0	80	150	<4.0	5.2	10	10
JUN													
13...	<.20	<4	<4	40	530	<1.0	<1.0	40	100	<4.0	5.0	10	20
JUL													
24...	<.20	<4	<4	50	170	<1.0	<1.0	200	320	4.1	4.9	9.6	9.0
AUG													
15...	<.20	<4	<4	20	140	<1.0	<1.0	90	130	<4.0	<4.0	5.5	10
SEP													
25...	<.20	<4	<4	<20	80	<1.0	<1.0	30	60	<4.0	<4.0	10	10

Date	PHENOLS TOTAL (µG/L) (32730)
MAY 2002	
01...	<5
21...	<5
JUN	
13...	<5
JUL	
24...	<5
AUG	
15...	<5
SEP	
25...	<5

REDBANK CREEK BASIN

03032500 REDBANK CREEK AT ST. CHARLES, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°59'40", long 79°23'40", Armstrong County, Hydrologic Unit 05010006, on left bank 400 ft downstream from highway bridge on SR 1005 at St. Charles, 0.3 mi downstream from Leatherwood Creek, and 3 mi west of New Bethlehem.

DRAINAGE AREA.--528 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Annual maximums, water years 1910-18. October 1918 to current year. Monthly discharge only for some periods, published in WSP 1305. Figures of daily discharge for November 1920 to June 1921, published in WSP 523, are unreliable and should not be used.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1385: 1919, 1936-39. WDR PA-72-1: 1923 (M), 1926 (M), 1928 (M), 1936, 1937 (M), 1938 (M), 1943, 1945 (P), 1952 (M), 1953 (M), 1955 (M), 1956 (P), 1958 (M), 1959 (M), 1964, 1966 (M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 973.14 ft above National Geodetic Vertical Datum of 1929. Prior to July 10, 1940, nonrecording gage at site 500 ft upstream at datum 3.10 ft higher.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 7,000 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 18	1615	8,920	10.25	Apr. 16	0630	9,080	10.33
Mar. 27	0345	9,800	10.66	May 14	0330	10,600	11.02
Apr. 15	0930	8,150	9.88	June 6	2400	*11,400	*11.35

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	145	1140	e442	3250	772	2170	e1730	796	299	263	79
2	72	141	950	e424	3020	764	1840	e2030	615	278	211	75
3	90	249	738	e422	2170	1430	1590	2030	463	280	262	70
4	55	323	634	e420	1720	1760	1380	1450	389	261	216	67
5	47	274	570	e418	1350	1210	1170	1190	545	246	188	63
6	46	213	536	e420	1130	1140	1050	1040	7120	221	170	60
7	43	177	512	e422	1000	1060	958	944	7070	202	149	57
8	41	158	483	e418	907	952	889	869	3670	190	128	53
9	43	151	502	412	808	855	859	1200	2110	306	114	52
10	44	142	518	e420	757	813	910	2570	1480	554	107	48
11	43	136	479	e478	1560	763	838	1780	1130	338	101	44
12	48	129	437	552	1610	692	736	1810	931	247	97	41
13	62	123	441	e510	1230	661	952	9030	857	202	102	39
14	65	119	524	e454	995	636	1940	8720	2050	182	92	39
15	80	116	730	e439	924	607	6350	5610	2990	170	86	71
16	97	115	789	e422	878	685	6670	3550	2190	157	86	728
17	117	112	1670	e408	833	781	3930	2630	1580	145	99	664
18	112	108	7260	e394	747	726	2690	4100	1220	139	138	317
19	107	108	4390	382	671	707	2020	3940	978	159	140	190
20	98	138	2660	352	664	838	1720	2830	754	183	123	144
21	86	152	1740	423	1030	1570	1500	2120	609	168	96	125
22	77	162	1270	461	1370	1380	1290	1720	512	147	84	119
23	93	149	1060	459	1160	1140	1100	1420	441	142	97	108
24	1180	136	e1050	859	984	1060	953	1210	403	173	331	94
25	1060	228	e992	2050	895	1070	873	1160	394	210	398	82
26	553	838	e914	1500	877	2640	842	989	328	201	255	80
27	348	743	e831	1150	975	7310	761	818	350	1030	178	256
28	254	592	e751	1010	903	4500	854	708	598	886	137	1110
29	211	681	e667	946	---	3180	2050	637	522	563	114	673
30	181	950	e511	1500	---	3200	1710	570	360	425	98	361
31	158	---	e462	2740	---	2710	---	592	---	364	87	---
TOTAL	5590	7808	36211	21707	34418	47612	52595	70997	43455	9068	4747	5909
MEAN	180	260	1168	700	1229	1536	1753	2290	1448	293	153	197
MAX	1180	950	7260	2740	3250	7310	6670	9030	7120	1030	398	1110
MIN	41	108	437	352	664	607	736	570	328	139	84	39
CFSM	0.34	0.49	2.21	1.33	2.33	2.91	3.32	4.34	2.74	0.55	0.29	0.37
IN.	0.39	0.55	2.55	1.53	2.42	3.35	3.71	5.00	3.06	0.64	0.33	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	376	740	1072	1125	1216	1797	1505	1071	685	412	278	283
MAX	1385	2806	3151	4616	2707	5016	3337	2603	3887	2238	1498	2091
(WY)	1927	1922	1928	1937	1990	1936	1940	1919	1972	1996	1956	1996
MIN	40.3	50.9	75.9	96.8	179	358	367	180	123	61.1	33.5	29.2
(WY)	1931	1931	1961	1931	1934	1969	1925	1926	1936	1966	1930	1939

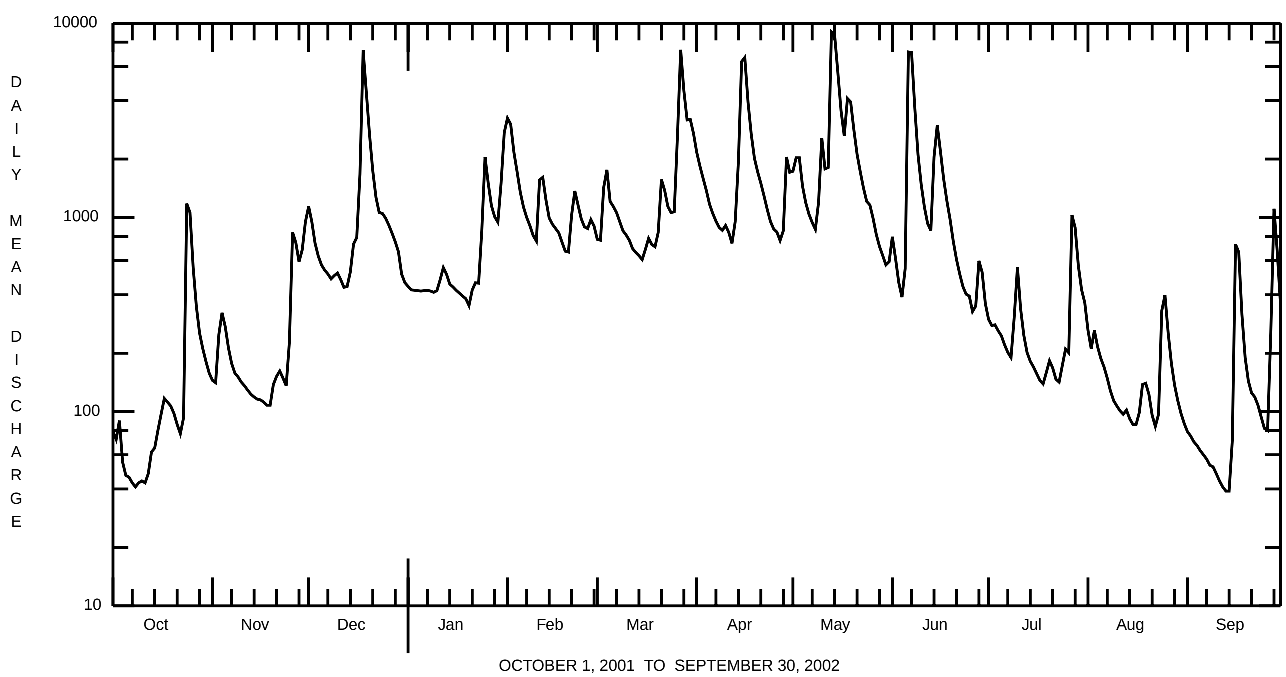
e Estimated.

REDBANK CREEK BASIN

03032500 REDBANK CREEK AT ST. CHARLES, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1919 - 2002	
ANNUAL TOTAL	225108		340117			
ANNUAL MEAN	617		932		878	
HIGHEST ANNUAL MEAN					1333	1996
LOWEST ANNUAL MEAN					430	1934
HIGHEST DAILY MEAN	7260	Dec 18	9030	May 13	28100	Jul 19 1996
LOWEST DAILY MEAN	37	Aug 9	39	Sep 13,14	20	Sep 28 1922
ANNUAL SEVEN-DAY MINIMUM	42	Jul 29	44	Oct 5	24	Aug 30 1939
MAXIMUM PEAK FLOW			11400	Jun 6	**a**66300	Jul 19 1996
MAXIMUM PEAK STAGE			11.35	Jun 6	**b**23.90	Jul 19 1996
INSTANTANEOUS LOW FLOW			38	Sep 13,14	**c**19	Oct 1 1918
ANNUAL RUNOFF (CFSM)	1.17		1.76		1.66	
ANNUAL RUNOFF (INCHES)	15.86		23.96		22.58	
10 PERCENT EXCEEDS	1660		2050		2110	
50 PERCENT EXCEEDS	280		553		464	
90 PERCENT EXCEEDS	55		87		83	

a From rating curve extended above 35,000 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Minimum observed.



REDBANK CREEK BASIN

03032500 REDBANK CREEK AT ST. CHARLES, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
JUN 2002													
19...	1330	9813	956	40	10.9	7.5	313	272	19.0	99	23.4	9.9	16
AUG													
28...	1350	9813	134	40	9.1	8.1	446	419	24.3	160	39.0	15.5	36

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
JUN 2002													
19...	89.9	226	8	<.020	.41	<.040	.56	.01	.020	1.7	<10	380	<1.0
AUG													
28...	116	358	<2	.180	.48	<.200	.94	.01	.010	2.4	<10	200	<1.0

Date	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
JUN 2002			
19...	250	<50	<10
AUG			
28...	50	<50	10

MAHONING CREEK BASIN

03034000 MAHONING CREEK AT PUNXSUTAWNEY, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°56'21", long 79°00'31", Jefferson County, Hydrologic Unit 05010006, on right bank 75 ft downstream from Williams Run, 1.8 mi upstream from bridge on Diamond Road at Sportsburg, 1.9 mi downstream from Sawmill Run, and 2 mi west of Punxsutawney.

DRAINAGE AREA.--158 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-87-3: 1977-86 (P).

GAGE.--Water-stage recorder. Datum of gage is 1,206.14 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Oct. 1, 1946, at site 2.9 mi upstream at datum 13.30 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuations at low flow by mine pumpage into stream above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 15.6 ft, from floodmark at former site and datum, discharge, 12,500 ft^3/s, from rating curve extended above 4,300 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,500 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 26	2300	3,340	6.82	June 6	2200	*6,040	*9.37

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	45	274	163	791	202	624	336	495	131	131	35
2	31	45	195	151	741	205	517	476	270	122	97	34
3	31	58	158	e130	586	454	452	474	213	115	77	34
4	30	57	134	128	480	439	384	389	189	103	67	33
5	30	50	120	e118	380	346	339	345	287	93	66	31
6	28	46	107	121	335	341	313	311	3510	83	75	30
7	27	43	103	125	305	311	285	289	3260	79	58	29
8	27	42	97	116	280	280	269	267	1300	74	53	27
9	28	41	115	110	250	256	263	295	761	96	50	26
10	28	40	103	118	252	242	255	371	528	183	47	26
11	28	40	93	151	698	210	222	271	401	101	46	26
12	28	39	86	158	504	201	201	348	337	79	45	25
13	31	37	96	154	422	191	228	1010	298	72	44	24
14	38	36	115	140	347	180	331	1350	357	68	43	24
15	53	37	170	143	324	171	1120	981	504	65	41	41
16	50	36	142	140	303	302	1470	696	366	61	41	199
17	48	35	647	138	284	284	956	556	296	57	42	68
18	45	35	2080	132	246	264	680	1030	260	54	42	45
19	38	36	1040	116	225	257	527	920	221	67	41	39
20	35	50	626	135	226	343	464	696	192	102	40	39
21	33	53	435	129	303	497	394	551	173	62	39	37
22	33	45	338	127	301	411	357	451	156	54	37	34
23	39	41	302	126	271	369	317	381	145	71	64	33
24	367	39	369	356	252	340	278	338	136	96	119	31
25	174	164	301	623	244	336	264	326	154	61	118	30
26	96	246	263	449	247	1120	246	289	131	71	60	32
27	76	141	244	370	249	2210	218	255	284	361	48	171
28	65	135	226	330	224	1190	281	233	324	237	43	247
29	56	242	205	306	---	827	398	243	186	160	43	105
30	52	236	e162	475	---	901	335	205	149	159	40	70
31	49	---	173	654	---	698	---	212	---	122	37	---
TOTAL	1726	2190	9519	6632	10070	14378	12988	14895	15883	3259	1794	1625
MEAN	55.7	73.0	307	214	360	464	433	480	529	105	57.9	54.2
MAX	367	246	2080	654	791	2210	1470	1350	3510	361	131	247
MIN	27	35	86	110	224	171	201	205	131	54	37	24
CFSM	0.35	0.46	1.94	1.35	2.28	2.94	2.74	3.04	3.35	0.67	0.37	0.34
IN.	0.41	0.52	2.24	1.56	2.37	3.39	3.06	3.51	3.74	0.77	0.42	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	117	218	323	334	410	558	468	331	212	151	105	92.7
MAX	394	715	769	1025	1013	1249	909	722	1210	855	670	572
(WY)	1987	1986	1973	1952	1975	1964	1994	1953	1972	1977	1956	1996
MIN	18.1	23.0	27.2	61.0	96.6	132	112	79.9	48.9	26.4	23.0	16.9
(WY)	1965	1999	1961	1961	1993	1969	1946	1941	1991	1988	1949	1964

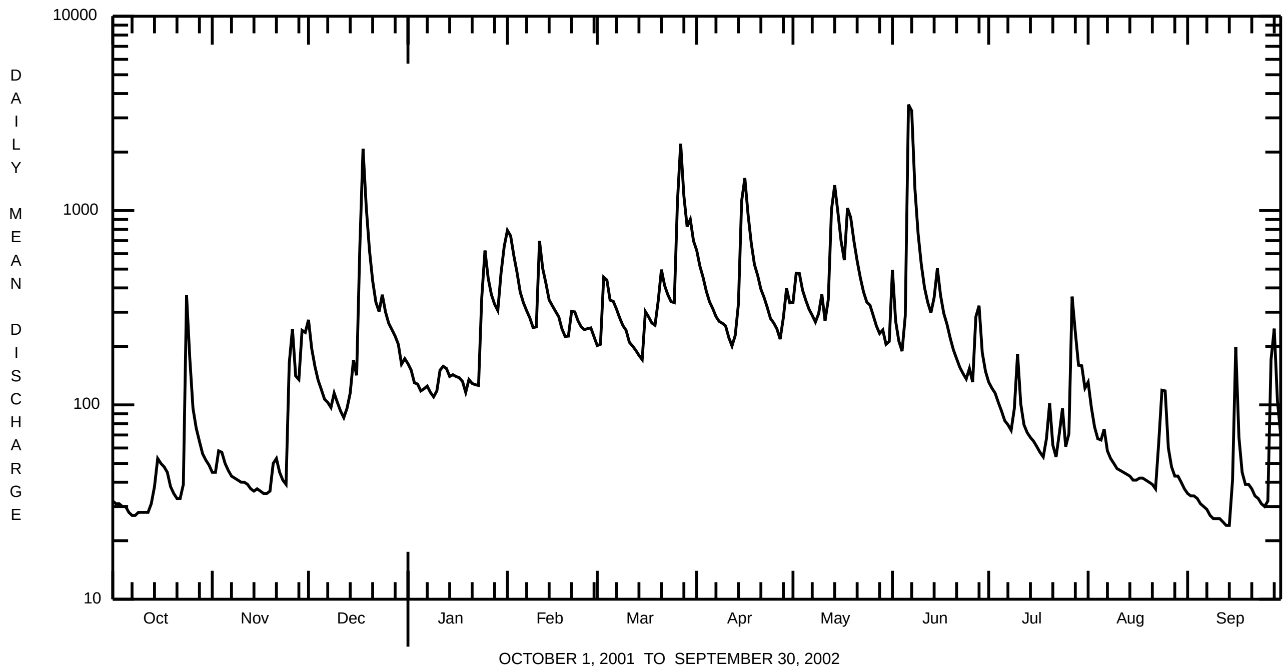
e Estimated.

MAHONING CREEK BASIN

03034000 MAHONING CREEK AT PUNXSUTAWNEY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	65016		94959			
ANNUAL MEAN	178		260		276	
HIGHEST ANNUAL MEAN					433	1956
LOWEST ANNUAL MEAN					177	1963
HIGHEST DAILY MEAN	2080	Dec 18	3510	Jun 6	13200	Jun 23 1972
LOWEST DAILY MEAN	24	Sep 13	24	Sep 13,14	12	Oct 19 1939
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7	25	Sep 8	13	Oct 14 1939
MAXIMUM PEAK FLOW			6040	Jun 6	**a**20400	Jul 19 1996
MAXIMUM PEAK STAGE			9.37	Jun 6	**b**18.38	Jul 19 1996
INSTANTANEOUS LOW FLOW			24	Sep 13-15	2.6	Sep 26 1939
ANNUAL RUNOFF (CFSM)	1.13		1.65		1.75	
ANNUAL RUNOFF (INCHES)	15.31		22.36		23.72	
10 PERCENT EXCEEDS	455		521		620	
50 PERCENT EXCEEDS	91		162		152	
90 PERCENT EXCEEDS	32		35		34	

a From rating curve extended above 4,300 ft^3/s on basis of slope-area measurement at gage height 13.01 ft.
b From floodmark in gage well.



MAHONING CREEK BASIN

03034000 MAHONING CREEK AT PUNXSUTAWNEY, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
JUN 2002													
19...	1130	9813	222	40	11.8	7.4	426	410	15.3	140	39.2	11.5	46
AUG													
28...	1230	9813	44	40	9.3	7.7	502	487	21.1	190	51.8	15.3	68

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
JUN 2002													
19...	109	266	10	<.020	.59	<.040	.73	.01	.020	1.4	<10	660	<1.0
AUG													
28...	122	380	6	.170	.45	<.200	.83	.04	.060	2.4	<10	660	<1.0

Date	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
JUN 2002			
19...	220	<50	<10
AUG			
28...	120	<50	10

03034500 LITTLE MAHONING CREEK AT McCORMICK, PA

LOCATION.--Lat 40°50'10", long 79°06'37", Indiana County, Hydrologic Unit 05010006, on left bank 200 ft upstream from bridge on SR 4018 at McCormick, 1 mi west of Georgeville, 1.7 mi upstream from Ross Run, and 4 mi southeast of Smicksburg.

DRAINAGE AREA.--87.4 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,164.88 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to May 10, 1940, nonrecording gage at site 200 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. U.S. Army Corps of Engineers 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)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 27	0100	*2,250	*8.56	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	177	e56	549	94	248	217	196	28	12	8.4
2	9.8	11	110	e46	426	95	209	309	110	25	11	8.5
3	9.5	15	81	e34	304	285	187	279	83	24	9.8	9.1
4	8.9	17	63	e40	238	249	162	207	72	21	8.3	9.7
5	8.7	13	52	e33	181	190	141	172	91	22	8.8	11
6	9.2	12	45	e38	155	173	127	145	591	26	9.4	9.4
7	11	9.9	42	e38	136	154	112	131	793	29	8.4	8.5
8	13	9.5	37	e38	122	132	105	128	349	37	7.8	7.9
9	14	9.4	52	e38	104	115	100	253	222	42	6.8	7.6
10	14	8.5	46	61	106	107	97	481	163	72	6.4	6.9
11	17	8.3	38	117	545	90	82	251	127	33	6.2	5.9
12	20	7.9	32	157	327	86	74	233	106	23	6.3	4.9
13	33	7.6	40	131	248	81	83	782	89	19	7.3	4.6
14	47	7.3	64	108	188	75	137	935	94	17	7.9	5.4
15	80	7.1	114	101	163	70	234	555	168	17	7.1	9.0
16	42	7.1	84	95	148	207	318	357	145	14	6.4	39
17	31	7.0	505	86	137	174	237	268	101	13	5.8	23
18	29	6.8	1150	77	109	159	194	654	80	12	6.1	15
19	23	6.9	476	74	99	143	167	466	65	13	6.8	14
20	19	11	289	108	102	253	176	333	53	29	6.9	15
21	17	18	200	84	172	402	146	252	46	23	6.8	17
22	16	13	151	78	160	276	146	202	41	16	6.4	17
23	17	10	133	70	138	223	130	166	37	15	14	15
24	152	9.2	199	251	121	193	108	142	33	26	61	14
25	78	80	153	375	114	177	104	127	43	18	35	12
26	48	134	124	236	115	736	99	110	35	14	18	14
27	37	66	112	187	118	1220	84	94	45	18	13	86
28	29	68	102	158	104	542	136	91	81	34	11	129
29	21	186	91	139	---	363	245	151	45	19	10	37
30	16	146	e65	330	---	361	181	101	34	17	9.6	25
31	12	---	e63	458	---	265	---	89	---	17	9.2	---
TOTAL	893.1	924.5	4890	3842	5429	7690	4569	8681	4138	733	349.5	588.8
MEAN	28.8	30.8	158	124	194	248	152	280	138	23.6	11.3	19.6
MAX	152	186	1150	458	549	1220	318	935	793	72	61	129
MIN	8.7	6.8	32	33	99	70	74	89	33	12	5.8	4.6
CFSM	0.33	0.35	1.80	1.42	2.22	2.84	1.74	3.20	1.58	0.27	0.13	0.22
IN.	0.38	0.39	2.08	1.64	2.31	3.27	1.94	3.69	1.76	0.31	0.15	0.25

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.5	131	193	201	238	303	237	167	94.9	71.6	53.3	47.2
MAX	251	378	436	569	715	756	525	358	458	445	294	296
(WY)	1955	1986	1991	1952	1975	1963	1948	1956	1972	1977	1958	1996
MIN	3.39	9.36	21.8	26.2	42.7	59.0	48.7	20.5	9.10	4.71	3.85	2.33
(WY)	1964	1999	1961	1940	1993	1969	1946	1941	1949	1966	1957	1952

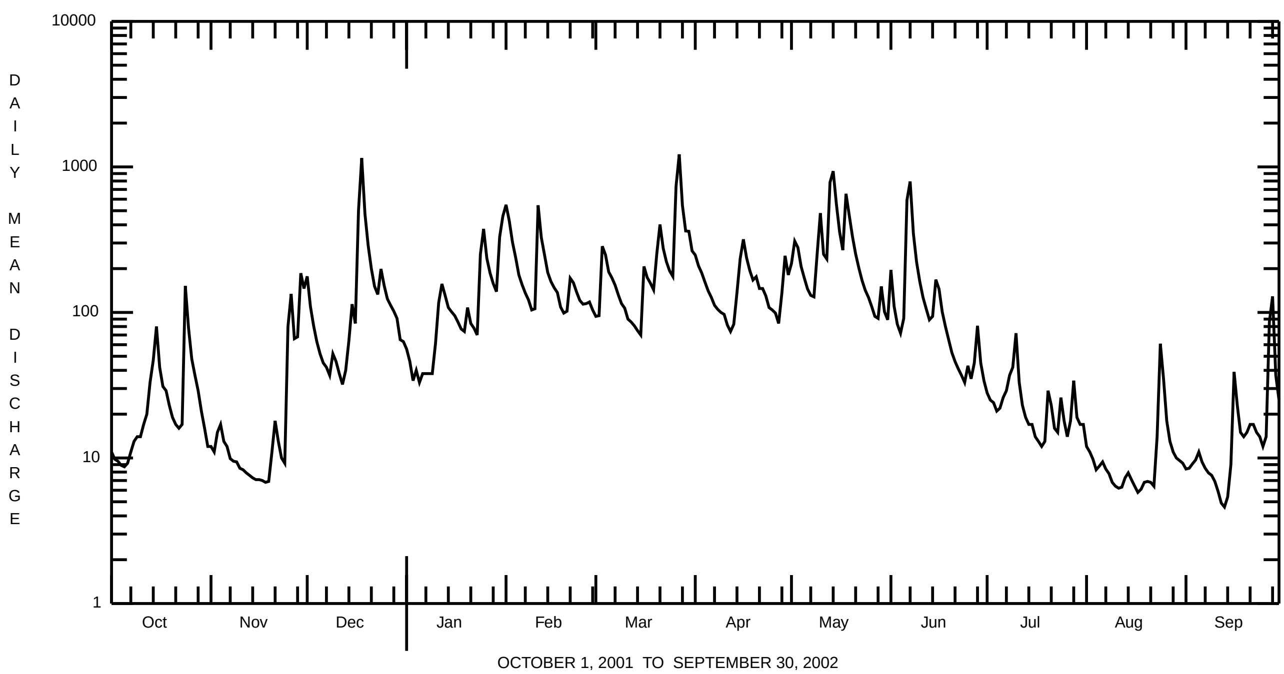
e Estimated.

MAHONING CREEK BASIN

03034500 LITTLE MAHONING CREEK AT McCORMICK, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	32631.0		42727.9			
ANNUAL MEAN	89.4		117		150	
HIGHEST ANNUAL MEAN					240	1956
LOWEST ANNUAL MEAN					92.2	1999
HIGHEST DAILY MEAN	1150	Dec 18	1220	Mar 27	4620	Jun 23 1972
LOWEST DAILY MEAN	4.3	Aug 9	4.6	Sep 13	0.40	Sep 28 1959
ANNUAL SEVEN-DAY MINIMUM	7.1	Nov 13	6.2	Sep 8	0.69	Sep 23 1959
MAXIMUM PEAK FLOW			2250	Mar 27	**a**10600	Jul 19 1996
MAXIMUM PEAK STAGE			8.56	Mar 27	**b**14.46	Jul 19 1996
INSTANTANEOUS LOW FLOW			4.2	Sep 13	0.30	Sep 28 1959
ANNUAL RUNOFF (CFSM)	1.02		1.34		1.71	
ANNUAL RUNOFF (INCHES)	13.89		18.19		23.29	
10 PERCENT EXCEEDS	236		258		355	
50 PERCENT EXCEEDS	35		74		73	
90 PERCENT EXCEEDS	8.7		8.5		9.1	

a From rating curve extended above 8,500 ft^3/s.
b From peak-stage indicator.



OHIO RIVER MAIN STEM

03036500 ALLEGHENY RIVER AT KITTANNING, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°49'13", long 79°31'54", Armstrong County, Hydrologic Unit 05010006, on right bank 600 ft upstream from dam at lock 7, 3,000 ft upstream from bridge on SR 1038 at Kittanning, 5.7 mi upstream from Crooked Creek, and 9.7 mi downstream from Mahoning Creek, at mile 45.8.

DRAINAGE AREA.--8,973 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1904 to September 1928, October 1934 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 873: Drainage area. WSP 1305: 1906 (M), 1914, 1925. WSP 1435: 1936-37, 1939.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 773.40 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Sept. 30, 1928, nonrecording gage at site 4,000 ft downstream at different datum. Oct. 1, 1934 to Apr. 19, 1939, nonrecording gage, Apr. 20, 1939 to Sept. 27, 1990, water-stage recorder at present site at different datum.

REMARKS.--Records good except those for estimated daily discharges and those below 2,000 ft^3/s, which are poor. Sharp rises and drops in discharge during periods of low flow may be caused by hydroelectric power production. Flow regulated since 1924 by Piney Reservoir, since December 1940 by Tionesta Lake, since June 1941 by Mahoning Creek Lake, since November 1949 by Chautauqua Lake (station 03013946), since June 1952 by East Branch Clarion River Lake (station 03027000), since October 1965 by Allegheny Reservoir (station 03012520), since July 1970 by Union City Reservoir (station 03021518), and since January 1974 by Woodcock Creek Lake (station 03022550). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3320	5430	17800	11500	40400	12600	37900	25900	17500	8600	9350	2800
2	3340	5190	18900	10800	51800	11700	34700	27500	17600	7640	6500	2960
3	3020	5320	16500	9960	48100	12600	33500	30800	15600	6220	5780	3080
4	2840	5540	14400	9530	46400	17400	38900	27800	13300	5190	3970	3820
5	2680	5780	12900	8820	43600	19700	36100	26900	12900	3850	3530	3180
6	3010	5470	11900	7380	37500	15700	32500	24700	23600	4320	3480	3200
7	2370	4910	11100	7650	34300	14900	28300	22300	37900	3750	2750	3020
8	2650	4450	10000	7510	31800	14400	25300	18600	32400	4250	2920	2910
9	2530	4200	9070	7510	28900	14200	23700	18300	34200	4560	2470	3250
10	2720	4760	8970	7190	25500	13300	23800	20500	31400	4540	3540	3490
11	3040	3940	7950	7530	26500	13200	23500	20800	27500	4250	2860	3980
12	3290	3940	6650	8110	29900	13200	23100	21400	24300	3900	3120	3090
13	2700	4380	6740	8050	25400	13100	21500	67200	21500	3620	4000	3040
14	2910	3770	7010	e8000	23600	12600	25600	83400	22000	2920	3580	3010
15	3030	3350	8040	e7770	20600	11800	47600	72300	30600	2920	3610	3490
16	3040	3440	10200	e7940	17500	12300	52900	62100	22900	2910	3330	4590
17	3400	3370	14700	e8020	16000	13700	41000	56300	19900	2800	4360	5890
18	3300	3380	33600	7980	15700	14300	35200	61600	18300	2990	4030	5320
19	3500	3290	40900	6920	14800	12300	37000	64700	18400	3280	3460	4080
20	3900	3430	33300	6180	14400	13000	35700	56800	16900	3920	3060	4160
21	3240	3920	30600	6090	14200	16100	31800	51900	14900	3000	3810	4040
22	3020	4750	28300	6870	17900	17800	30300	46100	11800	3220	3200	3130
23	3570	4830	24800	6910	16500	17300	27900	41000	9820	4050	4000	3710
24	8330	4360	25900	7550	14900	15100	24200	34900	8290	4230	5180	2840
25	9340	5000	30800	14600	14100	15100	21200	32600	7660	3660	4640	3040
26	7970	9010	27600	20000	14000	20000	18300	27500	6940	3780	4330	3040
27	6980	11300	23900	20500	13900	36900	15500	24700	6570	4160	4190	4850
28	6560	10300	20900	19100	14000	36900	14800	23000	7240	5850	3620	6060
29	7380	11000	18800	17500	---	33400	20200	19200	7770	5180	2770	6050
30	7430	13000	15400	19900	---	34700	25600	15600	9010	10100	2810	4770
31	6350	---	13300	30900	---	42200	---	18100	---	12100	2680	---
TOTAL	130760	164810	560930	334270	712200	561500	887600	1144500	548700	145760	120930	113890
MEAN	4218	5494	18090	10780	25440	18110	29590	36920	18290	4702	3901	3796
MAX	9340	13000	40900	30900	51800	42200	52900	83400	37900	12100	9350	6060
MIN	2370	3290	6650	6090	13900	11700	14800	15600	6570	2800	2470	2800
CFSM	0.47	0.61	2.02	1.20	2.83	2.02	3.30	4.11	2.04	0.52	0.43	0.42
IN.	0.54	0.68	2.33	1.39	2.95	2.33	3.68	4.74	2.27	0.60	0.50	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8321	14010	18900	20850	21040	31840	27740	18450	11340	6920	5080	5499
MAX	31750	37830	55850	62840	45020	74110	66140	43650	40230	28200	19250	23500
(WY)	1991	1986	1928	1937	1990	1936	1940	1919	1989	1972	1977	1926
MIN	848	1155	1636	2752	4688	8342	6585	4860	2893	1511	1274	930
(WY)	1924	1909	1961	1961	1963	1969	1946	1941	1936	1966	1910	1909

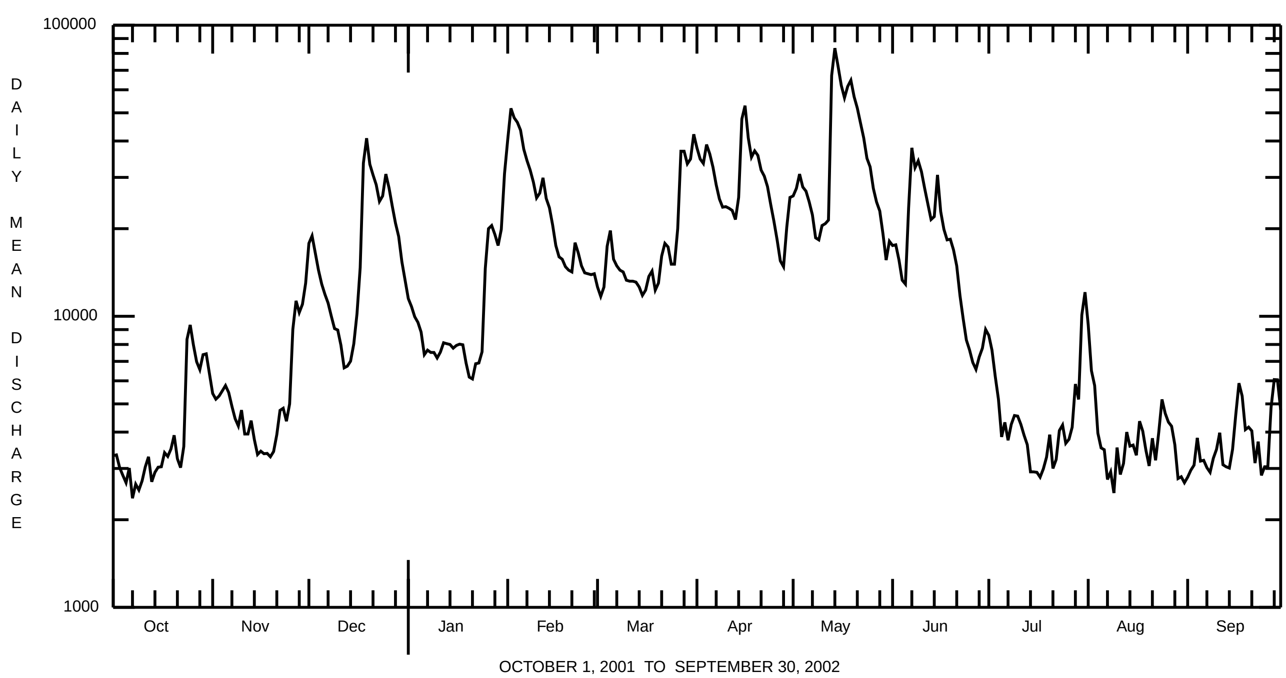
e Estimated.

OHIO RIVER MAIN STEM

03036500 ALLEGHENY RIVER AT KITTANNING, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1904 - 2002	
ANNUAL TOTAL	3815460		5425850			
ANNUAL MEAN	10450		14870		15810	
HIGHEST ANNUAL MEAN					22400	1928
LOWEST ANNUAL MEAN					10080	1999
HIGHEST DAILY MEAN	48600	Feb 16	83400	May 14	253000	Mar 26 1913
LOWEST DAILY MEAN	2080	Sep 10	2370	Oct 7	570	Sep 15 1913**a**
ANNUAL SEVEN-DAY MINIMUM	2540	Sep 7	2690	Oct 4	610	Sep 11 1913
MAXIMUM PEAK FLOW			85800	May 14	269000	Mar 26 1913
MAXIMUM PEAK STAGE			17.11	May 14	**b**30.70	Mar 26 1913
ANNUAL RUNOFF (CFSM)	1.16		1.66		1.76	
ANNUAL RUNOFF (INCHES)	15.82		22.49		23.94	
10 PERCENT EXCEEDS	25900		33800		36900	
50 PERCENT EXCEEDS	6510		9820		10000	
90 PERCENT EXCEEDS	2930		3050		2260	

a Also Sept. 16, 17, 1913.
b From Floodmark, site and datum then in use.



03036500 ALLEGHENY RIVER AT KITTANNING, 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 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	SPECIFIC CONDUCTANCE LAB (µS/CM) (90095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
JUN 2002													
19...	1500	9813	17580	40	10.0	7.5	143	164	20.0	57	14.3	5.1	28
AUG													
28...	1530	9813	3650	40	7.8	8.0	301	257	25.0	94	25.3	7.4	42

Date	FLUORIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	CYANIDE AMENABLE TO CHLORINATION UNFLTRD (MG/L) (00722)
JUN 2002													
19...	<.2	33.2	102	22	<.020	.34	<.040	.60	.03	.030	3.0	<10	<1.00
AUG													
28...	<.2	51.3	208	12	--	.14	<.040	.56	.02	--	--	<10	<1.00

Date	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
JUN 2002						
19...	810	<1.0	250	<50	10	<5
AUG						
28...	240	<1.0	90	<50	<10	<5

CROOKED CREEK BASIN

03038000 CROOKED CREEK AT IDAHO, PA

LOCATION.--Lat 40°39'17", long 79°20'56", Armstrong County, Hydrologic Unit 05010006, on right bank at downstream end of old bridge abutment at Idaho, 0.4 mi downstream from Keystone Generation Station, 1.5 mi downstream from Plum Creek, 1.8 mi upstream of bridge on SR 210, and 2.4 mi west of Shelocta.

DRAINAGE AREA.--191 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods published in WSP 1305.

REVISED RECORDS.--WSP 1385: 1938, 1945.

GAGE.--Water-stage recorder and concrete weir control. Datum of gage is 961.04 ft above National Geodetic Vertical Datum of 1929 (Baltimore and Ohio Railroad bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow regulated to some extent since March 1968 by Keystone Lake 7 mi upstream, usable capacity, 22,010 acre-ft. Evaporation from operation of steam-electric plant 0.4 mi upstream, which began during July 1967, can amount to as much as 30 ft^3/s. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of 18.6 ft, from floodmark, discharge, about 19,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,500 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 27	0330	*3,640	*7.85	June 6	2330	2,660	6.63
May 14	0230	2,700	6.68				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	27	127	53	673	108	395	274	390	24	33	27
2	30	23	75	44	531	119	331	602	230	28	31	30
3	34	26	48	36	393	330	299	527	162	37	34	25
4	38	39	34	38	316	346	257	376	122	27	35	38
5	46	35	24	34	231	269	225	306	108	23	40	49
6	33	27	20	35	199	251	209	242	979	27	94	37
7	31	23	20	40	169	217	180	213	1770	27	42	36
8	31	23	17	36	153	182	166	206	675	22	29	34
9	35	25	42	34	131	158	157	398	416	27	25	32
10	35	24	36	63	132	152	152	817	293	50	29	34
11	25	24	23	186	594	124	126	450	222	31	26	29
12	23	19	33	258	463	119	111	376	169	22	25	36
13	20	19	33	227	361	113	122	1320	140	24	29	32
14	24	17	50	170	273	105	185	2360	177	24	24	29
15	28	19	81	155	239	94	339	1400	261	20	25	28
16	33	23	64	136	213	486	1340	784	235	23	24	37
17	25	26	663	120	190	402	644	549	170	22	28	39
18	19	25	1850	108	149	366	411	1680	126	26	29	32
19	23	23	648	92	130	310	313	1210	94	30	26	37
20	17	24	365	85	128	686	259	744	68	30	28	35
21	21	24	242	87	205	1090	224	522	52	30	27	31
22	22	24	171	92	196	650	223	405	41	26	28	31
23	26	20	140	99	173	470	180	322	32	28	34	32
24	82	18	205	218	152	370	146	267	27	31	46	35
25	43	49	161	352	145	327	137	227	50	28	58	29
26	36	113	128	265	149	1370	131	196	37	25	37	31
27	29	45	112	218	149	2730	117	160	32	37	29	90
28	23	46	100	183	126	1050	182	163	61	39	27	142
29	21	137	86	163	---	624	300	306	49	23	27	45
30	27	105	53	277	---	548	246	190	32	37	28	36
31	28	---	60	589	---	422	---	191	---	42	27	---
TOTAL	938	1072	5711	4493	6963	14588	8107	17783	7220	890	1024	1178
MEAN	30.3	35.7	184	145	249	471	270	574	241	28.7	33.0	39.3
MAX	82	137	1850	589	673	2730	1340	2360	1770	50	94	142
MIN	17	17	17	34	126	94	111	160	27	20	24	25
CFSM	0.16	0.19	0.96	0.76	1.30	2.46	1.41	3.00	1.26	0.15	0.17	0.21
IN.	0.18	0.21	1.11	0.88	1.36	2.84	1.58	3.46	1.41	0.17	0.20	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

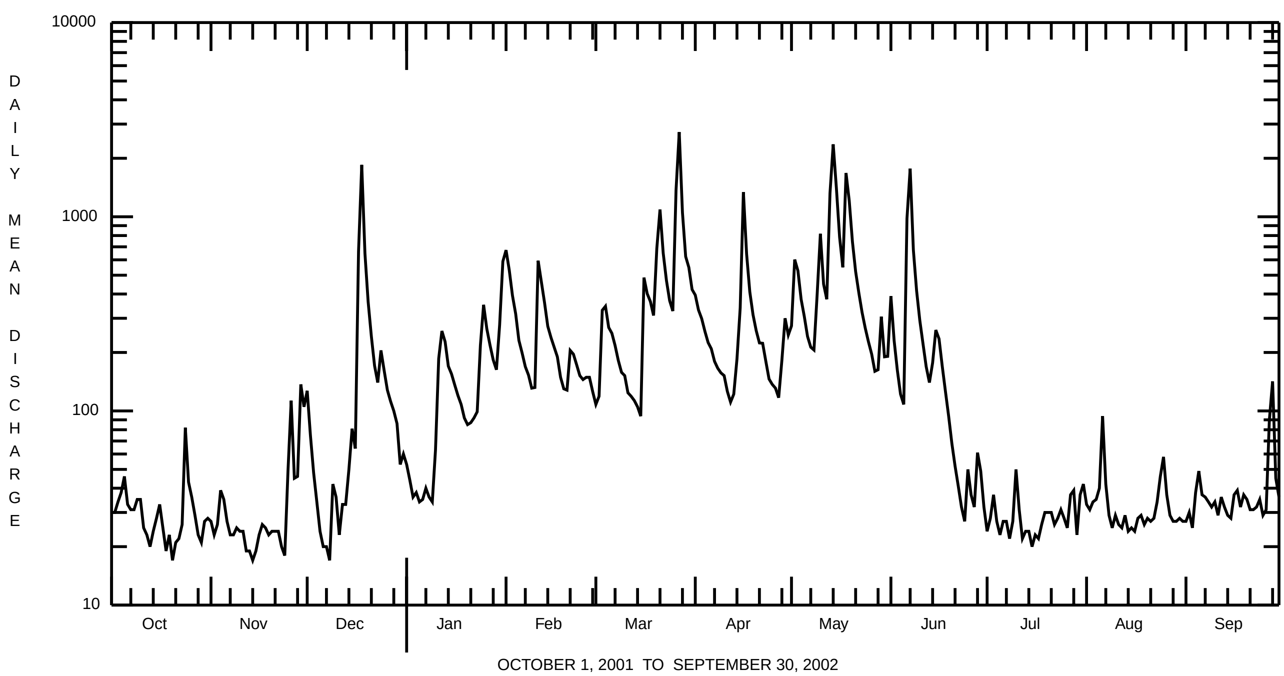
MEAN	122	219	352	376	488	586	467	306	196	130	95.1	88.1
MAX	839	820	827	1000	1260	1340	1052	746	1072	987	549	497
(WY)	1955	1986	1991	1952	1956	1994	1940	1989	1972	1956	1984	1945
MIN	7.15	23.8	33.5	59.7	120	83.9	85.1	38.0	25.3	13.9	11.3	6.07
(WY)	1953	1954	1961	1977	1980	1969	1946	1941	1949	1962	1942	1952

CROOKED CREEK BASIN

03038000 CROOKED CREEK AT IDAHO, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	57118		69967			
ANNUAL MEAN	156		192		284	
HIGHEST ANNUAL MEAN					511	1956
LOWEST ANNUAL MEAN					148	1992
HIGHEST DAILY MEAN	2320	Jan 31	2730	Mar 27	9800	Jun 23 1972
LOWEST DAILY MEAN	17	Oct 20**a**	17	Oct 20**a**	**b**1.0	Oct 22 1966
ANNUAL SEVEN-DAY MINIMUM	21	Nov 10	21	Nov 10	4.1	Sep 19 1939
MAXIMUM PEAK FLOW			3640	Mar 27	**c**13200	Jun 23 1972
MAXIMUM PEAK STAGE			7.85	Mar 27	15.93	Jun 23 1972
INSTANTANEOUS LOW FLOW			11	Oct 20	4.6	Nov 1 1968
ANNUAL RUNOFF (CFSM)	0.82		1.00		1.49	
ANNUAL RUNOFF (INCHES)	11.12		13.63		20.23	
10 PERCENT EXCEEDS	401		433		684	
50 PERCENT EXCEEDS	50		75		125	
90 PERCENT EXCEEDS	26		24		24	

a Also Nov. 14, Dec. 8.
b Result of upstream pumping.
c From rating curve extended above 12,800 ft^3/s.



KISKIMINETAS RIVER BASIN

03040000 STONYCREEK RIVER AT FERNDALE, PA

LOCATION.--Lat 40°17'08", long 78°55'15", Cambria County, Hydrologic unit 05010007, on right bank 50 ft upstream from highway bridge at Ferndale, 0.4 mi downstream from Bens Creek, 1.2 mi upstream from Johnstown city limits, and 5.2 mi upstream from confluence with Little Conemaugh River.

DRAINAGE AREA.--451 mi^2.

PERIOD OF RECORD.--October 1913 to March 1936, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Monthly figures adjusted for storage and diversion for October 1918 to September 1921, published in WSP 503, 523, have been found in error and should not be used. Published as "*at Johnstown*" 1914-36, and as "*Stony Creek at Ferndale*" 1938-79. Gage-height records collected in this vicinity since 1885 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1915, 1918, 1923-26. WSP 1435: 1920-21, 1932, 1941 (M), 1943 (M), 1945-46 (M). WDR PA-78-3: 1977 (M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,184.06 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 19, 1936, nonrecording gage at site 3.5 mi downstream at different datum. Dec. 8, 1938 to Jan. 30, 1940, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Regulation by mine pumpage and reservoirs and diversion above station; the four largest reservoirs have a combined capacity of 42,360 acre-ft. Figures of daily discharge do not include diversion from Stonycreek River and Quemahoning Creek Reservoir to plants of Bethlehem Steel Co., and from Mill Creek, Dalton Run, and North Fork Bens Creek Reservoirs for water supply of city of Johnstown. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	56	189	e136	569	345	1460	1590	930	215	76	66
2	60	59	147	e129	483	355	1240	1560	655	190	73	65
3	56	81	121	e117	426	713	1050	1540	524	176	72	66
4	61	92	113	e117	400	746	945	1200	475	160	69	62
5	58	80	101	e110	351	546	852	990	451	151	104	60
6	61	66	100	e117	355	533	792	872	996	134	171	58
7	60	62	99	e129	338	473	733	854	1600	129	152	57
8	57	61	117	e156	346	432	682	1160	997	125	102	55
9	59	60	167	180	329	407	663	4750	748	131	85	51
10	59	59	155	223	360	407	690	3590	612	148	75	52
11	59	59	131	629	1330	312	612	2180	499	137	71	51
12	62	55	113	804	1110	311	540	1750	445	117	65	53
13	64	59	116	569	840	313	546	2140	477	107	67	53
14	78	53	133	410	646	311	712	2640	749	110	65	53
15	144	56	181	369	562	298	1500	2190	832	115	69	55
16	116	56	160	321	517	338	1270	1720	713	112	71	58
17	97	56	183	297	497	399	964	1440	550	101	72	57
18	86	58	578	273	440	911	813	4950	457	100	66	58
19	79	57	470	232	405	1200	730	3440	393	106	69	94
20	75	64	360	236	419	3100	690	2340	338	95	89	117
21	70	65	303	234	561	3910	710	1820	304	93	81	82
22	70	61	266	217	597	2230	1220	1510	277	86	73	87
23	64	59	252	213	502	1540	1140	1300	257	89	83	132
24	74	59	264	752	442	1250	905	1130	237	98	113	109
25	74	244	237	1420	407	1050	817	1020	218	92	160	81
26	63	285	190	967	406	2450	724	912	209	100	102	94
27	65	167	e187	698	434	4040	636	795	232	124	80	584
28	67	171	e177	573	386	2370	2240	748	441	110	75	641
29	64	204	e163	504	---	1720	2670	831	334	94	76	297
30	61	198	e151	481	---	1420	1860	842	258	83	71	184
31	58	---	e146	586	---	1220	---	930	---	79	68	---
TOTAL	2184	2762	6070	12199	14458	35650	30406	54734	16208	3707	2665	3532
MEAN	70.5	92.1	196	394	516	1150	1014	1766	540	120	86.0	118
MAX	144	285	578	1420	1330	4040	2670	4950	1600	215	171	641
MIN	56	53	99	110	329	298	540	748	209	79	65	51
CFSM	0.16	0.20	0.43	0.87	1.14	2.55	2.25	3.91	1.20	0.27	0.19	0.26
IN.	0.18	0.23	0.50	1.01	1.19	2.94	2.51	4.51	1.34	0.31	0.22	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	240	411	665	752	1033	1591	1357	835	502	258	178	186
MAX	1514	2099	2162	1929	2575	3581	3426	1792	1773	874	1098	1449
(WY)	1977	1986	1973	1952	1986	1994	1993	1978	1972	1977	1979	1996
MIN	13.6	20.4	48.4	137	262	367	336	186	77.4	28.4	26.3	18.9
(WY)	1964	1954	1954	1977	1963	1990	1946	1941	1965	1965	1957	1943

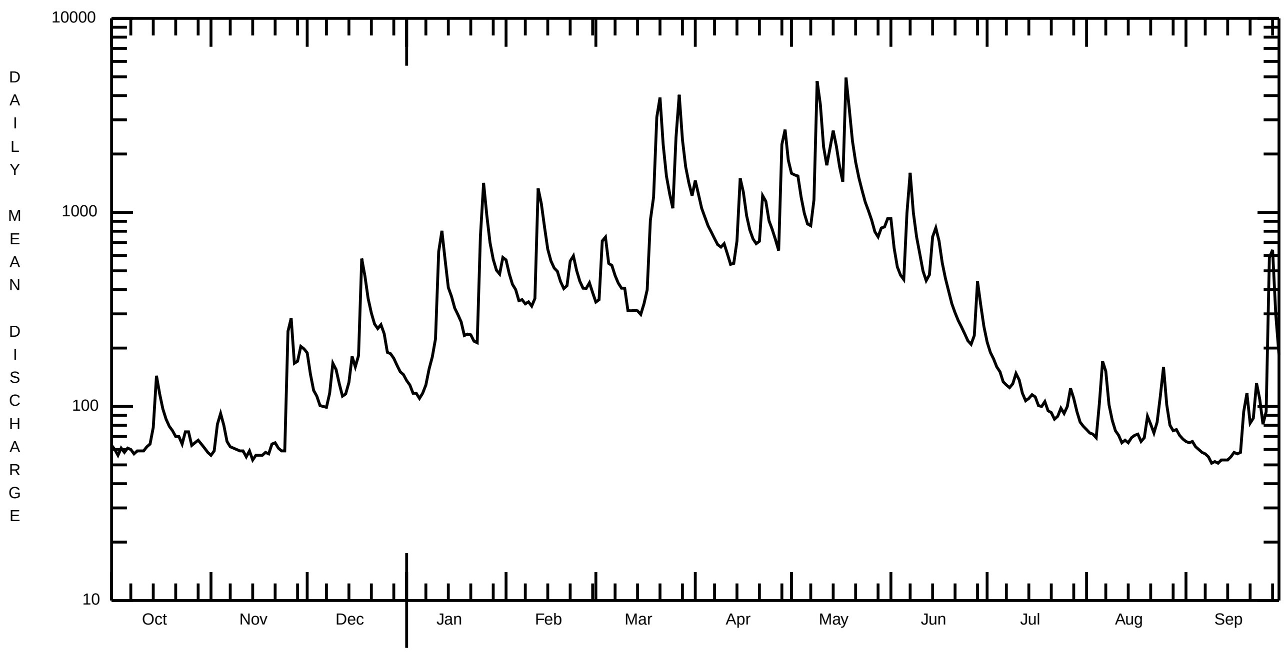
e Estimated.

KISKIMINETAS RIVER BASIN

03040000 STONYCREEK RIVER AT FERNDALE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	188147		184575			
ANNUAL MEAN	515		506		667	
HIGHEST ANNUAL MEAN					1044	1996
LOWEST ANNUAL MEAN					280	1954
HIGHEST DAILY MEAN	5050	Apr 16	4950	May 18	15900	Jun 23 1972
LOWEST DAILY MEAN	53	Nov 14	51	Sep 9,11	11	Sep 26 1959
ANNUAL SEVEN-DAY MINIMUM	56	Nov 12	53	Sep 8	12	Oct 5 1963
MAXIMUM PEAK FLOW			6750	May 18	**ab**59000	Mar 18 1936
MAXIMUM PEAK STAGE			8.28	May 18	**c**30.26	Mar 18 1936
INSTANTANEOUS LOW FLOW			49	Sep 9-11	**d**5.0	Sep 8 1929
ANNUAL RUNOFF (CFSM)	1.14		1.12		1.48	
ANNUAL RUNOFF (INCHES)	15.52		15.22		20.10	
10 PERCENT EXCEEDS	1410		1260		1590	
50 PERCENT EXCEEDS	235		217		327	
90 PERCENT EXCEEDS	61		60		60	

a About.
b From rating curve extended above 13,000 ft^3/s on the basis of slope-area and contracted-opening measurement of peak flow.
c From highwater mark, site and datum then in use.
d Minimum observed.



KISKIMINETAS RIVER BASIN

03041029 CONEMAUGH RIVER AT MINERSVILLE, PA

LOCATION.--Lat 40°20'29", long 78°55'34", Cambria County, Hydrologic Unit 05010007, on right bank at upstream side of Fourth Avenue bridge at Johnstown, 4,000 ft downstream from confluence of Little Conemaugh River and Stonycreek River.

DRAINAGE AREA.--678 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,140 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by steel mills and reservoirs above station; the eight most effective reservoirs have a combined capacity of 51,850 acre-ft. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	266	897	510	2130	2510	1170	363	167	144
2	---	---	---	259	775	534	1730	2400	816	339	166	144
3	---	---	---	240	676	1070	1440	2260	667	325	169	142
4	---	---	---	243	646	1110	1260	1720	614	303	168	138
5	---	---	---	249	563	789	1110	1410	594	297	219	135
6	---	---	---	247	556	785	1010	1200	1520	279	300	132
7	---	---	---	257	546	714	929	1140	2410	271	261	130
8	---	---	---	262	547	660	851	1470	1280	270	205	131
9	---	---	---	277	518	625	813	5570	924	276	186	127
10	---	---	---	334	562	632	824	4430	770	307	175	127
11	---	---	---	835	2480	513	719	2790	672	285	171	127
12	---	---	e248	1120	1910	501	639	2290	615	260	160	127
13	---	---	254	812	1420	501	653	3330	677	249	156	128
14	---	---	274	595	1060	493	1080	4310	1280	253	152	130
15	---	---	314	545	946	474	2880	3300	1560	256	151	152
16	---	---	291	482	879	546	2770	2540	1250	249	153	149
17	---	---	351	446	828	612	1840	2110	936	232	155	142
18	---	---	1020	415	713	1350	1380	7940	761	227	158	143
19	---	---	820	370	640	1910	1170	5050	646	235	158	203
20	---	---	617	377	653	4630	1050	3470	563	225	180	215
21	---	---	510	374	824	5650	1070	2690	512	216	182	173
22	---	---	439	363	859	3510	1970	2200	471	206	169	163
23	---	---	415	352	730	2560	1760	1830	443	212	183	243
24	---	---	431	1230	640	2140	1320	1550	414	220	215	202
25	---	---	395	2260	599	1800	1170	1350	395	205	272	167
26	---	---	336	1460	595	4870	1020	1170	379	213	200	198
27	---	---	332	1050	636	7100	886	1010	385	249	167	772
28	---	---	326	869	570	3880	3320	923	578	229	159	809
29	---	---	314	765	---	2660	3850	1000	486	205	160	403
30	---	---	276	780	---	2170	2760	965	399	181	153	292
31	---	---	267	916	---	1800	---	1130	---	171	147	---
TOTAL	---	---	---	19050	23268	57099	45404	77058	24187	7808	5617	6288
MEAN	---	---	---	615	831	1842	1513	2486	806	252	181	210
MAX	---	---	---	2260	2480	7100	3850	7940	2410	363	300	809
MIN	---	---	---	240	518	474	639	923	379	171	147	127

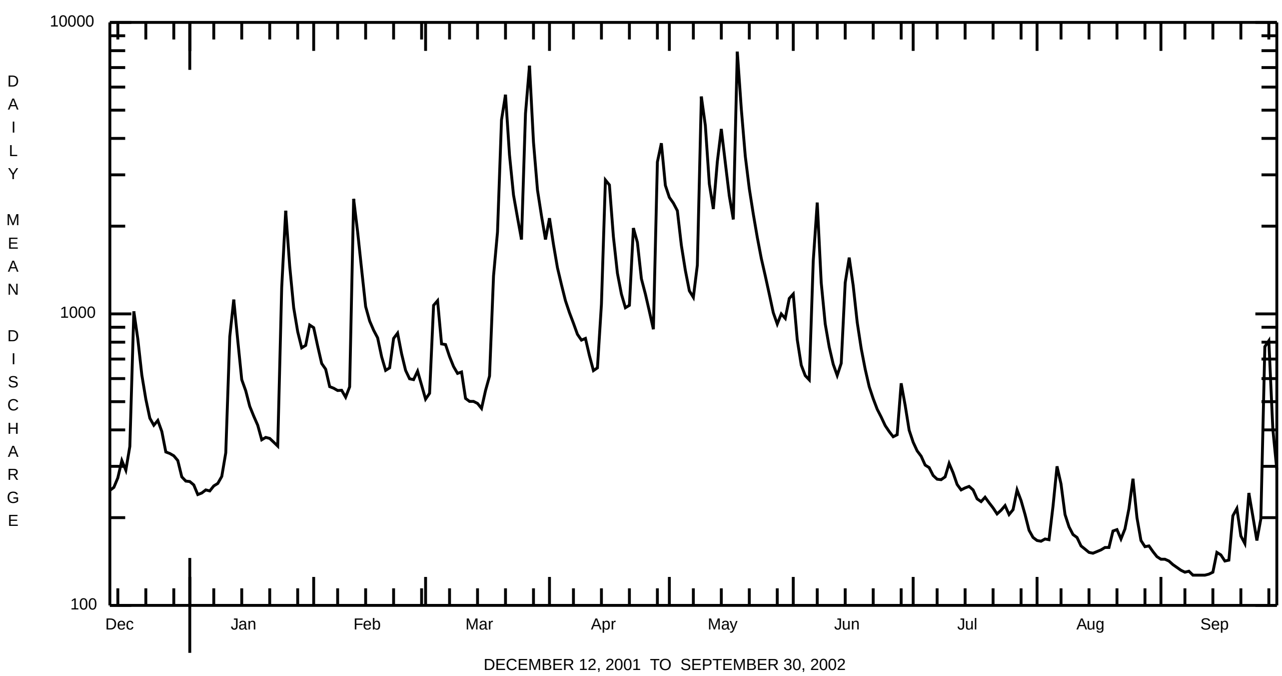
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	615	831	1842	1513	2486	806	252	181	210
MAX	---	---	---	615	831	1842	1513	2486	806	252	181	210
(WY)	---	---	---	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	---	---	---	615	831	1842	1513	2486	806	252	181	210
(WY)	---	---	---	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated.

KISKIMINETAS RIVER BASIN

03041029 CONEMAUGH RIVER AT MINERSVILLE, PA--Continued



KISKIMINETAS RIVER BASIN

03041500 CONEMAUGH RIVER AT SEWARD, PA

LOCATION.--Lat 40°25'09", long 79°01'35", Westmoreland County, Hydrologic Unit 05010007, on left bank at upstream side of bridge on State Highway 56 at Seward, 2.0 mi downstream from Findley Run, and 9 mi northwest of Johnstown.

DRAINAGE AREA.--715 mi^2.

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

REVISED RECORDS.--WDR PA-78-3: 1936 (M), 1977 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,076.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by steel mills and reservoirs above station; the eight most effective reservoirs have a combined capacity of 51,850 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 26.4 ft, from floodmarks, discharge, about 75,000 ft^3/s, by contracted-opening measurement at site 6.7 mi downstream, adjusted for inflow.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	159	527	e331	1080	571	2310	2790	1250	418	191	148
2	171	159	394	e331	953	596	1910	2600	935	382	188	151
3	161	237	326	e304	834	1100	1610	2480	765	365	191	143
4	164	211	296	e298	791	1230	1420	1910	692	338	191	139
5	162	205	270	e291	690	878	1250	1570	672	325	235	132
6	161	183	259	e291	662	883	1150	1360	1520	303	333	129
7	160	170	253	e310	652	801	1060	1290	2840	296	308	120
8	161	166	290	e324	638	761	983	1540	1500	294	236	123
9	160	168	421	e337	608	723	941	5670	1100	297	211	118
10	160	161	382	375	631	719	945	4870	923	336	196	110
11	162	158	333	905	2610	598	851	3040	809	313	192	111
12	164	153	300	1300	2120	567	765	2440	743	283	182	112
13	167	155	311	994	1570	566	761	3710	851	263	175	116
14	200	151	329	742	1190	559	1050	4970	1690	265	172	122
15	332	151	376	667	1060	532	3110	3870	2070	268	166	166
16	269	155	361	587	970	628	2940	2880	1690	262	170	162
17	237	152	473	532	926	707	2000	2330	1220	248	170	146
18	213	150	1350	493	808	1360	1540	8670	985	246	179	144
19	197	154	1140	438	731	1940	1320	5980	840	266	179	213
20	186	185	853	434	733	4570	1190	4030	712	254	202	251
21	180	180	680	428	906	6560	1190	3040	631	238	203	199
22	178	171	568	424	973	3880	2020	2430	567	229	189	181
23	164	164	522	400	844	2740	1900	2010	526	240	215	254
24	220	163	533	1150	739	2200	1460	1700	493	247	239	229
25	202	574	491	2540	681	1840	1310	1480	463	233	303	188
26	174	662	414	1690	668	4840	1170	1310	439	246	238	205
27	167	390	394	1240	720	8200	1030	1140	442	290	192	841
28	169	354	385	1040	650	4350	3440	1040	650	267	178	986
29	167	470	370	927	---	3050	4440	1100	582	240	177	490
30	159	474	337	945	---	2450	3100	1050	468	214	169	336
31	154	---	e337	1080	---	2000	---	1220	---	198	155	---
TOTAL	5697	6985	14275	22148	26438	62399	50166	85520	29068	8664	6325	6765
MEAN	184	233	460	714	944	2013	1672	2759	969	279	204	226
MAX	332	662	1350	2540	2610	8200	4440	8670	2840	418	333	986
MIN	154	150	253	291	608	532	761	1040	439	198	155	110
CFSM	0.26	0.33	0.64	1.00	1.32	2.82	2.34	3.86	1.36	0.39	0.29	0.32
IN.	0.30	0.36	0.74	1.15	1.38	3.25	2.61	4.45	1.51	0.45	0.33	0.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

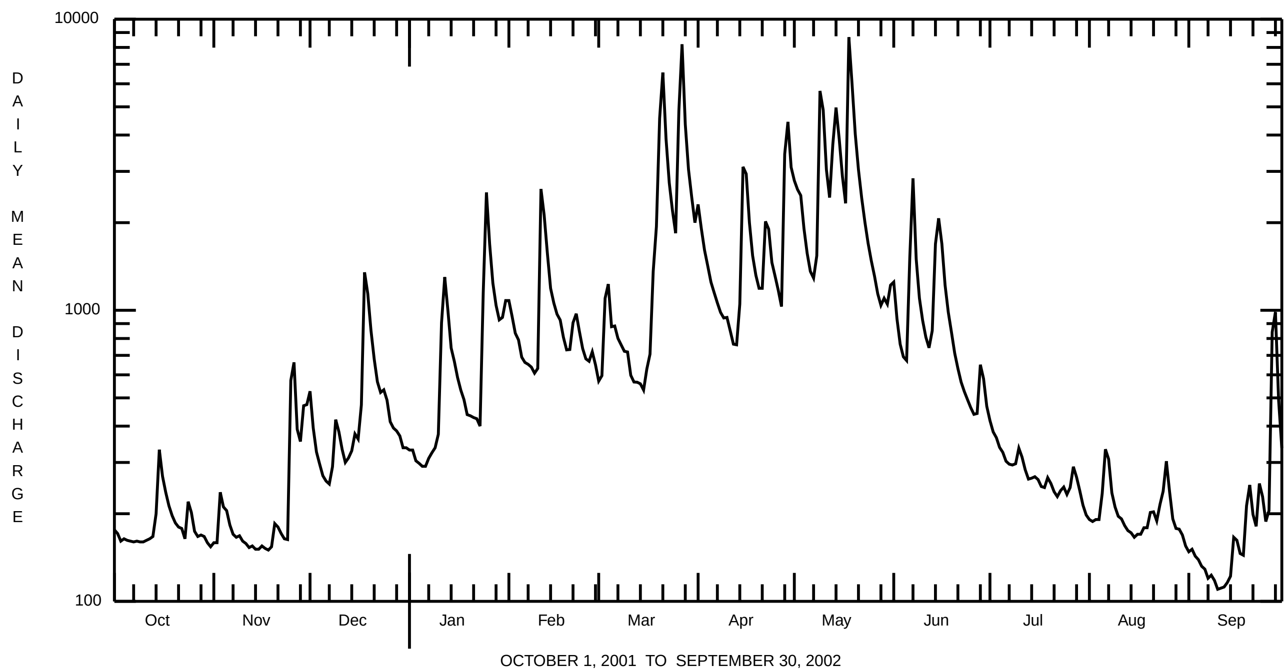
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	560	857	1286	1424	1860	2767	2395	1551	1026	657	480	482
MAX	2746	3076	3620	3625	3816	5524	5288	2871	3594	2527	1690	2475
(WY)	1977	1986	1973	1952	1971	1994	1993	1960	1972	1977	1979	1996
MIN	169	189	212	389	493	779	739	512	325	242	204	169
(WY)	1964	1939	1999	2000	1993	1990	1946	1941	1999	1965	2002	1959

e Estimated.

03041500 CONEMAUGH RIVER AT SEWARD, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	327233		324450			
ANNUAL MEAN	897		889		1275	
HIGHEST ANNUAL MEAN					1814	1996
LOWEST ANNUAL MEAN					687	1954
HIGHEST DAILY MEAN	8830	Apr 16	8670	May 18	40900	Jul 20 1977
LOWEST DAILY MEAN	140	Sep 13	110	Sep 10	105	Dec 28 1938**a**
ANNUAL SEVEN-DAY MINIMUM	150	Sep 12	116	Sep 7	111	Dec 26 1938
MAXIMUM PEAK FLOW			12500	May 18	**b**115000	Jul 20 1977
MAXIMUM PEAK STAGE			8.86	May 18	**c**27.06	Jul 20 1977
INSTANTANEOUS LOW FLOW			104	Sep 10-13	104	Sep 10-13 2002
ANNUAL RUNOFF (CFSM)	1.25		1.24		1.78	
ANNUAL RUNOFF (INCHES)	17.03		16.88		24.24	
10 PERCENT EXCEEDS	2480		2150		2840	
50 PERCENT EXCEEDS	410		439		724	
90 PERCENT EXCEEDS	162		161		255	

a Also Dec. 29, 31, 1938.
b From rating curve extended above 23,000 ft^3/s on basis of slope-area measurement of peak flow.
c From highwater mark.



03042000 BLACKLICK CREEK AT JOSEPHINE, PA

LOCATION.--Lat 40°28'24", long 79°11'01", Indiana County, Hydrologic Unit 05010007, on right bank on upstream side of old concrete dam at Josephine, 0.9 mi upstream from Two Lick Creek, and 5 mi northeast of Blairsville.

DRAINAGE AREA.--192 mi^2.

PERIOD OF RECORD.--January 1952 to current year.

REVISED RECORDS.--WSP 1385: 1952-54 (M). WDR PA-78-3: 1977 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 975.82 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1953, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mine pumpage above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite 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)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 20	2200	2,720	5.74	May 18	1200	4,130	6.52
Mar. 26	2300	*5,040	*7.02	June 6	2400	2,810	5.80
May 14	0100	3,900	6.40	June 14	2000	3,510	6.20

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	e41	231	e90	462	176	683	792	297	121	e72	e35
2	e32	e45	162	e82	425	187	568	982	223	113	e70	e34
3	e28	58	121	e73	344	450	495	945	166	144	e66	e35
4	e30	e89	102	e70	317	459	439	659	145	118	e63	e33
5	e28	e56	95	e68	258	310	381	535	135	114	e95	e31
6	e29	e51	93	e66	240	320	333	450	710	114	188	e29
7	e31	e47	93	e65	230	277	298	408	1560	114	e90	e27
8	e29	e46	93	e63	219	243	268	380	601	114	e75	e25
9	e31	e45	163	e61	197	223	246	950	393	114	e64	e23
10	e33	e44	149	e149	190	206	232	810	286	149	e58	e21
11	e34	e44	119	597	810	179	208	545	229	118	e53	e22
12	e36	e41	103	700	637	170	187	473	204	113	e48	e23
13	e38	e50	104	402	493	167	180	1670	426	110	e51	e24
14	e48	e40	116	304	373	161	208	2890	1450	110	e51	e23
15	e74	e42	144	270	336	151	722	1660	1910	110	e56	e23
16	e110	e43	127	244	304	903	1370	1060	1140	110	e58	e24
17	e52	e44	381	218	277	757	836	795	721	e93	e59	e23
18	e51	e45	1640	194	232	822	591	2800	514	e91	e56	e25
19	e50	e45	868	166	208	760	473	1690	412	e94	e53	53
20	e48	e55	613	170	210	1450	410	1120	308	e86	e95	e86
21	e43	e59	469	167	280	1780	374	839	242	e90	e69	e37
22	e42	e49	345	155	285	1080	597	658	207	e79	e62	e47
23	e39	e47	e287	156	234	809	537	533	184	e82	82	e97
24	e62	48	e280	342	210	685	413	450	160	e90	102	51
25	e63	152	e259	748	200	579	383	382	213	e86	135	e36
26	e36	305	e218	489	202	1740	364	342	154	e93	e97	51
27	e38	128	e186	386	222	2960	298	292	148	110	e46	187
28	e40	114	e157	326	200	1320	764	242	196	e96	e42	262
29	e39	180	e136	285	---	965	1060	233	194	e83	e43	118
30	e37	198	e115	345	---	823	759	214	140	e75	e40	e80
31	e36	---	e102	473	---	656	---	183	---	e74	e37	---
TOTAL	1322	2251	8071	7924	8595	21768	14677	25982	13668	3208	2176	1585
MEAN	42.6	75.0	260	256	307	702	489	838	456	103	70.2	52.8
MAX	110	305	1640	748	810	2960	1370	2890	1910	149	188	262
MIN	28	40	93	61	190	151	180	183	135	74	37	21
CFSM	0.22	0.39	1.36	1.33	1.60	3.66	2.55	4.37	2.37	0.54	0.37	0.28
IN.	0.26	0.44	1.56	1.54	1.67	4.22	2.84	5.03	2.65	0.62	0.42	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2002, BY WATER YEAR (WY)

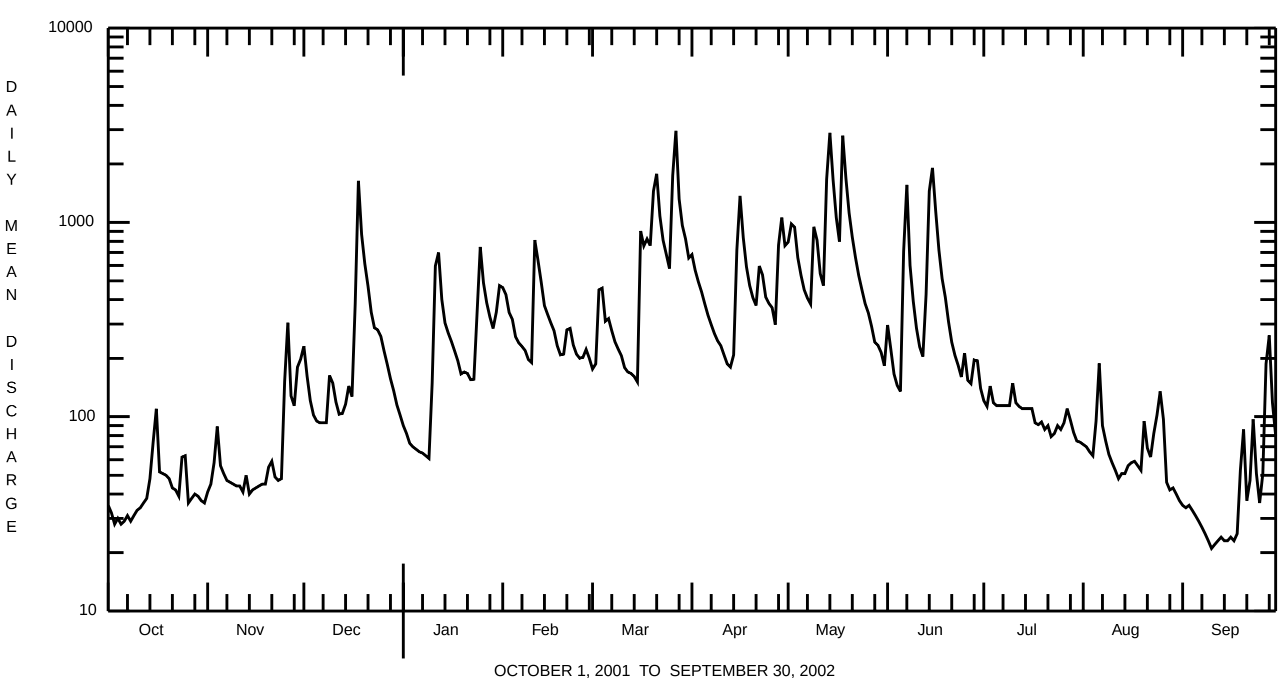
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	170	296	420	421	553	755	602	421	253	199	146	139
MAX	812	1113	1025	905	1202	1615	1086	1009	1376	1114	581	595
(WY)	1977	1998	1973	1975	1956	1967	1993	1978	1972	1977	1958	1996
MIN	30.8	33.5	68.4	135	124	219	236	84.8	65.6	43.5	37.1	28.7
(WY)	1953	1954	1961	1956	1987	1969	1997	1986	1965	1965	1962	1998

e Estimated.

03042000 BLACKLICK CREEK AT JOSEPHINE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1953 - 2002	
ANNUAL TOTAL	87734		111227			
ANNUAL MEAN	240		305		364	
HIGHEST ANNUAL MEAN					523	1972
LOWEST ANNUAL MEAN					242	1954
HIGHEST DAILY MEAN	2190	Feb 15	2960	Mar 27	22800	Jul 20 1977
LOWEST DAILY MEAN	**e**28	Oct 3,5	**e**21	Sep 10	15	Oct 13 1995
ANNUAL SEVEN-DAY MINIMUM	**a**29	Oct 3	**a**23	Sep 9	23	Sep 9 2002
MAXIMUM PEAK FLOW			5040	Mar 26	**b**45700	Jul 20 1977
MAXIMUM PEAK STAGE			7.02	Mar 26	**c**19.89	Jul 20 1977
INSTANTANEOUS LOW FLOW					19	Sep 14 1952**d**
ANNUAL RUNOFF (CFSM)	1.25		1.59		1.89	
ANNUAL RUNOFF (INCHES)	17.00		21.55		25.73	
10 PERCENT EXCEEDS	645		762		795	
50 PERCENT EXCEEDS	105		160		207	
90 PERCENT EXCEEDS	43		38		52	

a Computed using estimated daily discharges.
b From rating curve extended above 16,000 ft^3/s on basis of contracted-opening measurement at gage height 11.35 ft in gage well, 12.67 ft from outside floodmark and slope-area measurement at gage height 10.93 ft.
c From floodmark in gage well.
d Also Nov. 4, 1953.
e Estimated.



KISKIMINETAS RIVER BASIN

03042260 YELLOW CREEK LAKE

LOCATION.--Lat 40°35'27", long 79°03'11", Indiana County, Hydrologic Unit 05010007, in gatehouse at right end of dam on Yellow Creek, at Yellow Creek State Park, and 3 mi southwest of Penn Run.

DRAINAGE AREA.--52.5 mi^2.

PERIOD OF RECORD.--July 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (Pennsylvania Department of Environmental Protection bench mark).

REMARKS.--Lake is formed by an earthfill dam with concrete spillway. Storage began July 11, 1971. Usable capacity, 13,800 acre-ft between elevation 1,245.5 ft, sill of 4-foot and 1.5 foot outlet gates, and 1,280.00 ft (spillway crest). No dead storage. Figures given herein represent usable contents. Lake is used for recreation.

COOPERATION.--Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Conservation and Natural Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 24,100 acre-ft, July 20, 1977, elevation, 1,290.29 ft; minimum (after first filling), 2,810 acre-ft, Apr. 14, 1975, elevation, 1,261.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,960 acre-ft, June 14, elevation, 1,282.40 ft; minimum, 11,760 acre-ft, Nov. 19 elevation, 1,277.54 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
Sept. 30	1,278.21	12,270	---
Oct. 31	1,277.84	11,980	-4.7
Nov. 30	1,278.53	12,520	+9.1
Dec. 31	1,279.56	13,400	+14
CAL YR 2001	--	--	-0.07
Jan. 31	1,280.03	13,830	+7
Feb. 28	1,279.69	13,520	-5.6
Mar. 31	1,280.44	14,200	+11
Apr. 30	1,280.37	14,130	-1.2
May 31	1,279.73	13,560	-9.3
June 30	1,279.51	13,360	-3.4
July 31	1,278.96	12,890	-7.6
Aug. 31	1,279.05	12,950	+0.98
Sept. 30	1,278.98	12,880	-1.2
WTR YR 2002	--	--	+0.84

KISKIMINETAS RIVER BASIN

03042280 YELLOW CREEK NEAR HOMER CITY, PA

LOCATION.--Lat 40°34'21", long 79°06'13", Indiana County, Hydrologic Unit 05010007, on left bank 0.3 mi upstream from Central Indiana County Water Authority dam, 0.4 mi upstream from Ferrier Run, which has been diverted, and 3.5 mi northeast of Homer City.

DRAINAGE AREA.--57.4 mi^2, excludes that of Ferrier Run.

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

REVISED RECORDS.--WDR PA-76-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since July 1971 by Yellow Creek Lake (station 03042260) 4.2 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.2	15	e30	135	58	199	193	80	39	9.9	8.0
2	11	9.3	12	e27	141	55	177	264	75	39	9.9	8.0
3	11	10	11	e24	135	73	158	325	63	47	9.9	8.0
4	11	9.9	11	e24	126	94	141	266	52	41	9.9	8.0
5	11	9.9	10	e22	112	96	124	209	46	41	15	8.0
6	12	9.9	9.9	20	99	96	110	174	223	36	14	8.0
7	12	9.9	9.9	e19	89	95	98	151	579	30	14	8.0
8	13	9.9	10	e18	82	87	89	136	450	25	13	8.0
9	13	9.9	13	e18	74	79	79	204	342	23	12	8.0
10	14	9.9	17	e17	70	67	73	307	180	24	11	8.0
11	15	9.9	18	56	120	61	66	262	53	23	10	8.0
12	10	9.9	20	92	144	54	57	218	56	20	9.9	8.0
13	9.2	9.9	24	103	144	50	53	370	63	18	9.9	8.0
14	9.7	9.9	25	101	133	45	58	756	1010	16	9.2	8.0
15	9.7	9.9	30	97	121	42	82	599	1230	15	9.2	8.2
16	9.4	9.9	32	91	109	353	336	430	648	13	9.2	7.6
17	9.7	9.9	78	84	99	406	382	334	430	12	9.2	7.4
18	9.2	9.4	298	77	88	387	294	523	248	12	9.7	7.4
19	9.2	9.4	318	69	77	328	220	545	150	11	9.7	8.3
20	9.2	11	243	64	70	361	179	426	122	11	9.6	7.4
21	11	9.9	187	58	79	490	155	347	82	11	9.2	7.4
22	8.8	9.6	148	54	81	392	143	281	56	11	9.5	7.4
23	8.8	9.2	123	50	80	295	131	158	51	10	10	7.4
24	12	9.2	118	73	75	230	115	75	50	11	10	6.9
25	9.4	17	105	120	69	193	105	80	59	11	12	6.9
26	9.2	12	92	132	66	313	99	80	48	10	13	7.3
27	9.2	11	81	128	66	685	89	74	46	9.9	12	14
28	9.2	12	71	118	64	482	113	68	54	9.9	11	9.6
29	9.2	15	62	109	---	344	176	69	55	9.9	10	7.9
30	9.2	16	53	109	---	277	190	62	47	9.9	8.6	7.4
31	9.2	---	e41	126	---	224	---	57	---	9.9	8.0	---
TOTAL	324.5	317.8	2285.8	2130	2748	6812	4291	8043	6648	609.5	327.5	240.5
MEAN	10.5	10.6	73.7	68.7	98.1	220	143	259	222	19.7	10.6	8.02
MAX	15	17	318	132	144	685	382	756	1230	47	15	14
MIN	8.8	9.2	9.9	17	64	42	53	57	46	9.9	8.0	6.9
CFSM	0.18	0.18	1.28	1.20	1.71	3.83	2.49	4.52	3.86	0.34	0.18	0.14
IN.	0.21	0.21	1.48	1.38	1.78	4.41	2.78	5.21	4.31	0.40	0.21	0.16

e Estimated.

03042280 YELLOW CREEK NEAR HOMER CITY, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	53.2	94.2	133	121	162	202	158	119	77.0	59.4	28.6	36.2
MAX	186	303	254	314	374	447	246	358	324	443	90.3	163
(WY)	1978	1998	1973	1996	1981	1994	1987	1978	1972	1977	1980	1996
MIN	6.10	6.85	21.1	32.1	44.4	70.8	68.8	28.5	12.2	5.95	5.46	8.02
(WY)	1992	1999	1999	2000	1993	1990	1997	2001	1999	1971	1971	2002

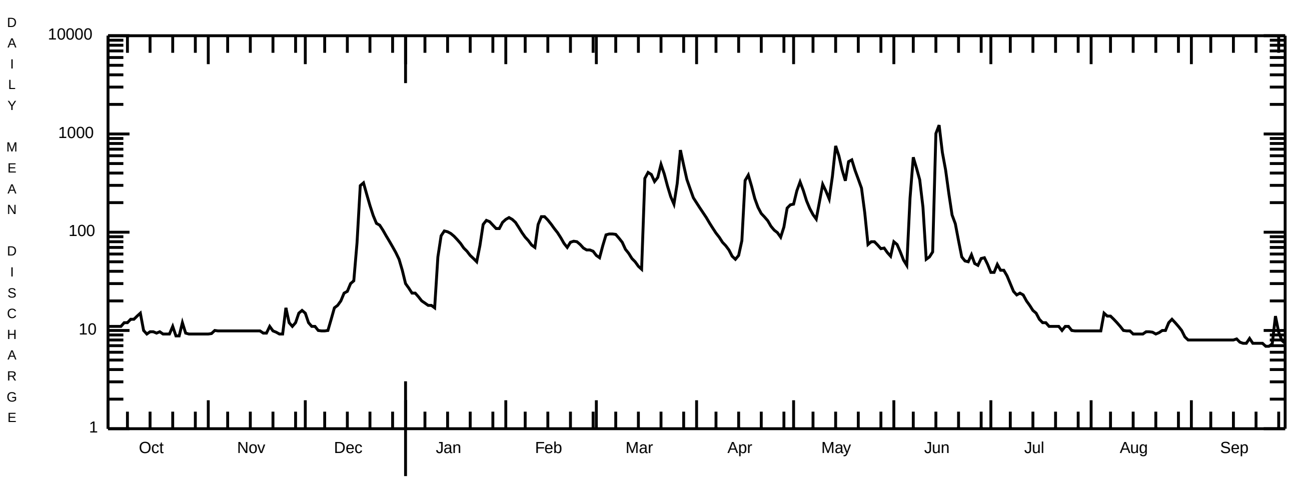
SUMMARY STATISTICS	**FOR 2001 CALENDAR YEAR**		**FOR 2002 WATER YEAR**		**WATER YEARS 1971 - 2002**	
ANNUAL TOTAL	21621.9		34777.6			
ANNUAL MEAN	59.2		95.3		103	
HIGHEST ANNUAL MEAN					145	1978
LOWEST ANNUAL MEAN					64.2	1999
HIGHEST DAILY MEAN	402	Apr 17	1230	Jun 15	7630	Jul 20 1977
LOWEST DAILY MEAN	8.0	Jul 27**a**	6.9	Sep 24,25	3.4	Jul 8 1971
ANNUAL SEVEN-DAY MINIMUM	8.0	Jul 27	7.2	Sep 20	3.6	Jul 22 1971
MAXIMUM PEAK FLOW			2010	Jun 14	**b**15000	Jul 20 1977
MAXIMUM PEAK STAGE			5.80	Jun 14	12.60	Jul 20 1977
ANNUAL RUNOFF (CFSM)	1.03		1.66		1.80	
ANNUAL RUNOFF (INCHES)	14.01		22.54		24.47	
10 PERCENT EXCEEDS	193		279		234	
50 PERCENT EXCEEDS	20		46		58	
90 PERCENT EXCEEDS	8.6		9.2		11	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1970, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.6	72.0	119	113	146	136	160	148	51.0	39.6	39.9	26.9
MAX	51.8	105	142	148	210	199	243	212	74.7	75.4	63.0	66.6
(WY)	1968	1968	1969	1969	1970	1970	1970	1968	1970	1969	1969	1970
MIN	7.87	43.9	102	90.8	112	46.4	62.7	103	25.5	7.11	13.0	5.34
(WY)	1969	1970	1968	1970	1969	1969	1968	1969	1969	1968	1968	1969

SUMMARY STATISTICS	**WATER YEARS 1968 - 1970**	
ANNUAL MEAN	89.4	
HIGHEST ANNUAL MEAN	104	1970
LOWEST ANNUAL MEAN	80.7	1969
HIGHEST DAILY MEAN	1100	Jan 31 1968
LOWEST DAILY MEAN	3.0	Jul 31 1968
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 18 1969
MAXIMUM PEAK FLOW	**c**1300	Jan 30 1968
MAXIMUM PEAK STAGE	**d**7.83	Jan 29 1970
INSTANTANEOUS LOW FLOW	1.4	Jul 19 1969
ANNUAL RUNOFF (CFSM)	1.56	
ANNUAL RUNOFF (INCHES)	21.16	
10 PERCENT EXCEEDS	213	
50 PERCENT EXCEEDS	50	
90 PERCENT EXCEEDS	8.0	

a Also July 28 to Aug. 3, 8, 9, Sept. 4-13, 15-19, 23.
b From rating curve extended above 4,100 ft^3/s on basis of computation of peak flow over dam, gage height 7.46 ft.
c About.
d Backwater from ice.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

KISKIMINETAS RIVER BASIN

03042500 TWO LICK CREEK AT GRACETON, PA

LOCATION.--Lat 40°31'02", long 79°10'19", Indiana County, Hydrologic Unit 05010007, on right bank 0.8 mi upstream from highway bridge on road leading west from Graceton, 1.1 mi downstream from Tearing Run, 1.5 mi upstream from Cherry Run, and 8 mi northeast of Blairsville.

DRAINAGE AREA.--171 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 981.63 ft above National Geodetic Vertical Datum of 1929.

REVISED RECORDS.--WDR PA-78-3: 1977 (M).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diurnal fluctuation caused by mine pumpage and by sewage-disposal plant above station. Flow regulated since December 1968 by Two Lick Creek Reservoir 10 mi upstream, capacity, 16,240 acre-ft and since July 1971 by Yellow Creek Lake (station 03042260) 11 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	63	103	e90	377	150	519	371	412	94	67	59
2	58	63	73	e81	359	221	396	768	244	92	62	59
3	58	76	64	e81	319	288	383	744	150	101	56	59
4	58	65	60	e78	278	283	343	566	135	91	57	59
5	57	63	57	e77	233	200	277	406	180	89	114	58
6	60	62	57	e75	218	195	260	342	918	83	100	59
7	58	61	58	e74	209	202	223	320	1350	76	67	60
8	58	61	66	e74	200	206	194	304	814	73	64	60
9	66	62	80	e72	188	269	199	876	627	84	62	60
10	69	61	69	e81	186	258	200	1240	374	108	60	63
11	68	60	69	187	458	179	190	747	187	72	60	65
12	70	60	67	200	461	147	158	699	186	63	63	65
13	67	62	78	195	394	129	171	1370	213	61	67	65
14	69	67	83	178	351	106	205	2150	1720	58	61	66
15	73	67	89	165	335	104	329	1280	1990	56	63	69
16	70	66	81	151	320	739	1180	937	1130	51	70	67
17	74	63	321	141	226	641	759	780	734	51	78	65
18	66	60	574	130	204	779	564	1800	476	79	74	64
19	71	60	443	121	192	674	420	1290	296	74	71	82
20	72	74	402	117	189	943	371	924	248	68	75	69
21	71	62	334	116	216	1290	316	675	191	66	65	65
22	70	60	288	114	193	796	319	561	147	65	66	60
23	68	60	269	114	184	650	269	378	141	73	87	59
24	120	59	334	174	175	559	231	250	137	71	121	58
25	69	148	301	216	166	445	234	219	265	68	73	58
26	59	92	282	209	169	1310	189	212	117	73	58	70
27	59	84	266	198	165	2240	173	202	200	76	55	225
28	59	89	252	184	158	1130	367	213	191	75	52	94
29	60	127	185	170	---	733	478	506	123	74	50	53
30	63	118	160	225	---	723	419	243	106	82	57	44
31	63	---	e113	339	---	557	---	176	---	69	59	---
TOTAL	2062	2175	5678	4427	7123	17146	10336	21549	14002	2316	2134	2059
MEAN	66.5	72.5	183	143	254	553	345	695	467	74.7	68.8	68.6
MAX	120	148	574	339	461	2240	1180	2150	1990	108	121	225
MIN	57	59	57	72	158	104	158	176	106	51	50	44
(†)	0	-18	+55	+65	-2.0	+27	0	-9.0	-2.0	-21	-22	-27

† Change in contents, equivalent in cubic feet per second, in Yellow Creek Lake and Two Lick Creek Reservoir. Records of contents in Two Lick Creek Reservoir furnished by Midwest Generation.

e Estimated.

KISKIMINETAS RIVER BASIN

03042500 TWO LICK CREEK AT GRACETON, PA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	147	255	358	345	434	524	429	314	226	179	110	132
MAX	466	689	722	745	925	1230	832	695	1091	1161	310	475
(WY)	1977	1998	1973	1996	1986	1994	1984	2002	1972	1977	1977	1996
MIN	21.0	53.2	87.0	106	116	93.9	179	86.2	53.6	52.1	48.9	41.9
(WY)	1969	1992	1999	1983	1993	1969	1997	1986	1992	1993	1988	1995

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1969 - 2002	
ANNUAL TOTAL	64870		91007			
ANNUAL MEAN	178	† -5.2	249	† +.50	287	
HIGHEST ANNUAL MEAN					375	1994
LOWEST ANNUAL MEAN					178	1969
HIGHEST DAILY MEAN	1320	Apr 16	2240	Mar 27	21900	Jul 20 1977
LOWEST DAILY MEAN	42	Aug 7 **a**	44	Sep 30	12	Oct 1 1968
ANNUAL SEVEN-DAY MINIMUM	43	Jul 28	56	Aug 26	15	Oct 12 1968
MAXIMUM PEAK FLOW			3350	Jun 14	**b**32000	Jul 20 1977
MAXIMUM PEAK STAGE			7.42	Jun 14	**c**18.65	Jul 20 1977
INSTANTANEOUS LOW FLOW			41	Sep 30	12	Oct 1,2 1968
10 PERCENT EXCEEDS	457		645		599	
50 PERCENT EXCEEDS	94		118		176	
90 PERCENT EXCEEDS	54		59		58	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1968, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	101	139	256	367	444	604	472	346	130	100	90.6	61.1
MAX	628	305	635	811	1093	1097	786	634	271	644	377	199
(WY)	1955	1960	1955	1952	1956	1963	1957	1966	1960	1956	1956	1962
MIN	14.2	23.6	50.1	118	176	234	167	99.7	42.3	25.2	16.9	15.9
(WY)	1964	1954	1961	1956	1963	1957	1968	1955	1965	1962	1957	1952

SUMMARY STATISTICS	WATER YEARS 1952 - 1968	
ANNUAL MEAN	259	
HIGHEST ANNUAL MEAN	415	1956
LOWEST ANNUAL MEAN	185	1954
HIGHEST DAILY MEAN	6800	Oct 16 1954
LOWEST DAILY MEAN	8.7	Sep 14 1952
ANNUAL SEVEN-DAY MINIMUM	12	Sep 6 1957
MAXIMUM PEAK FLOW	**d**32000	Jul 20 1977
MAXIMUM PEAK STAGE	18.65	Jul 20 1977
INSTANTANEOUS LOW FLOW	11	Sep 30 1968
ANNUAL RUNOFF (CFSM)	1.52	
ANNUAL RUNOFF (INCHES)	20.67	
10 PERCENT EXCEEDS	640	
50 PERCENT EXCEEDS	118	
90 PERCENT EXCEEDS	21	

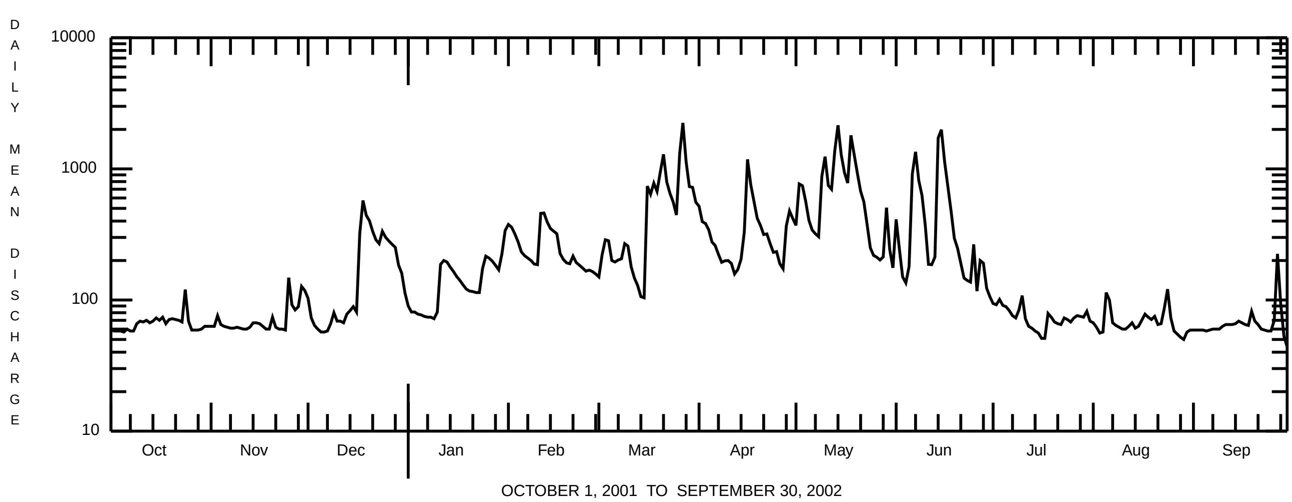
† Change in contents, equivalent in cubic feet per second, in Yellow Creek Lake and Two Lick Creek Reservoir. Records of contents in Two Lick Creek Reservoir furnished by Midwest Generation.

a Also Aug. 8, Sept. 16.

b From rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow and contracted-opening measurement at gage height 12.71 ft at site 1.6 mi upstream from gage, adjusted to gage site.

c Backwater, from highwater mark.

d From rating curve extended above 4,500 ft^3/s on basis of contracted-opening measurement of peak flow at site 1.6 mi upstream from gage, adjusted to gage site.



03045000 LOYALHANNA CREEK AT KINGSTON, PA

LOCATION.--Lat 40°17'33", long 79°20'27", Westmoreland County, Hydrologic Unit 05010008, on right bank 60 ft downstream from bridge on State Highway 217 at Kingston, 100 ft downstream from Miller Run, 1.9 mi upstream from Ninemile Run, and 3 mi southeast of Latrobe.

DRAINAGE AREA.--172 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only October to December 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1335: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,013.16 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Oct. 1, 1969, at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Latrobe Reservoir, capacity, 3,670 acre-ft, and diversion works at Kingston. Figures of daily discharge do not include diversion from reservoir and at Kingston intake to borough of Latrobe. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1918, 15.8 ft, present datum, Oct. 15, 1954. Flood of Mar. 17 or 18, 1936 reached a stage of about 15.5 ft, present datum, from information by local residents, discharge, about 21,000 ft^3/s, from rating curve extended above 8,700 ft^3/s.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 20	1900	5,080	8.29	May 18	0900	4,860	8.16
Mar. 26	2100	*7,420	*9.53				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	17	125	e69	287	147	552	534	285	83	18	8.2
2	16	17	87	e62	244	141	441	535	188	71	16	7.4
3	15	35	69	59	214	360	400	450	154	66	14	7.0
4	14	51	60	e57	206	286	342	366	138	58	13	6.7
5	14	32	54	e55	175	232	293	311	125	62	17	6.3
6	14	26	53	e55	160	217	262	267	530	49	51	6.1
7	14	22	53	e56	154	201	227	271	599	42	28	5.9
8	16	20	57	e64	141	182	210	294	351	38	18	5.7
9	14	20	113	e62	121	164	200	1640	258	44	15	5.6
10	14	19	82	e103	132	151	190	855	207	74	13	5.1
11	14	18	71	e352	678	126	161	586	174	45	11	5.0
12	14	17	65	e253	442	122	144	532	152	34	11	4.8
13	14	17	68	e208	339	117	147	1280	296	30	11	4.6
14	14	14	77	e204	263	112	169	1740	372	31	9.9	4.6
15	28	13	103	e199	230	106	442	1010	427	32	9.5	4.9
16	31	13	82	180	208	279	364	697	366	27	9.0	9.9
17	24	13	151	160	197	266	294	555	239	24	9.8	8.8
18	25	12	792	138	166	529	256	2960	179	27	9.8	7.4
19	22	12	432	123	148	460	230	1510	136	30	9.7	7.9
20	18	23	296	119	162	2440	236	950	106	27	31	18
21	17	35	218	113	326	1950	260	679	89	23	22	11
22	16	25	173	111	273	1010	338	537	78	20	13	8.6
23	15	20	154	112	227	679	280	439	70	24	12	7.7
24	39	17	175	421	202	530	242	364	63	37	48	6.9
25	42	157	138	601	189	436	237	341	59	21	52	6.7
26	29	144	117	420	192	2830	212	292	54	24	25	8.0
27	25	84	106	323	194	2470	189	234	190	117	17	144
28	22	94	e85	261	169	1080	762	196	441	72	14	148
29	20	125	e70	220	---	736	706	184	201	35	11	45
30	19	110	66	243	---	601	572	279	108	25	11	27
31	18	---	e67	331	---	494	---	214	---	22	9.1	---
TOTAL	614	1222	4259	5734	6439	19454	9358	21102	6635	1314	558.8	552.8
MEAN	19.8	40.7	137	185	230	628	312	681	221	42.4	18.0	18.4
MAX	42	157	792	601	678	2830	762	2960	599	117	52	148
MIN	14	12	53	55	121	106	144	184	54	20	9.0	4.6
(†)	+.02	+4.0	+8.0	+8.0	+20	+3.4	+4.0	+5.4	+10	+.80	+.40	-1.2

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	105	208	346	373	469	608	526	371	226	117	97.6	86.4
MAX	689	785	834	850	1210	1305	1007	779	997	344	667	635
(WY)	1955	1986	1973	1952	1986	1963	1940	1952	1972	1990	1979	1971
MIN	2.76	5.09	29.4	79.0	137	175	178	83.4	38.3	7.76	7.04	4.20
(WY)	1954	1954	1999	1940	1978	1969	1997	2001	1999	1966	1957	1957

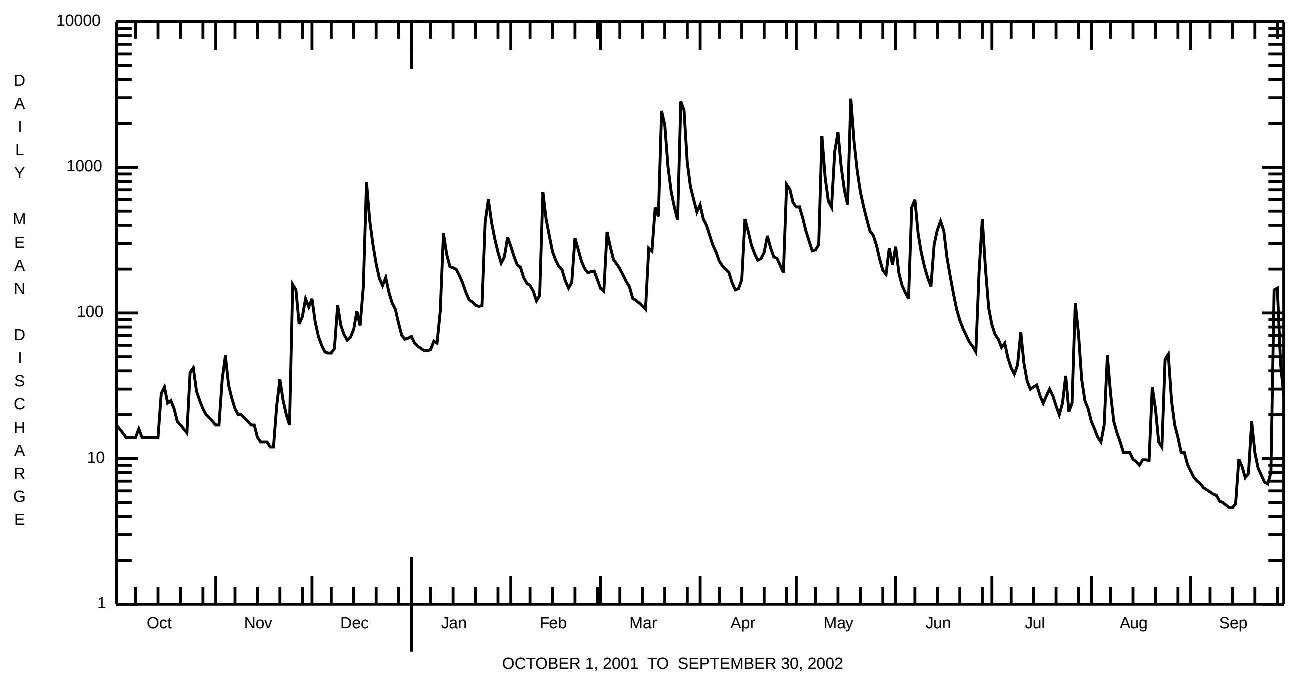
† Diversion from and change in contents in Latrobe Reservoir and diversion from Kingston intake, equivalent in cubic feet per second, furnished by Latrobe Municipal Authority.
e Estimated.

KISKIMINETAS RIVER BASIN

03045000 LOYALHANNA CREEK AT KINGSTON, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	69533		77242.6			
ANNUAL MEAN	191	† +7.6	212	† +5.5	293	
HIGHEST ANNUAL MEAN					447	1971
LOWEST ANNUAL MEAN					160	1954
HIGHEST DAILY MEAN	2020	Apr 16	2960	May 18	14200	Jun 23 1972
LOWEST DAILY MEAN	10	Sep 12**a**	4.6	Sep 13,14	0.20	Oct 23 1953
ANNUAL SEVEN-DAY MINIMUM	11	Sep 12	4.9	Sep 9	0.63	Oct 19 1953
MAXIMUM PEAK FLOW			7420	Mar 26	**b**29700	Oct 15 1954
MAXIMUM PEAK STAGE			9.53	Mar 26	**c**15.80	Oct 15 1954
INSTANTANEOUS LOW FLOW			4.6	Sep 12-15	0.10	Sep 4 1953
10 PERCENT EXCEEDS	518		508		691	
50 PERCENT EXCEEDS	82		106		155	
90 PERCENT EXCEEDS	15		11		20	

† Diversion from and change in contents in Latrobe Reservoir and diversion from Kingston intake, equivalent in cubic feet per second, furnished by Latrobe Municipal Authority.
a Also Sept. 13, 18, 19.
b From rating curve extended above 8,700 ft^3/s on basis of slope-area measurement at gage height 13.37 ft.
c Present datum, from floodmarks.



KISKIMINETAS RIVER BASIN

03048500 KISKIMINETAS RIVER AT VANDERGRIFT, PA

LOCATION.--Lat 40°36'16", long 79°33'08", Westmoreland County, Hydrologic Unit 05010008, on left bank 0.5 mi upstream from bridge on State Highway Alternate 66 at Vandergrift, and 2.2 mi upstream from Pine Run.

DRAINAGE AREA.--1,825 mi^2.

PERIOD OF RECORD.--August 1937 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1920 to September 1932 (gage heights and discharge measurements only) in reports of Pennsylvania Department of Forests and Waters.

GAGE.--Water-stage recorder. Datum of gage is 769.40 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Oct. 1, 1920 to Sept. 30, 1930, nonrecording gage, Oct. 1, 1930 to Sept. 30, 1932, water-stage recorder, at site 0.6 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1951 by Conemaugh River Lake, 23 mi upstream, since June 1942 by Loyalhanna Lake, 20 mi upstream, since July 1971 by Yellow Creek Lake (station 03042260), and by other reservoirs above station; the 11 most effective of which have a combined capacity of 105,700 acre-ft. Figures of daily discharge do not include diversion from Beaver Run Reservoir to plants and communities downstream, nor into the Monongahela River Basin. Evaporation from operation of Homer City and Conemaugh generating stations, which began during 1969 and 1970, respectively, can amount to as much as 45 ft^3/s. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 18, 1936 reached a stage of 41.64 ft, from floodmark at present site, discharge, about 185,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	518	210	780	e704	2970	2930	13000	4120	2000	1460	555	267
2	244	213	1380	e662	3150	2710	11200	3480	2130	1060	567	268
3	205	225	1400	e659	3410	2320	8400	3730	2420	1040	565	270
4	204	214	1040	e651	3160	2470	5640	7530	1910	984	518	275
5	202	213	879	e655	2350	2850	4930	7230	1530	697	310	270
6	206	508	556	e739	1520	2810	3940	7070	2220	692	301	261
7	511	562	550	1090	1510	2610	3780	6190	2950	688	513	255
8	530	558	554	950	1500	1990	2690	4660	3860	629	543	254
9	486	555	574	865	1480	1880	2160	4030	3660	591	543	254
10	226	541	622	668	1480	1780	2010	5320	5200	578	536	256
11	180	227	736	754	1940	1860	1910	8920	4800	551	524	257
12	181	177	608	1110	3210	1730	1910	9610	3440	597	528	255
13	190	172	622	2450	4240	1540	1720	8510	2450	604	533	255
14	185	178	625	2970	4160	1400	1660	6390	2520	582	307	218
15	191	188	629	2940	3880	879	2100	6410	4310	534	278	209
16	468	189	628	2570	3520	2130	2700	8940	5840	674	278	212
17	507	191	932	2020	2750	3030	4360	10400	6250	674	289	200
18	502	191	1690	1780	2350	4250	5410	11700	5420	563	277	200
19	500	193	3560	1310	1840	4350	6120	11300	4060	579	278	199
20	497	495	4210	1020	1830	5000	5310	11600	4270	557	289	197
21	503	524	3980	1030	1700	5680	3350	13700	2980	546	283	237
22	236	522	3530	1050	686	7660	2840	13200	1070	542	292	266
23	198	520	2770	1180	655	9190	3750	12700	1000	553	310	263
24	264	504	2420	1270	647	8970	3730	10400	928	480	347	263
25	225	287	1930	1780	811	8840	3510	5580	940	323	543	264
26	571	271	1780	3510	1660	9910	2870	3940	922	319	550	282
27	604	922	1310	4040	2190	6210	2630	3140	1260	357	568	706
28	593	1530	e1120	3550	2920	6280	2360	2870	1260	380	567	874
29	588	1550	e949	2830	---	11200	3270	2750	1680	495	563	1730
30	575	863	e861	2700	---	14800	4860	2650	1670	492	515	1660
31	252	---	e777	2440	---	14000	---	2390	---	334	297	---
TOTAL	11342	13493	44002	51947	63519	153259	124120	220460	84950	19155	13367	11377
MEAN	366	450	1419	1676	2269	4944	4137	7112	2832	618	431	379
MAX	604	1550	4210	4040	4240	14800	13000	13700	6250	1460	568	1730
MIN	180	172	550	651	647	879	1660	2390	922	319	277	197
CFSM	0.20	0.25	0.78	0.92	1.24	2.71	2.27	3.90	1.55	0.34	0.24	0.21
IN.	0.23	0.28	0.90	1.06	1.29	3.12	2.53	4.49	1.73	0.39	0.27	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

MEAN	1290	1951	3332	3668	4691	6413	5663	3727	2448	1496	1129	1007
MAX	6429	7570	9057	8454	10140	12400	12550	7245	8262	5469	4138	4629
(WY)	1955	1998	1973	1991	1956	1945	1993	1978	1972	1977	1958	1996
MIN	255	307	426	847	1724	1802	1727	1127	568	378	363	297
(WY)	1964	1954	1999	1956	1958	1969	1946	1941	1999	1965	1939	1939

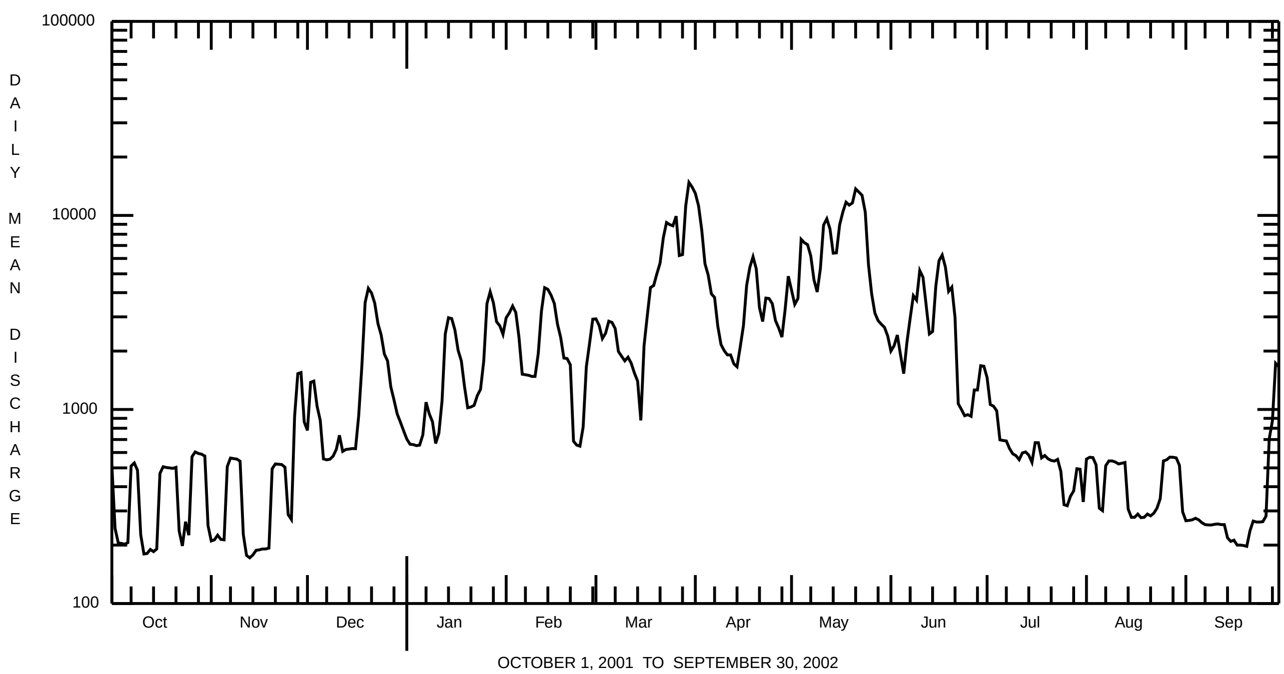
e Estimated.

KISKIMINETAS RIVER BASIN

03048500 KISKIMINETAS RIVER AT VANDERGRIFT, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	752985		810991			
ANNUAL MEAN	2063		2222		3059	
HIGHEST ANNUAL MEAN					4518	1951
LOWEST ANNUAL MEAN					1777	1954
HIGHEST DAILY MEAN	15500	Apr 18,19	14800	Mar 30	60400	Mar 31 1940
LOWEST DAILY MEAN	172	Nov 13	172	Nov 13	60	Oct 15 1952
ANNUAL SEVEN-DAY MINIMUM	184	Nov 12	184	Nov 12	145	Nov 1 1952
MAXIMUM PEAK FLOW			15000	Mar 29	**a**71900	Mar 31 1940
MAXIMUM PEAK STAGE			11.82	Mar 29	25.70	Mar 31 1940
INSTANTANEOUS LOW FLOW					60	Oct 15 1952
ANNUAL RUNOFF (CFSM)	1.13		1.22		1.68	
ANNUAL RUNOFF (INCHES)	15.35		16.53		22.77	
10 PERCENT EXCEEDS	6430		5600		7100	
50 PERCENT EXCEEDS	950		1020		1800	
90 PERCENT EXCEEDS	212		249		485	

a From rating curve extended above 61,000 ft^3/s.



BUFFALO CREEK BASIN

03049000 BUFFALO CREEK NEAR FREEPORT, PA

LOCATION.--Lat 40°42'57", long 79°41'59", Butler County, Hydrologic Unit 05010009, on right bank 0.6 mi upstream from Little Buffalo Creek, 1.6 mi downstream of bridge on SR 3023, and 3 mi north of Freeport.

DRAINAGE AREA.--137 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1305.

GAGE.--Water-stage recorder. Elevation of gage is 792 ft above National Geodetic Vertical Datum of 1929, by barometer. Prior to July 19, 1962, 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 2,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 17	2000	2,170	4.96	June 6	1830	2,130	4.91
Mar. 26	2130	*3,020	*5.91				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	24	299	e72	564	151	302	198	132	34	23	10
2	14	24	197	e70	411	153	255	376	92	30	18	9.6
3	12	60	144	70	324	361	239	319	73	e31	17	8.7
4	12	51	114	67	281	307	205	245	68	e28	22	8.1
5	11	35	93	69	234	277	175	207	75	e26	20	7.1
6	12	30	79	65	216	242	159	175	1040	e17	21	6.3
7	12	27	78	73	175	220	141	161	1150	e14	21	7.8
8	11	25	68	69	160	192	136	152	546	e15	14	6.3
9	12	27	83	64	137	171	143	182	345	17	11	5.9
10	11	27	70	76	133	162	164	152	247	31	8.8	4.9
11	11	23	61	111	318	134	126	e110	191	25	7.4	3.4
12	13	21	53	124	238	128	114	e147	156	18	9.9	4.2
13	17	19	69	110	214	122	249	e605	135	16	13	3.7
14	21	18	95	91	179	114	523	e931	219	16	12	3.1
15	23	18	103	83	172	103	1340	579	215	14	12	4.5
16	28	18	84	79	163	204	759	e473	203	14	8.9	11
17	23	18	949	76	155	169	511	e360	149	13	7.5	37
18	23	17	1610	72	124	165	373	e756	115	13	7.3	20
19	19	17	735	61	118	153	300	e658	91	12	17	15
20	16	39	451	84	123	304	252	e442	73	14	14	14
21	15	41	308	92	248	425	214	358	60	15	8.3	15
22	14	29	232	84	253	349	193	280	52	12	6.1	15
23	15	24	e182	77	225	296	161	228	46	13	12	15
24	411	23	e172	215	206	260	136	193	41	15	47	14
25	160	83	e132	324	195	266	124	172	38	13	62	13
26	76	147	e108	243	197	1220	111	146	35	13	35	15
27	51	110	e83	207	194	1600	93	120	82	15	21	69
28	44	139	e75	179	169	803	134	181	106	19	16	161
29	33	183	e72	160	---	546	303	157	71	21	13	39
30	28	251	e76	429	---	489	197	116	41	29	11	23
31	25	---	e72	658	---	353	---	107	---	27	11	---
TOTAL	1187	1568	6947	4254	6126	10439	8132	9286	5887	590	527.2	569.6
MEAN	38.3	52.3	224	137	219	337	271	300	196	19.0	17.0	19.0
MAX	411	251	1610	658	564	1600	1340	931	1150	34	62	161
MIN	11	17	53	61	118	103	93	107	35	12	6.1	3.1
CFSM	0.28	0.38	1.64	1.00	1.60	2.46	1.98	2.19	1.43	0.14	0.12	0.14
IN.	0.32	0.43	1.89	1.16	1.66	2.83	2.21	2.52	1.60	0.16	0.14	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	69.1	134	240	254	315	398	317	219	133	80.5	63.0	53.8
MAX	571	720	625	821	861	964	704	525	732	522	511	287
(WY)	1955	1986	1991	1952	1956	1945	1957	1952	1972	1990	1984	1975
MIN	3.63	5.61	7.15	29.3	70.7	49.2	84.9	44.7	20.8	7.75	4.92	5.82
(WY)	1961	1961	1961	1977	1993	1969	1946	1941	1991	1966	1957	1946

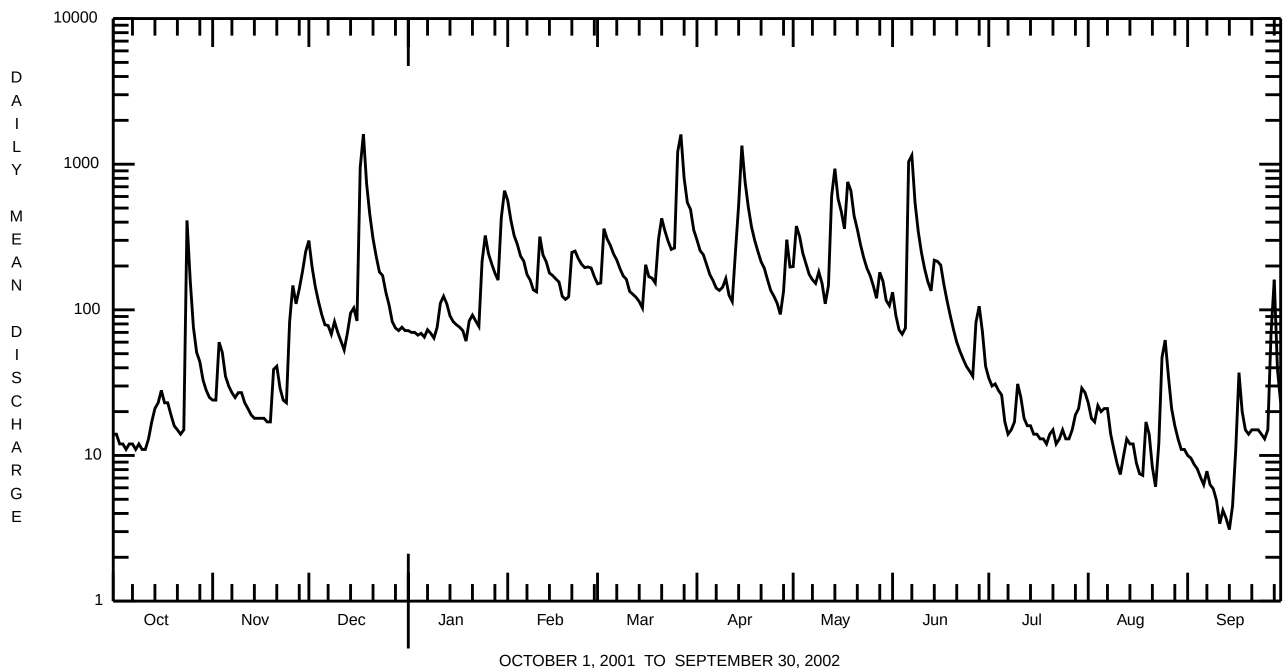
e Estimated.

BUFFALO CREEK BASIN

03049000 BUFFALO CREEK NEAR FREEPORT, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1941 - 2002	
ANNUAL TOTAL	51232.6		55512.8			
ANNUAL MEAN	140		152		189	
HIGHEST ANNUAL MEAN					312	1956
LOWEST ANNUAL MEAN					122	1999
HIGHEST DAILY MEAN	1650	Mar 22	1610	Dec 18	7710	Jun 23 1972
LOWEST DAILY MEAN	8.6	Sep 12	3.1	Sep 14	1.3	Oct 16 1960
ANNUAL SEVEN-DAY MINIMUM	9.7	Sep 7	4.2	Sep 9	1.7	Oct 13 1960
MAXIMUM PEAK FLOW			3020	Mar 26	**a**14000	Oct 15 1954
MAXIMUM PEAK STAGE			5.91	Mar 26	**b**13.60	Oct 15 1954
INSTANTANEOUS LOW FLOW			1.3	Sep 15	1.3	Oct 16 1960**c**
ANNUAL RUNOFF (CFSM)	1.02		1.11		1.38	
ANNUAL RUNOFF (INCHES)	13.91		15.07		18.74	
10 PERCENT EXCEEDS	377		347		452	
50 PERCENT EXCEEDS	63		82		92	
90 PERCENT EXCEEDS	13		12		12	

a From rating curve extended above 4,300 ft^3/s on basis of slope-area measurement of peak flow.
b From floodmarks.
c Also Sept. 15, 2002, minimum observed.



03049500 ALLEGHENY RIVER AT NATRONA, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°36'55", long 79°43'07", Allegheny County, Hydrologic Unit 05010009, on right bank 520 ft upstream from dam at lock 4 at Natrona, 5.8 mi downstream from Kiskiminetas River, at mile 24.3.

DRAINAGE AREA.--11,410 mi^2, approximately.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1435: 1939.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 736.36 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 14, 1940, nonrecording gage and Apr. 15, 1940 to Oct. 22, 1990, water-stage recorder at same site at datum 0.75 ft higher.

REMARKS.--Records good except those for estimated daily discharges and those below 2,000 ft^3/s, which are poor. Sharp rises and drops in discharge during periods of low flow may be caused by hydroelectric power production. Flow regulated since 1924 by Piney Reservoir, since May 1940 by Crooked Creek Lake, since December 1940 by Tionesta Lake, since June 1941 by Mahoning Creek Lake, since June 1942 by Loyalhanna Lake, since November 1949 by Chautauqua Lake (station 03013946), since November 1951 by Conemaugh River Lake, since June 1952 by East Branch Clarion River Lake (station 03027000), since October 1965 by Allegheny Reservoir (station 03012520), since July 1970 by Union City Reservoir (station 03021518), since January 1974 by Woodcock Creek Lake (station 03022550). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 32.06 ft, discharge, 365,000 ft^3/s, determined by U.S. Army Corps of Engineers.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3430	5820	18400	12000	41900	16900	51100	e30000	20800	10600	10500	2950
2	4230	5590	21200	11200	53700	15600	46200	31300	20900	8840	7660	3100
3	3120	5670	19100	9920	51300	15600	42200	35100	19600	7510	6480	3150
4	3050	5910	16500	10400	49600	19800	43600	36200	16100	6550	4650	4000
5	2860	6000	14800	9670	46300	23400	41100	35500	16000	4700	4190	3310
6	3100	6090	13000	7610	40100	20400	36700	32600	23500	5270	3510	3290
7	2740	5610	12300	7950	36400	19100	32800	30000	42800	4470	3240	3130
8	3240	5180	11100	7770	33800	17800	28800	24300	37700	5160	3820	3050
9	3120	4910	9850	7850	31700	17200	26700	22700	39600	5070	3090	3340
10	2990	5460	9440	8220	27800	16400	25800	25500	38200	5140	4150	3530
11	2890	4400	9130	8300	28700	15600	25700	29500	34300	5220	3460	4100
12	3710	4130	7330	9400	33400	15900	25600	30700	29100	4660	3760	3160
13	2920	4680	7510	10900	31500	15300	24000	64800	25100	4420	4540	3130
14	3040	4040	7530	12200	29100	15100	26200	88600	24100	3740	3980	3090
15	3210	3620	8890	e11200	26000	12800	47300	79100	33800	3430	3800	3450
16	3310	3710	10700	11700	23300	15100	55200	71400	30300	3600	3530	4740
17	3960	3660	16500	e10900	20300	16800	46600	66500	27000	3540	4530	5930
18	3870	3620	34100	10500	19100	19500	40700	71800	25000	3640	4370	5380
19	4030	3550	45500	8180	17700	18100	42000	76100	23100	3850	3710	4240
20	4480	3940	39500	7090	16900	18800	41800	68000	22400	4580	3270	4200
21	3870	4540	36100	7060	16500	22400	36100	65300	19300	3680	4000	4310
22	3390	5330	33700	8280	19200	25800	33800	59000	14200	3690	3390	3320
23	3690	5510	29000	8580	18400	27900	32800	53800	11600	4600	4260	3940
24	8710	5090	28500	9450	16600	25400	29000	46200	9370	4650	5420	3000
25	10000	5500	32600	15700	15600	24900	25800	39900	8830	4370	5240	3040
26	8610	9100	30700	23700	16400	30800	22000	33200	7670	4120	4720	3510
27	7760	12000	26300	25200	16100	44000	19300	28500	7610	4220	4970	5840
28	7140	12600	23100	23500	17500	44200	17600	27400	9530	6540	4270	6810
29	7850	13500	21200	21300	---	45000	22400	23500	9570	5480	3350	8010
30	8010	13900	17500	23100	---	48100	29600	19900	10800	8890	3320	6700
31	6860	---	14800	32300	---	55000	---	20700	---	13200	2970	---
TOTAL	143190	182660	625880	391130	794900	738700	1018500	1367100	657880	167430	136150	122750
MEAN	4619	6089	20190	12620	28390	23830	33950	44100	21930	5401	4392	4092
MAX	10000	13900	45500	32300	53700	55000	55200	88600	42800	13200	10500	8010
MIN	2740	3550	7330	7060	15600	12800	17600	19900	7610	3430	2970	2950
CFSM	0.40	0.53	1.77	1.11	2.49	2.09	2.98	3.87	1.92	0.47	0.38	0.36
IN.	0.47	0.60	2.04	1.28	2.59	2.41	3.32	4.46	2.14	0.55	0.44	0.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	9626	16250	23760	24340	27380	37990	35530	22920	14660	8901	6577	6770
MAX	34470	45220	48690	68600	53390	87030	83780	48400	45820	34630	23020	22690
(WY)	1991	1986	1978	1952	1976	1945	1940	1943	1989	1972	1956	1990
MIN	1227	2686	2316	4520	7167	10410	9000	6129	3759	1944	1786	1444
(WY)	1964	1954	1961	1961	1963	1969	1946	1941	1991	1966	1962	1939

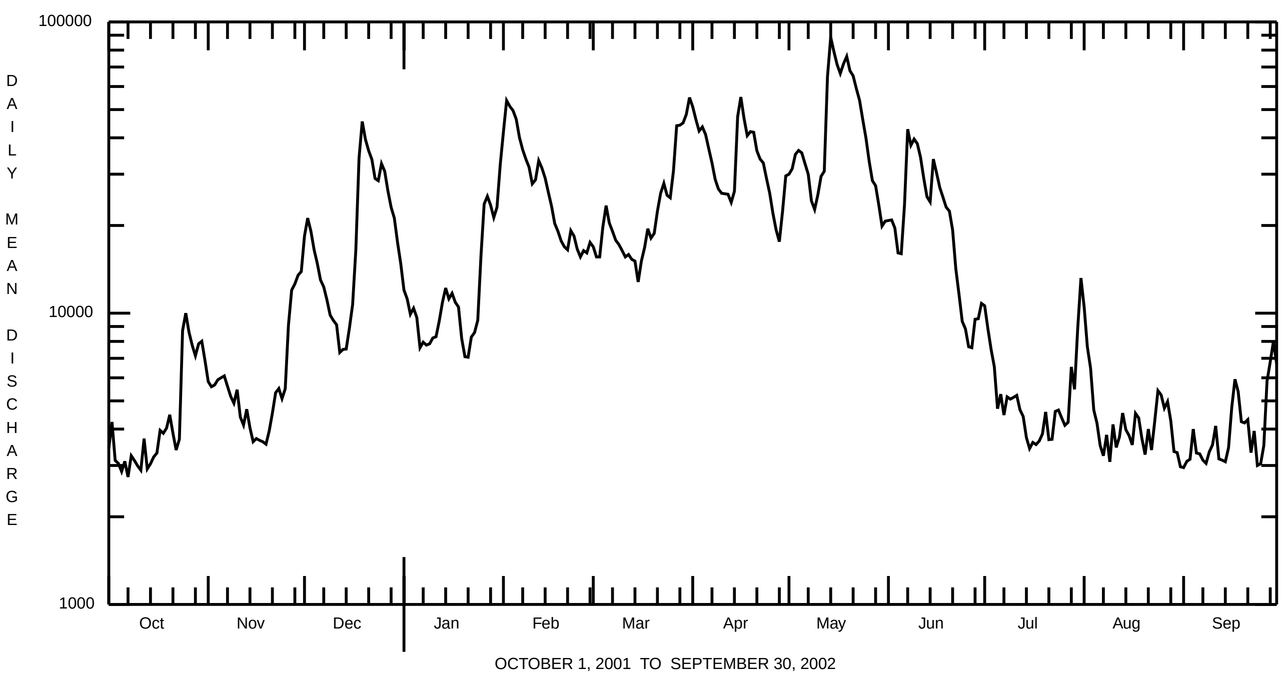
e Estimated.

OHIO RIVER MAIN STEM

03049500 ALLEGHENY RIVER AT NATRONA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	4734010		6346270			
ANNUAL MEAN	12970		17390		19510	
HIGHEST ANNUAL MEAN					27810	1956
LOWEST ANNUAL MEAN					12680	1999
HIGHEST DAILY MEAN	55200	Apr 17	88600	May 14	206000	Dec 31 1942
LOWEST DAILY MEAN	2140	Sep 10	2740	Oct 7	949	Oct 26 1963
ANNUAL SEVEN-DAY MINIMUM	2620	Sep 7	2990	Oct 5	1030	Oct 25 1963
MAXIMUM PEAK FLOW			90500	May 14	**a**238000	Dec 30 1942
MAXIMUM PEAK STAGE			17.68	May 14	**b**27.46	Dec 30 1942
INSTANTANEOUS LOW FLOW			2740	Oct 7	985	Oct 22 1963
ANNUAL RUNOFF (CFSM)	1.14		1.52		1.71	
ANNUAL RUNOFF (INCHES)	15.43		20.69		23.24	
10 PERCENT EXCEEDS	32800		40000		44800	
50 PERCENT EXCEEDS	7900		11100		13000	
90 PERCENT EXCEEDS	3270		3430		3170	

a From rating curve extended above 172,000 ft^3/s.
b Datum then in use.



03049500 ALLEGHENY RIVER AT NATRONA, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
10...	1130	9813	26440	40	7.0	7.5	191	10.0	100	28.2	7.2	36	<.2
JUN													
05...	1030	9813	17250	40	9.8	7.7	258	22.6	87	23.9	6.5	32	<.2
AUG													
01...	0945	9813	10280	40	7.5	7.6	284	25.0	110	29.7	8.8	42	<.2

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN- ABLE TO CHLOR- INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)
APR 2002													
10...	79.9	210	12	.100	.81	<.040	1.1	.04	.040	2.1	<10	<1.00	960
JUN													
05...	54.0	174	4	<.020	.39	<.040	.66	<.01	.020	2.6	<10	<1.00	500
AUG													
01...	71.8	198	6	<.020	.32	<.040	.55	.01	.020	2.4	<10	1.48	190

Date	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
10...	1.5	170	<50	20	<5
JUN					
05...	<1.0	220	<50	<10	<5
AUG					
01...	<1.0	100	<50	10	<5

PINE CREEK BASIN

03049800 LITTLE PINE CREEK NEAR ETNA, PA

LOCATION.--Lat 40°31'13", long 79°56'18", Allegheny County, Hydrologic Unit 05010009, on right bank at downstream side of highway bridge on Saxonburg Boulevard, 0.7 mi upstream from mouth, and 1.5 mi northeast of Etna.

DRAINAGE AREA.--5.78 mi^2.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 774.26 ft above National Geodetic Vertical Datum of 1929. Prior ot Oct. 1, 1986 at datum 3.00 ft higher. Sept. 30, 1987 datum lowered 1.00 ft.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 26	1130	*164	*3.63	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.48	0.78	4.0	e1.1	14	2.7	7.0	10	3.5	0.95	e1.1	0.22
2	0.47	1.6	2.4	e1.2	8.1	2.9	5.9	19	2.5	1.1	e1.1	0.22
3	0.44	2.0	1.7	e1.2	5.7	6.1	5.7	12	2.1	0.94	e0.80	0.22
4	0.40	0.79	1.5	1.4	4.8	4.4	4.5	8.4	2.2	1.5	e3.4	0.23
5	0.38	0.60	1.2	1.3	4.6	4.7	4.0	6.6	4.9	1.1	e1.7	0.43
6	0.62	0.51	1.3	1.4	3.9	3.3	3.7	5.6	40	0.72	e2.8	0.18
7	0.54	0.46	1.2	1.6	3.3	3.0	3.4	5.9	18	0.67	e8.0	0.13
8	0.48	0.47	1.6	1.3	2.9	2.9	3.3	5.6	7.6	0.67	e1.7	0.11
9	0.47	0.62	1.6	1.7	2.6	2.8	3.6	7.3	4.9	0.82	e0.54	0.10
10	0.48	0.46	1.3	2.7	3.7	2.7	2.9	4.9	4.1	0.71	e1.1	0.09
11	0.48	0.42	1.1	4.0	8.1	2.5	2.7	3.8	3.6	0.60	e1.7	0.08
12	1.3	0.40	1.0	3.4	5.3	2.5	2.6	5.2	2.8	0.54	e0.60	0.06
13	0.91	0.40	2.1	2.9	4.2	2.4	8.4	18	2.5	0.52	e0.50	0.05
14	1.3	0.41	1.8	2.4	3.9	2.3	10	17	4.3	0.53	e0.55	0.05
15	1.2	0.41	1.5	2.3	3.5	2.2	14	11	3.1	0.53	0.61	1.1
16	1.3	0.39	1.3	2.0	3.2	8.5	9.3	7.5	2.4	0.46	0.49	0.47
17	2.0	0.37	62	2.0	3.0	7.4	7.1	7.7	2.1	0.45	18	0.29
18	1.4	0.37	36	1.6	2.6	8.4	5.7	40	2.1	0.55	1.4	0.22
19	1.4	0.56	13	1.6	2.5	6.3	4.9	17	2.0	2.7	0.62	0.88
20	1.4	1.3	6.5	1.7	3.4	29	4.6	12	1.6	0.83	0.46	0.35
21	1.4	0.56	4.0	1.9	5.8	21	4.2	8.5	1.3	0.61	0.40	0.31
22	1.4	0.47	3.0	1.8	4.5	14	5.4	6.6	1.3	0.56	0.36	0.29
23	3.9	0.44	e2.6	2.3	3.9	10	3.8	5.4	1.3	0.46	1.8	0.19
24	9.0	0.45	e2.3	8.0	3.6	7.2	3.4	4.8	1.2	0.43	2.1	0.15
25	2.1	4.3	e2.1	5.7	3.4	7.9	3.4	4.2	1.2	0.90	0.98	1.0
26	1.4	1.5	e1.9	4.0	3.7	73	2.8	3.6	1.1	3.4	0.59	0.30
27	1.4	5.2	e2.0	3.3	3.1	43	2.7	3.1	1.2	3.6	0.50	0.16
28	1.2	4.9	e1.7	3.0	3.0	21	22	4.7	1.3	1.2	0.38	1.1
29	0.93	6.6	e1.5	2.7	---	14	16	3.2	1.0	0.94	0.40	1.0
30	0.86	12	e1.3	15	---	12	13	2.7	0.95	e7.4	0.35	0.77
31	0.77	---	e1.2	19	---	8.4	---	4.2	---	e4.5	0.26	---
TOTAL	41.81	49.74	167.7	105.5	124.3	338.5	190.0	275.5	128.15	40.89	55.29	10.75
MEAN	1.35	1.66	5.41	3.40	4.44	10.9	6.33	8.89	4.27	1.32	1.78	0.36
MAX	9.0	12	62	19	14	73	22	40	40	7.4	18	1.1
MIN	0.38	0.37	1.0	1.1	2.5	2.2	2.6	2.7	0.95	0.43	0.26	0.05
CFSM	0.23	0.29	0.94	0.59	0.77	1.89	1.10	1.54	0.74	0.23	0.31	0.06
IN.	0.27	0.32	1.08	0.68	0.80	2.18	1.22	1.77	0.82	0.26	0.36	0.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.91	4.73	7.64	7.32	9.47	13.1	10.4	8.13	4.14	3.15	1.61	1.50
MAX	8.55	25.4	26.4	22.4	21.0	32.4	23.8	26.1	17.8	26.4	6.92	10.4
(WY)	1980	1986	1987	1965	1966	1994	1987	1968	1972	1990	1980	1990
MIN	0.010	0.51	0.69	0.82	2.17	1.30	2.33	1.74	0.42	0.016	0.10	0.040
(WY)	1964	1964	1964	1977	1980	1969	1971	1965	1965	1965	1965	1963

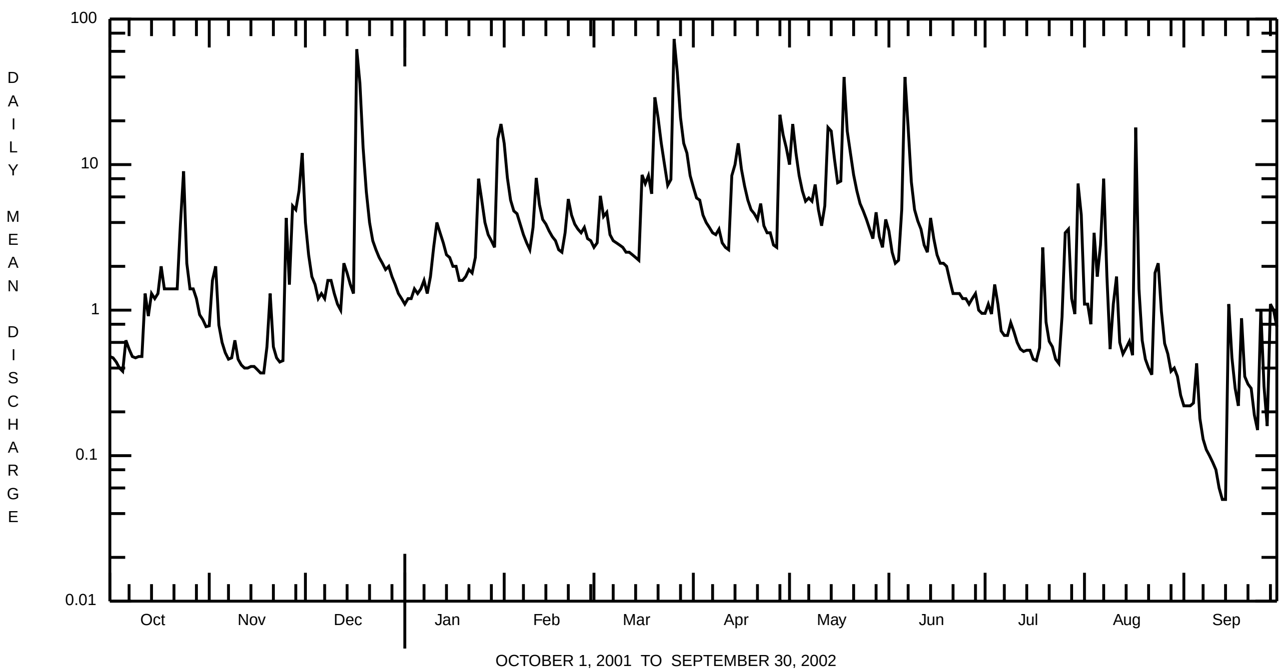
e Estimated.

PINE CREEK BASIN

03049800 LITTLE PINE CREEK NEAR ETNA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1963 - 2002	
ANNUAL TOTAL	1439.76		1528.13			
ANNUAL MEAN	3.94		4.19		6.07	
HIGHEST ANNUAL MEAN					10.8	1987
LOWEST ANNUAL MEAN					2.68	1969
HIGHEST DAILY MEAN	65	Jan 31	73	Mar 26	525	May 30 1986
LOWEST DAILY MEAN	0.17	Aug 7	0.05	Sep 13,14	0.00	Jul 13 1963
ANNUAL SEVEN-DAY MINIMUM	0.30	Jul 18	0.08	Sep 8	0.00	Aug 26 1963
MAXIMUM PEAK FLOW			164	Mar 26	**a**7190	May 30 1986
MAXIMUM PEAK STAGE			3.63	Mar 26	**b**10.28	May 30 1986
INSTANTANEOUS LOW FLOW			0.04	Sep 15	0.00	Aug 30 1991
ANNUAL RUNOFF (CFSM)	0.68		0.72		1.05	
ANNUAL RUNOFF (INCHES)	9.27		9.84		14.28	
10 PERCENT EXCEEDS	9.8		8.5		15	
50 PERCENT EXCEEDS	1.4		2.1		2.6	
90 PERCENT EXCEEDS	0.37		0.41		0.31	

a From rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow at site 0.6 mi downstream.
b Gage height 10.41 ft, from outside floodmark, datum then in use.



MONONGAHELA RIVER BASIN

03072000 DUNKARD CREEK AT SHANNOPIN, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 39°45'33", long 79°58'15", Greene County, Hydrologic Unit 05020005, on left bank 1,300 ft upstream from highway bridge at mine buildings at Shannopin, 1.2 mi north of Dunkard, 3.5 mi upstream from mouth, and 4 mi southwest of Greensboro.

DRAINAGE AREA.--229 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year. Prior to December 1940 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1505: 1955.

GAGE.--Water-stage recorder. Datum of gage is 806.25 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mine pumpage above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers 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)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 20	2300	5,070	9.10	May 18	1700	4,160	8.54
Mar. 27	0400	*6,720	*9.96				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	9.0	102	e27	469	112	556	856	100	61	38	6.0
2	15	7.4	112	e25	351	108	441	957	97	51	28	5.3
3	13	15	71	24	255	349	379	1120	78	48	23	4.8
4	12	13	53	22	208	560	327	833	137	43	20	4.6
5	9.7	8.9	42	e19	161	363	270	638	248	51	18	4.0
6	8.7	7.2	35	e14	119	281	237	496	321	34	18	3.4
7	7.9	6.8	30	e16	118	222	202	442	1450	31	16	3.3
8	7.2	7.5	32	e23	107	182	180	727	602	28	15	3.7
9	7.3	8.4	62	28	93	153	166	755	291	25	13	3.6
10	9.5	6.9	97	30	85	139	176	847	184	39	11	3.0
11	9.8	5.8	76	170	178	121	148	627	136	85	10	2.5
12	9.8	5.3	60	550	340	106	129	459	111	61	9.6	2.1
13	7.6	5.1	52	360	267	105	124	572	102	40	8.5	1.8
14	8.1	5.2	51	220	194	101	131	1140	326	33	7.9	1.8
15	10	5.7	59	150	155	94	325	976	249	34	7.6	2.2
16	14	6.8	70	130	139	642	662	646	341	33	11	2.6
17	6.2	9.6	70	100	126	988	461	463	284	24	10	3.0
18	2.7	13	494	88	113	1860	343	2440	161	21	9.2	9.4
19	1.6	12	516	79	94	1310	273	1940	116	28	12	19
20	1.7	18	240	72	89	2500	230	1030	91	35	41	13
21	2.3	18	134	69	144	2830	233	670	77	55	38	9.6
22	2.5	19	90	68	277	1130	1030	491	66	35	24	8.0
23	6.2	18	72	66	213	688	988	363	59	31	18	13
24	10	20	78	194	170	513	600	287	53	554	22	10
25	5.2	33	e51	863	143	396	438	280	48	232	24	7.8
26	5.4	34	e44	446	134	968	340	224	43	109	16	7.8
27	8.8	51	e38	281	148	4170	266	177	42	107	14	41
28	9.1	85	e30	199	131	1840	971	146	141	102	13	184
29	9.4	47	e28	157	---	1180	2050	126	148	76	11	96
30	9.3	49	e27	145	---	857	1170	112	85	55	8.5	52
31	9.4	---	e29	441	---	628	---	100	---	41	6.9	---
TOTAL	256.4	550.6	2945	5076	5021	25496	13846	20940	6187	2202	522.2	528.3
MEAN	8.27	18.4	95.0	164	179	822	462	675	206	71.0	16.8	17.6
MAX	17	85	516	863	469	4170	2050	2440	1450	554	41	184
MIN	1.6	5.1	27	14	85	94	124	100	42	21	6.9	1.8
CFSM	0.04	0.08	0.41	0.72	0.78	3.59	2.02	2.95	0.90	0.31	0.07	0.08
IN.	0.04	0.09	0.48	0.82	0.82	4.14	2.25	3.40	1.01	0.36	0.08	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY)

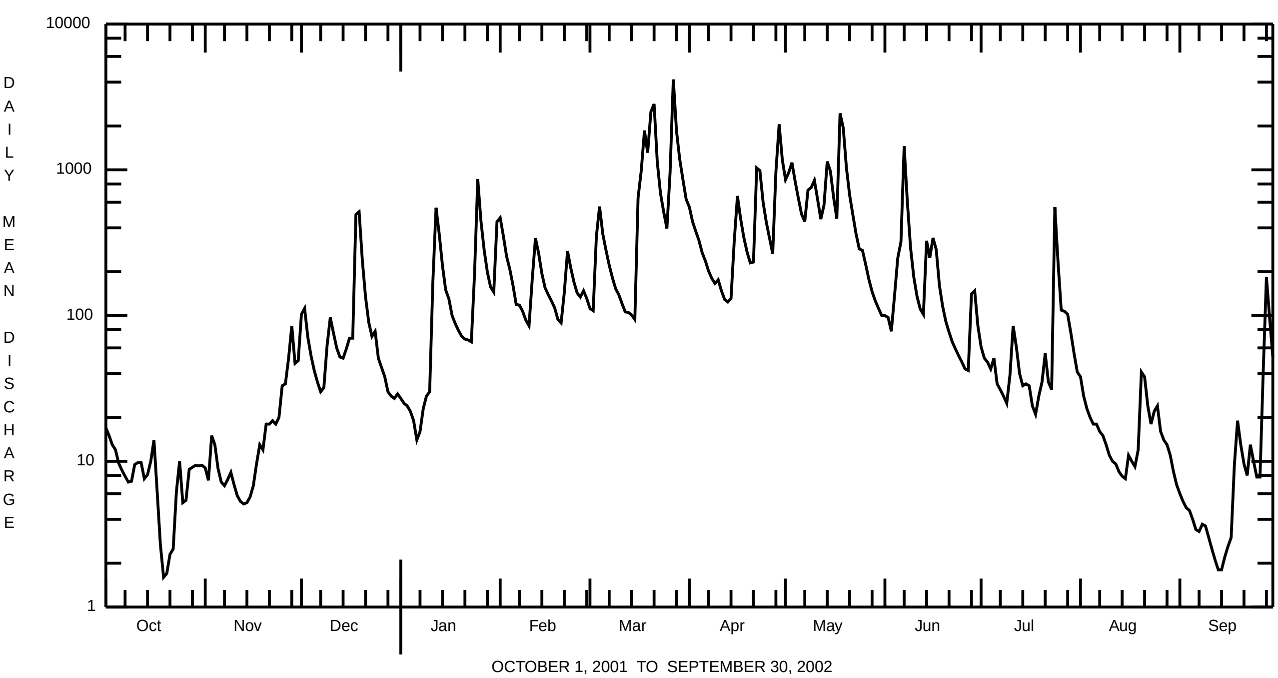
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.1	156	323	419	505	625	467	327	178	89.2	76.5	70.8
MAX	381	1149	1071	1050	1100	1475	1033	903	877	461	890	573
(WY)	1955	1986	1991	1994	1956	1994	1948	1968	1981	1996	1980	1975
MIN	1.73	2.44	7.46	26.5	63.5	112	80.9	57.4	10.2	4.62	2.45	2.38
(WY)	1952	1954	1954	1967	1954	1987	1971	1986	1966	1962	1962	1999

e Estimated.

03072000 DUNKARD CREEK AT SHANNOPIN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1941 - 2002	
ANNUAL TOTAL	67906.9		83570.5			
ANNUAL MEAN	186		229		275	
HIGHEST ANNUAL MEAN					462	1994
LOWEST ANNUAL MEAN					104	1954
HIGHEST DAILY MEAN	2500	Jan 31	4170	Mar 27	11200	Mar 5 1963
LOWEST DAILY MEAN	1.6	Oct 19	1.6	Oct 19	0.50	Aug 27 1944
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 17	2.3	Sep 10	0.73	Aug 25 1944
MAXIMUM PEAK FLOW			6720	Mar 27	**a**17600	Aug 18 1980
MAXIMUM PEAK STAGE			9.96	Mar 27	14.27	Aug 18 1980
INSTANTANEOUS LOW FLOW			1.6	Sep 14	0.40	Aug 28 1944
ANNUAL RUNOFF (CFSM)	0.81		1.000		1.20	
ANNUAL RUNOFF (INCHES)	11.03		13.58		16.31	
10 PERCENT EXCEEDS	498		632		678	
50 PERCENT EXCEEDS	76		72		96	
90 PERCENT EXCEEDS	9.7		7.2		7.9	

a From rating curve extended above 16,000 ft^3/s.



MONONGAHELA RIVER BASIN

03072000 DUNKARD CREEK AT SHANNOPIN, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
APR 2002													
15...	0900	9813	181	40	6.7	7.4	560	551	15.7	200	54.5	14.3	88
JUN													
17...	0915	9813	302	40	9.2	7.4	610	548	18.0	160	43.9	11.8	88
AUG													
08...	0900	9813	15	40	7.5	7.0	884	898	20.2	280	78.2	20.5	70

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
APR 2002													
15...	149	434	14	<.020	<.04	<.040	.20	.01	.020	2.4	<10	1550	<1.0
JUN													
17...	144	398	20	<.020	.39	<.040	.65	.07	.040	3.0	<10	1370	<1.0
AUG													
08...	352	662	10	<.020	.06	<.040	.34	<.01	<.010	2.5	<10	610	<1.0

Date	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002			
15...	180	<50	<10
JUN			
17...	110	<50	20
AUG			
08...	360	<50	20

MONONGAHELA RIVER BASIN

03072655 MONONGAHELA RIVER NEAR MASONTOWN, PA

LOCATION.--Lat 39°49'30", long 79°55'23", Greene County, Hydrologic Unit 05020005, on left bank, 84 ft upstream from Lock and Dam at Grays Landing, 0.9 mi upstream from Masontown, 1.2 mi upstream from Whitley Creek, 5.3 mi downstream from Dunkard Creek, 7.6 mi downstream from Cheat River, at mile 81.9.

DRAINAGE AREA.--4,440 mi^2.

PERIOD OF RECORD.--October 1938 to current year. Published as "*at Greensboro*" (Station 03072500) October 1938 to September 1995. Prior to January 1939 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1113: 1939 (M), 1941 (M). WSP 1435: 1939. WSP 1907: 1936 (M), 1955 (M).

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 769.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 9, 1990, at datum 1.45 ft lower.

REMARKS.--No estimated daily discharges. Records good above 5,000 ft^3/s, fair below, except those below 1,000 ft^3/s, which are poor. Flow regulated since 1926 by Lake Lynn 11 mi upstream, since May 1938 by Tygart Lake (station 03055500) 69 mi upstream, and since April 1989 by Stonewall Jackson Lake 120.6 mi upstream, combined capacity, 432,000 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888 reached a stage of about 36 ft, from high-water profile by U.S. Army Corps of Engineers. Flood of Mar. 18, 1936, reached a stage of 28.4 ft, discharge, 130,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1790	1220	2460	1940	8640	4350	22300	27700	2260	1540	3830	894
2	2100	1320	2120	1970	6300	2230	15800	21300	5190	2050	3590	974
3	1810	2230	3300	3430	6040	3510	16300	22600	3100	2060	1960	1280
4	1950	1010	3140	1610	8670	8590	16200	21800	3690	998	936	953
5	1680	2920	5310	1510	7490	5310	16200	18400	6230	1790	2730	771
6	1460	2110	2360	1340	4220	5480	9400	12700	9470	1120	1740	974
7	1650	1540	1490	1810	4030	3780	6440	12300	14300	1130	1280	1060
8	1550	1360	1360	1840	3690	5340	7640	15800	10600	1980	1530	897
9	1830	1200	3250	1670	2600	2820	5870	19800	6650	1240	978	890
10	1560	1240	5610	2640	2390	2660	5690	19300	6700	4330	1340	943
11	1420	1220	4290	12800	7280	5820	7250	23100	3930	9620	925	937
12	1670	1020	4390	17600	6830	3430	3970	19300	2980	6860	1420	1080
13	1480	924	3790	9520	6550	4630	4780	15000	3890	5300	1430	908
14	1290	1190	2440	9170	7320	2220	3980	17000	12300	5490	1220	781
15	1910	1110	2530	11000	8100	1980	14600	16100	8360	7930	1120	1200
16	1940	1060	3110	9050	4690	4820	24500	18800	6430	6990	1670	926
17	2130	1080	6620	8090	3950	7960	19700	16100	7280	5020	764	1400
18	1700	986	11400	8210	5650	11600	20700	22200	5580	4840	824	1270
19	1390	816	10600	7150	3840	13400	19200	26600	4300	3370	1800	1130
20	1620	976	9590	3700	3670	38800	12800	21200	3500	5200	1080	1100
21	1640	942	5650	5300	4730	53200	13000	15700	3540	4140	1910	1020
22	1470	1030	6410	4710	7760	26400	38500	12500	2070	4170	1110	714
23	1460	1090	5110	5290	3840	26300	34600	11900	1330	2180	1260	963
24	2060	1130	6390	15000	2550	22000	29000	6420	1490	4290	1370	1190
25	1390	1510	5530	35400	3770	21600	26600	7090	1490	3450	1700	1190
26	1350	2500	5140	26400	6530	22600	22300	5400	1970	3520	1670	2160
27	1410	2670	5530	21900	7740	31600	16600	4330	1590	8550	2420	2820
28	1150	2960	3770	18900	7010	17400	25800	5630	2250	12600	1300	6740
29	1140	3170	3830	17300	---	12300	46500	4180	1840	8730	974	5620
30	1540	2660	4100	13100	---	9380	28700	4150	1610	7330	1050	3450
31	1670	---	2810	12600	---	9410	---	4040	---	3660	1190	---
TOTAL	50210	46194	143430	291950	155880	390920	534920	468440	145920	141478	48121	46235
MEAN	1620	1540	4627	9418	5567	12610	17830	15110	4864	4564	1552	1541
MAX	2130	3170	11400	35400	8670	53200	46500	27700	14300	12600	3830	6740
MIN	1140	816	1360	1340	2390	1980	3970	4040	1330	998	764	714
(†)	-700	-384	-210	+41	+55	+1420	+1280	-1020	-40	+49	-434	-462

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3362	6481	10850	11830	14170	15980	11940	9111	5809	4081	3811	2731
MAX	15260	29580	26520	24690	30880	37830	23180	29230	22100	13240	15120	12470
(WY)	1980	1986	1973	1952	1994	1963	1940	1996	1981	1958	1956	1971
MIN	439	369	1648	1840	3781	6192	3781	1836	926	676	592	482
(WY)	1954	1954	1966	1977	1941	1987	1946	1982	1965	1966	1965	1946

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

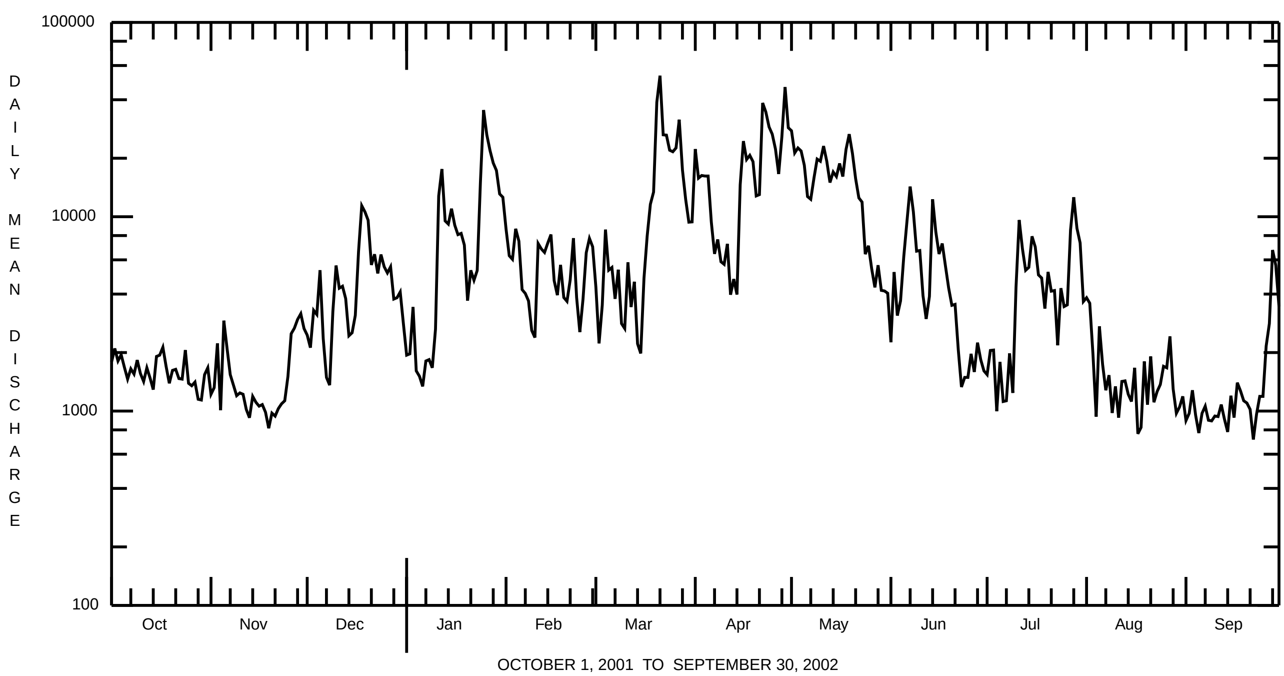
03072655 MONONGAHELA RIVER NEAR MASONTOWN, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	2485024		2463698			
ANNUAL MEAN	6808	† -9	6750	† -414	8310	
HIGHEST ANNUAL MEAN					13010	1994
LOWEST ANNUAL MEAN					4995	1966
HIGHEST DAILY MEAN	42600	Jan 31	53200	Mar 21	154000	Nov 5 1985
LOWEST DAILY MEAN	816	Nov 19	714	Sep 22	177	Sep 11 1988
ANNUAL SEVEN-DAY MINIMUM	984	Nov 16	919	Sep 8	267	Nov 4 1953
MAXIMUM PEAK FLOW			83400	Mar 20	**a**220000	Nov 5 1985
MAXIMUM PEAK STAGE			20.65	Mar 20	**b**39.39	Nov 5 1985
10 PERCENT EXCEEDS	17400		18800		20800	
50 PERCENT EXCEEDS	4000		3700		4720	
90 PERCENT EXCEEDS	1320		1090		1040	

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

a From rating curve extended above 131,000 ft^3/s.

b From outside floodmarks, datum then in use.



MONONGAHELA RIVER BASIN

03074500 REDSTONE CREEK AT WALTERSBURG, PA

LOCATION.--Lat 39°58'48", long 79°45'52", Fayette County, Hydrologic Unit 05020005, on right bank, 15 ft upstream from highway bridge at Waltersburg, 400 ft upstream from Bolden Run, and 0.9 mi upstream from Allen Run.

DRAINAGE AREA.--73.7 mi^2.

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for October 1942, published in WSP 1305.

REVISED RECORDS.--WSP 1435: 1943-45 (M), 1946, 1947 (M), 1948 (P), 1949-50 (M), 1951 (P), 1952 (M).

GAGE.--Water-stage recorder. Datum of gage is 882.28 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 15, 1973, nonrecording gage 15 ft downstream and Nov. 15, 1973 to Sept. 30, 1997, at present site at datum 1.00 ft. higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mine pumpage into stream above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
Mar. 20	1600	1,310	5.73	Apr. 28	1130	1,010	4.98
Mar. 26	1830	*2,470	*8.05	May 18	0600	2,140	7.39

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	21	44	e30	107	52	181	208	92	35	22	14
2	22	22	38	e27	89	51	142	334	59	33	21	14
3	21	45	35	e27	79	79	134	221	53	33	19	14
4	20	27	33	e26	76	69	116	163	54	30	18	14
5	20	24	31	e24	67	64	104	135	65	48	28	14
6	36	23	31	e24	62	64	96	117	229	31	40	14
7	25	22	34	e23	61	62	87	165	143	28	20	14
8	21	22	40	e25	58	59	80	159	81	25	18	14
9	21	22	50	e27	53	58	80	395	63	32	18	15
10	20	22	41	e39	60	56	73	233	56	38	17	15
11	20	21	38	213	123	52	64	171	49	25	17	15
12	21	21	35	141	87	52	61	175	51	23	18	15
13	23	21	38	102	78	53	62	317	190	22	19	15
14	29	20	42	80	70	52	67	413	121	27	17	15
15	41	20	42	73	67	50	112	267	174	23	16	16
16	27	20	36	63	65	118	79	202	174	22	16	20
17	29	20	53	59	63	255	89	174	122	20	16	17
18	25	20	199	55	57	434	106	1160	95	34	15	17
19	24	21	107	52	54	254	91	437	75	50	20	28
20	24	29	81	51	54	791	91	295	63	40	19	16
21	23	24	65	50	84	506	130	227	57	26	16	15
22	23	22	57	49	64	287	182	182	51	22	15	15
23	23	21	55	47	60	213	139	150	47	125	16	19
24	32	21	63	135	57	169	116	131	44	65	57	15
25	27	69	e41	147	56	142	106	119	41	33	28	15
26	24	47	e37	112	66	924	88	100	38	43	18	21
27	23	82	e33	92	61	589	76	89	41	142	17	104
28	24	61	e30	80	55	313	491	78	78	57	16	49
29	23	48	e29	72	---	237	369	72	54	35	17	22
30	22	48	e27	101	---	189	238	65	40	28	15	18
31	21	---	e29	139	---	169	---	63	---	26	15	---
TOTAL	757	906	1514	2185	1933	6463	3850	7017	2500	1221	624	609
MEAN	24.4	30.2	48.8	70.5	69.0	208	128	226	83.3	39.4	20.1	20.3
MAX	41	82	199	213	123	924	491	1160	229	142	57	104
MIN	20	20	27	23	53	50	61	63	38	20	15	14
CFSM	0.33	0.41	0.66	0.96	0.94	2.83	1.74	3.07	1.13	0.53	0.27	0.28
IN.	0.38	0.46	0.76	1.10	0.98	3.26	1.94	3.54	1.26	0.62	0.31	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2002, BY WATER YEAR (WY)

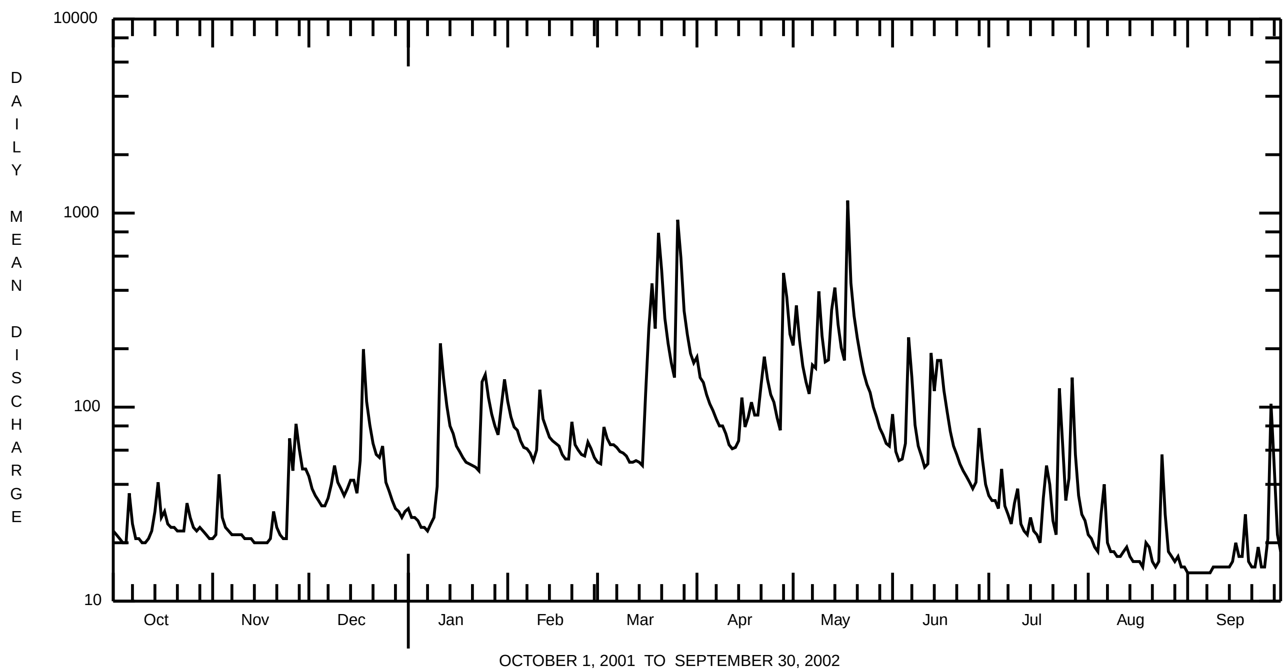
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.7	68.3	111	131	158	192	161	125	80.1	55.0	48.7	47.1
MAX	225	459	308	284	376	470	310	274	413	187	172	161
(WY)	1980	1986	1973	1994	1986	1994	1948	1996	1972	1990	1980	1987
MIN	11.2	19.0	14.2	23.1	33.0	45.5	49.2	27.3	15.4	9.59	12.4	8.92
(WY)	1964	1967	1961	1967	1954	1969	1971	1963	1962	1962	1962	1991

e Estimated.

03074500 REDSTONE CREEK AT WALTERSBURG, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1943 - 2002	
ANNUAL TOTAL	23833		29579			
ANNUAL MEAN	65.3		81.0		102	
HIGHEST ANNUAL MEAN					166	1994
LOWEST ANNUAL MEAN					44.2	1954
HIGHEST DAILY MEAN	529	Jan 30	1160	May 18	6620	Jun 23 1972
LOWEST DAILY MEAN	18	Aug 7**a**	14	Sep 1-8	4.8	Sep 22 1991
ANNUAL SEVEN-DAY MINIMUM	19	Aug 16	14	Sep 1	5.3	Sep 28 1991
MAXIMUM PEAK FLOW			2470	Mar 26	**b**8660	Jun 23 1972
MAXIMUM PEAK STAGE			8.05	Mar 26	**c**14.83	Jun 23 1972
INSTANTANEOUS LOW FLOW			12	Sep 4,8	4.2	Aug 2 1962
ANNUAL RUNOFF (CFSM)	0.89		1.10		1.38	
ANNUAL RUNOFF (INCHES)	12.03		14.93		18.78	
10 PERCENT EXCEEDS	132		174		209	
50 PERCENT EXCEEDS	40		49		61	
90 PERCENT EXCEEDS	20		17		21	

a Also Aug. 8, 9, 22, Sept. 18, 19, 23.
b From rating curve extended above 8,200 ft^3/s.
c From peak-stage indicator.



MONONGAHELA RIVER BASIN

03075070 MONONGAHELA RIVER AT ELIZABETH, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°15'44", long 79°54'05", Allegheny County, Hydrologic Unit 05020005, on right bank 30 ft landward from upstream end of guide wall, 1,050 ft upstream from dam at lock 3 at Elizabeth, 0.4 mi downstream from Lobbs Creek, at mile 24.0.

DRAINAGE AREA.--5,340 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year. Published as "*at Charleroi*" (station 03075000) October 1933 to September 1976. Monthly discharge prior to 1940, adjusted for reservoir contents, published in WSP 1305. Records for March 1886 to March 1905 (high-water periods, only), published in WSP 169, are unreliable and should not be used (peak discharge of July 11, 1888, as published in WSP 183, is still considered reliable).

REVISED RECORDS.--WSP 758: Drainage area. WSP 783: 1888 (M). WSP 1435: 1934, 1936. See also "*PERIOD OF RECORD*."

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 717.90 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). From Oct. 1, 1967 to Sept. 30, 1976, at site 17.5 mi upstream at datum 15.70 ft higher. Prior to Oct. 1, 1967, water-stage recorder at site 17.9 mi upstream at datum 17.43 ft higher. Oct. 1, 1965 to Sept. 30, 1967, auxiliary staff gage, Apr. 14, 1966 to Sept. 30, 1967, auxiliary water-stage recorder and Oct. 1, 1967 to Nov. 4, 1990, water-stage recorder at present site at datum 7.60 ft higher.

REMARKS.--No estimated daily discharges. Records good, except those below 2,500 ft^3/s, which are poor. Flow regulated by locks above station, since 1938 by Tygart Lake (station 03055500), since May 1926 by Lake Lynn, and since April 1989 by Stonewall Jackson Lake, combined capacity, 432,000 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	1880	2530	2630	9130	5420	21000	30400	3280	1730	3640	766
2	1740	988	2170	1790	7370	2290	17200	22200	4620	1660	3420	1110
3	2100	2090	2880	2150	6940	3010	15800	24500	4170	1970	2740	1190
4	1860	1750	2810	2990	6700	8000	17800	23500	3660	1940	1460	674
5	1700	1200	5950	1650	8210	5500	15400	19300	5580	1140	1590	818
6	1660	3350	1770	1310	5170	6350	11800	13900	9620	1840	3040	1250
7	1670	883	1690	1320	3480	4150	8110	13100	17000	1050	1330	676
8	1060	1700	1630	1710	4600	5060	7140	15600	11900	1350	1190	1470
9	1670	1660	2710	1690	2700	3150	6270	25000	7950	2380	1910	1030
10	2130	1050	4440	1780	2760	2620	5280	19600	6660	1900	1030	629
11	1060	503	4150	8980	4960	4420	7240	24100	5510	9620	683	954
12	1500	838	4100	19100	8270	4800	5300	21300	3500	6820	1110	991
13	1720	1200	4070	9920	6180	3850	3160	17800	3270	4870	2020	774
14	1460	969	3540	9740	7230	2980	5950	19300	12500	4840	1460	943
15	1240	760	2480	10200	7540	2090	9620	17800	10100	6830	779	921
16	2040	1220	2420	8830	5990	4510	27900	19300	6850	7500	1390	1010
17	1920	762	4710	7450	3640	9540	19300	16900	7510	4750	1320	1250
18	1760	1440	10100	8260	5680	14500	20400	30600	6230	4470	614	1350
19	1940	1030	12300	7660	3830	15600	19400	33900	5700	3920	1260	1660
20	1700	365	9660	4440	3820	29900	15100	24700	2780	4620	1770	773
21	1510	716	6810	3890	3750	71400	12400	18300	3420	4430	1040	814
22	1220	511	5300	4710	6590	36000	30900	14000	3290	4630	1430	1370
23	2030	1030	5780	4610	5500	28000	44400	12800	1450	3070	932	728
24	925	972	4810	11200	2840	24300	31100	8010	1550	4000	1980	903
25	2580	1640	5920	35400	2760	21300	27100	6030	1270	3170	1610	855
26	847	1780	5100	29800	6310	24300	22800	6710	1930	3680	2000	1250
27	1130	2390	5610	22200	7940	47200	18600	5240	2280	6410	1470	4200
28	1760	2810	3670	19100	6540	22200	21500	5930	2900	12500	2560	5010
29	1300	3410	3090	17100	---	15500	54300	4180	1500	9000	822	6130
30	913	2840	3520	13400	---	11500	35400	4500	2250	7160	787	3330
31	1430	---	3310	13600	---	9550	---	3950	---	4570	1430	---
TOTAL	49085	43737	139030	288610	156430	448990	557670	522450	160230	137820	49817	44829
MEAN	1583	1458	4485	9310	5587	14480	18590	16850	5341	4446	1607	1494
MAX	2580	3410	12300	35400	9130	71400	54300	33900	17000	12500	3640	6130
MIN	847	365	1630	1310	2700	2090	3160	3950	1270	1050	614	629
(†)	-700	-384	-210	+41	+55	+1420	+1280	-1020	-40	+49	-434	-462

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3559	6604	11470	13490	15440	18030	13510	10240	6337	4381	4118	2933
MAX	16770	33750	29760	37480	33170	41930	26500	33610	24840	13570	17890	13300
(WY)	1980	1986	1973	1937	1994	1963	1940	1996	1981	1958	1956	1945
MIN	475	400	1991	2249	3210	6636	4478	2128	1009	915	812	581
(WY)	1954	1954	1966	1977	1934	1987	1971	1982	1936	1966	1957	1936

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

MONONGAHELA RIVER BASIN

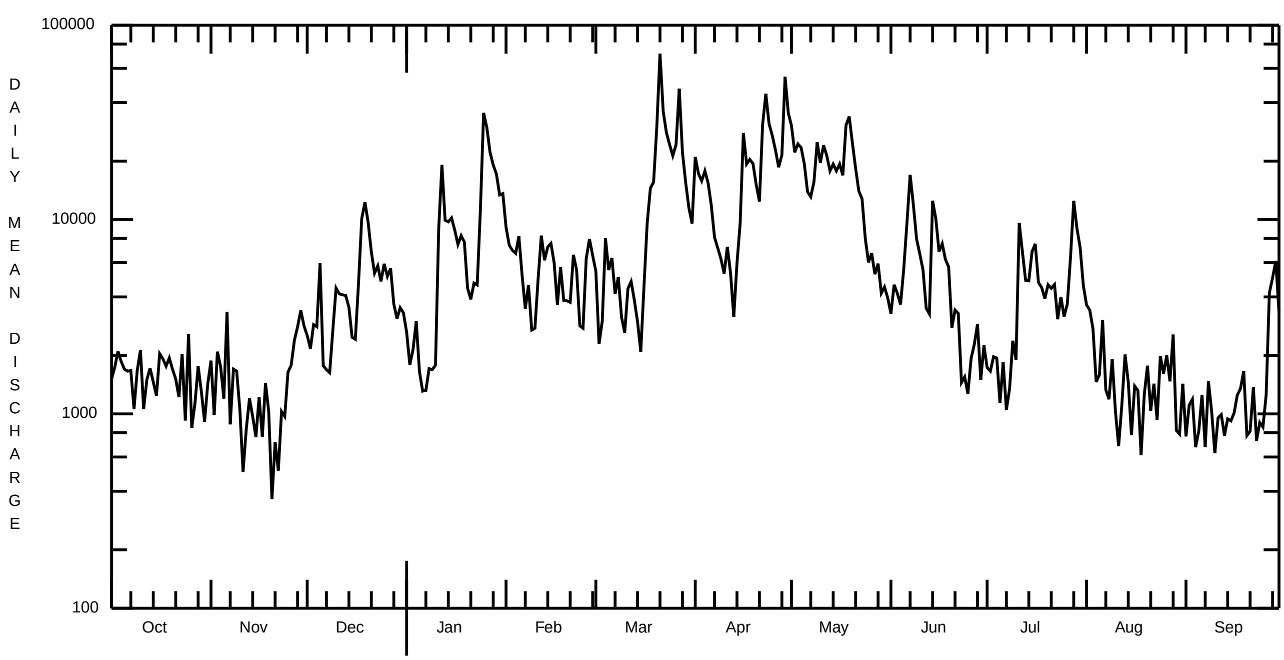
03075070 MONONGAHELA RIVER AT ELIZABETH, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1934 - 2002	
ANNUAL TOTAL	2580053		2598698			
ANNUAL MEAN	7069	† -9	7120	† -414	9149	
HIGHEST ANNUAL MEAN					14400	1996
LOWEST ANNUAL MEAN					5282	1954
HIGHEST DAILY MEAN	51500	Jan 31	71400	Mar 21	158000	Jan 20 1996
LOWEST DAILY MEAN	365	Nov 20	365	Nov 20	206	Jun 29 1936
ANNUAL SEVEN-DAY MINIMUM	836	Nov 17	836	Nov 17	301	Oct 1 1936
MAXIMUM PEAK FLOW			81800	Mar 21	**a**178000	Nov 6 1985
MAXIMUM PEAK STAGE			20.18	Mar 21	**b**30.39	Jan 20 1996
10 PERCENT EXCEEDS	17900		19300		22200	
50 PERCENT EXCEEDS	3890		3660		5120	
90 PERCENT EXCEEDS	1360		1020		1140	

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

a From rating curve extended above 110,000 ft^3/s.

b Gage height 23.60 ft, datum then in use.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

03075070 MONONGAHELA RIVER AT ELIZABETH, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
11...	1400	9813	4350	40	8.5	7.4	255	12.9	88	25.0	6.1	32	<.2
JUN													
06...	1315	9813	7220	40	9.4	7.2	330	20.4	110	29.9	8.7	34	<.2
AUG													
07...	0930	9813	1450	40	6.7	7.6	239	25.0	72	20.5	5.2	26	<.2

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN- ABLE TO CHLOR- INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)
APR 2002													
11...	66.0	174	24	.050	.69	<.040	.90	.03	.020	1.8	<10	<1.00	640
JUN													
06...	96.1	218	18	.050	.48	<.040	.71	.02	.020	1.7	<10	<1.00	680
AUG													
07...	63.0	140	8	.080	.55	<.040	.70	.01	.010	2.9	<10	<1.00	200

Date	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
11...	1.7	130	<50	20	<5
JUN					
06...	<1.0	200	<50	20	<5
AUG					
07...	<1.0	80	<50	<10	<5

MONONGAHELA RIVER BASIN

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'3l", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi upstream from Bear Creek.

DRAINAGE AREA.--295 mi^2.

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. Annual maximum, water years 1905, 1923-3l, 1940, published in WSP 1675. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi downstream at datum 16.24 ft and 16.29 ft lower, respectively.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. Low and medium flow regulated since July 1925 by Deep Creek Reservoir, 12 mi upstream from station (see station 03076000). U.S. Army Corps of Engineers satellite data collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,690 ft^3/s, July 27, gage height, 5.56 ft; minimum discharge, 51 ft^3/s, Sept. 17-19.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	78	126	e165	715	269	1770	1670	583	181	294	53
2	64	68	113	e200	517	299	1210	2650	324	143	286	120
3	57	72	102	149	425	402	921	2740	397	128	223	93
4	53	74	95	e160	446	524	729	1920	388	122	160	59
5	144	77	92	131	472	452	575	1190	342	225	221	54
6	154	125	142	e140	389	384	510	724	428	188	164	124
7	54	63	147	133	326	343	446	977	580	95	164	58
8	155	67	197	125	360	316	383	1800	335	150	113	56
9	77	197	420	174	305	294	448	1720	260	140	169	125
10	122	123	413	186	307	281	473	1200	345	328	132	54
11	53	81	282	922	691	252	401	953	307	429	101	55
12	127	60	263	959	666	236	341	1470	282	250	160	54
13	58	130	205	648	651	236	323	1080	251	116	146	127
14	64	79	224	503	603	246	400	1280	460	260	139	55
15	153	99	286	440	465	226	1580	1290	343	430	145	60
16	97	60	252	418	385	276	1650	1120	283	189	136	132
17	90	85	262	351	371	342	1140	856	358	186	104	54
18	83	53	801	324	351	477	920	3450	205	262	86	118
19	77	53	1010	288	390	647	767	2980	197	188	140	122
20	69	61	655	281	335	2610	1020	1660	164	219	89	136
21	61	61	541	294	485	3480	1030	1140	217	208	125	56
22	59	60	387	263	506	1920	3360	840	123	241	118	58
23	61	59	337	255	408	1320	2270	885	157	161	134	138
24	144	64	367	1610	365	1170	1410	679	255	145	81	76
25	127	101	e310	2610	370	850	1610	651	236	95	175	63
26	64	182	e280	1370	360	942	906	522	147	182	182	62
27	90	243	e200	917	387	1520	769	459	143	1360	77	292
28	93	233	e190	691	340	1520	3230	402	177	1330	64	417
29	87	163	e180	572	---	1060	3440	634	123	648	59	224
30	153	141	e170	536	---	796	2120	549	157	434	129	204
31	99	---	e170	628	---	662	---	611	---	254	130	---
TOTAL	2943	3012	9219	16443	12391	24352	36152	40102	8567	9287	4446	3299
MEAN	94.9	100	297	530	443	786	1205	1294	286	300	143	110
MAX	155	243	1010	2610	715	3480	3440	3450	583	1360	294	417
MIN	53	53	92	125	305	226	323	402	123	95	59	53
(†)	-63.4	-28.6	-0	102	12.6	101	106	-17.9	-50.4	-47.2	-66.7	-47.1
MEAN‡	31.5	71.4	297	632	456	887	1311	1276	236	253	76.3	62.9
CFSM‡	0.11	0.24	1.01	2.14	1.55	3.01	4.44	4.33	0.80	0.86	0.26	0.21
IN‡	0.13	0.27	1.16	2.47	1.61	3.47	4.95	4.99	0.89	0.99	0.30	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1905, 1941 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	275	489	832	867	992	1210	942	694	479	370	295	235
MAX	1103	2190	2147	1886	2277	2644	2231	1888	1823	1335	1319	1059
(WY)	1955	1986	1903	1996	1903	1963	1901	1996	1903	1990	1956	1996
MIN	50.2	55.7	145	140	337	285	327	176	84.2	64.6	51.0	49.8
(WY)	1992	1905	1944	1981	1954	1990	1995	1982	1969	1991	1991	1991

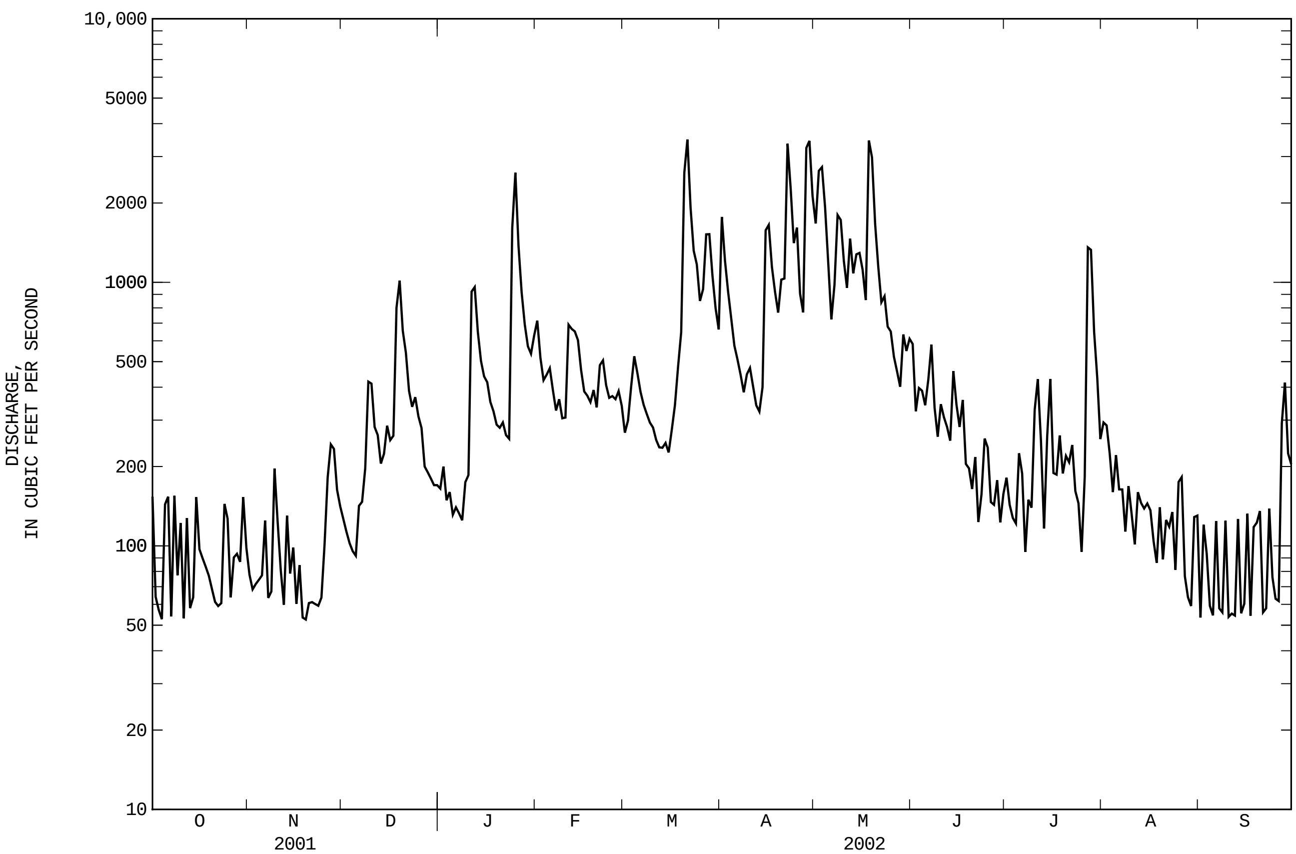
† Change in contents in Deep Creek Reservoir, equivalent in cubic feet per second, provided by Pennsylvania Electric Company.
‡ Adjusted for change in reservoir contents.
e Estimated.

MONONGAHELA RIVER BASIN

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1898 - 1905 1941 - 2002	
ANNUAL TOTAL	181667		170213			
ANNUAL MEAN	498		466		636	
ANNUAL MEAN‡	498		466		640	
HIGHEST ANNUAL MEAN					1052	1903
LOWEST ANNUAL MEAN					375	1954
HIGHEST DAILY MEAN	3550	Feb 15	3480	Mar 21	11200	Jan 19 1996
LOWEST DAILY MEAN	53	(**a**)	53	(**b**)	8.2	Sep 11 1966
ANNUAL SEVEN-DAY MINIMUM	59	Nov 18	59	Nov 18	29	Sep 21 1972
MAXIMUM PEAK FLOW			5270	Apr 28	(**c**)16100	Jan 19 1996
MAXIMUM PEAK STAGE			5.83	Apr 28	(**d**)14.20	Mar 29 1924
INSTANTANEOUS LOW FLOW			36	Oct 5	UNKNOWN	
ANNUAL RUNOFF (CFSM)	1.69		1.58		2.16	
ANNUAL RUNOFF (CFSM)‡	1.69		1.58		2.17	
ANNUAL RUNOFF (INCHES)	22.91		21.46		29.31	
ANNUAL RUNOFF (INCHES)‡	22.94		21.47		29.46	
10 PERCENT EXCEEDS	1030		1180		1410	
50 PERCENT EXCEEDS	290		252		403	
90 PERCENT EXCEEDS	77		64		104	

‡ Adjusted for change in reservoir contents since October 1940.
a Oct. 4, 11, Nov. 18, 19.
b Oct. 4, 11, Nov. 18, 19, Sept. 1.
c From rating curve extended above 5,800 ft^3/s on basis of slope-area measurement of peak flow.
d From floodmarks.



DAILY MEAN DISCHARGE - 2002 WATER YEAR

MONONGAHELA RIVER BASIN

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi upstream from Slaubaugh Run, 0.7 mi downstream from U.S. Highway 40, and 1.0 mi northeast of Grantsville.

DRAINAGE AREA.--62.5 mi^2.

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges (ice effect), which are fair. U.S. Army Corps of Engineers satellite data collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	9.8	30	e37	138	70	462	422	185	13	11	6.3
2	6.5	8.9	23	e35	113	76	257	478	120	12	28	6.1
3	6.5	20	19	e33	97	178	200	336	96	11	13	5.8
4	6.2	23	18	e32	93	134	164	237	93	10	13	5.6
5	6.1	14	16	e31	87	98	140	193	80	9.6	14	5.1
6	6.0	11	15	e32	112	94	126	157	121	9.1	43	4.8
7	6.0	10	18	e33	77	81	112	247	145	8.5	17	4.6
8	6.1	9.4	35	e35	78	73	100	314	86	7.9	11	4.4
9	6.1	9.7	111	72	77	69	99	388	68	7.7	8.8	4.1
10	6.3	9.2	59	163	82	63	118	244	58	50	7.9	3.9
11	6.3	8.8	45	395	250	54	90	179	49	35	7.3	3.7
12	6.4	8.4	39	185	152	54	79	194	44	14	6.6	3.6
13	6.8	8.3	38	123	130	54	80	310	123	10	6.5	3.5
14	12	8.0	e50	103	108	52	93	353	153	36	6.3	3.6
15	37	8.1	e64	86	99	47	263	248	95	31	5.9	4.1
16	18	8.2	e50	76	93	92	161	185	82	16	5.8	4.7
17	18	8.1	69	70	90	87	121	174	62	11	5.7	4.9
18	15	8.1	285	66	81	263	103	928	51	9.6	8.1	4.6
19	11	8.3	168	84	77	251	94	463	43	13	19	5.2
20	9.8	9.2	122	97	89	992	92	313	37	11	9.2	4.7
21	9.4	11	91	81	121	679	145	245	32	9.4	7.3	4.9
22	8.6	9.6	77	71	98	368	526	197	27	8.0	6.3	5.5
23	8.2	8.9	68	63	83	279	274	160	24	7.1	9.6	11
24	8.1	8.5	78	546	75	239	194	139	21	6.8	39	7.9
25	8.2	38	67	438	71	203	168	144	19	7.3	20	5.8
26	7.9	54	e62	223	70	271	142	116	17	22	11	12
27	8.3	50	e56	164	69	400	121	99	16	156	8.1	113
28	9.3	66	e52	138	61	244	807	268	20	59	7.1	82
29	9.6	37	e47	123	---	196	512	418	19	24	7.0	27
30	9.7	30	e43	128	---	167	316	188	15	15	7.1	14
31	10	---	e40	184	---	223	---	139	---	11	6.6	---
TOTAL	300.3	521.5	1955	3947	2771	6151	6159	8476	2001	651.0	376.2	376.4
MEAN	9.69	17.4	63.1	127	99.0	198	205	273	66.7	21.0	12.1	12.5
MAX	37	66	285	546	250	992	807	928	185	156	43	113
MIN	6.0	8.0	15	31	61	47	79	99	15	6.8	5.7	3.5
CFSM	0.15	0.28	1.01	2.04	1.58	3.17	3.28	4.37	1.07	0.34	0.19	0.20
IN.	0.18	0.31	1.16	2.35	1.65	3.66	3.67	5.04	1.19	0.39	0.22	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44.7	85.9	144	160	197	261	211	137	74.9	48.6	38.2	33.5
MAX	288	449	341	376	414	582	468	312	200	175	202	290
(WY)	1955	1986	1973	1996	1956	1963	1970	1996	1951	1996	1956	1996
MIN	1.65	3.38	13.8	26.4	60.3	57.0	77.1	40.1	10.0	4.30	2.87	1.58
(WY)	1954	1954	1999	1977	1964	1990	1968	1976	1965	1965	1991	1991

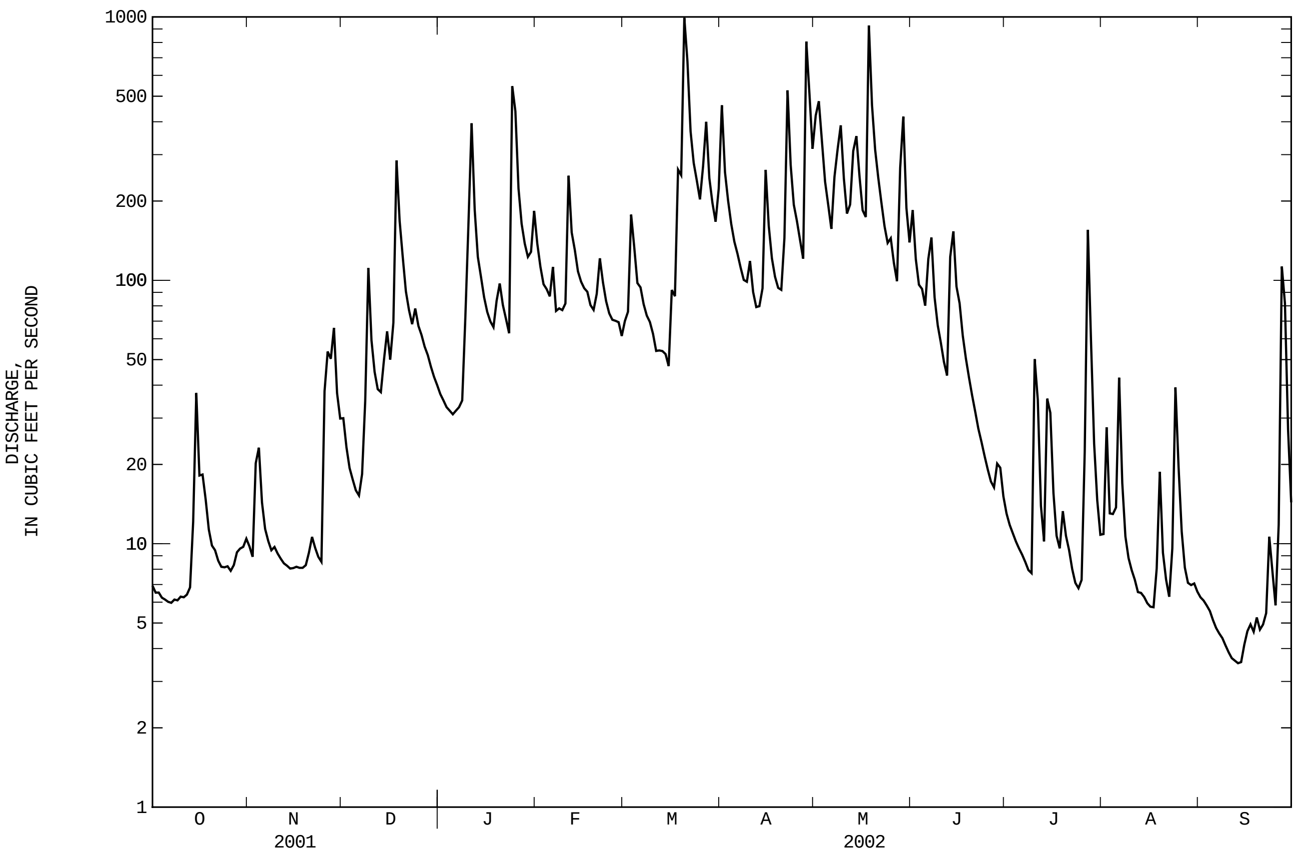
e Estimated.

MONONGAHELA RIVER BASIN

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1947 - 2002	
ANNUAL TOTAL	37299.9		33685.4			
ANNUAL MEAN	102		92.3		119	
HIGHEST ANNUAL MEAN					203	1996
LOWEST ANNUAL MEAN					64.2	1954
HIGHEST DAILY MEAN	1340	Jun 7	992	Mar 20	(**e**)3600	Jan 19 1996
LOWEST DAILY MEAN	6.0	Oct 6	3.5	Sep 13	(**a**)0.00	Aug 31 1962
ANNUAL SEVEN-DAY MINIMUM	6.1	Oct 4	3.8	Sep 9	0.89	Aug 27 1962
MAXIMUM PEAK FLOW			1400	Mar 20	(**b**)8400	Oct 15 1954
MAXIMUM PEAK STAGE			3.89	Mar 20	10.70	Oct 15 1954
INSTANTANEOUS LOW FLOW			3.4	(**c**)	(**a**)0.00	(**d**)
ANNUAL RUNOFF (CFSM)	1.64		1.48		1.91	
ANNUAL RUNOFF (INCHES)	22.20		20.05		25.94	
10 PERCENT EXCEEDS	264		244		279	
50 PERCENT EXCEEDS	45		50		66	
90 PERCENT EXCEEDS	8.3		6.4		8.1	

a Result of regulation from unknown source.
b From rating curve extended above 1,600 ft^3/s on basis of contracted-opening measurement at gage height of 8.13 ft.
c Sept. 13, 14.
d Aug. 31, Sept. 1, 1962.
e Estimated.



DAILY MEAN DISCHARGE - 2002 WATER YEAR

03079000 CASSELMAN RIVER AT MARKLETON, PA

LOCATION.--Lat 39°51'35", long 79°13'40", Somerset County, Hydrologic Unit 05020006, on right bank at downstream side of highway bridge at Markleton, 2 mi southwest of Casselman, and 7 mi downstream from Coxes Creek.

DRAINAGE AREA.--382 mi^2.

PERIOD OF RECORD.--August to September 1913 (gage heights and discharge measurements only), October 1920 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1913 to September 1920 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1923-31. WSP 1435: 1932-34, 1935 (M), 1936-38. WSP 1625: 1924 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,655.29 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 19, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight diversion above station to city of Frostburg, MD, in the Potomac River Basin. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 8,000 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 20	1900	*8,750	*6.92	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	44	134	e167	605	256	1600	1750	520	131	62	47
2	72	44	117	e164	490	284	1160	2180	457	118	76	43
3	72	65	99	e164	415	569	942	1960	368	111	70	43
4	69	80	87	e167	392	639	804	1280	339	108	66	41
5	65	77	78	e169	321	428	682	1020	330	93	66	38
6	63	65	73	165	329	453	607	832	507	83	289	34
7	62	54	74	e161	345	409	543	1080	1020	76	161	32
8	59	50	86	e164	329	369	494	1760	552	72	101	30
9	60	47	254	e166	304	336	460	3530	389	74	71	28
10	61	45	265	e210	301	318	512	2780	321	111	57	26
11	75	44	175	1030	1050	273	437	1450	282	100	50	26
12	65	42	140	894	799	268	378	1190	264	118	46	24
13	60	40	130	e515	634	263	363	1670	520	90	43	23
14	58	40	155	e385	470	261	392	2100	930	94	41	23
15	121	41	320	e371	437	245	928	1550	679	119	39	25
16	134	40	258	346	416	351	812	1140	571	132	40	34
17	106	42	209	307	401	458	592	949	463	100	43	34
18	88	41	858	281	353	1350	512	3630	365	84	47	30
19	77	41	817	224	327	1670	463	2580	309	82	43	30
20	67	44	487	215	375	5270	428	1620	268	93	86	53
21	59	48	378	242	505	4770	503	1230	234	92	78	43
22	53	49	291	233	470	2190	1460	1000	205	73	52	39
23	49	47	261	247	389	1470	1210	823	185	63	51	54
24	50	45	260	1450	344	1200	865	697	171	62	293	63
25	47	179	242	1990	324	999	721	642	161	67	252	55
26	43	288	177	1010	313	1270	633	565	153	64	139	64
27	41	210	158	726	322	2380	532	482	145	215	93	394
28	44	242	166	585	274	1350	3060	511	213	274	69	539
29	45	203	e164	503	---	1080	3620	1140	186	156	59	241
30	45	147	162	476	---	909	1810	724	155	101	56	154
31	45	---	165	706	---	793	---	529	---	76	51	---
TOTAL	2032	2444	7240	14433	12034	32881	27523	44394	11262	3232	2690	2310
MEAN	65.5	81.5	234	466	430	1061	917	1432	375	104	86.8	77.0
MAX	134	288	858	1990	1050	5270	3620	3630	1020	274	293	539
MIN	41	40	73	161	274	245	363	482	145	62	39	23
CFSM	0.17	0.21	0.61	1.22	1.13	2.78	2.40	3.75	0.98	0.27	0.23	0.20
IN.	0.20	0.24	0.71	1.41	1.17	3.20	2.68	4.32	1.10	0.31	0.26	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2002, BY WATER YEAR (WY)

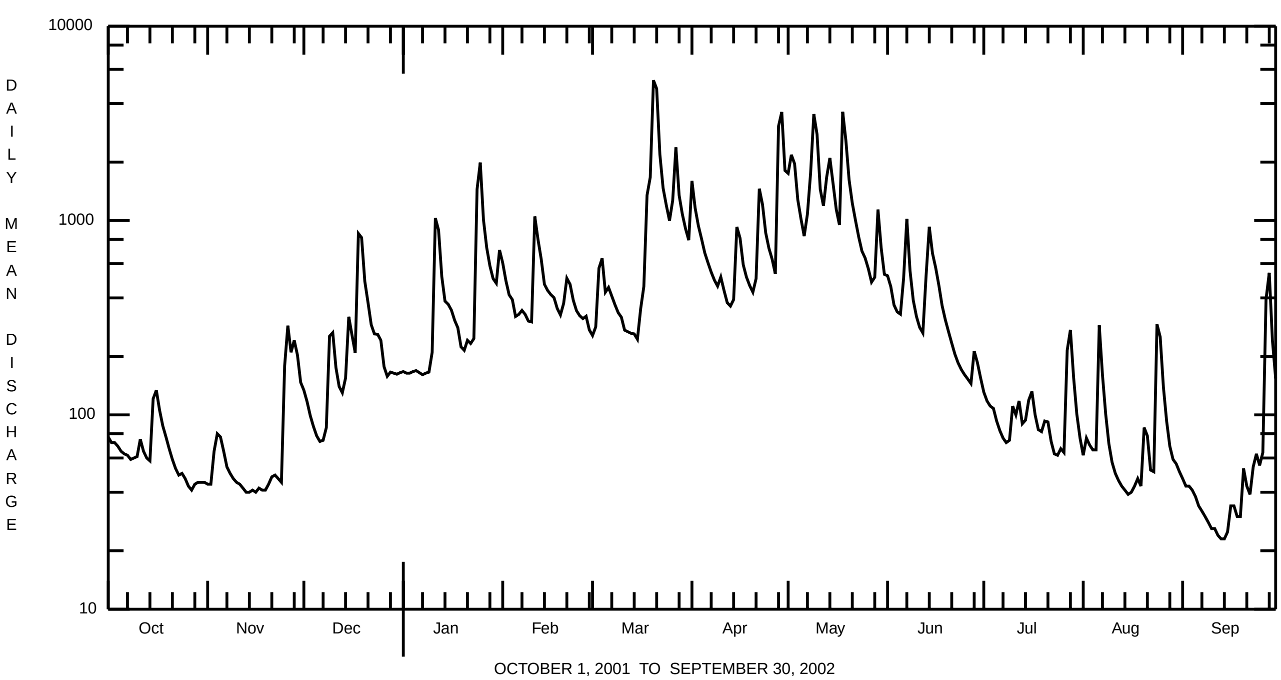
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	272	461	752	853	1047	1473	1160	792	443	259	220	194
MAX	1769	2975	2217	2709	2324	3860	2437	2147	1499	920	842	1756
(WY)	1955	1986	1973	1937	1956	1936	1970	1924	1941	1924	1956	1996
MIN	14.9	22.6	55.3	133	153	307	316	126	60.6	35.6	24.5	19.9
(WY)	1954	1954	1999	1925	1934	1990	1921	1926	1965	1965	1957	1943

e Estimated.

03079000 CASSELMAN RIVER AT MARKLETON, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1921 - 2002	
ANNUAL TOTAL	174448		162475			
ANNUAL MEAN	478		445		659	
HIGHEST ANNUAL MEAN					1151	1996
LOWEST ANNUAL MEAN					336	1954
HIGHEST DAILY MEAN	4290	Feb 10	5270	Mar 20	**e**25000	Jan 19 1996
LOWEST DAILY MEAN	40	Nov 13	23	Sep 13,14	11	Jul 23 1936**a**
ANNUAL SEVEN-DAY MINIMUM	41	Nov 13	25	Sep 9	12	Sep 4 1957
MAXIMUM PEAK FLOW			8750	Mar 20	**b**50000	Oct 15 1954
MAXIMUM PEAK STAGE			6.92	Mar 20	14.06	Oct 15 1954
INSTANTANEOUS LOW FLOW			22	Sep 13,14	10	Sep 9 1957
ANNUAL RUNOFF (CFSM)	1.25		1.17		1.72	
ANNUAL RUNOFF (INCHES)	16.99		15.82		23.43	
10 PERCENT EXCEEDS	1210		1140		1530	
50 PERCENT EXCEEDS	204		215		339	
90 PERCENT EXCEEDS	57		44		55	

a Also Sept. 7-9, 1957.
b Estimated on basis of summation of peak flows at nearby stations.
e Estimated.



YOUGHIOGHENY RIVER BASIN

03080000 LAUREL HILL CREEK AT URSINA, PA

LOCATION.--Lat 39°49'13", long 79°19'18", Somerset County, Hydrologic Unit 05020006, on right bank 500 ft downstream from bridge on State Highway 281 at Ursina, and 2.7 mi upstream from mouth.

DRAINAGE AREA.--121 mi^2.

PERIOD OF RECORD.--August to September 1913 (gage heights and discharge measurements only), October 1918 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1913 to September 1918 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 743: Drainage area. WSP 893: 1919-21, 1932-34. WSP 1305: 1922-31. WSP 1435: 1919-20. WSP 1625: 1932 (M).

GAGE.--Water-stage recorder and masonry control. Datum of gage is 1,335.26 ft above National Geodetic Vertical Datum of 1929. Prior to July 18, 1939, nonrecording gage at bridge 0.5 mi downstream at datum 6.20 ft lower.

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

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. 20	1800	*3,570	*4.98	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	29	123	e117	307	174	508	744	159	54	13	12
2	15	25	101	e112	261	149	382	877	116	50	12	11
3	15	58	83	e112	223	262	332	785	89	45	9.9	9.9
4	14	92	73	e109	208	284	292	520	87	39	9.1	10
5	14	58	65	e99	181	239	250	398	84	35	8.6	9.6
6	15	44	60	87	186	225	226	324	221	30	40	8.0
7	16	48	59	e86	144	196	200	509	360	26	41	6.3
8	16	69	72	e94	143	175	179	747	211	24	19	5.3
9	15	73	170	98	130	155	170	1780	152	27	13	4.4
10	15	54	134	e112	150	152	192	1450	125	52	11	3.9
11	14	43	102	e348	791	129	157	824	100	43	9.3	3.4
12	15	43	86	e272	541	118	139	619	87	26	8.8	3.3
13	17	39	84	e226	408	114	136	761	344	20	9.2	2.7
14	19	22	109	e221	326	112	158	1010	455	26	7.9	2.8
15	42	20	182	e217	277	104	564	874	423	29	7.8	3.3
16	45	20	140	207	250	200	451	607	427	22	8.3	4.8
17	38	19	150	182	236	280	339	463	300	19	7.1	4.9
18	37	18	873	162	199	907	288	1320	228	16	7.9	5.8
19	29	18	635	159	186	807	252	1150	177	22	8.9	5.4
20	25	19	396	163	179	2390	226	767	135	20	13	5.2
21	22	21	294	179	362	2060	303	544	111	16	17	7.0
22	21	21	228	141	344	1070	659	407	90	14	15	11
23	20	19	192	113	285	690	513	328	76	13	17	9.6
24	20	19	206	855	249	524	389	273	67	12	116	7.7
25	21	91	175	1180	222	399	339	248	60	13	104	6.0
26	23	113	173	627	211	765	284	207	52	14	45	9.1
27	26	136	153	429	214	1470	237	168	49	50	27	86
28	29	159	e129	344	181	853	1320	177	174	49	20	185
29	33	123	118	293	---	582	1420	164	111	27	16	80
30	32	126	e114	277	---	439	850	139	66	18	14	44
31	32	---	e117	355	---	375	---	128	---	14	13	---
TOTAL	711	1639	5596	7976	7394	16399	11755	19312	5136	865	668.8	567.4
MEAN	22.9	54.6	181	257	264	529	392	623	171	27.9	21.6	18.9
MAX	45	159	873	1180	791	2390	1420	1780	455	54	116	185
MIN	14	18	59	86	130	104	136	128	49	12	7.1	2.7
CFSM	0.19	0.45	1.49	2.13	2.18	4.37	3.24	5.15	1.41	0.23	0.18	0.16
IN.	0.22	0.50	1.72	2.45	2.27	5.04	3.61	5.94	1.58	0.27	0.21	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	115	218	327	350	405	553	444	315	184	103	97.6	80.4
MAX	564	1011	815	1141	1000	1331	879	689	700	388	416	608
(WY)	1955	1986	1973	1937	1956	1936	1970	1924	1941	1985	1935	1971
MIN	6.15	8.91	25.8	57.0	89.3	155	114	52.0	21.2	9.20	8.90	5.73
(WY)	1931	1931	1999	1925	1934	1990	1921	1926	1999	1966	1983	1959

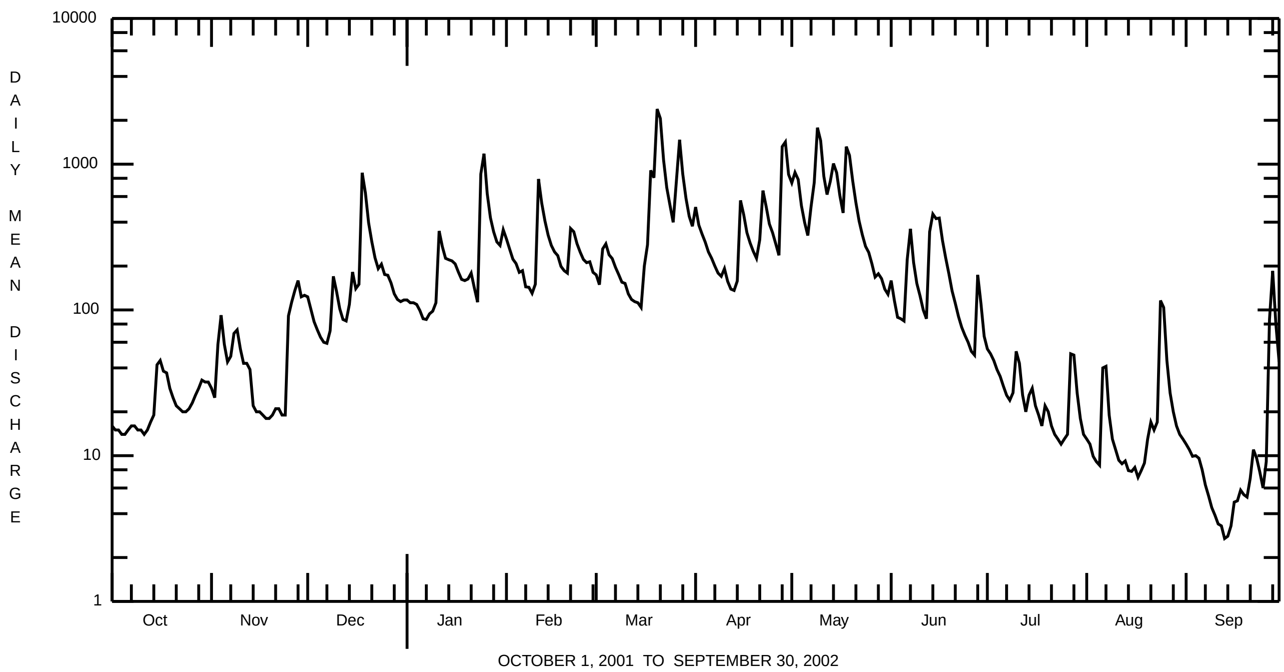
e Estimated.

YOUGHIOGHENY RIVER BASIN

03080000 LAUREL HILL CREEK AT URSINA, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1919 - 2002	
ANNUAL TOTAL	70022.7		78019.2			
ANNUAL MEAN	192		214		265	
HIGHEST ANNUAL MEAN					395	1996
LOWEST ANNUAL MEAN					164	1931
HIGHEST DAILY MEAN	1770	Feb 16	2390	Mar 20	6980	Mar 17 1936
LOWEST DAILY MEAN	7.9	Sep 19	2.7	Sep 13	2.3	Sep 3 1999
ANNUAL SEVEN-DAY MINIMUM	9.6	Sep 7	3.4	Sep 9	3.4	Sep 5 1957
MAXIMUM PEAK FLOW			3570	Mar 20	**a**10900	Oct 15 1954
MAXIMUM PEAK STAGE			4.98	Mar 20	10.63	Oct 15 1954
INSTANTANEOUS LOW FLOW			2.5	Sep 13	2.2	Sep 26 1932**b**
ANNUAL RUNOFF (CFSM)	1.59		1.77		2.19	
ANNUAL RUNOFF (INCHES)	21.53		23.99		29.78	
10 PERCENT EXCEEDS	504		552		634	
50 PERCENT EXCEEDS	86		113		146	
90 PERCENT EXCEEDS	16		11		20	

a From rating curve extended above 6,100 ft^3/s on basis of slope-area measurement of peak flow.
b Also Sept. 4, 1999.



YOUGHIOGHENY RIVER BASIN

03081000 YOUGHIOGHENY RIVER BELOW CONFLUENCE, PA

LOCATION.--Lat 39°49'39", long 79°22'22", Fayette County, Hydrologic Unit 05020006, on left bank 1.0 mi downstream from Casselman River, 1.5 mi northwest of Confluence, at mile 72.0.

DRAINAGE AREA.--1,029 mi^2.

PERIOD OF RECORD.--June 1940 to current year. Monthly discharge only for June 1940, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 1,302.77 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since January 1925 by Deep Creek Reservoir (station 03076000) and since December 1942 by Youghiogheny River Lake (03077000) 1.7 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, or 18, 1936 reached a stage of 21.6 ft, from floodmarks, discharge, 85,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	829	654	430	682	1190	578	3870	5410	1420	700	659	728
2	793	648	394	671	1010	586	3410	6210	1310	712	731	735
3	783	677	599	667	872	908	3110	7910	1160	699	782	687
4	816	744	762	675	820	1110	2850	6780	1120	687	777	516
5	837	705	516	679	922	817	2470	6240	1100	677	774	471
6	833	686	356	678	1040	849	2020	5560	1370	655	964	653
7	826	670	362	661	1080	771	1750	4810	2360	617	925	624
8	862	676	393	687	1020	699	1510	5900	1750	628	832	617
9	890	682	643	689	937	646	1370	7740	1280	630	791	612
10	882	668	629	603	943	622	1480	7080	960	669	774	622
11	899	650	463	1930	2260	552	1350	5110	891	665	829	596
12	904	645	409	1820	1710	521	1220	4500	847	723	891	591
13	901	640	432	1200	1320	519	1120	4790	1300	748	886	631
14	905	623	509	912	1060	511	1180	5560	2380	748	879	629
15	828	547	726	845	943	489	2130	5240	2250	720	862	633
16	760	490	659	754	886	696	2250	5190	2240	703	829	639
17	724	485	608	687	1010	908	2720	4230	1940	677	849	640
18	694	486	2030	635	1030	2530	2890	6980	1380	678	866	700
19	675	487	1810	567	956	3160	2360	7680	1000	680	886	689
20	658	491	1170	519	1010	8320	2000	7130	890	679	884	629
21	574	495	911	536	1160	8620	2150	6130	828	670	904	639
22	642	495	729	523	1040	4250	3890	4510	780	661	882	631
23	635	490	851	517	867	2780	4730	3210	740	662	881	629
24	634	485	1020	2540	769	2190	5150	2420	759	655	1210	644
25	635	685	956	4160	712	1760	4870	2120	767	658	1230	628
26	631	778	847	2200	691	2240	3840	1890	739	656	878	649
27	631	539	802	1550	708	5000	2300	1640	734	772	697	882
28	634	593	796	1240	626	3790	5680	1340	781	907	686	1160
29	647	519	801	1080	---	3340	7140	2020	730	778	683	699
30	652	457	713	1020	---	2930	5940	1740	708	706	716	699
31	658	---	663	1300	---	2680	---	1420	---	674	737	---
TOTAL	23272	17890	22989	33227	28592	65372	88750	148490	36514	21494	26174	19902
MEAN	751	596	742	1072	1021	2109	2958	4790	1217	693	844	663
MAX	905	778	2030	4160	2260	8620	7140	7910	2380	907	1230	1160
MIN	574	457	356	517	626	489	1120	1340	708	617	659	471
(†)	-630	-346	+188	+686	+476	+1096	+417	-296	-190	-272	-633	-489

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.

YOUGHIOGHENY RIVER BASIN

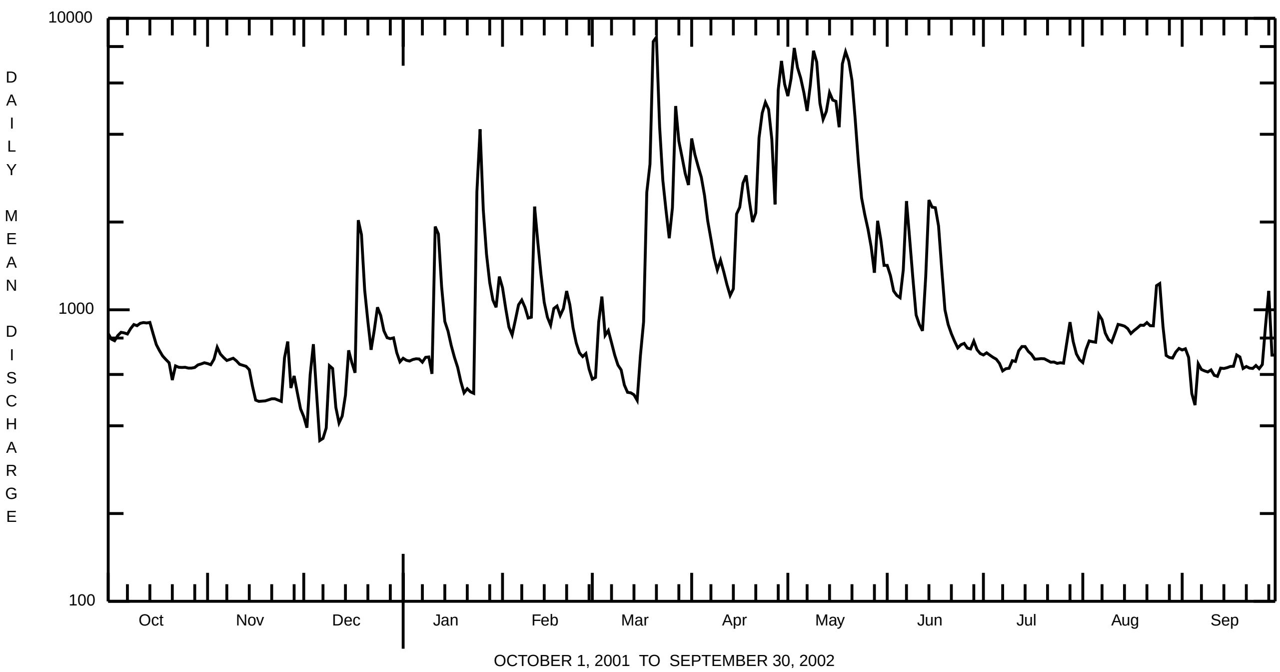
03081000 YOUGHIOGHENY RIVER BELOW CONFLUENCE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1172	1511	2297	2445	2853	3592	3068	2349	1508	1102	1075	1080
MAX	4699	5065	6171	5441	5204	7868	6984	5052	4137	2950	3565	3882
(WY)	1980	1986	1973	1974	1956	1963	1993	1996	1941	1985	1956	1971
MIN	287	433	246	496	903	778	1157	602	491	384	290	214
(WY)	1948	1954	1999	1981	1954	1990	1963	1982	1965	1942	1944	1946

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1941 - 2002	
ANNUAL TOTAL	564558		532666			
ANNUAL MEAN	1547	† +68	1459	† -2	2000	
HIGHEST ANNUAL MEAN					2910	1996
LOWEST ANNUAL MEAN					1074	1954
HIGHEST DAILY MEAN	7290	Mar 14	8620	Mar 21	34600	Oct 16 1954
LOWEST DAILY MEAN	356	Dec 6	356	Dec 6	121	Sep 27 1943
ANNUAL SEVEN-DAY MINIMUM	465	Dec 6	465	Dec 6	175	Sep 16 1946
MAXIMUM PEAK FLOW			13500	Mar 20	**a**69500	Oct 15 1954
MAXIMUM PEAK STAGE			8.83	Mar 20	19.92	Oct 15 1954
10 PERCENT EXCEEDS	3660		3810		4440	
50 PERCENT EXCEEDS	969		796		1260	
90 PERCENT EXCEEDS	634		576		609	

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.
a From rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow.



03082500 YOUGHIOGHENY RIVER AT CONNELLSVILLE, PA

LOCATION.--Lat 40°01'03", long 79°35'38", Fayette County, Hydrologic Unit 05020006, on left bank at downstream side of Crawford Avenue bridge at Connellsville, 1.2 mi upstream from Mounts Creek, at mile 44.0.

DRAINAGE AREA.--1,326 mi^2.

PERIOD OF RECORD.--July 1908 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1912 (M), 1914 (M), 1916-17 (M), 1918, 1922-25. WSP 1435: 1919-20. WSP 1725: 1916, 1932 (monthly, yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 860.13 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1928, nonrecording gage, and Aug. 15, 1928 to July 7, 1958, water-stage recorder at same site and datum. July 8, 1958 to Sept. 8, 1959, nonrecording gage at site 0.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since January 1925 by Deep Creek Reservoir (station 03076000), since December 1942 by Youghiogheny River Lake (station 03077000) 29.4 mi upstream, and by several smaller reservoirs above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	884	675	745	858	2030	899	4520	7120	1890	788	683	756
2	839	670	626	848	1700	906	4240	6420	1720	823	678	748
3	826	916	533	832	1430	1230	3860	9230	1480	800	817	756
4	820	918	963	830	1320	1810	3510	7540	1380	774	805	632
5	881	825	890	856	1220	1420	3130	6800	1370	792	824	362
6	888	778	435	845	1430	1330	2690	6180	1850	733	943	546
7	879	741	428	806	1430	1250	2280	5430	2990	670	1070	610
8	877	729	451	833	1390	1140	2090	6710	2390	670	911	593
9	929	742	845	828	1250	1030	1850	10900	1860	682	837	584
10	916	730	992	911	1230	969	1950	9490	1280	799	800	581
11	921	701	739	2890	3050	888	1820	6590	1150	761	791	599
12	948	687	589	3390	2880	797	1640	5510	1100	710	934	524
13	950	678	536	2220	2230	788	1480	6350	1790	822	929	592
14	969	659	662	1630	1810	768	1520	7560	3430	851	925	604
15	1040	630	868	1400	1520	728	2550	6900	3160	819	915	629
16	854	473	970	1270	1410	1080	3040	6040	3120	740	856	646
17	818	468	856	1120	1390	1770	3160	5710	2630	726	866	636
18	762	461	3350	1010	1500	4280	3440	8900	2110	714	906	635
19	723	470	3340	919	1350	4980	3080	9980	1400	846	951	756
20	688	528	2160	827	1350	11100	2530	8340	1210	765	967	619
21	622	534	1590	777	1800	13900	2680	7280	1080	730	965	625
22	622	506	1240	781	1760	6670	4520	5540	991	700	949	623
23	654	493	1090	747	1460	4400	5250	4130	929	714	962	615
24	661	477	1420	2350	1280	3450	5760	3180	870	710	1520	611
25	663	763	1340	6130	1170	2800	5330	2730	913	688	1570	610
26	652	1390	1180	3660	1140	4260	4740	2480	873	711	1150	626
27	656	895	1080	2580	1150	8440	2970	2130	863	849	780	914
28	671	1080	1030	2070	1050	5670	6410	1950	1260	1020	709	1530
29	663	885	1050	1740	---	4660	10200	2460	982	928	719	877
30	693	769	907	1620	---	3970	7090	2390	892	781	710	740
31	672	---	836	2070	---	3490	---	1900	---	719	775	---
TOTAL	24641	21271	33741	49648	43730	100873	109330	183870	48963	23835	28217	20179
MEAN	795	709	1088	1602	1562	3254	3644	5931	1632	769	910	673
MAX	1040	1390	3350	6130	3050	13900	10200	10900	3430	1020	1570	1530
MIN	622	461	428	747	1050	728	1480	1900	863	670	678	362
(†)	-630	-346	+188	+686	+476	+1096	+417	-296	-190	-272	-633	-489

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.

YOUGHIOGHENY RIVER BASIN

03082500 YOUGHIOGHENY RIVER AT CONNELLSVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1413	1906	2928	3259	3819	4860	4153	3097	1887	1322	1272	1190
MAX	5938	7518	8050	9737	7916	11370	8463	7142	5805	4143	4772	5400
(WY)	1955	1986	1973	1937	1939	1936	1993	1996	1941	1985	1956	1971
MIN	139	84.5	295	465	630	1189	1321	662	504	279	155	146
(WY)	1931	1931	1999	1925	1934	1990	1925	1926	1925	1930	1930	1925

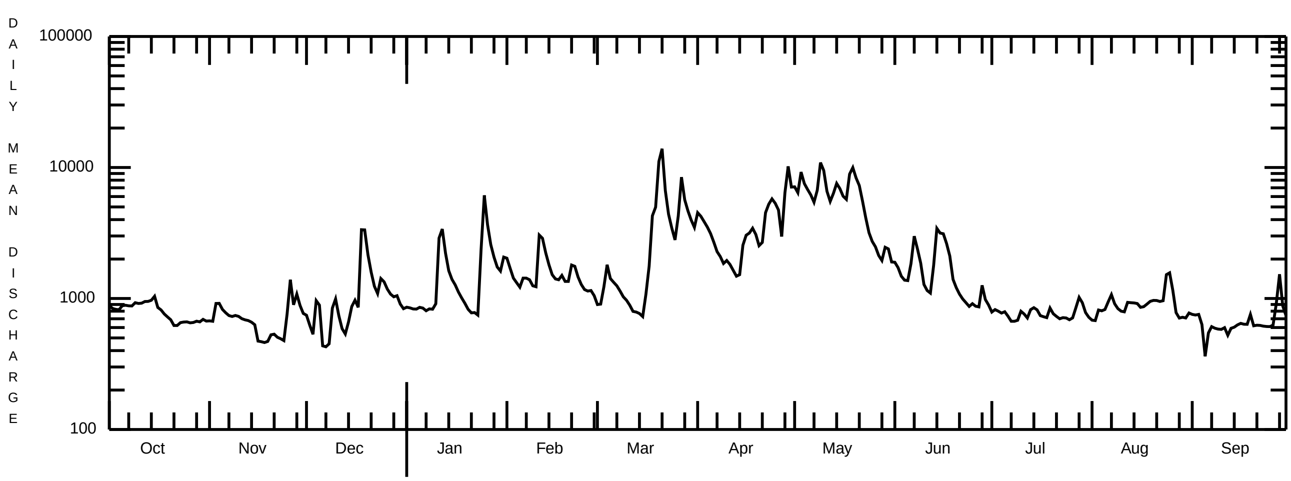
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1925 - 2002	
ANNUAL TOTAL	693779		688298			
ANNUAL MEAN	1901	† +68	1886	† -2	2586	
HIGHEST ANNUAL MEAN					3944	1996
LOWEST ANNUAL MEAN					1223	1925
HIGHEST DAILY MEAN	9210	Mar 14	13900	Mar 21	58100	Mar 18 1936
LOWEST DAILY MEAN	428	Dec 7	362	Sep 5	39	Nov 16 1930
ANNUAL SEVEN-DAY MINIMUM	491	Nov 16	491	Nov 16	62	Nov 14 1930
MAXIMUM PEAK FLOW			21000	Mar 20	**a**103000	Oct 16 1954
MAXIMUM PEAK STAGE			10.48	Mar 20	21.96	Oct 16 1954
10 PERCENT EXCEEDS	4670		4690		5790	
50 PERCENT EXCEEDS	1190		950		1600	
90 PERCENT EXCEEDS	688		630		600	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1924, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1126	1653	2574	4697	4098	5490	3830	2696	2379	1110	764	1100
MAX	5117	4937	5795	8679	9354	9777	6572	6675	5224	5102	1904	5158
(WY)	1912	1914	1922	1913	1918	1912	1914	1924	1910	1912	1912	1911
MIN	36.4	68.4	342	503	1589	1913	1335	1125	938	221	99.5	132
(WY)	1909	1909	1909	1918	1924	1915	1921	1911	1922	1918	1910	1922

SUMMARY STATISTICS	WATER YEARS 1909 - 1924	
ANNUAL MEAN	2620	
HIGHEST ANNUAL MEAN	3976	1912
LOWEST ANNUAL MEAN	1879	1923
HIGHEST DAILY MEAN	59200	Mar 21 1912
LOWEST DAILY MEAN	11	Oct 18 1910
ANNUAL SEVEN-DAY MINIMUM	14	Oct 15 1910
MAXIMUM PEAK FLOW	**b**65900	Mar 29 1924
MAXIMUM PEAK STAGE	**c**20.5	Mar 29 1924
INSTANTANEOUS LOW FLOW	11	Sep 23 1908**d**
ANNUAL RUNOFF (CFSM)	1.98	
ANNUAL RUNOFF (INCHES)	26.84	
10 PERCENT EXCEEDS	6200	
50 PERCENT EXCEEDS	1370	
90 PERCENT EXCEEDS	195	

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.
a From rating curve extended above 55,000 ft^3/s.
b Estimated from hydrograph.
c From graph based on gage readings.
d Also Sept. 26, 27, 1908 and Oct. 18, 1910.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

YOUGHIOGHENY RIVER BASIN

03083500 YOUGHIOGHENY RIVER AT SUTERSVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°14'24", long 79°48'24", Allegheny County, Hydrologic Unit 05020006, on left bank 500 ft upstream from highway bridge at Sutersville, 2.1 mi downstream from Sewickley Creek, at mile 15.2.

DRAINAGE AREA.--1,715 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge for 1926, 1930, part of 1931, 1937, 1938, and part of 1939, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1924, 1926 (M), 1931 (M). WSP 1435: 1935-36.

GAGE.--Water-stage recorder. Datum of gage is 733.36 ft above National Geodetic Vertical Datum of 1929. Prior to June 1, 1939, nonrecording gage at site 500 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since January 1925 by Deep Creek Reservoir (station 03076000), since December 1942 by Youghiogheny River Lake (station 03077000) 58 mi upstream, and by several smaller reservoirs above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	878	798	1110	969	2630	1160	4990	8620	2680	1120	834	859
2	1000	801	929	1030	2260	1090	5320	6380	e2340	1050	792	847
3	949	954	788	986	1900	1340	4630	10300	e1980	1150	835	846
4	922	1160	860	1000	1690	1930	4190	8670	e1780	1010	914	823
5	923	1060	1100	1030	1540	1850	3780	7630	1650	1060	914	683
6	982	947	896	1010	1550	1580	3300	6970	2540	972	1110	493
7	979	895	613	979	1670	1550	2780	6090	4010	886	1190	707
8	961	863	637	883	1650	1430	2560	7050	3380	822	1100	697
9	987	868	854	985	1530	1290	2260	e11900	2480	847	982	687
10	1020	867	1180	1040	1430	1200	2230	e10200	1890	1030	926	683
11	1000	847	1100	2220	2670	1110	2190	8560	1530	964	898	682
12	1030	811	850	4710	3800	1010	1990	e7800	1420	880	977	674
13	1050	796	750	3030	2810	955	1830	e8480	1600	891	1210	637
14	1050	787	747	2220	2310	948	1800	10800	3780	965	1040	694
15	1150	768	901	1770	1910	918	2810	9550	3780	961	1010	741
16	1080	709	1120	1630	1740	1660	3850	e8160	3760	900	993	824
17	973	602	1190	1430	1640	2140	3430	e8000	3260	851	953	758
18	905	598	2910	1290	1720	4250	3860	11900	2710	860	985	733
19	845	595	4650	1170	1620	6170	3680	13200	1960	1120	1000	782
20	814	641	2990	1060	1540	9550	3020	10700	1560	998	1170	815
21	779	682	2160	982	1930	18100	3010	9460	1370	891	1070	716
22	680	664	1690	994	2260	9980	4350	7400	1240	841	1060	724
23	749	640	1390	955	1910	6180	5650	5580	1140	836	1100	714
24	901	625	1560	1150	1640	4610	6450	4370	1070	1100	2010	700
25	850	749	1660	6680	1480	3720	6000	3740	1050	859	1970	708
26	801	1510	1500	4870	1400	6210	5600	3470	1050	875	1530	724
27	779	1390	1330	3240	1430	12900	3760	3040	1260	1070	1110	1480
28	794	1350	1250	2550	1340	8740	e7500	2740	2790	1350	880	1830
29	791	1280	1220	2140	---	6500	e11100	2760	1830	1200	828	1560
30	788	1120	1180	2020	---	5260	e8910	3270	1300	1000	822	937
31	804	---	973	2490	---	4430	---	2670	---	884	831	---
TOTAL	28214	26377	42088	58513	53000	129761	126830	229460	64190	30243	33044	24758
MEAN	910	879	1358	1888	1893	4186	4228	7402	2140	976	1066	825
MAX	1150	1510	4650	6680	3800	18100	11100	13200	4010	1350	2010	1830
MIN	680	595	613	883	1340	918	1800	2670	1050	822	792	493
(†)	-630	-346	+188	+686	+476	+1096	+417	-296	-190	-272	-633	-489

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.

e Estimated.

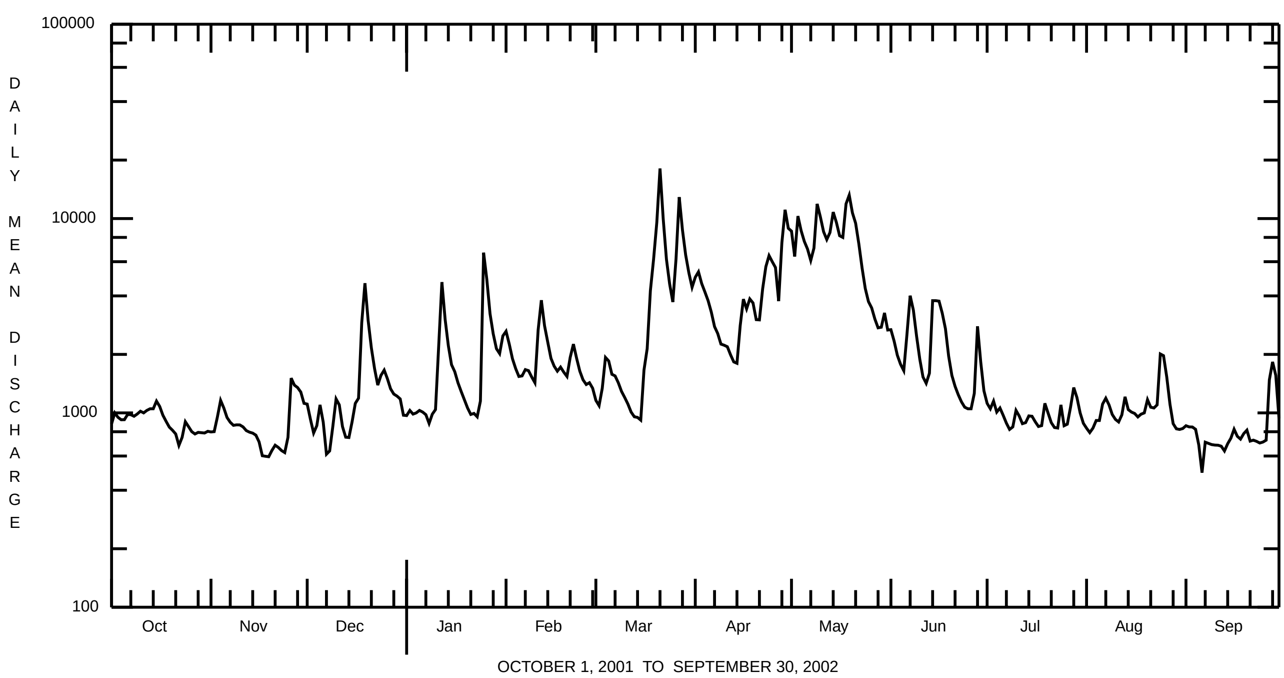
03083500 YOUGHIOGHENY RIVER AT SUTERSVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2002, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1505	2098	3550	3936	4570	5887	4934	3671	2270	1558	1458	1354
MAX	7006	5818	9373	8488	9630	13720	10230	8012	7318	4853	5707	6382
(WY)	1955	1922	1973	1974	1939	1936	1940	1996	1941	1985	1956	1971
MIN	107	209	412	611	716	1539	1637	1012	585	614	309	185
(WY)	1924	1923	1999	1925	1934	1990	1921	1982	1925	1942	1922	1922

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1921 - 2002	
ANNUAL TOTAL	853901		846478			
ANNUAL MEAN	2339	† +68	2319	† -2	3061	
HIGHEST ANNUAL MEAN					4537	1996
LOWEST ANNUAL MEAN					1496	1925
HIGHEST DAILY MEAN	12400	Jan 31	18100	Mar 21	79000	Mar 18 1936
LOWEST DAILY MEAN	595	Nov 19	493	Sep 6	57	Sep 30 1922
ANNUAL SEVEN-DAY MINIMUM	632	Nov 17	632	Nov 17	64	Sep 24 1922
MAXIMUM PEAK FLOW			21700	Mar 21	**a**108000	Oct 16 1954
MAXIMUM PEAK STAGE			14.13	Mar 21	**b**32.50	Oct 16 1954
INSTANTANEOUS LOW FLOW					**c**57	Sep 29 1922
10 PERCENT EXCEEDS	5680		6040		6800	
50 PERCENT EXCEEDS	1460		1180		1910	
90 PERCENT EXCEEDS	858		775		698	

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Reliant Energy. Records of contents in Youghiogheny River Lake furnished by U.S. Army Corps of Engineers.
a From rating curve extended above 100,000 ft^3/s.
b From floodmark.
c Minimum observed.



YOUGHIOGHENY RIVER BASIN

03083500 YOUGHIOGHENY RIVER AT SUTERSVILLE, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
11...	1200	9813	2200	40	8.1	7.4	257	11.8	80	21.7	6.2	28	<.2
JUN													
06...	1200	9813	2050	40	7.9	7.2	295	21.2	110	30.6	8.7	34	<.2
AUG													
07...	1130	9813	1290	40	8.0	7.5	270	23.0	88	24.5	6.4	30	<.2

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN-ABLE TO CHLOR-INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)
APR 2002													
11...	68.6	162	56	<.020	.92	<.040	1.2	.01	.020	1.6	<10	<1.00	420
JUN													
06...	86.1	222	14	<.020	.74	<.040	.94	.02	.030	2.5	<10	<1.00	850
AUG													
07...	71.2	194	6	<.020	.78	<.040	.94	.02	.020	2.4	<10	<1.00	810

Date	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
11...	<1.0	90	<50	<10	<5
JUN					
06...	1.0	90	<50	<10	<5
AUG					
07...	<1.0	120	<50	<10	<5

MONONGAHELA RIVER BASIN

03085000 MONONGAHELA RIVER AT BRADDOCK, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°23'28", long 79°51'30", Allegheny County, Hydrologic Unit 05020005, near right bank on river guide wall 300 ft upstream from dam at lock 2 at Braddock, 1,700 ft downstream from Turtle Creek, and 11.2 mi upstream of confluence with Allegheny River.

DRAINAGE AREA.--7,337 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder and fixed-crest concrete dam control with streamward lock chamber usable as floodway during high flow since 1951. Datum of gage is 709.66 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). Prior to Aug. 13, 1951, at site 700 ft upstream, and Aug. 13, 1951 to Nov. 8, 1990 at present site at datum 2.50 ft lower.

REMARKS.--Records fair. Many estimated daily discharges due to construction of new lock and dam. Flow regulated by locks and hydroelectric plants, since January 1925 by Deep Creek Reservoir (station 03076000), since 1926 by Lake Lynn, since May 1938 by Tygart Lake (station 03055500), since December 1942 by Youghiogheny River Lake (station 03077000), and since April 1989 by Stonewall Jackson Lake, combined capacity, 779,000 acre-ft. Figures of daily discharge include slight diversion from Beaver Run Reservoir in the Kiskiminetas River Basin to the borough of Jeannette in the Monongahela River Basin. U.S. Army Corps of Engineers satellite telemetry at station. Other data for this station can be found on pages 189-190.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 38.8 ft from floodmarks, discharge, 210,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2480	2790	3780	e3890	13300	7070	24300	39600	6410	2940	e4990	2010
2	2660	2280	3220	2780	11000	3870	24100	30000	6220	2830	e5150	2030
3	3040	2790	3480	e3090	9360	e5820	20400	35100	7020	2950	e3910	2300
4	2870	3090	3490	e4300	7980	e11200	22500	33400	e5670	3150	e2740	1970
5	2680	2320	7560	2750	10700	e10200	19400	28000	7120	2290	e2830	1780
6	2640	4210	3220	2520	7660	e8350	16700	21900	12900	2860	e4910	2040
7	2710	2350	2540	2330	5240	6080	11900	19400	21800	2190	2670	1670
8	2370	2520	2530	2720	6240	e7090	9780	21500	17100	e2560	2270	2090
9	2560	2750	3190	2710	4300	5020	9630	37800	12200	e3640	2760	2100
10	3190	2280	5020	e3960	3940	e4890	7660	34000	9410	e6270	2260	1640
11	2470	1810	6120	e13800	6110	e6540	9390	33700	7660	e12800	1900	1700
12	2530	1870	4990	24600	13000	6380	8340	29500	5580	8940	2150	1980
13	2850	2400	e4900	14800	9730	e6000	4950	26500	e7200	6370	3260	1720
14	2700	1990	e4330	12700	9810	4510	8520	31500	15200	e6420	2700	1880
15	2370	2080	e3370	12400	9630	e4200	e15200	28800	15000	e8020	2060	2050
16	3180	2080	3300	11500	9060	6870	31600	27500	12000	9040	2290	2000
17	2810	1990	e6100	9580	5510	12000	23600	25100	e11100	e6750	2520	2270
18	2850	2060	11000	9810	6900	17700	24100	37900	e9200	e5910	1990	2170
19	2830	2230	15300	9640	5920	22100	23600	47200	e7900	e5530	2200	2480
20	2580	1700	11600	6310	5240	e35000	19800	38000	e5980	e6160	2850	2040
21	2530	1780	8210	e5720	5560	e94600	e18200	29300	e4910	e5660	2340	1760
22	2070	1750	e7200	e5720	8390	e56100	e35700	22200	e4910	e5740	2470	2220
23	2850	1930	e7500	e8190	8680	e37900	e49000	19000	e4450	e4900	2300	1860
24	2420	1970	e6550	e17800	4450	30500	38200	13800	e3380	e5490	3960	1810
25	3230	2600	e7750	e41200	4040	25600	34100	10600	e3070	e4480	3540	1930
26	2310	2990	e6800	e36000	7500	30500	29400	11100	e3530	e4900	3490	2040
27	2010	4080	e7150	26500	9140	49900	23600	8750	e3680	e9540	2750	6370
28	2610	4080	e5050	22300	8670	34300	e28700	8640	5650	e15000	3390	6590
29	2480	5100	e4450	19300	---	23500	51200	7380	3670	11100	2130	8750
30	2040	4200	e4850	16600	---	18000	45000	7790	3390	8730	1770	4550
31	2220	---	e4400	16700	---	14600	---	6780	---	6160	2300	---
TOTAL	81140	78070	178950	372220	217060	606390	688570	771740	243310	189320	88850	77800
MEAN	2617	2602	5773	12010	7752	19560	22950	24890	8110	6107	2866	2593
MAX	3230	5100	15300	41200	13300	94600	51200	47200	21800	15000	5150	8750
MIN	2010	1700	2530	2330	3940	3870	4950	6780	3070	2190	1770	1640
CFSM	0.36	0.35	0.79	1.64	1.06	2.67	3.13	3.39	1.11	0.83	0.39	0.35
IN.	0.41	0.40	0.91	1.89	1.10	3.07	3.49	3.91	1.23	0.96	0.45	0.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5295	9185	15310	17080	20700	23890	18860	14230	9197	6321	5807	4619
MAX	23130	42130	37600	36150	43120	54500	39180	40310	30240	15620	23720	18290
(WY)	1980	1986	1973	1952	1956	1963	1940	1996	1981	1958	1956	1971
MIN	1200	971	2748	3389	6387	8042	6473	3352	2107	1765	1531	1005
(WY)	1954	1954	1954	1977	1954	1969	1971	1982	1965	1966	1957	1946

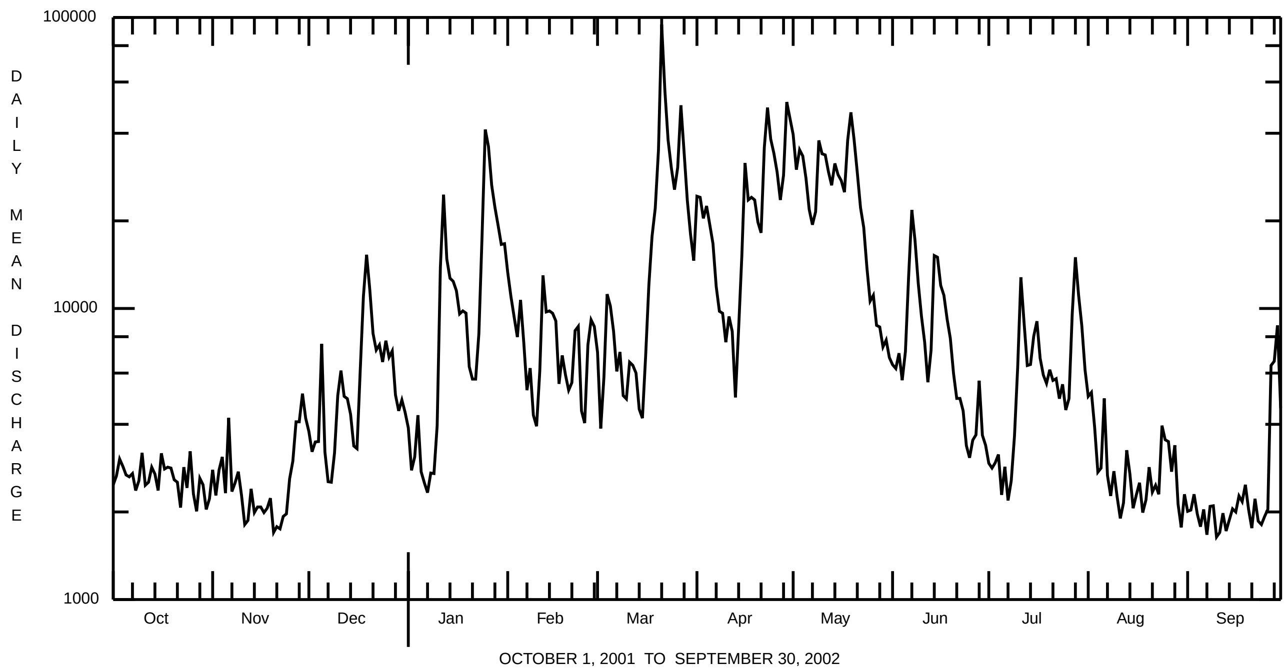
e Estimated.

MONONGAHELA RIVER BASIN

03085000 MONONGAHELA RIVER AT BRADDOCK, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1939 - 2002	
ANNUAL TOTAL	3608380		3593420			
ANNUAL MEAN	9886		9845		12490	
HIGHEST ANNUAL MEAN					18440	1996
LOWEST ANNUAL MEAN					6946	1954
HIGHEST DAILY MEAN	64600	Jan 31	**a**94600	Mar 21	188000	Jan 20 1996
LOWEST DAILY MEAN	1700	Nov 20	1640	Sep 10	703	Sep 3 1946**b**
ANNUAL SEVEN-DAY MINIMUM	1920	Nov 18	1840	Sep 7	839	Nov 17 1953
MAXIMUM PEAK FLOW			**a**105000	Mar 21	**c**210000	Jan 20 1996
MAXIMUM PEAK STAGE			**a**20.10	Mar 21	**d**29.07	Jan 20 1996
ANNUAL RUNOFF (CFSM)	1.35		1.34		1.70	
ANNUAL RUNOFF (INCHES)	18.30		18.22		23.13	
10 PERCENT EXCEEDS	23400		26500		29100	
50 PERCENT EXCEEDS	5980		5530		7640	
90 PERCENT EXCEEDS	2480		2080		2250	

a Based on river summation.
b Also Sept. 4, 22, 1946.
c From rating curve extended above 183,000 ft^3/s.
d Maximum gage height, 31.39 ft, June 24, 1972 (backwater from Allegheny River). Datum then in use.



MONONGAHELA RIVER BASIN

03085000 MONONGAHELA RIVER AT BRADDOCK, 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 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUORIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
10...	0930	9813	8040	40	7.0	7.5	172	11.8	170	45.0	13.6	10	--
JUN													
05...	0845	9813	6880	40	8.5	7.7	347	23.0	120	34.6	9.4	42	<.2
AUG													
01...	0815	9813	4280	40	7.3	7.5	181	23.0	110	29.5	8.3	30	<.2

Date	SULFATE DISSOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DISSOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	CYANIDE AMENABLE TO CHLORINATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)
APR 2002													
10...	146	398	6	.210	.98	<.040	1.4	<.01	<.010	1.3	<10	--	480
JUN													
05...	95.8	194	12	.060	.73	<.040	.95	.02	.020	2.0	<10	1.65	510
AUG													
01...	104	278	4	.030	.78	<.040	1.0	.01	.030	2.4	<10	1.42	420

Date	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
10...	<1.0	750	<50	60	--
JUN					
05...	<1.0	140	<50	100	<5
AUG					
01...	<1.0	110	<50	10	<5

LAKES AND RESERVOIRS IN MONONGAHELA RIVER BASIN

03055500 TYGART LAKE.--Lat 39°18'50", long 80°02'00", Taylor County, W. Va., Hydrologic Unit 05020001, at dam on Tygart Valley River, 2.2 mi upstream from Threefork Creek, and 2.4 mi upstream from Grafton, W. Va. DRAINAGE AREA, 1,184 mi^2. PERIOD OF RECORD, April 1938 to current year. Prior to October 1960 published as "*Tygart Reservoir*". GAGE, water-stage recorder. Datum of gage is at sea level.

REMARKS.--Lake is formed by concrete gravity dam completed and accepted February 1938, storage began May 15, 1938. Capacity, 285,000 acre-ft (from sedimentation resurvey made in 1959) between elevations 991.5 ft (sill of valves) and 1,167.0 ft (crest of spillway) above sea level. Dead storage, 2,700 acre-ft. Figures given herein represent total contents. Conservation pool elevation is 1,010.0 ft and water below elevation 991.5 ft cannot be withdrawn. Lake is used for flood control, for supplementary supply for navigation on Monongahela River during periods of low flow, and for recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 255,680 acre-ft, Nov. 7, 1985, elevation, 1,156.69 ft; minimum since October 1939, 8,330 acre-ft, Jan. 25, 1940, elevation, 1,005.15 ft. (Period of record available Oct. 1939 through Dec. 1999.)

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

03076000 DEEP CREEK RESERVOIR.--Lat 39°30'34", long 79°23'28", Garrett County, Md., Hydrologic Unit 05020006, on Deep Creek at dam, 1.8 mi upstream from mouth, and 7 mi north of Oakland, Md. DRAINAGE AREA, 64.7 mi^2. PERIOD OF RECORD, July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385. GAGE, water-stage recorder at right end of spillway. Datum of gage is at sea level (unadjusted).

REMARKS.--Reservoir is formed by an earthfill dam completed January 1925, with storage beginning at that time. Usable capacity, 92,975 acre-ft between elevations 2,425 ft (top of intake to outlet tunnel) and 2,462 ft (crest of spillway). Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power.

COOPERATION.--Records furnished by Pennsylvania Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,800 acre-ft, July 14, 1990, elevation, 2,462.25 ft; minimum observed, 11,760 acre-ft, Sept. 30, 1925, elevation, 2,433.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 90,000 acre-ft, Apr. 29, elevation, 2,461.20 ft; minimum 70,500 acre-ft, Nov. 19, elevation, 2,455.80 ft.

03077000 YOUGHIOGHENY RIVER LAKE.--Lat 39°47'56", long 79°22'06", Somerset County, Hydrologic Unit 05020006, remote control recorder at control house at dam, 1.2 mi upstream from Confluence, Pa., since June 1951. Water- stage recorder and transmitter at lat 39`45'21", long 79`24'00", at bridge on U.S. Highway 40, 500 ft upstream from Stuck Hollow Run, 0.6 mi upstream from Tub Run, on Youghiogheny River, 7.5 mi upstream from Youghiogheny River Dam, Pa. DRAINAGE AREA, 434 mi^2. PERIOD OF RECORD, October 1943 to current year. Prior to October 1970 published as "Youghiogheny River Reservoir." GAGE, water-stage recorder. Datum of gage is at sea level. Prior to Mar. 9, 1948, non-recording gage at dam at same datum. Mar. 9, 1948 to present, water-stage recorder also at transmitter site at datum.

REMARKS.--Lake is formed by a rock-faced earthfill dam with uncontrolled side channel spillway. Storage began during construction and lake acted as a retention basin from December 1942 to December 1947. Dam became fully operational in January 1948. Lake first reached minimum pool elevation, 1,344.0 ft (capacity, 5,230 acre-ft) in December 1942. Capacity 254,000 acre-ft between elevations 1,319.50 ft (invert at intake to outlet tunnel) and 1,470.00 ft (full pool). Winter low-water pool elevation is 1,419.0 ft, capacity, 103,000 acre-ft. Summer pool normally occurs during period Mar. 15 to Apr. 15. Depletion of low-water storage for Youghiogheny River flow augmentation occurs normally during the period July through November. Figures given herein represent total contents. Lake is used for flood control, for low-flow augmentation of Youghiogheny River and downstream rivers, and for recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 222,610 acre-ft, May 16, 1967, elevation, 1,460.95; minimum (after dam became fully operational), 3,700 acre-ft, Oct. 31, 1946, elevation 1,340.30 ft. (Period of record available Oct. 1946 through Dec. 1999.)

EXTREMES FOR CURRENT YEAR.--Records not furnished to determine extremes for current year.

MONONGAHELA RIVER BASIN

Lakes and Reservoirs in Monongahela River Basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
	03055500 Tygart Lake			03076000 Deep Creek Reservoir		
Sept. 30	1,083.06	93,140	---	2,457.40	76,100	---
Oct. 31	1,056.47	55,470	-612	2,456.30	72,200	-3,900
Nov. 30	1,038.44	35,098	-342	2,455.80	70,500	-1,700
Dec. 31	1,037.29	33,940	-19	2,455.80	70,500	0
CAL YR 2001	--	--	-6.8	--	--	+400
Jan. 31	1,036.96	33,610	-5.4	2,457.60	76,800	+6,300
Feb. 28	1,037.98	34,630	+18	2,457.80	77,500	+700
Mar. 31	1,087.78	100,780	+1,080	2,459.50	83,700	+6,200
Apr. 30	1,121.60	165,110	+1,080	2,461.20	90,000	+6,300
May 31	1,096.38	115,450	-808	2,460.90	88,900	-1,100
June 30	1,094.26	111,710	-63	2,460.10	85,900	-3,000
July 31	1,096.75	116,110	+72	2,459.30	83,000	-2,900
Aug. 31	1,084.20	94,960	-344	2,458.20	78,900	-4,100
Sept. 30	1,069.76	73,170	-366	2,457.40	76,100	-2,800
WTR YR 2002	--	--	-28	--	--	0

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s)
	03077000 Youghiogheny River Lake		
Sept. 30	1,406.97	74,840	---
Oct. 31	1,385.35	39,770	-570
Nov. 30	1,368.14	20,930	-317
Dec. 31	1,379.42	32,510	+188
CAL YR 2001	--	--	-29
Jan. 31	1,403.58	68,420	+584
Feb. 28	1,416.25	94,110	+463
Mar. 31	1,440.23	155,290	+995
Apr. 30	1,446.55	173,800	+311
May 31	1,440.73	156,720	-278
June 30	1,437.78	148,360	-140
July 31	1,432.72	134,500	-225
Aug. 31	1,418.73	99,700	-566
Sept. 30	1,406.23	73,410	-442
WTR YR 2002	--	--	-2.0

CHARTIERS CREEK BASIN

03085500 CHARTIERS CREEK AT CARNEGIE, PA

LOCATION.--Lat 40°24'02", long 80°05'48", Allegheny County, Hydrologic Unit 05030101, on left bank 100 ft downstream from Hammond Street bridge, 0.3 mi downstream from Robinson Run, 0.8 mi upstream from Campbells Run, and 8.9 mi upstream from mouth.

DRAINAGE AREA.--257 mi^2.

PERIOD OF RECORD.--October 1919 to September 1933, October 1940 to current year. Published as "*at Crafton*" October 1971 to September 1975. Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

GAGE.--Water-stage recorder and concrete weir control. Datum of gage is 755.45 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 15, 1931, nonrecording gage at site 0.5 mi downstream at different datum. Jan. 8, 1932 to Sept. 30, 1933, nonrecording gage at site 1.0 mi downstream at different datum. Nov. 20, 1940 to Aug. 18, 1967, water-stage recorder at site 400 ft upstream at datum 1.00 ft higher. Oct. 1, 1971 to Sept. 30, 1975, nonrecording gage at site 4.6 mi downstream, at datum 725.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulations at low flow by mine drainage, reservoirs, and industrial usage above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 2, 1912 reached a discharge of 20,000 ft^3/s, from U.S. Army Corps of Engineers.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,500 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 26	2100	*4,410	*7.40	May 18	1200	2,700	5.31

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	54	207	e98	309	110	415	349	261	134	66	51
2	55	63	123	e93	229	119	354	354	204	131	65	45
3	53	141	98	91	191	226	341	291	181	127	62	54
4	51	80	85	83	176	185	304	248	180	120	61	208
5	48	65	79	83	143	143	275	230	239	113	85	75
6	62	58	78	e82	138	147	255	219	1260	104	121	59
7	62	57	88	e85	140	135	238	261	1160	100	79	53
8	52	57	92	e86	131	125	226	306	430	97	65	51
9	54	64	131	91	121	120	224	474	315	119	61	49
10	52	58	99	e100	136	126	215	417	262	130	59	48
11	46	54	82	177	266	110	191	278	235	102	57	48
12	64	49	82	e135	192	108	182	365	216	90	76	41
13	89	49	102	e120	164	108	267	771	239	88	89	39
14	69	53	100	e116	139	103	350	1100	358	87	54	42
15	79	54	98	e113	139	102	593	584	315	84	54	102
16	61	53	81	111	133	602	373	430	297	81	52	89
17	68	51	936	101	138	443	297	392	216	79	47	59
18	59	52	1020	93	118	484	262	1930	184	140	49	53
19	55	59	395	92	111	336	246	947	168	339	53	70
20	49	104	259	96	127	898	348	638	153	205	76	63
21	43	68	191	109	238	962	331	503	142	108	55	49
22	42	59	151	111	178	561	347	427	135	89	60	46
23	55	55	141	109	152	429	269	379	130	86	133	43
24	264	53	157	233	136	365	241	352	124	84	329	40
25	119	225	127	261	130	381	228	346	120	82	132	43
26	81	141	108	181	140	1870	207	297	117	78	76	76
27	66	192	e106	152	139	2060	192	268	341	77	64	758
28	61	215	e106	133	121	775	784	393	501	77	59	310
29	58	269	103	121	---	577	593	385	210	73	58	109
30	58	317	102	320	---	543	406	258	157	102	55	79
31	57	---	e100	439	---	428	---	239	---	73	53	---
TOTAL	2087	2869	5627	4215	4475	13681	9554	14431	8850	3399	2405	2852
MEAN	67.3	95.6	182	136	160	441	318	466	295	110	77.6	95.1
MAX	264	317	1020	439	309	2060	784	1930	1260	339	329	758
MIN	42	49	78	82	111	102	182	219	117	73	47	39
CFSM	0.26	0.37	0.71	0.53	0.62	1.72	1.24	1.81	1.15	0.43	0.30	0.37
IN.	0.30	0.42	0.81	0.61	0.65	1.98	1.38	2.09	1.28	0.49	0.35	0.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	114	195	283	349	453	578	469	349	236	175	142	127
MAX	393	1400	1003	986	1255	1361	999	887	694	951	960	757
(WY)	1980	1986	1951	1924	1926	1945	1961	1924	1980	1928	1980	1926
MIN	31.3	35.5	36.5	37.8	80.9	101	154	92.7	46.5	30.0	28.4	24.1
(WY)	1933	1931	1931	1931	1964	1969	1925	1926	1926	1926	1930	1927

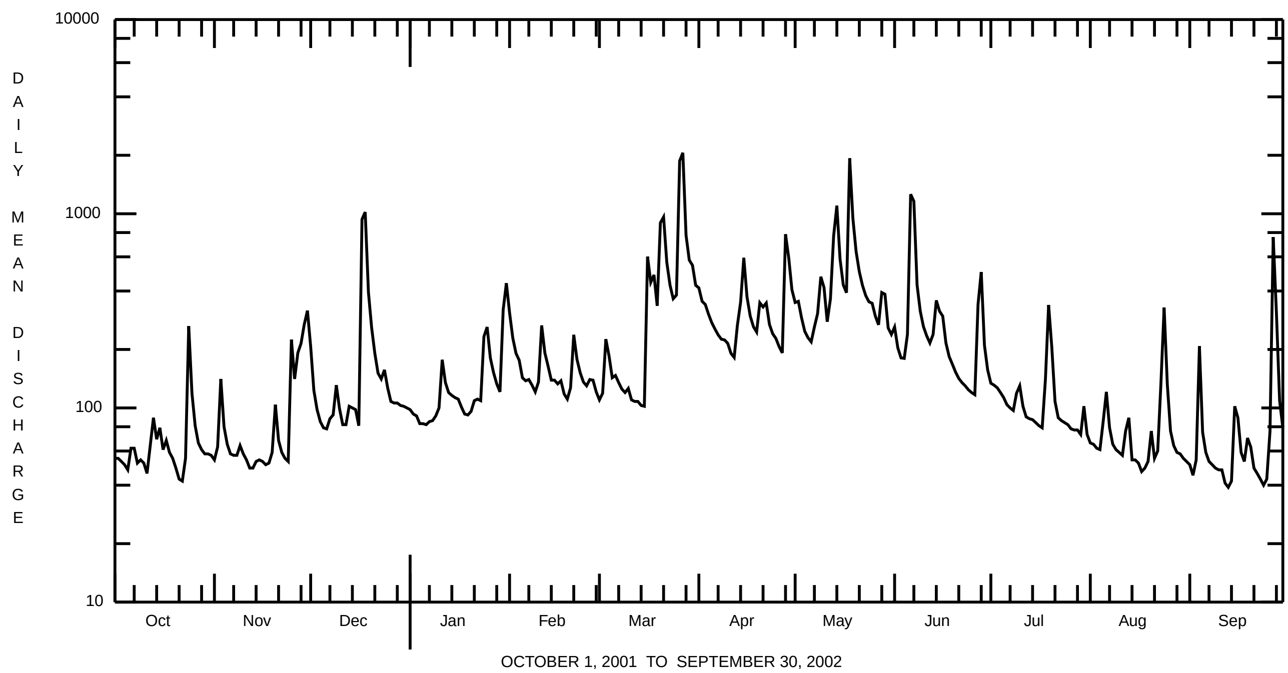
e Estimated.

CHARTIERS CREEK BASIN

03085500 CHARTIERS CREEK AT CARNEGIE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1920 - 2002	
ANNUAL TOTAL	78191		74445			
ANNUAL MEAN	214		204		288	
HIGHEST ANNUAL MEAN					527	1928
LOWEST ANNUAL MEAN					132	1954
HIGHEST DAILY MEAN	2190	Jan 31	2060	Mar 27	11100	Aug 6 1956
LOWEST DAILY MEAN	42	Oct 22	39	Sep 13	16	Aug 9 1926
ANNUAL SEVEN-DAY MINIMUM	52	Nov 12	45	Sep 8	19	Sep 26 1927
MAXIMUM PEAK FLOW			4410	Mar 26	**a**13500	Aug 6 1956
MAXIMUM PEAK STAGE			7.40	Mar 26	**b**16.37	Aug 6 1956
INSTANTANEOUS LOW FLOW			38	Sep 12-14,24	**c**16	Aug 9 1926**d**
ANNUAL RUNOFF (CFSM)	0.83		0.79		1.12	
ANNUAL RUNOFF (INCHES)	11.32		10.78		15.24	
10 PERCENT EXCEEDS	452		410		614	
50 PERCENT EXCEEDS	138		120		160	
90 PERCENT EXCEEDS	57		53		56	

a From rating curve extended above 13,100 ft^3/s.
b Site and datum then in use.
c Minimum observed.
d Also at times in September 1932.



MONTOUR RUN BASIN

03085956 MONTOUR RUN AT SCOTT STATION NEAR IMPERIAL, PA

LOCATION.--Lat 40°27'23", long 80°10'34", Allegheny County, Hydrologic Unit 05030101, on left bank at upstream side of privately owned single span bridge on south side of Montour Run Road, SR3072, 0.3 mi downstream from McCalrens Run, and 0.9 mi upstream from Trout Run.

DRAINAGE AREA.--25.4 mi^2.

PERIOD OF RECORD.--August 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 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 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	5.1	35	6.9	46	11	31	35	19	4.9	3.1	2.5
2	3.7	26	19	e6.5	29	14	27	63	13	4.9	2.7	2.5
3	3.5	22	14	e6.4	23	40	31	33	12	4.6	2.4	6.9
4	3.3	8.0	12	e6.3	20	17	24	27	11	4.3	2.2	21
5	3.2	6.2	9.9	6.0	15	17	22	23	31	4.2	11	3.9
6	8.3	5.7	11	6.5	14	15	20	21	202	3.7	6.6	3.2
7	4.3	5.4	9.7	e6.5	14	15	18	41	59	3.5	2.8	2.9
8	3.5	5.5	20	e6.0	12	12	18	41	29	3.6	2.4	2.7
9	3.4	7.7	15	8.5	11	12	25	46	21	4.5	2.2	2.5
10	3.4	5.4	10	28	18	13	19	25	17	5.3	2.1	2.5
11	3.5	5.0	9.0	23	33	9.8	15	19	14	4.8	2.0	2.4
12	16	4.7	8.1	15	16	9.9	14	49	13	3.6	2.9	2.3
13	7.4	4.6	17	13	14	9.6	44	114	12	3.9	3.0	2.3
14	11	4.6	12	11	12	9.2	54	82	23	3.5	2.1	2.3
15	7.8	4.6	9.7	12	12	9.0	48	44	14	3.3	3.2	7.7
16	8.8	4.7	8.3	9.4	11	73	30	32	12	3.1	2.3	6.5
17	14	4.4	290	8.8	13	65	25	39	9.4	3.0	21	3.3
18	5.8	4.3	158	7.8	10	55	22	185	10	3.4	3.8	3.0
19	4.7	13	52	7.5	9.7	36	39	59	12	5.7	2.8	5.7
20	4.4	22	35	8.4	26	118	49	41	7.6	4.0	2.4	3.1
21	4.1	7.1	e16	12	55	71	34	33	6.9	2.9	2.1	3.0
22	4.1	5.9	e15	12	27	48	83	27	6.5	2.7	12	2.9
23	30	5.3	e13	12	21	38	40	24	6.3	2.6	33	2.5
24	95	5.0	e12	49	17	30	31	32	5.8	2.5	117	2.4
25	18	77	e11	27	16	46	28	25	5.5	26	14	2.3
26	9.4	15	e9.5	18	20	406	23	19	5.3	9.2	6.2	18
27	7.4	88	e8.7	15	15	136	23	16	19	6.4	4.4	203
28	6.4	49	e8.5	13	12	66	107	57	11	3.9	3.6	24
29	5.7	52	e8.0	12	---	49	46	30	6.0	3.6	3.3	9.1
30	5.4	114	e7.7	97	---	50	46	20	5.1	27	2.9	5.9
31	5.2	---	e7.3	68	---	35	---	20	---	4.4	2.7	---
TOTAL	314.8	587.2	871.4	538.5	541.7	1535.5	1036	1322	618.4	173.0	284.2	362.3
MEAN	10.2	19.6	28.1	17.4	19.3	49.5	34.5	42.6	20.6	5.58	9.17	12.1
MAX	95	114	290	97	55	406	107	185	202	27	117	203
MIN	3.2	4.3	7.3	6.0	9.7	9.0	14	16	5.1	2.5	2.0	2.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.9	13.3	32.5	22.7	23.4	48.5	42.7	28.3	18.1	8.66	15.8	10.6
MAX	15.7	19.6	36.9	28.0	27.5	49.5	50.9	42.6	20.6	11.7	22.4	12.1
(WY)	2001	2002	2001	2001	2001	2002	2001	2002	2002	2001	2001	2002
MIN	10.2	7.01	28.1	17.4	19.3	47.5	34.5	13.9	15.6	5.58	9.17	9.21
(WY)	2002	2001	2002	2002	2002	2001	2002	2001	2001	2002	2002	2001

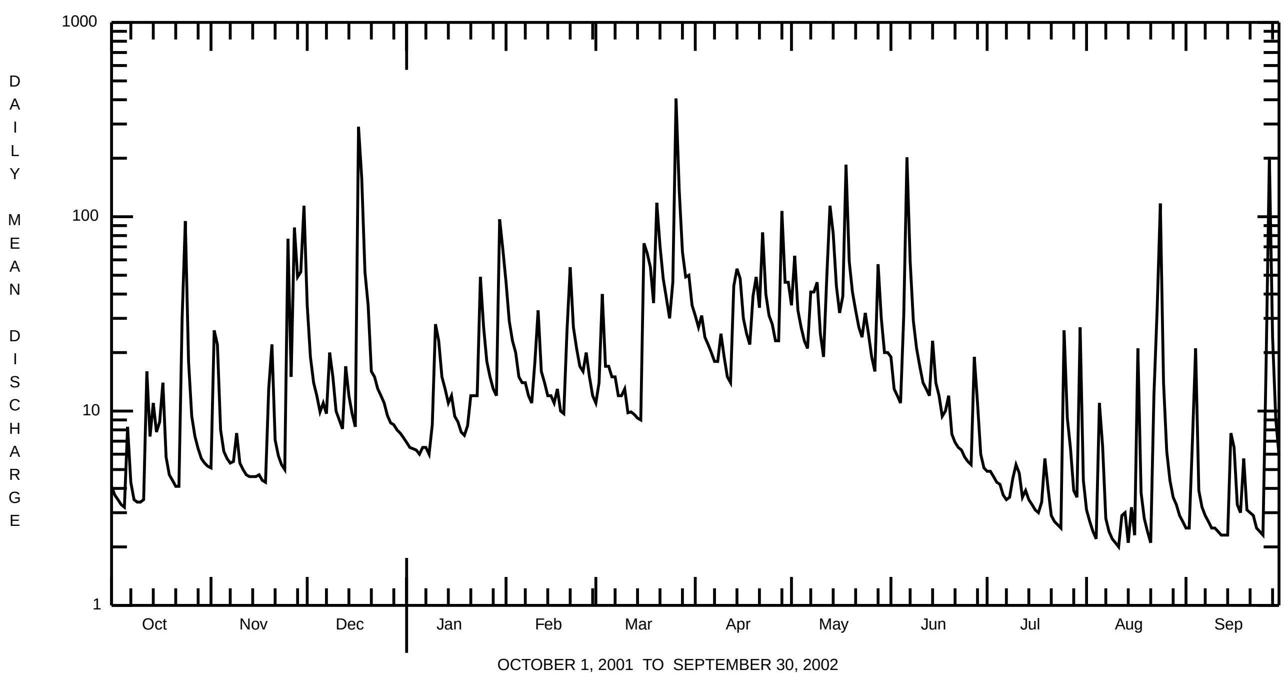
e Estimated.

OHIO RIVER MAIN STEM

03085956 MONTOUR RUN AT SCOTT STATION NEAR IMPERIAL, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	8648.6		8185.0			
ANNUAL MEAN	23.7		22.4		23.2	
HIGHEST ANNUAL MEAN					23.9	2001
LOWEST ANNUAL MEAN					22.4	2002
HIGHEST DAILY MEAN	373	Mar 21	406	Mar 26	406	Mar 26 2002
LOWEST DAILY MEAN	2.4	Aug 7	2.0	Aug 11	2.0	Aug 11 2002
ANNUAL SEVEN-DAY MINIMUM	3.5	Sep 7	2.4	Aug 8	2.4	Aug 8 2002
MAXIMUM PEAK FLOW			1090	Mar 26	**a**2080	Aug 28 2001
MAXIMUM PEAK STAGE			6.35	Mar 26	8.31	Aug 28 2001
INSTANTANEOUS LOW FLOW			1.8	Aug 12	1.8	Aug 12 2002
10 PERCENT EXCEEDS	52		49		49	
50 PERCENT EXCEEDS	11		12		11	
90 PERCENT EXCEEDS	3.8		3.0		3.5	

a From rating curve extended above 550 ft^3/s.



03086000 OHIO RIVER AT SEWICKLEY, PA
(Pennsylvania Water-Quality Network Station)
(National Stream-Quality Accounting Network Station)

LOCATION.--Lat 40°32'57", long 80°12'21", Allegheny County, Hydrologic Unit 05030101, near left bank 50 ft upstream from Dashields Dam, 1.0 mi downstream from Narrows Run, 1.0 mi northwest of Sewickley, and 13.3 mi downstream from confluence of Allegheny and Monongahela Rivers.

DRAINAGE AREA.--19,500 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1305: 1938-40 (adjusted monthly runoff). WSP 1435: 1934.

GAGE.--Water-stage recorder and fixed-crest concrete dam control. Datum of gage is 680.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 22, 1933, nonrecording gage, Nov. 22, 1933 to May 4, 1981, water-stage recorder at site 1.5 mi upstream, Nov. 14, 1988 to July 12, 1990, nonrecording gage, and July 13, 1990 to June 13, 1991, water-stage recorder at present site at datum 10.41 ft higher.

REMARKS.--No estimated daily discharges. Records good. Some regulation by locks, and by many reservoirs above station. Combined capacity of reservoirs and lakes, excluding that of Chautauqua Lake (station 03013946), but including Lake Lynn, Deep Creek Reservoir (station 03076000), and 15 smaller reservoirs, 2,773,000 acre-ft. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5810	8860	22000	15100	58100	24100	79800	73100	27400	13200	14300	4820
2	6140	7670	24700	15000	69100	19900	76800	64800	26600	12000	12500	4400
3	6690	8830	23500	13200	65800	19300	67100	72600	27100	11200	8970	5330
4	5940	9250	20100	15500	61700	27400	70000	73000	21900	10300	8360	6360
5	5820	7890	22600	13300	62100	32700	65000	67300	22900	7250	5650	5680
6	5590	10500	16100	11300	51600	28800	57400	58100	37300	7740	8860	4580
7	5370	7590	14100	10700	44400	25200	46700	52900	71700	6820	5870	4380
8	5170	7830	13400	11100	42300	23900	39700	47200	58900	6640	5310	4520
9	5340	7710	13000	11200	38000	22600	37700	62100	55200	8240	6530	5540
10	6810	7520	14000	11700	33100	20200	33100	62000	49900	8420	5460	4290
11	5220	6470	16200	15600	36300	19900	35300	65300	44200	13500	5950	5190
12	6060	5480	12300	34400	47500	22400	34600	63600	36000	14100	5210	5770
13	6170	7040	13300	26300	43600	19100	30100	88200	30700	11600	8440	4420
14	5820	5590	13000	24700	40100	20000	34600	128000	38900	9620	6830	3920
15	5420	6200	11300	24000	36200	15100	58300	120000	48800	10400	5450	5680
16	6870	5550	13400	23700	33800	22900	91400	107000	45400	12700	5970	6150
17	6520	5560	25200	21200	26000	28600	76400	99300	40100	10900	8160	7520
18	7400	5490	48900	20100	26300	37600	68800	117000	35000	9520	6340	7330
19	6340	5930	69200	18400	23500	42300	69100	135000	31600	10800	5490	7420
20	6800	5440	57400	15000	22300	54700	66800	115000	27100	10000	6060	5820
21	6830	5810	50200	12200	23200	118000	55200	103000	25100	10100	6180	5680
22	5130	6780	43000	14400	26500	82900	66200	88500	19000	8780	6100	5480
23	6390	6950	38400	14700	27800	66300	88100	78300	14600	9150	6690	4740
24	11500	6860	34600	19100	21000	59700	69200	65700	11400	8130	11100	4940
25	14600	9240	41900	52400	19700	53400	62500	54600	11800	10400	9690	4610
26	10400	10900	38900	64300	22800	67200	54200	47000	10400	8040	8100	5010
27	9160	16800	33900	54800	24600	113000	44200	37500	11400	10100	7590	15500
28	9310	17300	29400	48700	27700	86900	43500	37800	15600	20700	7720	13000
29	10200	19100	25400	42400	---	73600	88900	32600	13300	16400	6280	17400
30	9530	18900	22700	41300	---	71900	80100	28000	13700	15600	4310	11100
31	9210	---	20200	50800	---	74000	---	28300	---	20000	4820	---
TOTAL	223560	261040	842300	766600	1055100	1393600	1790800	2272800	923000	342350	224290	196580
MEAN	7212	8701	27170	24730	37680	44950	59690	73320	30770	11040	7235	6553
MAX	14600	19100	69200	64300	69100	118000	91400	135000	71700	20700	14300	17400
MIN	5130	5440	11300	10700	19700	15100	30100	28000	10400	6640	4310	3920
CFSM	0.37	0.45	1.39	1.27	1.93	2.31	3.06	3.76	1.58	0.57	0.37	0.34
IN.	0.43	0.50	1.61	1.46	2.01	2.66	3.42	4.34	1.76	0.65	0.43	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2002, BY WATER YEAR (WY)

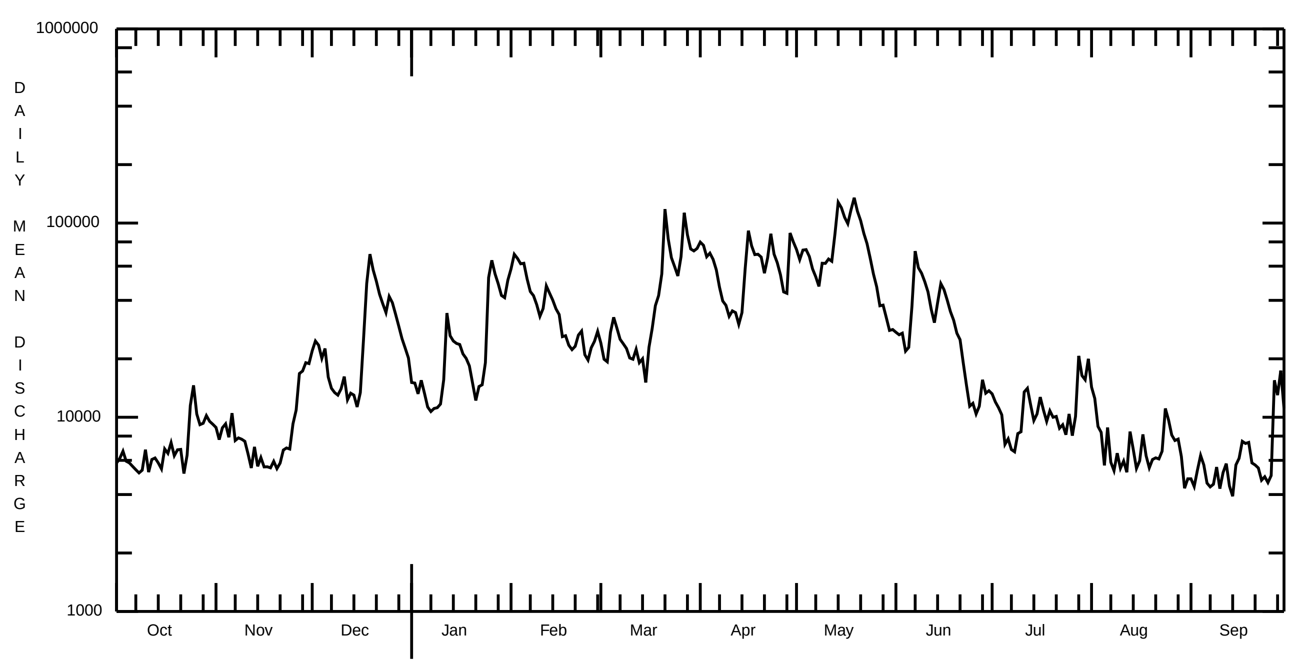
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15040	25550	39800	44520	49680	64970	56490	38310	24370	15760	13060	11620
MAX	51010	83490	88890	132000	91820	147900	124500	90380	70490	50770	48180	39450
(WY)	1955	1986	1973	1937	1939	1936	1940	1996	1989	1972	1956	1996
MIN	3073	3991	6705	10470	11610	18670	16790	9593	5001	3892	3565	3081
(WY)	1964	1954	1961	1977	1934	1969	1946	1934	1934	1966	1957	1946

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1934 - 2002	
ANNUAL TOTAL	8596580		10292020			
ANNUAL MEAN	23550		28200		33180	
HIGHEST ANNUAL MEAN					46520	1994
LOWEST ANNUAL MEAN					21110	1934
HIGHEST DAILY MEAN	105000	Feb 17	135000	May 19	465000	Mar 18 1936
LOWEST DAILY MEAN	4190	Sep 10	3920	Sep 14	2100	Sep 4 1957
ANNUAL SEVEN-DAY MINIMUM	5240	Sep 7	4810	Sep 8	2330	Sep 1 1957
MAXIMUM PEAK FLOW			142000	May 19	**a**574000	Mar 18 1936
MAXIMUM PEAK STAGE			19.74	May 19	**b**34.75	Mar 18 1936
INSTANTANEOUS LOW FLOW					1800	Sep 4 1957
ANNUAL RUNOFF (CFSM)	1.21		1.45		1.70	
ANNUAL RUNOFF (INCHES)	16.40		19.63		23.12	
10 PERCENT EXCEEDS	57700		67200		73700	
50 PERCENT EXCEEDS	14300		17300		22700	
90 PERCENT EXCEEDS	6130		5630		5960	

a From rating curve extended above 535,000 ft^3/s.
b From floodmarks in gage house, site and datum then in use.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2000 to current year.

REMARKS.--Other data for the Water-Quality Network can be found on pages 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUORIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
09...	0830	9813	37200	40	6.7	7.2	255	7.0	81	22.8	5.8	28	<.2
JUN													
04...	0800	9813	22100	40	9.3	7.6	305	20.1	96	26.8	7.0	36	<.2
AUG													
01...	1145	9813	14300	40	8.0	7.7	324	28.0	120	31.4	9.0	40	<.2

Date	SULFATE DISSOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DISSOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	CYANIDE AMENABLE TO CHLORINATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)
APR 2002													
09...	54.0	176	18	.060	.72	<.040	1.0	.03	.040	2.3	<10	<1.00	620
JUN													
04...	59.5	206	14	<.020	.57	<.040	.86	.03	.030	2.8	<10	<1.00	560
AUG													
01...	89.4	270	4	.030	.53	<.040	.86	.01	.030	2.5	<10	1.24	270

Date	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)	GROSS BETA, WATER, UNFLT, (PCI/L) (85817)
APR 2002						
09...	<1.0	150	<50	<10	<5	--
JUN						
04...	1.2	160	<50	10	<5	2
AUG						
01...	<1.0	90	<50	20	<5	--

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued
(National Stream-Quality Accounting Network Station)

REMARKS.--All water-quality samples were collected and analyzed by the U.S. Geological Survey. An explanation of selected abbreviations used in the water-quality tables is given on pages 40-41. 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 2001 TO SEPTEMBER 2002

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID-ITY LAB HACH 2100AN (NTU) (99872)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
NOV 2001													
14...	1100	Q	--	--	<.004	<.004	--	--	--	--	--	<.01	.028
15...	1045	9	6440	8.0	.074	.054	744	15.6	7.7	439	11.0	37.6	9.90
DEC													
05...	1030	9	25500	12	.075	.056	747	16.3	7.6	346	10.0	30.1	8.07
05...	1040	R	25500	14	.076	.057	747	16.3	7.6	346	10.0	30.2	8.06
JAN 2002													
23...	1030	9	15700	5.0	.038	.027	--	13.9	7.3	332	3.0	30.5	7.88
31...	1000	9	48700	32	.059	.044	740	13.1	7.4	293	4.0	23.1	5.78
FEB													
26...	0930	9	25100	6.5	.043	.031	730	13.5	6.9	270	4.5	22.3	5.87
MAR													
26...	0900	9	53900	48	.061	.046	738	12.6	7.6	276	5.5	23.4	5.99
APR													
23...	0930	9	96800	46	.046	.034	747	10.7	7.5	210	13.5	19.1	4.95
29...	0930	9	87500	54	.064	.048	739	10.4	7.5	214	13.0	19.0	4.85
MAY													
29...	1030	9	33800	11	.052	.038	744	9.6	7.6	231	16.0	22.6	6.25
29...	1040	R	33800	10	.051	.037	744	9.6	7.6	231	16.0	22.7	6.32
JUN													
07...	1715	9	72200	37	.064	.048	746	9.4	7.6	290	21.0	27.2	7.26
07...	1720	R	72200	--	--	--	746	9.4	7.6	290	21.0	--	--
24...	1115	9	9940	6.8	.060	.044	747	9.1	7.4	281	23.0	27.1	7.54
JUL													
16...	1030	9	14300	8.8	.054	.039	748	7.5	7.5	431	27.0	35.9	10.3
SEP													
04...	1100	9	6350	7.2	.059	.042	744	7.2	7.1	413	26.0	34.0	9.48
04...	1108	Q	--	--	<.004	<.004	--	--	--	--	--	E.01	<.008

Date	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
NOV 2001													
14...	--	<.09	--	--	--	<.13	--	--	<.015	--	--	<.013	<.002
15...	3.08	33.4	58	39.9	.2	3.18	95.0	260	.08	.34	.47	1.01	.042
DEC													
05...	2.38	22.8	44	29.0	.1	4.13	75.4	214	.09	.32	.39	.76	.026
05...	2.47	22.6	44	28.3	.1	4.04	75.6	210	.10	.32	.37	.76	.026
JAN 2002													
23...	2.04	36.8	37	57.9	.1	4.91	73.0	254	.11	.27	.33	1.05	.024
31...	1.83	19.7	34	29.9	.1	4.67	50.2	164	.11	.30	.43	.98	.011
FEB													
26...	1.50	18.0	31	26.0	E.1	4.59	46.9	150	.09	.21	.25	.86	.014
MAR													
26...	1.62	15.6	29	23.7	E.1	5.08	50.6	160	.06	.23	.39	.94	.008
APR													
23...	1.48	11.1	26	11.6	<.1	4.47	47.6	124	E.04	.15	.40	.59	E.007
29...	1.38	11.5	26	12.6	<.1	4.49	45.3	122	.04	.20	.49	.59	.012
MAY													
29...	1.25	12.0	29	15.8	E.1	4.68	54.5	148	E.02	.18	.30	.58	.010
29...	1.28	12.2	29	15.7	E.1	4.76	54.4	147	E.03	.18	.29	.60	.008
JUN													
07...	1.70	16.7	36	18.1	E.1	4.46	65.2	186	.04	.23	.54	.62	.010
07...	--	--	36	--	--	--	--	--	--	--	--	--	--
24...	1.87	15.7	30	18.3	E.1	3.61	65.5	193	<.04	.14	.25	.67	.015
JUL													
16...	2.36	31.4	45	25.1	.1	4.22	110	266	<.04	.18	.38	.81	.019
SEP													
04...	2.49	29.1	41	34.4	.2	1.83	90.7	241	<.04	.19	.41	.98	.026
04...	<.01	<.09	--	.14	<.01	<.13	<.01	--	<.015	--	--	<.013	<.002

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

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

Date	NITRO-GEN,PAR TICULTE WAT FLT SUSP (MG/L AS N) (49570)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	ORTHO-PHOS-PHATE, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, INORG + ORGANIC PARTIC. TOTAL (MG/L AS C) (00694)	CARBON, INOR-GANIC, PARTIC. TOTAL (MG/L AS C) (00688)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	ALUM-INUM, DIS-SOLVED (µG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (µG/L AS SB) (01095)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	BARIUM, DIS-SOLVED (µG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (µG/L AS BE) (01010)
NOV 2001													
14...	<.02	--	<.007	--	<.1	<.1	<.3	<.1	<1	<.05	<.2	<1	<.06
15...	.13	.021	.013	.053	.8	<.1	2.9	.8	10	.12	.5	43	<.06
DEC													
05...	.09	.018	.010	.053	.8	<.1	2.8	.8	10	.08	.4	42	<.06
05...	.08	.018	.011	.054	1.0	<.1	2.8	1.0	10	.07	.4	42	<.06
JAN 2002													
23...	.06	.021	.011	.038	.4	<.1	3.4	.4	16	.07	.2	42	<.06
31...	.19	.012	.008	.076	1.5	<.1	2.2	1.5	17	.05	.3	33	<.06
FEB													
26...	.05	.008	E.005	.029	.4	<.1	1.6	.3	13	<.05	E.1	30	<.06
MAR													
26...	.17	.007	<.007	.078	2.1	<.1	2.3	2.1	22	.11	E.2	37	<.06
APR													
23...	1.37	.007	<.007	.108	18.8	<.1	1.8	18.7	18	.12	.3	32	<.06
29...	.83	.008	<.007	.120	9.6	.2	2.3	9.4	24	.10	.3	32	<.06
MAY													
29...	.11	.008	<.007	.045	1.0	<.1	1.9	1.0	26	.09	.3	40	<.06
29...	.14	.008	<.007	.046	1.0	<.1	2.0	.9	25	.08	.3	40	<.06
JUN													
07...	.22	.011	<.007	.112	2.7	<.1	2.1	2.7	30	.16	.4	41	<.06
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	.09	.007	<.007	.029	.7	<.1	2.4	.7	27	.11	.3	44	<.06
JUL													
16...	.16	.005	<.007	.038	.8	<.1	2.2	.8	22	.12	.4	50	<.06
SEP													
04...	.13	.012	E.004	.057	.8	<.1	2.9	.8	20	.16	.6	45	<.06
04...	<.02	--	<.007	--	<.1	<.1	E.2	<.1	--	--	<.2	--	--

Date	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR) (01030)	COBALT, DIS-SOLVED (µG/L AS CO) (01035)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LITHIUM DIS-SOLVED (µG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO) (01060)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (µG/L AS SE) (01145)	SILVER, DIS-SOLVED (µG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (µG/L AS SR) (01080)
NOV 2001													
14...	<.04	<.8	<.02	<.2	<10	<.08	<.3	<.1	<.2	<.06	<.3	<1	E.06
15...	.04	<.8	.22	3.1	13	E.08	9.2	21.0	2.8	2.89	.5	<1	234
DEC													
05...	E.03	<.8	.23	1.9	39	.13	19.7	53.0	.9	2.83	E.3	<1	205
05...	<.04	<.8	.23	2.0	34	.12	20.3	53.4	.9	2.77	E.2	<1	210
JAN 2002													
23...	.04	<.8	1.35	1.6	44	.08	5.8	152	1.0	4.62	.4	<1	205
31...	E.03	<.8	.75	1.5	42	E.06	4.3	130	.7	2.85	E.3	<1	124
FEB													
26...	.04	<.8	.61	1.5	40	E.06	4.3	85.9	.5	3.10	E.2	<1	113
MAR													
26...	E.02	E.5	.84	1.5	39	.09	4.1	128	.6	3.21	E.3	<1	122
APR													
23...	E.03	<.8	.22	1.1	25	E.06	3.3	46.1	.4	2.02	<.3	<1	104
29...	<.04	<.8	.27	1.1	29	E.06	3.3	53.3	.7	1.80	.3	<1	101
MAY													
29...	E.02	<.8	.72	1.4	28	.09	5.5	151	.7	3.67	E.3	<1	119
29...	E.02	<.8	.70	1.5	24	.08	5.6	151	.6	3.72	.3	<1	119
JUN													
07...	.04	<.8	.19	1.8	25	E.07	5.6	45.9	1.3	2.40	E.3	<1	147
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	.06	<.8	.14	1.6	15	<.08	7.0	10.3	1.1	2.81	E.3	<1	161
JUL													
16...	.04	<.8	.14	1.8	E6	.09	9.0	2.3	1.8	1.20	.5	<1	252
SEP													
04...	.04	<.8	.17	2.7	<10	<.08	8.0	1.2	2.4	1.58	.5	<1	221
04...	--	--	--	--	<10	--	<.3	--	--	--	<.3	--	<.08

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

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

Date	THAL-LIUM, DIS-SOLVED (μG/L AS TL) (01057)	VANA-DIUM, DIS-SOLVED (μG/L AS V) (01085)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV 2001				
14...	<.04	<.2	--	--
15...	--	E.2	100	8.0
DEC				
05...	--	E.1	86	19
05...	--	E.1	90	18
JAN 2002				
23...	--	.9	67	9.0
31...	--	.6	97	33
FEB				
26...	--	<.2	89	7.0
MAR				
26...	--	<.2	99	46
APR				
23...	--	.2	92	87
29...	--	.4	94	73
MAY				
29...	--	E.1	99	15
29...	--	E.2	96	16
JUN				
07...	--	.4	97	60
07...	--	--	--	--
24...	--	.5	97	8.0
JUL				
16...	--	.5	97	7.0
SEP				
04...	--	.4	97	8.0
04...	--	<.2	--	--

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

REMARKS.--The following data are for trace elements and other constituents that were part of the suspended sediment fraction of the water sample. Suspended sediments were dewatered using a continuous flow centrifuge, dried, and analyzed directly for total metals using a nitric, hydrofluoric, perchloric acid digestion. Whole water contributions by the suspended sediment were then calculated using the suspended-sediment concentration in kilograms per liter (kg/L) and the analyte concentration in milligrams per kilogram (mg/kg) from the direct analysis of the suspended sediments, resulting in micrograms per gram (µG/G) concentrations. Values reported in percent are the percent of that constituent in the suspended sediment. When no trace element was detected in the sample, the default reporting value is the method detection limit preceded by a less-than sign (<).

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

Date	Time	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	NITRO-GEN, TOTAL, SEDIMNT SUSP, (WEIGHT PERCNT) (62845)	PHOS-PHORUS SEDI-MENT SUSP. PERCENT (30292)	CARBON SED. SUSP. PERCENT (30244)	CARBON, ORGANIC SUS-PENDED, TOTAL PERCENT (50465)	ALUM-INUM SED,SUS PERCENT (30221)	AN-TIMONY SED. SUSP. (µG/G) (29816)	ARSENIC SED. SUSP. (µG/G) (29818)	BARIUM SED. SUSP. (µG/G) (29820)	BERYL-LIUM SED. SUSP. (µG/G) (29822)	CADMIUM SED. SUSP. (µG/G) (29826)	CHRO-MIUM SED. SUSP. (µG/G) (29829)
NOV 2001													
15...	1045	6440	.61	.260	5.5	5.6	7.8	2.1	24	660	4	2.1	130
DEC													
05...	1030	25500	.47	.230	5.2	5.2	8.3	1.7	27	720	4	2.6	120
JAN 2002													
23...	1030	15700	--	.460	--	--	7.2	2.9	29	690	6	4.6	150
31...	1000	48700	--	.180	4.4	4.2	9.3	1.6	20	660	4	1.9	100
FEB													
26...	0930	25100	--	.260	--	--	8.2	1.8	27	680	5	2.2	110
MAR													
26...	0900	53900	--	.130	3.8	3.6	10	1.3	19	630	4	1.5	97
APR													
23...	0930	96800	.38	.130	5.9	5.6	7.8	2.1	20	560	4	1.6	110
29...	0930	87500	.36	.140	5.5	5.3	8.1	1.3	18	560	4	1.4	100
MAY													
29...	1030	33800	.49	.180	5.5	5.3	8.0	1.6	23	670	4	2.6	120
JUN													
07...	1715	72200	.42	.150	4.9	4.6	7.8	1.4	19	580	4	1.6	130
24...	1115	9940	.75	.240	6.3	6.0	7.1	1.5	20	610	4	2.2	130
JUL													
16...	1030	14300	.67	.220	6.3	--	7.6	2.0	19	590	4	1.8	110
SEP													
04...	1100	6350	.75	.240	6.1	--	7.0	2.9	14	580	3	1.5	120

Date	COBALT SEDI-MENT SUSP. (µG/G) (35031)	COPPER SED. SUSP. (µG/G) (29832)	IRON SEDI-MENT SUSP. PERCENT (30269)	LEAD SED. SUSP. (µG/G) (29836)	LITHIUM SEDI-MENT SUSP. (µG/G) (35050)	MAN-GANESE SED. SUSP. (µG/G) (29839)	MERCURY SED. SUSP. (µG/G) (29841)	MOLYB-DENUM SED. SUSP. (µG/G) (29843)	NICKEL SED. SUSP. (µG/G) (29845)	SELE-NIUM SED. SUSP. (µG/G) (29847)	SILVER SED. SUSP. (µG/G) (29850)	STRON-TIUM SEDI-MENT SUSP. (µG/G) (35040)	THAL-LIUM SUS SED (µG/G) (49955)
NOV 2001													
15...	63	140	5.8	120	75	9600	.35	7	200	3	2	140	<50
DEC													
05...	71	110	6.5	90	91	9300	.21	6	230	2	2	130	<50
JAN 2002													
23...	270	130	8.0	100	67	24000	--	14	270	4	3	180	<120
31...	79	62	5.9	67	76	6400	.15	4	120	2	<.5	160	<50
FEB													
26...	130	92	6.5	79	75	10000	.22	5	150	3	<.5	130	<50
MAR													
26...	57	53	5.9	54	87	4000	.15	3	88	2	M	150	<50
APR													
23...	60	69	5.2	63	74	3500	.13	5	110	1	M	120	<50
29...	52	65	5.2	62	76	3200	.09	4	100	1	M	130	<50
MAY													
29...	100	120	5.6	110	85	11000	.21	5	240	2	1	120	<50
JUN													
07...	59	72	5.0	76	79	4500	.13	5	140	1	M	120	<50
24...	92	79	5.3	74	67	14000	.84	7	270	2	2	130	<50
JUL													
16...	80	92	5.5	2.0	77	8900	.24	6	170	2	M	140	<50
SEP													
04...	64	90	4.5	110	64	9800	--	7	150	1	M	130	<50

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

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

Date	TITANIUM SEDIMENT SUSP. PERCENT (30317)	VANADIUM SED. SUSP. (µG/G) (29853)	ZINC SED. SUSP. (µG/G) (29855)	URANIUM SEDIMENT SUSP. (µG/G) (35046)	SEDIMENT SUSP., FLOW-THROUGH CENTRIF (MG/L) (50279)
NOV 2001					
15...	.410	110	640	<50	10
DEC					
05...	.440	120	530	<50	15
JAN 2002					
23...	.330	110	1400	<120	3
31...	.490	130	650	<50	33
FEB					
26...	.420	120	790	<50	6
MAR					
26...	.480	130	510	<50	49
APR					
23...	.470	100	520	<50	93
29...	.460	110	500	<50	82
MAY					
29...	.430	110	660	<50	16
JUN					
07...	.460	110	430	<50	64
24...	.390	100	540	<50	9
JUL					
16...	.410	100	530	<50	8
SEP					
04...	.380	100	430	<50	8

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

REMARKS.--The following data are for analytes from the National Water Quality Laboratory (NWQL) schedule 2001-pesticides in filtered water. Samples are filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size to remove sediment and microorganisms. The filtered samples are then sent to the NWQL where they are analyzed by gas chromatography/mass spectrometric detector.

A field-matrix spike containing the series of organic compounds used in the analytical schedule was added to the replicate sample collected on June 7 at 1720. Data from the spiked sample can be used to determine extraction and elution recoveries from the filtered water and to evaluate the accuracy and precision of the results.

The method detection limit (MDL) provides an index to indicate where measurement uncertainty is increased. When an analyte is detected and all criteria for a positive result are met, the concentration is reported. If the concentration is less than the MDL, an ‘E’ code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the NWQL 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 (<). The abbreviations SRG, SURROGT, or SURROG indicate surrogate and recovery is reported in percent.

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

Date	Time	Medium code	2,6-DI-ETHYL ANILINE WAT FLT 0.7 µ GF, REC (µG/L) (82660)	ACETO-CHLOR, WATER FLTRD REC (µG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS-SOLVED (µG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (µG/L) (39632)	BEN-FLUR-ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (µG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 µ GF, REC (µG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 µ GF, REC (µG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (µG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (µG/L) (04041)
NOV 2001													
14...	1100	Q	--	--	--	--	--	--	--	--	--	--	--
15...	1045	9	<.002	<.004	.009	<.005	.010	<.010	<.002	<.041	<.020	<.005	<.018
DEC													
05...	1030	9	<.002	<.004	<.002	<.005	.008	<.010	<.002	<.041	<.020	<.005	<.018
05...	1040	R	--	--	--	--	--	--	--	--	--	--	--
JAN 2002													
23...	1030	9	<.006	<.006	<.004	<.005	.008	<.010	<.002	<.041	<.020	<.005	<.018
31...	1000	9	<.006	<.006	<.004	<.005	.012	<.010	<.002	<.041	<.020	<.005	<.018
FEB													
26...	0930	9	<.006	<.006	<.004	<.005	.008	<.010	<.002	<.041	<.020	<.005	<.018
MAR													
26...	0900	9	<.006	<.006	<.004	<.005	.008	<.010	<.002	<.041	<.020	<.005	<.018
APR													
23...	0930	9	<.006	<.006	<.004	<.005	.008	<.010	<.002	E.007	<.020	<.005	<.018
29...	0930	9	<.006	<.006	<.004	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018
MAY													
29...	1030	9	<.006	<.006	<.004	<.005	.025	<.010	<.002	<.041	<.020	<.005	<.018
29...	1040	R	<.006	<.006	<.004	<.005	.025	<.010	<.002	<.041	<.020	E.004	<.018
JUN													
07...	1715	9	<.006	<.009	<.004	<.005	.137	<.010	<.002	E.009	<.020	<.005	<.018
07...	1720	R	.113	.126	.105	.130	.257	.096	.119	E.171	E.144	.129	.148
24...	1115	9	<.006	.010	<.004	<.005	.153	<.010	<.002	<.041	<.020	<.005	<.018
JUL													
16...	1030	9	<.006	E.005	<.004	<.005	.066	<.010	<.002	<.041	<.020	<.005	<.018
SEP													
04...	1100	9	<.006	<.006	<.004	<.005	.052	<.010	<.002	<.041	<.020	<.005	<.018
04...	1108	Q	<.006	<.006	<.004	<.005	<.007	<.010	<.002	<.041	<.020	<.005	<.018

Date	DCPA WATER FLTRD 0.7 µ GF, REC (µG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (µG/L) (04040)	DIAZ-INON D10 SRG WAT FLT 0.7 µ GF, REC PERCENT (91063)	DI-AZINON, DIS-SOLVED (µG/L) (39572)	DI-ELDRIN DIS-SOLVED (µG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 µ GF, REC (µG/L) (82677)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 µ GF, REC (µG/L) (82672)	FONOFOS WATER DISS REC (µG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 µ GF, REC PERCENT (91065)	LINDANE DIS-SOLVED (µG/L) (39341)	LIN-URON WATER FLTRD 0.7 µ GF,REC (µG/L) (82666)
NOV 2001													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	<.003	E.004	107	<.005	<.005	<.02	<.002	<.009	<.005	<.003	86.6	<.004	<.035
DEC													
05...	<.003	E.003	106	<.005	<.005	<.02	<.002	<.009	<.005	<.003	92.8	<.004	<.035
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 2002													
23...	<.003	E.005	99.0	<.005	<.005	<.02	<.002	<.009	<.005	<.003	95.8	<.004	<.035
31...	<.003	<.006	121	<.005	<.005	<.02	<.002	<.009	<.005	<.003	108	<.004	<.035
FEB													
26...	<.003	E.004	108	<.005	<.005	<.02	<.002	<.009	<.005	<.003	99.0	<.004	<.035
MAR													
26...	<.003	E.003	113	<.005	<.005	<.02	<.002	<.009	<.005	<.003	90.4	<.004	<.035
APR													
23...	<.003	E.004	105	E.003	<.005	<.02	<.002	<.009	<.005	<.003	88.4	<.004	<.035
29...	<.003	<.006	149	<.005	<.005	<.02	<.002	<.009	<.005	<.003	112	<.004	<.035
MAY													
29...	<.003	E.006	112	.006	<.005	<.02	<.002	<.009	<.005	<.003	107	<.004	<.035
29...	<.003	E.005	114	E.004	<.005	<.02	<.002	<.009	<.005	<.003	102	<.004	<.035
JUN													
07...	<.003	E.013	114	<.009	<.005	<.02	<.002	<.009	<.005	<.003	103	<.004	<.035
07...	.120	E.072	113	.116	.110	.09	.109	.104	.112	.116	101	.118	.160
24...	<.003	E.016	97.2	E.004	<.005	<.02	<.002	<.009	<.005	<.003	96.2	<.004	<.035
JUL													
16...	<.003	E.010	100	E.004	<.005	<.02	<.002	<.009	<.005	<.003	88.0	<.004	<.035
SEP													
04...	<.003	E.012	103	.006	<.005	<.02	<.002	<.009	<.005	<.003	107	<.004	<.035
04...	<.003	<.006	109	<.005	<.005	<.02	<.002	<.009	<.005	<.003	106	<.004	<.035

OHIO RIVER MAIN STEM

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

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

Date	MALA- THION, DIS- SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 µ GF, REC (µG/L) (82667)	METO- LACHLOR WATER DISSOLV (µG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (µG/L) (82630)	MOL- INATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	P,P' DDE DISSOLV (µG/L) (34653)	PARA- THION, DIS- SOLVED (µG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 µ GF, REC (µG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 µ GF, REC (µG/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF,REC (µG/L) (82664)
NOV 2001													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	<.027	<.050	<.006	E.006	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011
DEC													
05...	<.027	<.050	<.006	E.010	<.006	<.002	<.007	<.003	<.007	<.002	<.010	<.006	<.011
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 2002													
23...	<.027	<.050	<.006	E.003	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
31...	<.027	<.050	<.006	E.008	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
FEB													
26...	<.027	<.050	<.006	E.007	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
MAR													
26...	<.027	<.050	<.006	E.004	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
APR													
23...	<.027	<.050	<.006	E.009	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
29...	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
MAY													
29...	<.027	<.050	<.006	E.008	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
29...	<.027	<.050	<.006	E.008	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
JUN													
07...	<.027	<.050	<.006	.047	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
07...	.161	E.199	.134	.164	.110	.111	.136	.055	.139	.115	.137	.050	.082
24...	<.027	<.050	<.006	.040	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
JUL													
16...	<.027	<.050	<.006	.014	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011
SEP													
04...	<.027	<.050	<.006	E.011	<.006	<.002	<.007	<.003	<.010	<.007	<.022	<.006	<.011
04...	<.027	<.050	<.006	<.013	<.006	<.002	<.007	<.003	<.010	<.004	<.022	<.006	<.011

Date	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82676)	PROPA- CHLOR, WATER, DISS, REC (µG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 µ GF, REC (µG/L) (82685)	SI- MAZINE, WATER, DISS, REC (µG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 µ GF, REC (µG/L) (82670)	TER- BACIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 µ GF, REC (µG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 µ GF, REC (µG/L) (82681)	TRI- FLUR- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82661)
NOV 2001											
14...	--	--	--	--	--	--	--	--	--	--	--
15...	<.01	<.004	<.010	<.011	<.02	<.011	<.02	<.034	<.02	<.005	<.009
DEC											
05...	<.01	<.004	<.010	<.011	<.02	<.011	<.02	<.034	<.02	<.005	<.009
05...	--	--	--	--	--	--	--	--	--	--	--
JAN 2002											
23...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009
31...	M	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009
FEB											
26...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009
MAR											
26...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009
APR											
23...	E.01	<.004	<.010	<.011	<.02	.008	<.02	<.034	<.02	<.005	<.009
29...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009
MAY											
29...	E.01	<.004	<.010	<.011	<.02	.008	<.02	<.034	<.02	<.005	<.009
29...	E.01	<.004	<.010	<.011	<.02	.009	<.02	<.034	<.02	<.005	<.009
JUN											
07...	E.01	<.004	<.010	<.011	<.02	.026	<.02	<.034	<.02	<.005	<.009
07...	.15	.121	.120	.135	.12	.097	.16	E.137	.11	.122	.096
24...	M	<.004	<.010	<.011	<.02	.014	<.02	<.034	<.02	<.005	<.009
JUL											
16...	E.01	<.004	<.010	<.011	<.02	.007	<.02	<.034	<.02	<.005	<.009
SEP											
04...	.02	<.004	<.010	<.011	<.02	.008	<.02	<.034	<.02	<.005	<.009
04...	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.009

BEAVER RIVER BASIN

03101500 SHENANGO RIVER AT PYMATUNING DAM, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°29'53", long 80°27'37", Crawford County, Hydrologic Unit 05030102, on left bank 500 ft downstream from Sugar Run, 900 ft downstream from Pymatuning Dam, 1.5 mi northwest of Jamestown, at mile 84.9.

DRAINAGE AREA.--167 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1934 to current year.

REVISED RECORDS.--WSP 823: 1934-36. WSP 1083: 1936 (M), 1937, 1940 (M), 1941-45. WSP 1335: 1940.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 970.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1933 by Pymatuning Reservoir (station 03100500). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

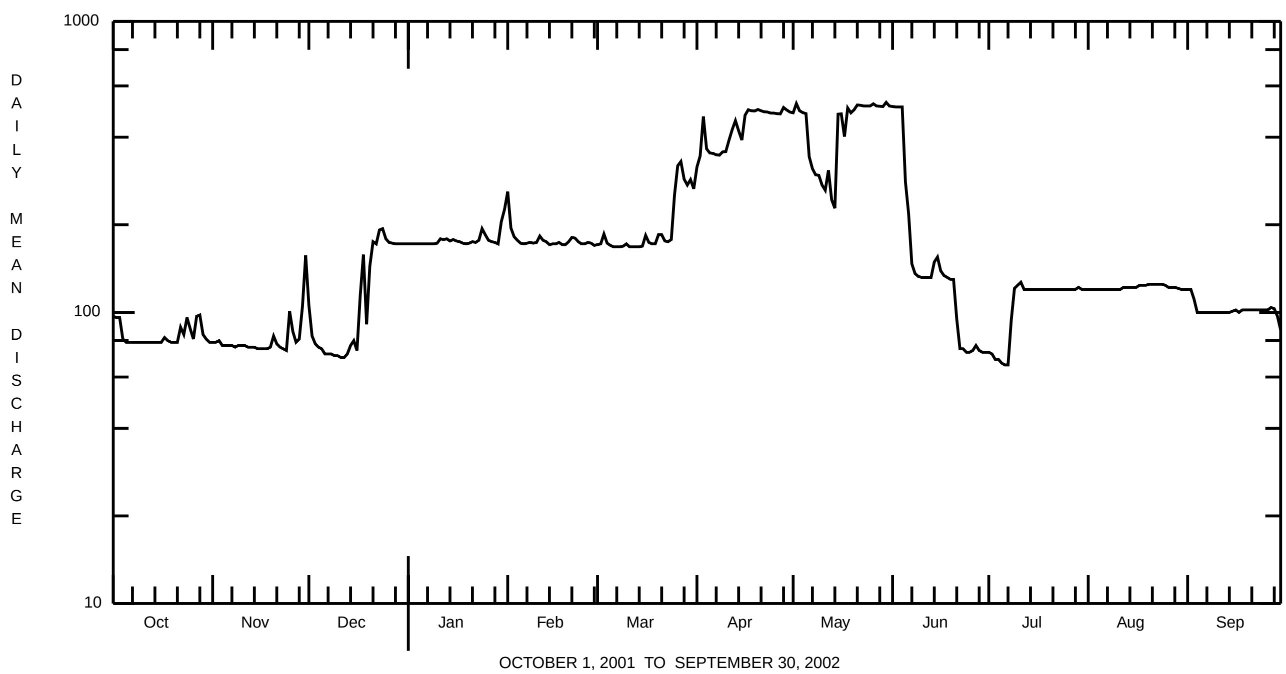
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	79	106	172	260	171	316	485	510	73	120	120
2	96	79	83	172	195	172	345	522	508	72	120	120
3	96	80	78	172	182	186	471	493	508	69	120	111
4	81	77	76	172	177	173	365	486	508	69	120	100
5	79	77	75	172	173	170	353	482	281	67	120	100
6	79	77	72	172	172	168	352	343	218	66	120	100
7	79	77	72	172	173	168	348	312	147	66	120	100
8	79	76	72	172	174	168	347	297	136	94	120	100
9	79	77	71	172	173	169	356	296	133	121	120	100
10	79	77	71	173	174	172	357	274	132	124	120	100
11	79	77	70	179	183	168	391	263	132	127	120	100
12	79	76	70	178	177	168	425	308	132	120	122	100
13	79	76	72	179	175	168	456	244	132	120	122	100
14	79	76	77	176	171	168	421	228	149	120	122	100
15	79	75	80	178	172	169	391	480	155	120	122	101
16	79	75	74	176	172	184	476	481	139	120	122	102
17	82	75	114	175	174	174	497	402	134	120	124	100
18	80	75	158	173	171	172	493	504	132	120	124	102
19	79	76	91	172	171	172	492	485	130	120	124	102
20	79	83	144	173	175	185	498	497	130	120	125	102
21	79	78	175	175	181	185	493	516	95	120	125	102
22	89	76	172	174	180	176	489	515	75	120	125	102
23	84	75	192	177	175	175	488	512	75	120	125	102
24	96	74	194	194	172	178	484	512	73	120	125	102
25	88	101	179	185	172	253	484	512	73	120	124	102
26	81	86	174	177	174	319	482	521	74	120	122	102
27	97	79	173	175	173	330	481	512	77	120	122	104
28	98	81	172	174	170	287	506	511	74	120	122	103
29	84	105	172	172	---	274	496	510	73	122	121	97
30	81	157	172	205	---	286	488	527	73	120	120	87
31	79	---	172	226	---	266	---	512	---	120	120	---
TOTAL	2594	2452	3673	5514	4991	6174	13041	13542	5208	3350	3778	3063
MEAN	83.7	81.7	118	178	178	199	435	437	174	108	122	102
MAX	98	157	194	226	260	330	506	527	510	127	125	120
MIN	79	74	70	172	170	168	316	228	73	66	120	87
CFSM	0.50	0.49	0.71	1.07	1.07	1.19	2.60	2.62	1.04	0.65	0.73	0.61
IN.	0.58	0.55	0.82	1.23	1.11	1.38	2.90	3.02	1.16	0.75	0.84	0.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	166	180	295	277	277	257	198	165	159	149	159	181
MAX	601	588	753	728	783	682	608	548	773	408	587	558
(WY)	1982	1997	1987	1943	1952	1956	1950	1956	1947	1987	1956	1956
MIN	17.3	6.27	3.79	10.4	13.2	17.0	2.78	5.78	5.37	20.0	31.6	40.2
(WY)	1935	1935	1945	1936	1935	1992	1935	1935	1935	1968	1935	1935

03101500 SHENANGO RIVER AT PYMATUNING DAM, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1935 - 2002	
ANNUAL TOTAL	48282		67380			
ANNUAL MEAN	132		185		205	
HIGHEST ANNUAL MEAN					330	1956
LOWEST ANNUAL MEAN					16.6	1935
HIGHEST DAILY MEAN	398	Mar 13	527	May 30	1240	Jan 28 1937
LOWEST DAILY MEAN	35	Jun 26	66	Jul 6,7	0.40	Aug 25 1935
ANNUAL SEVEN-DAY MINIMUM	36	Jun 21	69	Jul 1	0.73	Jun 6 1935
MAXIMUM PEAK FLOW			616	Apr 3	1540	Sep 4 1937
MAXIMUM PEAK STAGE			6.09	Apr 3	9.20	Sep 4 1937
ANNUAL RUNOFF (CFSM)	0.79		1.11		1.23	
ANNUAL RUNOFF (INCHES)	10.76		15.01		16.68	
10 PERCENT EXCEEDS	249		481		548	
50 PERCENT EXCEEDS	100		132		134	
90 PERCENT EXCEEDS	54		76		26	



BEAVER RIVER BASIN

03101500 SHENANGO RIVER AT PYMATUNING DAM, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
23...	1030	9813	488	40	8.2	7.7	181	12.7	68	19.7	4.7	48	--
JUN													
11...	0830	9813	132	40	8.9	7.7	190	18.8	70	20.5	4.6	48	<.2
AUG													
13...	0830	9813	122	40	7.6	7.5	219	24.4	79	23.3	5.0	54	<.2

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN- ABLE TO CHLOR- INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)
APR 2002													
23...	14.6	160	8	<.020	.23	<.040	.96	.03	.040	5.8	<10	--	540
JUN													
11...	14.6	120	10	.120	.15	<.040	1.3	.04	.050	5.9	<10	<1.00	560
AUG													
13...	14.1	136	6	.110	<.04	<.040	.81	.04	.040	5.5	<10	<1.00	350

Date	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
23...	<1.0	80	<50	<10	--
JUN					
11...	<1.0	180	<50	10	<5
AUG					
13...	1.8	190	<50	<10	<5

BEAVER RIVER BASIN

03102500 LITTLE SHENANGO RIVER AT GREENVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°25'19", long 80°22'35", Mercer County, Hydrologic Unit 05030102, on left bank 1,700 ft downstream from Williamson Crossing bridge, 1 mi northeast of Greenville, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--104 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1914, 1922-23, 1926-29. WSP 1335: 1923 (m).

GAGE.--Water-stage recorder. Datum of gage is 953.46 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1915, nonrecording gage; Nov. 4, 1915, to Sept. 30, 1918, water-stage recorder; Nov. 7, 1919, to Aug. 31, 1923, and Nov. 19, 1925, to June 20, 1934, nonrecording gage at site 1 mi downstream at datum 8.96 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 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)
May 14	0400	*2,020	*7.04	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	60	636	e69	628	100	264	147	75	29	21	6.5
2	12	53	270	e61	578	106	206	480	63	27	17	6.1
3	10	55	173	e56	309	177	433	682	53	25	14	6.9
4	8.0	56	130	e55	218	182	587	254	50	22	12	11
5	8.0	50	109	e52	158	107	358	164	64	21	11	11
6	14	42	99	e50	138	100	274	130	465	19	11	8.7
7	16	37	92	57	123	105	215	127	307	18	10	7.6
8	15	34	83	56	122	101	182	143	171	18	9.2	6.3
9	11	35	78	55	117	92	198	197	125	22	8.7	5.7
10	12	36	74	59	112	107	376	178	101	28	8.2	5.4
11	11	35	67	81	203	103	247	124	84	22	7.6	4.8
12	9.8	32	59	95	194	88	175	376	77	18	7.9	4.1
13	16	30	63	98	151	83	261	1450	72	16	7.6	3.7
14	16	29	79	92	113	78	566	1760	263	15	7.5	6.4
15	25	28	109	92	113	73	927	859	339	15	8.2	22
16	28	28	91	96	117	170	620	450	148	14	9.0	34
17	36	26	149	89	124	180	374	472	103	13	9.6	20
18	48	25	679	82	104	125	288	534	80	12	17	13
19	36	26	511	66	99	110	233	432	67	11	15	10
20	29	66	270	86	108	132	235	289	57	11	13	8.8
21	27	83	199	68	170	269	192	225	51	11	12	8.3
22	73	60	152	63	183	187	156	177	45	9.5	11	8.1
23	89	50	179	66	145	149	134	135	41	11	14	7.3
24	213	44	364	144	118	154	114	112	37	18	18	6.7
25	190	81	252	227	108	204	105	102	33	17	16	6.9
26	107	209	160	e144	106	298	100	112	36	12	14	8.1
27	112	111	e116	e97	118	802	88	107	52	11	12	20
28	192	90	e100	e65	110	616	182	91	56	12	9.9	39
29	130	140	e91	86	---	369	286	82	40	62	8.4	28
30	95	453	e83	186	---	416	198	90	32	63	8.1	18
31	71	---	e75	420	---	386	---	88	---	32	7.1	---
TOTAL	1674.8	2104	5592	3013	4887	6169	8574	10569	3187	634.5	355.0	352.4
MEAN	54.0	70.1	180	97.2	175	199	286	341	106	20.5	11.5	11.7
MAX	213	453	679	420	628	802	927	1760	465	63	21	39
MIN	8.0	25	59	50	99	73	88	82	32	9.5	7.1	3.7
CFSM	0.52	0.67	1.73	0.93	1.68	1.91	2.75	3.28	1.02	0.20	0.11	0.11
IN.	0.60	0.75	2.00	1.08	1.75	2.21	3.07	3.78	1.14	0.23	0.13	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2002, BY WATER YEAR (WY)

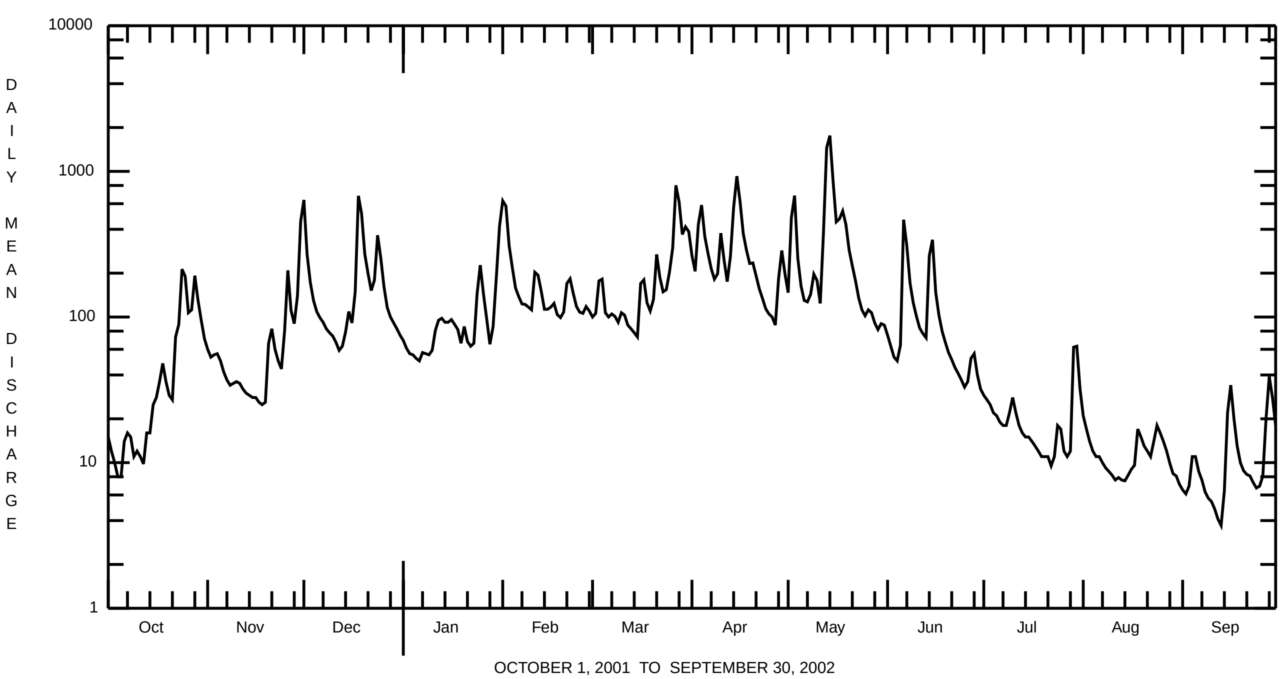
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.3	122	176	205	223	294	233	156	92.6	59.6	41.8	40.5
MAX	343	639	521	773	553	659	506	511	395	457	284	316
(WY)	1927	1986	1928	1937	1976	1963	1957	1929	1989	1958	1980	1926
MIN	5.19	6.31	16.8	21.3	36.0	66.5	16.7	21.8	11.9	5.91	5.33	5.90
(WY)	1964	1931	1961	1977	1963	1915	1915	1934	1934	1934	1930	1930

e Estimated.

03102500 LITTLE SHENANGO RIVER AT GREENVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1914 - 2002	
ANNUAL TOTAL	32475.7		47111.7			
ANNUAL MEAN	89.0		129		141	
HIGHEST ANNUAL MEAN					218	1956
LOWEST ANNUAL MEAN					65.6	1931
HIGHEST DAILY MEAN	679	Dec 18	1760	May 14	5980	Jan 22 1959
LOWEST DAILY MEAN	2.8	Aug 16	3.7	Sep 13	2.8	Aug 16 2001
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 7	5.2	Sep 8	3.3	Sep 7 2001
MAXIMUM PEAK FLOW			2020	May 14	**a**8540	Jan 22 1959
MAXIMUM PEAK STAGE			7.04	May 14	14.30	Jan 22 1959
INSTANTANEOUS LOW FLOW			3.5	Sep 13,14	2.4	Aug 16 2001**b**
ANNUAL RUNOFF (CFSM)	0.86		1.24		1.36	
ANNUAL RUNOFF (INCHES)	11.62		16.85		18.48	
10 PERCENT EXCEEDS	199		293		326	
50 PERCENT EXCEEDS	61		81		66	
90 PERCENT EXCEEDS	6.5		9.9		12	

a From rating curve extended above 3,200 ft^3/s on basis of slope-area measurement at gage height 12.26 ft.
b Also Sept. 13.



03102500 LITTLE SHENANGO RIVER AT GREENVILLE, 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 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
APR 2002													
23...	1130	9813	134	40	8.8	7.6	214	8.4	81	24.1	5.1	60	18.6
JUN													
11...	1000	9813	84.8	40	7.9	7.6	233	21.6	90	26.9	5.5	68	14.9
AUG													
13...	1000	9813	7.4	40	7.9	7.8	345	22.0	160	49.5	10.0	126	25.9

Date	RESIDUE AT 105 DEG. C, DISSOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (µG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)
APR 2002													
23...	178	6	.040	.42	<.040	.82	.02	.030	5.1	<10	820	<1.0	120
JUN													
11...	132	22	.070	.34	<.040	1.1	.04	.060	6.8	<10	1790	1.5	160
AUG													
13...	242	16	<.020	.13	<.040	.65	.03	.060	4.4	<10	750	1.9	150

Date	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)
APR 2002		
23...	<50	<10
JUN		
11...	<50	10
AUG		
13...	<50	<10

BEAVER RIVER BASIN

03102850 SHENANGO RIVER NEAR TRANSFER, PA

LOCATION.--Lat 41°21'13", long 80°23'53", Mercer County, Hydrologic Unit 05030102, on left bank at downstream side of covered wooden bridge, 200 ft downstream from highway bridge, 0.6 mi downstream from Big Run, 2.5 mi northeast of Transfer, at mile 71.8.

DRAINAGE AREA.--337 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WDR PA-71-3: 1966, 1967.

GAGE.--Water-stage recorder. Datum of gage is 913.94 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation benchmark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since December 1933 by Pymatuning Reservoir (station 03100500) 13 mi upstream and by mills above station. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	163	1110	e257	1460	e316	658	722	716	136	151	121
2	118	154	498	e258	1030	336	646	1970	686	137	144	121
3	117	158	347	e261	620	486	1890	1520	669	128	139	128
4	109	155	277	248	501	433	1340	965	664	123	138	111
5	97	146	245	245	422	331	866	832	597	118	141	109
6	119	140	225	243	390	322	733	698	1100	115	138	107
7	110	129	207	e241	369	329	649	771	701	113	136	106
8	111	125	193	e238	e364	323	613	922	435	116	134	104
9	105	126	184	e238	e347	312	699	923	353	189	134	103
10	106	126	175	e246	e376	332	911	727	310	197	132	102
11	107	123	167	e277	e497	322	706	565	280	178	130	100
12	114	117	158	e283	e401	302	677	1660	278	172	131	100
13	119	114	170	e288	e353	297	967	3880	259	170	131	99
14	128	113	198	e285	e329	288	1670	3350	982	168	132	109
15	140	112	255	e288	e335	285	1970	1720	796	165	133	155
16	146	111	210	e289	e322	464	1400	1200	454	163	134	166
17	172	110	429	e288	e311	439	1050	1160	346	162	141	126
18	171	107	1440	e282	e304	372	911	1410	295	161	138	115
19	151	116	795	e280	e309	345	829	1180	262	160	142	110
20	142	179	497	263	347	432	846	993	241	160	138	109
21	143	190	e438	259	464	590	794	943	216	159	136	108
22	234	158	e413	252	e368	466	733	894	166	158	140	109
23	243	143	e441	265	e327	411	698	840	159	166	145	111
24	423	134	747	e308	e332	423	667	801	151	166	151	109
25	365	227	513	e466	e329	554	657	780	146	165	143	110
26	239	355	395	e342	e328	984	647	816	146	160	139	110
27	296	238	351	e263	e322	1810	627	786	177	159	134	153
28	407	208	e317	e195	e316	1210	850	753	188	175	128	164
29	276	341	e294	e282	---	833	963	735	156	261	124	140
30	218	1210	e279	566	---	990	805	766	143	217	123	115
31	179	---	e266	984	---	782	---	743	---	167	122	---
TOTAL	5528	5828	12234	9480	12173	16119	27472	36025	12072	4984	4222	3530
MEAN	178	194	395	306	435	520	916	1162	402	161	136	118
MAX	423	1210	1440	984	1460	1810	1970	3880	1100	261	151	166
MIN	97	107	158	195	304	285	613	565	143	113	122	99
CFSM	0.53	0.58	1.17	0.91	1.29	1.54	2.72	3.45	1.19	0.48	0.40	0.35
IN.	0.61	0.64	1.35	1.05	1.34	1.78	3.03	3.98	1.33	0.55	0.47	0.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	284	519	797	655	661	658	562	435	328	242	196	244
MAX	1034	1627	1343	1242	1319	1212	1273	1162	1080	873	1005	717
(WY)	1991	1986	1991	1993	1990	1985	1994	2002	1989	1972	1980	1987
MIN	57.9	88.4	128	151	121	172	207	82.9	86.2	46.5	81.6	101
(WY)	1983	1999	1999	1977	1987	1969	1968	1987	1967	1968	1982	1999

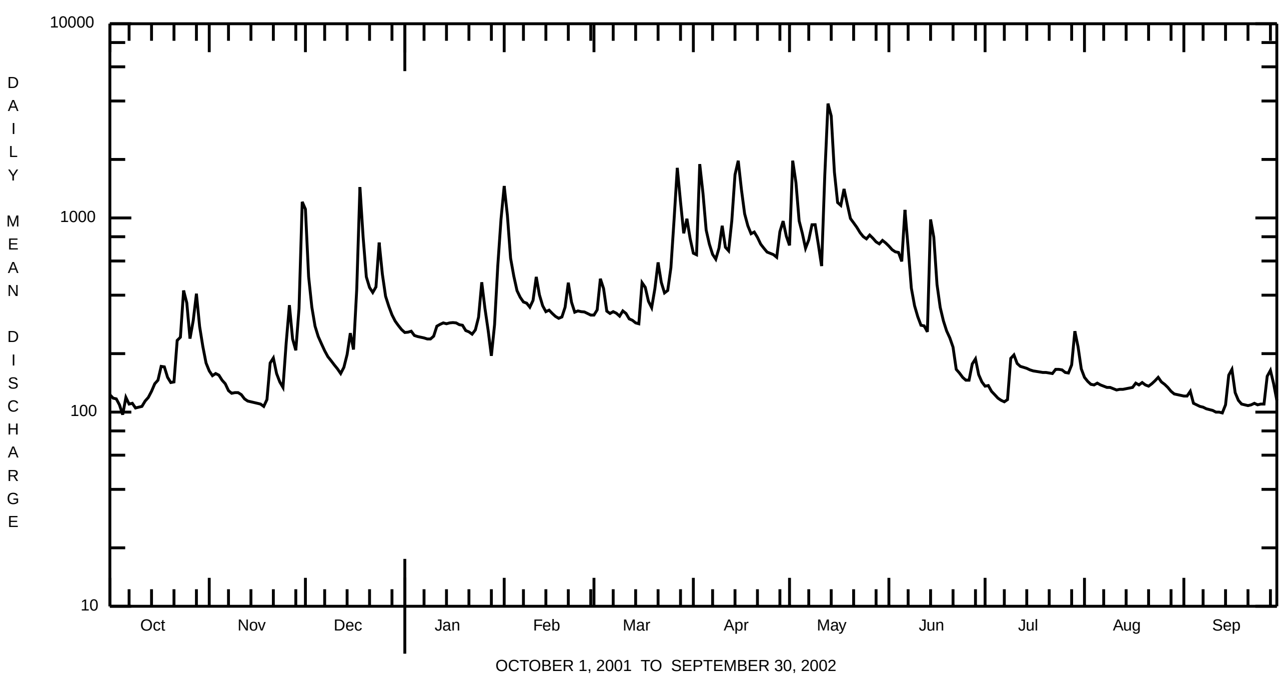
e Estimated.

BEAVER RIVER BASIN

03102850 SHENANGO RIVER NEAR TRANSFER, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	101468		149667			
ANNUAL MEAN	278		410		464	
HIGHEST ANNUAL MEAN					663	1997
LOWEST ANNUAL MEAN					265	1999
HIGHEST DAILY MEAN	1440	Dec 18	3880	May 13	5120	Nov 5 1985
LOWEST DAILY MEAN	68	Jun 27	97	Oct 5	33	Jul 21 1968
ANNUAL SEVEN-DAY MINIMUM	87	Jun 14	102	Sep 7	39	Jul 17 1968
MAXIMUM PEAK FLOW			4350	May 14	a5390	Nov 5 1985
MAXIMUM PEAK STAGE			8.14	May 14	10.47	Nov 5 1985
INSTANTANEOUS LOW FLOW					33	Jul 20 1968
ANNUAL RUNOFF (CFSM)	0.82		1.22		1.38	
ANNUAL RUNOFF (INCHES)	11.20		16.52		18.71	
10 PERCENT EXCEEDS	539		911		992	
50 PERCENT EXCEEDS	179		262		283	
90 PERCENT EXCEEDS	109		115		100	

a From rating curve extended above 4,800 ft^3/s.



BEAVER RIVER BASIN

03105500 BEAVER RIVER AT WAMPUM, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°53'19", long 80°20'14", Lawrence County, Hydrologic Unit 05030104, on right bank at downstream side of bridge on State Highway 288 at Wampum, 2.9 mi upstream from Connoquenessing Creek, at mile 15.4.

DRAINAGE AREA.--2,235 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1914 to September 1918, August 1932 to current year. Monthly discharge only for some periods, published in WSP 1305. Published as "at Newport" 1914-18.

REVISED RECORDS.--WSP 728: Drainage area. WSP 1385: 1933-40, 1946, 1951-52. WSP 1725: 1960 (adjusted runoff). WDR PA 853: 1984 (M).

GAGE.--Water-stage recorder. Datum of gage is 736.24 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad bench mark). Prior to Sept. 20, 1914, nonrecording gage at site 500 ft downstream at datum 0.76 ft lower. Oct. 1, 1914 to Sept. 30, 1918, nonrecording gage at site 1 mi upstream at datum 0.84 ft higher. Aug. 26, 1932 to Nov. 16, 1938, nonrecording gage at present site and datum. Since 1932 an auxiliary gage 10 mi downstream at Beaver Falls (station 03107500) is used during periods of backwater from Connoquenessing Creek.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1916 by Milton Reservoir, since November 1929 by Meander Creek Reservoir, since December 1933 by Pymatuning Reservoir (station 03100500), since December 1942 by Berlin Lake, since October 1943 by Mosquito Creek Lake, since December 1966 by Michael J. Kirwan Reservoir, and since January 1967 by Shenango River Lake 40 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1912, 29.9 ft, Mar. 26, 1913, from floodmark, discharge, about 87,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	707	718	5300	1200	6530	1500	4320	2640	2770	898	923	822
2	618	680	3800	1190	6910	1550	2860	4320	2220	885	881	820
3	520	812	3110	1010	5490	2270	4870	8640	2050	907	883	833
4	495	794	3000	945	4170	2660	7720	6700	1600	922	849	1190
5	486	676	2800	983	3500	2040	7180	4760	1700	901	845	859
6	685	580	2350	1020	3230	1620	6600	4120	6000	882	942	744
7	743	510	2230	1060	3080	1520	6480	3690	6130	876	874	703
8	597	487	1730	1180	2660	1480	6120	3310	5240	889	832	717
9	557	636	1670	1220	2110	1440	5570	3280	4180	917	817	710
10	537	752	1310	1250	2000	1620	5930	3520	3220	1360	841	707
11	501	728	1060	1200	2800	1430	4660	3030	2530	1140	844	682
12	527	710	898	1180	3220	1320	3670	3390	2240	974	837	651
13	920	700	925	1370	2720	1210	3660	12300	2290	928	843	666
14	719	684	1110	1420	2240	1080	8420	17900	2930	973	835	674
15	837	677	1320	1370	1730	1020	17100	11200	5040	958	886	785
16	725	668	1310	1350	1590	1810	9920	7490	4430	933	861	1600
17	803	667	1570	1310	1610	2220	7010	7380	3130	913	2510	956
18	803	658	7490	1270	1550	1860	6980	10100	3080	938	1420	778
19	723	660	5900	1190	1460	1500	7280	9680	2890	964	1020	741
20	648	1020	4890	1120	1450	1650	6950	7570	2220	1150	960	687
21	548	1060	4140	1130	1840	2960	6210	6620	1550	963	921	677
22	506	937	3720	1140	2040	2610	5250	5990	1290	929	873	689
23	613	845	3220	1150	1940	1990	4400	5390	1240	1050	1010	669
24	2130	875	3740	1370	1700	1760	3080	4940	1190	2210	1750	665
25	1800	1660	3470	1940	1540	1950	2510	4720	1110	1430	1370	649
26	1520	2260	3020	1720	1520	3900	2210	4610	997	1050	1070	647
27	1320	1750	2730	1610	1580	10200	2060	4440	996	949	946	1100
28	1380	1730	2220	1500	1550	7220	2270	4240	1160	902	864	1900
29	1270	1850	2040	1440	---	6240	3230	3900	1080	931	819	1160
30	1050	3330	1380	2580	---	6510	2950	3890	958	1120	796	893
31	846	---	1240	4750	---	6150	---	4110	---	1010	803	---
TOTAL	26134	30114	84693	44168	73760	84290	167470	187870	77461	31852	30925	25374
MEAN	843	1004	2732	1425	2634	2719	5582	6060	2582	1027	998	846
MAX	2130	3330	7490	4750	6910	10200	17100	17900	6130	2210	2510	1900
MIN	486	487	898	945	1450	1020	2060	2640	958	876	796	647
CFSM	0.38	0.45	1.22	0.64	1.18	1.22	2.50	2.71	1.16	0.46	0.45	0.38
IN.	0.43	0.50	1.41	0.74	1.23	1.40	2.79	3.13	1.29	0.53	0.51	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2002, BY WATER YEAR (WY)

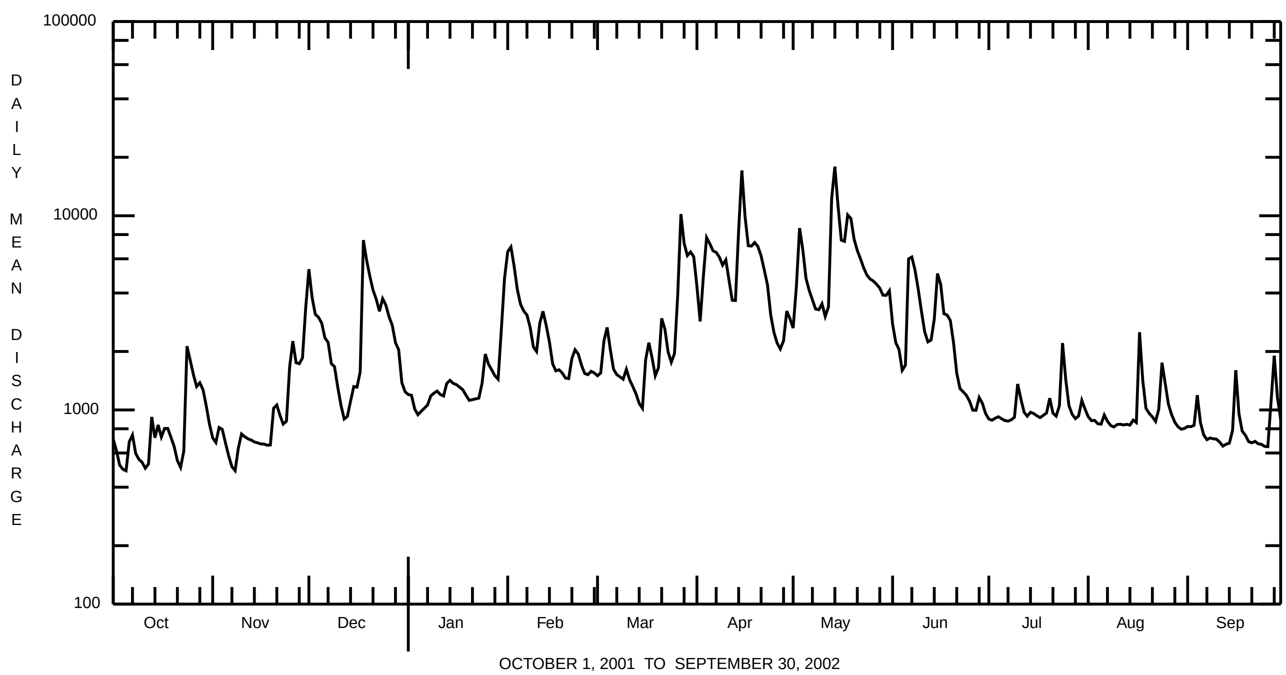
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1251	1786	2826	3405	3881	4822	3931	2677	1973	1470	1246	1179
MAX	5888	7936	7978	13030	8779	9098	9226	8362	8004	5893	4923	4759
(WY)	1991	1986	1991	1937	1915	1916	1994	1996	1989	1958	1956	1990
MIN	168	278	447	534	304	1074	657	288	222	198	156	153
(WY)	1934	1915	1961	1918	1934	1969	1915	1934	1934	1918	1933	1916

BEAVER RIVER BASIN

03105500 BEAVER RIVER AT WAMPUM, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1915 - 2002	
ANNUAL TOTAL	615550		864111			
ANNUAL MEAN	1686		2367		2537	
HIGHEST ANNUAL MEAN					3995	1956
LOWEST ANNUAL MEAN					834	1934
HIGHEST DAILY MEAN	8300	Apr 7	17900	May 14	47500	Jan 22 1959
LOWEST DAILY MEAN	486	Oct 5	486	Oct 5	88	Oct 5 1914
ANNUAL SEVEN-DAY MINIMUM	583	Oct 3	583	Oct 3	94	Oct 3 1914
MAXIMUM PEAK FLOW			18700	Apr 15	**a**50100	May 28 1946
MAXIMUM PEAK STAGE			**b**11.68	Apr 15	**c**21.53	May 28 1946
INSTANTANEOUS LOW FLOW					**d**74	Jul 30 1933
ANNUAL RUNOFF (CFSM)	0.75		1.06		1.14	
ANNUAL RUNOFF (INCHES)	10.25		14.38		15.42	
10 PERCENT EXCEEDS	3820		5910		5800	
50 PERCENT EXCEEDS	1130		1420		1420	
90 PERCENT EXCEEDS	697		688		575	

a From slope-rating curve extended above 28,000 ft^3/s on basis of contracted-opening measurement at gage height 21.44 ft.
b Maximum gage height 11.70 ft, discharge 18,700 ft^3/s, May 14.
c Maximum gage height, 24.86 ft, Jan. 22, 1959 (backwater from Connoquenessing Creek).
d Minimum discharge observed.



BEAVER RIVER BASIN

03105500 BEAVER RIVER AT WAMPUM, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
18...	1400	9813	7070	40	7.1	7.7	363	16.7	120	34.6	8.0	64	<.2
JUN													
20...	1100	9813	2190	40	7.6	7.5	452	21.8	120	35.6	8.2	76	<.2
AUG													
06...	1100	9813	969	40	5.5	7.4	539	29.0	150	42.9	11.4	88	.3

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	CYANIDE AMEN- ABLE TO CHLOR- INATION UNFLTRD (MG/L) (00722)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)
APR 2002													
18...	43.8	194	52	.070	.97	<.040	1.8	.04	.130	6.8	<10	<1.00	2000
JUN													
20...	44.1	306	30	.060	1.07	.060	1.6	.06	.140	6.6	<10	<1.00	1380
AUG													
06...	60.1	344	10	.050	1.57	<.040	2.1	.13	.190	5.7	<10	1.23	960

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002				
18...	140	<50	<10	<5
JUN				
20...	130	<50	30	<5
AUG				
06...	120	<50	<10	<5

BEAVER RIVER BASIN

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°49'01", long 80°14'33", Beaver County, Hydrologic Unit 05030105, on right bank at downstream side of highway bridge at Hazen, 0.3 mi upstream from Brush Creek, 4 mi southeast of Ellwood City, and 6.0 mi west of Zelienople.

DRAINAGE AREA.--356 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1919 to current year. Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania. Published as "at Hazen" 1915-16, 1929-63, and as "near Hazen" 1917-28.

REVISED RECORDS.--WSP 743: Drainage area. WSP 893: 1937-38, 1939 (M). WSP 1305: 1922-26, 1928. WSP 1335: 1920-21, 1924 (M). WSP 1385: 1952.

GAGE.--Water-stage recorder. Datum of gage is 852.31 ft above National Geodetic Vertical Datum of 1929. Prior to June 23, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by mills above station. 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 5,000 ft^3/s and maximum (*):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Dec. 18	0600	5,550	8.28	June 6	2315	5,070	7.86
Mar. 27	0230	*5,630	*8.37				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	69	753	e169	1280	326	717	468	388	94	33	23
2	35	68	455	e167	978	328	620	722	271	82	29	21
3	33	143	330	e167	739	613	597	767	202	73	25	21
4	31	157	263	e161	635	620	556	548	176	66	24	24
5	29	100	221	e161	505	477	459	463	212	61	26	23
6	31	83	195	e153	439	482	413	402	1790	54	28	23
7	29	72	194	e150	390	440	367	379	3180	50	37	21
8	36	68	177	e136	360	384	347	404	1260	47	30	20
9	31	69	210	e158	307	342	373	434	781	45	26	20
10	30	75	196	e147	274	332	488	407	563	47	23	18
11	30	66	162	e167	496	282	370	325	429	57	23	17
12	33	60	148	e209	486	256	327	319	349	49	25	17
13	48	56	159	e217	404	248	440	2300	300	40	229	18
14	69	54	252	e197	324	234	1260	3600	365	38	93	17
15	79	52	281	188	314	218	3510	2000	542	37	48	20
16	92	52	227	185	309	343	1950	1200	421	38	37	26
17	68	51	1310	168	300	384	1230	941	330	37	38	38
18	75	49	4620	162	263	320	914	2530	260	35	46	26
19	63	49	2020	138	236	300	742	1830	222	36	53	22
20	50	101	1130	142	245	385	658	1250	181	43	52	20
21	45	142	766	180	554	804	549	947	159	43	37	21
22	43	90	568	170	609	646	491	743	136	40	29	21
23	54	74	476	159	540	575	424	603	121	37	36	20
24	1040	66	442	300	475	523	350	511	110	37	52	18
25	472	280	363	731	446	540	315	462	108	37	97	18
26	216	477	293	497	433	1870	297	399	110	63	69	18
27	137	267	271	416	447	4340	253	323	97	54	44	84
28	128	390	257	376	382	2050	323	311	152	64	35	449
29	107	360	230	332	---	1300	721	406	148	47	28	112
30	86	520	173	786	---	1150	478	292	126	41	25	53
31	74	---	e175	1550	---	866	---	291	---	38	23	---
TOTAL	3333	4160	17317	8839	13170	21978	20539	26577	13489	1530	1400	1249
MEAN	108	139	559	285	470	709	685	857	450	49.4	45.2	41.6
MAX	1040	520	4620	1550	1280	4340	3510	3600	3180	94	229	449
MIN	29	49	148	136	236	218	253	291	97	35	23	17
CFSM	0.30	0.39	1.57	0.80	1.32	1.99	1.92	2.41	1.26	0.14	0.13	0.12
IN.	0.35	0.43	1.81	0.92	1.38	2.30	2.15	2.78	1.41	0.16	0.15	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2002, BY WATER YEAR (WY)

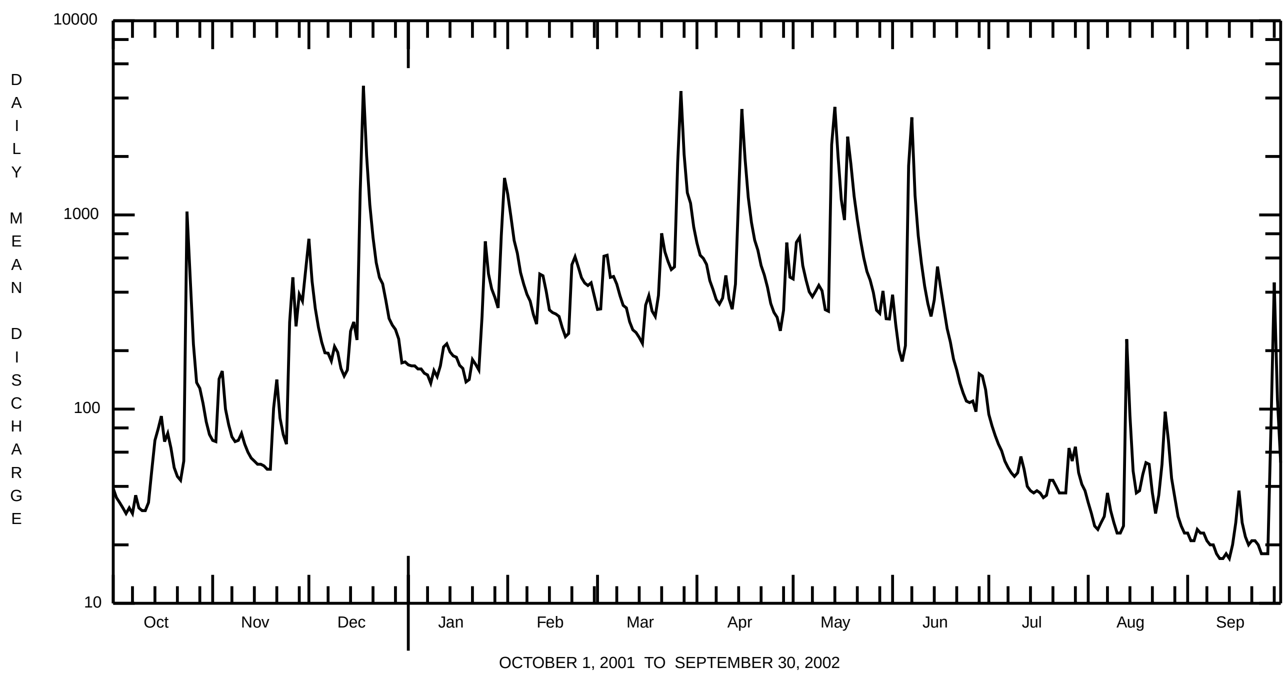
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	160	332	556	650	750	971	774	515	325	199	147	130
MAX	1290	1648	1778	2607	2048	2324	2054	1283	1518	1373	775	1743
(WY)	1955	1986	1928	1937	1956	1945	1940	1983	1989	1928	1980	1926
MIN	11.3	12.3	22.3	16.4	97.7	154	182	62.3	24.4	20.5	11.2	11.4
(WY)	1931	1931	1961	1931	1934	1969	1946	1934	1934	1936	1930	1930

e Estimated.

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1920 - 2002	
ANNUAL TOTAL	117493		133729			
ANNUAL MEAN	322		366		458	
HIGHEST ANNUAL MEAN					816	1928
LOWEST ANNUAL MEAN					221	1931
HIGHEST DAILY MEAN	4620	Dec 18	4620	Dec 18	16000	Jun 29 1924
LOWEST DAILY MEAN	22	Sep 13	17	Sep 11,12,14	6.5	Jul 21 1936
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7	18	Sep 8	8.7	Oct 13 1939
MAXIMUM PEAK FLOW			5630	Mar 27	**a**23000	Jun 29 1924
MAXIMUM PEAK STAGE			8.37	Mar 27	16.66	Jun 29 1924
INSTANTANEOUS LOW FLOW			16	Sep 10,11,18,24	6.0	Jul 21 1936
ANNUAL RUNOFF (CFSM)	0.90		1.03		1.29	
ANNUAL RUNOFF (INCHES)	12.28		13.97		17.47	
10 PERCENT EXCEEDS	866		758		1090	
50 PERCENT EXCEEDS	172		196		210	
90 PERCENT EXCEEDS	32		30		32	

a About.



03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (µS/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
APR 2002													
17...	1245	9813	1210	40	6.3	7.7	311	299	16.0	97	27.7	6.7	36
JUN													
18...	1100	9813	262	40	9.7	7.6	505	437	18.2	140	39.9	9.7	56
AUG													
05...	1215	9813	25.5	40	7.2	7.6	845	974	27.0	300	92.2	15.6	92

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)
APR 2002													
17...	47.1	234	18	<.020	1.50	<.040	1.9	.03	.040	2.4	<10	910	1.3
JUN													
18...	65.3	322	4	<.020	1.40	<.040	1.6	.03	.040	2.7	<10	540	<1.0
AUG													
05...	151	696	20	<.020	.68	<.200	1.2	.03	.050	4.8	<10	410	<1.0

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)
APR 2002			
17...	90	<50	<10
JUN			
18...	80	<50	<10
AUG			
05...	200	<50	<10

BEAVER RIVER BASIN

03106300 MUDDY CREEK NEAR PORTERSVILLE, PA

LOCATION.--Lat 40°57'47", long 80°07'31", Butler County, Hydrologic Unit 05030105, on left bank 1,000 ft downstream of Lake Arthur Dam, 0.2 mi north of U.S. Highway 422, and 3 mi north of Portersville.

DRAINAGE AREA.--51.2 mi^2.

PERIOD OF RECORD.--March 1963 to September 1993, July 1994 to current year.

REVISED RECORDS.--WDR PA-79-3: 1978.

GAGE.--Water-stage recorder. Datum of gage is 1,160.91 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Environmental Protection bench mark). Prior to Apr. 8, 1963 nonrecording gage at site 2,000 ft downstream at different datum. Apr. 8 to May 1, 1963, nonrecording gage and May 2, 1963 to Sept. 30, 1980, water-stage recorder at site 1,000 ft downstream at datum 5.71 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Some regulation from October 1966 to May 1969 and completely regulated thereafter by Lake Arthur (station 03106280) 1,000 ft upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	5.8	107	94	93	39	58	121	62	33	7.1	6.5
2	4.0	5.9	108	46	93	39	61	114	51	30	7.2	6.6
3	3.5	6.4	105	7.4	92	40	63	105	45	26	7.4	6.8
4	3.2	5.2	116	8.8	92	40	82	100	40	23	7.2	6.7
5	4.1	5.6	123	16	92	40	91	94	42	19	7.3	6.5
6	4.9	5.4	115	25	91	40	80	88	88	16	7.2	6.5
7	3.3	5.2	118	35	91	40	75	84	119	14	7.1	6.7
8	2.8	5.2	119	42	91	22	69	81	121	12	7.1	6.5
9	3.6	4.9	120	26	91	6.5	65	81	109	11	7.1	6.3
10	4.6	5.1	118	11	91	6.9	63	79	96	12	7.2	6.3
11	4.5	5.0	117	11	91	7.1	60	79	82	10	7.3	6.5
12	3.4	4.4	115	16	91	7.8	53	78	70	8.6	7.2	6.4
13	3.6	3.6	116	27	90	7.4	59	93	75	7.8	7.3	6.2
14	3.7	3.5	118	42	90	7.2	92	80	116	7.4	7.3	6.0
15	3.7	3.5	117	58	90	7.5	177	63	124	6.9	7.5	6.3
16	3.5	4.6	114	60	90	8.6	212	74	111	6.7	7.4	6.2
17	3.8	4.5	117	60	90	8.8	212	82	99	6.7	7.8	6.0
18	3.9	4.1	119	59	90	9.8	201	125	89	6.7	7.4	6.0
19	4.1	3.9	114	59	70	10	179	142	80	6.7	7.6	5.9
20	5.0	4.0	115	60	40	11	157	141	70	6.8	7.7	5.8
21	5.6	2.4	113	59	40	11	141	133	61	6.9	7.6	6.0
22	5.9	2.2	109	59	40	11	117	124	54	7.1	7.8	6.1
23	6.3	1.9	107	59	40	11	103	113	46	7.1	8.0	6.2
24	4.6	2.0	106	60	40	12	91	101	40	7.0	8.3	6.3
25	5.3	2.5	108	61	40	12	76	94	35	6.8	8.2	6.1
26	5.4	2.5	107	61	40	14	67	82	30	6.7	8.0	6.2
27	6.1	24	103	60	40	22	61	74	32	6.7	7.8	7.5
28	5.8	70	100	60	39	34	57	68	40	6.7	6.7	6.1
29	6.1	103	99	79	---	40	53	61	38	7.0	6.0	6.1
30	6.5	106	97	93	---	54	78	58	36	7.1	6.1	6.1
31	6.3	---	96	94	---	60	---	60	---	7.1	6.4	---
TOTAL	140.4	412.3	3456	1508.2	2068	679.6	2953	2872	2101	346.5	227.3	189.4
MEAN	4.53	13.7	111	48.7	73.9	21.9	98.4	92.6	70.0	11.2	7.33	6.31
MAX	6.5	106	123	94	93	60	212	142	124	33	8.3	7.5
MIN	2.8	1.9	96	7.4	39	6.5	53	58	30	6.7	6.0	5.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2002, BY WATER YEAR (WY)

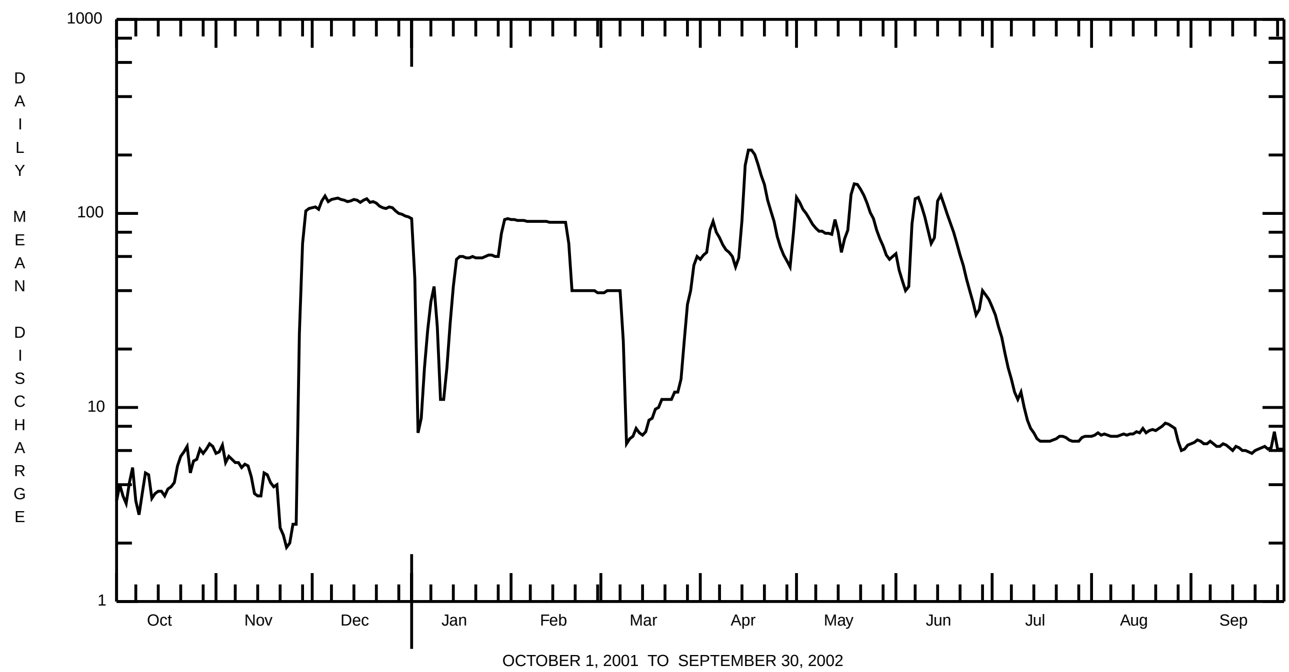
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	27.8	58.9	102	93.5	105	107	109	74.3	53.9	31.1	20.2	21.2
MAX	268	248	268	212	220	298	200	187	332	155	127	227
(WY)	1976	1973	1973	1965	1990	1964	1972	1983	1989	1990	1980	1975
MIN	1.11	1.50	2.41	2.40	31.0	4.31	2.78	2.97	1.53	3.01	1.98	0.61
(WY)	1964	1970	1970	1970	1980	1999	1986	1986	1969	1965	1966	1969

BEAVER RIVER BASIN

03106300 MUDDY CREEK NEAR PORTERSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1963 - 2002	
ANNUAL TOTAL	14916.9		16953.7			
ANNUAL MEAN	40.9		46.4		67.2	
HIGHEST ANNUAL MEAN					98.9	1973
LOWEST ANNUAL MEAN					24.1	1970
HIGHEST DAILY MEAN	177	Apr 21	212	Apr 16	1450	Mar 10 1964
LOWEST DAILY MEAN	1.9	Nov 23	1.9	Nov 23	0.50	Sep 1 1969
ANNUAL SEVEN-DAY MINIMUM	2.5	Nov 20	2.5	Nov 20	0.54	Aug 29 1969
MAXIMUM PEAK FLOW			217	Apr 16,17	**a**1640	Mar 10 1964
MAXIMUM PEAK STAGE			**b**4.50	Apr 16,17	8.18	Mar 10 1964
INSTANTANEOUS LOW FLOW					0.40	Sep 17 1966
10 PERCENT EXCEEDS	117		113		176	
50 PERCENT EXCEEDS	17		35		37	
90 PERCENT EXCEEDS	4.0		5.0		3.9	

a From rating curve extended above 820 ft^3/s on basis of slope-area measurement of peak flow.
b Maximum gage height, 4.67 ft., Nov. 8, 11, 25 (backwater from beaver dam).



BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBURG, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°53'02", long 80°14'02", Lawrence County, Hydrologic Unit 05030105, on left bank at downstream side of highway bridge at Camp Allegheny, 2 mi north of Wurtemburg, and 2.8 mi upstream from mouth.

DRAINAGE AREA.--398 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1914-18, 1920-22, 1923-24 (M), 1925-28, 1930. WSP 1385: 1932, 1935, 1936 (M), 1937-39. WSP 1625: 1955.

GAGE.--Water-stage recorder. Datum of gage is 832.06 ft above National Geodetic Vertical Datum of 1929. Jan. 1, 1912 to Sept. 30, 1922, nonrecording gage at site 1.5 mi downstream at datum 13.77 ft lower and Oct. 1, 1922 to Sept. 30, 1940, nonrecording gage at site 2 mi downstream at datum 18.92 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation since May 1969 by Lake Arthur (station 03106280) 13 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Apr. 15	0100	*5,030	*5.85	June 6	2000	4,040	5.14
May 14	0300	4,430	5.42				

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	98	745	e273	1250	358	810	635	868	192	112	61
2	60	93	523	e269	1180	381	690	736	573	183	91	57
3	56	144	394	e255	826	771	744	1390	407	189	80	57
4	52	175	346	e245	657	877	931	763	361	165	73	57
5	50	137	345	e245	514	521	735	552	405	129	73	60
6	50	112	336	e215	479	458	618	476	3470	116	71	58
7	51	100	331	e215	448	453	547	464	2760	107	66	53
8	50	92	320	e169	438	417	516	472	1700	103	62	50
9	50	92	321	e221	420	356	532	547	1170	99	59	48
10	52	94	321	228	398	361	618	732	773	159	57	43
11	51	93	304	255	506	335	565	544	572	168	55	41
12	55	92	284	e278	575	303	481	550	499	120	54	39
13	59	86	291	e281	498	292	827	2970	598	104	56	37
14	63	83	358	e268	416	275	2550	3800	1170	96	88	36
15	74	81	483	e254	400	268	4360	2270	1420	91	80	42
16	84	79	451	e244	399	374	2770	1490	1240	86	82	65
17	86	78	634	e230	408	462	1820	1280	895	80	546	77
18	87	78	2850	e213	383	389	1370	2270	703	77	773	66
19	87	80	2220	e199	352	346	1120	2150	613	78	204	59
20	79	108	1240	e199	314	389	945	1450	472	89	120	54
21	70	140	821	e203	420	709	808	1140	381	96	99	52
22	66	129	594	e206	528	563	697	934	335	86	83	53
23	99	110	521	e206	474	460	603	787	285	83	98	50
24	550	100	615	375	403	436	522	637	255	159	305	47
25	434	384	e491	749	367	473	482	712	233	155	296	43
26	247	732	e435	536	357	1330	470	672	212	143	161	42
27	180	394	e381	418	395	2930	424	557	229	146	108	106
28	178	354	e331	365	384	1920	475	468	326	191	85	345
29	162	393	e309	350	---	1270	761	459	304	161	75	237
30	127	502	e287	709	---	1120	666	588	226	157	68	117
31	110	---	e282	1440	---	1020	---	1350	---	152	63	---
TOTAL	3487	5233	18164	10313	14189	20617	29457	33845	23455	3960	4243	2152
MEAN	112	174	586	333	507	665	982	1092	782	128	137	71.7
MAX	550	732	2850	1440	1250	2930	4360	3800	3470	192	773	345
MIN	50	78	282	169	314	268	424	459	212	77	54	36
CFSM	0.28	0.44	1.47	0.84	1.27	1.67	2.47	2.74	1.96	0.32	0.34	0.18
IN.	0.33	0.49	1.70	0.96	1.33	1.93	2.75	3.16	2.19	0.37	0.40	0.20

e Estimated.

BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBURG, PA--Continued

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	263	531	782	678	866	1026	965	634	522	324	256	234
MAX	741	1822	1576	1369	1949	1972	1608	1400	2075	1109	1323	992
(WY)	1976	1986	1978	1999	1981	1972	1987	1983	1989	1990	1980	1975
MIN	56.5	82.2	178	153	289	243	345	215	112	84.8	51.1	53.0
(WY)	1992	1992	1990	1977	1987	1969	1971	1976	1992	1998	2001	1999

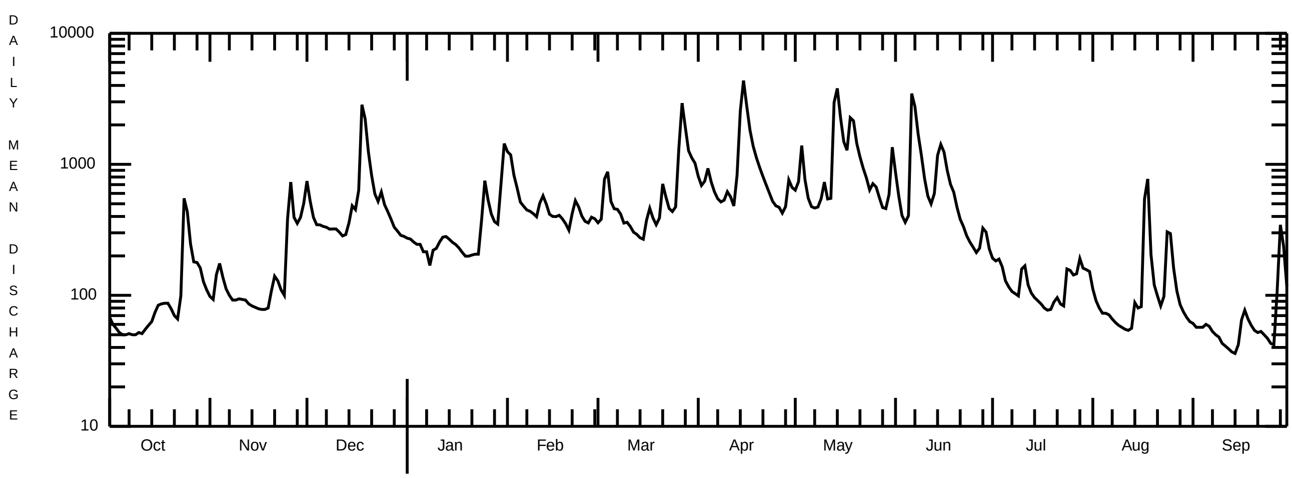
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1969 - 2002	
ANNUAL TOTAL	119901		169115			
ANNUAL MEAN	328		463		588	
HIGHEST ANNUAL MEAN					813	1984
LOWEST ANNUAL MEAN					317	2001
HIGHEST DAILY MEAN	2850	Dec 18	4360	Apr 15	8620	Jun 24 1972
LOWEST DAILY MEAN	38	Aug 16	36	Sep 14	36	Sep 14 2002
ANNUAL SEVEN-DAY MINIMUM	39	Aug 13	41	Sep 9	39	Aug 13 2001
MAXIMUM PEAK FLOW			5030	Apr 15	9090	Jun 24 1972
MAXIMUM PEAK STAGE			5.85	Apr 15	8.09	Jun 24 1972
INSTANTANEOUS LOW FLOW			36	Sep 13-15	36	Sep 13-15 2002
ANNUAL RUNOFF (CFSM)	0.83		1.16		1.48	
ANNUAL RUNOFF (INCHES)	11.21		15.81		20.08	
10 PERCENT EXCEEDS	750		975		1340	
50 PERCENT EXCEEDS	230		314		358	
90 PERCENT EXCEEDS	51		59		91	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1968, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	237	379	589	839	856	1203	911	653	386	237	191	160
MAX	1391	1329	2088	3161	2089	2728	1974	1472	1559	1307	905	1675
(WY)	1912	1922	1928	1937	1956	1913	1940	1924	1956	1958	1956	1926
MIN	37.7	43.0	58.5	56.3	94.7	291	238	94.3	79.3	54.8	35.3	38.2
(WY)	1964	1931	1931	1931	1934	1931	1925	1934	1936	1944	1930	1944

SUMMARY STATISTICS	WATER YEARS 1912 - 1968	
ANNUAL MEAN	552	
HIGHEST ANNUAL MEAN	917	1956
LOWEST ANNUAL MEAN	216	1931
HIGHEST DAILY MEAN	16700	Mar 26 1913
LOWEST DAILY MEAN	20	Sep 11 1938
ANNUAL SEVEN-DAY MINIMUM	24	Sep 6 1938
MAXIMUM PEAK FLOW	**a**19000	Jan 25 1937
MAXIMUM PEAK STAGE	**b**12.05	Jan 25 1937
INSTANTANEOUS LOW FLOW	**c**16	Sep 13 1932
ANNUAL RUNOFF (CFSM)	1.39	
ANNUAL RUNOFF (INCHES)	18.85	
10 PERCENT EXCEEDS	1390	
50 PERCENT EXCEEDS	248	
90 PERCENT EXCEEDS	58	

a From rating curve extended above 14,000 ft^3/s.
b From floodmark, site and datum then in use.
c Minimum observed.



OCTOBER 1, 2001 TO SEPTEMBER 30, 2002

BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBURG, 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 210-233.

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

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

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
APR 2002													
17...	1430	9813	1750	40	6.3	7.8	278	259	17.2	110	33.2	7.2	34
JUN													
18...	1215	9813	712	40	10.3	7.8	391	307	18.4	130	35.5	9.7	56
AUG													
06...	0930	9813	71.6	40	7.7	7.6	499	495	22.0	210	59.3	15.6	94

Date	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
APR 2002													
17...	63.1	244	12	<.020	.40	<.040	.88	.03	.040	4.2	<10	960	1.1
JUN													
18...	76.9	262	22	<.020	.54	<.040	.89	.04	.050	4.7	<10	1510	1.1
AUG													
06...	114	342	10	<.020	.67	<.040	.95	.03	.050	3.4	<10	340	<1.0

Date	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)
APR 2002			
17...	290	<50	<10
JUN			
18...	340	<50	10
AUG			
06...	150	<50	<10

BEAVER RIVER BASIN

03107500 BEAVER RIVER AT BEAVER FALLS, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°45'48", long 80°18'55", Beaver County, Hydrologic Unit 05030104, on left bank at Beaver Falls, 200 ft upstream from pumping plant of Beaver Falls Municipal Authority, 7.0 mi downstream from Connoquenessing Creek, at mile 5.5.

DRAINAGE AREA.--3,106 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1935 to current year (fragmentary records only prior to October 1956). Gage-height records collected at same site since 1908 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1725: 1960 (adjusted runoff); Instantaneous low flow for water years 1997, 1998 were published in error.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 727.48 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Dec. 3, 1941, nonrecording gage at site 200 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good above 2,000 ft^3/s, and fair below, except those below 1,200 ft^3/s, which are poor. Pumpage from gage pool, averaging 3.4 ft^3/s in 1935 and 6.0 ft^3/s at present, for local water supply, returns to river 2 mi downstream; information furnished by Beaver Falls Municipal Authority. Flow regulated since 1916 by Milton Reservoir, since November 1929 by Meander Creek Reservoir, since December 1933 by Pymatuning Reservoir (station 03100500), since December 1942 by Berlin Lake, since October 1943 by Mosquito Creek Lake, since December 1966 by Michael J. Kirwan Reservoir, since January 1967 by Shenango River Lake, all over 50 mi upstream, and since May 1969 by Lake Arthur (station 03106280) 29 mi upstream. U.S. Army Corps of Engineers satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913 reached a stage of 17.4 ft, discharge, 103,000 ft^3/s, from rating curve extended above 60,000 ft^3/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	816	871	6610	1790	8960	2280	5990	3650	3970	1300	1140	933
2	737	816	4700	1760	9350	2310	4290	5170	3120	1250	1070	923
3	635	992	3680	1540	7070	3420	5840	10900	2660	1250	1050	927
4	584	1110	3440	1450	5420	4220	9490	8140	2290	1250	1020	1300
5	546	918	3220	1440	4520	3180	8580	5600	2260	1190	1000	1030
6	683	798	2760	1500	4080	2680	7710	4820	9700	1160	1080	905
7	813	721	2630	1530	3870	2520	7420	4360	12600	1130	1040	857
8	656	669	2200	1640	3460	2400	6970	4190	8080	1120	999	860
9	611	755	2110	1690	2910	2220	6400	4200	5840	1130	971	857
10	582	901	1820	1750	2720	2380	7030	4520	4420	1570	981	848
11	555	868	1490	1810	3610	2170	5640	3770	3480	1450	975	816
12	580	844	1320	1880	4300	1950	4500	3860	3010	1230	969	790
13	939	827	1350	2070	3650	1830	4540	16300	3170	1140	1110	795
14	807	808	1680	2070	3060	1680	11500	25000	3870	1170	1150	800
15	921	790	2100	2010	2610	1570	25000	16200	6560	1160	1100	890
16	865	780	2050	1950	2400	2370	15600	10300	5750	1130	1060	1650
17	896	771	2920	1810	2410	3170	10200	9450	4190	1090	2600	1150
18	907	761	15100	1730	2300	2680	9110	14700	3770	1110	2360	956
19	835	775	10900	1590	2130	2260	8990	14300	3510	1160	1380	895
20	759	1130	7460	1460	2070	2360	8420	10500	2880	1340	1220	844
21	651	1320	5800	1580	2800	4450	7340	8570	2140	1160	1140	826
22	601	1140	4950	1590	3280	3960	6210	7420	1760	1110	1070	834
23	766	1010	4230	1610	3110	3180	5250	6480	1660	1130	1160	797
24	3380	989	4740	1980	2700	2850	3940	5850	1600	2330	2010	790
25	2840	1960	4430	3430	2460	3010	3270	5610	1530	1730	1850	776
26	2010	3470	3800	2890	2410	6230	2970	5360	1420	1310	1370	777
27	1590	2430	3460	2540	2530	18600	2740	5030	1380	1200	1150	1290
28	1620	2410	2990	2310	2450	12300	2960	4740	1650	1220	1030	2660
29	1470	2500	2780	2180	---	9180	4520	4530	1640	1200	968	1670
30	1230	3810	2030	3670	---	8910	4000	4330	1410	1350	931	1170
31	1000	---	1870	7670	---	8220	---	5600	---	1260	924	---
TOTAL	31885	37944	120620	65920	102640	130540	216420	243450	111320	39330	37878	30616
MEAN	1029	1265	3891	2126	3666	4211	7214	7853	3711	1269	1222	1021
MAX	3380	3810	15100	7670	9350	18600	25000	25000	12600	2330	2600	2660
MIN	546	669	1320	1440	2070	1570	2740	3650	1380	1090	924	776
CFSM	0.33	0.41	1.25	0.68	1.18	1.36	2.32	2.53	1.19	0.41	0.39	0.33
IN.	0.38	0.45	1.44	0.79	1.23	1.56	2.59	2.92	1.33	0.47	0.45	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2002, BY WATER YEAR (WY)

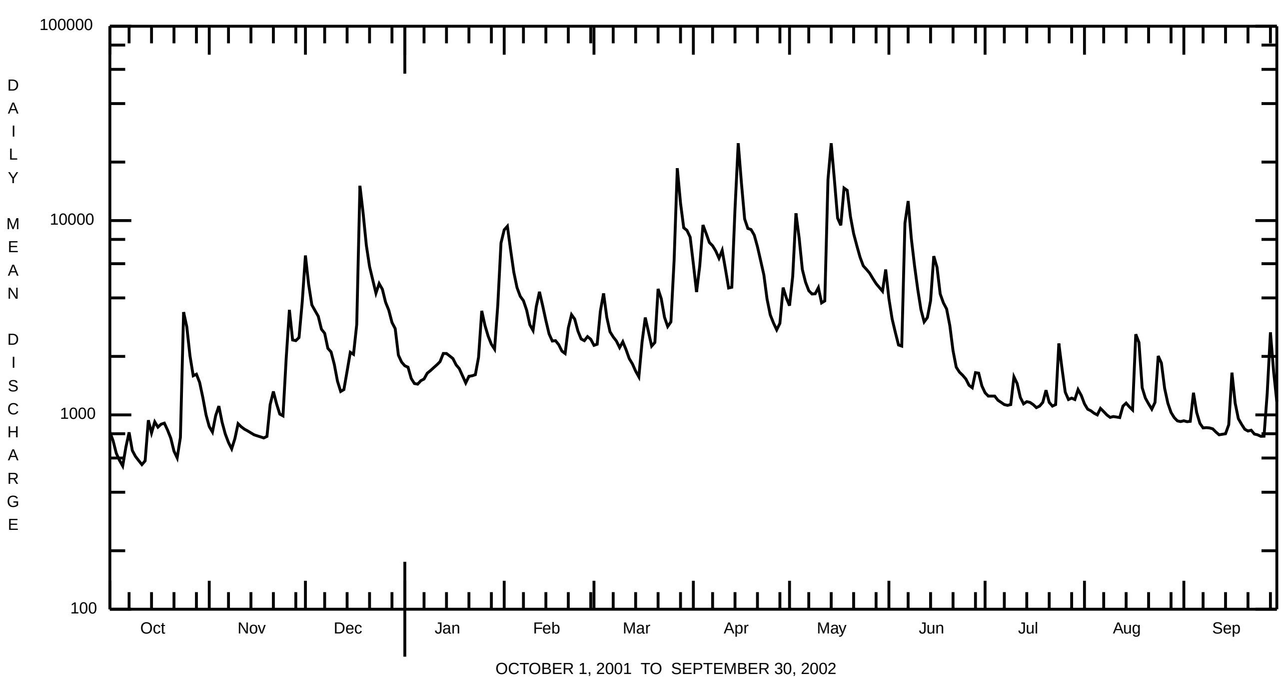
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1811	3014	4738	4805	5507	6690	5889	4027	2921	2256	1685	1743
MAX	6760	11520	11880	11620	12360	13040	13620	10880	11090	7925	6505	5804
(WY)	1991	1986	1991	1993	1990	1993	1957	1996	1989	1958	1980	1975
MIN	531	439	540	714	887	1606	1861	1271	966	916	777	739
(WY)	1992	1992	1961	1961	1963	1969	1971	1962	1992	1965	1991	1999

BEAVER RIVER BASIN

03107500 BEAVER RIVER AT BEAVER FALLS, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1957 - 2002	
ANNUAL TOTAL	855755		1168563			
ANNUAL MEAN	2345		3202		3748	
HIGHEST ANNUAL MEAN					5146	1997
LOWEST ANNUAL MEAN					1938	1963
HIGHEST DAILY MEAN	15100	Dec 18	25000	Apr 15**a**	65400	Jan 22 1959
LOWEST DAILY MEAN	546	Oct 5	546	Oct 5	320	Nov 5 1991
ANNUAL SEVEN-DAY MINIMUM	635	Oct 5	635	Oct 5	333	Nov 1 1991
MAXIMUM PEAK FLOW			27100	Apr 15	**b**69900	Jan 22 1959
MAXIMUM PEAK STAGE			9.53	Apr 15	14.42	Jan 22 1959
ANNUAL RUNOFF (CFSM)	0.75		1.03		1.21	
ANNUAL RUNOFF (INCHES)	10.25		14.00		16.39	
10 PERCENT EXCEEDS	5390		7420		8260	
50 PERCENT EXCEEDS	1620		2010		2320	
90 PERCENT EXCEEDS	791		822		900	

a Also May 14.
b From rating curve extended above 57,000 ft^3/s.



BEAVER RIVER BASIN

03107500 BEAVER RIVER AT BEAVER FALLS, 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 210-233.

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

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

Date	Time	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLING METHOD, CODES (82398)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	SPECIFIC CONDUCTANCE (µS/CM) (00095)	TEMPERATURE WATER (DEG C) (00010)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	FLUORIDE, TOTAL (MG/L AS F) (00951)
APR 2002													
17...	1100	9813	10260	40	5.3	7.6	347	16.3	120	35.5	7.6	54	<.2
JUN													
04...	1315	9813	2200	40	7.8	7.6	435	20.2	140	41.1	9.2	72	<.2
AUG													
06...	0800	9813	1100	40	5.1	7.6	544	28.0	170	48.7	12.5	86	.3

Date	SULFATE DISSOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DISSOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOVERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (µG/L AS FE) (01045)
APR 2002												
17...	48.8	290	84	.070	.91	<.040	1.7	.07	.210	6.2	10	4970
JUN												
04...	57.8	318	<2	.070	1.04	.050	1.5	.05	.070	5.8	<10	610
AUG												
06...	71.4	364	22	.090	1.56	<.040	2.1	.14	.170	5.6	<10	750

Date	MANGANESE, TOTAL RECOVERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOVERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOVERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002				
17...	350	<50	50	<5
JUN				
04...	120	<50	20	<5
AUG				
06...	170	<50	<10	<5

BEAVER RIVER BASIN

LAKES AND RESERVOIRS IN BEAVER RIVER BASIN

03100500 PYMATUNING RESERVOIR.--Lat 41°29'54", long 80°27'47", Crawford County, Hydrologic Unit 05030102, in gatehouse at Pymatuning Dam on Shenango River, 1.8 mi northwest of Jamestown, Pa., and at mile 85.1. DRAINAGE AREA, 158 mi^2. PERIOD OF RECORD, October 1932 to current year. Contents prior to October 1938 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is sea level. Prior to Nov. 20, 1934, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed in two parts. The main dam is earthfill with stone facing, provided with regulating gates (outlet gate sill elevation at 975.3 ft), and a spillway with crest elevation at 1,008.0 ft. An auxiliary dam 15 mi upstream from the main dam with spillway elevation at 1,010 ft has a fixed crest weir section in the earthfill causeway. Controlled storage began Dec. 1933. Capacity, 188,040 acre-ft between elevations, 975.3 ft and 1,008.0 ft was reached in March 1936. Dead storage 10,150 acre-ft (93 acre-ft behind main dam below elevation 975.3 ft and 10,060 acre-ft behind upstream dam below elevation 1,010 ft). Upstream pool was filled (all dead storage accumulated) on March 5, 1934. Figures given herein represent usable contents. Reservoir is used for flood control, and for recreation. Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 210,680 acre-ft, June 26, 1972 (elevation, 1,009.53 ft); minimum (after first filling), 110,570 acre-ft, Dec. 4, 1953 (elevation, 1,002.17 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 208,000 acre-ft, May 17, elevation, 1,009.38 ft; minimum, 154,570 acre-ft, Oct. 16, elevation, 1,005.58 ft.

03106280 LAKE ARTHUR.--Lat 40°57'45", long 80°07'17", Butler County, Hydrologic Unit 05030105, in gatehouse at left end of spillway of Lake Arthur Dam on Muddy Creek, at Moraine State Park, 3 mi northeast of Portersville, Pa. DRAINAGE AREA, 50.8 mi^2. PERIOD OF RECORD, May 1969 to current year. GAGE, water-stage recorder. Datum of gage is sea level (Pennsylvania Department of Environmental Protection bench mark). Prior to Aug. 23, 1969, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by an earthfill dam with concrete spillway. Storage began May 15, 1969. Usable capacity, 37,000 acre-ft between elevations 1,160 ft, sill of 6 ft outlet gate and 1,189.8 ft (spillway crest). No dead storage. Figures given herein represent usable contents. Lake is used for recreation. Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,240 acre-ft, June 16, 1989 (elevation, 1,192.01 ft); minimum (after first filling), 21,320 acre-ft, Nov. 30, 1975 (elevation, 1,183.88 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,450 acre-ft, Apr. 16, 17, elevation, 1,190.89 ft; minimum, 33,820 acre-ft, Feb. 20, elevation, 1,188.72 ft..

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	03100500 Pymatuning Reservoir			03106280 Lake Arthur		
	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	1,006.00	159,870	--	1,189.24	35,350	--
Oct. 31	1,006.14	161,790	+31	1,189.62	36,460	+18
Nov. 30	1,006.50	166,750	+83	1,189.89	37,270	+14
Dec. 31	1,007.18	176,290	+155	1,189.06	34,780	-41
CAL YR 2001	--	--	0	--	--	+0.75
Jan. 31	1,007.40	179,410	+51	1,189.22	35,260	+7.8
Feb. 28	1,007.74	184,290	+88	1,188.89	34,290	-17
Mar. 31	1,008.33	192,850	+139	1,190.50	39,200	+80
Apr. 30	1,008.45	194,600	+29	1,190.32	38,620	-9.8
May 31	1,008.50	195,340	+12	1,190.49	39,170	+8.9
June 30	1,007.93	187,020	-140	1,190.27	38,460	-12
July 31	1,007.27	177,560	-154	1,189.75	36,850	-26
Aug. 31	1,006.38	165,090	-203	1,189.40	35,800	-17
Sept. 30	1,005.92	158,780	-106	1,189.21	35,230	-9.6
WTR YR 2002	--	--	-1.5	--	--	-0.17

RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°37'40", long 80°20'16", Beaver County, Hydrologic Unit 05030101, on left bank at downstream side of highway bridge at Moffatts Mill, 1.4 mi downstream from Gums Run, 4 mi south of Vanport, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--178 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1941 to current year. May 1915 to July 1932 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: 1941-43.

GAGE.--Water-stage recorder. Datum of gage is 719.16 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers benchmark). May 27, 1915 to July 31, 1932, and Sept. 2 to Dec. 3, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Normally, no regulation from Raccoon Creek Lake. Diversion out of the basin from Cherry Valley and Service Creek Reservoirs upstream increased from an average of 4.0 ft^3/s at the close of 1957 to 6.8 ft^3/s for the present year; diversion began with 2.0 ft^3/s for September 1957. Published records do not include diversion. Records of diversion furnished by Western Pennsylvania Water Company and Ambridge Water Authority. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1922, reached a stage of 9.80 ft, discharge, 10,000 ft^3/s. Flood of Mar. 5, 1920, also reached a stage of 9.80 ft, backwater from ice.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,800 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Mar. 27	0545	*2,450	*5.08	No other peak greater than base discharge.			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	26	240	e70	328	83	312	325	157	40	15	8.6
2	13	27	145	e70	247	93	263	417	130	38	11	8.1
3	12	55	109	e70	199	147	250	368	108	38	10	7.7
4	12	62	90	e69	175	140	225	287	107	35	9.2	10
5	11	43	80	e69	129	106	194	246	102	30	8.3	30
6	12	35	73	e68	123	127	176	215	367	29	8.5	15
7	13	30	73	e71	117	113	157	206	668	24	10	11
8	16	29	58	e75	104	104	150	221	317	22	8.8	8.9
9	15	29	60	84	92	99	152	261	220	22	7.8	7.9
10	14	28	60	92	85	114	156	366	168	23	7.4	7.3
11	13	27	53	133	127	81	132	245	140	24	7.2	6.9
12	16	25	48	148	119	82	122	277	121	21	7.4	7.0
13	26	24	48	114	104	82	142	518	107	18	7.5	7.6
14	30	23	52	74	83	81	216	1080	106	17	7.6	6.4
15	27	22	52	72	88	76	381	667	106	17	9.3	6.5
16	30	21	47	66	89	183	336	459	104	16	8.7	6.7
17	29	21	398	60	86	209	275	363	90	14	23	6.8
18	28	21	1140	56	74	293	232	841	78	21	13	7.9
19	31	21	482	48	69	245	209	688	78	24	9.4	7.2
20	27	37	288	53	83	327	287	503	66	20	7.9	7.2
21	24	48	193	75	158	521	256	394	57	21	8.2	6.9
22	22	37	143	78	158	393	269	324	54	17	9.5	7.2
23	24	31	123	59	135	317	232	273	50	19	26	6.6
24	135	27	118	96	121	266	193	240	46	14	57	6.4
25	102	101	95	178	117	253	178	224	42	13	65	6.4
26	55	141	75	132	118	704	156	193	40	12	30	6.4
27	41	132	e73	111	120	1720	136	163	40	12	18	96
28	35	180	e72	99	99	732	298	197	109	12	15	157
29	31	158	71	91	---	515	543	358	68	12	11	50
30	27	215	71	182	---	452	364	224	47	11	10	27
31	26	---	e71	364	---	355	---	178	---	16	9.1	---
TOTAL	911	1676	4701	3027	3547	9013	6992	11321	3893	652	455.8	554.6
MEAN	29.4	55.9	152	97.6	127	291	233	365	130	21.0	14.7	18.5
MAX	135	215	1140	364	328	1720	543	1080	668	40	65	157
MIN	11	21	47	48	69	76	122	163	40	11	7.2	6.4
CFSM	0.17	0.31	0.85	0.55	0.71	1.63	1.31	2.05	0.73	0.12	0.08	0.10
IN.	0.19	0.35	0.98	0.63	0.74	1.88	1.46	2.37	0.81	0.14	0.10	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2002, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.6	109	191	247	316	401	341	262	142	84.9	69.4	53.6
MAX	359	764	717	737	788	1010	757	618	632	389	651	453
(WY)	1955	1986	1991	1952	1956	1945	1957	1983	1989	1990	1980	1975
MIN	7.98	14.8	15.1	34.5	47.7	56.3	94.7	65.6	26.3	15.6	10.2	9.73
(WY)	1964	1964	1964	1967	1964	1969	1946	1986	1988	1965	1965	1964

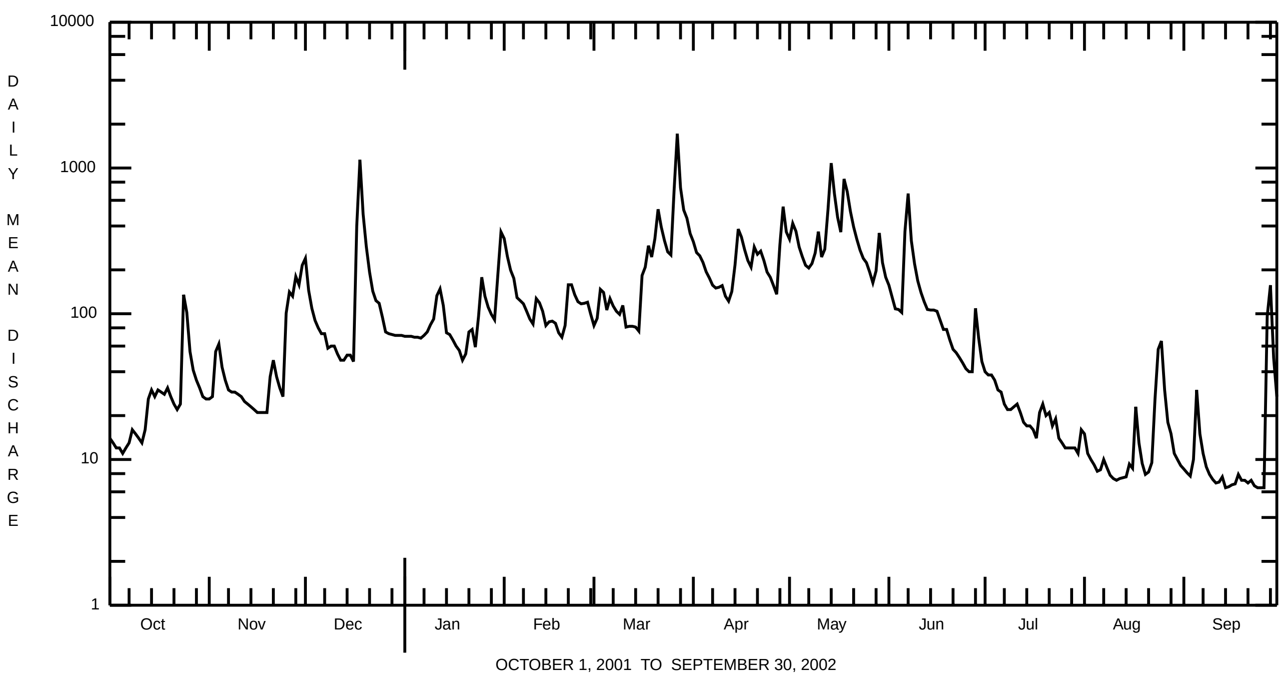
e Estimated.

RACCOON CREEK BASIN

03108000 RACCOON CREEK AT MOFFATTS MILL, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1942 - 2002	
ANNUAL TOTAL	46187		46743.4			
ANNUAL MEAN	127		128		189	
HIGHEST ANNUAL MEAN					314	1951
LOWEST ANNUAL MEAN					90.9	1954
HIGHEST DAILY MEAN	1820	Jan 31	1720	Mar 27	6120	Jan 27 1952
LOWEST DAILY MEAN	10	Aug 18,19	6.4	Sep 14,24-26	4.8	Sep 8 1945
ANNUAL SEVEN-DAY MINIMUM	12	Aug 14	6.7	Sep 20	5.6	Aug 20 1965
MAXIMUM PEAK FLOW			2450	Mar 27	**a**8590	Jan 27 1952
MAXIMUM PEAK STAGE			5.08	Mar 27	9.71	Jan 27 1952
INSTANTANEOUS LOW FLOW			6.0	Sep 14,15,26	4.5	Aug 24 1965
ANNUAL RUNOFF (CFSM)	0.71		0.72		1.06	
ANNUAL RUNOFF (INCHES)	9.65		9.77		14.44	
10 PERCENT EXCEEDS	313		317		442	
50 PERCENT EXCEEDS	68		73		96	
90 PERCENT EXCEEDS	16		9.3		20	

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



03108000 RACCOON CREEK AT MOFFATTS MILL, 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 210-233.

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

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

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (µS/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
APR 2002 09...	1045	9813	143	40	7.9	7.6	707	663	11.5	310	80.8	25.5	78
JUN 04...	0945	9813	114	40	10.4	7.7	857	793	18.5	390	103	32.6	86
AUG 05...	0800	9813	8.58	40	6.5	7.3	1360	1500	24.0	810	208	69.8	68

Date	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)
APR 2002 09...	228	550	<2	<.020	.86	<.040	1.0	.01	.020	1.8	<10	190	<1.0
JUN 04...	301	646	12	<.020	.65	<.040	.84	.02	.020	2.2	<10	320	<1.0
AUG 05...	674	1420	14	.060	1.91	<.200	2.2	.02	.050	3.0	<10	290	<10.0

Date	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	GROSS BETA, WATER, UNFLT, (PCI/L) (85817)
APR 2002 09...	170	<50	20	2
JUN 04...	80	<50	<10	--
AUG 05...	90	<50	<10	--

STREAMS TRIBUTARY TO LAKE ERIE

04213000 CONNEAUT CREEK AT CONNEAUT, OHIO

LOCATION.--Latitude 41°55'37", longitude 80°36'15", Ashtabula County, Hydrologic Unit 04120101, on right bank at downstream side of Keefus Road bridge at Conneaut, Ohio, and 6.4 mi upstream from mouth.

DRAINAGE AREA.--175 mi^2.

PERIOD OF RECORD.--July 1922 to December 1935, March 1950 to September 1961 (published as "*at Amboy*"), October 1961 to current year.

REVISED RECORDS.--WSP 714: 1926. WSP 784: 1933. WSP 1437: 1923-25(M), 1926-30, 1931-32(M), 1933, 1935(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.30 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Water-quality and sediment data formerly collected at this site.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	94	1540	e40	2690	175	430	345	104	20	78	5.2
2	26	77	621	e38	2360	172	349	267	84	19	46	4.6
3	19	64	235	e36	592	444	1020	405	66	18	32	4.5
4	14	64	150	e34	337	618	1310	273	58	17	26	3.8
5	15	62	113	e33	220	318	476	175	53	15	22	3.4
6	40	51	91	e32	216	262	337	146	117	14	19	3.2
7	23	44	79	e33	178	504	286	129	319	13	16	e2.9
8	25	41	70	e43	171	434	248	198	175	13	15	e3.0
9	28	40	63	e46	190	295	317	247	100	19	13	e2.8
10	21	39	57	e90	233	283	637	282	69	23	13	e2.7
11	17	44	52	139	320	300	424	231	56	21	12	e2.6
12	18	41	50	195	330	244	252	855	51	18	11	e2.5
13	18	37	49	264	243	231	384	3080	50	16	13	e2.6
14	13	34	69	e200	190	195	1260	3700	56	14	13	e7.0
15	15	34	697	e160	156	161	2140	1840	68	13	14	32
16	14	32	627	e290	210	204	1150	525	258	12	13	26
17	27	31	421	e240	351	465	517	907	207	11	15	19
18	61	31	1800	235	276	278	330	874	110	10	17	18
19	79	33	1430	184	180	204	242	596	70	9.7	21	13
20	47	38	448	e140	217	229	254	354	52	9.5	20	10
21	35	84	334	e110	586	652	287	244	42	8.8	13	18
22	33	88	229	e100	633	508	243	189	39	9.9	11	11
23	89	64	250	e150	386	343	222	153	42	15	10	7.3
24	111	52	853	906	254	446	188	124	36	12	12	7.1
25	197	70	459	1490	204	467	151	104	30	9.6	11	6.9
26	358	137	222	549	185	449	140	436	27	10	9.5	7.4
27	399	176	123	333	218	1100	125	649	25	11	8.9	58
28	920	106	109	288	228	1130	236	236	24	11	9.1	53
29	458	156	58	261	---	874	902	151	23	12	8.2	74
30	222	923	e46	807	---	1310	656	118	21	591	6.4	36
31	134	---	e43	1770	---	911	---	108	---	202	5.6	---
TOTAL	3513	2787	11388	9236	12354	14206	15513	17941	2432	1197.5	533.7	447.5
MEAN	113.3	92.90	367.4	297.9	441.2	458.3	517.1	578.7	81.07	38.63	17.22	14.92
MAX	920	923	1800	1770	2690	1310	2140	3700	319	591	78	74
MIN	13	31	43	32	156	161	125	104	21	8.8	5.6	2.5
CFSM	0.65	0.53	2.10	1.70	2.52	2.62	2.95	3.31	0.46	0.22	0.10	0.09
IN.	0.75	0.59	2.42	1.96	2.63	3.02	3.30	3.81	0.52	0.25	0.11	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2002, BY WATER YEAR (WY)

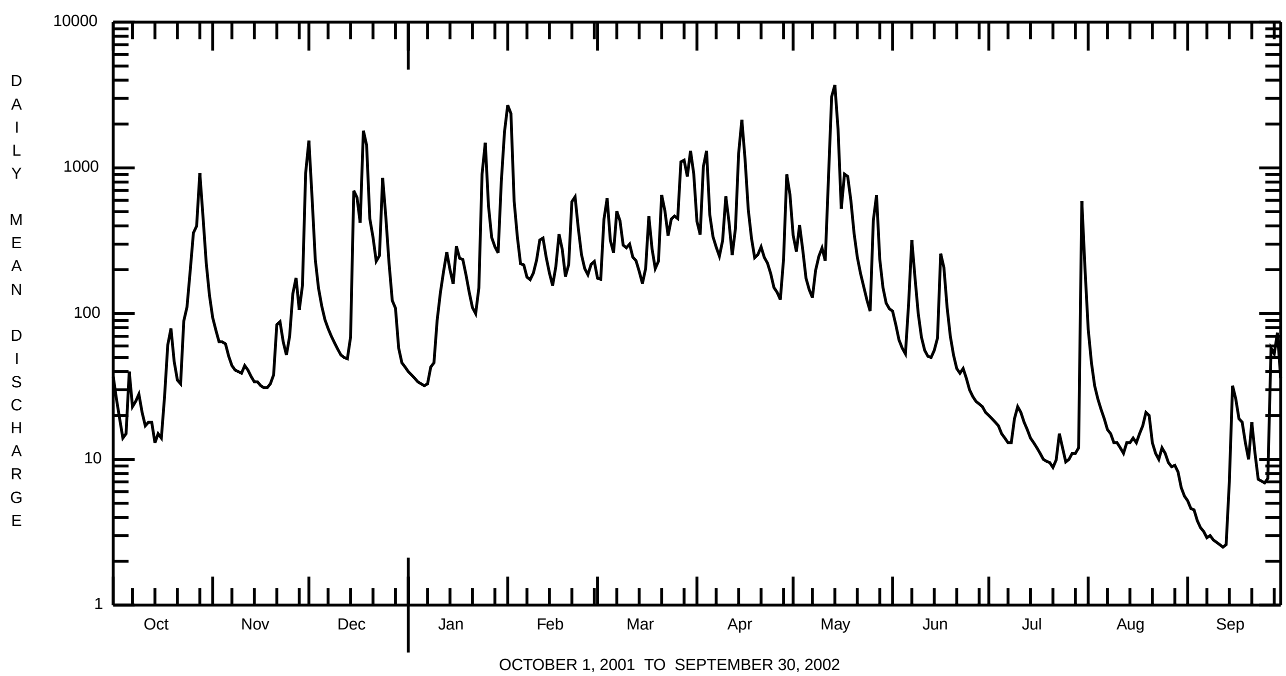
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	133.9	315.4	414.2	420.0	458.0	525.3	393.2	237.3	133.5	74.32	68.57	99.98
MAX	804	1373	1049	929	1115	987	839	670	1013	415	493	709
(WY)	1927	1986	1928	1990	1981	1972	1957	1953	1986	1969	1980	1990
MIN	4.95	17.1	35.1	81.0	39.6	147	69.9	20.2	5.46	2.79	3.19	3.56
(WY)	1924	1954	1961	1977	1934	2000	1935	1934	1934	1934	1923	1932

e Estimated.

STREAMS TRIBUTARY TO LAKE ERIE

04213000 CONNEAUT CREEK AT CONNEAUT, OHIO

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1922 - 2002	
ANNUAL TOTAL	63770.1		91548.7			
ANNUAL MEAN	174.7		250.8		272.3	
HIGHEST ANNUAL MEAN					401	1986
LOWEST ANNUAL MEAN					140	1931
HIGHEST DAILY MEAN	3410	Feb 10	3700	May 14	11000	Jan 31 1968
LOWEST DAILY MEAN	3.0	Aug 16	2.5	Sep 12	0.30	Jul 30 1933
ANNUAL SEVEN-DAY MINIMUM	3.7	Aug 12	2.7	Sep 7	0.64	Aug 27 1933
MAXIMUM PEAK FLOW			4700	May 13	17000	Jan 22 1959
MAXIMUM PEAK STAGE			7.28	May 13	12.94	Mar 4 1934
INSTANTANEOUS LOW FLOW					0.20	Jul 31 1933
ANNUAL RUNOFF (CFSM)	1.00		1.43		1.56	
ANNUAL RUNOFF (INCHES)	13.56		19.46		21.14	
10 PERCENT EXCEEDS	399		623		680	
50 PERCENT EXCEEDS	79		100		97	
90 PERCENT EXCEEDS	8.0		11		10	



STREAMS TRIBUTARY TO LAKE ERIE

04213075 BRANDY RUN NEAR GIRARD, PA

LOCATION.--Lat 41°59'31", long 80°17'29", Erie County, Hydrologic Unit 04120101, on left bank 100 ft upstream from highway bridge on Tannery Road, 0.5 mi upstream from mouth, and 1.8 mi southeast of Girard.

DRAINAGE AREA.--4.45 mi^2.

PERIOD OF RECORD.--May 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REVISED RECORDS.--WDR PA-94-3: 1987-89 (M).

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

Date	Time	Discharge ft^3/s	Gage Height (ft)	Date	Time	Discharge ft^3/s	Gage Height (ft)
Feb. 1	0445	*423	*2.51	Apr. 14	1430	262	2.05

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.6	6.6	e2.1	132	4.3	9.8	6.4	3.9	1.2	0.78	0.78
2	1.9	2.9	3.2	e2.3	20	5.3	9.0	8.2	3.4	1.2	0.73	0.78
3	2.0	3.3	2.4	e2.3	10	7.0	41	6.1	3.2	1.2	0.70	0.80
4	2.3	2.9	2.1	e2.3	9.7	8.0	9.7	4.8	3.8	1.1	0.67	0.85
5	3.0	2.7	2.0	e2.4	23	26	7.5	4.4	5.9	1.1	0.71	0.84
6	6.6	2.7	1.9	e2.6	5.8	10	7.2	4.2	5.5	1.1	0.64	0.86
7	3.2	5.1	1.8	e2.8	5.9	14	6.6	4.5	4.0	1.0	0.63	0.76
8	2.6	5.2	1.7	e3.0	6.3	14	6.8	4.7	3.3	1.0	0.60	0.70
9	2.3	3.2	1.7	e3.3	6.2	11	13	8.1	3.0	2.5	0.58	0.72
10	2.0	2.6	1.5	e3.9	6.2	11	8.8	6.7	2.8	1.6	0.57	0.72
11	2.0	2.5	1.3	e4.2	8.6	7.7	6.5	4.7	2.8	1.2	0.54	0.63
12	2.9	2.6	1.3	e4.2	6.9	9.5	5.6	58	2.9	1.1	0.57	0.65
13	4.7	2.3	1.6	e4.2	6.0	8.5	25	80	2.4	1.0	0.59	0.71
14	4.3	2.3	5.1	e4.6	15	6.2	62	51	3.9	1.0	0.55	2.6
15	6.5	2.7	11	e4.9	5.7	5.5	22	13	5.5	0.95	0.64	14
16	6.0	2.7	3.8	e5.2	11	9.5	9.3	14	8.0	1.0	0.66	5.8
17	5.9	2.5	13	e5.1	10	6.1	7.2	52	3.6	1.0	0.66	1.9
18	3.2	2.2	19	5.7	9.1	5.3	5.9	16	2.6	0.88	0.64	1.3
19	2.7	2.8	7.0	e6.1	5.9	4.4	5.4	9.0	2.2	0.91	0.62	1.2
20	2.5	3.9	6.5	e5.7	12	11	8.2	7.1	2.0	0.92	0.71	1.1
21	3.1	2.3	4.6	5.2	18	9.1	6.5	6.1	1.7	0.88	0.79	1.6
22	5.4	2.1	3.2	5.5	11	6.4	7.2	5.3	1.7	0.99	0.80	1.1
23	4.1	2.0	9.7	e6.1	7.0	8.2	6.7	4.8	1.6	2.4	1.1	1.1
24	4.5	2.1	8.4	28	5.7	8.8	5.1	4.6	1.5	1.1	1.2	1.1
25	7.7	3.7	4.6	12	5.0	7.7	5.5	5.0	1.4	0.84	1.0	1.1
26	7.8	2.9	e3.4	7.6	6.2	13	4.5	9.5	1.5	0.78	0.92	1.1
27	9.9	2.6	e2.9	6.4	5.7	24	3.9	5.0	2.2	0.76	0.91	12
28	5.1	2.8	2.1	6.0	4.8	22	14	4.4	1.5	1.8	0.91	5.3
29	3.5	7.3	e2.2	5.9	---	29	15	4.3	1.4	1.8	0.88	2.0
30	2.9	14	e2.2	34	---	39	8.2	4.6	1.3	1.5	0.86	1.4
31	2.6	---	e2.2	56	---	10	---	5.0	---	0.88	0.81	---
TOTAL	125.1	101.5	140.0	249.6	378.7	361.5	353.1	421.5	90.5	36.69	22.97	65.50
MEAN	4.04	3.38	4.52	8.05	13.5	11.7	11.8	13.6	3.02	1.18	0.74	2.18
MAX	9.9	14	19	56	132	39	62	80	8.0	2.5	1.2	14
MIN	1.9	2.0	1.3	2.1	4.8	4.3	3.9	4.2	1.3	0.76	0.54	0.63
CFSM	0.91	0.76	1.01	1.81	3.04	2.62	2.64	3.06	0.68	0.27	0.17	0.49
IN.	1.05	0.85	1.17	2.09	3.17	3.02	2.95	3.52	0.76	0.31	0.19	0.55

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

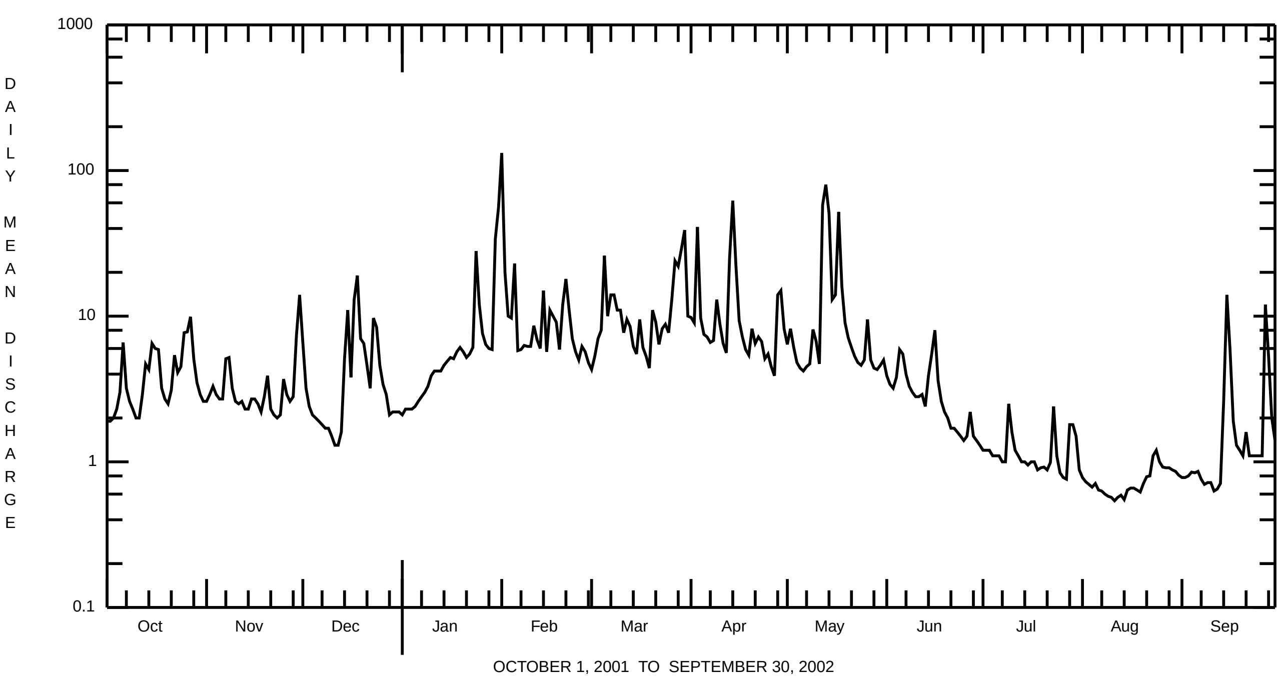
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.93	7.30	8.51	8.86	9.24	10.1	11.8	6.63	3.87	2.10	3.29	3.39
MAX	12.1	17.2	17.0	19.2	28.7	17.6	22.8	14.4	10.9	6.13	19.1	11.1
(WY)	1988	1993	1998	1998	1990	1989	1996	1989	1994	1992	1987	1992
MIN	1.24	0.89	1.49	3.13	2.21	3.71	6.24	1.56	0.86	0.71	0.49	0.75
(WY)	1999	1999	1999	1987	1987	1999	1999	1991	1991	1999	1991	1995

e Estimated.

04213075 BRANDY RUN NEAR GIRARD, PA--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1986 - 2002	
ANNUAL TOTAL	1798.60		2346.66			
ANNUAL MEAN	4.93		6.43		6.67	
HIGHEST ANNUAL MEAN					9.84	1996
LOWEST ANNUAL MEAN					2.82	1999
HIGHEST DAILY MEAN	55	Feb 9	132	Feb 1	405	Aug 2 1987
LOWEST DAILY MEAN	0.42	Sep 19	0.54	Aug 11	0.14	Aug 3 1991
ANNUAL SEVEN-DAY MINIMUM	0.49	Sep 17	0.57	Aug 8	0.16	Aug 1 1991
MAXIMUM PEAK FLOW			423	Feb 1	**a**708	Jun 13 1994
MAXIMUM PEAK STAGE			2.51	Feb 1	**b**3.36	Jun 13 1994
INSTANTANEOUS LOW FLOW			0.40	Aug 11	0.19	Jul 11 1986
ANNUAL RUNOFF (CFSM)	1.11		1.44		1.50	
ANNUAL RUNOFF (INCHES)	15.04		19.62		20.36	
10 PERCENT EXCEEDS	11		12		13	
50 PERCENT EXCEEDS	3.2		3.8		3.3	
90 PERCENT EXCEEDS	0.77		0.84		0.90	

a From rating curve extended above 140 ft^3/s.
b Maximum gage height, 4.55 ft., Dec. 19, 1989 (backwater from ice).



DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-Stage Partial-Record Stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 2002

Station name and number	Location and drainage area	Period of Record	Water year 2002 maximum: Date	Water year 2002 maximum: Gage height (ft)	Water year 2002 maximum: Discharge (ft^3/s)	Period of record maximum: Date	Period of record maximum: Gage height (ft)	Period of record maximum: Discharge (ft^3/s)
OHIO RIVER BASIN								
ALLEGHENY RIVER BASIN								
Allegheny River at Warren, Pa. (03015310)	Lat 41°50’38”, long 79°09’00”, Warren County, Hydrologic Unit 05010002, on right bank at downstream end of municipal parking lot at Warren, Pa., 1,400 ft downstream from confluence of Conewango Creek, and at mile 188.7. Drainage area is 3,131 mi^2.	1988-94≠ 1995-2002	5-19-02	9.92	25,100	1-03-91	10.19	31,700
FRENCH CREEK BASIN								
Woodcock Creek at Blooming Valley, Pa. (03022540)	Lat 41°41’26”, long 80°02’54”, Crawford County, Hydrologic Unit 05010004, on left bank at upstream side of bridge, 0.7 mi northeast of Blooming Valley, Pa., and 3.4 mi upstream from Woodcock Creek Dam. Drainage area is 31.1 mi^2.	1974-95≠ 1996-2002	5-12-02 5-14-02	8.02	711	2-17-76	11.48	2,980
CLARION RIVER BASIN								
Clarion River at Johnsonburg, Pa. (03028500)	Lat 41°29’10”, long 78°40’43”, Elk County, Hydrologic Unit 05010005, on left bank at upstream side of highway bridge at Johnsonburg, Pa., 0.1 mi downstream from confluence of East and West Branches. Drainage area is 204 mi^2.	1945-95≠ 1996-2002	5-14-02	6.16	3,570	1-19-96	10.14	12,800

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 2002—Continued

			Water year 2002 maximum			Period of record maximum		
Station name and number	Location and drainage area	Period of Record	Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
			OHIO RIVER BASIN--Continued					
			KISKIMINETAS RIVER BASIN					
Little Conemaugh River at East Conemaugh, Pa. (03041000)	Lat 40°20’45”, long 78°52’58”, Cambria County, Hydrologic Unit 05010007, upstream from bridge on State Highway 271 at East Conemaugh, Pa., 300 ft downstream from Clapboard Run, and 2.7 mi upstream from confluence with Stonycreek River. Drainage area is 183 mi^2.	1939-95≠ 1996-2002	3-27-02	13.32	4,930	7-20-77	18.85	40,000
			LAKE ERIE BASIN					
Mill Creek at Erie, Pa. (04213200)	Lat 42°05’54”, long 80°04’35”, Erie County, Hydrologic Unit 04120101, at bridge on West 38th Street, 100 ft west of State Highway 505, at Erie, Pa. Drainage area is 9.16 mi^2.	1964-2002	3-30-02	11.45	830	9-17-96	15.06	3,310

≠ Operated as a continuous-record gaging station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 2002

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		OHIO RIVER BASIN				
		ALLEGHENY RIVER BASIN				
03010956 Tunungwant Creek	Allegheny River	Lat 41°57'44", long 78°37'30", McKean County, Hydrologic Unit 05010001, at bridge on State Highway 346 at Bradford, Pa., and 1.5 mi downstream from confluence of East and West Branch Tunungwant Creek.	138	1989-2001	10-30-01	119
					12-11-01	76
					1-30-02	1,180
					3-11-02	238
					4-30-02	353
					6-18-02	158
					8-07-02	33.1
					9-24-02	17.1
03017500 Tionesta Creek	Allegheny River	Lat 41°36'07", long 79°03'01", Forest County, Hydrologic Unit 05010003, in Allegheny National Forest, on left bank at downstream side of highway bridge at Lynch, Pa., 500 ft upstream from Bluejay Creek and 7 mi south of Sheffield, Pa.	233	1939-79≠ 1981 1988-2001	10-03-01	26.5
					11-15-01	59.1
					1-15-02	186
					2-27-02	446
					4-18-02	877
					6-11-02	460
					7-16-02	51.2
					9-11-02	15.8
03022000 French Creek	Allegheny River	Lat 41°46'19", long 80°06'29", Crawford County, Hydrologic Unit 05010004, at downstream side of bridge at Venango, Pa., 1.2 mi upstream from Gravel Run and 2.2 mi downstream from Boles Run.	597	1938-46≠ 1994-2001	11-06-01	561
					12-11-01	431
					1-30-02	2,790
					3-19-02	1,470
					5-07-02	1,010
					6-24-02	304
					8-22-02	96.6
03025000 Sugar Creek	Allegheny River	Lat 41°25'43", long 79°52'48", Venango County, Hydrologic Unit 05010004, at bridge 0.8 mi north of Sugarcreek, Pa., 0.9 mi upstream from mouth, and 3 mi northeast of Franklin, Pa.	166	1932-79≠ 1989-2001	10-01-01	23.8
					11-08-01	61.5
					1-08-02	105
					2-25-02	197
					4-15-02	1,300
					6-03-02	153
					7-17-02	36.3
					9-09-02	24.9
03029000 Clarion River	Allegheny River	Lat 41°25'15", long 78°44'10", Elk County, Hydrologic Unit 05010005, at bridge on State Highway 948 in Ridgway, Pa., 50 ft downstream from Elk Creek.	303	1940-53≠ 1954-2001	10-29-01	149
					12-10-01	230
					1-28-02	505
					3-13-02	357
					4-29-02	1,400
					6-17-02	1,580
					8-08-02	186
					9-26-02	246
03030852 Clarion River	Allegheny River	Lat 41°07'47", long 79°33'18", Clarion County, Hydrologic Unit 05010005, at bridge on State Highway 58 at Callensburg, Pa., and 0.3 mi upstream from Licking Creek.	1,163	1979-2001	10-23-01	204
					1-17-02	694
					3-04-02	4,880
					4-19-02	4,220
					6-12-02	494
					7-15-02	139
					9-12-02	131
03036995 Crooked Creek	Allegheny River	Lat 40°40'54", long 79°11'27", Indiana County, at bridge on State Highway 110 at Creekside, Pa.,and 150 ft upstream from McKee Run.	53.4	1996	10-29-01	5.14
					12-12-01	12.6
					1-22-02	31.0
					3-04-02	102
					4-22-02	93.1
					6-05-02	48.0
					7-30-02	12.1
					9-09-02	4.30

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 2002—Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		OHIO RIVER BASIN--Continued				
		BEAVER RIVER BASIN				
03099600 Mahoning River	Beaver River	Lat 41°01’06”, long 80°26’27”, Lawrence County, Hydrologic Unit 05030103, at bridge on State Highway 224 and 0.4 mi northwest of North Edinburg, Pa.	1,099	1989-2001	11-07-01	286
					12-13-01	385
					1-31-02	2,240
					3-20-02	855
					5-10-02	1,040
					6-26-02	511
					8-29-02	388
03104500 Shenango River	Beaver River	Lat 41°00’00”, long 80°21’21”, Lawrence County, Hydrologic Unit 05030102, at bridge on Grant Street in New Castle, Pa., and 0.6 mi above confluence with Neshannock Creek.	792	1910-34≠	11-08-01	115
				1989-2001	12-13-01	352
					2-01-02	2,450
					3-20-02	499
					5-09-02	1,850
					6-26-02	287
					9-30-02	247
03105810 Connoquenessing Creek	Beaver River	Lat 40°48’21”, long 79°57’55”, Butler County, Hydrologic Unit 05030105, at bridge on SR 3006 at Renfrew, Pa., and 0.8 mi upstream from Thorn Creek.	137	1989-2001	10-11-01	13.2
					11-08-01	35.4
					1-18-02	62.4
					3-05-02	190
					4-22-02	178
					6-13-02	128
					7-18-02	16.8
					9-13-02	11.5
03105940 Little Connoquenessing Creek	Beaver River	Lat 40°48’36”, long 80°06’54”, Butler County, Hydrologic Unit 05030105, on right bank at pumping station for Harmony Borough Water Authority, .85 mi northeast of Harmony Borough and 1.3 mi above mouth.	63.8	1996-2001	11-09-01	14.2
					12-17-01	62.2
					2-05-02	110
					3-14-02	39.0
					5-22-02	114
					6-27-02	13.6
					9-04-02	2.48
					9-04-02	2.20
		LAKE ERIE BASIN				
04212945 Conneaut Creek	Lake Erie	Lat 41°55’04”, long 80°28’09”, Erie County, Hydrologic Unit 04120101, at bridge on Griffey Road and 1.2 mi northwest of Cherry Hill, Pa., and 1.9 mi south of West Springfield, Pa.	149	1989-2001	11-05-01	63.4
					12-10-01	55.8
					1-28-02	275
					3-20-02	136
					5-06-02	100
					6-24-02	24.0
					8-20-02	8.56
04213273 Twelvemile Creek	Lake Erie	Lat 42°12’15”, long 79°54’16”, Erie County, Hydrologic Unit 04120101, at bridge on Malbert Place near Mooreheadville, Pa., and 0.5 mi upstream from mouth.	12.5	1989-2001	12-11-01	2.97
					1-29-02	83.7
					3-19-02	13.2
					5-07-02	11.2
					6-25-02	4.09
					8-21-02	1.10

≠ Operated as a continuous-record gaging station.

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 two basic objectives:

* Monitor temporal water quality trends in major surface streams throughout the Commonwealth of Pennsylvania

* Monitor temporal water-quality trends in selected reference waters

Major streams are defined as interstate waters and intrastate streams with drainage areas of roughly 200 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 collected from April 1, 2002 through September 30, 2002 were collected by the USGS and analyzed by the PaDEP laboratory in Harrisburg.

Most of the current WQN standard sites are co-located with USGS gage stations and others are equipped with a wire weight gage. Currently the network consists of 123 standard stream sites, and 27 reference stream sites distributed across the Commonwealth.

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.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

TABLE 3.--Pennsylvania Water-Quality Network (WQN) station list.

Station number	Location	Latitude	Longitude	Drainage area (mi^2)
[a]03010500	Allegheny River at Eldred, PA	41°57’48"	78°23’11"	550
03010956	Tunungwant Creek at Bradford, PA	41°57’44"	78°37’30"	138
03012600	Allegheny River at Warren, PA	41°49’28"	79°07’09"	2,223
[a]03015000	Conewango Creek at Russell, PA	41°56’17"	79°08’00"	816
[a]03015500	Brokenstraw Creek at Youngsville, PA	41°51’09"	79°19’03"	321
[a]03016000	Allegheny River at West Hickory, PA	41°34’15"	79°24’29"	3,660
03017500	Tionesta Creek at Lynch, PA	41°36’07"	79°03’01"	233
03017800	Minister Creek at Truemans, PA	41°37’16"	79°09’11"	10.2
03020449	West Branch Caldwell Creek near Grand Valley, PA	41°41’40"	79°34’16"	18.1
[a]03020500	Oil Creek at Rouseville, PA	41°28’54"	79°41’44"	300
03022000	French Creek at Venango, PA	41°46’19"	80°06’29"	597
[a]03023100	French Creek at Meadville, PA	41°37’57"	80°09’35"	788
03025490	French Creek at Franklin, PA	41°24’06"	79°49’54"	1,237
03026175	Allegheny River at Kennerdell, PA	41°15’51"	79°50’29"	6,266
[a]03029500	Clarion River at Cooksburg, PA	41°19’50"	79°12’33"	807
03030852	Clarion River at Callensburg, PA	41°07’47"	79°33’18"	1,163
[a]03031500	Allegheny River at Parker, PA	41°06’02"	79°40’53"	7,671
03031505	Silver Creek at Walley Mill near North Washington, PA	41°02’39"	79°46’36"	5.5
[a]03032500	Redbank Creek at St. Charles, PA	40°59’40"	79°23’40"	528
[a]03034000	Mahoning Creek at Punxsutawney, PA	40°56’21"	79°00’31"	158
[a]03036500	Allegheny River at Kittanning, PA	40°49’13"	79°31’54"	8,973
03039815	Clear Shade Creek above Confluence near Cairnbrook, PA	40°08’54"	78°49’03"	32.1
03044000	Conemaugh River at Tunnelton, PA	40°27’16"	79°23’28"	1,358
[a]03049500	Allegheny River at Natrona, PA	40°36’55"	79°43’07"	11,410
03063000	Monongahela River at Lock and Dam 8 at Point Marion, PA	39°43’37"	79°54’42"	2,720
03071700	Cheat River at Point Marion, PA	39°44’31"	79°53’59"	1,422
[a]03072000	Dunkard Creek at Shannopin, PA	39°45’33"	79°58’15"	229
03072850	South Fork Ten Mile Creek near Rogersville, PA	39°53’00"	80°18’59"	18.7
[a]03075070	Monongahela River at Elizabeth, PA	40°15’44"	79°54’05"	5,340
03077500	Youghiogheny River at Youghiogheny River Dam, PA	39°48’19"	79°21’52"	436
03078020	Casselman River near Salisbury, PA	39°43’56"	79°06’03"	70.8
03079448	Kooser Run at Kooser State Park near Bakersville, PA	40°03’37"	79°13’41"	2.6
[a]03083500	Youghiogheny River at Sutersville, PA	40°14’24"	79°48’24"	1,715
[a]03085000	Monongahela River at Braddock, PA	40°23’28"	79°51’30"	7,337
[a]03086000	Ohio River at Sewickley, PA	40°32’57"	80°12’21"	19,500
03099600	Mahoning River at North Edinburg, PA	41°01’06"	80°26’27"	1,099
[a]03101500	Shenango River at Pymatuning Dam, PA	41°29’53"	80°27’37"	167
[a]03102500	Little Shenango River at Greenville, PA	41°25’19"	80°22’35"	104
03103500	Shenango River at Sharpsville, PA	41°15’58"	80°28’22"	584

TABLE 3.--Pennsylvania Water-Quality Network (WQN) station list--continued.

Station number	Location	Latitude	Longitude	Drainage area (mi^2)
03104500	Shenango River at New Castle, PA	41°00’00"	80°21’21"	792
[a]03105500	Beaver River at Wampum, PA	40°53’19"	80°20’14"	2,235
03105810	Connoquenessing Creek at Renfrew, PA	40°48’21"	79°57’55"	137
[a]03106000	Connoquenessing Creek near Zelienople, PA	40°49’01"	80°14’33"	356
[a]03106500	Slippery Rock Creek at Wurtemburg, PA	40°53’02"	80°14’02"	398
[a]03107500	Beaver River at Beaver Falls, PA	40°45’48"	80°18’55"	3,106
[a]03108000	Raccoon Creek at Moffatts Mill, PA	40°37’40"	80°20’16"	178
03109670	Ohio River at mile 44.5 at Newell, WV	40°37’10"	80°35’24"	22,784
04212945	Conneaut Creek near Cherry Hill, PA	41°55’04"	80°28’09"	149
04213273	Twelvemile Creek near Moorheadville, PA	42°12’15"	79°54’46"	12.5
04221000	Genesee River at Wellsville, NY	42°07’20"	77°57’27"	288

[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

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

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (µS/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)
03010956 Tunungwant Creek at Bradford, PA (LAT 41 57 44N LONG 078 37 30W)													
APR 2002													
17...	0730	9813	528	--	40	10.3	7.4	120	125	10.7	34	--	9.8
JUN													
26...	0930	9813	74	--	40	10.1	7.8	228	243	19.9	64	--	18.6
AUG													
22...	0830	9813	22	--	40	8.9	7.5	536	601	18.9	130	--	39.6
03012600 Allegheny River at Warren, PA (LAT 41 49 28N LONG 079 07 09W)													
APR 2002													
15...	0945	9813	20200	--	40	13.2	7.9	116	118	5.7	33	--	9.7
JUN													
26...	1100	9813	18900	--	40	11.2	8.4	90	93	19.0	34	--	9.8
AUG													
20...	1130	9813	4070	--	40	9.3	7.8	124	122	22.6	41	--	12.2
03017500 Tionesta Creek at Lynch, PA (LAT 41 36 07N LONG 079 03 01W)													
APR 2002													
17...	1200	9813	1060	--	40	10.7	6.5	49	51	12.5	17	4.18	4.1
JUN													
25...	1300	9813	261	--	40	11.2	8.7	55	58	21.4	19	--	4.9
AUG													
22...	1045	9813	22	--	40	8.3	7.6	101	111	21.2	34	9.20	9.1
03017800 Minister Creek at Truemans, PA (LAT 41 37 16N LONG 079 09 11W)													
APR 2002													
17...	0945	9813	7.2	4.0	30	11.0	6.8	27	32	9.8	10	2.08	2.2
MAY													
22...	1130	9813	37	39	30	12.8	6.1	30	30	7.4	9	2.14	1.9
JUN													
25...	1115	9813	7.8	4.0	30	10.1	7.1	30	33	16.0	11	2.52	2.5
JUL													
18...	1400	9813	3.5	<1.0	30	9.6	7.1	32	35	18.7	11	--	2.5
AUG													
22...	1200	9813	1.6	3.0	30	9.2	7.2	34	38	17.2	12	2.67	2.7
SEP													
12...	1315	9813	.67	3.0	30	10.1	8.1	40	39	13.6	11	2.57	2.6
03020449 West Branch Caldwell Creek near Grand Valley, PA (LAT 41 41 40N LONG 079 34 16W)													
APR 2002													
16...	0845	9813	84	3.0	30	10.9	7.1	58	62	9.3	18	--	4.8
MAY													
23...	0830	9813	38	39	30	12.4	7.2	63	62	6.8	21	--	5.5
JUN													
27...	0815	9813	8.1	4.0	30	8.9	7.7	96	96	18.6	35	--	9.7
JUL													
18...	1100	9813	2.5	<1.0	30	8.5	6.4	105	114	18.9	42	--	11.7
AUG													
21...	1015	9813	2.5	3.0	30	9.1	7.6	110	125	16.0	45	--	12.6
SEP													
12...	1030	9813	.83	3.0	30	9.7	8.2	137	134	13.1	49	--	13.5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
03010956 Tunungwant Creek at Bradford, PA (LAT 41 57 44N LONG 078 37 30W)													
APR 2002													
17...	--	2.4	--	22	--	<.2	9.4	80	38	<.020	.27	<.040	.54
JUN													
26...	--	4.3	--	48	--	<.2	8.6	138	<2	<.020	.09	<.040	.16
AUG													
22...	--	7.8	--	62	--	<.2	10.1	374	<2	<.020	<.04	<.040	.20
03012600 Allegheny River at Warren, PA (LAT 41 49 28N LONG 079 07 09W)													
APR 2002													
15...	--	2.2	--	22	--	--	9.8	100	<2	<.020	.42	<.040	.61
JUN													
26...	--	2.2	--	24	--	--	8.8	60	<2	<.020	.19	<.040	.42
AUG													
20...	--	2.5	--	32	--	--	9.0	90	<2	<.020	.16	<.040	.44
03017500 Tionesta Creek at Lynch, PA (LAT 41 36 07N LONG 079 03 01W)													
APR 2002													
17...	1.45	1.5	23	7	--	--	8.8	70	18	<.020	.29	<.040	.51
JUN													
25...	--	1.6	--	16	--	--	8.1	38	2	<.020	.13	<.040	.20
AUG													
22...	2.77	2.8	.0	32	--	--	7.5	48	4	<.020	.04	<.040	.34
03017800 Minister Creek at Truemans, PA (LAT 41 37 16N LONG 079 09 11W)													
APR 2002													
17...	.94	1.0	12	3	1.1	<.2	7.8	36	40	<.020	.22	<.040	.33
MAY													
22...	1.01	.9	12	3	1.1	<.2	7.8	46	<2	<.020	.22	<.040	.28
JUN													
25...	1.09	1.1	.0	5	1.2	<.2	7.3	26	2	<.020	.21	<.040	.22
JUL													
18...	--	1.1	--	7	1.2	<.2	6.9	28	<2	<.020	.21	<.040	.19
AUG													
22...	1.13	1.1	.0	8	1.3	<.2	6.4	34	4	<.020	.20	<.040	.26
SEP													
12...	1.12	1.1	.0	11	1.4	<.2	6.5	38	6	.100	.16	<.040	.20
03020449 West Branch Caldwell Creek near Grand Valley, PA (LAT 41 41 40N LONG 079 34 16W)													
APR 2002													
16...	--	1.4	--	10	3.7	<.2	9.2	56	18	--	.38	<.040	.53
MAY													
23...	--	1.8	--	13	3.8	<.2	9.0	28	10	<.020	.40	<.040	.48
JUN													
27...	--	2.6	--	28	7.3	<.2	7.4	74	6	<.020	.31	<.040	.44
JUL													
18...	--	3.1	--	38	6.6	<.2	7.5	114	4	<.020	.23	<.040	.40
AUG													
21...	--	3.2	--	38	8.8	<.2	7.0	108	6	.020	.18	<.040	.29
SEP													
12...	--	3.7	--	48	7.9	<.2	7.2	112	8	.120	.10	<.040	.22

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
03010956 Tunungwant Creek at Bradford, PA (LAT 41 57 44N LONG 078 37 30W)													
APR 2002 17...	.02	.020	1.9	--	--	--	--	--	<10	--	700	--	<1.0
JUN 26...	.01	.020	2.0	--	--	--	--	--	<10	--	630	--	<1.0
AUG 22...	.01	.010	2.7	--	--	--	--	--	<10	--	380	--	<1.0
03012600 Allegheny River at Warren, PA (LAT 41 49 28N LONG 079 07 09W)													
APR 2002 15...	.01	.010	1.6	--	--	--	--	--	<10	--	160	--	<1.0
JUN 26...	.01	.020	2.4	--	--	--	--	--	<10	--	220	--	<1.0
AUG 20...	.01	.020	2.7	--	--	--	--	--	<10	--	70	--	1.4
03017500 Tionesta Creek at Lynch, PA (LAT 41 36 07N LONG 079 03 01W)													
APR 2002 17...	.02	.020	--	.7	--	--	--	<4	<4	40	810	<1.0	6.7
JUN 25...	.01	.010	2.1	--	--	--	--	--	<10	--	400	--	<1.0
AUG 22...	.02	.019	--	.8	--	--	--	<4	<4	140	570	<1.0	<1.0
03017800 Minister Creek at Truemans, PA (LAT 41 37 16N LONG 079 09 11W)													
APR 2002 17...	.01	<.010	--	.3	20	--	--	<4	<4	<20	150	<1.0	<1.0
MAY 22...	<.01	<.010	--	1.4	<20	--	--	<4	<4	<20	70	<1.0	<1.0
JUN 25...	.01	.010	--	.6	20	<4.0	<.20	<4	<4	40	140	<1.0	<1.0
JUL 18...	.01	<.010	--	.3	<20	<4.0	<.20	<4	<4	40	140	<1.0	<1.0
AUG 22...	<.01	<.010	--	.4	40	<4.0	<.20	<4	<4	50	150	<1.0	<1.0
SEP 12...	.01	<.010	--	1.1	60	<4.0	<.20	<4	<4	30	110	<1.0	<1.0
03020449 West Branch Caldwell Creek near Grand Valley, PA (LAT 41 41 40N LONG 079 34 16W)													
APR 2002 16...	.01	--	--	.6	20	--	--	<4	<4	70	350	<1.0	<1.0
MAY 23...	.02	.011	--	<.2	20	<4.0	<.20	<4	<4	60	250	<1.0	<1.0
JUN 27...	.02	.019	--	1.2	550	<4.0	<.20	<4	<4	180	790	<1.0	<1.0
JUL 18...	.02	.015	--	.5	70	<4.0	<.20	<4	<4	60	540	<1.0	<1.0
AUG 21...	.03	.019	--	1.0	40	<4.0	<.20	<4	<4	100	690	<1.0	<1.0
SEP 12...	.01	.014	--	1.2	20	<4.0	<.20	<4	<4	40	500	<1.0	<1.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
03010956 Tunungwant Creek at Bradford, PA (LAT 41 57 44N LONG 078 37 30W)							
APR 2002							
17...	--	80	--	<50	--	<10	<5
JUN							
26...	--	100	--	<50	--	<10	<5
AUG							
22...	--	100	--	<50	--	<10	<5
03012600 Allegheny River at Warren, PA (LAT 41 49 28N LONG 079 07 09W)							
APR 2002							
15...	--	30	--	<50	--	<10	--
JUN							
26...	--	30	--	<50	--	<10	--
AUG							
20...	--	30	--	<50	--	10	--
03017500 Tionesta Creek at Lynch, PA (LAT 41 36 07N LONG 079 03 01W)							
APR 2002							
17...	30	60	<4.0	<4.0	10	10	--
JUN							
25...	--	30	--	<50	--	10	--
AUG							
22...	60	80	<4.0	<4.0	10	10	--
03017800 Minister Creek at Truemans, PA (LAT 41 37 16N LONG 079 09 11W)							
APR 2002							
17...	40	50	<4.0	<4.0	20	20	<5
MAY							
22...	40	40	<4.0	<4.0	20	20	<5
JUN							
25...	10	20	<4.0	<4.0	6.3	6.1	<5
JUL							
18...	9.6	20	<4.0	<4.0	<5.0	<5.0	8
AUG							
22...	9.7	20	<4.0	<4.0	<5.0	<5.0	<5
SEP							
12...	10	20	<4.0	<4.0	<5.0	<5.0	<5
03020449 West Branch Caldwell Creek near Grand Valley, PA (LAT 41 41 40N LONG 079 34 16W)							
APR 2002							
16...	10	20	<4.0	<4.0	<5.0	<5.0	<5
MAY							
23...	20	20	<4.0	<4.0	<5.0	<5.0	<5
JUN							
27...	10	20	<4.0	<4.0	<5.0	<5.0	--
JUL							
18...	20	30	<4.0	<4.0	--	--	7
AUG							
21...	30	30	<4.0	<4.0	<5.0	<5.0	<5
SEP							
12...	30	40	<4.0	<4.0	<5.0	<5.0	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS-URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)
03022000 French Creek at Venango, PA (LAT 41 46 35N LONG 080 06 30W)													
APR 2002													
23...	0730	9813	1720	8.0	40	7.7	7.6	210	193	10.8	82	--	24.8
MAY													
20...	1025	9813	2740	1.0	40	10.2	7.8	161	--	11.4	63	--	19.4
JUN													
10...	1030	9813	1280	3.0	40	8.8	7.8	202	179	20.8	78	--	24.1
JUL													
23...	1030	9813	90	6.0	40	6.2	7.7	367	--	25.0	150	--	45.5
AUG													
12...	1000	9813	100	5.0	40	8.0	7.7	390	322	22.0	140	--	43.9
SEP													
23...	1030	9813	100	6.0	40	8.7	7.8	301	320	18.0	140	--	43.3
03025490 French Creek at Franklin, PA (LAT 41 24 06N LONG 079 49 54W)													
APR 2002													
24...	0815	9813	3040	--	40	7.9	7.8	209	196	9.9	76	--	22.7
JUN													
12...	1030	9813	1500	--	40	8.1	7.7	251	199	22.0	85	--	25.5
AUG													
14...	1030	9813	387	--	40	8.6	8.2	223	300	24.8	120	--	36.7
03026175 Allegheny River at Kennerdell, PA (LAT 41 15 51N LONG 079 50 29W)													
APR 2002													
24...	1230	9813	17800	--	40	7.7	7.6	134	132	10.8	45	--	13.3
JUN													
12...	1230	9813	18700	--	40	9.5	7.5	158	116	18.3	43	--	12.6
AUG													
14...	1230	9813	3130	--	40	8.1	7.9	184	181	25.0	61	--	18.4
03030852 Clarion River at Callensburg, PA (LAT 41 07 47N LONG 079 33 16W)													
APR 2002													
24...	1430	9813	3600	--	40	7.2	7.0	151	150	12.7	49	--	11.8
JUN													
12...	1430	9813	4200	--	40	9.3	6.0	284	184	20.0	63	--	14.5
AUG													
14...	1430	9813	145	--	40	9.4	7.4	232	393	28.0	110	--	26.0
03031505 Silver Creek at Walley Mill near North Washington PA (LAT 41 02 39N LONG 079 46 36W)													
MAY 2002													
01...	1000	9813	6.7	6.0	30	14.0	7.6	193	--	6.8	68	--	18.2
21...	1215	9813	18	<1.0	30	12.4	7.6	145	134	7.6	44	--	10.9
JUN													
13...	1230	9813	6.8	3.0	30	10.2	7.4	213	151	16.1	52	--	13.5
JUL													
24...	1130	9813	1.4	1.0	30	9.2	7.4	283	--	18.4	75	--	20.7
AUG													
15...	1030	9813	.75	4.0	30	10.1	7.6	225	--	20.0	84	--	23.5
SEP													
25...	1130	9813	.09	1.0	30	10.3	7.6	249	--	12.7	86	--	24.2

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
03022000 French Creek at Venango, PA (LAT 41 46 35N LONG 080 06 30W)													
APR 2002													
23...	--	4.9	--	68	13.6	<.2	10.8	158	10	<.020	.54	<.040	.98
MAY													
20...	--	3.6	--	48	8.5	<.2	8.6	122	32	<.020	.45	<.040	--
JUN													
10...	--	4.3	--	66	9.9	<.2	8.2	124	28	<.020	.41	<.040	1.2
JUL													
23...	--	8.4	--	118	22.3	<.2	15.0	216	22	.080	.47	<.040	.91
AUG													
12...	--	8.2	--	114	18.4	<.2	16.8	176	22	<.020	.41	<.040	.72
SEP													
23...	--	8.0	--	106	22.5	<.2	21.3	226	4	<.020	.45	<.040	.89
03025490 French Creek at Franklin, PA (LAT 41 24 06N LONG 079 49 54W)													
APR 2002													
24...	--	4.6	--	58	--	--	12.1	156	14	<.020	.52	<.040	.83
JUN													
12...	--	5.2	--	70	--	--	9.8	134	8	<.020	.33	<.040	.86
AUG													
14...	--	7.2	--	98	--	--	17.5	180	2	<.020	<.04	<.040	.28
03026175 Allegheny River at Kennerdell, PA (LAT 41 15 51N LONG 079 50 29W)													
APR 2002													
24...	--	2.8	--	30	--	--	11.0	158	8	<.020	.41	<.040	.57
JUN													
12...	--	2.7	--	30	--	--	9.6	74	12	.080	.28	<.040	.86
AUG													
14...	--	3.5	--	44	--	--	11.5	112	2	<.020	.08	<.040	.28
03030852 Clarion River at Callensburg, PA (LAT 41 07 47N LONG 079 33 16W)													
APR 2002													
24...	--	4.6	--	7	--	--	46.3	116	<2	.040	.28	<.040	.41
JUN													
12...	--	6.5	--	5	--	--	63.9	132	10	<.020	.24	<.040	.69
AUG													
14...	--	11.4	--	16	--	--	125	268	4	.040	.22	<.040	.41
03031505 Silver Creek at Walley Mill near North Washington PA (LAT 41 02 39N LONG 079 46 36W)													
MAY 2002													
01...	--	5.5	--	20	15.1	<.2	38.9	6	6	<.020	.76	<.040	.94
21...	--	4.1	--	12	11.2	<.2	23.5	24	2	<.020	1.62	<.040	1.7
JUN													
13...	--	4.5	--	18	12.5	<.2	26.4	130	20	<.020	1.67	<.040	1.8
JUL													
24...	--	5.7	--	40	19.7	<.2	28.3	168	12	.020	.64	<.040	.90
AUG													
15...	--	6.1	--	44	22.7	<.2	31.1	64	16	.060	.36	<.040	.53
SEP													
25...	--	6.3	--	50	27.8	<.2	27.3	192	6	.030	<.04	<.040	.22

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
03022000 French Creek at Venango, PA (LAT 41 46 35N LONG 080 06 30W)													
APR 2002													
23...	.02	.035	--	1.3	60	--	--	<4	<4	110	620	<1.0	<1.0
MAY													
20...	.05	.048	--	15.0	220	--	--	<4	<4	120	1300	<1.0	1.2
JUN													
10...	.02	.045	--	1.0	80	<4.0	<.20	<4	<4	100	840	<1.0	1.0
JUL													
23...	.03	.032	--	1.4	5900	<4.0	<.20	<4	<4	40	950	<1.0	1.2
AUG													
12...	.03	.031	--	2.6	60	<4.0	<.20	<4	<4	30	510	<1.0	<1.0
SEP													
23...	.01	.032	--	.2	160	<4.0	<.20	<4	<4	40	270	<1.0	<1.0
03025490 French Creek at Franklin, PA (LAT 41 24 06N LONG 079 49 54W)													
APR 2002													
24...	.02	.030	3.9	--	--	--	--	--	<10	--	1080	--	<1.0
JUN													
12...	.02	.040	5.4	--	--	--	--	--	<10	--	540	--	<1.0
AUG													
14...	.01	.020	3.3	--	--	--	--	--	<10	--	100	--	<1.0
03026175 Allegheny River at Kennerdell, PA (LAT 41 15 51N LONG 079 50 29W)													
APR 2002													
24...	.01	.020	2.4	--	--	--	--	--	<10	--	410	--	<1.0
JUN													
12...	.02	.030	3.0	--	--	--	--	--	<10	--	520	--	<1.0
AUG													
14...	.01	.020	2.7	--	--	--	--	--	<10	--	130	--	<1.0
03030852 Clarion River at Callensburg, PA (LAT 41 07 47N LONG 079 33 16W)													
APR 2002													
24...	.02	.010	1.7	--	--	--	--	--	<10	--	660	--	<1.0
JUN													
12...	.01	.020	2.4	--	--	--	--	--	<10	--	1130	--	1.1
AUG													
14...	<.01	<.010	2.5	--	--	--	--	--	<10	--	120	--	<1.0
03031505 Silver Creek at Walley Mill near North Washington PA (LAT 41 02 39N LONG 079 46 36W)													
MAY 2002													
01...	.01	<.010	--	1.4	100	--	--	<4	<4	50	160	<1.0	<1.0
21...	.01	.012	--	1.3	150	--	--	<4	<4	20	280	<1.0	<1.0
JUN													
13...	.01	<.010	--	1.7	600	<4.0	<.20	<4	5.9	30	510	<1.0	<1.0
JUL													
24...	.03	.028	--	1.0	3600	<4.0	<.20	<4	<4	20	700	<1.0	<1.0
AUG													
15...	.01	.016	--	1.0	560	<4.0	<.20	<4	<4	<20	420	<1.0	<1.0
SEP													
25...	<.01	.017	--	2.3	60	<4.0	<.20	<4	<4	30	600	<1.0	<1.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MANGANESE, DISSOLVED (μG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (μG/L AS MN) (01055)	NICKEL, DISSOLVED (μG/L AS NI) (01065)	NICKEL, TOTAL RECOVERABLE (μG/L AS NI) (01067)	ZINC, DISSOLVED (μG/L AS ZN) (01090)	ZINC, TOTAL RECOVERABLE (μG/L AS ZN) (01092)	PHENOLS TOTAL (μG/L) (32730)
03022000 French Creek at Venango, PA (LAT 41 46 35N LONG 080 06 30W)							
APR 2002							
23...	30	70	<4.0	<4.0	6.4	6.6	<5
MAY							
20...	30	70	<4.0	4.2	7.8	9.7	<5
JUN							
10...	20	80	<4.0	<4.0	<5.0	5.0	<5
JUL							
23...	50	130	8.0	6.0	8.8	70	<5
AUG							
12...	20	110	<4.0	<4.0	10	10	<5
SEP							
23...	20	80	<4.0	<4.0	10	10	<5
03025490 French Creek at Franklin, PA (LAT 41 24 06N LONG 079 49 54W)							
APR 2002							
24...	--	50	--	<50	--	70	--
JUN							
12...	--	50	--	<50	--	<10	--
AUG							
14...	--	20	--	<50	--	<10	--
03026175 Allegheny River at Kennerdell, PA (LAT 41 15 51N LONG 079 50 29W)							
APR 2002							
24...	--	50	--	<50	--	<10	--
JUN							
12...	--	60	--	<50	--	20	--
AUG							
14...	--	30	--	<50	--	10	--
03030852 Clarion River at Callensburg, PA (LAT 41 07 47N LONG 079 33 16W)							
APR 2002							
24...	--	640	--	<50	--	20	--
JUN							
12...	--	880	--	<50	--	80	--
AUG							
14...	--	1080	--	<50	--	10	--
03031505 Silver Creek at Walley Mill near North Washington PA (LAT 41 02 39N LONG 079 46 36W)							
MAY 2002							
01...	90	100	<4.0	<4.0	--	--	<5
21...	50	40	<4.0	<4.0	10	10	<5
JUN							
13...	30	50	<4.0	4.5	10	20	<5
JUL							
24...	50	100	<4.0	<4.0	20	--	<5
AUG							
15...	70	110	<4.0	<4.0	--	--	<5
SEP							
25...	130	230	<4.0	<4.0	20	30	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS-URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM-PLING METHOD, CODES (82398)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (µS/CM) (90095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)
03039815 Clear Shade Creek above Confluence near Cairnbrook, PA (LAT 40 08 54N LONG 078 49 03W)													
APR 2002													
30...	0900	9813	--	5.0	40	11.8	6.5	42	47	7.0	12	2.98	3.6
MAY													
29...	1150	9813	61	1.0	40	10.1	7.5	44	--	14.2	12	3.26	3.4
JUN													
24...	1345	9813	27	3.0	40	8.5	7.3	91	--	21.8	16	4.53	4.7
JUL													
17...	1245	9813	9.2	<1.0	40	7.8	7.5	135	58	22.0	20	5.83	6.2
AUG													
22...	1100	9813	4.5	3.0	40	8.4	7.2	67	--	20.9	23	6.80	7.2
SEP													
25...	1530	9813	2.6	<1.0	40	10.3	7.3	66	69	14.4	23	6.27	7.1
03044000 Conemaugh River at Tunnelton, PA (LAT 40 27 16N LONG 079 23 28W)													
APR 2002													
10...	1200	9813	1680	--	40	7.5	7.0	--	192	12.0	61	--	17.1
JUN													
06...	0915	9813	1210	--	40	7.7	6.9	688	574	22.7	220	--	57.8
AUG													
28...	0945	9813	492	--	40	7.1	6.7	1340	1220	24.3	470	--	125
03063000 Monongahela River at Lock & Dam 8, at Point Marion, PA (LAT 39 43 37N LONG 079 54 42W)													
APR 2002													
15...	1130	9813	4810	--	40	7.1	7.2	314	308	13.8	130	--	37.3
JUN													
17...	1145	9813	3000	--	40	9.8	7.4	412	362	22.0	170	--	48.2
AUG													
08...	1130	9813	1120	--	40	7.5	7.1	361	328	27.0	120	--	32.2
03071700 Cheat River at Point Marion, PA (LAT 39 44 31N LONG 079 53 59W)													
APR 2002													
15...	1015	9813	8000	--	40	6.3	6.8	131	125	13.0	51	--	14.9
JUN													
17...	1045	9813	1400	--	40	7.8	7.0	168	119	22.5	49	--	14.3
AUG													
08...	1015	9813	1500	--	40	7.0	7.1	258	236	25.0	84	--	23.8
03072850 South Fork Tenmile Creek near Rogersville, PA (LAT 39 53 00N LONG 080 18 59W)													
APR 2002													
15...	1300	9813	23	7.0	40	6.1	7.6	249	236	14.3	120	--	38.8
MAY													
22...	0915	9813	35	41	40	12.3	7.8	266	247	7.7	110	--	36.4
JUN													
17...	1330	9813	8.5	7.0	40	9.8	7.8	362	293	18.5	140	--	43.2
JUL													
16...	0930	9813	--	4.0	40	5.3	7.3	438	402	21.3	140	--	42.9
AUG													
08...	1300	9813	--	5.0	40	3.5	7.5	189	--	18.8	140	--	44.8
SEP													
30...	1000	9813	--	3.0	40	7.3	7.5	346	--	16.0	140	--	42.7

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
03039815 Clear Shade Creek above Confluence near Cairnbrook, PA (LAT 40 08 54N LONG 078 49 03W)													
APR 2002													
30...	.62	.8	16	3	2.7	<.2	8.8	36	<2	<.020	.28	<.040	.36
MAY													
29...	.75	.8	23	3	2.7	<.2	8.7	22	8	<.020	.23	<.040	.28
JUN													
24...	.96	1.0	27	3	3.9	<.2	8.9	46	10	<.020	.26	<.040	.29
JUL													
17...	1.05	1.2	23	10	3.1	<.2	10.4	--	14	.120	.25	<.040	.31
AUG													
22...	1.20	1.3	.0	13	3.1	<.2	9.2	--	--	<.020	.22	<.040	.14
SEP													
25...	1.10	1.3	.0	14	3.7	<.2	9.8	64	<2	.020	.17	<.040	.24
03044000 Conemaugh River at Tunnelton, PA (LAT 40 27 16N LONG 079 23 28W)													
APR 2002													
10...	--	4.4	--	28	--	<.2	34.0	122	28	.030	.63	<.040	.92
JUN													
06...	--	17.7	--	10	--	--	193	398	8	.190	.71	<.040	1.0
AUG													
28...	--	37.6	--	5	--	--	459	1070	4	.210	1.32	<.200	1.9
03063000 Monongahela River at Lock & Dam 8, at Point Marion, PA (LAT 39 43 37N LONG 079 54 42W)													
APR 2002													
15...	--	8.2	--	38	--	--	96.0	260	24	.120	.65	<.040	1.0
JUN													
17...	--	12.4	--	58	--	--	113	302	8	.080	.65	<.040	1.1
AUG													
08...	--	8.4	--	38	--	--	103	232	4	<.020	.67	<.040	.92
03071700 Cheat River at Point Marion, PA (LAT 39 44 31N LONG 079 53 59W)													
APR 2002													
15...	--	3.3	--	5	--	--	41.1	148	2	.090	.46	<.040	.67
JUN													
17...	--	3.1	--	13	--	--	34.2	112	2	.170	.36	<.040	.64
AUG													
08...	--	5.9	--	28	--	--	73.1	168	<2	.050	.56	<.040	.82
03072850 South Fork Tenmile Creek near Rogersville, PA (LAT 39 53 00N LONG 080 18 59W)													
APR 2002													
15...	--	5.5	--	80	8.8	<.2	25.3	222	144	.030	.47	<.040	1.4
MAY													
22...	--	5.0	--	84	4.5	<.2	29.6	148	<2	<.020	.29	<.040	.49
JUN													
17...	--	6.7	--	114	8.2	<.2	28.2	218	<2	<.020	.24	<.040	.46
JUL													
16...	--	7.2	--	146	21.3	<.2	33.2	412	34	.030	.08	<.040	.45
AUG													
08...	--	7.1	--	--	23.2	<.2	27.3	286	2	<.020	<.04	<.040	.56
SEP													
30...	--	6.8	--	92	20.2	<.2	48.9	--	--	.040	2.07	.050	2.8

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
03039815 Clear Shade Creek above Confluence near Cairnbrook, PA (LAT 40 08 54N LONG 078 49 03W)													
APR 2002													
30...	.01	<.010	--	.6	20	--	--	<4	<4	50	210	<1.0	<1.0
MAY													
29...	.01	<.010	--	.8	<20	<4.0	<.20	<4	<4	40	180	<1.0	<1.0
JUN													
24...	<.01	.010	--	1.6	<20	<4.0	<.20	<4	<4	60	250	<1.0	<1.0
JUL													
17...	.01	<.010	--	.3	<20	<4.0	<.20	<4	<4	40	220	<1.0	<1.0
AUG													
22...	<.01	<.010	--	.8	10	<4.0	<.20	<4	<4	60	230	<1.0	<1.0
SEP													
25...	<.01	<.010	--	2.0	<20	<4.0	<.20	<4	<4	40	230	<1.0	<1.0
03044000 Conemaugh River at Tunnelton, PA (LAT 40 27 16N LONG 079 23 28W)													
APR 2002													
10...	.02	.020	2.4	--	--	--	--	--	<10	--	560	--	1.4
JUN													
06...	<.01	<.010	1.6	--	--	--	--	--	<10	--	730	--	<1.0
AUG													
28...	<.01	<.010	1.4	--	--	--	--	--	<10	--	180	--	1.9
03063000 Monongahela River at Lock & Dam 8, at Point Marion, PA (LAT 39 43 37N LONG 079 54 42W)													
APR 2002													
15...	.03	.030	1.8	--	--	--	--	--	<10	--	690	--	<1.0
JUN													
17...	.06	.030	3.6	--	--	--	--	--	<10	--	1010	--	2.2
AUG													
08...	.01	.020	2.9	--	--	--	--	--	<10	--	280	--	<1.0
03071700 Cheat River at Point Marion, PA (LAT 39 44 31N LONG 079 53 59W)													
APR 2002													
15...	<.01	<.010	1.2	--	--	--	--	--	<10	--	600	--	<1.0
JUN													
17...	.02	.010	1.9	--	--	--	--	--	<10	--	360	--	<1.0
AUG													
08...	<.01	<.010	3.2	--	--	--	--	--	<10	--	220	--	<1.0
03072850 South Fork Tenmile Creek near Rogersville, PA (LAT 39 53 00N LONG 080 18 59W)													
APR 2002													
15...	.27	.194	--	2.6	29000	--	--	<4	--	30	5380	<1.0	3.6
MAY													
22...	.03	.024	--	2.0	1300	--	--	<4	<4	<20	300	<1.0	<1.0
JUN													
17...	.05	.033	--	1.0	1600	<4.0	<.20	<4	<4	<20	450	<1.0	<1.0
JUL													
16...	.04	.049	--	1.7	250	<4.0	<.20	<4	<4	40	530	<1.0	<1.0
AUG													
08...	.05	.045	--	2.3	160	<4.0	<.20	<4	<4	<20	450	<1.0	<1.0
SEP													
30...	.03	.084	--	1.1	7200	<4.0	<.20	--	<4	30	1330	<1.0	1.1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
03039815 Clear Shade Creek above Confluence near Cairnbrook, PA (LAT 40 08 54N LONG 078 49 03W)							
APR 2002							
30...	60	100	<4.0	8.3	20	20	<5
MAY							
29...	70	80	<4.0	<4.0	10	10	--
JUN							
24...	20	30	<4.0	<4.0	9.8	10	<5
JUL							
17...	10	30	<4.0	<4.0	8.1	50	<5
AUG							
22...	10	20	<4.0	<4.0	<5.0	<5.0	<5
SEP							
25...	7.3	20	<4.0	<4.0	30	20	<5
03044000 Conemaugh River at Tunnelton, PA (LAT 40 27 16N LONG 079 23 28W)							
APR 2002							
10...	--	150	--	<50	--	20	<5
JUN							
06...	--	1040	--	<50	--	30	--
AUG							
28...	--	890	--	<50	--	70	--
03063000 Monongahela River at Lock & Dam 8, at Point Marion, PA (LAT 39 43 37N LONG 079 54 42W)							
APR 2002							
15...	--	200	--	<50	--	<10	--
JUN							
17...	--	90	--	<50	--	90	--
AUG							
08...	--	70	--	<50	--	<10	--
03071700 Cheat River at Point Marion, PA (LAT 39 44 31N LONG 079 53 59W)							
APR 2002							
15...	--	190	--	<50	--	10	--
JUN							
17...	--	170	--	<50	--	20	--
AUG							
08...	--	50	--	<50	--	10	--
03072850 South Fork Tenmile Creek near Rogersville, PA (LAT 39 53 00N LONG 080 18 59W)							
APR 2002							
15...	30	190	<4.0	5.5	7.7	20	<5
MAY							
22...	30	40	<4.0	<4.0	<5.0	<5.0	<5
JUN							
17...	40	50	<4.0	<4.0	<5.0	<5.0	<5
JUL							
16...	80	110	<4.0	<4.0	10	--	<5
AUG							
08...	120	150	<4.0	<4.0	--	--	<5
SEP							
30...	90	130	<4.0	<4.0	--	--	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (µS/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)
03077500 Youghiogheny River at Youghiogheny River Dam, PA (LAT 39 48 19N LONG 079 21 52W)													
APR 2002													
29...	0930	9813	--	--	40	11.5	7.5	114	114	7.0	33	--	9.5
JUN													
25...	1015	9813	4.4	--	40	9.1	7.3	99	96	12.7	28	--	8.1
AUG													
26...	1515	9813	--	--	40	8.1	6.4	95	98	16.7	33	--	9.7
03078020 Casselman River near Salisbury, PA (LAT 39 43 56N LONG 079 06 03W)													
APR 2002													
29...	1230	9813	579	--	40	10.4	7.6	119	115	8.9	37	9.04	10.7
JUN													
25...	0900	9813	18	--	40	8.2	7.3	217	247	20.3	81	21.9	23.3
03079448 Kooser Run at Kooser State Park near Bakersville, PA (LAT 40 03 37N LONG 079 13 41W)													
APR 2002													
30...	1200	9813	11	120	30	12.5	7.2	228	226	9.2	61	19.1	21.4
MAY													
29...	0910	9813	3.9	4.0	30	10.4	7.6	244	224	12.6	75	22.6	26.7
JUN													
24...	1050	9813	2.7	5.0	30	11.0	7.4	252	238	15.4	72	25.1	25.4
JUL													
17...	1030	9813	1.8	1.0	30	8.5	7.6	278	245	14.8	77	26.4	27.5
AUG													
22...	0830	9813	1.5	6.0	30	9.1	7.7	319	--	15.9	100	33.3	35.5
SEP													
25...	1430	9813	1.0	3.0	30	10.7	7.8	329	329	11.0	110	37.1	39.7
03099600 Mahoning River at North Edinburg, PA (LAT 41 01 06N LONG 080 26 27W)													
APR 2002													
18...	1215	9813	3280	--	40	7.4	7.7	495	483	12.8	160	--	44.5
JUN													
20...	0830	9813	736	--	40	8.8	7.7	330	516	19.0	150	--	42.2
AUG													
06...	1330	9813	528	--	40	7.1	7.6	612	567	27.0	170	--	46.6
03103500 Shenango River at Sharpsville, PA (LAT 41 15 58N LONG 080 28 22W)													
APR 2002													
23...	1430	9813	854	--	40	8.2	7.7	197	182	13.7	70	--	20.0
JUN													
11...	1145	9813	510	--	40	9.9	7.7	210	190	20.6	76	--	22.2
AUG													
13...	1145	9813	251	--	40	7.6	7.7	227	229	26.0	97	--	28.8

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
03077500 Youghiogheny River at Youghiogheny River Dam, PA (LAT 39 48 19N LONG 079 21 52W)													
APR 2002													
29...	--	2.1	--	12	--	--	13.7	78	<2	<.020	.91	<.040	1.0
JUN													
25...	--	1.9	--	13	--	--	12.9	72	<2	<.020	.66	<.040	.75
AUG													
26...	--	2.1	--	16	--	--	13.5	254	4	<.020	.61	<.040	.75
03078020 Casselman River near Salisbury, PA (LAT 39 43 56N LONG 079 06 03W)													
APR 2002													
29...	2.01	2.5	.0	12	--	--	17.1	106	26	<.020	.91	<.040	1.1
JUN													
25...	5.21	5.4	.0	34	--	--	43.4	76	4	.030	.75	<.040	.91
03079448 Kooser Run at Kooser State Park near Bakersville, PA (LAT 40 03 37N LONG 079 13 41W)													
APR 2002													
30...	1.56	1.8	.0	34	32.4	<.2	13.7	148	<2	<.020	2.47	<.040	2.5
MAY													
29...	1.64	1.9	.0	40	29.9	<.2	14.2	160	2	<.020	2.47	<.040	2.5
JUN													
24...	2.12	2.1	.0	42	33.2	<.2	13.0	206	12	<.020	2.06	<.040	2.1
JUL													
17...	1.97	2.0	.0	48	34.3	<.2	12.9	106	10	.100	1.83	<.040	1.9
AUG													
22...	2.99	3.1	.0	52	36.9	<.2	19.7	--	--	<.020	4.08	<.040	4.4
SEP													
25...	2.96	3.1	.0	50	40.4	<.2	20.0	282	<2	.050	6.53	<.040	6.9
03099600 Mahoning River at North Edinburg, PA (LAT 41 01 06N LONG 080 26 27W)													
APR 2002													
18...	--	12.0	--	78	--	<.2	65.4	866	50	.080	1.04	.040	2.0
JUN													
20...	--	10.7	--	88	--	.3	65.6	462	22	.100	1.64	.070	2.2
AUG													
06...	--	13.0	--	90	--	.4	68.6	364	4	.090	2.03	.140	2.6
03103500 Shenango River at Sharpsville, PA (LAT 41 15 58N LONG 080 28 22W)													
APR 2002													
23...	--	4.8	--	48	--	<.2	18.1	184	14	.060	.56	<.040	1.3
JUN													
11...	--	5.0	--	56	--	<.2	15.6	156	<2	.190	.37	<.040	1.4
AUG													
13...	--	6.1	--	70	--	<.2	15.8	150	12	.070	.08	<.040	.87

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
03077500 Youghiogheny River at Youghiogheny River Dam, PA (LAT 39 48 19N LONG 079 21 52W)													
APR 2002 29...	.01	.010	1.8	--	--	--	--	--	<10	--	140	--	<1.0
JUN 25...	.01	.010	2.0	--	--	--	--	--	<10	--	90	--	<1.0
AUG 26...	<.01	.020	1.8	--	--	--	--	--	<10	--	80	--	<1.0
03078020 Casselman River near Salisbury, PA (LAT 39 43 56N LONG 079 06 03W)													
APR 2002 29...	.03	.035	--	1.6	--	--	--	<4	<4	80	1240	<1.0	<1.0
JUN 25...	.01	.021	--	1.7	--	--	--	<4	<4	70	320	<1.0	<1.0
03079448 Kooser Run at Kooser State Park near Bakersville, PA (LAT 40 03 37N LONG 079 13 41W)													
APR 2002 30...	<.01	.010	--	.8	<20	--	--	<4	<4	<20	130	<1.0	<1.0
MAY 29...	<.01	<.010	--	1.2	20	<4.0	<.20	<4	<4	20	100	<1.0	<1.0
JUN 24...	<.01	.010	--	1.5	80	<4.0	<.20	<4	<4	50	220	<1.0	<1.0
JUL 17...	.01	.010	--	.4	60	<4.0	<.20	<4	<4	<20	110	<1.0	<1.0
AUG 22...	.01	.010	--	1.0	160	<4.0	<.20	<4	<4	20	100	<1.0	<1.0
SEP 25...	<.01	<.010	--	1.8	<20	<4.0	<.20	<4	<4	<20	40	<1.0	<1.0
03099600 Mahoning River at North Edinburg, PA (LAT 41 01 06N LONG 080 26 27W)													
APR 2002 18...	.06	.140	7.9	--	--	--	--	--	<10	--	2330	--	5.6
JUN 20...	.11	.190	7.4	--	--	--	--	--	<10	--	1180	--	3.5
AUG 06...	.18	.227	6.4	--	--	--	--	--	<10	--	370	--	2.0
03103500 Shenango River at Sharpsville, PA (LAT 41 15 58N LONG 080 28 22W)													
APR 2002 23...	.03	.050	5.8	--	--	--	--	--	<10	--	690	--	<1.0
JUN 11...	.04	.040	6.6	--	--	--	--	--	<10	--	710	--	<1.0
AUG 13...	.04	.050	6.0	--	--	--	--	--	<10	--	580	--	1.5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
03077500 Youghiogheny River at Youghiogheny River Dam, PA (LAT 39 48 19N LONG 079 21 52W)							
APR 2002							
29...	--	40	--	<50	--	<10	--
JUN							
25...	--	50	--	<50	--	<10	--
AUG							
26...	--	240	--	<50	--	10	--
03078020 Casselman River near Salisbury, PA (LAT 39 43 56N LONG 079 06 03W)							
APR 2002							
29...	60	130	<4.0	--	<5.0	9.5	--
JUN							
25...	100	120	5.0	--	6.4	10	--
03079448 Kooser Run at Kooser State Park nr Bakersville, PA (LAT 40 03 37N LONG 079 13 41W)							
APR 2002							
30...	10	20	<4.0	<4.0	5.6	5.5	<5
MAY							
29...	6.6	10	<4.0	<4.0	<5.0	<5.0	<5
JUN							
24...	5.8	20	<4.0	<4.0	<5.0	<5.0	<5
JUL							
17...	4.5	10	<4.0	<4.0	--	<5.0	<5
AUG							
22...	8.0	20	<4.0	<4.0	8.2	10	<5
SEP							
25...	3.8	<10	<4.0	<4.0	--	--	<5
03099600 Mahoning River at North Edinburg, PA (LAT 41 01 06N LONG 080 26 27W)							
APR 2002							
18...	--	180	--	<50	--	20	<5
JUN							
20...	--	130	--	<50	--	30	<5
AUG							
06...	--	60	--	<50	--	10	<5
03103500 Shenango River at Sharpsville, PA (LAT 41 15 58N LONG 080 28 22W)							
APR 2002							
23...	--	50	--	<50	--	<10	<5
JUN							
11...	--	240	--	<50	--	<10	<5
AUG							
13...	--	230	--	<50	--	<10	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PRESS- URE OSMOTIC WATER UNFLTRD MOSM/KG (82550)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (µS/CM) (90095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)
03104500 Shenango River at New Castle, PA (LAT 41 00 00N LONG 080 21 21W)													
APR 2002													
18...	1030	9813	3340	--	40	16.7	--	241	231	13.6	82	--	24.1
JUN													
20...	0930	9813	1130	--	40	6.4	7.5	303	240	21.4	87	--	25.6
AUG													
06...	1230	9813	289	--	40	6.3	7.5	325	296	25.3	110	--	30.7
03105810 Connoquenessing Creek at Renfrew, PA (LAT 40 48 21N LONG 079 57 55W)													
APR 2002													
18...	0815	9813	363	--	40	16.7	7.8	377	357	14.8	110	--	33.9
JUN													
18...	0830	9813	91	--	40	9.2	7.6	658	584	16.7	180	--	55.8
AUG													
05...	1350	9813	44	--	40	9.1	7.8	1150	1980	27.0	760	--	268
03109670 Ohio River at Mile 44.5 at Newell, WV (LAT 40 37 10N LONG 080 35 24W)													
APR 2002													
17...	0830	9813	90900	--	40	6.4	7.8	578	265	15.0	94	--	26.7
JUN													
04...	1130	9813	25100	--	40	9.8	7.8	305	278	22.0	100	--	28.5
AUG													
05...	0945	9813	6950	--	40	7.9	7.6	845	380	29.0	120	--	32.3
04212945 Conneaut Creek at Cherry Hill, PA (LAT 41 55 04N LONG 080 28 09W)													
APR 2002													
22...	1045	9813	157	--	40	7.3	7.7	195	191	10.7	78	--	22.7
JUN													
10...	1230	9813	49	--	40	13.3	7.7	228	208	22.5	94	--	28.2
AUG													
12...	1215	9813	7.4	--	40	12.6	8.0	381	320	25.0	140	--	41.4
04213273 Twelvemile Creek near Moorheadville, PA (LAT 42 12 15N LONG 079 54 46W)													
APR 2002													
22...	1245	9813	14	13	30	8.0	7.6	365	--	7.6	110	--	34.3
MAY													
20...	1300	9813	21	3.0	30	11.8	7.4	321	--	10.1	100	--	32.1
JUN													
10...	1430	9813	6.0	5.0	30	9.4	7.5	384	343	20.7	130	--	39.5
JUL													
23...	1230	9813	28	6.0	30	8.5	7.7	568	--	22.5	170	--	53.6
AUG													
12...	1400	9813	73	6.0	30	9.8	8.7	546	--	23.0	180	--	55.6
SEP													
23...	1300	9813	78	10	30	10.4	8.2	486	--	16.7	180	--	57.7

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
03104500 Shenango River at New Castle, PA (LAT 41 00 00N LONG 080 21 21W)													
APR 2002													
18...	--	5.3	--	48	--	<.2	23.5	168	<2	.070	.84	<.040	1.6
JUN													
20...	--	5.7	--	62	--	<.2	23.2	196	36	.060	.67	.050	1.3
AUG													
06...	--	7.3	--	74	--	<.2	26.5	209	<2	.030	1.04	<.040	1.6
03105810 Connoquenessing Creek at Renfrew, PA (LAT 40 48 21N LONG 079 57 55W)													
APR 2002													
18...	--	7.0	--	34	--	--	48.1	246	16	<.020	1.56	<.040	2.0
JUN													
18...	--	9.9	--	52	--	--	80.3	474	10	.030	2.30	<.040	2.6
AUG													
05...	--	21.2	--	78	--	--	356	1550	14	.040	6.05	<.200	6.8
03109670 Ohio River at Mile 44.5 at Newell, WV (LAT 40 37 10N LONG 080 35 24W)													
APR 2002													
17...	--	6.7	--	36	--	--	54.6	208	78	.050	.70	<.040	1.1
JUN													
04...	--	7.0	--	38	--	--	60.0	690	6	.030	<.04	<.040	.99
AUG													
05...	--	10.0	--	40	--	--	94.4	282	<2	.040	.64	<.040	.91
04212945 Conneaut Creek at Cherry Hill, PA (LAT 41 55 04N LONG 080 28 09W)													
APR 2002													
22...	--	5.1	--	58	--	--	17.1	72	<2	.020	.33	<.040	.81
JUN													
10...	--	5.7	--	68	--	--	16.5	202	4	<.020	.76	<.040	1.3
AUG													
12...	--	8.8	--	100	--	--	35.5	250	6	<.020	.24	<.040	.60
04213273 Twelvemile Creek near Moorheadville, PA (LAT 42 12 15N LONG 079 54 46W)													
APR 2002													
22...	--	6.5	--	58	44.7	<.2	33.4	--	<2	<.020	2.34	<.040	--
MAY													
20...	--	5.7	--	58	31.6	<.2	31.1	202	<2	<.020	1.92	<.040	--
JUN													
10...	--	6.7	--	68	38.3	<.2	36.5	280	6	<.020	2.58	<.040	3.0
JUL													
23...	--	9.7	--	84	49.4	<.2	52.3	364	4	<.020	5.19	<.040	--
AUG													
12...	--	10.1	--	82	49.7	<.2	53.5	110	4	<.020	4.61	<.040	4.7
SEP													
23...	--	9.8	--	--	51.3	<.2	66.2	346	2	<.020	2.50	<.040	2.5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS-SOLVED (µG/L AS AS) (01000)	CADMIUM DIS-SOLVED (µG/L AS CD) (01025)	COPPER, DIS-SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042)	IRON, DIS-SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045)	LEAD, DIS-SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051)
03104500 Shenango River at New Castle, PA (LAT 41 00 00N LONG 080 21 21W)													
APR 2002													
18...	.03	.080	5.6	--	--	--	--	--	<10	--	960	--	2.1
JUN													
20...	.04	.110	6.4	--	--	--	--	--	<10	--	1440	--	3.9
AUG													
06...	.09	.135	5.8	--	--	--	--	--	<10	--	930	--	3.0
03105810 Connoquenessing Creek at Renfrew, PA (LAT 40 48 21N LONG 079 57 55W)													
APR 2002													
18...	.02	.040	2.3	--	--	--	--	--	<10	--	800	--	1.9
JUN													
18...	.06	.090	2.8	--	--	--	--	--	<10	--	740	--	<1.0
AUG													
05...	.18	.320	4.8	--	--	--	--	--	<10	--	510	--	1.7
03109670 Ohio River at Mile 44.5 at Newell, WV (LAT 40 37 10N LONG 080 35 24W)													
APR 2002													
17...	.07	.110	3.0	--	--	--	--	--	10	--	3900	--	5.3
JUN													
04...	.03	.040	2.7	--	--	--	--	--	10	--	450	--	1.1
AUG													
05...	.02	.030	2.6	--	--	--	--	--	<10	--	240	--	<1.0
04212945 Conneaut Creek at Cherry Hill, PA (LAT 41 55 04N LONG 080 28 09W)													
APR 2002													
22...	.03	.030	6.9	--	--	--	--	--	<10	--	1170	--	1.6
JUN													
10...	.03	.044	7.4	--	--	--	--	--	<10	--	770	--	1.2
AUG													
12...	.02	.020	4.8	--	--	--	--	--	<10	--	230	--	5.2
04213273 Twelvemile Creek near Moorheadville, PA (LAT 42 12 15N LONG 079 54 46W)													
APR 2002													
22...	<.01	.021	--	.9	150	--	--	--	<4	20	80	<1.0	<1.0
MAY													
20...	.01	<.010	--	2.0	100	--	--	<4	<4	40	100	<1.0	<1.0
JUN													
10...	.01	.012	--	.6	160	<4.0	<.20	<4	<4	<20	120	<1.0	<1.0
JUL													
23...	<.01	.011	--	1.2	1500	<4.0	<.20	<4	<4	<20	2610	<1.0	<1.0
AUG													
12...	<.01	<.010	--	1.9	40	<4.0	<.20	<4	<4	<20	70	<1.0	<1.0
SEP													
23...	<.01	<.010	--	<.2	40	<4.0	<.20	<4	<4	20	120	<1.0	<1.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

Date	MANGA-NESE, DIS-SOLVED (µG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055)	NICKEL, DIS-SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067)	ZINC, DIS-SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
03104500 Shenango River at New Castle, PA (LAT 41 00 00N LONG 080 21 21W)							
APR 2002							
18...	--	80	--	<50	--	<10	<5
JUN 2002							
20...	--	150	--	<50	--	40	<5
AUG							
06...	--	140	--	<50	--	<10	<5
03105810 Connoquenessing Creek at Renfrew, PA (LAT 40 48 21N LONG 079 57 55W)							
APR 2002							
18...	--	90	--	<50	--	<10	--
JUN							
18...	--	100	--	<50	--	10	--
AUG							
05...	--	230	--	<50	--	<10	--
03109670 Ohio River at Mile 44.5 at Newell, WV (LAT 40 37 10N LONG 080 35 24W)							
APR 2002							
17...	--	360	--	<50	--	30	--
JUN							
04...	--	130	--	<50	--	80	--
AUG							
05...	--	70	--	<50	--	<10	--
04212945 Conneaut Creek at Cherry Hill, PA (LAT 41 55 04N LONG 080 28 09W)							
APR 2002							
22...	--	40	--	<50	--	20	--
JUN							
10...	--	30	--	<50	--	10	--
AUG							
12...	--	30	--	<50	--	20	--
04213273 Twelvemile Creek near Moorheadville, PA (LAT 42 12 15N LONG 079 54 46W)							
APR 2002							
22...	7.6	10	<4.0	<4.0	<5.0	<5.0	<5
MAY							
20...	10	<10	<4.0	<4.0	<5.0	<5.0	<5
JUN							
10...	5.4	<10	<4.0	<4.0	<5.0	<5.0	<5
JUL							
23...	3.0	<10	<4.0	<4.0	7.7	7.8	<5
AUG							
12...	<2.0	<10	<4.0	<4.0	10	7.0	<5
SEP							
23...	2.6	<10	<4.0	10	--	--	<5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
PENNSYLVANIA WATER-QUALITY NETWORK

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

MISCELLANEOUS STATION ANALYSES

04221000 Genesse River at Wellsville, NY (LAT 42 07 20N LONG 077 57 27W)

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING METHOD, CODES (82398)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)
APR 2002													
18...	1100	9813	760	30	10.3	7.2	93	12.9	34	--	9.0	--	2.8
JUN													
24...	1415	9813	271	30	10.5	8.2	102	19.2	43	--	11.5	--	3.5
AUG													
15...	1130	9813	41	30	9.0	7.7	137	20.0	52	--	13.6	--	4.3

04221000 Genesse River at Wellsville, NY (LAT 42 07 20N LONG 077 57 27W)

Date	ACIDITY TOTAL HEATED (MG/L AS CAC03) (70508)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 2002													
18...	--	19	--	--	10.0	42	<2	<.020	1.20	<.040	1.5	.02	.030
JUN													
24...	--	28	--	--	9.7	96	8	<.020	1.50	<.040	1.6	.01	.020
AUG													
15...	--	40	--	--	8.8	94	2	.030	.85	<.040	1.1	.02	.020

04221000 Genesee River at Wellsville, NY (LAT 42 07 20N LONG 077 57 27W)

Date	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)
APR 2002													
18...	2.2	--	--	--	--	--	<10	--	280	--	<1.0	--	40
JUN													
24...	2.2	--	--	--	--	--	<10	--	211	--	<1.0	--	30
AUG													
15...	2.7	--	--	--	--	--	<10	--	252	--	<1.0	--	40

04221000 Genesee River at Wellsville, NY (LAT 42 07 20N LONG 077 57 27W)

Date	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	PHENOLS TOTAL (µG/L) (32730)
APR 2002					
18...	--	<50	--	<10	--
JUN					
24...	--	<50	--	<10	--
AUG					
15...	--	<50	--	<10	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT

The Allegheny County Health Department, Allegheny County Sanitary Authority, Three Rivers Wet Weather Demonstration Project, and the U.S. Geological Survey continued a water-quality monitoring program in the summer of 2002 to assess the impact of fecal-indicator bacteria on the water resources of the Allegheny, Monongahela, and Ohio Rivers (Three Rivers) in Allegheny County, Pittsburgh, Pennsylvania. Water-quality sampling and river discharge measurements were conducted during dry and wet weather conditions at seven sampling sites (fig. 6) on the Three Rivers in Allegheny County. Samples to evaluate dry hydrologic conditions were collected after a period of at least 72 hours that lacked precipitation. Samples to evaluate wet hydrologic conditions were collected for several successive days after four wet weather events. Dry weather samples were collected on the following dates: July 17, August 29, and September 7, 10, and 26. The samples after wet weather events were collected on the following dates: August 6, 8, and 10, August 13 and 15, September 16 and 18, and September 28, 30, and October 2 (not included in water year 2002 data).

Three fecal-indicator bacteria types were collected by the U.S. Geological Survey and analyzed by the Allegheny County Health Department Laboratory including fecal coliform, *E. coli*, and enterococci bacteria. In addition, field measurements were made of pH, specific conductance, dissolved oxygen, and water temperature. Fecal indicator bacteria may occur in higher concentrations along river banks where tributary streams and combined sewer overflows discharge than in the middle sections of the large rivers. Because the Three Rivers are wide and stream velocities are low in the summer, high bacteria concentrations may occur for long distances along the banks downstream of discharge points due to incomplete mixing with the more dilute sections of the river.

Two methods of field collection of fecal-indicator bacteria samples were used to quantify the occurrence and distribution of bacteria concentrations in the river cross sections at 5 of the 7 river sampling sites (USGS station numbers 03049652, 03049832, 03085000, 03085150, and 03086000). The first method relied on grab samples collected from 10 to 200 feet from the banks at a depth of 18 inches to assist in the determination of bacteria contamination along the banks. Bank samples assess the safety of the water-based recreation including bank fishing, dock and marina use, and water skiing or jetskiing near the river banks. The second method relied on the collection of one representative sample from the river cross section weighted with respect to the river discharge. This sampling method utilizes the division of the river cross section into four equal discharge increments and sampling the entire vertical depth of each of the four increments at the centroid of each increment. The composite sample of the four vertical samples results in a single sample representative of the water across the entire width of the river.

Two new sampling sites (03085120, 03085150) were added during the summer of 2002. The sites were added to provide fecal-indicator bacteria data between nearby sites where sampling was begun in 2001. At these two sites, a depth integrated sample was collected and analyzed for fecal-indicator bacteria and field parameters. Water discharge data were not collected at these two sites.

The bacteria sampling sites located on the Ohio River at Sewickley and the Monongahela River at Braddock were located at active USGS stream gages. Daily mean discharge data, hydrographs, and information concerning these gages are listed in this report on pages 154-156 and 164-173, respectively. Discharge measurements at the time of bacteria sampling at the data collection sites at the Allegheny River at Ninth Street and Monongahela River at Pittsburgh (Smithfield Street Bridge) were made using acoustic Doppler current profiling (ADCP) techniques. Discharge data were obtained for the time of sampling at the site on the Allegheny River at Oakmont by estimates determined from a USGS stream gage 11 miles upstream on the Allegheny River at Natrona, Pa. (03049500).

For additional information, contact Ted Buckwalter at the U.S. Geological Survey, 1000 Church Hill Road, Pittsburgh, Pennsylvania 15205; phone - (412) 490-3811 (email - tfbuckwa@usgs.gov).

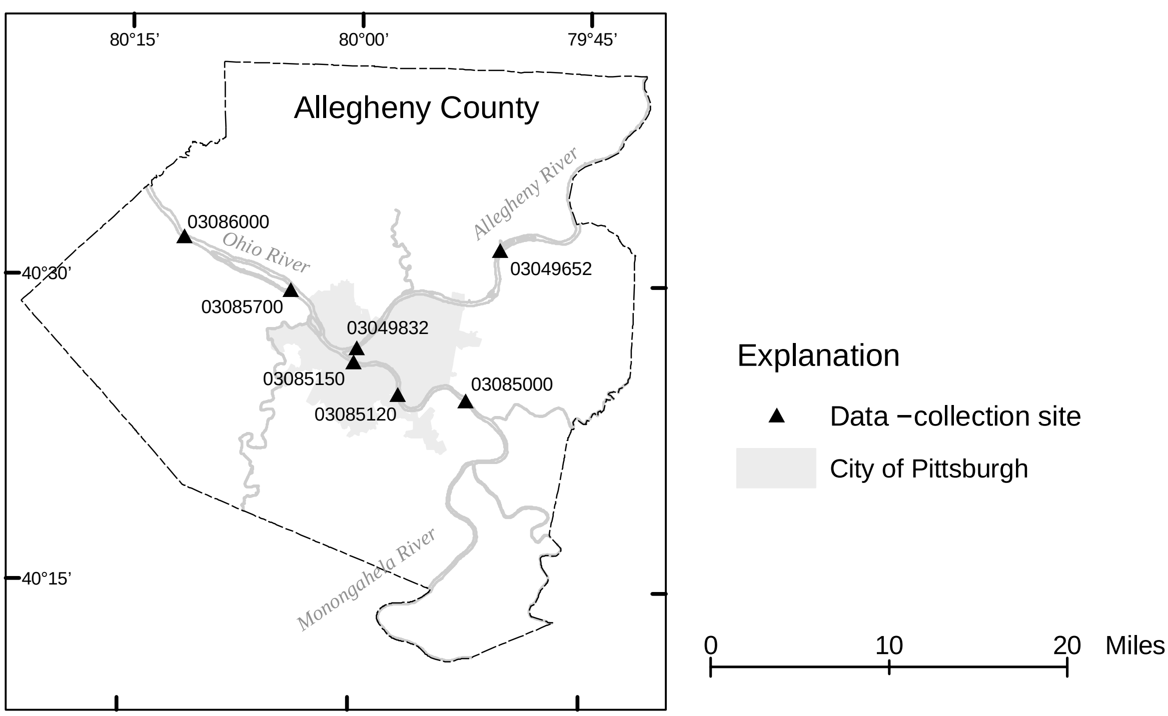


Figure 6.--Location of sites sampled for the fecal-indicator bacteria project.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03049652 ALLEGHENY RIVER AT HULTON BRIDGE AT OAKMONT, PA

LOCATION.--Lat 40°31'39", long 79°50'51", Allegheny County, Hydrologic Unit 05010009, at Hulton bridge at Oakmont, 0.7 mi downstream from Deer Creek, at river mile 12.7.

DRAINAGE AREA.--11,577 mi^2.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1310	9	3800	60.0	7.6	--	--	30.5	--
17...	1320	9	3800	--	--	7.2	390	--	--
17...	1340	9	3800	--	--	--	--	--	75.0
AUG									
06...	1210	9	3190	60.0	6.3	7.3	363	29.0	--
06...	1237	9	3190	--	--	7.4	417	--	30.0
06...	1240	9	3190	--	--	7.2	371	--	--
08...	1230	9	3750	20.0	8.8	7.0	400	28.0	--
08...	1250	9	3750	--	--	7.3	390	--	--
08...	1300	9	3750	--	--	7.1	351	--	35.0
10...	1020	9	4990	--	--	--	314	--	35.0
10...	1040	9	4990	--	--	--	350	--	--
10...	1055	9	4990	60.0	7.0	6.8	401	28.0	--
13...	1057	9	5540	--	--	7.0	356	--	35.0
13...	1110	9	5540	--	--	7.3	384	--	--
13...	1125	9	5540	40.0	7.2	6.8	363	28.0	--
15...	1135	9	4270	40.0	7.8	6.9	408	29.0	--
15...	1145	9	4270	--	--	7.2	431	--	--
15...	1200	9	4270	--	--	7.0	376	--	35.0
29...	1210	9	3410	40.0	8.6	6.6	381	29.0	--
29...	1230	9	3410	--	--	7.0	374	--	--
29...	1240	9	3410	--	--	6.8	350	--	35.0
SEP									
07...	0950	9	3410	40.0	8.0	6.7	432	27.0	--
07...	1000	9	3410	--	--	7.1	382	--	--
07...	1015	9	3410	--	--	6.9	352	--	35.0
10...	1155	9	4100	60.0	8.6	6.8	394	28.0	--
10...	1215	9	4100	--	--	7.1	200	--	--
10...	1230	9	4100	--	--	6.9	349	--	25.0
16...	1250	9	4930	40.0	7.8	6.7	384	25.5	--
16...	1310	9	4930	--	--	6.9	366	--	--
16...	1320	9	4930	--	--	6.8	324	--	35.0
18...	1115	9	4340	40.0	8.1	6.6	362	24.0	--
18...	1140	9	4280	--	--	6.9	360	--	--
18...	1145	9	4280	--	--	6.8	341	--	35.0
26...	1030	9	3080	20.0	7.2	6.3	342	24.0	--
26...	1050	9	3080	--	--	6.8	334	--	--
26...	1100	9	3350	--	--	6.7	309	--	35.0
28...	1025	9	7100	40.0	8.6	6.7	344	23.5	--
28...	1040	9	7100	--	--	6.9	349	--	--
28...	1050	9	7100	--	--	6.8	328	--	35.0
30...	1230	9	6300	40.0	9.0	7.2	443	23.0	--
30...	1245	9	6300	--	--	7.0	451	--	--
30...	1255	9	6300	--	--	7.2	443	--	30.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03049652 ALLEGHENY RIVER AT HULTON BRIDGE AT OAKMONT, PA--Continued

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

Date	Time	Medium code	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	TUR- BID- ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1310	9	60.0	1.1	<5	<5	10	--
17...	1320	9	--	5.9	40	<5	60	--
17...	1340	9	--	8.5	15	<5	25	75.0
AUG								
06...	1210	9	60.0	6.6	140	40	185	--
06...	1237	9	--	4.8	30	25	75	30.0
06...	1240	9	--	2.3	15	10	50	--
08...	1230	9	20.0	1.4	80	5	115	--
08...	1250	9	--	2.5	15	<5	75	--
08...	1300	9	--	1.9	5	10	30	35.0
10...	1020	9	--	4.1	30	25	165	35.0
10...	1040	9	--	4.3	20	<5	30	--
10...	1055	9	60.0	3.4	50	10	30	--
13...	1057	9	--	8.5	290	255	610	35.0
13...	1110	9	--	14	210	205	375	--
13...	1125	9	40.0	5.0	250	325	400	--
15...	1135	9	40.0	3.7	35	<5	100	--
15...	1145	9	--	3.7	20	<5	50	--
15...	1200	9	--	3.3	60	20	60	35.0
29...	1210	9	40.0	1.0	15	15	50	--
29...	1230	9	--	3.5	35	<5	80	--
29...	1240	9	--	2.4	40	<5	25	35.0
SEP								
07...	0950	9	40.0	3.6	120	10	115	--
07...	1000	9	--	3.5	90	<5	95	--
07...	1015	9	--	3.2	35	<5	50	35.0
10...	1155	9	60.0	2.0	5	<5	<5	--
10...	1215	9	--	3.7	15	<5	25	--
10...	1230	9	--	4.3	5	<5	15	25.0
16...	1250	9	40.0	6.4	100	70	170	--
16...	1310	9	--	5.5	35	15	1500	--
16...	1320	9	--	3.6	30	40	65	35.0
18...	1115	9	40.0	6.2	85	30	90	--
18...	1140	9	--	7.8	110	10	165	--
18...	1145	9	--	5.5	120	5	105	35.0
26...	1030	9	20.0	4.1	40	15	30	--
26...	1050	9	--	3.8	30	5	40	--
26...	1100	9	--	4.3	20	5	40	35.0
28...	1025	9	40.0	3.5	8	330	4800	--
28...	1040	9	--	3.5	5	190	5750	--
28...	1050	9	--	2.4	3	80	400	35.0
30...	1230	9	40.0	4.0	190	15	245	--
30...	1245	9	--	5.8	230	30	200	--
30...	1255	9	--	2.6	140	10	250	30.0

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03049832 ALLEGHENY RIVER AT 9TH STREET BRIDGE AT PITTSBURGH, PA

LOCATION.--Lat 40°26'47", long 79°59'58", Allegheny County, Hydrologic Unit 05010009, at 9th Street bridge in Pittsburgh, at river mile 0.7.

DRAINAGE AREA.--11,710 mi^2.

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

Date	Time	Medium code	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1310	9	4000	--	9.9	7.8	314	28.4	30.0
17...	1330	9	4000	--	--	7.9	318	--	--
17...	1335	9	4000	30.0	9.9	8.0	319	28.8	--
AUG									
06...	1550	9	3570	--	7.9	7.5	345	29.0	20.0
06...	1600	9	3570	20.0	7.3	7.5	349	29.0	--
06...	1610	9	3570	--	7.7	7.6	323	29.0	--
08...	0936	9	4790	--	7.8	8.1	325	27.5	60.0
08...	0955	9	4790	147.0	7.8	8.3	326	27.5	--
08...	1000	9	4790	--	8.2	8.6	317	26.8	--
10...	0708	9	3220	--	8.6	8.0	322	26.9	39.0
10...	0728	9	3220	200.0	8.1	8.0	330	26.8	--
10...	0742	9	3220	--	8.4	8.1	312	25.6	--
13...	1325	9	5500	--	8.0	8.2	322	28.0	51.0
13...	1340	9	5500	60.0	7.7	7.7	333	28.6	--
13...	1400	9	5500	--	--	7.6	320	28.7	--
15...	1142	9	3600	--	8.1	8.1	347	27.9	48.0
15...	1203	9	3600	--	--	8.1	345	28.0	--
15...	1209	9	3600	170.0	7.9	8.1	347	27.9	--
29...	1315	9	3440	--	8.7	8.1	380	26.7	40.0
29...	1320	9	3440	--	8.5	8.1	383	26.6	--
29...	1335	9	3440	20.0	9.2	8.3	395	27.0	--
SEP									
07...	1250	9	3360	--	8.4	7.8	499	26.9	36.0
07...	1305	9	3360	21.0	8.7	8.0	505	27.1	--
07...	1315	9	3360	--	--	7.8	497	28.0	--
10...	1210	9	3180	--	8.8	7.6	425	26.8	40.0
10...	1220	9	3180	35.0	8.9	8.0	433	27.4	--
10...	1240	9	3180	--	8.5	7.7	427	27.0	--
16...	1340	9	4430	--	11.4	7.5	379	25.3	20.0
16...	1350	9	4430	20.0	8.7	7.5	384	25.1	--
16...	1415	9	4430	--	--	7.6	381	25.2	--
18...	1250	9	5730	--	9.4	7.6	354	24.6	51.0
18...	1300	9	5730	72.0	9.5	7.6	359	24.7	--
18...	1307	9	5730	--	9.7	7.7	356	24.7	--
26...	1320	9	2950	--	8.6	7.6	308	23.5	20.0
26...	1340	9	2950	20.0	8.5	7.6	321	23.5	--
26...	1345	9	2950	--	9.1	7.6	314	23.0	--
28...	1230	9	7030	--	8.4	7.6	347	22.5	30.0
28...	1245	9	7030	75.0	8.3	7.6	352	22.6	--
28...	1300	9	7030	--	--	7.8	353	22.6	--
30...	1345	9	6760	--	9.9	7.6	377	22.2	30.0
30...	1400	9	6760	75.0	9.6	7.6	383	22.2	--
30...	1415	9	6760	--	9.6	7.8	385	22.9	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03049832 ALLEGHENY RIVER AT 9TH STREET BRIDGE AT PITTSBURGH, PA--Continued

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

Date	Time	Medium code	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	TUR- BID- ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1310	9	--	2.6	85	<5	235	30.0
17...	1330	9	--	3.4	30	<5	110	--
17...	1335	9	30.0	2.3	55	5	110	--
AUG								
06...	1550	9	--	3.3	1000	60	1600	20.0
06...	1600	9	20.0	3.2	1100	55	2300	--
06...	1610	9	--	3.4	970	60	2500	--
08...	0936	9	--	4.3	100	15	80	60.0
08...	0955	9	147.0	4.4	100	5	90	--
08...	1000	9	--	4.1	100	20	115	--
10...	0708	9	--	3.5	15	10	20	39.0
10...	0728	9	200.0	3.4	25	10	35	--
10...	0742	9	--	5.1	35	15	40	--
13...	1325	9	--	2.1	1200	25	3000	51.0
13...	1340	9	60.0	3.2	1300	995	2400	--
13...	1400	9	--	6.0	3200	230	3800	--
15...	1142	9	--	3.2	35	5	125	48.0
15...	1203	9	--	4.0	120	10	105	--
15...	1209	9	170.0	4.5	65	5	80	--
29...	1315	9	--	2.0	50	20	80	40.0
29...	1320	9	--	6.7	100	5	135	--
29...	1335	9	20.0	4.7	100	10	70	--
SEP								
07...	1250	9	--	2.5	40	<5	70	36.0
07...	1305	9	21.0	2.9	65	15	245	--
07...	1315	9	--	5.4	40	<5	170	--
10...	1210	9	--	4.3	5	<5	45	40.0
10...	1220	9	35.0	4.0	20	10	85	--
10...	1240	9	--	3.9	15	5	30	--
16...	1340	9	--	2.4	4700	270	8500	20.0
16...	1350	9	20.0	1.7	3100	140	4300	--
16...	1415	9	--	5.9	600	80	1900	--
18...	1250	9	--	6.3	70	15	145	51.0
18...	1300	9	72.0	5.0	120	15	150	--
18...	1307	9	--	7.5	55	10	85	--
26...	1320	9	--	6.3	30	<5	75	20.0
26...	1340	9	20.0	7.6	70	5	110	--
26...	1345	9	--	7.6	65	<5	70	--
28...	1230	9	--	6.6	6400	395	710	30.0
28...	1245	9	75.0	9.3	2600	405	7400	--
28...	1300	9	--	9.7	2400	370	400	--
30...	1345	9	--	2.2	150	20	335	30.0
30...	1400	9	75.0	2.2	140	30	255	--
30...	1415	9	--	4.1	220	45	175	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03085000 MONONGAHELA RIVER AT BRADDOCK, PA

LOCATION.--Lat 40°23'28", long 79°51'30", Allegheny County, Hydrologic Unit 05020005, 300 ft upstream from dam at lock 2 at Braddock, 1,700 ft downstream from Turtle Creek, and 11.2 mi upstream of confluence with Allegheny River.

DRAINAGE AREA.--7,337 mi^2.

REMARKS.--Other data for this station can be found on pages 154-156.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1510	9	5860	--	8.7	7.2	434	28.5	12.0
17...	1525	9	5860	--	--	7.4	432	--	--
17...	1535	9	5860	60.0	8.3	7.4	441	28.9	--
AUG									
06...	1010	9	5000	--	6.4	6.9	340	29.0	60.0
06...	1030	9	5000	60.0	6.4	7.1	351	29.0	--
06...	1110	9	5000	--	6.4	7.1	322	28.5	--
08...	1134	9	1530	--	7.3	7.7	290	28.5	60.0
08...	1150	9	1530	110.0	7.3	8.4	290	28.4	--
08...	1202	9	1530	--	7.3	8.6	235	27.5	--
10...	1146	9	2200	--	8.2	8.0	283	27.2	75.0
10...	1202	9	2200	130.0	8.5	7.9	283	27.3	--
10...	1217	9	2200	--	8.0	8.0	264	27.3	--
13...	0955	9	4200	--	7.5	7.4	361	25.9	39.0
13...	1005	9	4200	39.0	7.1	7.4	364	26.1	--
13...	1020	9	4200	--	7.1	7.2	366	26.2	--
15...	0825	9	1300	--	6.6	7.6	352	28.1	42.0
15...	0855	9	1300	146.0	7.2	7.7	355	28.1	--
15...	0922	9	1300	--	--	7.7	342	28.1	--
29...	0841	9	3030	--	7.0	7.5	443	27.3	65.0
29...	0900	9	3030	66.0	7.0	7.5	441	27.2	--
29...	0910	9	3030	--	7.6	7.5	454	26.7	--
SEP									
07...	0815	9	1580	--	7.2	7.6	547	26.9	39.0
07...	0830	9	1580	66.0	7.2	7.7	552	26.8	--
07...	0900	9	1580	--	--	7.7	544	25.5	--
10...	0835	9	1420	--	7.3	7.6	595	26.8	72.0
10...	0845	9	1420	80.0	7.4	7.6	602	26.9	--
10...	0905	9	1420	--	7.8	7.7	600	26.7	--
16...	1005	9	1570	--	7.9	7.5	567	25.4	30.0
16...	1020	9	1680	60.0	7.6	7.4	569	25.4	--
16...	1034	9	1680	--	--	7.6	570	25.0	--
18...	0920	9	1680	--	8.3	7.5	520	24.5	54.0
18...	0938	9	1740	60.0	8.3	7.5	525	24.5	--
18...	0945	9	1740	--	9.2	7.6	522	23.9	--
26...	0900	9	532	--	7.7	7.6	523	24.5	60.0
26...	0920	9	532	60.0	7.6	7.7	522	24.5	--
26...	0930	9	532	--	8.5	7.7	521	23.5	--
28...	0800	9	5830	--	7.7	7.6	544	23.1	30.0
28...	0815	9	5830	90.0	7.3	7.5	552	23.3	--
28...	0830	9	5830	--	--	7.7	538	22.6	--
30...	0950	9	4380	--	8.4	7.6	518	21.9	60.0
30...	1010	9	4380	60.0	8.2	7.6	533	22.2	--
30...	1030	9	4380	--	8.8	7.7	525	22.0	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03085000 MONONGAHELA RIVER AT BRADDOCK, PA--Continued

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

Date	Time	Medium code	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	TUR-BID-ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO-COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1510	9	--	6.6	40	<5	55	12.0
17...	1525	9	--	13	65	<5	75	--
17...	1535	9	60.0	9.5	25	<5	25	--
AUG								
06...	1010	9	--	8.7	350	60	305	60.0
06...	1030	9	60.0	5.2	980	90	935	--
06...	1110	9	--	7.2	740	95	835	--
08...	1134	9	--	4.8	65	<5	120	60.0
08...	1150	9	110.0	6.2	160	5	120	--
08...	1202	9	--	4.2	70	10	145	--
10...	1146	9	--	5.2	60	5	215	75.0
10...	1202	9	130.0	5.0	140	5	225	--
10...	1217	9	--	5.3	140	5	310	--
13...	0955	9	--	45	2300	1300	2400	39.0
13...	1005	9	39.0	60	2000	1230	4500	--
13...	1020	9	--	50	1600	920	1900	--
15...	0825	9	--	10	300	25	310	42.0
15...	0855	9	146.0	8.7	280	30	440	--
15...	0922	9	--	20	320	45	450	--
29...	0841	9	--	5.1	500	5	360	65.0
29...	0900	9	66.0	12	700	20	515	--
29...	0910	9	--	11	500	<5	470	--
SEP								
07...	0815	9	--	5.0	100	15	155	39.0
07...	0830	9	66.0	5.5	240	20	225	--
07...	0900	9	--	5.7	160	20	160	--
10...	0835	9	--	7.6	90	<5	110	72.0
10...	0845	9	80.0	5.3	120	10	115	--
10...	0905	9	--	7.8	130	<5	125	--
16...	1005	9	--	2.5	3000	120	2600	30.0
16...	1020	9	60.0	3.5	6400	170	9200	--
16...	1034	9	--	8.0	2000	105	3200	--
18...	0920	9	--	8.1	240	10	190	54.0
18...	0938	9	60.0	6.5	220	25	285	--
18...	0945	9	--	8.8	220	25	225	--
26...	0900	9	--	9.3	140	<5	155	60.0
26...	0920	9	60.0	8.5	120	<5	120	--
26...	0930	9	--	8.0	120	<5	165	--
28...	0800	9	--	13	4000	675	4600	30.0
28...	0815	9	90.0	6.7	8600	700	9400	--
28...	0830	9	--	19	4800	780	5000	--
30...	0950	9	--	8.1	500	35	380	60.0
30...	1010	9	60.0	8.6	480	65	365	--
30...	1030	9	--	2.1	340	50	420	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03085120 MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA

LOCATION.--Lat 40°24'34", long 79°57'14", Allegheny County, Hydrologic Unit 05020005, 500 ft upstream of Becks Run, at river mile 4.5.

DRAINAGE AREA.--7,360 mi^2.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1420	9	--	--	8.6	7.3	444	28.4	--
AUG									
06...	1150	9	--	--	6.8	7.1	349	29.5	--
08...	1236	9	--	--	9.0	8.3	294	28.3	--
10...	1042	9	--	--	8.9	8.3	297	27.9	--
13...	0905	9	--	--	8.2	6.7	328	27.3	--
15...	0955	9	--	--	7.4	7.8	330	27.3	--
29...	1000	9	--	--	7.8	7.8	418	26.5	--
SEP									
07...	0930	9	--	--	7.9	7.7	568	26.4	--
10...	0935	9	--	--	8.6	8.0	547	26.8	--
16...	1100	9	--	--	8.8	7.7	522	25.1	--
18...	1018	9	--	--	8.4	7.5	566	24.8	--
26...	1000	9	--	--	8.8	7.9	495	23.0	--
28...	0915	9	--	--	7.2	7.5	552	22.8	--
30...	1045	9	--	--	8.0	7.5	551	22.5	--

Date	Time	Medium code	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	TUR-BID-ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO-COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1420	9	--	7.1	40	<5	60	--
AUG								
06...	1150	9	--	6.5	500	55	515	--
08...	1236	9	--	4.0	100	5	175	--
10...	1042	9	--	5.8	110	15	275	--
13...	0905	9	--	24	2900	635	3100	--
15...	0955	9	--	6.1	180	15	260	--
29...	1000	9	--	5.7	140	5	140	--
SEP								
07...	0930	9	--	8.0	35	35	55	--
10...	0935	9	--	5.6	20	20	15	--
16...	1100	9	--	6.5	400	40	710	--
18...	1018	9	--	9.6	220	10	165	--
26...	1000	9	--	4.5	15	5	25	--
28...	0915	9	--	13	8900	685	1700	--
30...	1045	9	--	8.5	250	70	250	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03085150 MONONGAHELA RIVER AT PITTSBURGH, PA

LOCATION.--Lat 40°26'06", long 80°00'08", Allegheny County, Hydrologic Unit 05020005, at Smithfield Street bridge in Pittsburgh, at river mile 0.8.

DRAINAGE AREA.--7,367 mi^2.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1105	9	6240	--	8.5	7.2	475	27.9	30.0
17...	1140	9	6240	--	--	7.3	477	28.6	--
17...	1142	9	6240	27.0	8.3	7.1	475	28.1	--
AUG									
06...	1320	9	5000	60.0	7.4	7.4	353	29.5	--
06...	1340	9	5000	--	7.2	7.4	332	28.5	--
06...	1350	9	5000	--	7.8	7.3	358	29.5	60.0
08...	1308	9	1390	--	9.0	8.3	330	28.0	51.0
08...	1325	9	1390	185.0	8.4	8.1	324	28.0	--
08...	1333	9	1390	--	7.8	8.7	325	27.3	--
10...	0924	9	1930	--	9.2	8.3	295	27.7	57.0
10...	0945	9	1930	175.0	8.7	8.4	296	27.8	--
10...	0953	9	1930	--	8.5	8.5	296	27.5	--
13...	1055	9	3220	--	9.4	8.0	316	27.4	51.0
13...	1105	9	3220	51.0	9.4	8.0	315	27.3	--
13...	1125	9	3220	--	--	8.2	316	27.5	--
15...	1020	9	1630	--	7.3	7.9	374	27.6	72.0
15...	1035	9	1630	145.0	7.2	8.0	373	27.6	--
15...	1042	9	1630	--	--	8.0	348	27.5	--
29...	1035	9	1680	--	7.9	7.5	391	25.9	45.0
29...	1050	9	1680	--	7.2	7.5	391	25.9	--
29...	1105	9	1680	--	7.8	7.6	392	25.7	--
SEP									
07...	1005	9	2370	--	8.4	8.0	557	26.1	60.0
07...	1025	9	2370	45.0	7.9	7.8	557	26.1	--
07...	1045	9	2370	--	8.1	7.9	556	26.3	--
10...	0955	9	1530	--	9.2	8.4	565	26.6	45.0
10...	1020	9	1530	60.0	9.0	8.2	565	26.6	--
10...	1030	9	1530	--	8.6	8.2	562	26.8	--
16...	1200	9	1500	--	8.7	7.7	565	24.8	60.0
16...	1225	9	1500	60.0	8.6	7.6	564	24.8	--
16...	1230	9	1500	--	--	7.7	568	--	--
18...	1040	9	1980	--	9.2	7.8	529	24.7	60.0
18...	1050	9	1980	30.0	9.3	7.8	529	24.7	--
18...	1058	9	1980	--	9.5	7.8	529	24.4	--
26...	1045	9	2420	--	8.5	7.8	563	24.0	60.0
26...	1100	9	2420	60.0	8.6	7.8	559	24.0	--
26...	1115	9	2420	--	8.9	7.8	562	23.0	--
28...	0945	9	5880	--	7.3	7.5	486	21.5	75.0
28...	0955	9	5880	54.0	7.3	7.5	484	21.6	--
28...	1005	9	5880	--	--	7.7	481	22.2	--
30...	1110	9	3950	--	7.9	7.9	566	23.1	60.0
30...	1125	9	3950	48.0	7.7	7.5	563	23.1	--
30...	1145	9	3950	--	--	7.6	565	23.9	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES FECAL-INDICATOR BACTERIA PROJECT--Continued

03085150 MONONGAHELA RIVER AT PITTSBURGH, PA--Continued

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

Date	Time	Medium code	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	TUR- BID- ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1105	9	--	7.8	40	<5	55	30.0
17...	1140	9	--	8.1	25	<5	40	--
17...	1142	9	27.0	3.9	20	<5	40	--
AUG								
06...	1320	9	60.0	5.3	45	15	470	--
06...	1340	9	--	5.5	230	20	595	--
06...	1350	9	--	1.6	110	10	410	60.0
08...	1308	9	--	4.7	40	15	55	51.0
08...	1325	9	185.0	4.3	220	10	245	--
08...	1333	9	--	3.9	290	15	360	--
10...	0924	9	--	3.2	280	50	340	57.0
10...	0945	9	175.0	3.6	200	30	325	--
10...	0953	9	--	5.3	170	25	255	--
13...	1055	9	--	2.7	680	30	1460	51.0
13...	1105	9	51.0	3.7	740	20	1000	--
13...	1125	9	--	5.1	700	50	690	--
15...	1020	9	--	3.8	95	<5	150	72.0
15...	1035	9	145.0	2.6	100	<5	60	--
15...	1042	9	--	6.0	90	<5	200	--
29...	1035	9	--	6.7	180	5	210	45.0
29...	1050	9	--	5.5	140	10	230	--
29...	1105	9	--	7.5	400	<5	220	--
SEP								
07...	1005	9	--	2.5	80	5	70	60.0
07...	1025	9	45.0	4.8	120	5	130	--
07...	1045	9	--	6.1	100	5	85	--
10...	0955	9	--	7.0	20	<5	25	45.0
10...	1020	9	60.0	8.2	35	<5	45	--
10...	1030	9	--	13	30	5	90	--
16...	1200	9	--	2.5	5000	755	9700	60.0
16...	1225	9	60.0	4.2	400	75	1400	--
16...	1230	9	--	4.0	700	130	1800	--
18...	1040	9	--	5.4	210	10	210	60.0
18...	1050	9	30.0	4.5	240	5	230	--
18...	1058	9	--	12	280	15	375	--
26...	1045	9	--	5.5	210	30	240	60.0
26...	1100	9	60.0	3.0	230	20	230	--
26...	1115	9	--	6.2	95	<5	240	--
28...	0945	9	--	13	6800	760	7700	75.0
28...	0955	9	54.0	20	7000	775	7800	--
28...	1005	9	--	21	6400	710	7600	--
30...	1110	9	--	--	300	75	255	60.0
30...	1125	9	48.0	23	500	65	450	--
30...	1145	9	--	10	490	60	390	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03085700 OHIO RIVER ABOVE NEVILLE ISLAND AT AVALON, PA

LOCATION.--Lat 40°29'30", long 80°04'19", Allegheny County, Hydrologic Unit 05030101, 225 ft upstream from Neville Island, at river mile 4.85.

DRAINAGE AREA.--19,400 mi^2.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	1015	9	--	--	9.1	7.3	419	27.5	--
AUG									
06...	1515	9	--	--	7.6	7.4	364	29.0	--
08...	0845	9	--	--	7.7	8.1	356	27.5	--
10...	0857	9	--	--	8.5	8.0	356	27.2	--
13...	1300	9	--	--	--	8.2	384	--	--
15...	1245	9	--	--	6.2	8.2	334	27.8	--
29...	1245	9	--	--	8.0	7.7	430	26.2	--
SEP									
07...	1215	9	--	--	8.5	7.7	528	26.8	--
10...	1140	9	--	--	8.1	7.6	559	26.8	--
16...	1310	9	--	--	--	7.7	471	24.9	--
18...	1230	9	--	--	9.3	7.7	434	24.3	--
26...	1240	9	--	--	8.9	7.7	425	22.5	--
28...	1200	9	--	--	7.8	7.6	429	22.3	--
30...	1315	9	--	--	9.4	7.7	448	23.5	--

Date	Time	Medium code	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	TUR-BID-ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO-COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI-FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	1015	9	--	7.5	40	5	90	--
AUG								
06...	1515	9	--	9.2	240	205	3300	--
08...	0845	9	--	5.5	75	5	160	--
10...	0857	9	--	3.4	30	20	45	--
13...	1300	9	--	6.3	120	10	205	--
15...	1245	9	--	2.5	80	<5	55	--
29...	1245	9	--	5.7	80	5	95	--
SEP								
07...	1215	9	--	7.5	30	<5	45	--
10...	1140	9	--	6.0	15	<5	20	--
16...	1310	9	--	9.1	1000	95	2600	--
18...	1230	9	--	7.7	75	<5	140	--
26...	1240	9	--	6.7	20	<5	20	--
28...	1200	9	--	14	6800	540	6700	--
30...	1315	9	--	10	180	10	155	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03086000 OHIO RIVER AT SEWICKLEY, PA

LOCATION.--Lat 40°32'57", long 80°12'21", Allegheny County, Hydrologic Unit 05030101, 50 ft upstream from Dashields Dam, 1.0 mi downstream from Narrows Run, 1.0 mi northwest of Sewickley, and 13.3 mi downstream from confluence of Allegheny and Monongahela Rivers.

DRAINAGE AREA.--19,500 mi^2, approximately.

REMARKS.--Other data for this station can be found on pages 164-173.

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

Date	Time	Medium code	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAMPLE LOC-ATION, CROSS SECTION (FT FM R BK) (72103)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002									
17...	0950	9	12600	--	--	--	--	--	50.0
17...	1030	9	12600	--	--	7.1	450	--	--
17...	1040	9	12600	20.0	7.9	--	--	27.0	--
AUG									
06...	0920	9	9060	--	--	6.9	383	--	60.0
06...	0946	9	9060	--	--	7.1	379	--	--
06...	0955	9	9060	20.0	7.8	7.2	365	28.5	--
08...	0850	9	5280	--	--	7.3	378	--	50.0
08...	0910	9	5620	--	--	7.1	388	--	--
08...	0920	9	5190	20.0	7.0	7.3	383	27.0	--
10...	0725	9	5360	--	--	7.2	403	--	50.0
10...	0745	9	5190	--	--	7.5	405	--	--
10...	0800	9	5280	20.0	7.5	7.4	404	26.0	--
13...	0840	9	8620	--	--	7.1	391	--	55.0
13...	0857	9	8520	--	--	7.2	400	--	--
13...	0905	9	8620	20.0	6.8	7.1	395	27.0	--
15...	0845	9	5100	--	--	7.0	392	--	50.0
15...	0900	9	4930	--	--	7.2	391	--	--
15...	0910	9	4680	20.0	7.3	7.1	393	27.5	--
29...	0925	9	6440	--	--	6.8	411	--	60.0
29...	0940	9	7500	--	--	6.8	411	--	--
29...	0950	9	6630	20.0	6.6	6.9	401	26.0	--
SEP									
07...	0745	9	4370	--	--	6.9	460	--	50.0
07...	0800	9	4370	--	--	7.0	464	--	--
07...	0810	9	4450	20.0	7.3	7.1	466	25.5	--
10...	0830	9	4070	--	--	6.6	469	11.3	40.0
10...	0840	9	4220	--	--	6.8	478	24.9	--
10...	0855	9	4450	20.0	6.8	6.7	453	16.3	--
16...	1000	9	6160	--	--	6.6	455	--	60.0
16...	1020	9	6350	--	--	6.8	461	--	--
16...	1030	9	6440	20.0	6.8	6.8	458	24.5	--
18...	0850	9	8410	--	--	6.7	459	--	60.0
18...	0910	9	8200	--	--	6.9	468	--	--
18...	0920	9	8100	20.0	7.1	6.8	461	24.0	--
26...	0815	9	4930	--	--	6.7	429	15.0	50.0
26...	0830	9	4520	--	--	6.8	447	19.5	--
26...	0845	9	4680	20.0	7.5	6.7	448	18.5	--
28...	0805	9	12700	--	--	6.7	442	--	60.0
28...	0820	9	12100	--	--	7.0	443	--	--
28...	0830	9	12100	20.0	7.5	6.9	428	22.0	--
30...	0920	9	11800	--	--	7.0	501	--	50.0
30...	0945	9	11700	--	--	7.1	468	--	--
30...	0950	9	11600	20.0	7.8	7.1	466	22.0	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES
FECAL-INDICATOR BACTERIA PROJECT--Continued

03086000 OHIO RIVER AT SEWICKLEY, PA--Continued

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

Date	Time	Medium code	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	TUR- BID- ITY (NTU) (00076)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	ENTERO- COCCI, ME MF, WATER (COL/ 100 ML) (31649)	FECAL COLI- FORM, MFC MF, WATER (COL/ 100 ML) (31616)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
JUL 2002								
17...	0950	9	--	--	300	95	335	50.0
17...	1030	9	--	10	35	5	40	--
17...	1040	9	20.0	7.0	5	<5	10	--
AUG								
06...	0920	9	--	3.9	140	40	105	60.0
06...	0946	9	--	4.6	65	10	110	--
06...	0955	9	20.0	3.2	20	<5	15	--
08...	0850	9	--	5.2	65	15	100	50.0
08...	0910	9	--	2.9	70	10	55	--
08...	0920	9	20.0	3.2	65	<5	20	--
10...	0725	9	--	7.1	100	35	130	50.0
10...	0745	9	--	7.0	10	<5	10	--
10...	0800	9	20.0	4.9	<5	<5	5	--
13...	0840	9	--	4.5	30	5	20	55.0
13...	0857	9	--	5.9	10	<5	5	--
13...	0905	9	20.0	2.0	20	10	100	--
15...	0845	9	--	3.6	30	5	60	50.0
15...	0900	9	--	4.6	35	<5	50	--
15...	0910	9	20.0	5.2	90	40	156	--
29...	0925	9	--	3.2	50	10	45	60.0
29...	0940	9	--	5.9	50	10	45	--
29...	0950	9	20.0	5.7	10	<5	65	--
SEP								
07...	0745	9	--	4.6	40	15	25	50.0
07...	0800	9	--	5.4	20	5	25	--
07...	0810	9	20.0	4.4	10	<5	40	--
10...	0830	9	--	8.7	60	<5	35	40.0
10...	0840	9	--	9.7	20	<5	20	--
10...	0855	9	20.0	5.6	5	<5	<5	--
16...	1000	9	--	4.6	30	5	35	60.0
16...	1020	9	--	9.1	10	<5	30	--
16...	1030	9	20.0	4.3	10	10	20	--
18...	0850	9	--	7.5	130	40	165	60.0
18...	0910	9	--	6.1	95	15	100	--
18...	0920	9	20.0	5.5	110	15	85	--
26...	0815	9	--	6.5	5	<5	<5	50.0
26...	0830	9	--	6.3	5	<5	15	--
26...	0845	9	20.0	5.6	<5	<5	<5	--
28...	0805	9	--	12	3800	400	3700	60.0
28...	0820	9	--	13	5100	330	5600	--
28...	0830	9	20.0	9.3	4300	435	4800	--
30...	0920	9	--	9.0	460	60	330	50.0
30...	0945	9	--	5.2	580	45	375	--
30...	0950	9	20.0	5.5	360	40	295	--

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.
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 --District Water-Quality Laboratory, Troy, New York

MEDIUM CODES: (partial listing)

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

GROUND-WATER-LEVEL STATION RECORDS

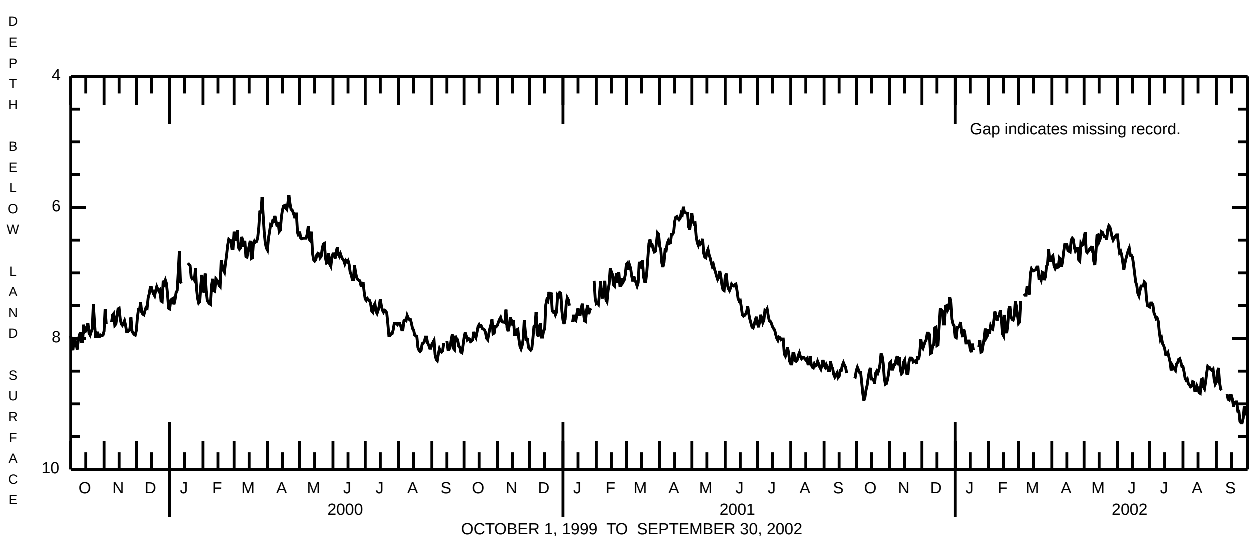
ALLEGHENY COUNTY

403734080063001. Local number, AG 700.

LOCATION.--Lat 40°37'34", long 80°06'30", Hydrologic Unit 05030101, at State Game Land Number 203, Bradford Woods.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone and shale of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 100 ft, cased to 24 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,035 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.40 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 1987, are available from the District Office.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 4.67 ft below land-surface datum, Mar. 21, 1997, also May 2, 1998; lowest, 9.29 ft below land-surface datum, Sept. 25, 2002.
EXTREMES FOR CURRENT YEAR.--Highest water level, 6.07 ft below land-surface datum, May 2; lowest, 9.29 ft below land-surface datum, Sept. 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.49	8.38	8.12	7.98	7.86	7.77	6.76	6.46	6.42	7.52	8.43	8.67
2	8.44	8.36	8.15	7.99	7.93	7.75	6.74	6.38	6.58	7.46	8.51	8.52
3	8.48	8.47	8.10	7.83	7.81	7.43	6.89	6.67	6.69	7.46	8.61	8.45
4	8.52	8.47	8.05	7.83	7.85	---	6.93	6.69	6.67	7.49	8.64	8.67
5	8.52	8.40	8.02	7.81	7.86	---	6.89	6.67	6.73	7.61	8.62	8.77
6	8.67	8.40	7.92	7.75	7.73	7.32	6.92	6.64	6.84	7.65	8.69	8.79
7	8.84	8.32	7.92	7.91	7.59	7.34	6.91	6.62	6.95	7.70	8.71	---
8	8.95	8.27	7.94	7.98	7.65	7.34	6.77	6.65	6.85	7.69	8.74	---
9	8.90	8.41	8.23	7.86	7.73	7.20	6.79	6.59	6.78	7.74	8.73	---
10	8.79	8.29	8.22	7.92	7.67	7.29	6.91	6.82	6.72	7.91	8.66	---
11	8.72	8.48	8.11	8.07	7.65	7.33	6.82	6.88	6.66	8.02	8.67	8.85
12	8.61	8.54	8.10	8.07	7.57	7.01	6.68	6.69	6.62	7.99	8.80	8.93
13	8.51	8.52	7.84	8.04	7.69	6.94	6.57	6.43	6.73	8.08	8.80	8.94
14	8.45	8.36	7.83	8.04	7.93	6.97	6.57	6.42	6.73	8.11	8.73	8.87
15	8.62	8.33	8.11	8.17	7.96	6.97	6.57	6.52	6.76	8.16	8.77	8.87
16	8.62	8.46	8.10	8.21	7.64	6.96	6.66	6.48	6.87	8.25	8.83	8.93
17	8.63	8.54	7.82	8.08	7.86	6.95	6.67	6.37	7.01	8.25	8.84	9.04
18	8.69	8.54	7.56	8.18	7.92	6.91	6.68	6.38	7.14	8.22	8.63	8.98
19	8.53	8.36	7.56	---	7.79	6.91	6.50	6.42	7.19	8.29	8.62	8.97
20	8.50	8.30	7.58	---	7.55	7.08	6.47	6.45	7.31	8.36	8.74	8.97
21	8.53	8.30	7.78	---	7.51	7.07	6.49	6.45	7.35	8.49	8.77	9.11
22	8.48	8.31	7.78	---	7.67	7.11	6.61	6.49	7.27	8.41	8.67	9.11
23	8.40	8.36	7.51	8.13	7.71	6.99	6.67	6.34	7.20	8.44	8.53	9.27
24	8.23	8.35	7.50	8.03	7.72	7.00	6.65	6.28	7.20	8.47	8.43	9.29
25	8.27	8.34	7.57	8.21	7.66	7.11	6.61	6.30	7.20	8.49	8.45	9.29
26	8.38	8.39	7.54	8.20	7.43	7.06	6.80	6.37	7.14	8.39	8.45	9.22
27	8.60	8.27	7.37	8.10	7.51	6.90	6.82	6.45	7.16	8.37	8.48	9.04
28	8.70	8.32	7.45	8.00	7.64	6.87	6.55	6.50	7.39	8.32	8.49	9.15
29	8.69	8.22	7.71	7.85	---	6.64	6.58	6.47	7.50	8.31	8.47	9.16
30	8.63	8.01	7.78	7.99	---	6.81	6.57	6.44	7.51	8.36	8.63	9.09
31	8.54	---	7.81	7.96	---	6.81	---	6.42	---	8.43	8.70	---
MEAN	8.58	8.37	7.84	8.01	7.72	7.10	6.70	6.51	6.97	8.08	8.64	8.96
MAX	8.95	8.54	8.23	8.21	7.96	7.77	6.93	6.88	7.51	8.49	8.84	9.29
MIN	8.23	8.01	7.37	7.75	7.43	6.64	6.47	6.28	6.42	7.46	8.43	8.45



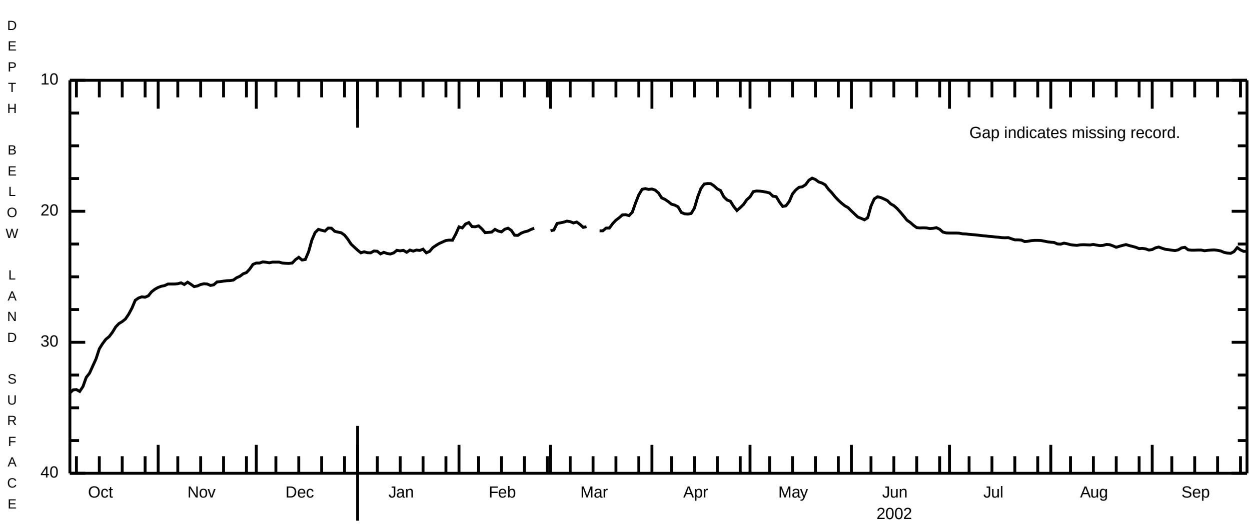
ARMSTRONG COUNTY

405344079380201. Local number, AR 109.

LOCATION.--Lat 40°53'44", long 79°38'02", Hydrologic Unit 05010009, at State Game Lands No. 259.
Owner: U.S. Geological Survey.
AQUIFER.--Allegheny Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 152.5 ft, cased to 19 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,400 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.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--October 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, 17.46 ft below land-surface datum, May 20, 2002; lowest, 34.64 ft below land-surface datum, Oct. 4, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 17.46 ft below land-surface datum, May 20; lowest, 34.64 ft below land-surface datum, Oct. 4.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	25.81	23.95	22.97	21.19	21.49	18.30	18.90	19.97	21.66	22.36	22.92
2	---	25.72	23.95	23.17	21.27	21.43	18.38	18.50	20.21	21.66	22.38	22.79
3	---	25.67	23.86	23.09	20.97	20.93	18.60	18.45	20.44	21.66	22.49	22.73
4	---	25.55	23.89	23.16	20.86	20.88	18.98	18.46	20.54	21.67	22.51	22.82
5	33.87	25.55	23.93	23.17	21.17	20.83	19.09	18.49	20.65	21.72	22.43	22.90
6	33.63	25.55	23.88	23.03	21.18	20.75	19.26	18.54	20.49	21.73	22.48	22.93
7	33.61	25.53	23.88	23.05	21.11	20.79	19.46	18.60	19.60	21.76	22.55	22.97
8	33.75	25.46	23.88	23.25	21.34	20.89	19.53	18.85	19.05	21.78	22.58	23.00
9	33.38	25.59	23.95	23.13	21.63	20.82	19.66	18.88	18.89	21.80	22.60	22.94
10	32.68	25.41	23.97	23.22	21.61	21.00	20.09	19.29	18.95	21.83	22.56	22.79
11	32.36	25.57	23.98	23.26	21.59	21.23	20.19	19.63	19.06	21.86	22.55	22.75
12	31.81	25.75	23.95	23.18	21.38	21.17	20.21	19.58	19.18	21.88	22.56	22.94
13	31.26	25.70	23.69	22.98	21.51	---	20.17	19.25	19.43	21.91	22.57	22.97
14	30.50	25.59	23.51	23.02	21.57	---	19.76	18.67	19.57	21.93	22.53	22.97
15	30.10	25.53	23.72	22.98	21.37	---	18.90	18.37	19.79	21.96	22.58	22.96
16	29.77	25.55	23.68	23.13	21.29	21.49	18.25	18.17	20.07	21.98	22.62	22.96
17	29.57	25.66	23.09	22.96	21.46	21.49	17.92	18.13	20.37	22.01	22.60	23.01
18	29.24	25.61	22.20	23.04	21.83	21.28	17.88	17.97	20.68	22.02	22.53	22.98
19	28.83	25.39	21.62	22.96	21.84	21.28	17.89	17.63	20.85	22.01	22.55	22.96
20	28.57	25.37	21.38	22.99	21.67	20.94	18.06	17.47	21.07	22.10	22.64	22.95
21	28.42	25.33	21.45	22.89	21.57	20.68	18.29	17.57	21.25	22.18	22.75	22.98
22	28.22	25.30	21.51	23.17	21.51	20.49	18.42	17.76	21.27	22.18	22.67	23.03
23	27.85	25.29	21.28	23.06	21.39	20.27	18.90	17.84	21.26	22.20	22.60	23.14
24	27.38	25.25	21.29	22.77	21.29	20.26	19.14	17.98	21.27	22.31	22.54	23.19
25	26.79	25.07	21.53	22.60	---	20.33	19.23	18.32	21.32	22.29	22.62	23.21
26	26.62	24.96	21.59	22.45	---	20.07	19.63	18.58	21.30	22.24	22.68	23.08
27	26.53	24.77	21.64	22.34	---	19.36	19.94	18.89	21.25	22.22	22.75	22.77
28	26.56	24.68	21.82	22.23	---	18.74	19.72	19.15	21.37	22.22	22.85	22.95
29	26.45	24.41	22.13	22.20	---	18.32	19.48	19.38	21.59	22.23	22.83	23.06
30	26.14	24.05	22.51	22.21	---	18.27	19.12	19.58	21.65	22.28	22.87	23.05
31	25.95	---	22.74	21.75	---	18.33	---	19.72	---	22.33	22.96	---
MEAN	29.62	25.36	22.89	22.88	21.40	20.49	19.08	18.60	20.41	21.99	22.61	22.96
MAX	33.87	25.81	23.98	23.26	21.84	21.49	20.21	19.72	21.65	22.33	22.96	23.21
MIN	25.95	24.05	21.28	21.75	20.86	18.27	17.88	17.47	18.89	21.66	22.36	22.73



OCTOBER 5, 2001 TO SEPTEMBER 30, 2002

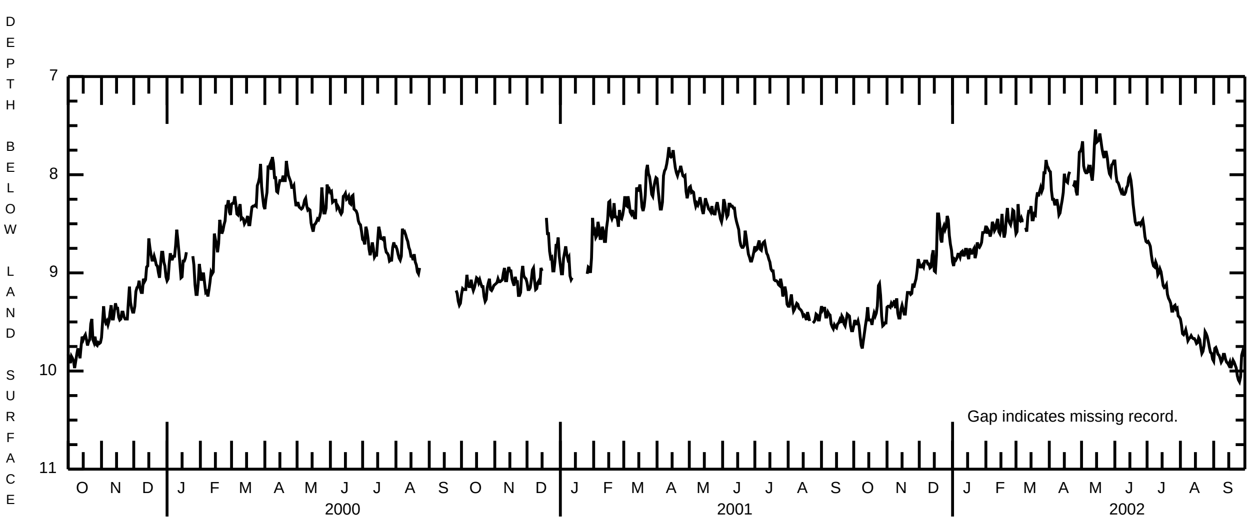
BEAVER COUNTY

403006080252301. Local number, BV 156.

LOCATION.--Lat 40°30'06", long 80°25'23", Hydrologic Unit 05030101, at Raccoon State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 101 ft, cased to 25 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since Aug. 23, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 930 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.00 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 1991, are available from the District Office.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 7.46 ft below land-surface datum, May 14, 2002: lowest, 13.72 ft below land-surface datum, June 5, 1968.
EXTREMES FOR CURRENT YEAR.--Highest water level, 7.46 ft below land-surface datum, May 14; lowest, 10.11 ft below land-surface datum, Sept. 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.54	9.35	8.90	8.89	8.52	8.60	7.96	7.73	7.86	8.69	9.47	9.90
2	9.48	9.34	8.94	8.93	8.60	8.58	7.97	7.66	7.99	8.68	9.53	9.77
3	9.52	9.34	8.94	8.86	8.56	8.30	8.16	7.91	8.07	8.70	9.62	9.76
4	9.52	9.35	8.92	8.87	8.58	8.46	8.25	7.96	8.08	8.73	9.63	9.79
5	9.49	9.31	8.94	8.85	8.63	8.47	8.25	7.98	8.11	8.82	9.61	9.83
6	9.54	9.33	8.88	8.81	8.59	8.44	8.30	7.98	8.15	8.89	9.58	9.84
7	9.65	9.31	8.88	8.81	8.48	8.47	8.30	7.94	8.18	8.93	9.63	9.87
8	9.74	9.28	8.88	8.84	8.51	8.47	8.25	7.98	8.16	8.94	9.69	9.91
9	9.77	9.36	8.91	8.79	8.57	---	8.31	7.90	8.20	8.89	9.67	9.89
10	9.69	9.26	8.91	8.78	8.55	8.54	8.41	8.00	8.20	8.92	9.66	9.83
11	9.61	9.41	8.95	8.82	8.49	8.58	8.39	8.06	8.18	9.02	9.64	9.83
12	9.53	9.46	8.94	8.82	8.45	8.43	8.32	7.94	8.13	9.00	9.66	9.88
13	9.46	9.46	8.82	8.76	8.58	8.36	8.26	7.69	8.11	8.96	9.67	9.91
14	9.35	9.37	8.77	8.76	8.60	8.39	8.18	7.54	8.03	8.99	9.67	9.92
15	9.48	9.33	8.98	8.82	8.54	8.32	7.99	7.67	8.01	9.06	9.69	9.94
16	9.48	9.37	8.99	8.86	8.40	8.46	8.06	7.66	8.06	9.13	9.72	9.91
17	9.48	9.42	8.82	8.75	8.56	8.46	8.07	7.65	8.16	9.15	9.71	9.97
18	9.53	9.42	8.40	8.80	8.64	8.40	8.08	7.58	8.30	9.14	9.66	9.93
19	9.46	9.30	8.40	8.80	8.59	8.41	8.00	7.65	8.39	9.12	9.68	9.89
20	9.41	9.20	8.50	8.77	8.44	8.25	7.97	7.73	8.48	9.22	9.76	9.91
21	9.44	9.20	8.66	8.75	8.34	8.18	---	7.79	8.51	9.26	9.82	9.94
22	9.41	9.20	8.69	8.85	8.46	8.22	---	7.83	8.51	9.28	9.80	9.97
23	9.34	9.22	8.55	8.80	8.49	8.17	8.10	7.77	8.49	9.31	9.74	10.05
24	9.13	9.21	8.52	8.69	8.51	8.13	8.11	7.77	8.49	9.39	9.60	10.09
25	9.11	9.11	8.56	8.73	8.46	8.17	8.06	7.83	8.51	9.39	9.62	10.11
26	9.23	9.15	8.53	8.74	8.36	8.14	8.17	7.93	8.48	9.34	9.65	10.06
27	9.44	9.10	8.42	8.72	8.37	7.98	8.21	7.99	8.46	9.33	9.70	9.84
28	9.54	9.06	8.46	8.69	8.51	7.98	8.00	8.01	8.53	9.37	9.76	9.80
29	9.53	8.98	8.62	8.59	---	7.85	7.77	7.90	8.63	9.36	9.81	9.84
30	9.51	8.86	8.71	8.59	---	7.91	7.76	7.89	8.68	9.44	9.82	9.84
31	9.51	---	8.77	8.58	---	7.93	---	7.86	---	9.45	9.88	---
MEAN	9.48	9.27	8.75	8.78	8.51	8.30	8.13	7.83	8.27	9.09	9.68	9.90
MAX	9.77	9.46	8.99	8.93	8.64	8.60	8.41	8.06	8.68	9.45	9.88	10.11
MIN	9.11	8.86	8.40	8.58	8.34	7.85	7.76	7.54	7.86	8.68	9.47	9.76



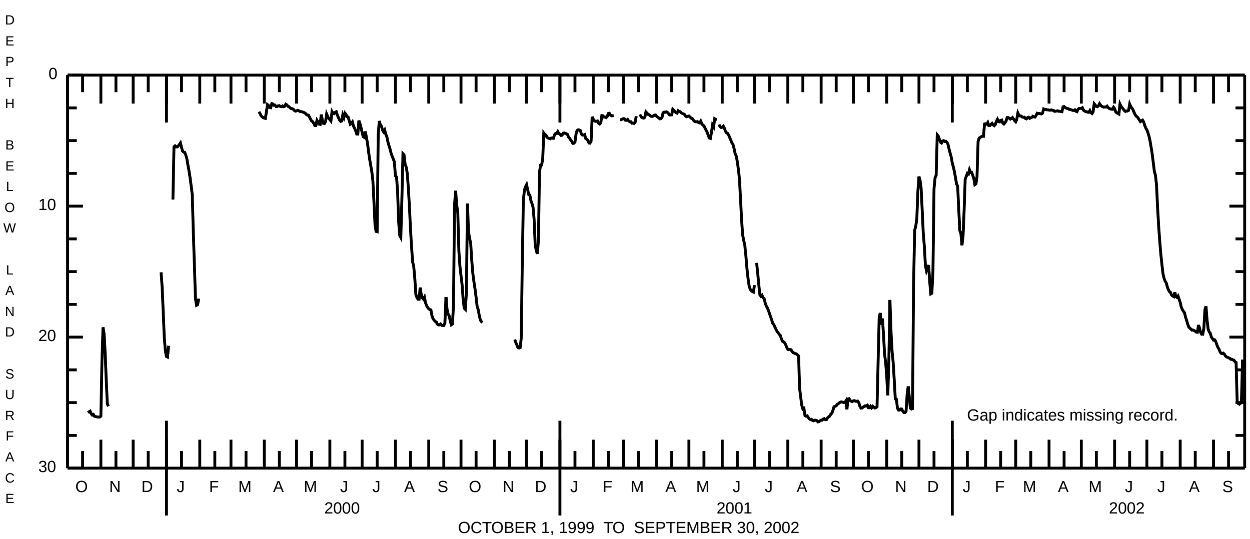
BUTLER COUNTY

410501079524401. Local number, BT 311.

LOCATION.--Lat 41°05'01", long 79°52'44", Hydrologic Unit 05030105, at State Game Land Number 95.
Owner: U.S. Geological Survey.
AQUIFER.--Kittanning Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 89 ft, cased to 12 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since March 15, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,465 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.14 ft above land-surface datum. Prior to Mar. 15, 2001, top of casing, 2.30 ft.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since March 2001, are available from the District Office.
PERIOD OF RECORD.--November 1970 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, 1.98 ft below land-surface datum, May 18, 2002; lowest, 31.06 ft below land-surface datum, Oct. 16, 17, 18, 1983.
EXTREMES FOR CURRENT YEAR.--Highest water level, 1.98 ft below land-surface datum, May 18; lowest, 25.76 ft below land-surface datum, Nov. 17, 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.86	22.96	7.74	6.71	3.71	3.56	2.67	2.55	2.56	4.18	17.34	20.23
2	24.85	24.45	8.02	7.01	3.74	3.37	2.68	2.49	2.80	4.40	17.71	20.20
3	24.89	21.73	8.60	7.38	3.61	2.89	2.65	2.68	2.88	4.66	17.90	20.32
4	24.90	17.16	10.30	7.84	3.85	3.06	2.68	2.73	2.92	5.04	18.03	20.56
5	24.88	19.58	12.05	8.32	3.85	3.12	2.69	2.79	2.97	5.53	18.13	20.77
6	25.00	21.08	13.05	8.47	3.76	3.12	2.76	2.79	2.21	6.04	18.48	20.90
7	25.28	21.92	14.54	10.25	3.68	3.20	2.76	2.83	2.38	6.71	18.73	21.11
8	25.42	23.26	14.94	11.87	3.80	3.22	2.74	2.84	2.48	7.37	19.01	21.23
9	25.41	24.72	14.73	12.08	3.86	3.21	2.72	2.70	2.59	7.64	19.23	21.26
10	25.35	24.75	14.50	12.99	3.77	3.31	2.76	2.87	2.70	8.41	19.31	21.22
11	25.29	25.42	15.78	12.29	3.52	3.34	2.76	2.93	2.77	10.17	19.39	21.29
12	25.24	25.57	16.70	10.36	3.37	3.24	2.78	2.80	2.74	11.57	19.47	21.43
13	25.26	25.57	16.65	7.94	3.55	3.21	2.79	2.19	2.74	12.70	19.46	21.51
14	25.20	25.48	14.97	7.73	3.57	3.30	2.42	2.29	2.69	13.69	19.50	21.54
15	25.39	25.49	8.67	7.50	3.45	3.26	2.40	2.39	2.21	14.46	19.55	21.58
16	25.39	25.66	7.83	7.55	3.43	3.22	2.47	2.41	2.40	15.16	19.62	21.61
17	25.28	25.76	7.65	7.22	3.67	3.14	2.52	2.34	2.50	15.51	19.63	21.69
18	25.39	25.76	4.56	7.42	3.73	3.19	2.55	2.18	2.63	15.73	19.08	21.69
19	25.28	25.66	4.66	7.42	3.63	3.20	2.56	2.30	2.82	15.85	19.31	21.74
20	25.35	24.36	4.89	7.65	3.51	3.07	2.63	2.38	3.00	16.15	19.64	21.76
21	25.41	23.76	5.12	7.88	3.24	2.91	2.63	2.42	3.13	16.38	19.78	21.88
22	25.38	24.54	5.18	8.36	3.24	2.94	2.66	2.45	3.18	16.53	19.78	21.93
23	25.32	25.42	5.03	8.30	3.29	2.92	2.69	2.43	3.29	16.58	19.33	24.93
24	21.85	25.49	5.00	7.75	3.36	2.95	2.70	2.44	3.42	16.79	17.91	25.07
25	18.48	25.46	5.07	5.07	3.31	2.96	2.65	2.37	3.55	16.86	17.64	25.12
26	18.16	15.91	5.05	4.80	3.24	2.90	2.76	2.48	3.49	16.91	18.70	25.05
27	19.04	11.84	5.12	4.76	3.35	2.58	2.79	2.55	3.44	16.58	19.39	24.89
28	18.58	11.54	5.28	4.70	3.47	2.62	2.59	2.58	3.57	16.91	19.60	21.73
29	19.78	10.98	5.64	4.67	---	2.61	2.54	2.60	3.84	16.96	19.71	24.69
30	21.28	8.85	5.95	4.67	---	2.65	2.54	2.61	4.04	16.86	20.00	24.83
31	21.94	---	6.25	3.73	---	2.65	---	2.45	---	17.11	20.11	---
MEAN	23.84	22.00	9.02	7.76	3.56	3.06	2.65	2.54	2.93	12.43	19.05	22.13
MAX	25.42	25.76	16.70	12.99	3.86	3.56	2.79	2.93	4.04	17.11	20.11	25.12
MIN	18.16	8.85	4.56	3.73	3.24	2.58	2.40	2.18	2.21	4.18	17.34	20.20



CLARION COUNTY

412020079133901. Local number, CR 3.

LOCATION.--Lat 41°20'20", long 79°13'39", Hydrologic Unit 05010005, at Cooks Forest State Park.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Pottsville Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 130 ft, cased to 12 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,545 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.80 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--Jan. 1970 to Dec. 1974; 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, 25.82 ft below land-surface datum, May 20, 2002; lowest, 75.90 ft below land-surface datum, Dec. 1, 1971.
EXTREMES FOR CURRENT YEAR.--Highest water level, 25.82 ft below land-surface datum, May 20; lowest, 62.00 ft below land-surface datum, Dec. 2, 3.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**
MEAN VALUES

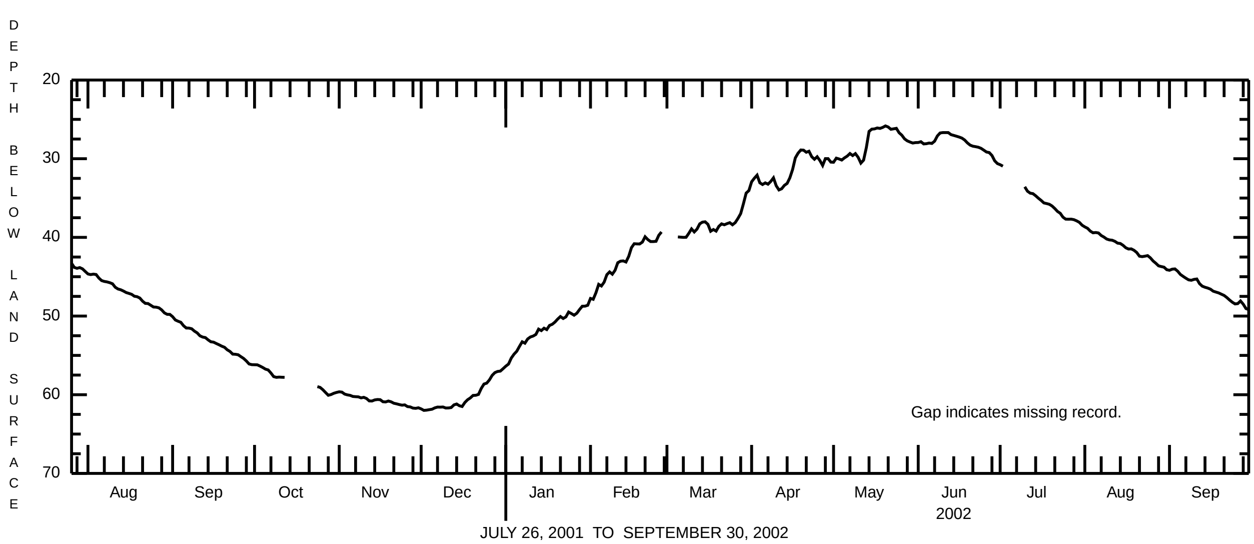
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	44.65	50.08
2	---	---	---	---	---	---	---	---	---	---	44.73	50.50
3	---	---	---	---	---	---	---	---	---	---	44.67	50.66
4	---	---	---	---	---	---	---	---	---	---	44.72	50.79
5	---	---	---	---	---	---	---	---	---	---	45.17	51.23
6	---	---	---	---	---	---	---	---	---	---	45.49	51.52
7	---	---	---	---	---	---	---	---	---	---	45.60	51.53
8	---	---	---	---	---	---	---	---	---	---	45.66	51.62
9	---	---	---	---	---	---	---	---	---	---	45.76	51.92
10	---	---	---	---	---	---	---	---	---	---	45.90	52.14
11	---	---	---	---	---	---	---	---	---	---	46.34	52.51
12	---	---	---	---	---	---	---	---	---	---	46.56	52.67
13	---	---	---	---	---	---	---	---	---	---	46.66	52.74
14	---	---	---	---	---	---	---	---	---	---	46.82	53.03
15	---	---	---	---	---	---	---	---	---	---	47.01	53.27
16	---	---	---	---	---	---	---	---	---	---	47.12	53.32
17	---	---	---	---	---	---	---	---	---	---	47.24	53.49
18	---	---	---	---	---	---	---	---	---	---	47.48	53.65
19	---	---	---	---	---	---	---	---	---	---	47.54	53.83
20	---	---	---	---	---	---	---	---	---	---	47.71	53.97
21	---	---	---	---	---	---	---	---	---	---	48.11	54.29
22	---	---	---	---	---	---	---	---	---	---	48.39	54.50
23	---	---	---	---	---	---	---	---	---	---	48.41	54.84
24	---	---	---	---	---	---	---	---	---	---	48.63	54.86
25	---	---	---	---	---	---	---	---	---	---	48.85	54.92
26	---	---	---	---	---	---	---	---	---	43.29	48.87	55.16
27	---	---	---	---	---	---	---	---	---	43.82	48.96	55.39
28	---	---	---	---	---	---	---	---	---	43.93	49.22	55.71
29	---	---	---	---	---	---	---	---	---	43.84	49.60	56.09
30	---	---	---	---	---	---	---	---	---	44.00	49.78	56.18
31	---	---	---	---	---	---	---	---	---	44.33	49.79	---
MEAN	---	---	---	---	---	---	---	---	---	43.87	47.14	53.21
MAX	---	---	---	---	---	---	---	---	---	44.33	49.79	56.18
MIN	---	---	---	---	---	---	---	---	---	43.29	44.65	50.08

CLARION COUNTY

412020079133901. Local number, CR 3--Continued.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002**
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56.19	59.63	61.80	56.37	47.76	---	32.93	30.45	27.94	30.76	38.67	44.18
2	56.20	59.67	61.99	56.10	47.87	---	32.48	29.93	27.84	30.95	38.85	44.04
3	56.36	59.92	61.96	55.34	47.04	---	32.09	30.03	28.12	---	39.20	44.01
4	56.54	60.02	61.90	54.85	45.97	---	33.06	30.17	28.09	---	39.42	44.30
5	56.75	60.08	61.84	54.48	46.18	39.94	33.28	29.89	28.01	---	39.38	44.71
6	56.85	60.22	61.67	53.85	45.69	39.97	33.07	29.67	28.06	---	39.44	44.96
7	57.24	60.25	61.57	53.27	44.74	40.00	33.24	29.34	27.77	---	39.76	45.19
8	57.70	60.27	61.58	53.45	44.39	39.99	32.89	29.60	27.11	---	39.96	45.40
9	57.79	60.40	61.56	52.91	44.68	39.49	32.43	29.35	26.73	---	40.21	45.45
10	57.76	60.33	61.69	52.66	44.18	38.92	33.43	29.82	26.68	33.57	40.32	45.34
11	57.78	60.48	61.68	52.54	43.22	39.31	33.97	30.56	26.68	34.13	40.36	45.29
12	57.79	60.79	61.63	52.34	43.02	38.95	33.82	30.18	26.68	34.38	40.50	45.88
13	---	60.80	61.29	51.66	42.99	38.28	33.39	28.59	26.94	34.44	40.73	46.20
14	---	60.66	61.18	51.85	43.13	38.06	33.14	26.53	27.04	34.71	40.78	46.34
15	---	60.61	61.40	51.54	42.41	38.02	32.43	26.24	27.14	35.02	41.01	46.44
16	58.11	60.63	61.50	51.72	41.31	38.34	31.37	26.21	27.25	35.30	41.32	46.58
17	---	60.89	60.99	51.19	40.81	39.22	29.90	26.09	27.38	35.62	41.48	46.84
18	---	60.92	60.64	51.05	40.83	39.00	29.30	26.15	27.62	35.70	41.46	46.95
19	---	60.80	60.41	50.76	40.84	39.20	28.89	26.02	27.99	35.79	41.64	47.06
20	---	60.90	60.09	50.38	40.60	38.60	28.91	25.83	28.27	36.01	41.92	47.22
21	---	61.08	60.07	50.06	39.92	38.28	29.18	25.97	28.41	36.33	42.39	47.38
22	---	61.16	59.96	50.31	40.28	38.40	29.05	26.26	28.47	36.70	42.45	47.65
23	---	61.25	59.21	50.11	40.53	38.25	29.74	26.20	28.54	36.94	42.39	47.96
24	58.97	61.33	58.64	49.49	40.53	38.13	30.07	26.14	28.68	37.43	42.32	48.24
25	59.07	61.29	58.53	49.68	40.50	38.40	29.75	26.70	28.91	37.68	42.60	48.46
26	59.36	61.51	58.12	49.89	39.74	38.12	30.23	27.01	29.15	37.69	43.00	48.42
27	59.72	61.55	57.54	49.64	39.31	37.59	30.86	27.48	29.22	37.68	43.29	48.08
28	60.07	61.70	57.19	49.17	---	36.98	29.99	27.73	29.59	37.75	43.62	48.49
29	59.98	61.73	57.04	48.75	---	35.72	29.99	27.88	30.27	37.90	43.71	49.05
30	59.82	61.66	57.00	48.74	---	34.37	30.43	28.01	30.62	38.09	43.79	49.17
31	59.71	---	56.69	48.63	---	34.05	---	27.95	---	38.45	44.11	---
MEAN	58.08	60.75	60.27	51.70	42.91	38.28	31.44	28.00	28.04	35.79	41.29	46.51
MAX	60.07	61.73	61.99	56.37	47.87	40.00	33.97	30.56	30.62	38.45	44.11	49.17
MIN	56.19	59.63	56.69	48.63	39.31	34.05	28.89	25.83	26.68	30.76	38.67	44.01



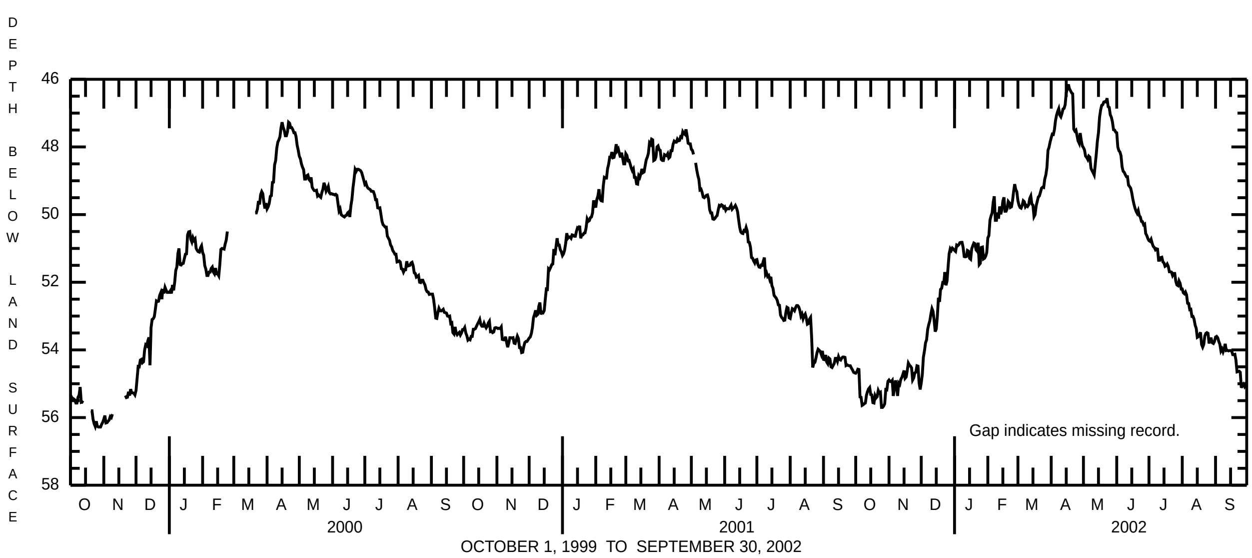
CRAWFORD COUNTY

413542080245002. Local number, CW 413.

LOCATION.--Lat 41°35'42", long 80°24'50", Hydrologic Unit 05030102, at State Game Land Number 214 near Hartstown.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone of Cussewago Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 100 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since May 4, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,110 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.43 ft above land-surface datum. Prior to May 2, 2001, measuring point, top of casing, 2.70 ft above land surface datum.
REMARKS.--Since the June 9, 1981 well pumping and clean out, the monthly mean water levels have generally been from 12 to 24 feet lower. Water levels were also affected by intermittent pumping. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since May 2001, are available from the District Office.
PERIOD OF RECORD.--July 1967 to current year. Prior to June 1981, water-level data stored with well identification number 413542080245001.
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, 20.02 ft below land-surface datum, Feb. 23, 1975; lowest, 56.60 ft below land-surface datum, Dec. 23, 24, 1998, and Jan. 18, 19, 1999.
EXTREMES FOR CURRENT YEAR.--Highest water level, 45.92 ft below land-surface datum, Apr. 17; lowest, 55.70 ft below land-surface datum, Oct. 25, 26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54.69	54.89	54.98	51.06	50.69	49.59	47.73	48.02	47.58	50.77	52.20	53.62
2	54.65	54.93	54.73	51.09	50.62	49.72	47.62	48.09	48.00	50.79	52.31	53.60
3	54.57	54.94	54.22	50.90	50.16	49.79	47.63	48.27	48.11	50.73	52.34	53.64
4	54.58	54.90	54.03	50.92	50.04	49.81	47.49	48.31	48.15	50.85	52.29	53.75
5	55.39	55.36	53.79	50.89	49.95	49.72	47.22	48.37	48.26	50.94	52.37	53.83
6	55.40	55.14	53.70	50.83	49.63	49.59	47.06	48.27	48.59	50.97	52.62	54.03
7	55.64	54.90	53.39	50.82	49.46	49.62	46.95	48.30	48.72	51.04	52.63	53.97
8	55.62	55.08	53.25	50.82	50.17	49.77	46.87	48.63	48.75	51.01	52.81	54.06
9	55.59	55.36	53.14	50.97	50.17	49.73	47.06	48.70	48.82	51.02	52.80	53.97
10	55.57	54.98	52.94	51.24	49.94	49.76	47.11	48.76	48.88	51.35	53.01	53.82
11	55.34	55.02	52.78	51.25	50.12	49.71	47.01	48.83	48.88	51.35	53.01	54.02
12	55.23	54.87	52.86	51.24	49.76	49.52	46.88	48.52	49.13	51.27	53.09	54.01
13	55.15	54.81	53.12	51.06	49.99	49.45	46.86	48.20	49.17	51.26	53.27	54.03
14	55.11	54.71	53.46	51.08	49.87	49.69	46.75	47.82	49.22	51.40	53.36	54.02
15	55.32	54.61	53.38	51.29	49.60	49.72	46.40	47.58	49.36	51.43	53.63	54.02
16	55.33	54.84	53.01	51.32	49.49	50.06	46.28	47.13	49.54	51.53	53.61	54.03
17	55.56	54.80	52.46	51.01	49.90	50.00	46.15	46.91	49.69	51.51	53.55	54.14
18	55.57	54.61	52.58	50.92	49.90	49.74	46.28	46.77	49.81	51.46	53.48	54.14
19	55.35	54.39	52.21	50.84	49.82	49.61	46.34	46.75	49.90	51.53	53.84	54.13
20	55.42	54.45	52.18	50.86	49.61	49.48	46.40	46.67	49.96	51.69	53.92	54.31
21	55.38	54.48	52.01	51.04	49.65	49.45	46.43	46.66	49.88	51.69	53.84	54.65
22	55.20	54.53	52.02	51.08	49.79	49.34	47.47	46.67	50.03	51.70	53.59	54.64
23	55.27	54.89	51.70	50.83	49.77	49.22	47.53	46.56	50.07	51.80	53.51	54.63
24	55.25	54.83	52.09	51.48	49.59	49.19	47.50	46.81	50.20	51.74	53.49	54.66
25	55.70	54.68	51.97	51.44	49.32	49.20	47.66	46.83	50.21	51.74	53.51	55.12
26	55.70	54.66	51.55	50.97	49.10	48.95	47.82	47.05	50.30	51.97	53.81	55.05
27	55.66	54.47	51.15	50.96	49.26	48.83	47.89	47.12	50.28	52.08	53.67	55.01
28	55.59	54.48	51.01	51.31	49.32	48.61	47.59	47.26	50.56	52.10	53.67	55.08
29	55.17	54.97	51.06	51.29	---	48.10	47.81	47.49	50.62	51.96	53.79	55.02
30	55.18	55.17	50.99	51.23	---	48.01	47.97	47.50	50.71	52.03	53.81	55.12
31	54.93	---	51.02	51.12	---	47.85	---	47.56	---	52.20	53.75	---
MEAN	55.29	54.83	52.67	51.07	49.81	49.38	47.13	47.63	49.38	51.45	53.24	54.27
MAX	55.70	55.36	54.98	51.48	50.69	50.06	47.97	48.83	50.71	52.20	53.92	55.12
MIN	54.57	54.39	50.99	50.82	49.10	47.85	46.15	46.56	47.58	50.73	52.20	53.60



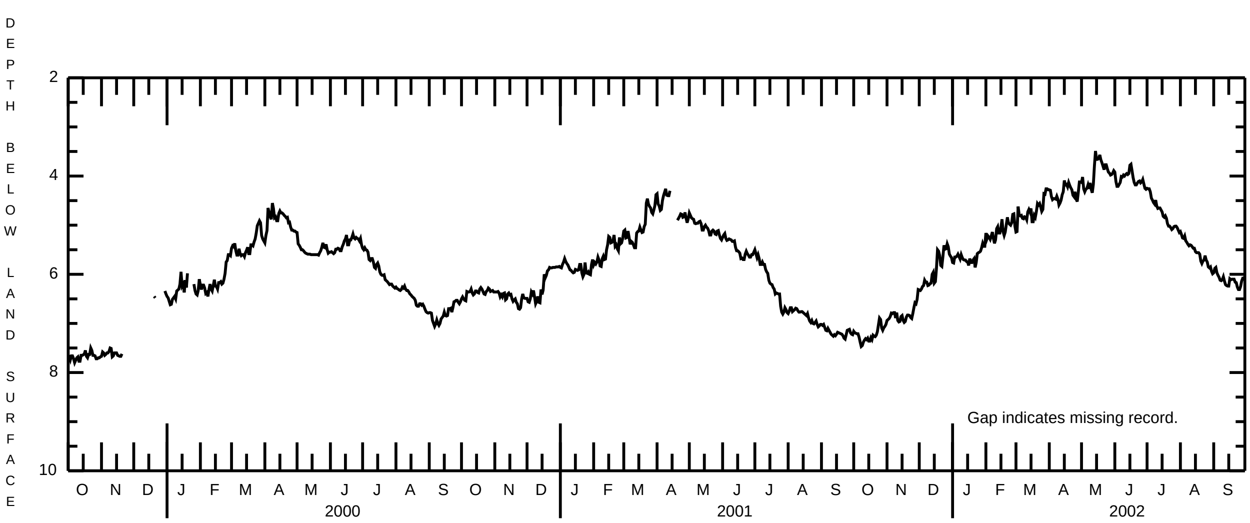
ELK COUNTY

412458078324601. Local number, EK 108.

LOCATION.--Lat 41°24'58", long 78°32'46", Hydrologic Unit 05010005, at St. Marys.
Owner: St. Marys Municipal Joint Water Authority.
AQUIFER.--Pottsville Group of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 12 in., depth 340 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since July 25, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,740 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood instrument shelf, 2.65 ft above land-surface datum. Prior to July 25, 2001, top of casing, 2.30 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since May 2001, are available from the District Office.
PERIOD OF RECORD.--October 1974 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, 1.95 ft below land-surface datum, Mar. 4, 1991; lowest, 9.24 ft below land-surface datum, Jan. 21, 1996.
EXTREMES FOR CURRENT YEAR.--Highest water level, 3.36 ft below land-surface datum, May 14; lowest, 7.47 ft below land-surface datum, Oct. 8.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.16	6.94	6.32	5.76	5.16	5.14	4.28	4.13	3.92	4.25	5.13	5.97
2	7.19	6.92	6.33	5.77	5.28	5.13	4.29	4.02	4.11	4.26	5.19	5.88
3	7.20	6.90	6.30	5.65	5.22	4.62	4.42	4.26	4.21	4.26	5.26	5.86
4	7.21	6.86	6.25	5.65	5.25	4.79	4.48	4.32	4.21	4.32	5.27	5.97
5	7.21	6.79	6.23	5.63	5.29	4.81	4.46	4.27	4.17	4.45	5.22	6.02
6	7.28	6.80	6.12	5.59	5.22	4.80	4.46	4.25	4.13	4.49	5.32	6.06
7	7.38	6.78	6.16	5.64	5.14	4.86	4.47	4.18	4.01	4.54	5.35	6.12
8	7.47	6.78	6.16	5.69	5.27	4.87	4.41	4.26	4.02	4.57	5.39	6.13
9	7.45	6.89	6.23	5.60	5.37	4.83	4.47	4.14	3.98	4.49	5.42	6.11
10	7.38	6.78	6.22	5.66	5.30	4.84	4.59	4.27	4.00	4.61	5.40	6.05
11	7.34	6.94	6.19	5.70	5.07	4.89	4.55	4.34	3.97	4.66	5.41	6.14
12	7.31	6.97	6.18	5.71	5.03	4.73	4.49	4.17	3.95	4.65	5.44	6.21
13	7.33	6.96	6.00	5.71	5.16	4.68	4.38	3.79	3.97	4.65	5.47	6.23
14	7.30	6.86	5.96	5.74	5.16	4.73	4.32	3.49	3.95	4.69	5.47	6.24
15	7.36	6.84	6.18	5.75	5.05	4.66	4.09	3.66	3.78	4.73	5.54	6.24
16	7.36	6.94	6.15	5.82	4.88	4.93	4.18	3.66	3.76	4.82	5.56	6.09
17	7.29	6.98	5.88	5.68	5.13	4.93	4.17	3.64	3.89	4.84	5.56	6.11
18	7.33	6.96	5.50	5.76	5.21	4.80	4.22	3.57	4.03	4.81	5.56	6.10
19	7.24	6.87	5.53	5.76	5.14	4.84	4.13	3.67	4.13	4.86	5.59	6.10
20	7.26	6.83	5.62	5.71	4.99	4.72	4.19	3.73	4.18	4.97	5.73	6.10
21	7.27	6.83	5.82	5.68	4.84	4.56	4.24	3.80	4.18	5.02	5.78	6.16
22	7.24	6.84	5.84	5.86	4.95	4.59	4.28	3.87	4.14	5.02	5.73	6.17
23	7.17	6.88	5.64	5.76	4.98	4.56	4.39	3.77	4.11	5.05	5.71	6.26
24	7.03	6.90	5.41	5.58	5.00	4.63	4.42	3.77	4.10	5.09	5.62	6.31
25	6.89	6.80	5.49	5.56	4.95	4.72	4.32	3.85	4.14	5.07	5.71	6.31
26	6.92	6.68	5.48	5.55	4.78	4.68	4.47	3.92	4.12	5.03	5.75	6.25
27	7.09	6.58	5.38	5.53	4.77	4.36	4.52	3.94	4.07	5.02	5.85	6.14
28	7.14	6.60	5.44	5.46	5.02	4.37	4.33	3.98	4.16	5.02	5.87	6.08
29	7.09	6.51	5.59	5.37	---	4.26	4.12	3.97	4.25	5.05	5.85	6.08
30	7.06	6.31	5.63	5.43	---	4.26	4.12	3.94	4.27	5.10	5.94	6.05
31	7.02	---	5.66	5.43	---	4.28	---	3.89	---	5.15	5.99	---
MEAN	7.22	6.82	5.90	5.65	5.09	4.71	4.34	3.95	4.06	4.76	5.55	6.12
MAX	7.47	6.98	6.33	5.86	5.37	5.14	4.59	4.34	4.27	5.15	5.99	6.31
MIN	6.89	6.31	5.38	5.37	4.77	4.26	4.09	3.49	3.76	4.25	5.13	5.86



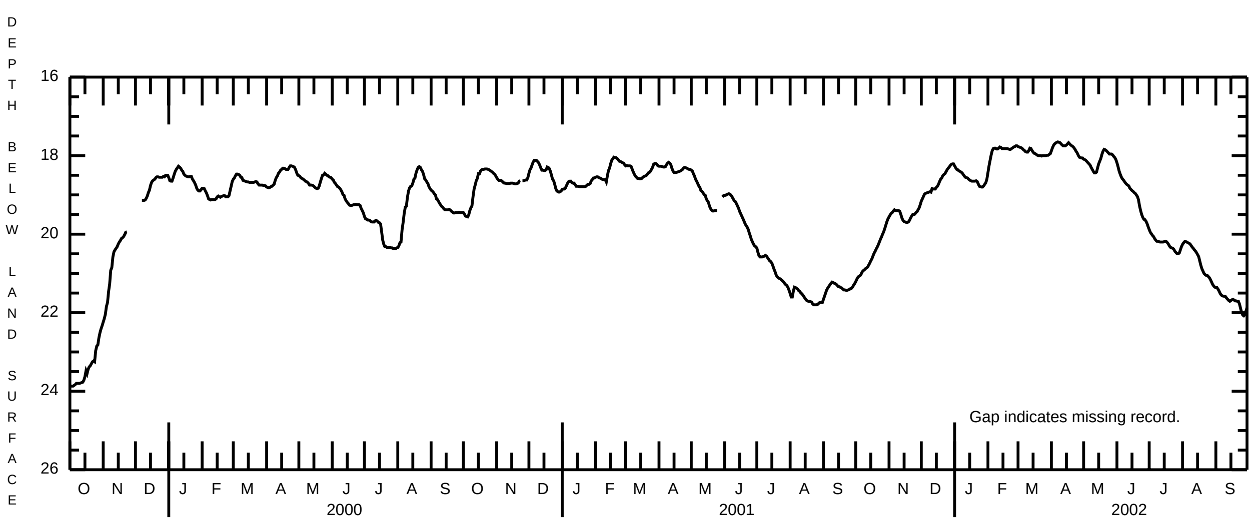
ERIE COUNTY

415607080044601. Local number, ER 82.

LOCATION.--Lat 41°56'07", long 80°04'46", Hydrologic Unit 05010004, near McLane.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Riceville Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 82 ft, cased to 56 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since May 17, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,419 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal table, 3.44 ft above land-surface datum. Prior to May 17, 2001, top of plywood cover, 3.50 ft above land-surface datum.
REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since May 2001, are available from the District Office.
PERIOD OF RECORD.--July 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, 10.00 ft below land-surface datum, Mar. 17, 1973; lowest, 24.89 ft below land-surface datum, Oct. 21-23, 1998.
EXTREMES FOR CURRENT YEAR.--Highest water level, 17.65 ft below land-surface datum, Apr. 6-8; lowest, 22.08 ft below land-surface datum, Sept. 27.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.21	19.56	19.16	18.26	18.43	17.77	17.88	18.09	18.18	19.88	20.26	21.36
2	21.15	19.51	19.10	18.31	18.26	17.78	17.80	18.10	18.28	19.95	20.22	21.36
3	21.10	19.47	19.04	18.35	18.12	17.79	17.74	18.12	18.39	19.99	20.19	21.40
4	21.07	19.45	18.98	18.36	17.98	17.80	17.70	18.15	18.47	20.03	20.19	21.45
5	21.06	19.41	18.96	18.39	17.87	17.82	17.68	18.18	18.54	20.06	20.20	21.51
6	21.02	19.38	18.95	18.40	17.82	17.85	17.66	18.21	18.59	20.11	20.22	21.55
7	20.96	19.40	18.94	18.42	17.81	17.87	17.65	18.24	18.62	20.15	20.23	21.57
8	20.93	19.40	18.93	18.44	17.81	17.90	17.66	18.30	18.66	20.18	20.25	21.58
9	20.91	19.40	18.92	18.48	17.83	17.91	17.67	18.35	18.70	20.18	20.29	21.58
10	20.88	19.40	18.93	18.52	17.83	17.91	17.70	18.40	18.73	20.19	20.33	21.59
11	20.86	19.42	18.84	18.55	17.81	17.87	17.73	18.44	18.75	20.20	20.36	21.63
12	20.84	19.50	18.85	18.56	17.78	17.81	17.75	18.44	18.77	20.20	20.40	21.66
13	20.79	19.59	18.85	18.57	17.79	17.82	17.75	18.42	18.83	20.20	20.43	21.69
14	20.74	19.65	18.85	18.60	17.82	17.87	17.75	18.31	18.86	20.20	20.47	21.71
15	20.68	19.68	18.81	18.62	17.82	17.91	17.73	18.21	18.89	20.19	20.52	21.69
16	20.63	19.69	18.78	18.64	17.82	17.94	17.70	18.14	18.91	20.18	20.57	21.67
17	20.56	19.70	18.73	18.65	17.82	17.95	17.67	18.07	18.94	20.19	20.68	21.66
18	20.49	19.70	18.66	18.65	17.82	17.97	17.70	17.97	18.96	20.22	20.79	21.68
19	20.44	19.69	18.60	18.65	17.82	17.99	17.73	17.89	19.00	20.26	20.88	21.70
20	20.38	19.65	18.57	18.65	17.83	18.00	17.75	17.84	19.04	20.31	20.94	21.70
21	20.33	19.59	18.51	18.64	17.84	18.00	17.77	17.85	19.12	20.34	21.00	21.71
22	20.27	19.54	18.48	18.66	17.84	18.00	17.80	17.87	19.28	20.35	21.03	21.71
23	20.20	19.50	18.46	18.72	17.82	18.01	17.84	17.90	19.40	20.36	21.05	21.78
24	20.13	19.50	18.41	18.78	17.80	18.00	17.89	17.93	19.50	20.39	21.05	21.89
25	20.07	19.49	18.36	18.79	17.78	18.00	17.93	17.96	19.57	20.44	21.08	22.00
26	20.00	19.45	18.32	18.80	17.77	18.00	17.99	17.96	19.62	20.47	21.11	22.06
27	19.94	19.43	18.29	18.80	17.75	18.00	18.04	17.96	19.63	20.50	21.16	22.08
28	19.86	19.38	18.25	18.77	17.75	17.99	18.05	17.98	19.67	20.50	21.22	22.05
29	19.77	19.33	18.22	18.73	---	17.99	18.06	18.02	19.73	20.48	21.28	21.96
30	19.68	19.25	18.21	18.69	---	17.97	18.06	18.05	19.81	20.40	21.32	21.87
31	19.61	---	18.21	18.60	---	17.95	---	18.10	---	20.32	21.35	---
MEAN	20.53	19.50	18.68	18.58	17.87	17.92	17.79	18.11	18.98	20.24	20.68	21.70
MAX	21.21	19.70	19.16	18.80	18.43	18.01	18.06	18.44	19.81	20.50	21.35	22.08
MIN	19.61	19.25	18.21	18.26	17.75	17.77	17.65	17.84	18.18	19.88	20.19	21.36



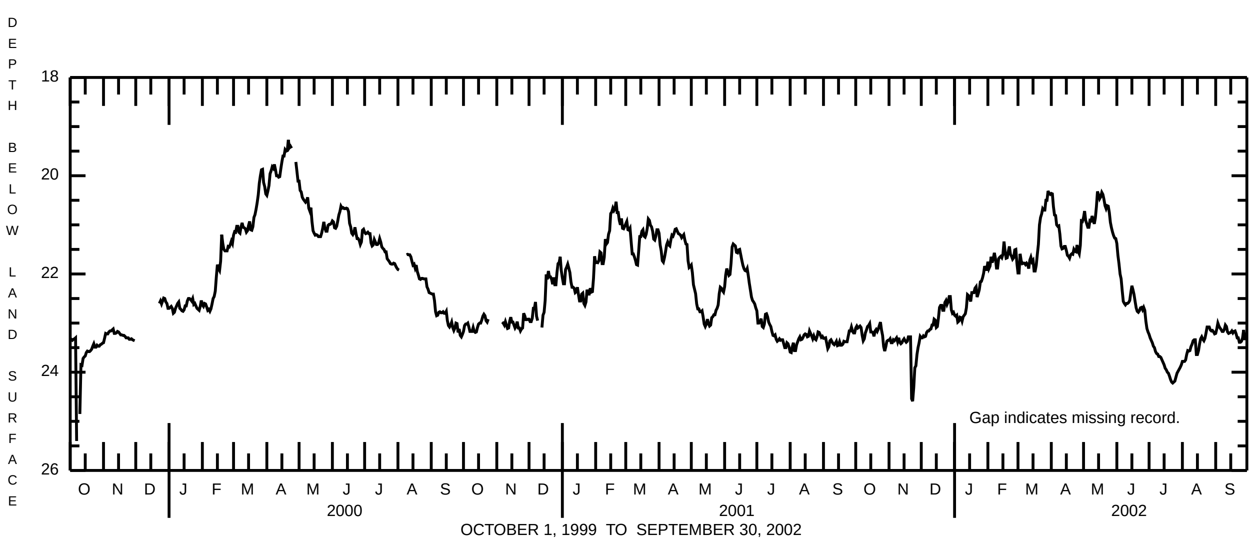
FAYETTE COUNTY

394843079351401. Local number, FA 17.

LOCATION.--Lat 39°48'43", long 79°35'14", Hydrologic unit 05020006, at Fort Necessity National Battlefield.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 100 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since Dec. 12, 2000. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,910 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.00 ft above land-surface datum.
REMARKS.--Water levels affected by intermittent pumping. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since December 2000, are available from the District Office.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 18.56 ft below land-surface datum, Apr. l, 1992; lowest, 40.00 ft below land-surface datum, Nov. 8, 1967.
EXTREMES FOR CURRENT YEAR.--Highest water level, 20.06 ft below land-surface datum, Mar. 29; lowest, 24.59 ft below land-surface datum, Nov. 23.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.10	23.35	23.30	22.84	21.75	21.98	20.36	20.85	21.38	23.23	23.78	23.21
2	23.06	23.32	23.30	22.86	21.89	21.98	20.37	20.72	21.62	23.30	23.78	23.12
3	23.10	23.40	23.26	22.84	21.84	21.59	20.63	20.91	21.79	23.35	23.78	23.00
4	23.08	23.40	23.28	22.98	21.65	21.73	20.80	20.98	22.00	23.40	23.75	23.06
5	23.06	23.34	23.27	22.96	21.77	21.79	20.81	21.05	22.10	23.47	23.64	23.10
6	23.09	23.36	23.19	22.88	21.69	21.78	21.00	21.05	22.34	23.50	23.56	23.13
7	23.25	23.33	23.16	22.89	21.57	21.78	21.03	20.91	22.56	23.58	23.57	23.17
8	23.36	23.30	23.16	22.96	21.68	21.81	21.02	20.92	22.60	23.62	23.56	23.17
9	23.32	23.38	23.13	22.87	21.88	21.78	21.19	20.82	22.63	23.63	23.48	23.13
10	23.20	23.30	23.12	22.84	21.88	21.81	21.43	20.90	22.60	23.68	23.43	23.04
11	23.14	23.39	23.04	22.81	21.69	21.89	21.49	20.98	22.60	23.68	23.36	23.07
12	23.07	23.42	23.04	22.69	21.66	21.72	21.48	20.86	22.58	23.70	23.34	23.18
13	23.05	23.40	22.92	22.42	21.64	21.66	21.44	20.63	22.54	23.75	23.34	23.21
14	23.01	23.35	22.94	22.44	21.67	21.75	21.44	20.32	22.38	23.80	23.64	23.20
15	23.18	23.32	23.09	22.50	21.60	21.72	21.52	20.39	22.24	23.85	23.64	23.19
16	23.18	23.36	23.07	22.56	21.34	21.94	21.62	20.47	22.32	23.92	23.56	23.16
17	23.19	23.39	22.89	22.38	21.54	21.94	21.64	20.43	22.42	23.95	23.42	23.20
18	23.27	23.37	22.68	22.38	21.68	21.82	21.68	20.34	22.56	24.00	23.32	23.17
19	23.16	23.28	22.64	22.38	21.67	21.60	21.61	20.38	22.69	24.02	23.28	23.16
20	23.13	23.28	22.64	22.29	21.54	21.40	21.59	20.48	22.76	24.08	23.33	23.22
21	23.17	23.28	22.74	22.26	21.44	21.00	21.60	20.61	22.78	24.15	23.36	23.30
22	23.12	24.54	22.74	22.47	21.60	20.85	21.50	20.67	22.75	24.20	23.31	23.30
23	23.05	24.59	22.58	22.40	21.64	20.78	21.54	20.61	22.69	24.22	23.20	23.39
24	22.98	24.31	22.54	22.32	21.70	20.67	21.55	20.62	22.68	24.20	23.08	23.39
25	23.14	23.91	22.62	22.16	21.67	20.70	21.41	20.75	22.73	24.18	23.08	23.37
26	23.25	23.87	22.57	22.15	21.51	20.70	21.54	20.95	22.68	24.10	23.08	23.30
27	23.48	23.64	22.46	22.08	21.50	20.50	21.59	21.06	22.74	24.02	23.14	23.14
28	23.57	23.50	22.46	21.99	21.78	20.50	21.42	21.15	22.96	23.98	23.16	23.32
29	23.48	23.40	22.73	21.84	---	20.31	20.92	21.22	23.11	23.94	23.15	23.32
30	23.37	23.27	22.80	21.91	---	20.36	20.93	21.27	23.18	23.90	23.18	23.28
31	23.35	---	22.78	21.91	---	20.38	---	21.28	---	23.85	23.22	---
MEAN	23.19	23.51	22.91	22.49	21.66	21.36	21.27	20.79	22.50	23.81	23.40	23.20
MAX	23.57	24.59	23.30	22.98	21.89	21.98	21.68	21.28	23.18	24.22	23.78	23.39
MIN	22.98	23.27	22.46	21.84	21.34	20.31	20.36	20.32	21.38	23.23	23.08	23.00



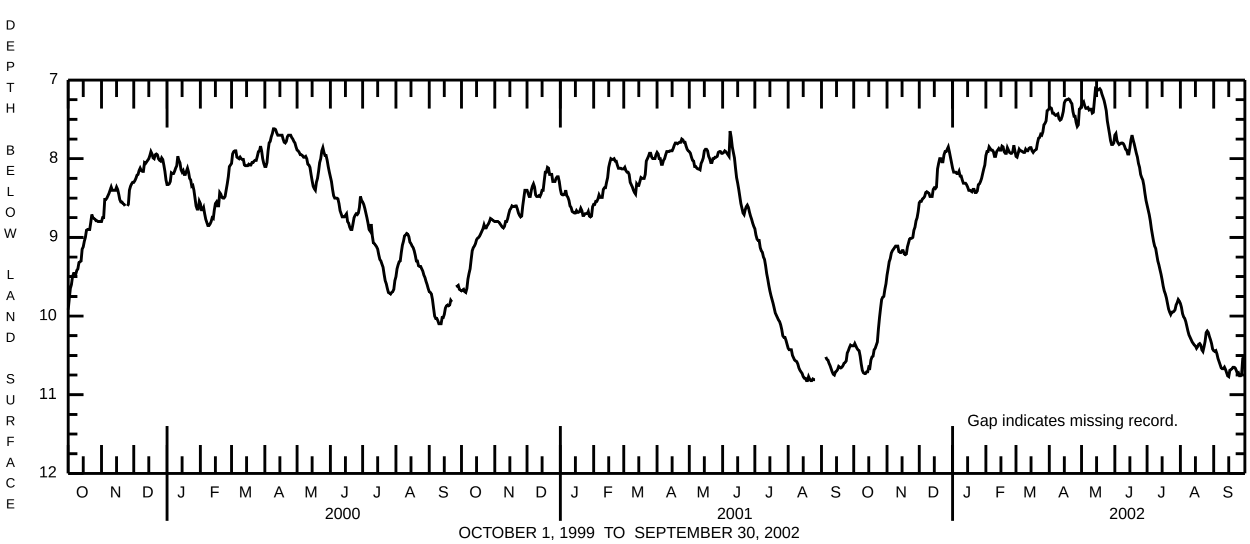
FOREST COUNTY

412823079030601. Local number, FO 11.

LOCATION.--Lat 41°28'23", long 79°03'06", Hydrologic Unit 05010005, in Allegheny National Forest.
Owner: U.S. Geological Survey.
AQUIFER.--Clarion Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 110 ft, cased to 23 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since June 7, 2001. Satellite telemetry at station
DATUM.--Elevation of land-surface datum is 1,780 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood table, 1.47 ft above land-surface datum. Prior to June 7, 2001, top of casing, 1.40 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 2001, are available from the District Office.
PERIOD OF RECORD.--August 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 7.06 ft below land-surface datum, May 14, 15, 2002; lowest, 12.07 ft below land-surface datum, Sept. 18, 19, 1982.
EXTREMES FOR CURRENT YEAR.--Highest water level, 7.06 ft below land-surface datum, May 14, 15; lowest, 10.77 ft below land-surface datum, Sept. 15.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.38	9.48	8.56	8.12	7.96	7.97	7.36	7.32	7.70	8.59	9.84	10.44
2	10.35	9.40	8.54	8.17	7.91	7.98	7.35	7.30	7.68	8.65	9.89	10.45
3	10.38	9.31	8.54	8.17	7.91	7.93	7.36	7.28	7.77	8.71	9.97	10.44
4	10.41	9.27	8.51	8.17	7.85	7.88	7.42	7.33	7.80	8.79	10.01	10.48
5	10.43	9.20	8.50	8.19	7.87	7.90	7.42	7.36	7.82	8.89	10.03	10.54
6	10.44	9.17	8.48	8.19	7.89	7.90	7.44	7.36	7.81	8.97	10.07	10.58
7	10.51	9.15	8.43	8.16	7.89	7.91	7.45	7.35	7.80	9.05	10.13	10.62
8	10.61	9.13	8.42	8.22	7.91	7.92	7.44	7.38	7.80	9.11	10.19	10.66
9	10.69	9.11	8.43	8.22	7.97	7.92	7.43	7.37	7.81	9.14	10.24	10.67
10	10.72	9.11	8.44	8.27	7.97	7.88	7.49	7.37	7.84	9.22	10.27	10.67
11	10.73	9.11	8.48	8.31	7.91	7.90	7.51	7.42	7.88	9.30	10.30	10.65
12	10.73	9.18	8.48	8.31	7.89	7.90	7.50	7.41	7.89	9.35	10.33	10.68
13	10.71	9.19	8.48	8.31	7.87	7.87	7.46	7.26	7.94	9.41	10.35	10.72
14	10.71	9.19	8.39	8.33	7.89	7.86	7.40	7.11	7.94	9.47	10.37	10.76
15	10.65	9.17	8.37	8.36	7.89	7.86	7.29	7.12	7.86	9.54	10.38	10.77
16	10.66	9.17	8.38	8.40	7.84	7.90	7.26	7.13	7.76	9.62	10.41	10.69
17	10.56	9.21	8.36	8.40	7.85	7.92	7.25	7.12	7.70	9.68	10.39	10.68
18	10.52	9.22	8.13	8.41	7.91	7.90	7.25	7.11	7.76	9.72	10.36	10.67
19	10.51	9.21	8.06	8.42	7.93	7.89	7.24	7.13	7.81	9.77	10.35	10.65
20	10.43	9.12	8.00	8.39	7.93	7.88	7.25	7.18	7.87	9.84	10.37	10.65
21	10.41	9.07	8.00	8.39	7.86	7.80	7.28	7.22	7.93	9.91	10.43	10.66
22	10.37	9.02	8.04	8.43	7.89	7.74	7.30	7.26	7.98	9.95	10.45	10.69
23	10.33	9.01	8.04	8.43	7.92	7.73	7.40	7.32	8.06	9.98	10.39	10.73
24	10.16	9.01	7.95	8.41	7.93	7.69	7.46	7.39	8.11	9.95	10.32	10.72
25	10.02	9.00	7.91	8.33	7.93	7.70	7.46	7.52	8.20	9.95	10.21	10.76
26	9.90	8.91	7.91	8.32	7.91	7.66	7.54	7.60	8.24	9.94	10.19	10.76
27	9.79	8.87	7.88	8.29	7.83	7.57	7.59	7.68	8.27	9.92	10.21	10.74
28	9.76	8.79	7.85	8.25	7.90	7.55	7.57	7.77	8.34	9.86	10.26	10.54
29	9.75	8.75	7.91	8.19	---	7.52	7.37	7.82	8.44	9.83	10.30	10.53
30	9.66	8.67	7.98	8.13	---	7.39	7.36	7.82	8.53	9.79	10.35	10.50
31	9.59	---	8.05	8.08	---	7.38	---	7.80	---	9.81	10.42	---
MEAN	10.35	9.11	8.24	8.28	7.90	7.80	7.40	7.37	7.94	9.47	10.25	10.64
MAX	10.73	9.48	8.56	8.43	7.97	7.98	7.59	7.82	8.53	9.98	10.45	10.77
MIN	9.59	8.67	7.85	8.08	7.83	7.38	7.24	7.11	7.68	8.59	9.84	10.44



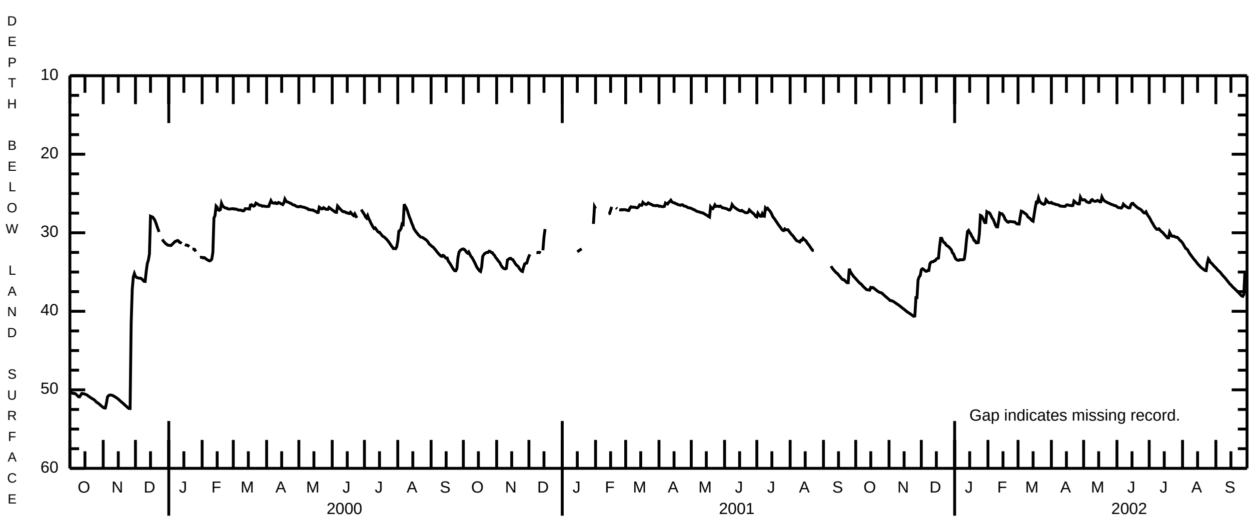
GREENE COUNTY

394655080014301. Local number, GR 118.

LOCATION.--Lat 39°46'55", long 80°01'43", Hydrologic Unit 05020005, at State Game Land Number 223.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of lower member of Waynesburg Formation of Late Pennsylvanian and Early Permian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 104 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Pressure transducer and digital data logger with 60-minute recording interval. Data collection platform with 60-minute recording interval since Sept. 7, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.40 ft above land-surface datum.
REMARKS.--Water levels affected by water cascading into the well. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1987, are available from the District Office.
PERIOD OF RECORD.--June 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 22.10 ft below land-surface datum, Mar. 18, 1999; lowest, 52.38 ft below land-surface datum, Nov. 25, 26, 1999.
EXTREMES FOR CURRENT YEAR.--Highest water level, 24.42 ft below land-surface datum, May 17; lowest, 40.64 ft below land-surface datum, Nov. 24.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.85	38.49	34.71	33.05	27.42	28.89	26.13	25.80	26.68	28.02	31.30	34.46
2	36.00	38.64	34.58	33.32	27.43	28.89	26.26	25.80	26.78	28.26	31.52	34.62
3	36.16	38.64	34.64	33.44	27.57	27.99	26.30	25.93	26.80	28.54	31.78	34.79
4	36.30	38.68	34.76	33.50	27.86	27.25	26.32	26.08	26.82	28.76	32.00	34.89
5	36.45	38.75	34.89	33.51	28.15	27.30	26.40	26.12	26.86	29.00	32.07	35.03
6	36.52	38.84	34.90	33.42	28.32	27.38	26.41	26.16	26.72	29.24	32.24	35.19
7	36.69	38.93	34.80	33.44	28.68	27.50	26.44	26.13	26.35	29.41	32.50	35.37
8	36.84	39.04	34.80	33.44	29.04	27.58	26.49	25.85	26.49	29.56	32.71	35.52
9	36.98	39.12	33.95	33.43	29.25	27.69	26.60	25.78	26.62	29.57	32.89	35.67
10	37.10	39.21	33.75	33.35	29.25	27.95	26.60	25.93	26.70	29.49	33.07	35.82
11	37.23	39.32	33.69	32.41	28.42	28.07	26.63	25.98	26.79	29.64	33.26	36.00
12	37.27	39.43	33.69	30.97	27.49	28.16	26.63	26.00	26.84	29.81	33.43	36.17
13	37.28	39.54	33.58	29.84	27.57	28.31	26.65	25.95	26.82	29.90	33.58	36.34
14	37.30	39.64	33.55	29.70	27.58	28.46	26.63	25.87	26.42	30.03	33.76	36.52
15	36.95	39.75	33.35	29.95	27.73	28.53	26.46	25.94	26.26	30.20	33.94	36.63
16	37.00	39.86	33.27	30.13	27.94	27.68	26.44	26.06	26.26	30.35	34.10	36.80
17	36.97	39.98	33.22	30.45	28.30	26.80	26.49	26.06	26.44	30.50	34.23	36.95
18	37.07	40.08	31.79	30.64	28.45	26.11	26.51	25.44	26.54	30.65	34.39	37.06
19	37.18	40.17	30.71	30.97	28.61	26.15	26.53	25.73	26.68	30.65	34.50	37.20
20	37.30	40.26	30.71	31.03	28.66	25.56	26.55	25.89	26.78	29.95	34.60	37.33
21	37.40	40.35	31.03	31.28	28.57	25.97	26.53	26.00	26.89	30.20	34.71	37.47
22	37.50	40.45	31.24	31.28	28.57	26.13	25.95	26.07	26.94	30.42	34.80	37.61
23	37.58	40.56	31.30	31.25	28.59	26.26	26.06	26.15	27.03	30.45	34.82	37.75
24	37.62	40.64	31.54	30.16	28.61	26.33	26.20	26.20	27.14	30.42	33.87	37.90
25	37.65	40.60	31.66	27.79	28.62	26.38	26.27	26.27	27.31	30.52	33.32	38.04
26	37.77	38.26	31.73	27.86	28.63	26.31	26.34	26.33	27.46	30.57	33.52	38.10
27	37.90	38.26	31.86	28.07	28.77	25.79	26.33	26.40	27.48	30.57	33.78	37.89
28	38.02	36.00	32.01	28.39	28.87	25.95	25.47	26.43	27.33	30.69	33.88	34.99
29	38.15	35.62	32.19	28.70	---	26.13	25.74	26.50	27.62	30.86	34.03	35.30
30	38.26	35.45	32.56	28.70	---	26.19	25.82	26.54	27.84	31.00	34.19	35.65
31	38.38	---	32.68	27.32	---	26.19	---	26.57	---	31.12	34.33	---
MEAN	37.18	39.09	33.00	30.99	28.32	27.09	26.34	26.06	26.86	29.95	33.46	36.30
MAX	38.38	40.64	34.90	33.51	29.25	28.89	26.65	26.57	27.84	31.12	34.82	38.10
MIN	35.85	35.45	30.71	27.32	27.42	25.56	25.47	25.44	26.26	28.02	31.30	34.46



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

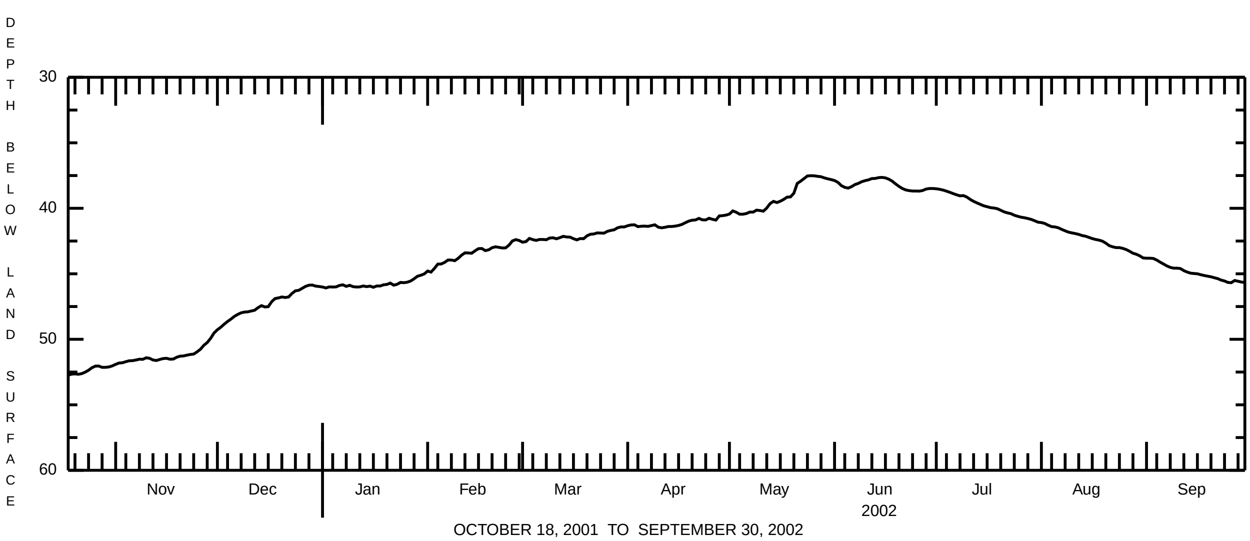
INDIANA COUNTY

405320078483901. Local number, IN 919.

LOCATION.--Lat 40°53'20", long 78°48'39", Hydrologic Unit 02050201, at State Game Lands 174.
Owner: U.S. Geological Survey.
AQUIFER.--Pottsville Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 140 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 1,620 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 3.00 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--October 2001 to current year.
EXTREMES FOR CURRENT YEAR.--Highest water level, 37.45 ft below land-surface datum, May 25, 26; lowest, 52.76 ft below land-surface datum, Oct. 18.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	51.91	49.27	46.01	44.79	42.59	41.33	40.44	37.88	38.51	41.09	43.81
2	---	51.81	49.08	46.08	44.87	42.54	41.27	40.20	38.02	38.55	41.16	43.81
3	---	51.79	48.85	46.00	44.59	42.30	41.26	40.30	38.27	38.61	41.29	43.83
4	---	51.71	48.64	46.01	44.26	42.39	41.40	40.45	38.40	38.69	41.40	43.95
5	---	51.64	48.46	46.00	44.25	42.45	41.37	40.45	38.46	38.78	41.42	44.11
6	---	51.63	48.25	45.89	44.13	42.38	41.36	40.40	38.35	38.88	41.49	44.25
7	---	51.58	48.10	45.84	43.95	42.38	41.38	40.29	38.19	38.97	41.61	44.40
8	---	51.52	47.98	45.96	43.95	42.40	41.32	40.29	38.10	39.05	41.72	44.51
9	---	51.53	47.92	45.88	44.00	42.27	41.26	40.14	37.97	39.03	41.82	44.57
10	---	51.41	47.90	45.98	43.82	42.25	41.44	40.17	37.89	39.14	41.88	44.57
11	---	51.45	47.84	46.01	43.58	42.33	41.49	40.22	37.83	39.32	41.93	44.60
12	---	51.58	47.78	46.00	43.40	42.24	41.45	39.98	37.73	39.47	41.99	44.76
13	---	51.62	47.58	45.93	43.41	42.14	41.39	39.64	37.72	39.59	42.08	44.87
14	---	51.54	47.43	45.98	43.43	42.19	41.39	39.47	37.66	39.70	42.13	44.95
15	---	51.47	47.53	45.94	43.24	42.20	41.36	39.56	37.64	39.81	42.22	44.98
16	---	51.45	47.51	46.03	43.08	42.32	41.31	39.46	37.68	39.88	42.31	45.00
17	---	51.52	47.13	45.93	43.07	42.41	41.23	39.32	37.78	39.95	42.38	45.07
18	52.74	51.51	46.89	45.93	43.23	42.31	41.10	39.15	37.93	39.98	42.43	45.13
19	52.66	51.37	46.84	45.84	43.17	42.32	40.98	39.13	38.14	40.03	42.51	45.18
20	52.64	51.29	46.77	45.81	43.01	42.10	40.91	38.85	38.33	40.15	42.66	45.23
21	52.67	51.27	46.81	45.71	42.94	41.98	40.89	38.10	38.49	40.27	42.85	45.30
22	52.62	51.21	46.77	45.87	42.98	41.96	40.77	37.93	38.60	40.35	42.94	45.37
23	52.51	51.16	46.50	45.80	43.03	41.88	40.88	37.73	38.65	40.41	43.00	45.48
24	52.36	51.13	46.30	45.66	43.02	41.89	40.89	37.53	38.68	40.53	43.00	45.55
25	52.17	50.96	46.26	45.68	42.81	41.90	40.76	37.51	38.68	40.61	43.06	45.66
26	52.05	50.76	46.11	45.64	42.49	41.76	40.84	37.52	38.69	40.68	43.15	45.68
27	52.04	50.46	45.96	45.55	42.39	41.69	40.90	37.56	38.64	40.72	43.28	45.51
28	52.14	50.25	45.87	45.38	42.46	41.64	40.58	37.59	38.53	40.78	43.43	45.57
29	52.14	49.93	45.86	45.19	---	41.49	40.56	37.68	38.49	40.85	43.51	45.63
30	52.11	49.52	45.94	45.11	---	41.42	40.52	37.75	38.49	40.95	43.63	45.67
31	52.03	---	45.97	45.01	---	41.42	---	37.81	---	41.06	43.79	---
MEAN	52.35	51.27	47.29	45.80	43.48	42.11	41.12	39.12	38.20	39.78	42.36	44.90
MAX	52.74	51.91	49.27	46.08	44.87	42.59	41.49	40.45	38.69	41.06	43.79	45.68
MIN	52.03	49.52	45.86	45.01	42.39	41.42	40.52	37.51	37.64	38.51	41.09	43.81



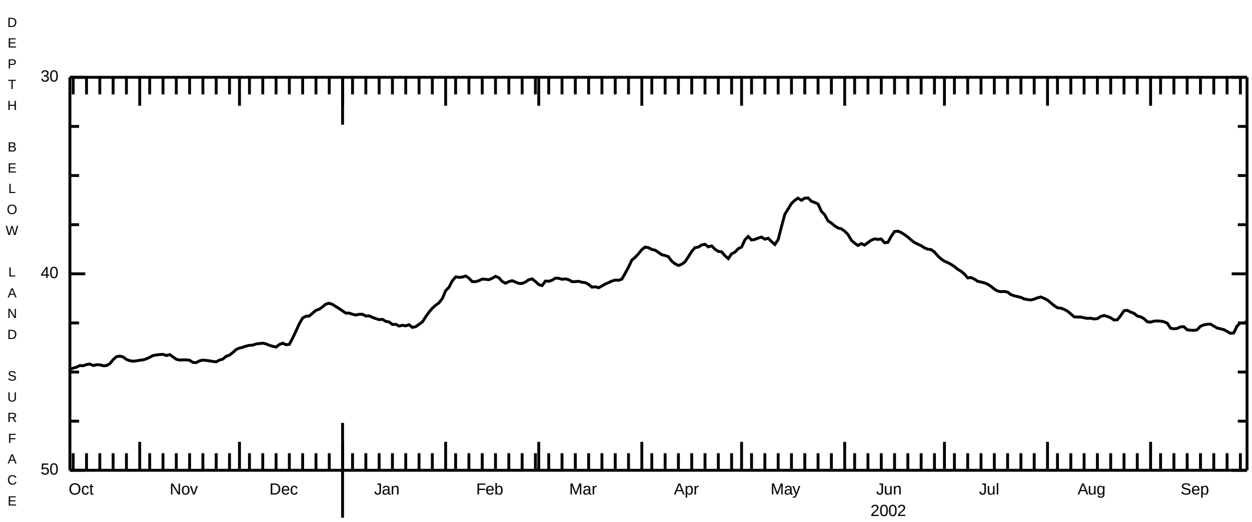
JEFFERSON COUNTY

411734078522101. Local number, JE 425.

LOCATION.--Lat 41°17'34", long 78°52'21", Hydrologic Unit 05010006, at State Game Lands 54.
Owner: U.S. Geological Survey.
AQUIFER.--Pottsville Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 152 ft, cased to 20 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 2,030 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 mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--October 2001 to current year.
EXTREMES FOR CURRENT YEAR.--Highest water level, 36.10 ft below land-surface datum, May 21; lowest, 44.90 ft below land-surface datum, Oct. 11.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	44.40	43.78	41.89	40.86	40.55	38.77	38.64	37.83	39.36	41.34	42.46
2	---	44.38	43.74	42.00	40.69	40.60	38.64	38.27	38.00	39.43	41.48	42.41
3	---	44.33	43.68	42.00	40.36	40.37	38.67	38.10	38.29	39.52	41.62	42.40
4	---	44.25	43.64	42.06	40.16	40.38	38.76	38.28	38.44	39.63	41.73	42.41
5	---	44.16	43.63	42.10	40.18	40.33	38.80	38.25	38.56	39.77	41.75	42.44
6	---	44.13	43.57	42.06	40.17	40.22	38.91	38.18	38.46	39.87	41.81	42.51
7	---	44.11	43.55	42.06	40.11	40.23	39.03	38.13	38.54	40.01	41.90	42.77
8	---	44.10	43.53	42.15	40.22	40.28	39.07	38.24	38.41	40.21	42.04	42.80
9	---	44.16	43.57	42.14	40.40	40.26	39.13	38.19	38.29	40.19	42.19	42.78
10	---	44.11	43.64	42.22	40.40	40.30	39.36	38.36	38.22	40.27	42.20	42.70
11	44.86	44.23	43.69	42.28	40.35	40.40	39.49	38.51	38.25	40.38	42.20	42.69
12	44.80	44.35	43.73	42.33	40.27	40.40	39.58	38.26	38.23	40.42	42.24	42.85
13	44.75	44.39	43.60	42.32	40.28	40.38	39.51	37.60	38.42	40.46	42.27	42.87
14	44.67	44.38	43.53	42.42	40.30	40.43	39.39	36.97	38.40	40.53	42.26	42.88
15	44.68	44.38	43.61	42.45	40.23	40.45	39.13	36.70	38.09	40.64	42.30	42.85
16	44.62	44.40	43.59	42.58	40.13	40.54	38.86	36.42	37.85	40.78	42.28	42.67
17	44.59	44.51	43.27	42.57	40.20	40.68	38.67	36.26	37.83	40.88	42.17	42.60
18	44.67	44.52	42.91	42.66	40.39	40.66	38.64	36.15	37.90	40.91	42.12	42.57
19	44.63	44.43	42.54	42.62	40.48	40.71	38.53	36.26	38.01	40.90	42.17	42.56
20	44.63	44.39	42.25	42.65	40.40	40.62	38.50	36.15	38.13	40.93	42.24	42.66
21	44.68	44.41	42.16	42.59	40.35	40.52	38.63	36.14	38.28	41.06	42.35	42.76
22	44.67	44.43	42.15	42.73	40.42	40.45	38.58	36.31	38.41	41.12	42.34	42.80
23	44.58	44.46	42.00	42.69	40.49	40.37	38.75	36.37	38.49	41.16	42.13	42.84
24	44.37	44.48	41.86	42.57	40.49	40.32	38.86	36.45	38.57	41.20	41.88	42.93
25	44.22	44.39	41.80	42.45	40.42	40.33	38.88	36.82	38.68	41.28	41.86	43.03
26	44.19	44.34	41.68	42.19	40.30	40.27	39.08	37.00	38.75	41.31	41.95	43.01
27	44.23	44.20	41.54	41.95	40.26	39.97	39.23	37.31	38.77	41.33	42.01	42.66
28	44.36	44.14	41.50	41.75	40.39	39.66	38.98	37.42	38.89	41.29	42.15	42.50
29	44.42	44.01	41.56	41.60	---	39.30	38.90	37.56	39.09	41.22	42.19	42.52
30	44.45	43.85	41.67	41.48	---	39.16	38.72	37.67	39.24	41.18	42.28	42.42
31	44.43	---	41.77	41.26	---	38.98	---	37.71	---	41.25	42.44	---
MEAN	44.55	44.29	42.86	42.22	40.35	40.26	38.94	37.38	38.38	40.60	42.06	42.68
MAX	44.86	44.52	43.78	42.73	40.86	40.71	39.58	38.64	39.24	41.33	42.44	43.03
MIN	44.19	43.85	41.50	41.26	40.11	38.98	38.50	36.14	37.83	39.36	41.34	42.40



OCTOBER 11, 2001 TO SEPTEMBER 30, 2002

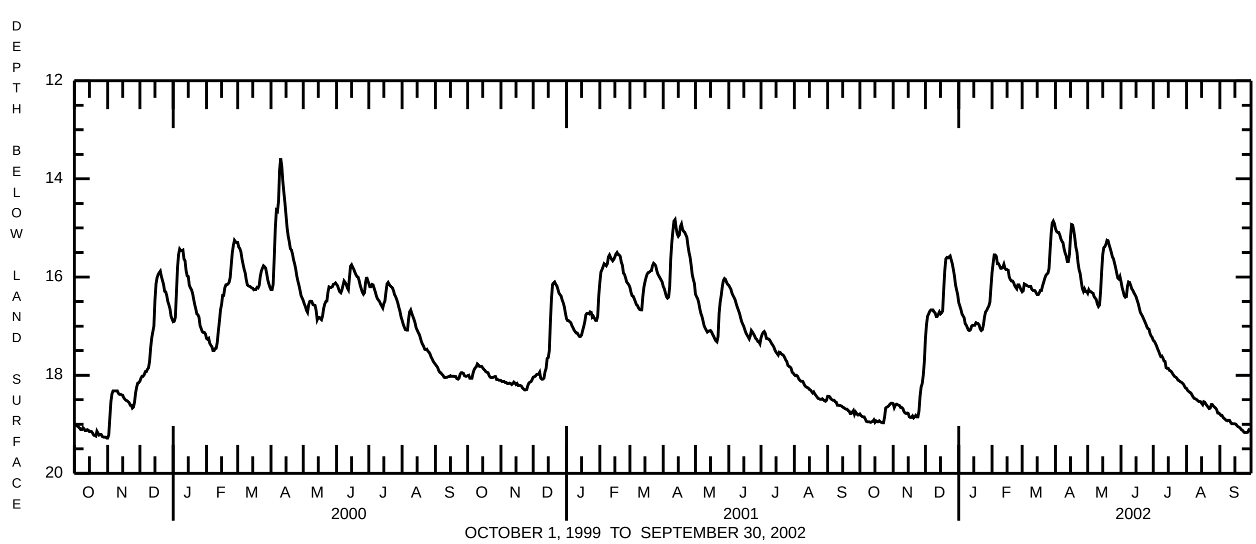
LAWRENCE COUNTY

410538080280801. Local number, LA 1201.

LOCATION.--Lat 41°05'38", long 80°28'08", Hydrologic Unit 05030102, at State Game Land 150, near Pulaski.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of Connoquenessing Formation of Early Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 150 ft, cased to 30 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.40 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 1987, are available from the District Office.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 12.25 ft below land-surface datum, May 19, 1978; lowest, 22.94 ft below land-surface datum, Apr. 15, 1986.
EXTREMES FOR CURRENT YEAR.--Highest water level, 14.83 ft below land-surface datum, Mar. 29, 30; lowest, 19.17 ft below land-surface datum, Sept. 24-26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.79	18.58	17.25	16.52	15.91	16.30	15.01	16.33	16.09	17.29	18.27	18.79
2	18.82	18.66	16.97	16.59	15.72	16.28	15.07	16.26	16.21	17.31	18.31	18.82
3	18.84	18.61	16.80	16.66	15.55	16.14	15.09	16.30	16.29	17.35	18.33	18.82
4	18.85	18.59	16.75	16.75	15.55	16.15	15.09	16.30	16.38	17.40	18.35	18.86
5	18.85	18.60	16.70	16.79	15.58	16.17	15.14	16.32	16.41	17.46	18.36	18.88
6	18.89	18.61	16.67	16.83	15.73	16.18	15.22	16.33	16.40	17.51	18.40	18.90
7	18.94	18.62	16.67	16.95	15.73	16.19	15.27	16.40	16.19	17.57	18.44	18.92
8	18.95	18.66	16.67	16.98	15.77	16.19	15.30	16.43	16.10	17.62	18.47	18.93
9	18.95	18.66	16.71	17.03	15.82	16.19	15.42	16.46	16.11	17.61	18.48	18.92
10	18.95	18.68	16.73	17.08	15.82	16.25	15.51	16.55	16.17	17.65	18.49	18.92
11	18.96	18.74	16.80	17.09	15.80	16.27	15.57	16.60	16.24	17.71	18.51	18.96
12	18.95	18.77	16.80	17.07	15.74	16.27	15.68	16.57	16.27	17.72	18.53	18.99
13	18.94	18.78	16.76	17.00	15.82	16.28	15.68	16.30	16.32	17.85	18.54	18.99
14	18.91	18.77	16.71	16.98	15.85	16.32	15.54	15.88	16.36	17.86	18.54	18.99
15	18.96	18.78	16.75	16.98	15.85	16.36	15.19	15.54	16.40	17.86	18.57	18.99
16	18.93	18.85	16.73	16.98	15.86	16.36	14.93	15.40	16.47	17.90	18.60	19.00
17	18.95	18.86	16.69	16.93	16.00	16.32	14.94	15.38	16.54	17.91	18.54	19.03
18	18.95	18.86	16.26	16.94	16.05	16.27	15.05	15.33	16.63	17.93	18.55	19.05
19	18.93	18.83	15.87	16.95	16.08	16.27	15.20	15.25	16.72	17.97	18.59	19.06
20	18.95	18.87	15.63	16.98	16.08	16.18	15.39	15.26	16.76	18.00	18.62	19.08
21	18.96	18.85	15.60	17.06	16.11	16.11	15.49	15.35	16.80	18.03	18.65	19.11
22	18.97	18.82	15.61	17.09	16.17	16.03	15.71	15.42	16.85	18.04	18.68	19.12
23	18.97	18.85	15.59	17.07	16.21	15.97	15.85	15.50	16.90	18.06	18.67	19.15
24	18.85	18.85	15.57	16.97	16.24	15.94	15.93	15.59	16.95	18.10	18.60	19.17
25	18.67	18.73	15.65	16.81	16.16	15.92	16.09	15.63	17.01	18.11	18.60	19.17
26	18.65	18.43	15.73	16.71	16.16	15.83	16.23	15.72	17.05	18.13	18.63	19.17
27	18.64	18.24	15.85	16.68	16.21	15.46	16.29	15.81	17.06	18.14	18.65	19.16
28	18.62	18.17	15.98	16.63	16.26	15.11	16.24	15.92	17.15	18.16	18.67	19.11
29	18.59	18.00	16.16	16.59	---	14.90	16.29	16.02	17.20	18.18	18.70	19.12
30	18.57	17.72	16.26	16.51	---	14.86	16.29	16.04	17.23	18.22	18.77	19.15
31	18.57	---	16.36	16.20	---	14.91	---	15.99	---	18.26	18.77	---
MEAN	18.85	18.63	16.36	16.85	15.92	16.00	15.52	15.94	16.58	17.84	18.54	19.01
MAX	18.97	18.87	17.25	17.09	16.26	16.36	16.29	16.60	17.23	18.26	18.77	19.17
MIN	18.57	17.72	15.57	16.20	15.55	14.86	14.93	15.25	16.09	17.29	18.27	18.79



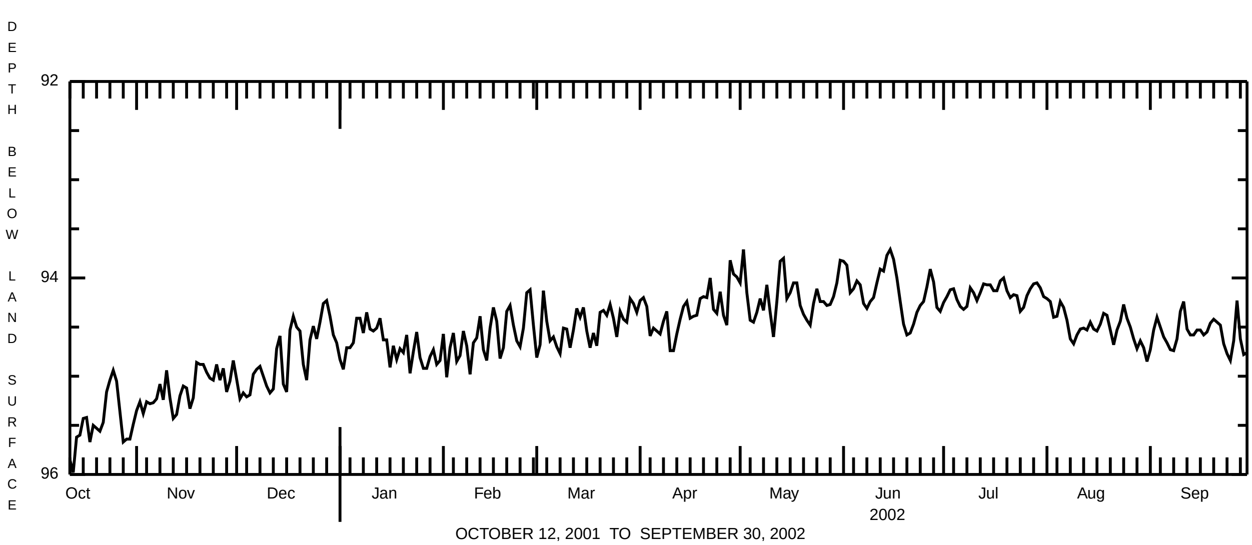
McKEAN COUNTY

414509078343401. Local number, MC 125.

LOCATION.--Lat 41°45'09", long 78°34'34", Hydrologic Unit 05010001, at State Game Lands 62.
Owner: U.S. Geological Survey.
AQUIFER.--Pottsville Formation, Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 173.5 ft, cased to 17 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 2,169 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--October 2001 to current year.
EXTREMES FOR CURRENT YEAR.--Highest water level, 93.56 ft below land-surface datum, May 2; lowest, 96.03 ft below land-surface datum, Oct. 13.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	95.35	95.03	94.83	94.57	94.81	94.23	94.05	93.83	94.25	94.21	94.73
2	---	95.26	95.23	94.93	95.01	94.68	94.20	93.71	93.87	94.19	94.24	94.53
3	---	95.38	95.17	94.71	94.71	94.13	94.29	94.15	94.15	94.12	94.40	94.40
4	---	95.26	95.21	94.71	94.56	94.44	94.59	94.43	94.11	94.11	94.39	94.50
5	---	95.28	95.19	94.66	94.85	94.64	94.51	94.45	94.03	94.22	94.24	94.60
6	---	95.27	94.98	94.41	94.79	94.60	94.54	94.35	94.07	94.29	94.30	94.66
7	---	95.23	94.93	94.41	94.54	94.70	94.57	94.21	94.26	94.32	94.43	94.73
8	---	95.08	94.90	94.56	94.69	94.77	94.44	94.33	94.31	94.29	94.62	94.74
9	---	95.24	95.00	94.35	94.98	94.51	94.34	94.07	94.24	94.10	94.67	94.62
10	---	94.94	95.10	94.52	94.66	94.52	94.74	94.35	94.20	94.15	94.58	94.34
11	---	95.22	95.17	94.54	94.61	94.71	94.74	94.60	94.05	94.23	94.52	94.24
12	95.85	95.43	95.13	94.51	94.39	94.53	94.57	94.24	93.91	94.15	94.51	94.52
13	95.98	95.39	94.72	94.41	94.73	94.31	94.42	93.83	93.93	94.06	94.53	94.58
14	95.62	95.20	94.59	94.63	94.84	94.40	94.29	93.80	93.77	94.07	94.45	94.58
15	95.60	95.10	95.08	94.63	94.51	94.30	94.24	94.21	93.71	94.07	94.52	94.53
16	95.43	95.12	95.16	94.91	94.30	94.54	94.41	94.15	93.81	94.13	94.54	94.53
17	95.42	95.33	94.53	94.69	94.44	94.71	94.39	94.05	94.00	94.13	94.47	94.58
18	95.67	95.22	94.39	94.83	94.82	94.56	94.38	94.05	94.24	94.03	94.36	94.55
19	95.50	94.86	94.50	94.72	94.71	94.69	94.21	94.28	94.47	94.00	94.38	94.46
20	95.53	94.88	94.54	94.76	94.34	94.35	94.19	94.37	94.58	94.13	94.53	94.42
21	95.56	94.88	94.88	94.58	94.28	94.33	94.20	94.43	94.56	94.20	94.68	94.45
22	95.47	94.96	95.04	94.97	94.48	94.38	94.00	94.48	94.47	94.17	94.53	94.48
23	95.16	95.02	94.63	94.75	94.64	94.27	94.32	94.26	94.35	94.18	94.44	94.67
24	95.04	95.04	94.49	94.55	94.70	94.41	94.36	94.11	94.28	94.34	94.27	94.77
25	94.94	94.88	94.62	94.81	94.51	94.60	94.14	94.24	94.24	94.30	94.41	94.84
26	95.05	95.04	94.45	94.92	94.15	94.34	94.38	94.24	94.09	94.18	94.50	94.64
27	95.36	94.92	94.26	94.92	94.12	94.42	94.48	94.28	93.91	94.11	94.62	94.23
28	95.67	95.16	94.23	94.80	94.48	94.45	93.82	94.27	94.04	94.06	94.72	94.62
29	95.64	95.05	94.39	94.73	---	94.21	93.96	94.19	94.30	94.05	94.64	94.78
30	95.64	94.84	94.58	94.88	---	94.26	93.99	94.05	94.34	94.10	94.71	94.76
31	95.49	---	94.66	94.84	---	94.35	---	93.82	---	94.19	94.85	---
MEAN	95.48	95.13	94.80	94.69	94.59	94.48	94.33	94.20	94.14	94.16	94.49	94.57
MAX	95.98	95.43	95.23	94.97	95.01	94.81	94.74	94.60	94.58	94.34	94.85	94.84
MIN	94.94	94.84	94.23	94.35	94.12	94.13	93.82	93.71	93.71	94.00	94.21	94.23



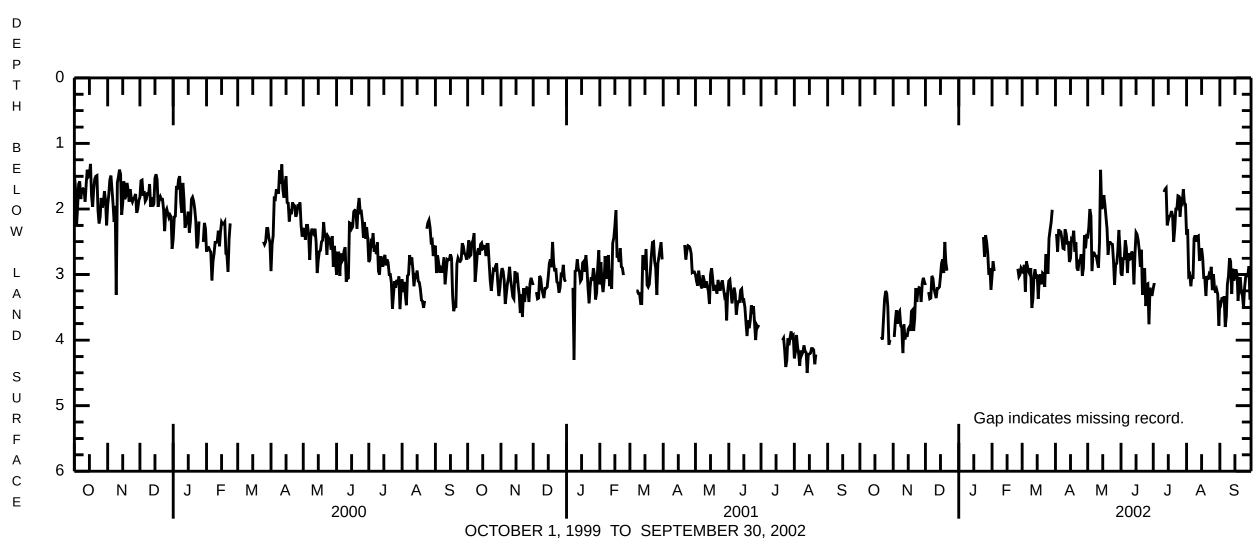
MERCER COUNTY

412350080223701. Local number, MR 1364.

LOCATION.--Lat 41°23'50", long 80°22'37", Hydrologic Unit 05030102, at Greenville.
Owner: Borough of Greenville.
AQUIFER.--Sandstone of Cussewago Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 235 ft, cased to 41 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 965 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood cover, 2.26 ft above land-surface datum.
REMARKS.--Water levels after Sept. 25, 1998 affected by Pymatuning earthquake (magnitude 5.2). Water levels affected by intermittent pumping.
PERIOD OF RECORD.--March 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, 0.25 ft below land-surface datum, Apr. 17, 1998; lowest, 8.31 ft below land-surface datum, Feb. 12, 1967.
EXTREMES FOR CURRENT YEAR.--Highest water level, 1.02 ft below land-surface datum, May 13; lowest, 4.24 ft below land-surface datum, Nov. 10.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	3.16	---	3.02	2.93	---	2.42	2.98	3.21	2.39	3.40
2	---	3.95	---	---	2.80	2.98	2.38	2.29	3.02	3.13	2.31	3.44
3	---	3.71	---	---	2.95	2.85	2.65	2.00	2.76	---	3.02	3.35
4	---	3.54	3.27	---	---	3.26	2.31	2.11	2.76	---	3.00	3.42
5	---	3.75	3.37	---	---	2.80	2.35	2.95	2.48	---	3.18	3.33
6	---	3.59	3.36	---	---	2.88	2.35	2.67	2.60	---	3.01	3.80
7	---	3.56	3.02	---	---	2.95	2.46	2.67	2.98	---	3.07	3.64
8	---	3.78	3.06	---	---	2.99	2.60	2.71	2.67	---	2.45	3.15
9	---	3.81	3.22	---	---	2.90	2.61	2.72	2.77	---	2.40	3.02
10	---	4.20	3.29	---	---	3.51	2.31	2.81	2.76	---	2.50	2.75
11	---	3.76	3.36	---	---	3.37	2.38	2.90	2.65	1.74	2.42	2.80
12	---	3.99	3.21	---	---	3.03	2.54	2.50	2.70	1.70	2.41	3.30
13	---	3.90	3.21	---	---	2.92	2.49	1.40	3.15	1.68	2.79	2.91
14	---	3.95	3.19	---	---	3.06	2.81	2.00	2.68	2.25	2.73	3.09
15	---	3.83	3.03	---	---	3.00	2.75	1.96	2.36	2.17	2.60	3.03
16	---	3.80	2.83	---	---	3.37	2.45	1.79	2.39	2.11	2.75	2.92
17	---	3.86	2.77	---	---	3.04	2.46	1.93	2.48	2.10	3.05	3.00
18	---	3.56	2.98	---	---	3.00	2.33	2.12	2.63	2.03	3.05	3.40
19	---	3.54	2.50	---	---	3.15	2.65	2.30	2.88	2.10	3.33	3.08
20	---	3.86	2.82	---	---	2.98	2.51	2.70	2.62	2.50	3.02	3.04
21	3.95	3.67	2.94	---	---	3.00	2.90	2.51	3.31	2.30	3.08	3.27
22	3.99	3.21	---	---	---	3.19	2.94	2.51	3.04	2.00	3.00	3.32
23	3.67	3.42	---	---	---	2.71	2.79	2.53	2.90	2.00	3.03	3.50
24	3.37	3.25	---	2.43	---	2.71	2.78	2.54	3.48	1.80	2.88	3.20
25	3.25	3.20	---	2.73	2.91	2.99	2.69	2.79	3.15	1.81	3.24	3.04
26	3.29	3.21	---	2.40	3.03	2.45	3.02	3.16	3.14	2.12	2.99	3.02
27	3.49	3.42	---	2.51	3.00	2.32	2.90	2.85	3.76	1.87	3.20	3.02
28	4.07	3.14	---	2.68	2.90	2.20	2.40	2.83	3.20	1.90	3.28	2.87
29	4.00	3.05	---	3.00	---	2.01	2.60	2.65	3.31	1.70	3.23	3.38
30	---	3.11	---	2.90	---	---	2.41	2.32	3.31	1.91	3.30	2.90
31	---	---	---	3.23	---	---	---	2.60	---	1.93	3.78	---
MEAN	3.68	3.61	3.08	2.73	2.94	2.92	2.58	2.46	2.90	2.09	2.92	3.18
MAX	4.07	4.20	3.37	3.23	3.03	3.51	3.02	3.16	3.76	3.21	3.78	3.80
MIN	3.25	3.05	2.50	2.40	2.80	2.01	2.31	1.40	2.36	1.68	2.31	2.75



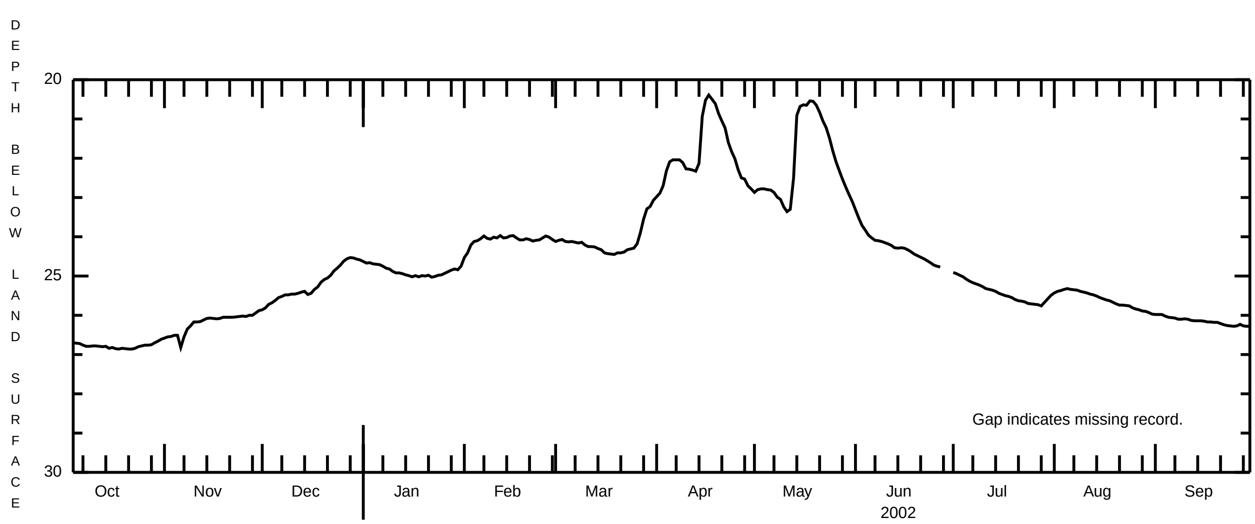
MERCER COUNTY

412739080104201. Local number, MR 3306.

LOCATION.--Lat 41°27'39", long 80°10'42", Hydrologic Unit 05010003, at State Game Lands 270.
Owner: U.S. Geological Survey.
AQUIFER.--Cuyahoga Group, Mississippian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 120 ft, cased to 30 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,310 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.50 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--October 2001 to current year.
EXTREMES FOR CURRENT YEAR.--Highest water level, 20.37 ft below land-surface datum, Apr. 17; lowest, 27.64 ft below land-surface datum, Nov. 6.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	26.58	25.86	24.63	24.53	24.12	22.98	22.87	23.31	24.91	25.43	25.98
2	---	26.55	25.81	24.67	24.41	24.09	22.89	22.80	23.52	24.94	25.39	25.98
3	---	26.54	25.72	24.66	24.21	24.07	22.70	22.78	23.71	24.98	25.37	25.98
4	26.70	26.51	25.68	24.69	24.12	24.12	22.32	22.78	23.83	25.02	25.34	26.02
5	26.71	26.51	25.62	24.70	24.10	24.13	22.09	22.80	23.96	25.08	25.32	26.05
6	26.72	26.82	25.55	24.71	24.05	24.12	22.04	22.81	24.03	25.13	25.34	26.06
7	26.76	26.55	25.52	24.75	23.98	24.14	22.04	22.87	24.09	25.17	25.35	26.07
8	26.79	26.35	25.48	24.80	24.04	24.16	22.04	22.99	24.10	25.20	25.36	26.10
9	26.79	26.27	25.48	24.82	24.06	24.14	22.11	23.05	24.12	25.23	25.39	26.10
10	26.78	26.17	25.46	24.88	24.01	24.21	22.27	23.24	24.15	25.27	25.41	26.09
11	26.78	26.17	25.46	24.92	24.03	24.25	22.28	23.36	24.18	25.32	25.43	26.10
12	26.79	26.16	25.44	24.92	23.97	24.25	22.30	23.30	24.22	25.34	25.46	26.13
13	26.80	26.12	25.41	24.94	24.03	24.26	22.33	22.51	24.28	25.36	25.48	26.14
14	26.79	26.08	25.39	24.97	24.02	24.30	22.13	20.91	24.29	25.39	25.51	26.14
15	26.84	26.07	25.47	24.99	23.98	24.33	20.93	20.68	24.28	25.44	25.55	26.14
16	26.82	26.08	25.44	25.02	23.97	24.41	20.52	20.64	24.29	25.47	25.58	26.15
17	26.85	26.09	25.34	24.99	24.03	24.43	20.39	20.65	24.33	25.50	25.61	26.17
18	26.86	26.08	25.28	25.02	24.08	24.44	20.50	20.54	24.38	25.52	25.63	26.17
19	26.84	26.05	25.16	24.99	24.08	24.45	20.61	20.55	24.44	25.55	25.67	26.18
20	26.85	26.05	25.09	25.00	24.05	24.41	20.86	20.65	24.48	25.60	25.71	26.18
21	26.86	26.05	25.05	24.98	24.07	24.41	21.05	20.83	24.52	25.63	25.74	26.21
22	26.86	26.05	24.98	25.03	24.11	24.39	21.23	21.05	24.56	25.64	25.74	26.24
23	26.84	26.04	24.87	25.01	24.09	24.33	21.60	21.22	24.61	25.66	25.75	26.26
24	26.80	26.03	24.80	24.98	24.08	24.31	21.83	21.48	24.66	25.70	25.76	26.27
25	26.78	26.02	24.72	24.97	24.03	24.29	22.01	21.80	24.72	25.71	25.81	26.28
26	26.76	26.03	24.62	24.93	23.98	24.18	22.29	22.08	24.75	25.72	25.84	26.27
27	26.76	26.00	24.56	24.89	24.01	23.90	22.50	22.31	24.77	25.73	25.86	26.23
28	26.75	26.00	24.53	24.85	24.07	23.55	22.53	22.53	---	25.76	25.89	26.27
29	26.70	25.94	24.54	24.82	---	23.29	22.70	22.73	---	25.67	25.90	26.28
30	26.66	25.88	24.57	24.84	---	23.23	22.78	22.92	---	25.58	25.93	26.28
31	26.61	---	24.59	24.75	---	23.07	---	23.10	---	25.49	25.97	---
MEAN	26.78	26.19	25.21	24.87	24.08	24.12	21.89	22.09	24.24	25.41	25.60	26.15
MAX	26.86	26.82	25.86	25.03	24.53	24.45	22.98	23.36	24.77	25.76	25.97	26.28
MIN	26.61	25.88	24.53	24.63	23.97	23.07	20.39	20.54	23.31	24.91	25.32	25.98



OCTOBER 4, 2001 TO SEPTEMBER 30, 2002

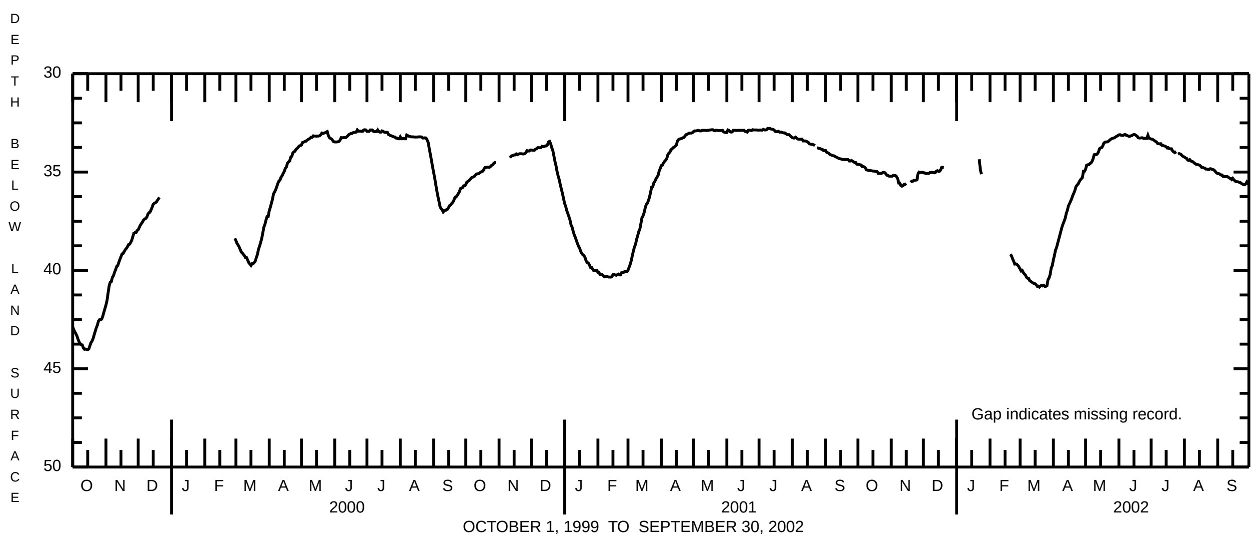
SOMERSET COUNTY

400008079142801. Local number, SO 2.

LOCATION.--Lat 40°00'04", long 79°14'22", Hydrologic Unit 05020006, at Laurel Hill State Park.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Shale and sandstone of Allegheny Group of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in. to 4 in., depth 450 ft, cased to 311 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 2,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.43 ft above land-surface datum.
REMARKS.--Water levels affected by intermittent pumping.
PERIOD OF RECORD.--April 1937 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.42 ft below land-surface datum, Apr. 9, 1980; lowest, 50.33 ft below land-surface datum, May 31, 1987 (affected by pumping of nearby well).
EXTREMES FOR CURRENT YEAR.--Highest water level, 33.07 ft below land-surface datum, May 15; lowest, 40.85 ft below land-surface datum, Mar. 19.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.61	35.21	35.04	---	---	39.93	39.46	34.85	33.11	33.32	34.24	35.08
2	34.62	35.21	35.04	---	---	40.03	39.24	34.65	33.10	33.33	34.28	35.08
3	34.63	35.17	35.07	---	---	40.00	38.97	34.63	33.13	33.36	34.30	35.11
4	34.64	35.18	35.07	---	---	40.11	38.83	34.63	33.13	33.40	34.39	35.15
5	34.72	35.18	35.07	---	---	40.18	38.62	34.57	33.14	33.44	34.41	35.15
6	34.72	35.23	35.07	---	---	40.24	38.42	34.54	33.10	33.47	34.37	35.22
7	34.74	35.33	35.03	---	---	40.35	38.21	34.46	33.09	33.55	34.44	35.23
8	34.80	35.56	35.03	---	---	40.40	38.00	34.32	33.14	33.56	34.46	35.23
9	34.89	35.56	35.01	---	---	40.41	37.80	34.12	33.15	33.57	34.48	35.23
10	34.90	35.69	35.02	---	---	40.53	37.64	34.11	33.18	33.56	34.54	35.23
11	34.92	35.72	35.04	---	---	40.56	37.50	34.12	33.19	33.64	34.57	35.27
12	34.92	35.70	35.03	---	---	40.60	37.35	34.07	33.16	33.65	34.61	35.31
13	34.93	35.63	34.96	---	---	40.64	37.11	33.98	33.15	33.67	34.62	35.33
14	34.94	35.63	34.93	---	---	40.67	36.95	33.81	33.11	33.68	34.63	35.38
15	34.95	35.58	34.96	---	---	40.68	36.72	33.77	33.09	33.72	34.65	35.32
16	34.95	---	34.96	---	---	40.73	36.61	33.76	33.10	33.78	34.69	35.39
17	34.96	---	34.90	---	---	40.81	36.49	33.67	33.14	33.76	34.76	35.45
18	34.98	---	34.76	---	---	40.80	36.36	33.53	33.18	33.81	34.76	35.49
19	34.98	35.52	34.76	---	---	40.85	36.20	33.48	33.26	33.82	34.79	35.49
20	35.07	35.47	34.77	---	39.18	40.79	36.08	33.47	33.27	33.82	34.80	35.50
21	35.07	35.47	---	---	39.26	40.76	35.94	33.47	33.27	33.93	34.85	35.52
22	35.07	35.42	---	34.35	39.41	40.79	35.75	33.45	33.26	33.98	34.85	35.53
23	35.07	35.42	---	34.88	39.53	40.76	35.67	33.40	33.26	33.98	34.87	35.58
24	35.03	35.41	---	35.11	39.68	40.81	35.61	33.35	33.29	34.07	34.87	35.61
25	35.01	35.40	---	---	39.67	40.81	35.50	33.31	33.29	---	34.83	35.64
26	35.03	35.08	---	---	39.69	40.78	35.41	33.29	33.29	34.09	34.84	35.65
27	35.09	35.00	---	---	39.75	40.48	35.34	33.27	33.29	34.06	34.87	35.61
28	35.16	35.02	---	---	39.83	40.38	35.28	33.26	33.13	34.08	34.88	35.51
29	35.17	35.02	---	---	---	40.21	34.97	33.21	33.28	34.11	34.92	35.59
30	35.21	35.01	---	---	---	39.88	34.96	33.18	33.30	34.18	34.99	35.61
31	35.21	---	---	---	---	39.75	---	33.15	---	34.21	35.05	---
MEAN	34.94	35.36	34.98	34.78	39.56	40.47	36.90	33.83	33.19	33.75	34.66	35.38
MAX	35.21	35.72	35.07	35.11	39.83	40.85	39.46	34.85	33.30	34.21	35.05	35.65
MIN	34.61	35.00	34.76	34.35	39.18	39.75	34.96	33.15	33.09	33.32	34.24	35.08



SOMERSET COUNTY

395920079021501. Local number, SO 854.

LOCATION.--Lat 39°59'20", long 79°02'15", Hydrologic Unit 05020006, at Somerset County Conservancy.
Owner: U.S. Geological Survey.
AQUIFER.--Allegheny Formation, Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 121 ft, cased to 42 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 2,280 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of instrument shelf, 1.50 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
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, 21.77 ft below land-surface datum, May 19, 2002; lowest, 25.45 ft below land-surface datum, Nov. 18, 24, 25, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 21.77 ft below land-surface datum, May 19; lowest, 25.45 ft below land-surface datum, Nov. 18, 24, 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**
MEAN VALUES

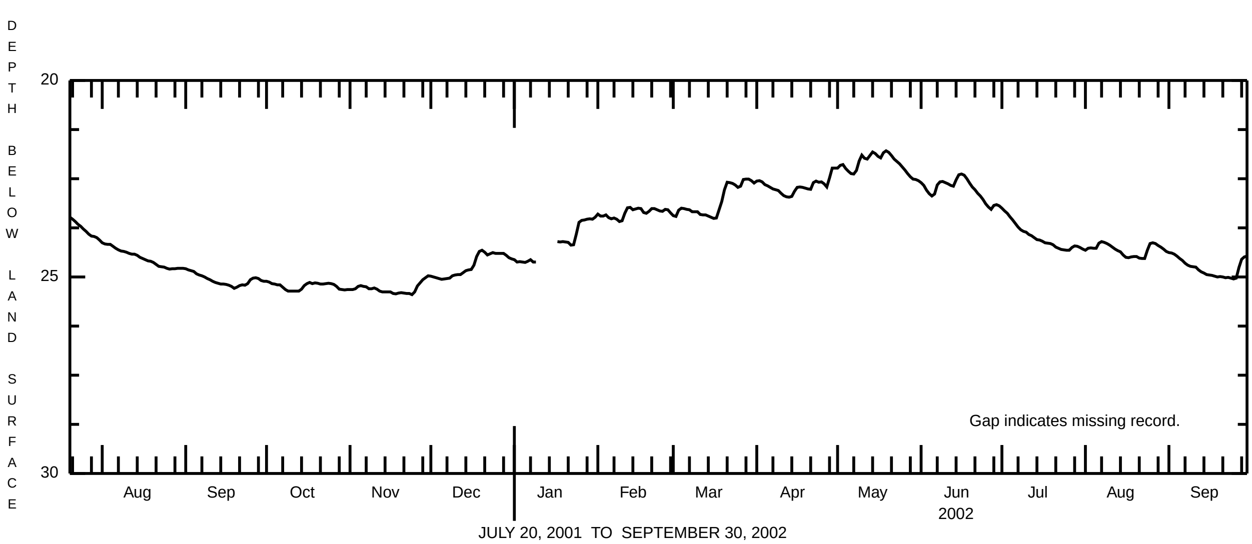
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	24.13	24.79
2	---	---	---	---	---	---	---	---	---	---	24.16	24.82
3	---	---	---	---	---	---	---	---	---	---	24.17	24.84
4	---	---	---	---	---	---	---	---	---	---	24.17	24.86
5	---	---	---	---	---	---	---	---	---	---	24.22	24.92
6	---	---	---	---	---	---	---	---	---	---	24.27	24.95
7	---	---	---	---	---	---	---	---	---	---	24.31	24.97
8	---	---	---	---	---	---	---	---	---	---	24.34	25.00
9	---	---	---	---	---	---	---	---	---	---	24.35	25.04
10	---	---	---	---	---	---	---	---	---	---	24.37	25.07
11	---	---	---	---	---	---	---	---	---	---	24.40	25.11
12	---	---	---	---	---	---	---	---	---	---	24.42	25.14
13	---	---	---	---	---	---	---	---	---	---	24.42	25.16
14	---	---	---	---	---	---	---	---	---	---	24.45	25.18
15	---	---	---	---	---	---	---	---	---	---	24.50	25.18
16	---	---	---	---	---	---	---	---	---	---	24.53	25.19
17	---	---	---	---	---	---	---	---	---	---	24.56	25.21
18	---	---	---	---	---	---	---	---	---	---	24.59	25.24
19	---	---	---	---	---	---	---	---	---	---	24.60	25.29
20	---	---	---	---	---	---	---	---	---	23.48	24.63	25.26
21	---	---	---	---	---	---	---	---	---	23.53	24.68	25.22
22	---	---	---	---	---	---	---	---	---	23.59	24.73	25.20
23	---	---	---	---	---	---	---	---	---	23.66	24.74	25.21
24	---	---	---	---	---	---	---	---	---	23.71	24.75	25.17
25	---	---	---	---	---	---	---	---	---	23.78	24.78	25.07
26	---	---	---	---	---	---	---	---	---	23.84	24.80	25.03
27	---	---	---	---	---	---	---	---	---	23.91	24.79	25.02
28	---	---	---	---	---	---	---	---	---	23.96	24.79	25.04
29	---	---	---	---	---	---	---	---	---	23.97	24.78	25.09
30	---	---	---	---	---	---	---	---	---	24.00	24.78	25.11
31	---	---	---	---	---	---	---	---	---	24.06	24.78	---
MEAN	---	---	---	---	---	---	---	---	---	23.79	24.52	25.08
MAX	---	---	---	---	---	---	---	---	---	24.06	24.80	25.29
MIN	---	---	---	---	---	---	---	---	---	23.48	24.13	24.79

SOMERSET COUNTY

395920079021501. Local number, SO 854--Continued.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002**
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.11	25.32	24.98	24.56	23.40	23.44	22.56	22.23	22.60	23.25	24.32	24.38
2	25.13	25.32	25.00	24.62	23.45	23.46	22.55	22.16	22.67	23.32	24.27	24.39
3	25.17	25.30	25.02	24.61	23.45	23.30	22.58	22.14	22.79	23.38	24.26	24.42
4	25.18	25.24	25.04	24.62	23.42	23.25	22.65	22.24	22.88	23.47	24.27	24.47
5	25.20	25.22	25.06	24.63	23.49	23.26	22.68	22.31	22.94	23.55	24.27	24.53
6	25.20	25.24	25.05	24.60	23.52	23.28	22.72	22.37	22.89	23.64	24.14	24.58
7	25.26	25.25	25.04	24.56	23.50	23.29	22.76	22.38	22.66	23.73	24.10	24.65
8	25.32	25.30	25.03	24.62	23.53	23.34	22.78	22.29	22.58	23.80	24.12	24.70
9	25.36	25.30	24.97	24.62	23.59	23.34	22.80	22.05	22.57	23.84	24.15	24.73
10	25.36	25.28	24.95	---	23.57	23.34	22.87	21.90	22.60	23.86	24.19	24.74
11	25.36	25.31	24.94	---	23.38	23.41	22.93	21.98	22.63	23.92	24.24	24.75
12	25.36	25.36	24.94	---	23.24	23.42	22.96	22.00	22.67	23.95	24.29	24.82
13	25.36	25.38	24.89	---	23.23	23.42	22.97	21.91	22.69	24.00	24.33	24.87
14	25.31	25.38	24.84	---	23.29	23.45	22.95	21.82	22.53	24.05	24.36	24.90
15	25.22	25.38	24.82	---	23.27	23.48	22.82	21.86	22.40	24.06	24.44	24.94
16	25.17	25.38	24.81	---	23.25	23.51	22.72	21.93	22.38	24.09	24.50	24.95
17	25.14	25.42	24.70	24.10	23.26	23.50	22.71	21.97	22.41	24.13	24.51	24.96
18	25.17	25.43	24.48	24.11	23.36	23.29	22.72	21.84	22.50	24.14	24.49	24.98
19	25.15	25.41	24.35	24.10	23.38	23.08	22.74	21.79	22.61	24.15	24.48	25.00
20	25.16	25.40	24.32	24.11	23.33	22.78	22.76	21.83	22.71	24.18	24.48	24.99
21	25.18	25.41	24.37	24.12	23.26	22.59	22.77	21.91	22.78	24.24	24.52	25.00
22	25.18	25.42	24.44	24.19	23.26	22.60	22.60	22.00	22.87	24.27	24.53	25.02
23	25.17	25.42	24.41	24.18	23.29	22.62	22.56	22.06	22.94	24.30	24.53	25.01
24	25.16	25.45	24.38	23.91	23.32	22.66	22.59	22.12	23.03	24.31	24.32	25.03
25	25.17	25.38	24.40	23.61	23.33	22.72	22.58	22.20	23.14	24.32	24.15	25.05
26	25.19	25.23	24.40	23.56	23.28	22.69	22.63	22.28	23.22	24.32	24.13	25.03
27	25.24	25.15	24.40	23.55	23.29	22.52	22.71	22.37	23.28	24.25	24.15	24.76
28	25.31	25.07	24.40	23.53	23.37	22.51	22.48	22.45	23.18	24.21	24.20	24.55
29	25.32	25.02	24.45	23.52	---	22.51	22.23	22.51	23.16	24.22	24.24	24.49
30	25.33	24.97	24.51	23.53	---	22.55	22.23	22.52	23.19	24.25	24.29	24.47
31	25.32	---	24.54	23.48	---	22.61	---	22.55	---	24.29	24.35	---
MEAN	25.23	25.30	24.71	24.13	23.37	23.07	22.69	22.13	22.78	23.98	24.31	24.77
MAX	25.36	25.45	25.06	24.63	23.59	23.51	22.97	22.55	23.28	24.32	24.53	25.05
MIN	25.11	24.97	24.32	23.48	23.23	22.51	22.23	21.79	22.38	23.25	24.10	24.38



VENANGO COUNTY

411958079540202. Local number, VE 57.

LOCATION.--Lat 41°19'58", long 79°54'02", Hydrologic Unit 05010003, at State Game Lands 39.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Venango Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 215 ft, cased to 9 ft.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,518 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of pipe on instrument shelf, 2.52 ft above land-surface datum.
REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels are available from the District Office.
PERIOD OF RECORD.--Aug. 1974 to Aug. 1977; June 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, 102.62 ft below land-surface datum, May 2, 1976; lowest, 120.40 ft below land-surface datum, Dec. 15, 16, 2001.
EXTREMES FOR CURRENT YEAR.--Highest water level, 105.80 ft below land-surface datum, June 2; lowest, 120.40 ft below land-surface datum, Dec. 15, 16.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001**
MEAN VALUES

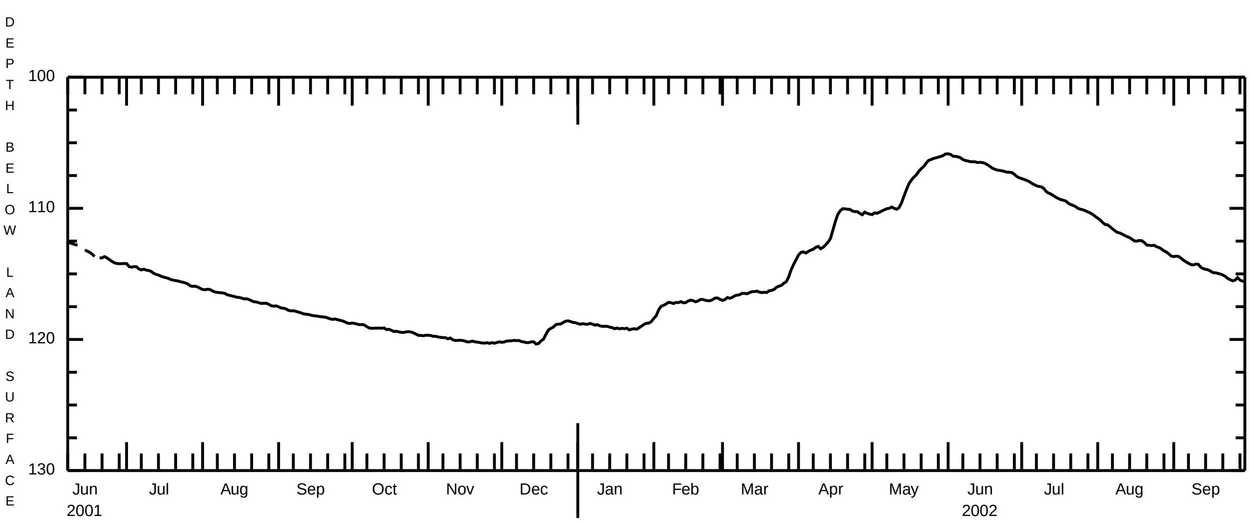
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	114.21	116.19	117.51
2	---	---	---	---	---	---	---	---	---	114.44	116.21	117.60
3	---	---	---	---	---	---	---	---	---	114.49	116.17	117.62
4	---	---	---	---	---	---	---	---	---	114.45	116.19	117.67
5	---	---	---	---	---	---	---	---	---	114.45	116.30	117.78
6	---	---	---	---	---	---	---	---	---	114.62	116.38	117.82
7	---	---	---	---	---	---	---	---	112.55	114.70	116.41	117.81
8	---	---	---	---	---	---	---	---	112.64	114.64	116.43	117.85
9	---	---	---	---	---	---	---	---	112.70	114.71	116.45	117.91
10	---	---	---	---	---	---	---	---	112.77	114.74	116.48	117.96
11	---	---	---	---	---	---	---	---	112.80	114.81	116.59	118.04
12	---	---	---	---	---	---	---	---	---	114.95	116.64	118.07
13	---	---	---	---	---	---	---	---	---	115.04	116.68	118.09
14	---	---	---	---	---	---	---	---	113.17	115.09	116.73	118.14
15	---	---	---	---	---	---	---	---	113.27	115.17	116.78	118.18
16	---	---	---	---	---	---	---	---	113.36	115.24	116.80	118.20
17	---	---	---	---	---	---	---	---	113.50	115.29	116.85	118.23
18	---	---	---	---	---	---	---	---	113.67	115.34	116.91	118.26
19	---	---	---	---	---	---	---	---	---	115.43	116.90	118.28
20	---	---	---	---	---	---	---	---	113.78	115.48	116.96	118.30
21	---	---	---	---	---	---	---	---	113.78	115.51	117.06	118.36
22	---	---	---	---	---	---	---	---	113.68	115.54	117.13	118.43
23	---	---	---	---	---	---	---	---	113.78	115.60	117.14	118.47
24	---	---	---	---	---	---	---	---	113.91	115.64	117.21	118.44
25	---	---	---	---	---	---	---	---	114.04	115.69	117.25	118.49
26	---	---	---	---	---	---	---	---	114.15	115.77	117.24	118.54
27	---	---	---	---	---	---	---	---	114.21	115.92	117.24	118.58
28	---	---	---	---	---	---	---	---	114.22	115.95	117.32	118.66
29	---	---	---	---	---	---	---	---	114.22	115.94	117.43	118.75
30	---	---	---	---	---	---	---	---	114.21	116.00	117.46	118.78
31	---	---	---	---	---	---	---	---	---	116.10	117.44	---
MEAN	---	---	---	---	---	---	---	---	113.54	115.19	116.81	118.16
MAX	---	---	---	---	---	---	---	---	114.22	116.10	117.46	118.78
MIN	---	---	---	---	---	---	---	---	112.55	114.21	116.17	117.51

VENANGO COUNTY

411958079540202. Local number, VE 57--Continued.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), **WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002**
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118.75	119.68	120.22	118.79	118.39	117.02	113.56	110.48	105.84	107.73	110.75	113.68
2	118.78	119.70	120.19	118.84	118.18	116.96	113.36	110.34	105.89	107.80	110.88	113.65
3	118.83	119.76	120.12	118.80	117.73	116.80	113.32	110.38	106.03	107.87	111.08	113.67
4	118.87	119.76	120.11	118.83	117.46	116.86	113.41	110.30	106.04	107.95	111.23	113.81
5	118.86	119.81	120.10	118.84	117.40	116.79	113.29	110.20	106.07	108.08	111.26	113.96
6	118.90	119.84	120.07	118.78	117.29	116.67	113.19	110.11	106.14	108.18	111.40	114.08
7	119.03	119.86	120.09	118.83	117.17	116.62	113.12	110.03	106.28	108.28	111.56	114.19
8	119.13	119.86	120.08	118.91	117.20	116.59	112.98	110.00	106.35	108.33	111.71	114.29
9	119.15	119.95	120.16	118.87	117.26	116.48	112.90	109.90	106.39	108.36	111.84	114.32
10	119.14	119.89	120.19	118.96	117.18	116.49	113.08	110.00	106.44	108.48	111.88	114.25
11	119.14	120.02	120.24	119.00	117.19	116.52	112.98	110.07	106.45	108.72	111.97	114.27
12	119.13	120.08	120.24	119.00	117.12	116.43	112.79	109.95	106.45	108.84	112.07	114.49
13	119.15	120.07	120.18	119.00	117.20	116.35	112.59	109.58	106.51	108.92	112.16	114.60
14	119.12	120.06	120.18	119.06	117.19	116.35	112.31	109.07	106.49	109.04	112.23	114.65
15	119.25	120.08	120.35	119.10	117.07	116.31	111.67	108.58	106.51	109.16	112.36	114.69
16	119.23	120.12	120.31	119.18	117.00	116.39	111.02	108.13	106.57	109.26	112.49	114.79
17	119.30	120.19	120.11	119.13	117.04	116.43	110.47	107.85	106.67	109.34	112.50	114.90
18	119.40	120.18	119.98	119.19	117.13	116.40	110.19	107.63	106.80	109.38	112.45	114.92
19	119.37	120.12	119.61	119.15	117.07	116.42	110.03	107.45	106.93	109.45	112.47	114.96
20	119.42	120.18	119.28	119.18	116.95	116.29	110.04	107.19	107.02	109.61	112.61	115.01
21	119.46	120.20	119.15	119.14	116.95	116.26	110.07	106.98	107.08	109.71	112.80	115.08
22	119.47	120.24	119.06	119.27	117.01	116.19	110.08	106.82	107.11	109.78	112.82	115.19
23	119.42	120.27	118.88	119.21	117.05	116.02	110.21	106.57	107.14	109.87	112.84	115.35
24	119.40	120.28	118.83	119.18	117.04	115.94	110.25	106.35	107.19	110.01	112.82	115.44
25	119.43	120.25	118.82	119.22	116.96	115.88	110.25	106.28	107.24	110.07	112.93	115.53
26	119.50	120.30	118.71	119.11	116.84	115.71	110.39	106.20	107.25	110.11	112.99	115.48
27	119.59	120.24	118.61	118.98	116.84	115.60	110.49	106.15	107.27	110.19	113.10	115.28
28	119.69	120.29	118.58	118.85	116.94	115.22	110.29	106.10	107.40	110.27	113.24	115.47
29	119.69	120.23	118.63	118.77	---	114.68	110.38	106.04	107.57	110.36	113.33	115.55
30	119.72	120.18	118.70	118.75	---	114.27	110.44	105.97	107.67	110.47	113.48	115.56
31	119.68	---	118.72	118.63	---	113.91	---	105.85	---	110.62	113.64	---
MEAN	119.26	120.06	119.63	118.99	117.21	116.16	111.64	108.28	106.69	109.17	112.29	114.70
MAX	119.72	120.30	120.35	119.27	118.39	117.02	113.56	110.48	107.67	110.62	113.64	115.56
MIN	118.75	119.68	118.58	118.63	116.84	113.91	110.03	105.85	105.84	107.73	110.75	113.65



JUNE 7, 2001 TO SEPTEMBER 30, 2002

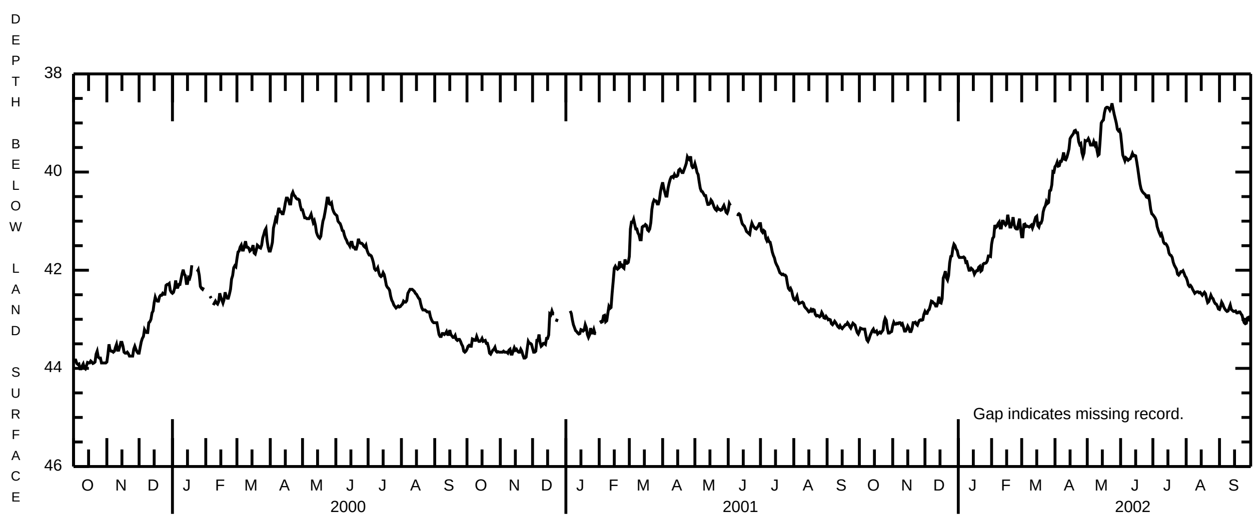
WARREN COUNTY

414159079213601. Local number, WR 50.

LOCATION.--Lat 41°41'59", long 79°21'36", Hydrologic Unit 05010003, at State Game Land Number 86.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Venango Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 105 ft, cased to 46 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,170 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.00 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 1987, are available from the District Office.
PERIOD OF RECORD.--August 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, 38.56 ft below land-surface datum, May 24, 2002; lowest, 45.42 ft below land-surface datum, Nov. 2, 1983.
EXTREMES FOR CURRENT YEAR.--Highest water level, 38.56 ft below land-surface datum, May 24; lowest, 43.45 ft below land-surface datum, Oct. 9.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.25	43.13	42.84	41.70	41.47	41.32	39.89	39.36	39.22	40.87	42.15	42.80
2	43.18	43.06	42.88	41.74	41.35	41.32	39.86	39.32	39.43	40.90	42.21	42.74
3	43.19	43.10	42.88	41.74	41.32	41.07	39.80	39.37	39.65	40.93	42.30	42.65
4	43.20	43.10	42.82	41.74	41.08	41.06	39.88	39.45	39.71	40.98	42.33	42.69
5	43.20	43.08	42.80	41.74	41.13	41.11	39.87	39.45	39.77	41.11	42.31	42.75
6	43.20	43.09	42.72	41.73	41.11	41.10	39.78	39.45	39.71	41.18	42.34	42.79
7	43.32	43.07	42.63	41.75	41.05	41.11	39.78	39.38	39.73	41.24	42.39	42.82
8	43.42	43.07	42.64	41.84	41.02	41.12	39.71	39.44	39.76	41.29	42.43	42.84
9	43.45	43.11	42.67	41.83	41.14	41.10	39.60	39.38	39.74	41.26	42.47	42.83
10	43.40	43.09	42.68	41.92	41.14	41.08	39.74	39.55	39.73	41.33	42.45	42.77
11	43.33	43.16	42.73	42.00	41.00	41.14	39.75	39.66	39.68	41.43	42.44	42.71
12	43.28	43.24	42.73	42.00	41.00	41.08	39.70	39.64	39.62	41.46	42.44	42.80
13	43.23	43.24	42.66	41.96	41.05	40.99	39.62	39.34	39.67	41.46	42.46	42.82
14	43.20	43.20	42.54	41.98	41.08	40.92	39.53	39.00	39.66	41.49	42.45	42.84
15	43.26	43.14	42.66	42.01	41.05	40.90	39.32	38.96	39.67	41.54	42.48	42.84
16	43.26	43.18	42.67	42.08	40.87	41.09	39.28	38.94	39.79	41.65	42.51	42.83
17	43.24	43.25	42.58	42.04	40.99	41.12	39.25	38.79	39.93	41.69	42.48	42.87
18	43.30	43.25	42.16	42.01	41.12	41.04	39.22	38.70	40.09	41.70	42.45	42.87
19	43.28	43.19	42.10	42.01	41.12	41.04	39.16	38.68	40.24	41.74	42.48	42.85
20	43.26	43.07	42.02	41.94	41.04	40.98	39.15	38.68	40.34	41.84	42.58	42.85
21	43.28	43.07	42.16	41.92	40.92	40.81	39.20	38.70	40.39	41.90	42.66	42.89
22	43.25	43.06	42.20	42.02	41.07	40.73	39.20	38.74	40.42	41.94	42.64	42.92
23	43.22	43.10	42.11	42.00	41.14	40.69	39.38	38.69	40.44	41.98	42.58	43.01
24	43.05	43.12	41.85	41.88	41.16	40.60	39.44	38.60	40.46	42.08	42.51	43.07
25	42.98	43.06	41.72	41.86	41.16	40.64	39.42	38.71	40.51	42.10	42.56	43.09
26	43.02	43.02	41.71	41.86	41.04	40.62	39.60	38.82	40.52	42.07	42.58	43.08
27	43.18	43.01	41.55	41.85	40.95	40.38	39.68	38.91	40.46	42.03	42.64	42.97
28	43.28	43.02	41.47	41.81	41.16	40.37	39.61	39.00	40.60	42.03	42.68	42.96
29	43.28	43.01	41.50	41.71	---	40.26	39.36	39.13	40.76	42.01	42.69	43.02
30	43.26	42.90	41.57	41.71	---	39.99	39.37	39.16	40.85	42.06	42.73	43.03
31	43.25	---	41.60	41.72	---	40.00	---	39.14	---	42.12	42.79	---
MEAN	43.24	43.11	42.32	41.87	41.10	40.86	39.54	39.10	40.02	41.59	42.49	42.87
MAX	43.45	43.25	42.88	42.08	41.47	41.32	39.89	39.66	40.85	42.12	42.79	43.09
MIN	42.98	42.90	41.47	41.70	40.87	39.99	39.15	38.60	39.22	40.87	42.15	42.65



OCTOBER 1, 1999 TO SEPTEMBER 30, 2002

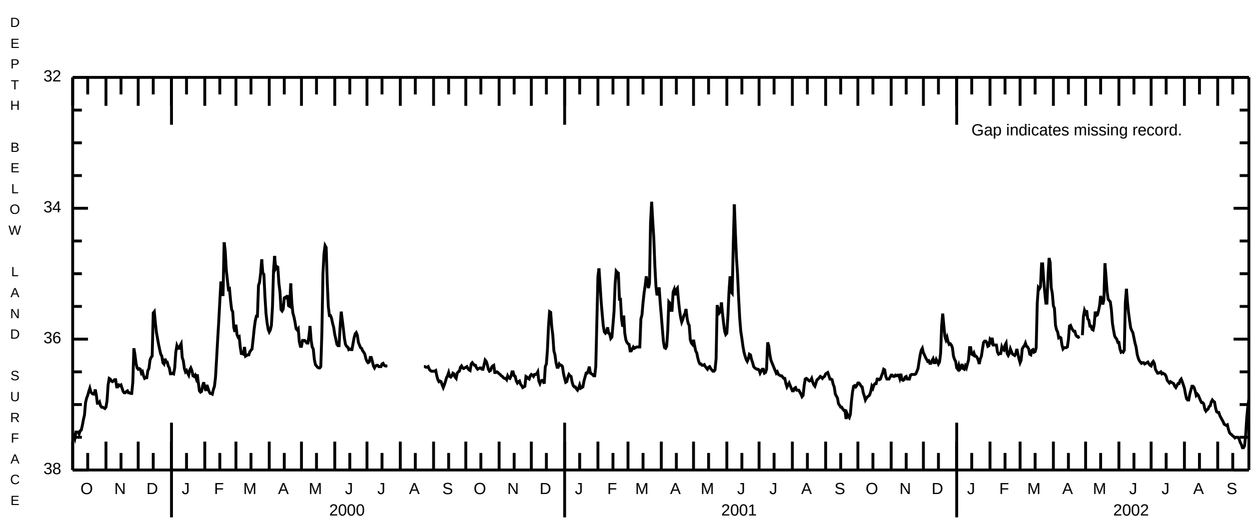
WASHINGTON COUNTY

400233080261301. Local number, WS 155.

LOCATION.--Lat 40°02'33", long 80°26'13", Hydrologic Unit 05030106, at State Game Land Number 245, near Good Intent.
Owner: U.S. Geological Survey.
AQUIFER.--Washington Formation of Early Permian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 160 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since Aug. 23, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,110 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.00 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 1987, are available from the District Office.
PERIOD OF RECORD.--July 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Prior to October 2000, the extremes shown were based on extremes of the daily maximum depth below land-surface datum. Since that date, the extremes are based on the instantaneous depth below land-surface datum.
Highest water level, 32.25 ft below land-surface datum, Jan. 14, 1974; lowest, 39.01 ft below land-surface datum, July 11, 1971.
EXTREMES FOR CURRENT YEAR.--Highest water level, 34.56 ft below land-surface datum, Mar. 21; lowest, 37.66 ft below land-surface datum, Sept. 24, 25.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.67	36.55	36.21	36.44	36.01	36.36	35.49	35.60	36.05	36.41	36.75	37.12
2	36.67	36.55	36.24	36.46	36.04	36.32	35.53	35.56	36.15	36.36	36.84	37.12
3	36.69	36.57	36.28	36.40	35.98	36.15	35.79	35.69	36.20	36.34	36.91	37.17
4	36.72	36.57	36.31	36.46	36.09	36.12	35.86	35.71	36.19	36.37	36.93	37.20
5	36.73	36.55	36.34	36.44	36.09	36.10	35.89	35.80	36.20	36.46	36.93	37.23
6	36.82	36.56	36.33	36.38	36.09	36.06	35.98	35.80	36.17	36.49	36.84	37.26
7	36.87	36.55	36.37	36.45	36.09	36.11	35.97	35.85	35.44	36.52	36.78	37.30
8	36.93	36.55	36.37	36.46	36.20	36.12	35.98	35.86	35.23	36.52	36.72	37.31
9	36.90	36.60	36.33	36.41	36.23	36.15	36.09	35.78	35.44	36.51	36.72	37.32
10	36.88	36.53	36.30	36.44	36.22	36.23	36.15	35.58	35.60	36.50	36.74	37.31
11	36.87	36.62	36.36	36.38	36.22	36.24	36.13	35.64	35.72	36.53	36.79	37.38
12	36.85	36.63	36.36	36.32	36.12	36.17	36.13	35.63	35.83	36.52	36.86	37.43
13	36.80	36.62	36.31	36.13	36.16	36.16	36.13	35.57	35.87	36.53	36.84	37.45
14	36.72	36.58	36.34	36.13	36.17	36.20	36.12	35.49	35.90	36.54	36.86	37.46
15	36.75	36.57	36.38	36.23	36.09	36.19	36.01	35.34	35.98	36.57	36.90	37.48
16	36.70	36.61	36.35	36.24	36.06	36.13	35.80	35.40	36.06	36.63	36.94	37.49
17	36.68	36.61	36.22	36.21	36.22	35.45	35.79	35.47	36.12	36.65	36.97	37.51
18	36.68	36.61	35.79	36.26	36.25	35.21	35.83	35.40	36.23	36.67	36.97	37.50
19	36.61	36.55	35.61	36.26	36.22	35.23	35.86	34.84	36.29	36.65	36.99	37.50
20	36.61	36.54	35.79	36.28	36.15	35.20	35.88	35.04	36.33	36.66	37.07	37.50
21	36.62	36.54	35.96	36.32	36.19	34.85	35.88	35.27	36.35	36.67	37.10	37.53
22	36.61	36.54	36.01	36.38	36.23	34.85	35.94	35.39	36.37	36.68	37.08	37.58
23	36.56	36.54	35.97	36.30	36.24	35.10	35.96	35.41	36.36	36.72	37.07	37.61
24	36.52	36.53	36.04	36.26	36.25	35.29	35.96	35.43	36.36	36.74	37.03	37.66
25	36.46	36.49	36.08	36.15	36.22	35.45	35.99	35.55	36.38	36.71	37.02	37.66
26	36.47	36.45	36.07	36.05	36.15	35.45	---	35.76	36.37	36.68	36.96	37.63
27	36.57	36.34	36.09	36.03	36.23	35.05	---	35.86	36.36	36.68	36.93	37.47
28	36.61	36.24	36.13	36.03	36.30	34.76	35.94	35.95	36.35	36.63	36.95	37.21
29	36.61	36.17	36.26	36.05	---	34.83	35.65	35.98	36.38	36.61	36.96	37.03
30	36.61	36.14	36.31	36.11	---	35.21	35.56	36.00	36.40	36.65	37.05	36.92
31	36.58	---	36.34	36.10	---	35.30	---	36.05	---	36.70	37.11	---
MEAN	36.69	36.52	36.19	36.28	36.16	35.68	35.90	35.60	36.09	36.58	36.92	37.38
MAX	36.93	36.63	36.38	36.46	36.30	36.36	36.15	36.05	36.40	36.74	37.11	37.66
MIN	36.46	36.14	35.61	36.03	35.98	34.76	35.49	34.84	35.23	36.34	36.72	36.92



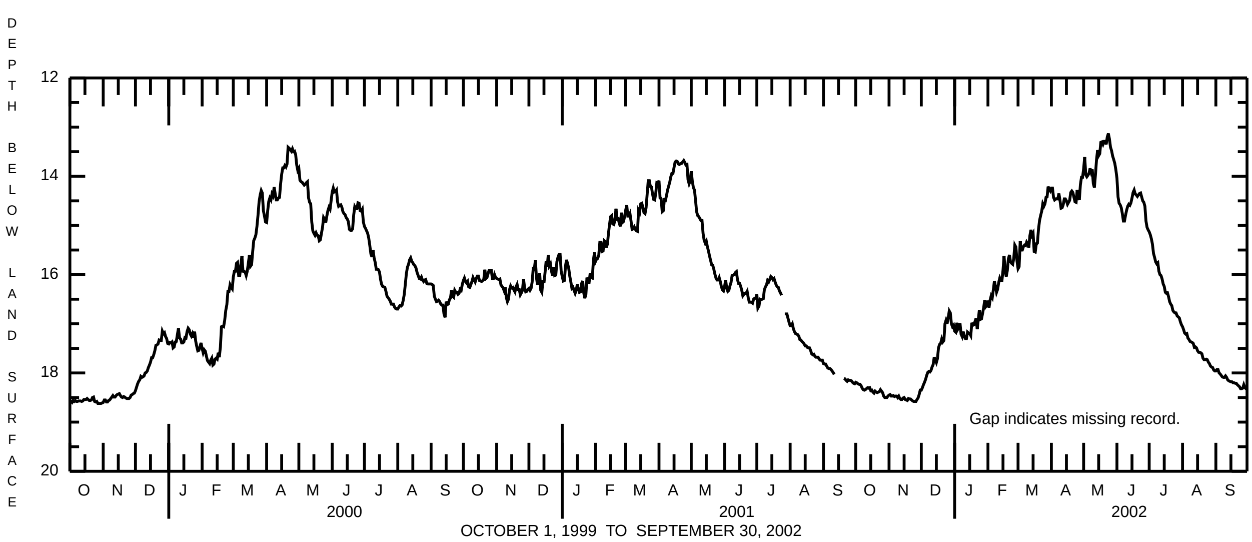
WESTMORELAND COUNTY

402138079031802. Local number, WE 300.

LOCATION.--Lat 40°21'38", long 79°03'18", Hydrologic Unit 05010007, at State Game Land Number 42.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Clarion Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 110 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Data collection platform with 60-minute recording interval since Sept. 19, 2001. Satellite telemetry at station.
DATUM.--Elevation of land-surface datum is 1,270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of metal cover, 3.02 ft above land-surface datum. Prior to Sept. 19, 2001, top of plywood cover, 3.05 ft above land-surface datum.
PERIOD OF RECORD.--February 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, 13.00 ft below land-surface datum, May 23, 24, 2002; lowest, 29.22 ft below land-surface datum, July 3, 1968.
EXTREMES FOR CURRENT YEAR.--Highest water level, 13.00 ft below land-surface datum, May 23, 24; lowest, 18.58 ft below land-surface datum, Nov. 24-26.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.19	18.45	18.35	17.15	16.53	15.88	14.24	13.85	14.04	15.13	17.06	17.96
2	18.20	18.44	18.30	17.17	16.67	15.84	14.24	13.61	14.42	15.19	17.12	17.93
3	18.22	18.47	18.24	16.98	16.52	15.32	14.43	13.97	14.55	15.27	17.19	17.93
4	18.23	18.47	18.19	17.11	16.43	15.50	14.48	14.01	14.58	15.38	17.21	18.00
5	18.23	18.46	18.13	17.07	16.47	15.50	14.46	13.98	14.64	15.57	17.20	18.02
6	18.26	18.48	18.05	16.99	16.31	15.43	14.46	13.94	14.76	15.65	17.29	18.05
7	18.31	18.47	17.99	17.21	16.13	15.40	14.46	13.84	14.91	15.74	17.32	18.08
8	18.34	18.47	17.97	17.26	16.24	15.41	14.35	13.92	14.91	15.78	17.36	18.09
9	18.35	18.50	17.98	17.16	16.36	15.34	14.49	13.86	14.79	15.76	17.37	18.09
10	18.34	18.47	17.95	17.26	16.30	15.38	14.65	14.15	14.69	15.93	17.38	18.06
11	18.32	18.52	17.88	17.30	16.16	15.45	14.64	14.23	14.61	16.00	17.40	18.09
12	18.30	18.54	17.83	17.30	16.07	15.21	14.58	13.97	14.57	16.02	17.48	18.14
13	18.31	18.54	17.68	17.17	16.12	15.09	14.46	13.66	14.59	16.09	17.47	18.16
14	18.30	18.51	17.74	17.19	16.12	15.20	14.46	13.47	14.54	16.19	17.49	18.17
15	18.36	18.50	17.79	17.20	15.91	15.16	14.50	13.58	14.44	16.24	17.55	18.18
16	18.35	18.54	17.71	17.24	15.62	15.53	14.57	13.54	14.33	16.36	17.58	18.18
17	18.39	18.55	17.49	16.98	15.93	15.54	14.53	13.31	14.28	16.38	17.58	18.20
18	18.41	18.56	17.42	17.03	16.04	15.37	14.49	13.30	14.36	16.37	17.59	18.20
19	18.37	18.52	17.40	17.02	15.92	15.36	14.33	13.35	14.38	16.45	17.61	18.21
20	18.39	18.53	17.31	16.95	15.68	15.08	14.30	13.29	14.41	16.55	17.70	18.21
21	18.40	18.53	17.37	16.89	15.60	14.90	14.33	13.29	14.38	16.60	17.73	18.24
22	18.39	18.55	17.34	17.11	15.74	14.80	14.43	13.35	14.35	16.63	17.73	18.26
23	18.38	18.57	17.00	16.92	15.77	14.71	14.52	13.20	14.34	16.73	17.72	18.28
24	18.34	18.58	16.93	16.72	15.79	14.56	14.53	13.13	14.42	16.76	17.73	18.32
25	18.37	18.58	17.00	16.91	15.67	14.61	14.28	13.24	14.50	16.78	17.78	18.32
26	18.40	18.58	16.88	16.90	15.40	14.56	14.42	13.41	14.53	16.78	17.81	18.31
27	18.47	18.54	16.74	16.79	15.44	14.43	14.48	13.48	14.61	16.84	17.86	18.24
28	18.50	18.51	16.78	16.67	15.72	14.42	14.17	13.59	14.91	16.86	17.88	18.30
29	18.50	18.44	17.00	16.52	---	14.21	14.02	13.66	15.04	16.88	17.89	18.32
30	18.50	18.35	17.06	16.65	---	14.27	14.02	13.74	15.09	16.96	17.94	18.32
31	18.47	---	17.03	16.62	---	14.30	---	13.87	---	17.02	17.96	---
MEAN	18.35	18.51	17.57	17.01	16.02	15.09	14.41	13.64	14.57	16.22	17.55	18.16
MAX	18.50	18.58	18.35	17.30	16.67	15.88	14.65	14.23	15.09	17.02	17.96	18.32
MIN	18.19	18.35	16.74	16.52	15.40	14.21	14.02	13.13	14.04	15.13	17.06	17.93



GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER

The following table contains water-quality data from wells sampled as part of a study of MTBE in ground water in Pennsylvania. The U.S. Geological Survey, in cooperation with the Pennsylvania Department of Environmental Protection, conducted the study. The wells were sampled for MTBE, a gasoline additive, BTEX compounds (benzene, toluene, ethyl benzene, and xylene), pH, specific conductance, and temperature. Samples were collected from 86 wells in four geologic settings, and in various land use settings, across the state. Other data for the project can be found in the annual Water Data Reports PA-02-1, and PA-02-2. For additional information, contact Steve McAuley at the U.S. Geological Survey, 1000 Church Hill Road, Pittsburgh, PA 15025; 412-490-3801 (email: smcauley@usgs.gov).

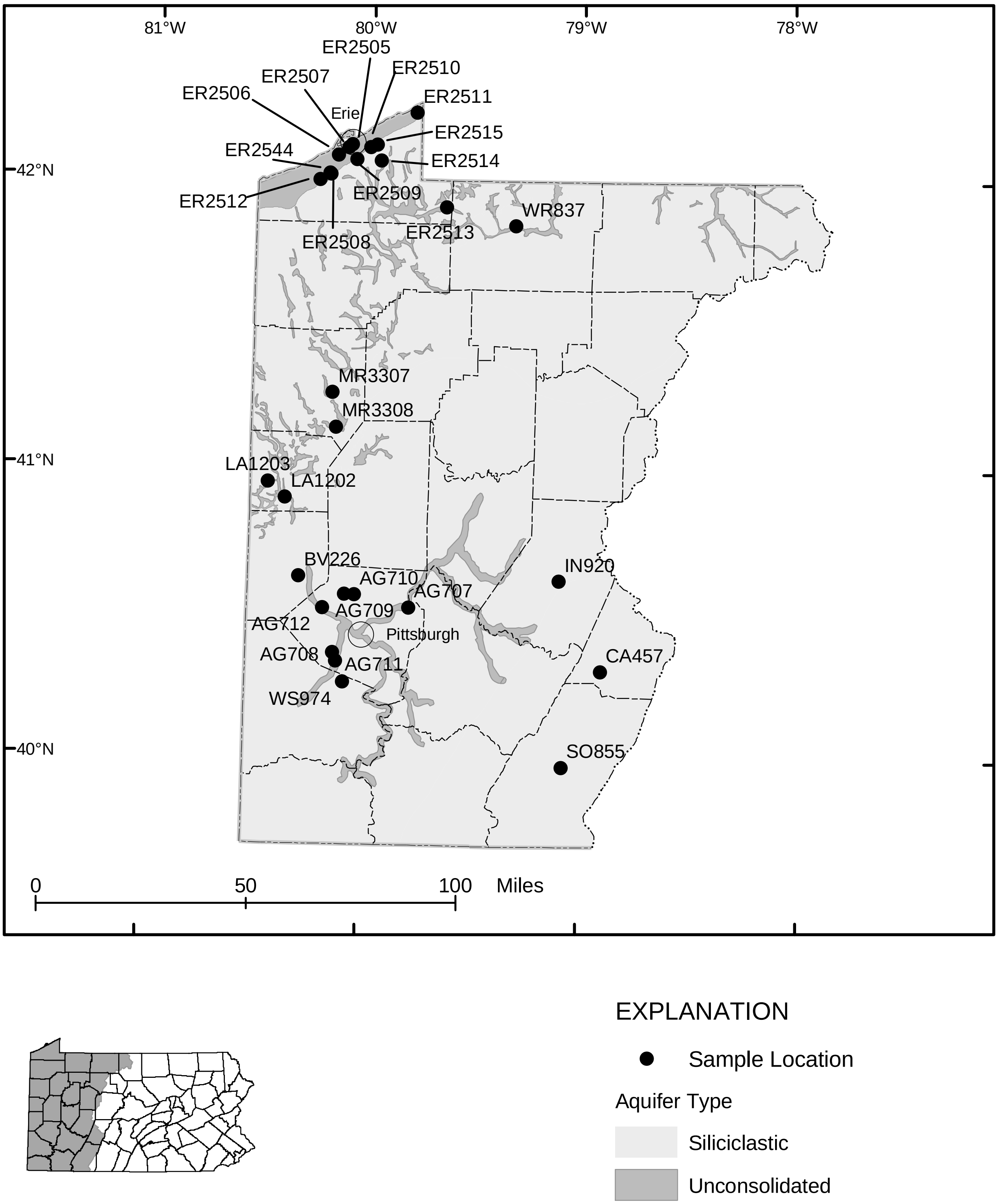


Figure 7.--Location of wells sampled as part of the MTBE in ground water project.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued

REMARKS.--Explanation of column headings--SITE IDENTIFIER: 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix; ELEVATION OF LAND SURFACE: land-surface at well site in feet above sea level; All samples taken while pumping the well; µS/CM: microsiemens per centimeter at 25 degrees Celsius; DEG C: degrees Celsius; µG/L: micrograms per liter; “<“ = less than; “E” = estimated. Quality-control data for a replicate sample are shown for Local Well Number AG 710 on August 20, 2001 at 1220.

WATER-QUALITY DATA, WATER YEARS OCTOBER 2000 TO SEPTEMBER 2002

SITE IDENTIFIER	LOCAL WELL NUMBER	DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	XYLENE WATER UNFLTRD REC (µG/L) (81551)
					ALLEGHENY COUNTY							
402056080064301	AG 711	08-23-01	1025	1028	80020	9.33	108	850	7.4	2250	14.5	<.2
402240080073001	AG 708	08-06-01	1530	1028	80020	45.00	80	860	7.2	3090	15.0	<.2
403154080103401	AG 712	02-14-02	1030	1028	80020	--	60	730	7.5	642	14.0	<.2
403212079465801	AG 707	07-23-01	1100	1028	80020	--	60	755	7.1	491	15.0	<.2
403441080015401	AG 710	08-20-01	1215	1028	80020	--	131	1200	8.2	1200	13.0	<.2
403441080015401	AG 710	08-20-01	1220	1028	80020	--	131	1200	--	--	--	<.2
403447080044101	AG 709	08-17-01	1140	1028	80020	12.90	185	1250	6.8	1280	14.0	<.2
					BEAVER COUNTY							
403816080172401	BV 226	08-16-01	1045	1028	80020	--	100	1010	8.7	535	14.0	<.2
					CAMBRIA COUNTY							
401929078540901	CA 457	10-25-01	0830	1028	80020	--	225	1750	7.2	580	12.0	<.2
					ERIE COUNTY							
415441079383101	ER 2513	10-30-01	0940	1028	80020	--	80	1680	7.6	272	13.0	<.2
415958080140701	ER 2512	08-27-01	1340	1028	80020	--	45	935	7.1	413	15.0	<.2
420106080110401	ER 2508	11-07-01	1030	1028	80020	33.25	43	990	7.7	426	12.0	<.2
420123080112201	ER 8544	08-27-01	1130	1028	80020	63.78	83.1	975	7.7	567	13.5	<.2
420405079570501	ER 2514	11-07-01	1730	1028	80020	4.60	20	1345	7.4	1390	13.0	<.2
420417080034901	ER 2509	11-07-01	1345	1028	80020	--	100	1045	7.7	482	13.0	<.2
420504080090301	ER 2505	08-28-01	0820	1028	80020	21.00	24	740	7.6	1360	12.5	<.2
420640080061101	ER 2507	10-09-01	1630	1028	80020	11.71	24.1	710	7.0	768	16.5	<.2
420646080000501	ER 2510	11-07-01	1610	1028	80020	--	25	970	7.4	763	12.0	<.2
420717080051301	ER 2506	10-09-01	1115	1028	80020	5.88	19.34	670	9.1	2610	13.0	E.3
420720079581501	ER 2515	11-02-01	1100	1028	80020	62.85	90	1140	8.1	813	13.0	<.2
421402079471401	ER 2511	11-08-01	0920	1028	80020	17.80	88	495	7.5	1330	11.5	<.2
					INDIANA COUNTY							
403802079054701	IN 920	10-30-01	1610	1028	80020	--	60	1350	8.4	369	13.0	<.2
					LAWRENCE COUNTY							
405423080213701	LA 1202	11-15-01	1600	1028	80020	29.44	79	830	6.8	570	13.0	<.2
405739080263001	LA 1203	11-15-01	1725	1028	80020	--	100	1020	8.8	883	11.5	<.2
					MERCER COUNTY							
410905080080101	MR 3308	11-15-01	1225	1028	80020	31.30	64.2	1280	6.9	626	11.5	<.2
411612080091501	MR 3307	11-15-01	1000	1028	80020	--	65	1250	7.4	1390	11.0	<.2
					SOMERSET COUNTY							
395946079043401	SO 855	10-18-01	1345	1028	80020	--	47	2110	4.8	87	12.5	<.2
					WARREN COUNTY							
415101079190301	WR 837	10-30-01	1150	1028	80020	--	51	1205	7.4	303	11.0	<.2
					WASHINGTON COUNTY							
401644080043701	WS 974	07-16-01	0850	1028	80020	--	55	990	7.3	1150	15.5	<.2

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2002

DATE	BENZENE 14BRFL-SURROG VOC UNFLTRD REC PERCENT (99834)	BENZENE TOTAL (µG/L) (34030)	ETHANE 12DICL SURROG VOC UNFLTRD REC PERCENT (99832)	ETHYL-BENZENE TOTAL (µG/L) (34371)	METHYL TERT-BUTYL ETHER WAT UNF REC (µG/L) (78032)	META/PARA-XYLENE WATER UNFLTRD REC (µG/L) (85795)	O-XYLENE WATER WHOLE TOTAL (µG/L) (77135)	TOLUENE D8 SURROG VOC UNFLTRD REC PERCENT (99833)	TOLUENE TOTAL (µG/L) (34010)	SET NUMBER VOC AN-ALYSIS (NO.) (99931)
ALLEGHENY COUNTY										
08-23-01	111	<.2	103	<.2	<.2	<.2	<.2	97.1	.2	2.01
08-06-01	79.6	<.2	115	<.2	<.2	<.2	<.2	98.6	<.2	7.01
02-14-02	97.3	<.2	103	<.2	<.2	<.2	<.2	100	<.2	6.02
07-23-01	95.5	<.2	103	<.2	<.2	<.2	<.2	101	<.2	7.01
08-20-01	110	<.2	99.2	<.2	<.2	<.2	<.2	96.9	<.2	2.01
08-20-01	108	<.2	94.9	<.2	<.2	<.2	<.2	102	<.2	2.01
08-17-01	114	<.2	102	<.2	E.1	<.2	<.2	101	<.2	2.01
BEAVER COUNTY										
08-16-01	111	<.2	99.2	<.2	<.2	<.2	<.2	97.1	<.2	2.01
CAMBRIA COUNTY										
10-25-01	97.0	<.2	117	<.2	<.2	<.2	<.2	105	<.2	6.01
ERIE COUNTY										
10-30-01	84.2	<.2	118	<.2	<.2	<.2	<.2	102	<.2	6.01
08-27-01	106	<.2	102	<.2	<.2	<.2	<.2	95.8	<.2	2.01
11-07-01	84.4	<.2	120	<.2	<.2	<.2	<.2	103	<.2	6.01
08-27-01	103	<.2	95.4	<.2	<.2	<.2	<.2	96.2	<.2	2.01
11-07-01	84.7	<.2	118	<.2	<.2	<.2	<.2	102	<.2	6.01
11-07-01	86.5	<.2	121	<.2	<.2	<.2	<.2	102	<.2	6.01
08-28-01	106	<.2	96.1	<.2	<.2	<.2	<.2	96.1	<.2	2.01
10-09-01	99.7	<.2	99.0	<.2	<.2	<.2	<.2	83.5	<.2	2.01
11-07-01	84.4	<.2	119	<.2	<.2	<.2	<.2	103	<.2	6.01
10-09-01	96.5	1.0	107	.1	E.2	E.2	.1	98.5	<.2	6.01
11-02-01	82.8	<.2	118	<.2	<.2	<.2	<.2	100	<.2	6.01
11-08-01	86.7	<.2	119	<.2	<.2	<.2	<.2	104	<.2	6.01
INDIANA COUNTY										
10-30-01	83.6	<.2	112	<.2	<.2	<.2	<.2	101	<.2	6.01
LAWRENCE COUNTY										
11-15-01	96.3	<.2	102	<.2	<.2	<.2	<.2	98.8	<.2	7.01
11-15-01	93.2	<.2	105	<.2	<.2	<.2	<.2	101	<.2	7.01
MERCER COUNTY										
11-15-01	98.3	<.2	105	<.2	<.2	<.2	<.2	99.6	<.2	7.01
11-15-01	96.3	<.2	99.9	<.2	<.2	<.2	<.2	99.2	<.2	7.01
SOMERSET COUNTY										
10-18-01	93.0	<.2	112	<.2	<.2	<.2	<.2	104	<.2	6.01
WARREN COUNTY										
10-30-01	95.6	<.2	123	<.2	<.2	<.2	<.2	106	<.2	6.01
WASHINGTON COUNTY										
07-16-01	90.3	<.2	91.0	<.2	<.2	<.2	<.2	101	<.2	5.01

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
STATEWIDE ASSESSMENT OF METHYL-TERT-BUTYL-ETHER (MTBE) IN GROUND WATER PROJECT--Continued

REMARKS.--The following are quality control samples (blanks) processed during 2001 water year and are defined in the explanation of records section entitled, “Water Quality-Control Data”; “<“ = less than.

QUALITY-CONTROL DATA, WATER YEARS **OCTOBER 2000 TO SEPTEMBER 2001**

SITE IDENTIFIER	LOCAL WELL NUMBER	DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	XYLENE WATER UNFLTRD REC (µG/L) (81551)	BENZENE 14BRFL- SURROG VOC UNFLTRD REC PERCENT (99834)	BENZENE TOTAL (µG/L) (34030)	ETHANE 12DICL SURROG VOC UNFLTRD REC PERCENT (99832)	ETHYL- BENZENE TOTAL (µG/L) (34371)	METHYL TERT- BUTYL ETHER WAT UNF REC (µG/L) (78032)	META/ PARA- XYLENE WATER UNFLTRD REC (µG/L) (85795)
402617080084200	PITTSBURGH OFFICE	07-17-01	1500	1028	80020	<.2	92.6	<.2	89.8	<.2	<.2	<.2
402617080084200	PITTSBURGH OFFICE	08-29-01	1400	1028	80020	<.2	110	<.2	98.5	<.2	<.2	<.2

DATE	O- XYLENE WATER WHOLE TOTAL (µG/L) (77135)	TOLUENE D8 SURROG VOC UNFLTRD REC PERCENT (99833)	TOLUENE TOTAL (µG/L) (34010)	BLANK, TYPE OF SAMPLE (C0DE) (99102)	SET NUMBER VOC AN- ALYSIS (NO.) (99931)
07-17-01	<.2	101	<.2	80	5.01
08-29-01	<.2	94.6	<.2	30	2.01

INDEX

INDEX--Continued

INDEX--Continued

INDEX--Continued