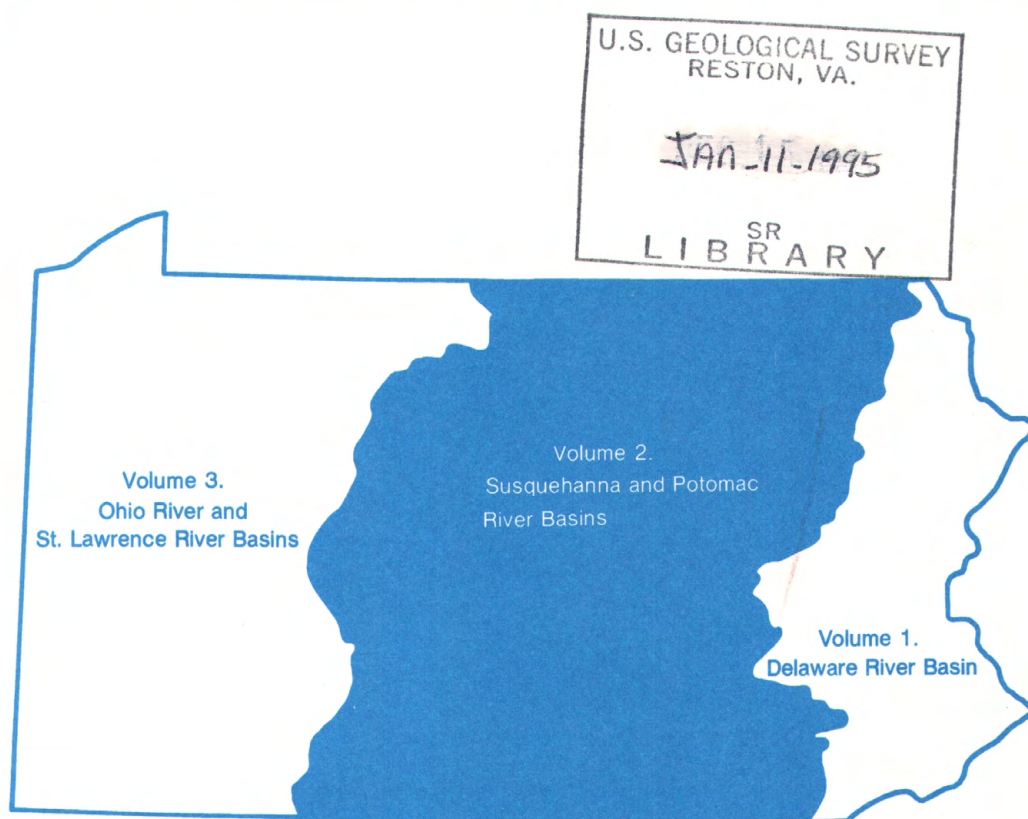


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Water Resources Data Pennsylvania Water Year 1993

Volume 2. Susquehanna and Potomac River Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-93-2
Prepared in cooperation with the Pennsylvania Department of
Environmental Resources, the U.S. Army Corps of Engineers,
Baltimore District, the Susquehanna River Basin Commission, and
with other State, municipal, and Federal agencies

CALENDAR FOR WATER YEAR 1993

1992

OCTOBER

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1993

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AUGUST

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29	30	31				

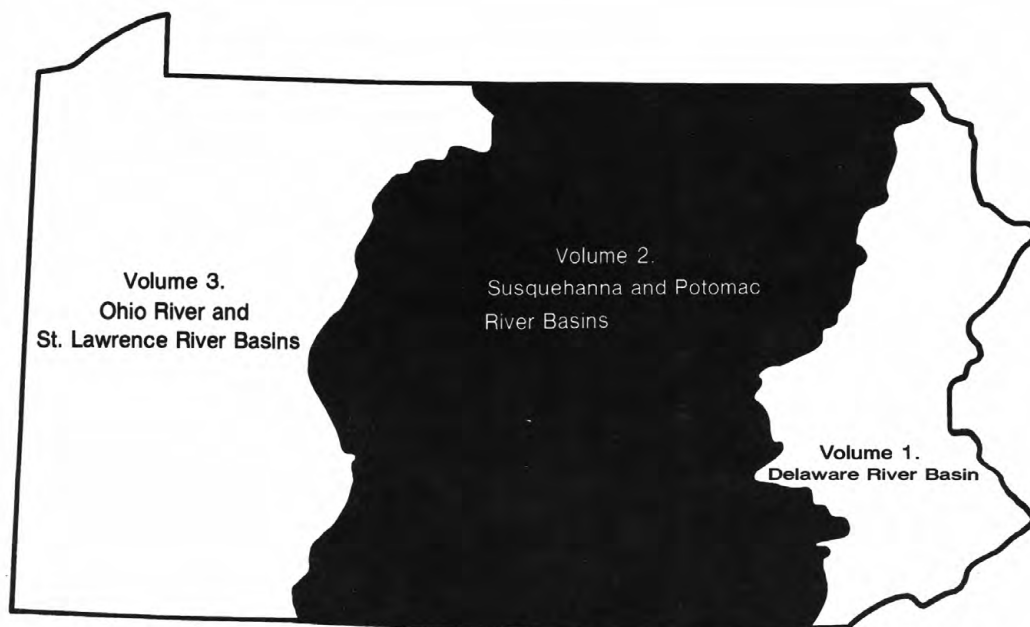
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26	27	28	29	30		



Water Resources Data Pennsylvania Water Year 1993

Volume 2. Susquehanna and Potomac River Basins
by R.R. Durlin and W.P. Schaffstall



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-93-2
Prepared in cooperation with the Pennsylvania Department of
Environmental Resources, the U.S. Army Corps of Engineers,
Baltimore District, the Susquehanna River Basin Commission, and
with other State, municipal, and Federal agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Gordon P. Eaton, Director

For additional information write to:
District Chief, Water Resources Division
U.S. Geological Survey
840 Market Street
Lemoyne, Pennsylvania 17043-1586

1994

PREFACE

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

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

Volume 2 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of David E. Click, District Chief, Pennsylvania District; Randall R. Durlin, Chief of the Hydrologic Surveillance Section, Lemoyne Subdistrict, and William P. Schaffstall, Chief, Williamsport Field Office. It is the culmination of a concerted 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 authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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50272 - 101

REPORT DOCUMENTATION PAGE		1. REPORT NO. USGS/WRD/HD-94/312	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data - Pennsylvania Water Year 1993 Volume 2, Susquehanna and Potomac River Basins			5. Report Date	
			6.	
7. Author(s) R.R. Durlin and W.P. Schaffstall			8. Performing Organization Rept. No. USGS-WDR-PA-93-2	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 840 Market Street Lemoyne, Pennsylvania 17043-1586			10. Project/Task/Work Unit No.	
			11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 840 Market Street Lemoyne, Pennsylvania 17043-1586			13. Type of Report & Period Covered Annual Oct. 1, 1992 to Sept. 30, 1993	
			14.	
15. Supplementary Notes Prepared in cooperation with the Commonwealth of Pennsylvania and other agencies.				
16. Abstract (Limit: 200 words) Water resources data for the 1993 water year for Pennsylvania consist of records of discharge and water quality of streams; contents and elevations of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, Volume 2, includes records from the Susquehanna and Potomac River Basins. Specifically, Volume 2 contains (1) discharge records for 97 continuous-record streamflow-gaging stations and 39 partial-record stations; (2) elevation and contents records for 13 lakes and reservoirs; and (3) water-level records for 25 observation wells. The location of these sites is shown in figures 6-8. Additional water data collected at various sites not involved in the systematic data-collection program are also presented. These data together with the data in Volumes 1 and 3, represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Pennsylvania.				
17. Document Analysis a. Descriptors *Pennsylvania, *Hydrologic data, *Ground water, *Surface water, *Water quality, Gaging stations, Streamflow, Flow rates, Lakes, Reservoirs, Chemical analysis, Sediments, Water temperature, Water analysis, Water levels, Water wells, Data-collection sites. b. Identifiers/Open-Ended terms c. COSATI Field/Group				
18. Availability Statement No restrictions on distribution. This report may be purchased from: National Technical Information Service Springfield, Va. 22161		19. Security Class (This Report) UNCLASSIFIED		21. No. of Pages 374
		20. Security Class (This Page) UNCLASSIFIED		22. Price

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[Letters after station name designates type of data: (d) discharge, (c) chemical, (t) water temperature, (sc) specific conductance (s) sediment, (e) elevation, gage heights, or contents, (r) radiochemical.]

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(Letter after local well number designates type of data: (1) water level, (c) chemical)

GROUND WATER RECORDS

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WATER RESOURCES DATA - PENNSYLVANIA, 1993

CHANGES TO THE BASIC DATA COLLECTION NETWORK FOR THE 1993 WATER YEAR

The following changes were made to the basic data collection network during the 1993 water year.

STREAMFLOW RECORDSDISCONTINUED STATIONS:

SUSQUEHANNA RIVER BASIN	COUNTY	DATA TYPE	DISCONTINUED DATE
01537000 Toby Creek at Luzerne	Luzerne	Daily discharge	9-30-93
01542000 Moshannon Creek at Osceola Mills	Clearfield	Daily discharge	9-30-93
01554500 Shamokin Creek near Shamokin	Northumberland	Daily discharge	9-30-93
01570010 U. Trib. to Trindle Spring Run, Site 1, near Mechanicsburg	Cumberland	Daily discharge Sediment samples	9-30-93 9-30-93
01570030 U. Trib. to Trindle Spring Run, Site 2, near Mechanicsburg	Cumberland	Daily discharge Sediment samples	9-30-93 9-30-93
01570060 U. Trib. to Trindle Spring Run, Site 3, near Mechanicsburg	Cumberland	Daily discharge Sediment samples	9-30-93 9-30-93
01570980 Paxton Creek near Linglestown	Dauphin	Chemical analyses	9-30-93
01570984 Paxton Creek trib. Site 1, near Linglestown	Dauphin	Chemical analyses	9-30-93
01570988 Storm-water Management Pond No. 1 near Linglestown	Dauphin	Chemical analyses	9-30-93
01570992 Storm-water Management Pond No. 2 near Paxtonia	Dauphin	Chemical analyses	9-30-93
01570996 Paxton Creek trib. Site 5, near Paxtonia	Dauphin	Chemical analyses	9-30-93

NEW STATIONS:

SUSQUEHANNA RIVER BASIN	COUNTY	DATA TYPE
01555400 East Mahantango Creek at Klingerstown	Schuylkill	Daily discharge Daily temperature Daily conductance Chemical analyses
01559795 Bobs Creek near Pavia	Bedford	Daily discharge Chemical analyses
01564997 Kishacoquillas Creek at Lumber City	Mifflin	Daily discharge Chemical analyses
01570010 Unnamed trib. to Trindle Spring Run Site 1, near Mechanicsburg	Cumberland	Daily discharge Sediment samples
01570030 Unnamed trib. to Trindle Spring Run Site 2, near Mechanicsburg	Cumberland	Daily discharge Sediment samples
01570060 Unnamed trib. to Trindle Spring Run Site 3, near Mechanicsburg	Cumberland	Daily discharge Sediment samples
01571490 Cedar Run at Eberlys Mill	Cumberland	Daily discharge Daily temperature Daily conductance Chemical analyses
01573095 Bachman Run at Annville	Lebanon	Daily discharge Chemical analyses
01576520 Muddy Run at Weavertown	Lancaster	Daily discharge Chemical analyses
01576540 Mill Cr. at Eshelman Mill Road near Lyndon	Lancaster	Daily discharge Daily temperature Daily conductance Chemical analyses
01576787 Pequea Creek at Martic Forge	Lancaster	Daily discharge Chemical analyses
01577300 Muddy Creek at Muddy Creek Forks	York	Daily discharge Chemical analyses

WATER RESOURCES DATA - PENNSYLVANIA, 1993

CHANGES TO THE BASIC DATA COLLECTION NETWORK FOR THE 1993 WATER YEAR--Continued

NEW PARTIAL-RECORD STATIONS:

	<u>COUNTY</u>	<u>DATA TYPE</u>
POTOMAC RIVER BASIN		
01603500 Evitts Creek near Centerville	Bedford	Flow measurements
01614110 Unnamed tributary to Conococheague Creek at Fayetteville	Franklin	Chemical analyses
01614130 Falling Spring at Chambersburg	Franklin	Chemical analyses
01614350 Welsh Run at Welsh Run	Franklin	Chemical analyses

GROUND-WATER RECORDS**DISCONTINUED GROUND-WATER STATIONS:**

CLEARFIELD COUNTY	Coal Hydrology Sludge Project stations (water-quality)
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DISCONTINUED MISCELLANEOUS GROUND-WATER SITES:

LANCASTER, CHESTER COUNTIES	Pequea-Mill Creek GIS Project (water-quality)
LANCASTER COUNTY	Mill Creek Project (water-quality)

NEW MISCELLANEOUS GROUND-WATER SITES:

Miscellaneous data (water-level and water-quality) for the Susquehanna and Potomac River Basins for the NAWQA projects has been collected in the following counties: Dauphin, Franklin, Juniata, Lancaster, Lebanon, Northumberland, Perry, Schuylkill, Snyder, and York.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water discharge stations (listed by river basin in alphabetical order by stream name) have been discontinued. Daily streamflow records were collected and published for the period of record shown for each station. Those stations with an asterisk (*) after the station number are currently operated as partial-record stations. 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 surface-water discharge stations

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN			
Anna S mine discharge #1 near Antrim	01548416	mine discharge	1978-81
Antes Creek near Jersey Shore	01549755	53.3	1974-77
Applémans Run above Light Street	01539200	1.72	1972-74
Applémans Run below Light Street	01539210	1.99	1972-74
Aughwick Creek near Orbisonia	01564000	174	1930-38
Bald Eagle Creek near Fawn Grove	01577400	.43	1986-89
Beck Creek near Cleona	01573086	7.87	1963-81
Blockhouse Creek at Buttonwood	01549300	22.3	1973-77
Blockhouse Creek tributary at Liberty	01549100	1.08	1973-77
Bowery Run near Quarryville	01578400	5.98	1963-81
Bradley Run near Ashville	01541308	6.77	1968-80
Brush Creek at Gapsville	01561000	36.8	1930-58
Brush Run, Site 2, near McSherrystown	01573810	.38	1985-91
Butler Creek at Gibson	01533800	7.38	1974-79
Cocolamus Creek near Millerstown	01566500	57.2	1931-58
Codorus Creek at Pleasureville	01575585	267	1985-90
Conodoguinet Creek tributary No. 1 near Enola	01570100	.77	1969-76
Conodoguinet Creek tributary No. 2 near Enola	01570200	.76	1969-76
Conodoguinet Creek tributary No. 2A near Enola	01570230	.70	1969-76
Conodoguinet Creek tributary No. 2B near Enola	01570260	.65	1969-76
Conodoguinet Creek tributary No. 3 near Enola	01570300	.38	1969-76
Crooked Creek at Tioga	01518500	122	1954-74
Dunning Creek at Yount	01560500	191	1930-39
East Branch Chillisquaue Creek near Washingtonville	01553600	9.48	1960-78
East Branch Codorus Creek tributary near Winterstown	01574800	5.17	1969-75
Elk Run near Mainesburg	01517000	10.2	1955-78
Fishing Creek at Bloomsburg	01540000	355	1914-28
Grafius Run at Williamsport	01551000	3.14	1940-53
Great Trough Creek near Marklesburg	01562500	84.6	1930-57
Hunter Drift discharge near Antrim	01548418	mine discharge	1978-81
Kishacoquillas Creek at Reedsville	01565000*	164	1940-70, 1984-85
Lackawanna River at Moosic	01535500	264	1914-28
Larrys Creek at Cogan House	01549780	6.80	1961-78

WATER RESOURCES DATA - PENNSYLVANIA, 1993
 DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
Little Conestoga Creek, Site 3A, near Morgantown	0157608335	1.42	1984-91
Little Fishing Creek at Eysers Grove	01539500	56.5	1941-58
Little Juniata River at Tipton	01556500	93.7	1946-62
Little Juniata River near Tyrone	01557000	101	1940-45
Little Lost Creek at Oakland Mills	01565700	6.52	1964-81
Little Nescopeck Creek tributary near Freeland	01538510	mine discharge	1974-79
Lower Little Swatara Creek at Pine Grove	01572000	34.3	1920-32, 1981-84
Manada Creek at Manada Gap	01573500	13.5	1938-58
Middle Br. Wyalusing Creek trib. near Birchardsville	01532850	5.67	1965-79
Mitchell Mine discharge #2 near Antrim	01548413	mine discharge	1978-81
Muddy Creek at Castle Fin	01577500	133	1929-38, 1968-71
Nescopeck Creek near St. Johns	01538500	49.0	1920-26
North Bald Eagle Creek at Milesburg	01546000	119	1911-28, 1934
North Branch Mehoopany Creek near Lovelton	01533500	35.2	1941-58
N. Branch Sugar Creek trib. near Columbia Crossroads	01531250	8.83	1963-68
North Fork Beech Creek near Snow Shoe	01547770	20.8	1969-70
Paxton Creek near Penbrook	01571000‡	11.2	1940-50, 1985-89
Pequea Creek at Martic Forge	01576787†	148	1977-81
Pequea Creek tributary near Mt. Nebo	01576788	0.20	1979-86
Pine Creek near Waterville	01549000	750	1909-20
Raystown Branch Juniata River near Huntingdon	01563000a	957	1947-71
Sand Spring Run near White Deer	01553130	4.93	1968-81
Schell Run at Tyrone	01557100	1.68	1958-62
Shaver Creek near Petersburg	01558500	46.4	1930-38
Solomon Creek at Wilkes-Barre	01537500	15.7	1940-90
South Branch Tunkhannock Creek near Montdale	01533950	12.6	1961-78
South Fork Beech Creek near Snow Shoe	01547800	12.2	1969-81
Spring Creek near Bellefonte	01547000	136	1911-19
Standing Stone Creek near Huntingdon	01559500	128	1930-58
Steam Valley Run at Buttonwood	01549350	5.34	1973-77
Stony Creek above Pump-storage Reservoir near Dauphin	01568700	11.5	1974-80
Stony Creek at Water Tank Trail near Dauphin	01568750	21.9	1974-76, 1985-86
Stony Creek near Dauphin	01569000	33.2	1938-45, 1967-74
Sulphur Springs Creek near Manns Choice	01559700	5.28	1962-78

‡ Operated since October 1991 as a continuous-record discharge station and water-quality site.

† Reestablished as a continuous-record station and published in this volume.

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

WATER RESOURCES DATA - PENNSYLVANIA, 1993

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
Susquehanna River near McCall's Ferry	01577000	26800	1904-11
Swarr Run near Landisville	01576697	8.67	1985-89
Swatara Creek above highway bridge 895 at Pine Grove	01571919	72.6	1982-84
Swatara Creek below Ravine	01571827	46.3	1985-87
Swatara Creek near Suedberg	01572030	124	1985-87
Trexler Run near Ringtown	01540200	1.77	1963-81
Tuscarora Creek near Port Royal	01566000*	214	1911-58
White Deer Creek above Sand Spring Run near White Deer	01553120	17.8	1968-73
White Deer Creek near White Deer	01553140	40.0	1968-73
Wilson Creek above Sand Run near Antrim	01548408	12.6	1978-82
POTOMAC RIVER BASIN			
Conococheague Creek near Fayetteville	01614090	5.05	1961-81
Evitts Creek near Centerville	01603500*	30.2	1933-82
Licking Creek near Sylvan	01613500*	158	1930-41
Wills Creek below Hyndman	01601000	146	1951-67

WATER RESOURCES DATA - PENNSYLVANIA, 1993

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following continuous-record water-quality stations (listed in alphabetical order by stream name) 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. Stations with an asterisk (*) after the station number are currently operated as partial-record stations. Information regarding these stations may be obtained from the District Office at the address given on the back of the title page of this report.

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

Discontinued continuous-record water-quality stations

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN				
Applemans Run above Light Street	01539200	1.72	Turb, Sed	1972-74
Applemans Run below Light Street	01539210	1.99	Turb, Sed	1972-74
Bald Eagle Creek at Blanchard	01547500	339	Temp ^c Temp ^a Temp ^a Sed	1957 1967-81 1982-85 1956-58
Bald Eagle Creek below Spring Creek at Mylesburg	01547200	265	Temp ^c Temp ^c Sed	1956-58 1967-68 1956-58
Bald Eagle Creek near Mylesburg	01547400	296	Temp ^a	1967-90
Basswood Run near Antrim	01548417	.57	Sed	1978-80
Beech Creek at Monument	01547950	152	SC ^a pH ^a Temp ^a DO ^a	1969-80 1976-78
Bixler Run near Loysville	01567500	15.0	Temp ^c Temp ^c Sed	1957-62 1963-65 1954-71
Blockhouse Creek at Buttonwood	01549300	22.3	Temp ^a Turb, Sed	1973-77 1973-77
Blockhouse Creek near English Center	01549500	37.7	Temp ^a Turb, Sed	1973-77 1973-77
Blockhouse Creek tributary at Liberty	01549100	1.08	Temp ^a Turb, Sed	1973-77 1973-77
Conestoga River at Lancaster	01576500	324	SC Temp Sed	1948-50, 1964-70, 1974-75 1948-50, 1959-70, 1974-75 1974-75
Conodoguinet Creek tributary No. 1 near Enola	01570100	.77	Turb Sed	1972-75 1969-76
Conodoguinet Creek tributary No. 2 near Enola	01570200	.76	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 2A near Enola	01570230	.70	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 2B near Enola	01570260	.65	Turb Sed	1973-75 1973-76
Conodoguinet Creek tributary No. 3 near Enola	01570300	.38	Turb Sed	1972-75 1969-76
Corey Creek near Mainesburg	01516500	12.2	Temp ^c Temp Sed	1960-61 1959, 1962 1954-67 ^b

^a Max, Min, Mean values.

^b Most years.

^c Max, Min values.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Discontinued continuous-record water-quality stations--Continued

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN				
Cowanesque River near Lawrenceville	01520000	298	Temp ^a	1972-86
Elk Run near Mainesburg	01517000	10.2	Temp ^c Temp Sed	1958-59 1957, 1960-62 1955-67
Fishing Creek near Bloomsburg	01539000	274	Sed	1967-69
Juniata River at Huntingdon	01559000	816	Temp	1948-51 1981-86 ^b
Lackawanna River at Old Forge	01536000	332	Temp	1949-51
Lower Little Swatara Creek at Pine Grove	01572000	34.3	SC Temp, Sed	1981, 1983-84 1981-84
Marsh Creek at Blanchard	01547700	44.1	Temp Sed	1957 1956-58
R. Br. Juniata R. below Rays. Dam near Huntingdon	01563200	960	Temp ^a	1978-86 ^b
Raystown Branch Juniata River near Huntingdon	01563000	957	Temp	1947-50
Shamokin Creek near Shamokin	01554500	54.2	Temp	1959-61
Sherman Creek at Shermans Dale	01568000	200	Temp ^c	1954-56
Steam Valley Run at Buttonwood	01549350	5.34	Temp ^a Turb, Sed	1973-77 1973-77
Stony Creek at Water Tank Trail near Dauphin	01568750	21.9	Temp ^c	1974-76
Susquehanna River at Danville	01540500*	11220	SC Temp Sed	1946-52 1963-76 ^b 1948-53, 1957-70, 1975-76 1974-76
Susquehanna River at Falls	01534090	9440	SC Temp	1945-51 1947-53
Susquehanna River at Harrisburg	01570500*	24100	SC, ^a pH, ^a Temp, ^a DO ^a Sed	1974-79 1964-81 ^b
Susquehanna River at Towanda	01531500*	7797	Sed	1951-54
Swatara Creek above Hwy bridge 895 at Pine Grove	01571919	72.6	SC Temp Sed	1983-84 1982-84 1982-84
Swatara Creek at Harper Tavern	01573000	337	SC Temp Sed	1977-79 1959-61, 1977-79 1959-60, 1977-79
Tioga River at Tioga Junction	01518700	446	SC, ^a pH, ^a Temp, ^a DO ^a	1977-88
Tioga River near Mansfield	01516350	153	SC, ^a pH, ^a Temp, ^a DO ^a	1977-88 ^b 1977-78

^a Max, Min, Mean values.^b Most years.^c Max, Min values.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Discontinued continuous-record water-quality stations--Continued

Station name	Station number	Drainage area ^a (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN				
West Branch Susquehanna River at Bower	01541000	315	Sed	1964-67
West Branch Susquehanna River at Lewisburg	01553500*	6847	SC, Temp	1944-53, ^b 1957-58, 1975-76
			Sed	1975-76
West Branch Susquehanna River at Lock Haven	01545800	3337	SC	1946-51, 1959, 1964-72
			pH Temp	1963-72 1946-51, 1958-72
West Branch Susquehanna River at Renovo	01545500	2975	SC, ^a pH, ^a Temp ^a DO ^a	1967-88 ^b 1975-78
West Branch Susquehanna River at Williamsport	01551500	5682	SC, ^a pH, ^a Temp ^a	1980-88 ^b
Wilson Creek above Sand Run near Antrim	01548408	12.6	Sed	1978-82

^a Max, Min, Mean values.^b Most years.

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, the 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 River and St. Lawrence River Basins.

This report, Volume 2, specifically contains: (1) discharge records for 97 continuous-record streamflow-gaging stations, 39 partial-record stations, and 24 special study and miscellaneous streamflow sites; (2) elevation and contents records for 13 lakes and reservoirs; and (4) water-level records for 25 ground-water observation wells. Additional water data collected at various sites not involved in the systematic data-collection program are also 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-93-2." These water-data reports, beginning with the 1971 water year, are for sale as paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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, 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, the 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 U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, Colorado 80225.

Information for ordering specific reports may be obtained from the District Chief at the address given on the back of title page or by contacting the Scientific Publications and Information Section, telephone (717) 730-6916.

COOPERATION

The U.S. Geological Survey 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 also acknowledged in station descriptions. Organizations that assisted in collecting data for this report through cooperative agreement with the Survey are listed below.

The Commonwealth of Pennsylvania Department of Environmental Resources, Arthur A. Davis, Secretary, through the following:

- Office of Water Management, Caren E. Grotfelty, Deputy Secretary;
- Bureau of Water Supply and Community Health, Glenn E. Maurer, Director;
- Bureau of Water Quality Management, Daniel B. Drawbaugh, Director;
- Bureau of Land and Water Conservation, Michael Krempasky, Director;
- Office of Mineral Resources, Terry R. Fabian, Deputy Secretary;
- Bureau of Mining and Reclamation, Ernest F. Giovannitti, Director.
- Office of State Parks and Forestry, James R. Grace, Deputy Secretary;
- Bureau of Topographic and Geologic Survey, Donald M. Hoskins, Director;
- Office of Management and Technical Services, Peter J. Adams, Deputy Secretary;
- Bureau of Laboratories, Floyd D. Kefford, Director.

Susquehanna River Basin Commission, Paul O. Swartz, Executive Director.

University Area Joint Authority, David A. Allison, Chairman.

Letort Regional Authority, Kenwood E. Giffhorn, Executive Director.

City of Harrisburg, Stephen R. Reed, Mayor.

Federal Energy Regulatory Commission Licensees:
Susquehanna Electric Co.,
Safe Harbor Water Power Corp.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

The following Federal agencies assisted in the data-collection program by providing funds or services:

Corps of Engineers, U.S. Army, Baltimore District, in collecting records for 25 streamflow-gaging stations, 11 reservoir stations, and 4 crest-stage gages;

National Weather Service, NOAA, U.S. Department of Commerce;

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

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The Susquehanna River flows generally southward from its headwaters in southern New York to its mouth at Chesapeake Bay in Maryland. At the point where the river enters Maryland, it drains 27,215 mi² (square miles). Most of this drainage area, 20,962 mi², is in central Pennsylvania. Streams in the Susquehanna River basin drain parts of the Appalachian Plateau, Valley and Ridge, and Piedmont physiographic provinces.

Precipitation and Streamflow

During water year 1993, annual precipitation for the Susquehanna River basin in central Pennsylvania was about 116 percent of normal. Precipitation was above normal in all of the National Oceanic and Atmospheric Administration's (NOAA) Climatological Divisions and ranged from a high of 128 percent of normal in NOAA Division 4 in the southeastern part of the basin to a low of 108 percent of normal in NOAA Division 8 in the southwestern part of the basin. (See figs. 1 and 2 for locations of NOAA Divisions and graphs showing departures from normal precipitation, respectively). Throughout the basin, precipitation was below normal during October, May, June, and July. The greatest monthly deficiency was during May, when precipitation averaged 2.09 inches below normal. The largest local monthly deficiency was 2.48 inches or 64 percent below normal in NOAA Division 7 during May. These deficiencies were offset by above-normal precipitation during November, March, April, and September in all five NOAA Divisions in the basin. Precipitation was greatest during April and averaged 4.82 inches above normal for the five NOAA Divisions. Precipitation throughout the basin during April ranged from 3.69 to 5.44 inches above normal (fig. 2). The precipitation data shown in figure 2 are from NOAA (1992-93) and National Weather Service records.

In addition to showing NOAA Divisions, figure 1 also shows locations of five streamflow-gaging stations selected for use as indicators of streamflow conditions basinwide, and a graphical comparison of precipitation during April and July 1993 with the normals for those months. Figure 3 shows mean streamflow during April and July at the five stations. The figure also shows the 5th, 25th, 50th (median), 75th, and 95th percentiles and the outside and far-outside values of long-term streamflow during April and July at each station.

Streamflow was generally above normal during fall, winter, and spring, and below normal during summer. Monthly mean streamflow basinwide during October-December was above normal at four of the five indicator stations. Only streamflow at Raystown Branch Juniata River at Saxton, Pa. was slightly below normal during this period.

Above-normal precipitation basinwide during March and April resulted in new record maximum monthly mean streamflows. Of the five indicator stations, only the West Branch Susquehanna River at Bower, Pa. did not achieve a new maximum monthly mean during April. Streamflow at West Conewago Creek at Manchester, Pa. achieved a new maximum monthly mean streamflow during March and April.

Average daily streamflow during April from the Susquehanna River to the Chesapeake Bay was 246 billion gallons per day. This volume exceeded the previous record of 210 billion gallons per day set in June 1972 during Tropical Storm Agnes. During April, the Susquehanna River contributed 62 percent of all streamflow to Chesapeake Bay; normally the Susquehanna River contributes about 40 percent of this flow. As a result of the record streamflow, large amounts of nutrients and sediments were transported in the Susquehanna River.

Annual streamflows for the water year were greater than the 75th-percentile value for each of the five indicator stations except the Susquehanna River at Bower, Pa.

SURFACE-WATER QUALITY

Chemical analyses of stream-water samples collected at several sites in the Susquehanna River Basin during water year 1993 are included in this report. In this section of the Summary however, only analyses of water samples collected at USGS National Stream Quality Accounting Network (NASQAN) stations and Hydrologic Benchmark Network (HBMN) stations are discussed. At these stations physical and chemical properties and biological indicators of the water are determined on site. The samples are analyzed by the U.S. Geological Survey (USGS) District sediment laboratory in Lemoyne, Pennsylvania and by the USGS National Water Quality Laboratory (NWQL) in Denver, Colorado.

The NASQAN stations covered by this report are Susquehanna River at Danville, Pa. (station 01540500, pages 65-69, sampled quarterly), West Branch Susquehanna River at Lewisburg, Pa. (station 01553500, pages 110-114, sampled quarterly), Raystown Branch Juniata River at Saxton, Pa. (station 01562000, pages 144-146, sampled bimonthly), and Susquehanna River at Harrisburg, Pa. (station 01570500, pages 179-181, sampled bimonthly). The HBMN station is Young Womans Creek near Renovo, Pa. (station 01545600, pages 89-90, sampled quarterly). This stream is a tributary to the West Branch Susquehanna River.

The map displays the Susquehanna River watershed, divided into eight sub-drainages (1-8). Each sub-drainage is associated with a precipitation bar chart for August (A) and January (J) 1993. The charts show precipitation in inches, with a scale from 0 to 10. The map includes latitude (40°N to 42°N) and longitude (76°W to 79°W) coordinates, a scale bar (0-50 miles/km), and labels for Williamsport, Harrisburg, and the West Branch and Juniata rivers. Precipitation data is shown for August (A) and January (J) 1993 at various gauging stations.

Sub-drainage	Gauging Station	August 1993 (inches)	January 1993 (inches)
1	01531500	~3.0	~3.5
2	01536500	~3.0	~3.5
3	01540500	~3.0	~4.0
4	01574000	~3.0	~3.5
5	01540500	~3.0	~4.0
6	01541000	~3.0	~4.0
7	01541000	~3.0	~4.0
8	01562000	~3.0	~4.0

PENNSYLVANIA

BASIN LOCATION

-  NORMAL PRECIPITATION, IN INCHES
 MONTHLY PRECIPITATION, IN INCHES
 A APRIL 1993
 J JULY 1993
 NOAA CLIMATOLOGICAL DIVISION BOUNDARY
 BASIN BOUNDARY
 01574000  STREAMFLOW-GAGING STATION AND NUMBER

Figure 1. Comparison of April 1993 and July 1993 precipitation with normal April and July precipitation near five streamflow-gaging stations in NOAA Climatological Divisions 4-8.

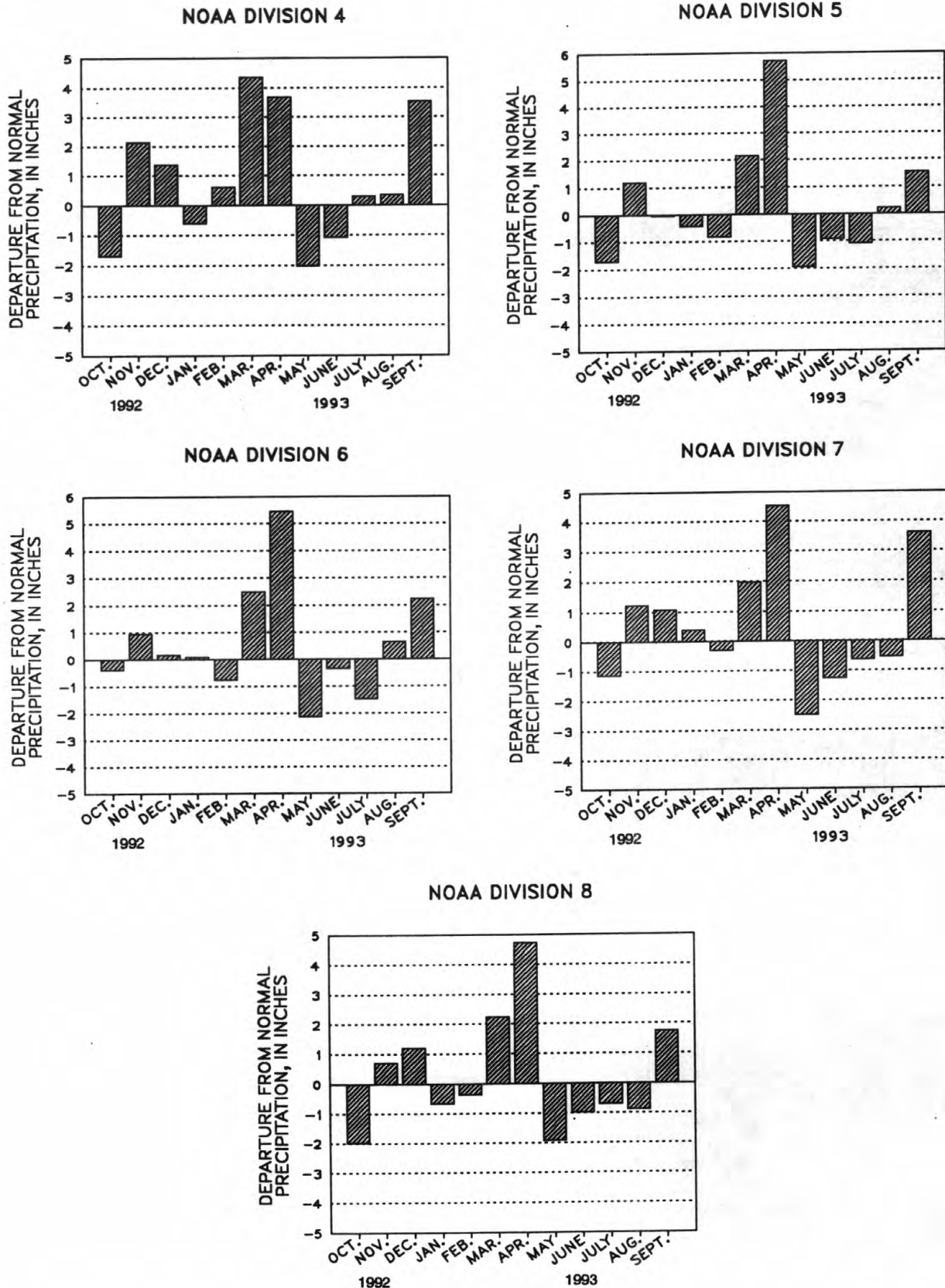


Figure 2. Departures from normal precipitation by NOAA Divisions in the Susquehanna River Basin for the 1993 water year.

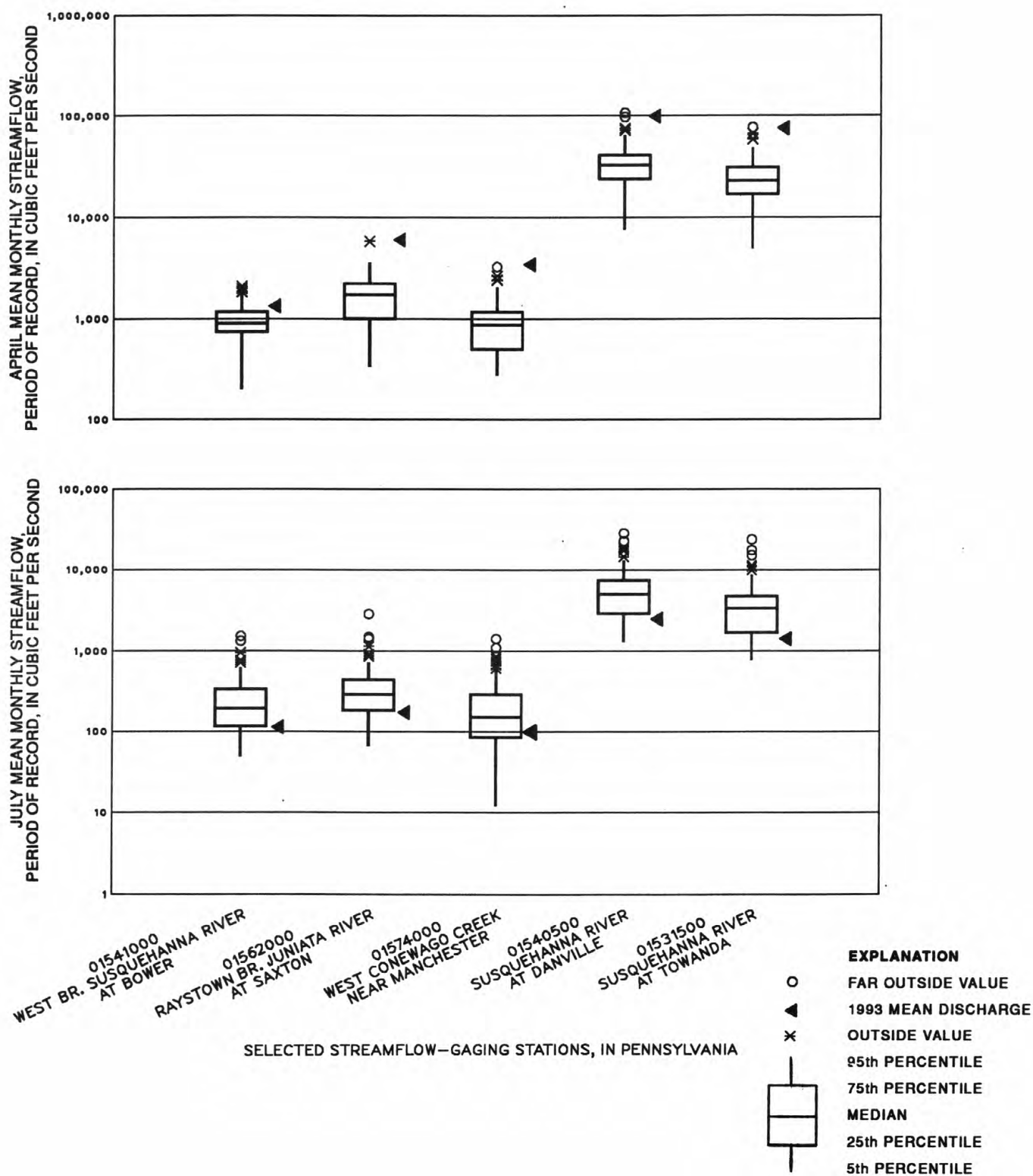


Figure 3. Range of streamflow for the period of record for April and July compared to the April 1993 and July 1993 mean streamflow at five selected streamflow-gaging stations.

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This section of the Summary describes the chemical quality of stream water in the Susquehanna River Basin during water year 1993, considering general quality and three categories of chemical constituents of local and regional concern. These categories are trace metals, nutrients, and radionuclides. Particular reference is made to the difference in stream-water quality between streams in basins significantly affected by human activity (monitored by NASQAN stations) and streams in basins relatively unaffected by human activity (monitored by the HBMN station). When used in computations, concentrations of chemical constituents reported by the NWQL as less than the Minimum Reporting Level (MRL), established by the NWQL for each constituent, were set equal to one-half the value of the MRL for that constituent.

In water samples from the HBMN station, phosphorus, orthophosphate phosphorus, lithium, beryllium, vanadium, chromium, molybdenum, cobalt, copper, silver, cadmium, lead, arsenic, selenium, gross-alpha radioactivity, natural uranium, and radium-228, in the dissolved phase, and total ammonia nitrogen, total phosphorus, total gross-alpha radioactivity, and total gross-beta radioactivity, in the suspended phase, were present at concentrations less than the MRL for these constituents. Nitrite nitrogen, fluoride, nickel, and zinc were present in the dissolved phase at concentrations greater than the MRL for these constituents in only one water sample each; and in all the water samples from this station, aluminum was present in the dissolved phase at a concentration about equal to the MRL. In water samples from the NASQAN stations, vanadium, molybdenum, silver, and selenium were present in the dissolved phase at concentrations less than the MRL for those constituents. Cobalt was present in the dissolved phase at concentrations greater than the MRL in water samples from West Branch Susquehanna River at Lewisburg only; and in all the water samples from that station, aluminum was present in the dissolved phase at concentrations about equal to the MRL. In water samples from both the HBMN and NASQAN stations, nitrite nitrogen was present in the dissolved phase at concentrations generally greater than the MRL during the period November to April, and generally less than the MRL during the period May to October; while fluoride and lithium were present in the dissolved phase at concentrations generally less than the MRL for those constituents during the period November to April, and generally greater than the MRL for those constituents during the period May to October. No analyzed constituent concentration exceeded the Maximum Contaminant Level (MCL) for that constituent in drinking water, mandated by the U.S. Environmental Protection Agency (U.S. Environmental Protection Agency, 1993), in any of the stream-water samples collected by the USGS at any of these stations during water year 1993.

Table 1 shows, by station, the discharge-weighted mean values of selected physical and chemical properties and chemical constituent concentrations for these stream-water samples. Except for iron, the minimum mean concentrations and values of all other constituents and properties listed in table 1 consistently were found in water from Young Womans Creek near Renovo. During water year 1993, water from this stream had a mean specific conductance about 0.2 times the mean specific conductance of water from the West Branch Susquehanna River at Lewisburg, and using turbidity as a measure, was some 32 times clearer than water from the Susquehanna River at Harrisburg. The mean pH shows that water from Young Womans Creek near Renovo was slightly acidic, that water from West Branch Susquehanna River at Lewisburg was slightly alkaline, and water from Susquehanna River at Harrisburg more alkaline. These chemical indicators imply a general increase in the ion content of the water with distance downstream; however, the ratio of mean hardness to mean alkalinity was greatest at West Branch Susquehanna River at Lewisburg. Except for iron, the maximum mean concentrations of trace metals listed in table 1 were from West Branch Susquehanna River. Four times more strontium, 127 times more manganese, 3 times more cobalt, and 20 times more nickel were in samples from West Branch Susquehanna River at Lewisburg than those in Young Womans Creek near Renovo. The mean concentration of iron, however, was lower in the West Branch Susquehanna River at Lewisburg than samples from all other stations. Also, mean sulfate concentration in samples from the West Branch Susquehanna River at Lewisburg was about 3 times greater than the mean concentration at the Susquehanna River at Danville or at Harrisburg, and about 7 times greater than the mean concentration at Young Womans Creek near Renovo.

The sum of mean total ammonia nitrogen concentration and mean dissolved nitrite plus nitrate concentration (table 1), which accounts for essentially all nitrogen in well-aerated water, was greatest for Raystown Branch Juniata River at Saxton. This sum was nearly 2 times as large as the mean sum for the other three NASQAN stations, and more than 6 times as large as the sum for the HBMN station. Based on computed means, dissolved phosphorus was present in water from all five stations at concentrations less than the MRL throughout the year; however, total phosphorus in water was present at all NASQAN stations at concentrations greater than the MRL, and was greatest for Susquehanna River at Harrisburg. Concentrations of nitrogen and phosphorus in water were greatest during the period November to April and least during the period May to October; though table 1 shows that phosphorus is primarily attached to particulate matter in suspension, and is more likely to be transported during large runoff events. As a consequence of record streamflows resulting from snowmelt from the Blizzard of March 1993 and spring rains, large quantities of sediments and nutrients were transported by the Susquehanna River to Chesapeake Bay. More than 4 times more suspended sediment and 2 times more nitrogen and phosphorus were transported by the river to the bay during spring 1993 than is normally transported during spring. Consequently, annual loads of suspended sediment, nitrogen, and phosphorus were 2.3, 1.3, and 1.2 times greater, respectively, than average annual loads in the river, resulting in reduced dissolved oxygen and water clarity in the bay (L.F. Zynjuk, USGS, written communication, 1994).

Table 1 shows that, for a stream-water sample collected during water year 1993 from Susquehanna River at Harrisburg, total gross-alpha radioactivity as natural uranium and dissolved gross-beta radioactivity as either strontium-90 or cesium-137 was 2 times greater in concentration or activity than radioactivity of stream-water samples collected from Young Womans Creek near Renovo. Dissolved natural uranium and total gross-beta radioactivity as either strontium-90 or cesium-137 was 4 times greater in concentration or activity for the same samples. Table 1 also shows that the alpha-emitters as natural uranium were found primarily attached to filterable particulate matter in suspension, and that the beta-emitters as strontium-90 and as cesium-137 were found mostly dissolved in solution.

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In summary, the difference in water quality between the HBMN station, which monitors a basin relatively uninfluenced by human activity, and the NASQAN stations, which monitor basins significantly affected by human activity, is striking. Except for iron, the minimum mean concentrations and values of all the other constituents and properties analyzed consistently were in water from the HBMN station. At NASQAN stations, water from West Branch Susquehanna River at Lewisburg contained some trace metals at concentrations significantly greater than concentrations in water from the other stations. Nutrient and radionuclide concentrations increased with distance downstream; and seasonal variation in the concentrations of nitrogen, phosphorus, fluoride, and lithium were noted. Phosphorus and the alpha-emitters were primarily sorbed to particulate matter in suspension, whereas some of the trace metals, nitrogen, and the beta-emitters were mostly dissolved in solution.

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA
 01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA
 01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA
 01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA
 01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA

Table 1.--Discharge-weighted mean values* of selected physical and chemical properties and constituent concentrations at five surface-water-quality stations in Pennsylvania, water year 1993.

STATION NUMBER	TUR- BID- ITY (NTU) (00076)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND- ARD UNITS) (00400)	HARD- NESS, TOTAL (MG/L AS CACO3) (00900)	ALKA- LITY WAT, WH TOT FET FIELD (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)
01540500	8.1	191	7.5	65	37	24	71	30	105	<3	1
01545600	.82	40	6.8	13	5	8.7	25	3	11	<3	<1
01553500	17	215	7.3	83	18	61	108	380	9	4	10
01562000	19	159	7.7	50	33	20	81	44	36	<3	3
01570500	26	148	7.5	53	25	24	65	89	40	<3	2

STATION NUMBER	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	GROSS ALPHA, SUSP. TOTAL (μ G/L AS U-NAT) (80040)	URANIUM NATURAL DIS- SOLVED (μ G/L AS U) (22703)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)
01540500	.27	.97	.042	<.010	--	--	--	--	--	--
01545600	<.20	.24	<.010	<.010	<.6	<.01	<.6	.9	<.6	.9
01553500	.40	.82	.053	<.010	--	--	--	--	--	--
01562000	.44	1.71	.044	<.010	--	--	--	--	--	--
01570500	.49	.98	.107	<.010	.7	.020	1.2	1.6	1.1	1.4

* For radionuclides: station 01545600, 2 samples; station 01570500, 1 sample.

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Ground Water

Conditions

A network of 62 long-term observation wells in Pennsylvania, 25 of which are in the Susquehanna and Potomac River basins, is used to monitor ground-water fluctuations throughout the Commonwealth. Table 2 below presents ground-water-level data for six of these wells in the Susquehanna River basin. At each well, the daily maximum water-level depth below land surface is recorded. The table shows the minimum, maximum, and average daily maximum water-level depth below land surface for the period of record, as well as the average daily maximum depth below land surface during water year 1993 and its departure from the long-term average.

Table 2.--Extremes and average daily maximum water-level depth below land surface for period of record, average daily maximum water level for water year 1993, and departure from the long-term average for six selected network wells in the Susquehanna River basin.

USGS Local Well Number	County	Years of record	Daily maximum water-level depth below land surface (in feet)				1993 WY departure from long-term average (in feet)
			For period of record			Average (1993 WY)	
			Minimum	Maximum	Average		
BR-92	Bradford	27	1.33	11.99	8.57	9.76	-1.19
DA-350	Dauphin	29	1.15	6.95	4.94	5.14	-0.20
FR-332	Franklin	18	12.30	36.68	28.44	28.29	+0.15
HU-301	Huntingdon	24	48.82	55.96	53.86	54.24	-0.38
LU-243	Luzerne	38	36.08	64.76	53.44	53.9	-0.53
UN-51	Union	26	25.26	42.24	38.28	39.8	-1.54

Ground-water levels were below long-term average levels throughout most of the basin during water year 1993. The continuing effect of drought conditions from previous years, as well as below-normal precipitation during October and May, resulted in below-average water levels during 1993 despite above-normal precipitation in all NOAA divisions in the basin during March and April.

Figure 4 shows the relation between seasonal mean ground-water levels during water year 1993 and long-term seasonal mean ground-water levels. Ground-water levels during the water year mainly reflect seasonal variations in precipitation and water loss. Precipitation was above normal during November, December, March, April and September in the entire basin with the exception of NOAA Division 5 in December. Precipitation was below normal throughout most of the basin for the remainder of the year, except during August. During fall, winter, and spring, ground-water levels were above normal at 9, 11, and 10 of the 25 observation wells, respectively. Water levels in 2 of 25 observation wells were above normal during summer, but water levels in 12 of the 23 remaining wells were below normal. New maximum water levels were recorded at the following wells during the 1993 water year -- Cameron (CM-13), water-level affected by surface-water impounded by George B. Stephenson Dam; Cumberland (CU-2); Juniata (JU-351); Mifflin (MF-344); Perry (PE-518); and York (YO-180).

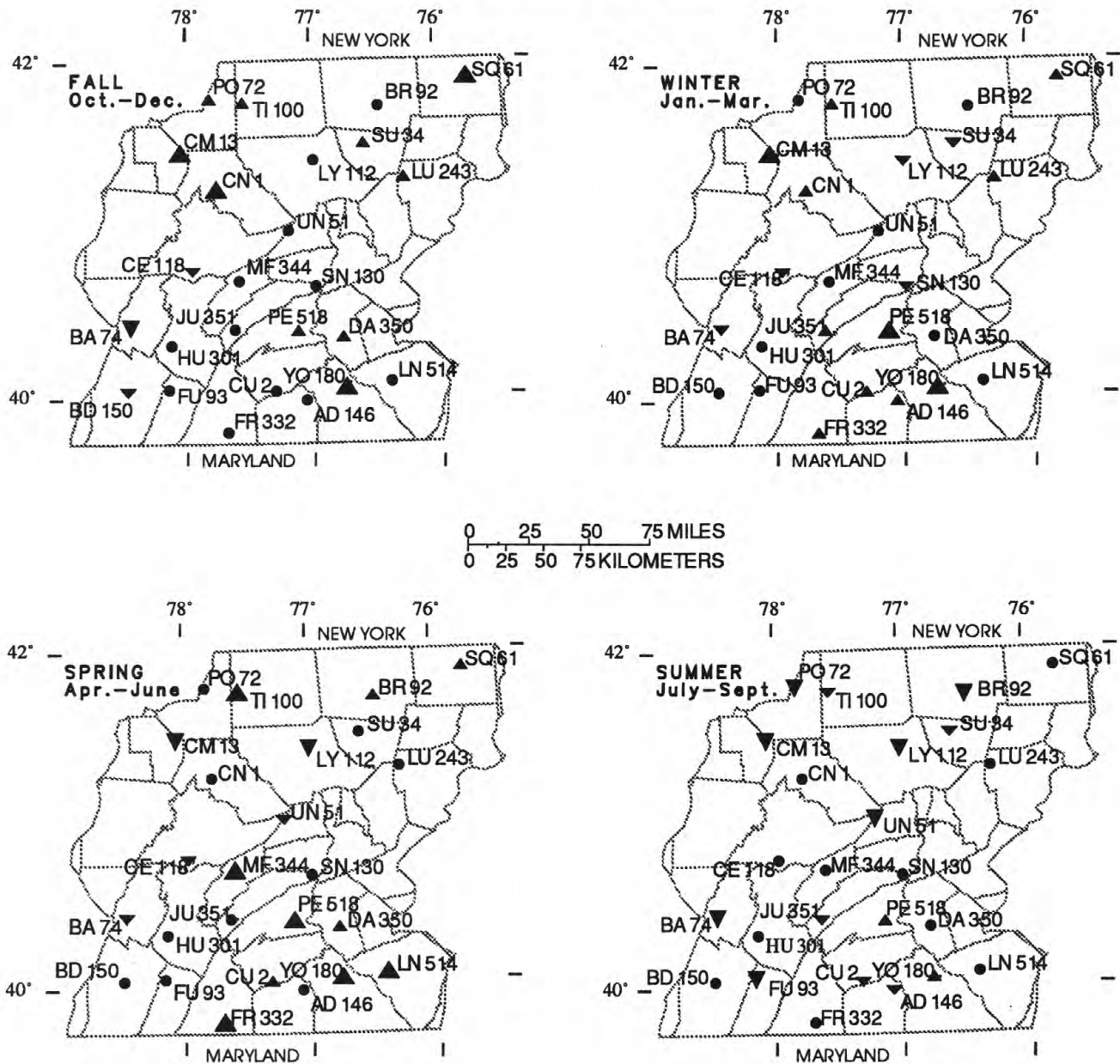
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9

SUSQUEHANNA RIVER BASIN



EXPLANATION

GROUND-WATER LEVELS

- ▲ MUCH ABOVE NORMAL--More than one standard deviation above long-term water level
- ▲ ABOVE NORMAL--One half to one standard deviation above long-term water level
- NORMAL--Within one-half standard deviation of long-term water level
- ▼ BELOW NORMAL--One-half to one standard deviation below long-term water level
- ▼ MUCH BELOW NORMAL--More than one standard deviation below long-term water level

Figure 4. Relation between mean 1993 seasonal water levels and long-term mean water levels.

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SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins throughout the country that provides consistent data on hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide. This network also provides analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities. The station operated as part of this program in the Susquehanna River Basin in Pennsylvania is Young Womans Creek near Renovo (01545600). There are no stations in the Potomac River Basin in Pennsylvania participating in this program.

National Stream-Quality Accounting Network (NASQAN) is a data-collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Most of the 500 or so sites in NASQAN are located at the downstream ends of hydrologic accounting units designed by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Federal Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research. Stations operated as part of this program in the Susquehanna River Basin in Pennsylvania are; Susquehanna River at Danville (01540500), Susquehanna River at Lewisburg (01553500), Susquehanna River at Harrisburg (01570500), and Raystown Branch Juniata River at Saxton (01562000). There are no stations in the Potomac River Basin in Pennsylvania participating in this program.

The **National Trends Network (NTN)** is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP). There are no stations in the Susquehanna or Potomac River Basins in Pennsylvania participating in this program.

The **National Water-Quality Assessment Program (NAWQA)** of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest. There are a large number of streamflow, water-quality, and ground-water stations in the Susquehanna and Potomac River Basins operated as part of this program and published in this volume. NAWQA stations are identified in the header information at the top of the data page.

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States. Stations operated as part of this program in the Susquehanna River Basin in Pennsylvania are Young Womans Creek near Renovo (01545600) and the Susquehanna River at Harrisburg (01570500). There are no stations in the Potomac River Basin in Pennsylvania participating in this program.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States. The station operated as part of this program in the Susquehanna River Basin in Pennsylvania is the Susquehanna River at Harrisburg (01570500). There are no stations in the Potomac River Basin in Pennsylvania participating in this program.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 1993 water year that began October 1, 1992, and ended September 30, 1993. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The location of these stations and wells are shown in figures 6-8. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report, whether streamsite or well, is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Pennsylvania, for some miscellaneous surface-water sites where only random water-quality samples or discharge measurements are made.

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream-order system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned in downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. A station number can be from 8 to 15 digits in length and normally appears to the left of the station name. For example, an 8-digit number for a station such as 01570500, includes a 2-digit part number "01" plus a 6-digit downstream-order number "570500." The part number designates major river basins; for example, part "01" is the North Atlantic Slope Basin.

Latitude-Longitude System

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

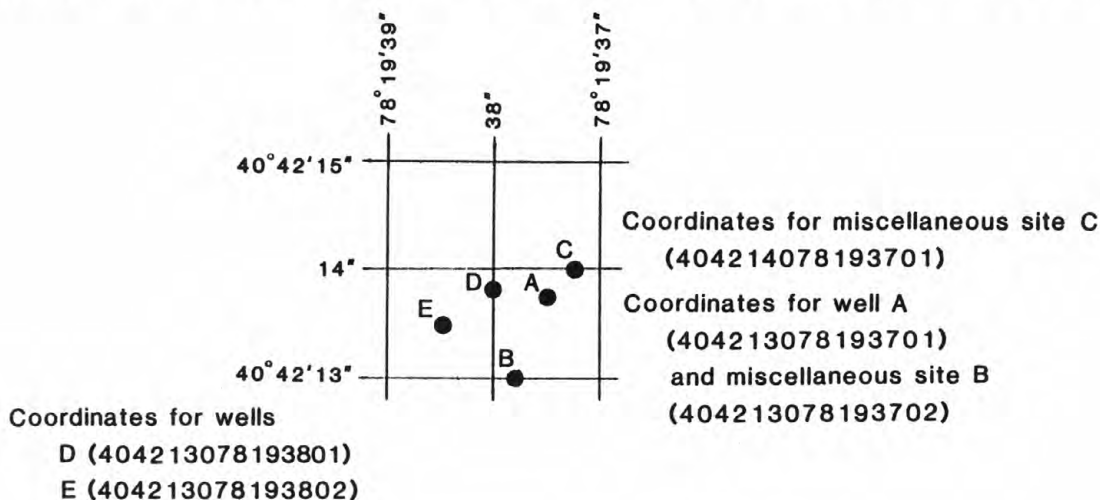


Figure 5. System for numbering wells and miscellaneous sites (latitude and longitude).

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

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial-record stations," or "Low-flow partial-record stations." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all continuous-record and partial-record stations for which data are given in this report are shown in figures 6-8.

Data Collection and Computation

The 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 relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges.

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Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with digital recorders that punch stage values on paper tapes at selected time intervals, with solid-state electronic data loggers, or with Data Collection Platforms (DCP's) that electronically record and then 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 in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

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

Daily mean discharges are computed by applying 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 relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a program to format the annual water-data report to meet user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now 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.

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

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

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 EXTREMES 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 both monthly and yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

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

Summary statistics

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

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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 is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

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

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

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

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

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

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurements in presenting annual runoff data:

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

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

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

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

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

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

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

Identifying Estimated Daily Discharge

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

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Accuracy of the Records

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

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

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

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

Other Records Available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperature, discharge measurements, gage-height records, and rating tables is on file in the District's offices. Also 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 Scientific Publications and Information Section (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. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Location of stations for which records on the quality of surface water appear in this report are shown in figures 6-8.

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 onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," (TWRI's) Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4 and in U.S. Geological Survey Open-File Report 90-140. All of the TWRI references are listed on a following page in this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the U.S. Geological Survey District Office.

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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 Stream Quality Accounting Network (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 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 digital recorders that punch each value on a paper tape, with solid-state electronic data loggers, or with Data Collection Platforms (DCP's). More detailed records (hourly values) may be obtained from the U.S. Geological Survey District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. At stations where recording instruments are used, maximum, minimum, and mean temperatures for each day are published. In addition, water temperatures are measured at the time of discharge measurements for 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.

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 Arvada, Colorado. If other laboratories are used, they are identified in the "Remarks" or "Cooperation" paragraph of each water-quality station manuscript. Methods used in analyzing sediment samples and computing sediment records are given in "Techniques of Water Resources Investigations", Book 5, Chapter C1. Methods used by the Geological Survey laboratory are given in "Techniques of Water Resources Investigations", Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. 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.

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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 parameters measured daily or continuously and those measured less often than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

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

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

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

EXTREMES.--Maximums and minimums are given only for 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 to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

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

Remark Codes

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

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

Records of Ground-Water Levels

Ground-water level data from an observation well network and from ground-water projects are published herein. Locations of observation wells in the basic network are shown in figures 6 and 8. Ground-water data are grouped by counties, arranged in alphabetical order, and are listed on page x. Those with an (1) following the well number have water-level data published in the report. Miscellaneous or short-term ground-water data collection projects are published following the basic network data.

Data Collection and Computation

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

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

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Water-level records are obtained from direct measurements with a steel tape, from the graph or punched tape of a water-stage recorder, with solid-state electronic data loggers, or with Data Collection Platforms (DCP's). The water-level measurements in this report are given in feet with reference to land-surface datum (1sd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for each day.

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

Data Presentation

Each well record consists of three parts; (1) the station description, (2) the data table of water levels observed during the current water year, and (3) a graph of the water levels for the last 3 years. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments that follow clarify information presented under the various headings of the well 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-level extremes by knowing whether they are based on weekly, monthly, 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 depending on 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 water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. These tables are usually reported as maximum depth (in feet) above or below land-surface datum. The highest and lowest maximum depths 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 for a selected period of record 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 were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are 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 this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were collected by trained personnel.

A variety of sampling techniques is used for collecting ground-water samples for chemical analyses. Techniques for sampling springs are the same as those used for sampling surface water. An appropriate well-sampling technique is selected at each site so that the chemical samples are representative of the water in the aquifer. Wells are pumped, when possible, until a constant water temperature, specific conductance, and pH are obtained before collecting water samples. Pumping rate, length of pumping, and sampling depth depend on the characteristics of the well and aquifer being sampled. Samples are collected either by a submersible pump or a bailer.

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Data Presentation

Ground-water-quality data are published with ground-water-level data at stations where level data are collected. 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 WATSTORE DATA

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

- * Station Header File - Contains descriptive information on over 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- * Daily Values File - Contains over 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- * Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- * Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
- * Ground-Water Site Inventory Data Base - Contains inventory data for over 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

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

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

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 and 3-1/2 inch floppy disk; and as noted in the introduction, beginning with the 1990 water year, on Compact Disc - Read Only Memory (CD-ROM) discs. All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting Inch-pound units to International System (SI) Units on the inside of the back cover.

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

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

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

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

Annual runoff indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurements in presenting annual runoff data:

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

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

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

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

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

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warmblooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hour when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C . In the laboratory these bacteria are defined as the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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

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

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

Bottom material: See Bed material.

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

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or about 646,000 gallons.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

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

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a station where streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses. Data may be collected continuously or periodically.

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

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

Cubic feet per second per square mile $[(\text{ft}^3/\text{s})/\text{mi}^2]^1$ is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

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

Data Collection Platform (DCP) is an electronic instrument which collects, processes, stores, and transmits data from various sensors to an earth-orbiting Geostationary Operational Environmental Satellite (GOES) and/or through landline telemetry.

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

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

Annual 7-day minimum is 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.)

Base discharge is an arbitrary instantaneous discharge value, determined for stations meeting certain criteria, that will be exceeded about three times per year.

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

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

Dissolved refers to that material in a representative water sample which passes through a 0.45 μm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

¹ Until appropriate changes can be made to the WATSTORE and PRIME computer systems, the unit abbreviations "CFS" and "CFSM" will appear on some computer-generated table headings and summaries.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

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

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

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

Hydrologic Bench-Mark Network is a network of 55 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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

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

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

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

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

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

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

Miscellaneous-record site is a site where limited streamflow and/or water-quality data are collected on a random basis for use in hydrologic analyses.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

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

The National Water-Quality Assessment Program (NAWQA) of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

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

Organism is any living entity.

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Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meters (m^2), acres, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only 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.

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

Runoff (see Annual Runoff)

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) $\times$ discharge (ft^3/s) $\times$ 0.0027.

Suspended-sediment load is general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow ($Q_7,10$) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

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Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in the solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Surface area of a lake is that area outlined on the latest USGS topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m 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 would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

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

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

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

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

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Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day (T/day) is the quantity of substance in solution or suspension that passes a stream section during a 24-hour period.

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

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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

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

Water year as used in Geological Survey reports, 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, 1980, is called the "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to a State's annual hydrologic-data reports.

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

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

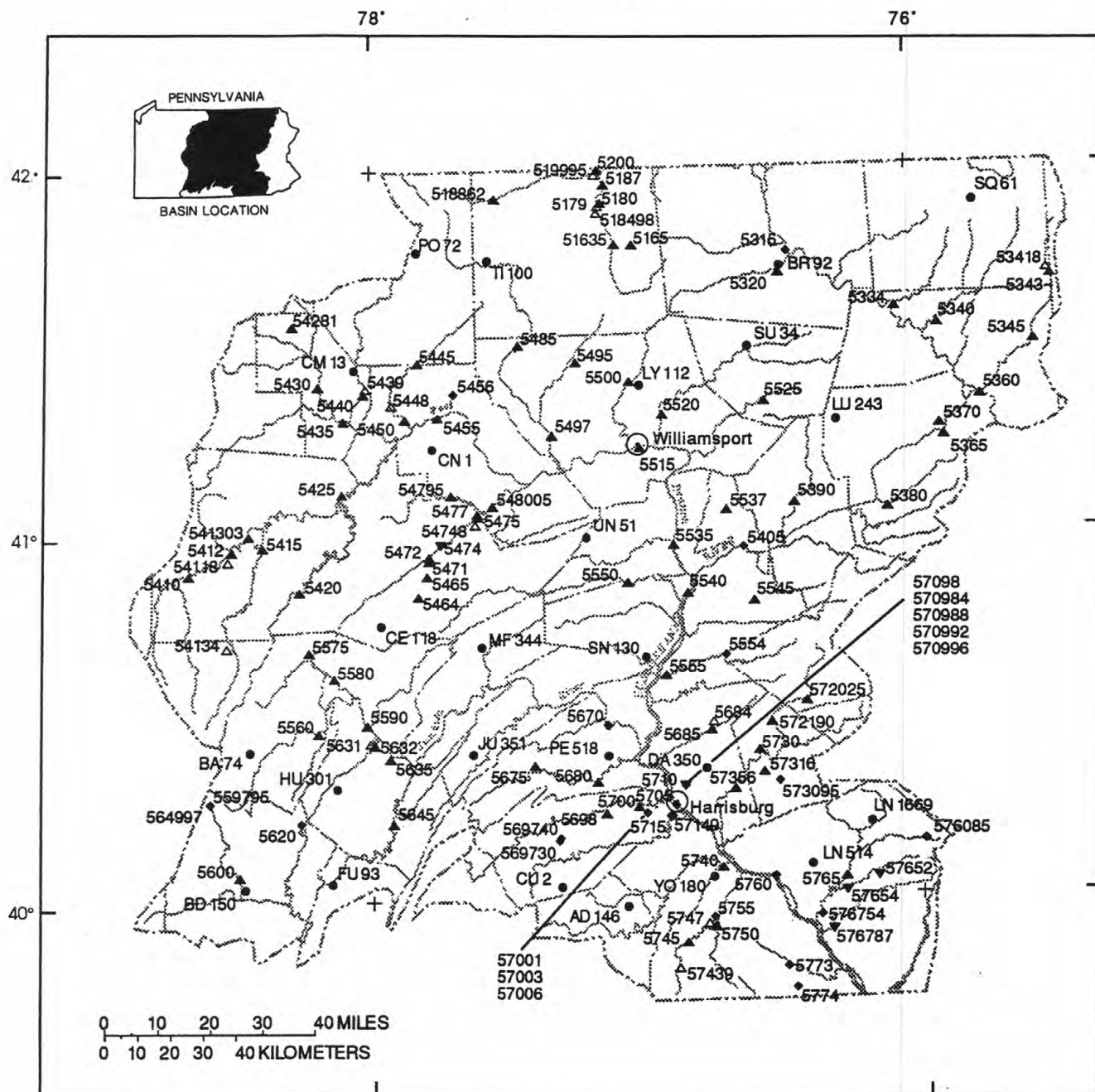
The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

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- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W. E. Teasdale: USGS—TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS—TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS—TWRI Book 3, Chapter A2. 1967. 12 pages.
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- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS—TWRI Book 3, Chapter A4. 1967. 44 pages.
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- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS—TWRI Book 3, Chapter A15. 1984. 48 pages.
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- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS—TWRI Book 3, Chapter A17. 1985. 38 pages.
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- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS—TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G. D. Bennett: USGS—TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS—TWRI Book 3, Chapter B3. 1980. 106 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS—Continued

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- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS—TWRI Book 3, Chapter C2. 1970. 59 pages.
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- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS—TWRI Book 4, Chapter B2. 1973. 20 pages.
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- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS—TWRI Book 5, Chapter A2. 1971. 31 pages.
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- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. R. Guy: USGS—TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS—TWRI Book 6, Chapter A1. 1988. 586 pages.
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- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L. J. Torak: USGS—TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R. L. Cooley: USGS—TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water problems, Part 3: Design philosophy and programming details*, by L. J. Torak: USGS—TWRI Book 6, Chapter A5. 1993. 243 pages.
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- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS—TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS—TWRI Book 7, Chapter C3. 1981. 110 pages.
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- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS—TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS—TWRI Book 8, Chapter B2. 1968. 15 pages.

SUSQUEHANNA RIVER BASIN



EXPLANATION

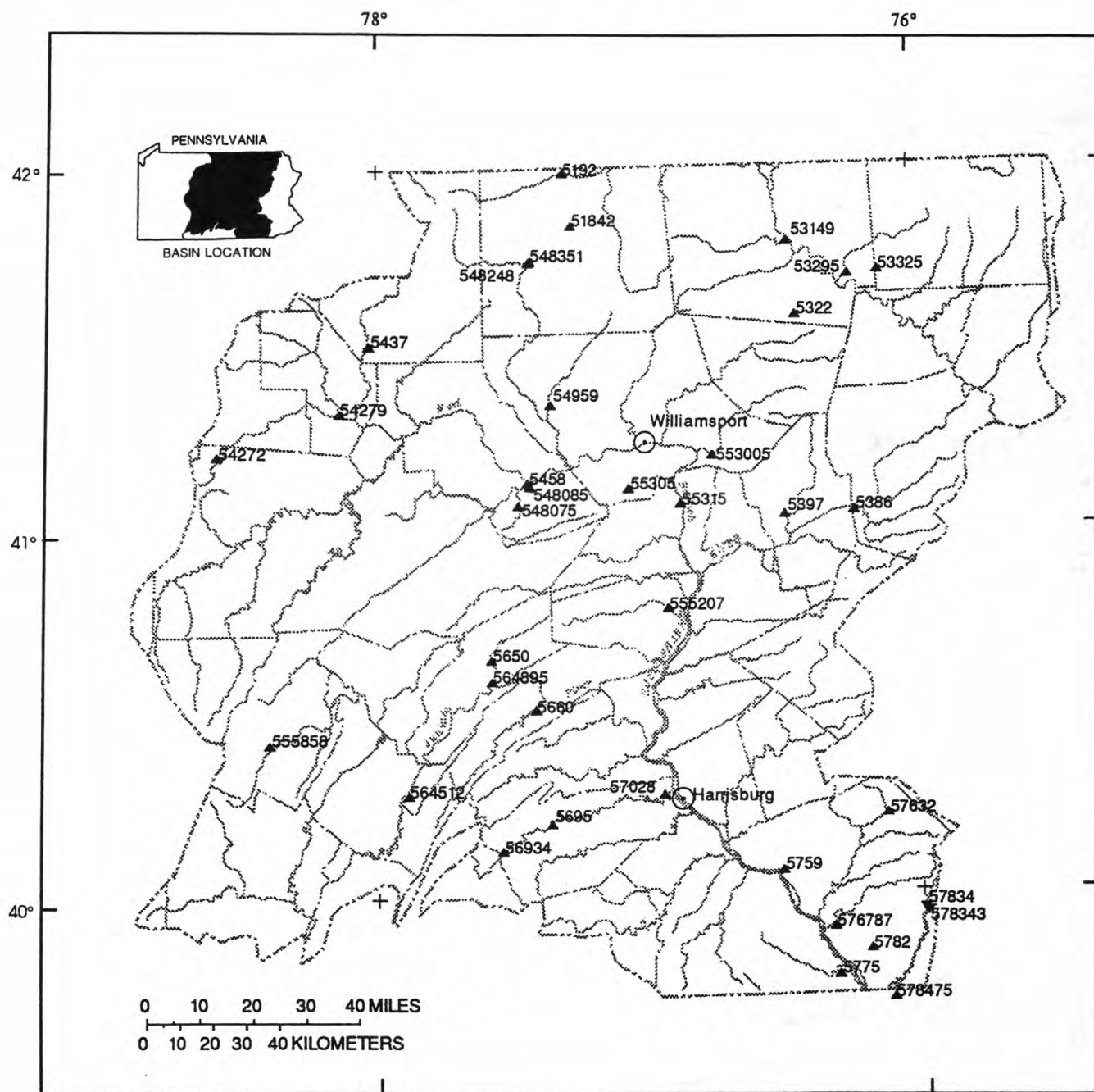
- ▲ 5645 STREAMFLOW STATION AND NUMBER
- ▼ 57652 WATER-QUALITY STATION AND NUMBER
- ◆ 5774 STREAMFLOW AND WATER-QUALITY STATION AND NUMBER
- YO 180 OBSERVATION WELL AND NUMBER
- △ 54118 LAKE AND NUMBER

NOTE - Downstream station numbers abbreviated;
First two digits(part number), and
last two digits (if zeros) are omitted.
EXAMPLE - Station number 01573560 is shown as 57356,
station number 01570500 is shown as 5705.

Figure 6. Location of continuous-record data-collection stations and network observation wells.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

SUSQUEHANNA RIVER BASIN



EXPLANATION

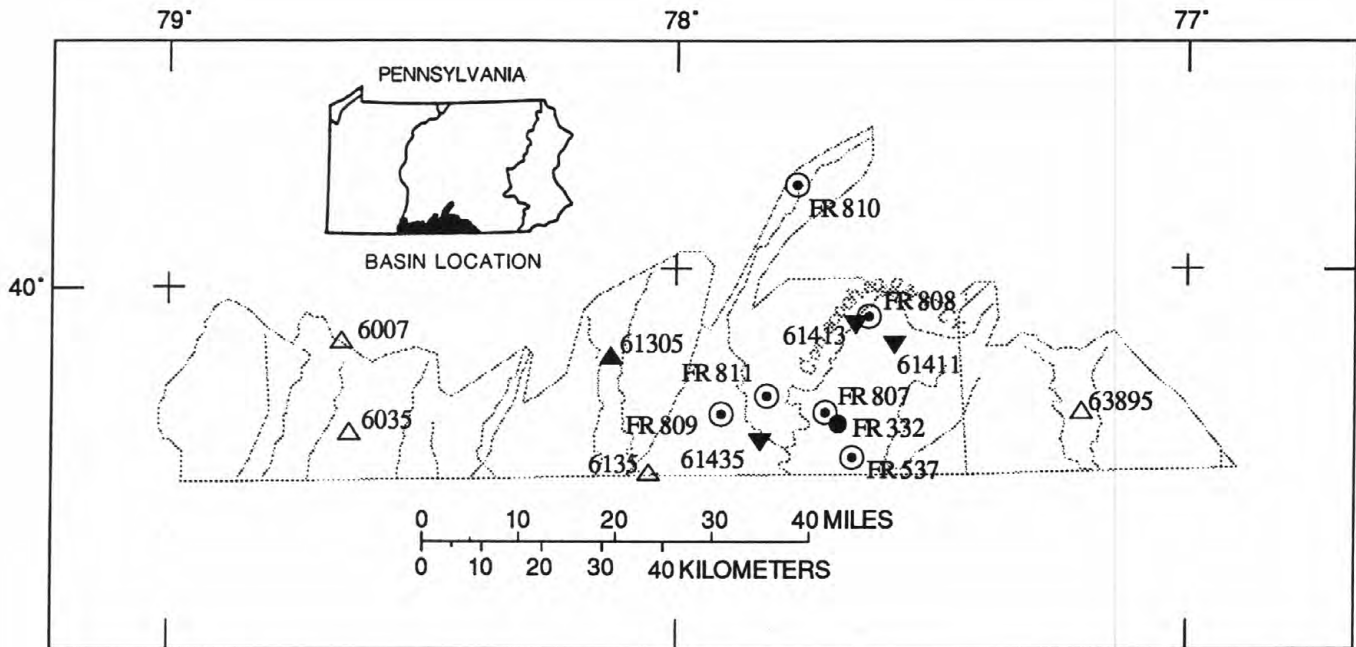
▲ 5695 STREAMFLOW STATION AND NUMBER

▼ 57834 WATER-QUALITY STATION AND NUMBER

NOTE- Downstream station numbers abbreviated;
First two digits (part number), and last two digits
(if zeros) are omitted.

EXAMPLE - Station number 01570280 is shown as 57028,
station number 01577500 is shown as 5775.

POTOMAC RIVER BASIN



EXPLANATION

- ▲ 61305 CONTINUOUS-RECORD STREAMFLOW STATION AND NUMBER
- △ 6135 PARTIAL-RECORD STREAMFLOW STATION AND NUMBER
- ▼ 61435 WATER-QUALITY PARTIAL-RECORD STREAMFLOW STATION AND NUMBER
- FR 332 WATER-LEVEL OBSERVATION WELL AND LOCAL NUMBER
- ⊙ FR 809 GROUND-WATER -QUALITY SITE AND NUMBER

NOTE- Downstream station numbers abbreviated.
First two digits (part number), and last two digits (if omitted).

EXAMPLE- Station number 01613050 is shown as 61305,
station number 01613500 is shown as 6135.

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

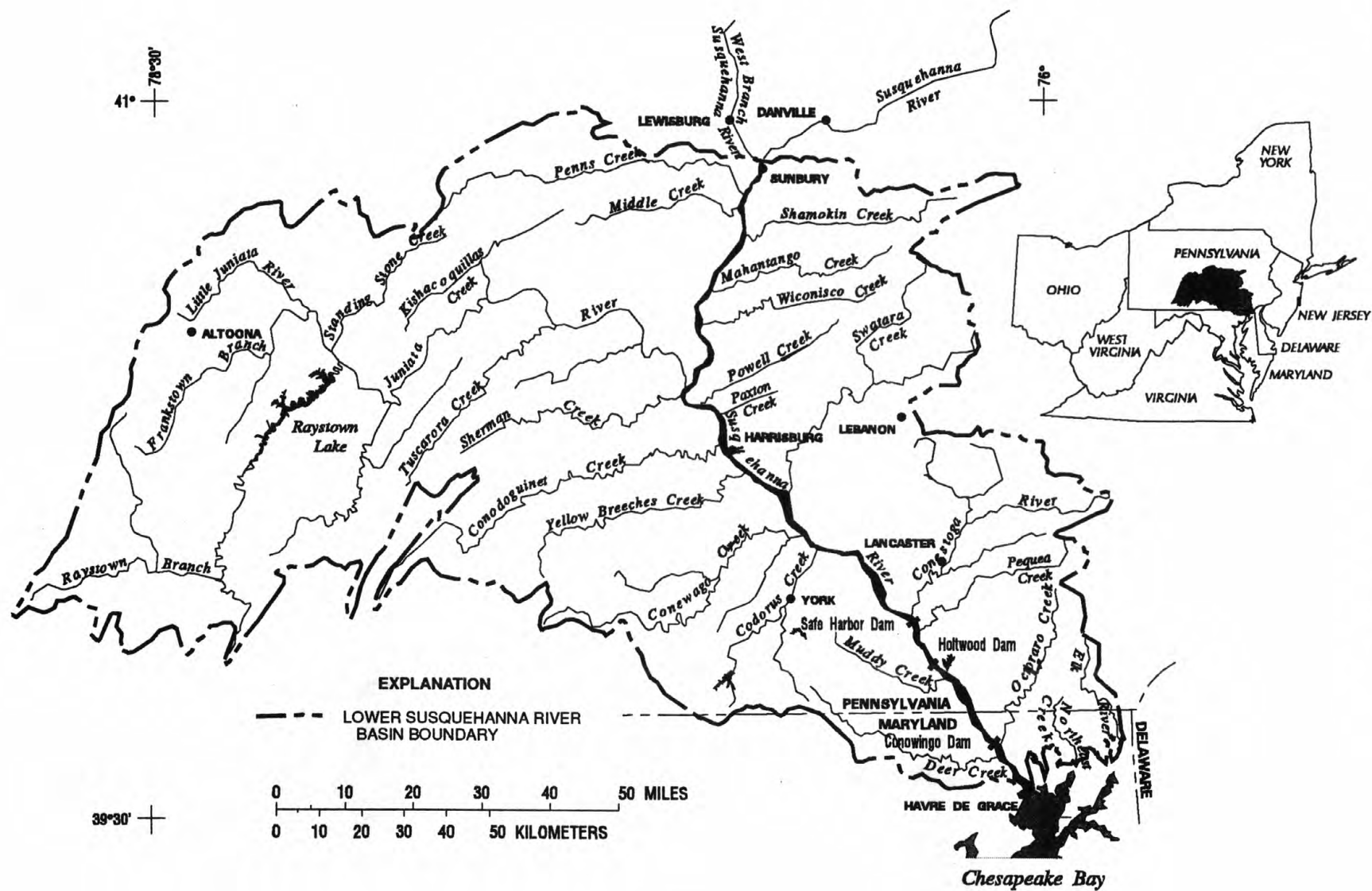


Figure 9. Study area for the National Water-Quality Assessment (NAWQA) in the Lower Susquehanna River Basin.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

NOTES--Historical and current dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

--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 OUTPUTREMARK

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.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
ND	Material specifically analyzed for but not detected.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

SPECIAL NOTES, REMARK CODES AND SELECTED CONSTITUENT DEFINITIONS--Continued

Explanation of selected abbreviations used in constituent definitions in water-quality tables:

COL. PER 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/SQ M	Grams per square meter.
IT	Incremental titration.
µG/L	Micrograms per liter.
µS/CM	Microsiemens per centimeter.
MG/L	Milligrams per liter.
MG/M2	Milligrams per square meter.
PCI/L	Picocuries per liter.
REC	Recoverable.
TOT	Total
WH IT	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	Water filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size..

Agency collection codes (00027):

1028--U.S. Geological Survey.
 42011--Susquehanna River Basin Commission.

Agency analyzing codes (00028):

1028--U.S. Geological Survey, National Water-Quality Laboratory, Denver Colorado.
 80020--U.S. Geological Survey.
 9813--Pennsylvania Department of Environmental Resources.

Sample method code (82398) is an included parameter in some water-quality tables. It is intended to indicate the method used to collect the water sample. The definition of these codes is listed below.

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.

CONTINUOUS WATER-DISCHARGE AND WATER-QUALITY STATION RECORDS

NORTH ATLANTIC SLOPE BASINS

SUSQUEHANNA RIVER BASIN

CHEMUNG RIVER BASIN

01516350 TIOGA RIVER NEAR MANSFIELD, PA

LOCATION.--Lat 41°47'34", long 77°04'44", Tioga County, Hydrologic Unit 02050104, on left bank on Township Route 754, 0.6 mi downstream from Slate Creek, and 1.0 mi south of Mansfield.

DRAINAGE AREA.--153 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,121.28 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, and April 1 to May 13, which are fair.

Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1975 reached an approximate stage of 20.13 ft, from flood-marks, approximate discharge, 18,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	76	225	1350	e80	e43	7210	475	75	26	13	120
2	85	82	204	673	e72	e45	5710	387	59	24	13	59
3	77	269	188	479	e80	e48	2430	319	52	25	18	54
4	69	186	167	438	e100	e50	1180	276	49	25	14	89
5	63	179	158	1120	e90	e55	861	532	49	23	13	77
6	58	271	139	614	e80	e60	833	772	48	21	12	58
7	55	219	135	461	e70	e50	845	455	45	21	12	56
8	53	181	125	392	e65	e55	881	377	43	21	12	58
9	53	159	113	310	e65	e65	912	324	67	21	11	50
10	67	150	101	250	e70	e70	2690	276	79	22	11	46
11	65	148	126	238	e70	e60	3430	241	53	24	17	43
12	76	297	123	232	e65	e50	1390	208	45	20	15	38
13	66	1050	114	636	e65	e50	908	180	41	16	16	33
14	62	460	102	452	e60	e45	701	162	37	16	15	29
15	90	342	105	316	e60	e75	565	146	36	19	13	28
16	208	275	120	267	e65	e80	4930	141	36	17	17	34
17	171	242	424	242	e65	e80	3690	125	33	15	56	31
18	131	223	465	204	e60	e90	1520	110	30	14	44	34
19	120	201	305	e140	e55	e84	836	112	29	16	27	36
20	110	179	521	e130	e50	e80	618	115	43	22	21	31
21	103	178	326	e130	e50	e80	e2500	98	58	16	19	31
22	102	262	261	e160	e60	e78	1720	88	84	14	16	31
23	92	1000	246	e180	e55	e100	1750	81	50	14	15	29
24	96	476	205	e150	e50	e170	1440	74	38	17	14	30
25	120	557	e140	e150	e45	385	1390	72	32	17	44	28
26	109	445	e130	e140	e48	584	3520	66	29	13	39	40
27	96	381	e110	e130	e45	893	2080	60	28	13	26	125
28	87	321	e110	e120	e43	2130	1130	57	30	12	21	206
29	83	283	e150	e100	---	3890	786	54	34	13	19	118
30	85	252	750	e90	---	5970	599	51	30	13	16	90
31	82	---	2890	e90	---	e4500	---	54	---	13	22	---
TOTAL	2827	9344	9278	10384	1783	20015	59055	6488	1362	563	621	1732
MEAN	91.2	311	299	335	63.7	646	1968	209	45.4	18.2	20.0	57.7
MAX	208	1050	2890	1350	100	5970	7210	772	84	26	56	206
MIN	53	76	101	90	43	43	565	51	28	12	11	28
CFSM	.60	2.04	1.96	2.19	.42	4.22	12.9	1.37	.30	.12	.13	.38
IN.	.69	2.27	2.26	2.52	.43	4.87	14.36	1.58	.33	.14	.15	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1993, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	129	186	219	187	233	424	529	258	175	72.0	52.8	46.7						
MAX	653	620	514	600	650	832	1968	630	550	177	155	116						
(WY)	1991	1978	1991	1979	1984	1978	1993	1978	1989	1990	1976	1977						
MIN	13.3	26.9	50.5	36.2	57.2	148	156	84.4	25.1	18.2	17.0	12.6						
(WY)	1983	1983	1989	1981	1987	1981	1988	1987	1991	1993	1991	1980						

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1976 - 1993
ANNUAL TOTAL	76132	123452	
ANNUAL MEAN	208	338	208
HIGHEST ANNUAL MEAN			388
LOWEST ANNUAL MEAN			131
HIGHEST DAILY MEAN	3500 Mar 27	7210 Apr 1	7210 Apr 1 1993
LOWEST DAILY MEAN	27 Jul 12, 13	11 Aug 9, 10	9.3 Sep 13, 16 1991
ANNUAL SEVEN-DAY MINIMUM	32 Jul 8	12 Aug 4	9.9 Sep 10 1991
INSTANTANEOUS PEAK FLOW		11500 Apr 16	a11500 Oct 23 1990 ^b
INSTANTANEOUS PEAK STAGE		16.12 Apr 16	16.17 May 14 1978
ANNUAL RUNOFF (CFSM)	1.36	2.21	1.36
ANNUAL RUNOFF (INCHES)	18.51	30.02	18.49
10 PERCENT EXCEEDS	461	778	463
50 PERCENT EXCEEDS	125	81	92
90 PERCENT EXCEEDS	47	18	22

a From rating curve extended above 6,000 ft³/s.

b Also Apr. 16, 1993.

c Estimated.

CHEMUNG RIVER BASIN

01516500 COREY CREEK NEAR MAINESBURG, PA

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

DRAINAGE AREA.--12.2 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,337.50 ft above sea level. Prior to June 28, 1954, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records fair. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.4	12	48	e5.8	e3.0	300	17	2.1	.84	.26	1.6
2	3.0	4.3	10	28	e5.4	e3.0	230	13	1.7	.84	.26	.88
3	2.7	14	9.3	20	e5.0	e3.2	114	11	1.5	1.0	.38	1.0
4	2.3	7.7	8.5	21	e5.6	e3.4	63	9.1	1.5	.84	.28	2.0
5	2.2	9.0	e8.0	47	e6.0	e3.8	52	34	1.5	.66	.19	1.0
6	2.1	17	e7.3	23	e5.4	e4.1	49	34	1.5	.56	.17	.66
7	2.1	11	7.0	19	e4.8	e3.9	47	16	1.3	.81	.18	.97
8	1.9	9.0	6.6	17	e4.4	e3.7	48	13	1.2	1.4	.18	.98
9	2.0	7.7	e6.4	e14	e4.5	e4.4	50	11	4.2	.77	.15	.81
10	2.1	7.5	e5.6	e13	e4.7	e4.8	204	9.0	2.4	.60	.98	.85
11	2.4	7.3	e6.6	e12	e5.0	e4.3	176	7.7	1.5	.59	1.2	.91
12	3.5	17	e6.4	11	e4.5	e3.7	72	6.5	1.2	1.2	.57	.56
13	2.4	47	e5.8	42	e4.5	e3.5	50	5.7	1.0	.68	.36	.40
14	2.7	21	e5.8	21	e4.2	e4.0	39	5.3	.90	.59	.25	.32
15	4.5	17	e6.8	16	e4.2	e4.5	35	5.1	.90	.75	.20	.39
16	9.2	14	8.9	15	e4.5	e4.7	525	5.1	.91	.52	.87	.66
17	6.4	13	48	13	e4.5	e5.0	309	4.6	.77	.40	1.7	.57
18	4.8	12	36	e12	e4.0	e5.2	75	4.3	.69	.35	1.3	.70
19	4.8	10	24	e10	e3.7	e5.6	42	5.1	.77	.47	.57	.64
20	4.1	9.5	48	e9.0	e3.6	e5.8	41	5.0	3.2	.61	.45	.48
21	4.3	10	26	e9.0	e3.6	e6.0	185	4.2	4.4	.38	.44	.48
22	4.1	13	e18	e11	e4.0	e6.0	95	3.8	2.2	.29	.31	.54
23	3.8	52	e16	e11	e3.7	e7.0	135	3.4	1.4	.24	.24	.58
24	4.7	21	e14	e10	e3.5	e10	83	3.3	1.1	.20	.26	.75
25	5.8	25	e10	e9.7	e3.3	e20	63	2.9	.88	.17	.95	.54
26	4.9	20	e8.6	e9.0	e3.4	e35	274	2.4	.79	.18	.41	1.1
27	4.1	18	e8.0	e8.5	e3.2	e90	92	2.1	.86	.25	.30	3.8
28	3.8	16	e8.4	e8.0	e3.0	200	47	1.9	1.1	.21	.25	3.1
29	3.7	14	e9.0	e7.0	---	255	31	1.7	1.5	.20	.20	1.5
30	3.9	13	82	e6.2	---	353	23	1.6	1.0	.25	.15	1.2
31	3.6	---	123	e6.4	---	233	---	1.8	---	.29	.47	---
TOTAL	115.2	460.4	600.0	506.8	122.0	1298.6	3549	250.6	45.97	17.14	14.48	29.97
MEAN	3.72	15.3	19.4	16.3	4.36	41.9	118	8.08	1.53	.55	.47	1.00
MAX	9.2	52	123	48	6.0	353	525	34	4.4	1.4	1.7	3.8
MIN	1.9	3.4	5.6	6.2	3.0	3.0	23	1.6	.69	.17	.15	.32
CFSM	.30	1.26	1.59	1.34	.36	3.43	9.70	.66	.13	.05	.04	.08
IN.	.35	1.40	1.83	1.55	.37	3.96	10.82	.76	.14	.05	.04	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1993, BY WATER YEAR (WY)

	MEAN	6.08	10.2	14.4	11.1	17.0	29.3	29.3	14.5	9.98	2.90	1.96	2.60
MAX	51.0	45.4	42.7	48.6	52.4	60.4	118	42.7	114	18.7	10.4	44.4	
(WY)	1956	1978	1974	1979	1984	1964	1993	1989	1972	1990	1955	1975	
MIN	.15	.48	.84	.75	1.71	4.88	8.19	4.08	.69	.10	.074	.000	
(WY)	1964	1965	1965	1961	1963	1965	1955	1985	1991	1966	1964	1964	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1954 - 1993
ANNUAL TOTAL	4357.28	7010.16	
ANNUAL MEAN	11.9	19.2	12.4
HIGHEST ANNUAL MEAN			24.9
LOWEST ANNUAL MEAN			4.82
HIGHEST DAILY MEAN	253 Mar 27	525 Apr 16	1910 Jun 22 1972
LOWEST DAILY MEAN	.60 Jul 13	.15 Aug 9,30	.00 Many days
ANNUAL SEVEN-DAY MINIMUM	.77 Jul 7	.21 Jul 23	.00 Aug 17 1959
INSTANTANEOUS PEAK FLOW		1890 Apr 16	a5580 Jun 23 1972
INSTANTANEOUS PEAK STAGE		7.41 Apr 16	b10.44 Jun 23 1972
ANNUAL RUNOFF (CFSM)	.98	1.57	1.02
ANNUAL RUNOFF (INCHES)	13.29	21.38	13.83
10 PERCENT EXCEEDS	26	47	28
50 PERCENT EXCEEDS	6.6	4.3	4.1
90 PERCENT EXCEEDS	1.7	.43	.46

- a From rating curve extended above 490 ft³/s on basis of slope-area measurement at gage height 7.88 ft and at peak flow.
 b From floodmark.
 e Estimated.

CHEMUNG RIVER BASIN

01518000 TIOGA RIVER AT TIOGA, PA

LOCATION.--Lat 41°54'30", long 77°07'47", Tioga County, Hydrologic Unit 02050104, on left bank 130 ft upstream from highway bridge on Township Route 667 at Tioga, 0.8 mi upstream from Crooked Creek, and 0.9 mi downstream from Tioga Dam.

DRAINAGE AREA.--282 mi².

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

REVISIONS.--WSP 871: 1938.

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Discharges include flow diverted from Crooked Creek into Tioga River since Oct. 1, 1977. Flow regulated since November 1979 by Tioga Dam (station 01517900). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	164	e560	3480	249	122	175	1050	75	54	32	33
2	135	206	e450	1640	207	116	187	859	75	54	32	33
3	121	e770	e380	1090	178	126	3320	704	85	54	30	33
4	123	e720	371	1080	203	232	5730	597	85	54	30	33
5	123	e560	344	1980	222	271	5810	886	75	54	30	33
6	120	e700	266	1390	199	243	5770	1790	75	49	30	33
7	112	748	260	986	170	214	5740	1620	85	37	30	51
8	105	529	272	895	154	195	5730	933	118	37	30	69
9	103	382	263	708	162	219	5600	733	166	37	30	70
10	102	301	233	552	178	228	4500	662	169	37	30	70
11	127	257	214	532	180	178	4310	408	161	37	30	62
12	145	511	214	548	192	168	5430	280	115	37	30	53
13	145	2480	270	1080	207	187	5660	195	89	37	30	50
14	145	998	287	1250	208	200	5810	242	79	37	30	50
15	141	522	258	777	209	182	5760	277	61	37	30	44
16	377	507	259	662	200	185	3960	293	50	37	32	40
17	437	494	951	617	178	208	4220	282	50	36	32	40
18	299	499	1500	567	150	209	5320	263	52	36	32	40
19	184	499	713	367	138	209	5830	219	55	36	32	41
20	169	474	1090	320	129	209	5710	202	55	36	32	53
21	168	456	976	419	139	209	5180	199	97	36	32	72
22	157	571	721	466	143	216	5500	176	148	34	32	66
23	167	1970	640	466	156	260	5340	145	122	32	32	62
24	171	1230	595	486	160	375	4770	134	82	32	32	62
25	205	1390	384	505	159	916	2190	131	54	32	33	62
26	222	e1000	324	416	156	1640	4360	121	54	32	33	62
27	222	e750	317	322	145	2830	5640	105	54	32	33	117
28	222	e730	306	306	132	3790	4780	100	54	32	33	212
29	195	e620	362	284	---	2350	2350	83	54	32	33	192
30	169	e560	1630	225	---	164	1650	75	54	32	33	182
31	169	---	4320	220	---	169	---	75	---	32	33	---
TOTAL	5444	21598	19730	24636	4903	16820	136332	13839	2548	1191	973	2020
MEAN	176	720	636	795	175	543	4544	446	84.9	38.4	31.4	67.3
MAX	437	2480	4320	3480	249	3790	5830	1790	169	54	33	212
MIN	102	164	214	220	129	116	175	75	50	32	30	33

e Estimated.

CHEMUNG RIVER BASIN

01518000 TIOGA RIVER AT TIOGA, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated. The data in the first set of statistics (1978-93) represent flow past the gage including streamflow diverted into Tioga River from the adjacent Crooked Creek basin since October 1977, and are not equivalent to natural streamflow conditions prior to this date.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1993, BY WATER YEAR (WY) (SINCE REGULATION AND DIVERSION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	254	391	481	423	547	921	1154	543	399	147	105	94.3
MAX	1454	1684	1176	1303	1715	2161	4544	1433	1404	354	437	320
(WY)	1991	1978	1978	1979	1981	1979	1993	1989	1989	1990	1992	1990
MIN	36.5	31.2	48.3	22.7	111	238	323	140	41.5	32.5	28.4	20.8
(WY)	1992	1981	1983	1981	1989	1981	1988	1985	1991	1991	1980	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1978 - 1993

ANNUAL TOTAL	178325	250034	
ANNUAL MEAN	487	685	
HIGHEST ANNUAL MEAN			454
LOWEST ANNUAL MEAN			862
HIGHEST DAILY MEAN	4980	Mar 27	5830
LOWEST DAILY MEAN	a53	Jul 3-5	30
ANNUAL SEVEN-DAY MINIMUM	54	Jul 3	30
INSTANTANEOUS PEAK FLOW			6160
INSTANTANEOUS PEAK STAGE			6.88
INSTANTANEOUS LOW FLOW			
10 PERCENT EXCEEDS	1080	1710	1030
50 PERCENT EXCEEDS	296	187	171
90 PERCENT EXCEEDS	97	33	40

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

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

SUMMARY STATISTICS

WATER YEARS 1939 - 1977

ANNUAL MEAN	331	
HIGHEST ANNUAL MEAN	583	1972
LOWEST ANNUAL MEAN	138	1965
HIGHEST DAILY MEAN	26900	Jun 23 1972
LOWEST DAILY MEAN	5.0	Sep 11 1964
ANNUAL SEVEN-DAY MINIMUM	5.3	Sep 8 1964
INSTANTANEOUS PEAK FLOW	d59000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	f19.70	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.5	Aug 10,11 1955
ANNUAL RUNOFF (CFSM)	1.17	
ANNUAL RUNOFF (INCHES)	15.95	
10 PERCENT EXCEEDS	780	
50 PERCENT EXCEEDS	130	
90 PERCENT EXCEEDS	23	

a The discharge for July 3 is an estimated value.

b Result of shutoff at Tioga Dam.

c Also Aug. 29, 1980.

d From rating curve extended above 8,000 ft³/s on basis of slope-area and contracted-opening measurement at gage height 15.47 ft, and slope-area measurement of peak flow.

f From floodmark.

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA

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

DRAINAGE AREA.--446 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 990.43 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1979 by Tioga Dam (station 01517900) and Hammond Dam (station 01518498). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 1975 reached a stage of about 22.1 ft, from floodmarks, discharge, about 48,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	176	664	4300	279	e125	1340	1340	82	65	39	43
2	157	217	571	2130	e230	121	1060	1060	82	65	41	43
3	137	787	455	1340	e180	137	3480	869	93	65	39	46
4	141	736	414	1340	218	245	6160	711	107	65	39	46
5	141	512	379	2470	240	295	6550	1110	90	65	39	43
6	136	676	303	1810	215	262	6880	2290	88	64	39	43
7	126	755	291	1240	e180	230	6850	2010	98	49	39	57
8	114	569	306	1090	e150	216	6840	1210	128	49	39	80
9	116	412	293	875	166	259	6700	873	187	49	38	84
10	116	342	257	661	188	280	6090	824	187	46	41	78
11	135	288	240	646	190	203	5550	459	178	46	41	70
12	158	461	245	659	203	186	6540	328	131	46	41	62
13	158	2600	307	1370	227	e210	6650	210	105	45	39	57
14	158	1240	317	1650	227	e250	6850	264	93	44	39	61
15	160	581	284	971	223	e220	6730	293	83	44	39	54
16	344	552	289	797	211	199	5950	305	68	44	46	46
17	443	537	1110	743	186	230	6230	290	67	43	43	46
18	315	549	1970	667	159	231	6430	268	68	43	43	46
19	195	542	923	461	e150	234	6860	227	73	44	42	48
20	177	506	1340	366	e140	224	6730	208	72	43	41	61
21	178	488	1260	485	e150	226	6490	204	113	43	41	84
22	168	609	841	571	152	242	6830	182	170	42	39	76
23	180	2060	753	569	163	291	6890	152	145	39	39	67
24	194	1460	681	590	161	446	6120	139	102	39	40	67
25	234	1550	460	609	e165	1100	2840	137	67	39	44	67
26	248	1280	e360	489	161	2080	6090	132	67	39	43	69
27	244	914	e350	369	e150	3590	7210	113	67	39	43	110
28	239	881	e340	344	e140	5020	6080	110	67	39	43	225
29	216	754	401	319	---	3930	2930	94	67	39	43	189
30	183	664	1830	252	---	1400	2050	82	67	40	40	178
31	180	---	5300	243	---	1000	---	82	---	39	43	---
TOTAL	5880	23698	23534	30426	5204	23682	170000	16576	3012	1461	1265	2246
MEAN	190	790	759	981	186	764	5667	535	100	47.1	40.8	74.9
MAX	443	2600	5300	4300	279	5020	7210	2290	187	65	46	225
MIN	114	176	240	243	140	121	1060	82	67	39	38	43
MEAN $\frac{1}{2}$	187	834	783	933	132	1486	4964	515	105	36.5	35.1	79.0
CFSM $\frac{1}{2}$	.42	1.87	1.76	2.09	.30	3.33	11.13	1.15	.24	.08	.08	.18
IN. $\frac{1}{2}$	.48	2.09	2.03	2.41	.31	3.84	12.42	1.33	.27	.09	.09	.20

$\frac{1}{2}$ Adjusted for change in contents in Tioga and Hammond Lakes.

e Estimated.

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	254	349	506	356	669	883	1406	611	474	176	117	99.2
MAX	1515	809	1221	981	1837	1522	5667	1723	1619	385	443	295
(WY)	1991	1980	1991	1993	1981	1980	1993	1989	1989	1984	1992	1990
MIN	41.4	49.0	76.6	29.5	127	259	352	164	51.4	38.4	29.6	26.3
(WY)	1992	1981	1981	1981	1989	1981	1988	1985	1980	1991	1980	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1980 - 1993

ANNUAL TOTAL	197051		306984									
ANNUAL MEAN	538	‡541	841	‡840					489	‡491		
HIGHEST ANNUAL MEAN									841			1993
LOWEST ANNUAL MEAN									310			1985
HIGHEST DAILY MEAN	6130	Mar 27	7210	Apr 27					7210	Apr 27		1993
LOWEST DAILY MEAN	69	Jul 7, 10-13	38	Aug 9					16	Aug 26-28		1980
ANNUAL SEVEN-DAY MINIMUM	69	Jul 7	39	Aug 3					21	Jan 23		1981
INSTANTANEOUS PEAK FLOW			7660	Apr 26					a7670	Apr 11		1984
INSTANTANEOUS PEAK STAGE			14.06	Apr 26					14.06	Apr 26		1993
ANNUAL RUNOFF (CFSM)	1.21	‡1.21	1.89	‡1.88					1.10	‡1.10		
ANNUAL RUNOFF (INCHES)	16.44	‡16.52	25.60	‡25.56					14.91	‡14.95		
10 PERCENT EXCEEDS	1250		2100						1130			
50 PERCENT EXCEEDS	316		210						185			
90 PERCENT EXCEEDS	110		43						53			

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

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

SUMMARY STATISTICS

WATER YEARS 1976 - 1979

ANNUAL MEAN	643											
HIGHEST ANNUAL MEAN	955				1978							
LOWEST ANNUAL MEAN	429				1977							
HIGHEST DAILY MEAN	8510			Jan 9	1978							
LOWEST DAILY MEAN	28			Sep 11	1977							
ANNUAL SEVEN-DAY MINIMUM	32			Sep 7	1977							
INSTANTANEOUS PEAK FLOW	bc17900			Feb 25	1977							
INSTANTANEOUS PEAK STAGE	d17.20			Jan 26	1978							
INSTANTANEOUS LOW FLOW	26			Feb 13, Sep 12, 1977; Feb 3, 1979.								
ANNUAL RUNOFF (CFSM)	1.44											
ANNUAL RUNOFF (INCHES)	19.59											
10 PERCENT EXCEEDS	1520											
50 PERCENT EXCEEDS	232											
90 PERCENT EXCEEDS	69											

‡ Adjusted for change in contents in Tioga and Hammond Lakes.

a From rating curve extended above 6,000 ft³/s.b From rating curve extended above 4,000 ft³/s.

c Gage height 16.70 ft.

d Backwater from ice.

CHEMUNG RIVER BASIN

01518862 COWANESQUE RIVER AT WESTFIELD, PA

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

DRAINAGE AREA.--90.6 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,337.58 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	52	120	587	e37	e19	2790	200	28	5.9	4.1	13
2	60	120	104	369	e37	e21	1810	165	18	5.3	5.4	6.6
3	50	452	94	277	e40	e24	946	140	15	6.5	7.4	71
4	41	227	81	308	e45	e26	563	119	14	6.5	5.1	38
5	35	230	77	550	e50	e28	466	189	14	5.4	4.9	22
6	30	281	73	294	e41	e31	419	175	17	4.1	4.0	13
7	26	207	64	237	e35	e28	389	131	13	3.7	3.9	9.7
8	24	156	59	204	e31	e26	382	115	12	3.4	3.6	8.0
9	36	127	51	e150	e31	e30	389	102	49	2.9	2.6	6.5
10	39	121	54	e110	e34	e35	767	89	34	2.8	2.5	6.7
11	29	113	e64	e100	e30	e28	551	77	19	2.4	5.2	10
12	26	291	72	117	e26	e24	399	67	14	2.5	4.2	8.4
13	23	662	61	362	e26	e23	311	58	11	2.1	3.0	6.0
14	22	298	60	210	e28	e26	255	51	9.1	2.1	2.5	4.8
15	95	227	e70	154	e30	e40	221	46	8.4	2.2	2.4	4.2
16	134	186	84	132	e32	e45	968	42	8.0	1.8	5.0	5.0
17	122	169	396	119	e31	e46	1420	37	7.0	1.9	35	5.0
18	77	164	331	101	e27	e48	589	34	6.5	1.6	28	5.0
19	73	141	231	e80	e25	e48	402	36	8.6	3.0	11	4.6
20	59	118	398	e70	e23	e45	313	39	9.8	5.5	7.5	3.4
21	58	127	241	e60	e23	e43	407	31	15	3.2	6.3	3.4
22	57	178	191	e70	e28	e45	347	27	20	2.2	4.6	3.6
23	48	338	170	e86	e25	e60	503	24	11	1.9	3.6	3.8
24	141	194	139	e75	e23	e70	403	23	7.9	1.8	2.7	5.8
25	166	291	e90	e74	e20	e150	369	21	6.4	2.1	3.0	4.8
26	111	213	e70	e68	e21	e200	843	19	6.3	1.2	2.2	13
27	95	193	e70	e62	e20	e350	445	17	6.8	1.6	3.9	63
28	83	174	e80	e58	e19	e700	350	16	9.3	1.4	9.3	66
29	74	153	e100	e52	---	e1200	283	15	10	3.2	3.6	33
30	69	135	e600	e47	---	2100	239	13	6.9	4.2	2.3	25
31	61	---	1210	e47	---	1910	---	19	---	4.6	6.1	---
TOTAL	2035	6338	5505	5230	838	7469	18539	2137	415.0	99.0	194.9	472.3
MEAN	65.6	211	178	169	29.9	241	618	68.9	13.8	3.19	6.29	15.7
MAX	166	662	1210	587	50	2100	2790	200	49	6.5	35	71
MIN	22	52	51	47	19	19	221	13	6.3	1.2	2.2	3.4
CFSM	.72	2.33	1.96	1.86	.33	2.66	6.82	.76	.15	.04	.07	.17
IN.	.84	2.60	2.26	2.15	.34	3.07	7.61	.88	.17	.04	.08	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1993, BY WATER YEAR (WY)

	MEAN	53.0	75.2	122	85.3	129	182	242	111	64.6	42.1	34.2	26.2
MAX	323	211	278	169	281	269	618	328	361	153	238	111	
(WY)	1991	1993	1991	1993	1984	1991	1993	1989	1989	1984	1984	1992	
MIN	4.36	13.1	13.1	13.6	21.4	91.2	91.3	17.3	7.11	3.19	4.30	2.39	
(WY)	1992	1992	1989	1989	1987	1990	1988	1985	1991	1993	1991	1991	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1983 - 1993

ANNUAL TOTAL	43001.7	49272.2	97.3	184
ANNUAL MEAN	117	135	154	185
HIGHEST ANNUAL MEAN			61.6	1993
LOWEST ANNUAL MEAN			2790	1991
HIGHEST DAILY MEAN	1210	Dec 31	2790	Apr 1 1993
LOWEST DAILY MEAN	5.1	Jul 3	1.2	Jul 26 1991
ANNUAL SEVEN-DAY MINIMUM	6.3	Jul 1	1.7	Jul 22 1991
INSTANTANEOUS PEAK FLOW			4330	Apr 1 1984
INSTANTANEOUS PEAK STAGE			5.94	Apr 1 1984
ANNUAL RUNOFF (CFSM)	1.30		1.49	1.07
ANNUAL RUNOFF (INCHES)	17.66		20.23	14.60
10 PERCENT EXCEEDS	292		355	236
50 PERCENT EXCEEDS	70		40	39
90 PERCENT EXCEEDS	15		3.7	4.8

a From rating curve extended above 1000 ft³/s.

b From floodmark.

e Estimated.

CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA

LOCATION.--Lat 41°59'48", long 77°08'25", Tioga County, Hydrologic Unit 02050104, on left bank on SR 4022, 0.5 mi downstream from Cowanesque Dam, 0.8 mi upstream from highway bridge on U.S. Route 15 in Lawrenceville, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--298 mi².

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

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

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

REMARKS.--Records good except those for estimated daily discharges and those below 20 ft³/s, which are fair. Flow regulated since December 1979 by Cowanesque Dam (station 01519995). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	154	e372	e3570	144	44	1710	502	42	20	15	15
2	163	290	e328	e1420	128	43	4220	489	42	20	12	15
3	175	1420	e290	e818	97	61	5620	395	42	20	10	15
4	154	777	e267	e726	99	107	5500	264	42	20	9.5	15
5	108	494	e244	e1700	106	146	5330	341	35	20	10	15
6	86	741	e250	e1180	113	140	5310	619	30	19	9.2	15
7	66	619	e224	e749	80	105	5280	424	30	17	9.2	15
8	61	444	e195	e632	63	93	5170	312	33	17	9.2	15
9	84	363	e195	e458	68	140	4950	241	118	17	9.1	15
10	148	360	e147	e344	83	200	4140	239	177	17	13	15
11	133	334	e202	e322	97	176	1770	199	80	17	13	15
12	93	622	e252	e371	109	110	2100	147	26	17	13	14
13	85	e1850	e230	e1270	110	158	1390	131	26	17	12	13
14	74	e1290	e199	e1270	110	218	1290	104	25	17	12	14
15	68	e712	e162	552	110	170	834	112	50	17	12	15
16	388	e551	e240	376	76	98	1350	119	72	17	14	15
17	362	e465	e1140	345	64	115	3140	89	26	18	15	15
18	256	e465	e1820	331	72	133	3890	72	26	18	14	15
19	172	e465	e1260	243	57	119	3230	67	21	18	13	15
20	154	e356	e1370	194	57	98	e1270	82	17	17	13	15
21	154	e388	e1180	185	56	92	e1520	100	17	15	13	17
22	154	e425	e626	239	72	120	e1490	91	30	15	13	17
23	145	e1060	e531	302	88	226	e1410	71	45	15	12	17
24	232	e1050	e465	258	78	307	e2200	59	25	15	13	17
25	575	e1200	e287	334	67	528	e1480	53	23	15	15	17
26	309	e945	e204	249	60	1560	e2730	38	20	15	13	21
27	280	e620	e210	159	60	2550	e2200	38	20	15	12	23
28	234	e523	e210	159	55	3760	1060	26	20	15	12	158
29	208	e431	e288	177	---	2150	913	26	20	15	12	185
30	168	e411	e1330	119	---	96	707	26	20	15	12	80
31	176	---	e3710	100	---	600	---	31	---	15	13	---
TOTAL	5692	19825	18428	19152	2379	14463	83204	5507	1200	525	377.2	848
MEAN	184	661	594	618	85.0	467	2773	178	40.0	16.9	12.2	28.3
MAX	575	1850	3710	3570	144	3760	5620	619	177	20	15	185
MIN	61	154	147	100	55	43	707	26	17	15	9.1	13
MEAN‡	182	661	630	585	82.3	1006	2216	184	40.0	2.9	14.2	36.7
CFSM‡	.61	2.22	2.11	1.96	.28	3.38	7.44	.62	.13	.01	.05	.12
IN.‡	.70	2.48	2.43	2.26	.29	3.90	8.30	.71	.15	.01	.06	.13

‡ Adjusted for change in contents in Cowanesque Lake.

e Estimated.

CHEMUNG RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	168	209	335	207	403	572	775	361	254	106	76.5	75.2
MAX	1122	661	864	618	1027	975	2773	1080	1222	462	518	315
(WY)	1991	1993	1991	1993	1981	1982	1993	1989	1989	1984	1984	1992
MIN	13.9	14.3	35.9	23.3	57.6	158	286	48.9	17.4	14.1	11.9	5.09
(WY)	1989	1992	1990	1981	1980	1981	1988	1985	1991	1991	1983	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1980 - 1993

ANNUAL TOTAL	130757	171600.2	
ANNUAL MEAN	357	470	294
HIGHEST ANNUAL MEAN			498
LOWEST ANNUAL MEAN			194
HIGHEST DAILY MEAN	e3710	5620	5620
LOWEST DAILY MEAN	18	9.1	3.4
ANNUAL SEVEN-DAY MINIMUM	21	9.5	3.9
INSTANTANEOUS PEAK FLOW		5780	5780
INSTANTANEOUS PEAK STAGE		12.08	12.08
ANNUAL RUNOFF (CFSM)	1.20	1.58	.99
ANNUAL RUNOFF (INCHES)	16.32	21.42	13.40
10 PERCENT EXCEEDS	883	1340	742
50 PERCENT EXCEEDS	196	115	98
90 PERCENT EXCEEDS	31	15	15

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

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

SUMMARY STATISTICS

WATER YEARS 1952 - 1979

ANNUAL MEAN	294	
HIGHEST ANNUAL MEAN	514	1978
LOWEST ANNUAL MEAN	135	1965
HIGHEST DAILY MEAN	21500	Jun 23 1972
LOWEST DAILY MEAN	.00	Aug 22 1978
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 22 1964
INSTANTANEOUS PEAK FLOW	a43700	Sep 26 1975
INSTANTANEOUS PEAK STAGE	b18.13	Sep 26 1975
INSTANTANEOUS LOW FLOW	c0.8	Aug 31, Sep 1, 27, 1964
ANNUAL RUNOFF (CFSM)	.99	
ANNUAL RUNOFF (INCHES)	13.41	
10 PERCENT EXCEEDS	694	
50 PERCENT EXCEEDS	95	
90 PERCENT EXCEEDS	10	

‡ Adjusted for change in contents in Cowanesque Lake.

a From rating curve extended above 6,000 ft³/s, on basis of slope-area measurement of peak flow.

b From floodmark; site and datum then in use.

c No flow Aug. 22, 1978, during dam construction.

e Estimated.

CHEMUNG RIVER BASIN

RESERVOIRS IN CHEMUNG RIVER BASIN

01517900 TIOGA LAKE.--Lat 41°53'57", long 77°08'21", Tioga County, Hydrologic Unit 02050104, at Tioga Dam on Tioga River, 0.8 mi south of Tioga, and 1.7 mi upstream from Crooked Creek. DRAINAGE AREA, 280 mi². PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,090 acre-ft, Apr. 3, elevation, 1,123.21 ft; minimum, 7,860 acre-ft, Mar. 23, elevation, 1,077.28 ft.

01518498 HAMMOND LAKE.--Lat 41°53'56", long 77°08'52", Tioga County, Hydrologic Unit 02050104, at Hammond Dam on Crooked Creek, 3.0 mi upstream from mouth, and 0.8 mi southwest of Tioga. DRAINAGE AREA, 122 mi². PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,650 acre-ft, Apr. 3, 1984, elevation, 1,123.55 ft; minimum, 2,430 acre-ft, Oct. 24, 1980, elevation, 1,074.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,650 acre-ft, Apr. 3, elevation, 1,123.55 ft; minimum, 7,590 acre-ft, Mar. 27, elevation, 1,084.21 ft.

01519995 COWANESQUE LAKE.--Lat 41°59'05", long 77°09'05", Tioga County, Hydrologic Unit 02050104, at Cowanesque Dam on Cowanesque River, 1.8 mi southwest of Lawrenceville, and 2.5 mi upstream from mouth. DRAINAGE AREA, 298 mi². PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 84,560 acre-ft, Apr. 2, elevation, 1,114.78 ft; minimum, 32,100 acre-ft, Aug. 11, elevation, 1,079.55 ft.

CHEMUNG RIVER BASIN

Reservoirs in Chemung River basin--Continued

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)
01517900 Tioga Lake				01518498 Hammond Lake		
Sept. 30.....	1,081.45	9,720	--	1,086.32	9,040	--
Oct. 31.....	1,081.12	9,560	- 2.6	1,086.29	9,030	- 0.2
Nov. 30.....	1,085.25	11,650	+ 35.1	1,087.17	9,590	+ 9.4
Dec. 31.....	1,086.13	12,180	+ 8.6	1,088.45	10,510	+ 15.0
CAL YR 1992.....	--	--	+ 2.2	--	--	+ 0.5
Jan. 31.....	1,082.29	10,140	- 33.2	1,087.20	9,610	- 14.6
Feb. 28.....	1,079.25	8,710	- 25.7	1,084.91	8,040	- 28.3
Mar. 31.....	1,108.26	31,340	+368	1,108.49	29,810	+354
Apr. 30.....	1,081.58	9,780	-362	1,087.07	9,510	-341
May 31.....	1,081.13	9,560	- 3.6	1,085.56	8,520	- 16.1
June 30.....	1,081.55	9,770	+ 3.5	1,085.68	8,610	+ 1.5
July 31.....	1,080.53	9,290	- 7.8	1,085.45	8,440	- 2.8
Aug. 31.....	1,080.17	9,130	- 2.6	1,085.20	8,250	- 3.1
Sept. 30.....	1,081.10	9,550	+ 7.1	1,084.95	8,070	- 3.0
WTR YR 1993.....	--	--	- 0.2	--	--	- 1.3
01519995 Cowanesque Lake						
Sept. 30.....	1,080.32	32,920	--			
Oct. 31.....	1,080.19	32,790	- 2.1			
Nov. 30.....	1,080.19	32,790	0			
Dec. 31.....	1,082.17	34,990	+ 35.8			
CAL YR 1992.....	--	--	+ 3.1			
Jan. 31.....	1,080.35	32,950	- 33.2			
Feb. 28.....	1,080.20	32,800	- 2.7			
Mar. 31.....	1,104.66	65,920	+539			
Apr. 30.....	1,080.15	32,750	-557			
May 31.....	1,080.49	33,090	+ 5.5			
June 30.....	1,080.49	33,090	0			
July 31.....	1,079.66	32,230	- 14.0			
Aug. 31.....	1,079.77	32,350	+ 2.0			
Sept. 30.....	1,080.25	32,850	+ 8.4			
WTR YR 1993.....	--	--	- 0.1			

SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA

LOCATION.--Lat 41°45'55", long 76°26'28", Bradford County, Hydrologic Unit 02050106, on right bank at Bridge Street in Towanda, and 1.8 mi upstream from Towanda Creek.

DRAINAGE AREA.--7,797 mi².

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Records fair. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6730	9000	16100	60300	6750	e2700	139000	27800	3060	3040	1050	930
2	5910	8530	14500	43300	e5500	e2800	149000	22000	3290	2800	1050	947
3	5420	17600	13000	28800	e5200	e2900	132000	18300	3720	2570	1100	917
4	5010	27800	12000	21600	e5500	3150	99000	15400	3620	2430	1100	1350
5	4600	22400	11000	25100	e5600	3410	75900	13800	3390	2330	1100	2080
6	4020	21600	10300	35600	e5400	3540	62300	18700	3300	2170	1080	2160
7	3680	20800	9480	29800	e4700	3490	58500	18100	3790	2020	1120	2040
8	3390	18200	8900	22800	e4300	3440	57700	15400	4390	1840	1210	1880
9	3240	15200	8300	19000	e4100	3960	56700	12700	4690	1720	1250	1680
10	5350	12900	7310	15300	e4400	4450	63700	10900	5940	1730	1200	1550
11	8490	11900	6510	12600	e4500	4520	132000	9810	5870	1600	1130	1430
12	9650	12300	7190	11500	e4500	4070	117000	8560	4990	1450	1180	1350
13	9090	20600	7680	14100	e4100	3840	85600	7660	4350	1410	1110	1290
14	7990	25600	7420	23600	e3900	e2500	68900	6890	3860	1360	1070	1190
15	7000	19800	6910	19300	e4000	e1900	52500	6350	3670	1290	1030	1160
16	7810	15900	6600	15400	e4100	e2500	53700	5920	3640	1220	1050	1150
17	10200	13900	7860	13300	e3900	e3000	93500	5640	3340	1170	1210	1160
18	10400	12900	24100	11800	e3600	e3200	88200	5400	3230	1110	1420	1130
19	9300	12400	25400	9770	e3200	e3500	65600	5270	3060	1100	1410	1160
20	9020	11700	21800	8240	e2900	e4200	51200	5220	2860	1100	1370	1210
21	8410	10500	25600	7630	e2800	e4100	49300	5200	2780	1090	1320	1180
22	7980	10900	20800	7910	e3000	e3900	58500	4990	4660	1070	1270	1160
23	7740	23000	17100	9460	e3300	e4500	58600	4680	5820	1030	1240	1210
24	7620	38400	14800	10300	e3200	e5900	71800	4360	5050	1000	1170	1210
25	13300	37800	11900	12400	e3100	9910	66800	3990	4060	1010	1140	1210
26	15800	37000	e10000	13100	e3000	16100	68200	3780	3380	999	1130	1230
27	14000	30800	e7400	11600	e2900	28300	82600	3560	2820	1020	1080	1390
28	12100	24700	e7200	9670	e2800	49700	60700	3360	2650	1010	1050	1950
29	10500	20800	e8000	8810	---	86300	45900	3190	2520	1060	975	2740
30	9870	18000	12100	7830	---	124000	34800	3050	3010	993	894	2830
31	9610	---	46200	7200	---	135000	---	2970	---	981	902	---
TOTAL	253230	582930	413460	547120	114250	534780	2299200	282950	114810	46723	35411	43874
MEAN	8169	18430	13340	17650	4080	17250	76640	9127	3827	1507	1142	1462
MAX	15800	38400	46200	60300	6750	135000	149000	27800	5940	3040	1420	2830
MIN	3240	8530	6510	7200	2800	1900	34800	2970	2520	981	894	917
CFSM	1.05	2.49	1.71	2.26	.52	2.21	9.83	1.17	.49	.19	.15	.19
IN.	1.21	2.78	1.97	2.61	.55	2.55	10.97	1.35	.55	.22	.17	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

	MEAN	5458	9415	10980	10250	11690	23690	25330	13160	7089	4040	2934	3305
MAX	31270	28940	29680	25610	35700	60780	76640	34770	41150	23840	16210	23200	
(WY)	1978	1928	1973	1937	1976	1936	1993	1943	1972	1915	1915	1977	
MIN	507	495	1459	1273	1821	8417	4975	3297	1615	783	571	432	
(WY)	1965	1965	1931	1931	1920	1981	1946	1985	1939	1962	1964	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1914 - 1993

ANNUAL TOTAL	4262740	5268738	
ANNUAL MEAN	11650	14430	10600
HIGHEST ANNUAL MEAN			16610
LOWEST ANNUAL MEAN			5104
HIGHEST DAILY MEAN	73700	Mar 28	149000
LOWEST DAILY MEAN	1760	Jul 5	894
ANNUAL SEVEN-DAY MINIMUM	1910	Jul 1	945
INSTANTANEOUS PEAK FLOW			152000
INSTANTANEOUS PEAK STAGE			21.99
INSTANTANEOUS LOW FLOW			Apr 2
ANNUAL RUNOFF (CFSM)	1.49	1.85	a320000
ANNUAL RUNOFF (INCHES)	20.34	25.14	b33.43
10 PERCENT EXCEEDS	23700	40400	25900
50 PERCENT EXCEEDS	9060	5220	5430
90 PERCENT EXCEEDS	3390	1140	1260

a From rating curve extended above 180,000 ft³/s.

b From floodmark.

e Estimated.

SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1935, 1967-68, 1973, 1976, 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE.--January 1951 to July 1954.

REMARKS.--Samples collected from bridge on U.S. Highway 6.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission (SRBC) and analyzed by the Pennsylvania Department of Environmental Resources. Suspended-sediment samples analyzed by the SRBC.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD FEE (US/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED TOTAL (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT										
13...	1150	8870	229	6.8	14.0	0.680	0.680	0.070	0.050	0.58
NOV										
04...	1255	27000	165	7.3	9.0	0.530	0.530	0.040	0.040	0.79
05...	1340	22600	170	7.4	7.0	0.530	0.530	0.040	0.040	0.32
06...	1210	22600	185	7.4	7.0	0.550	0.550	0.030	0.020	0.38
08...	1355	18800	178	7.6	7.0	0.590	0.590	0.070	0.070	0.56
09...	1250	15700	195	7.7	6.0	0.620	0.620	0.070	0.070	0.33
16...	1530	16300	198	7.7	4.5	0.620	0.620	0.110	0.050	0.30
DEC										
08...	1235	8710	220	7.5	2.0	0.970	0.970	0.130	0.130	0.31
JAN										
05...	1230	25300	178	6.7	5.0	0.820	0.820	0.090	0.090	0.27
06...	1130	35400	243	6.8	4.0	0.700	0.700	0.070	0.060	0.55
07...	1310	29100	237	8.3	4.0	0.460	0.460	0.090	0.070	0.71
27...	1245	11900	214	7.3	1.0	0.990	0.990	0.140	0.080	0.51
FEB										
09...	1330	4100	289	7.5	1.5	1.36	1.36	0.100	0.100	0.42
MAR										
22...	1530	3900	451	7.8	3.5	1.17	1.17	<0.020	<0.020	0.88
24...	1045	5860	330	8.0	6.5	1.10	1.10	0.020	0.020	0.18
25...	1300	9720	318	7.8	4.5	1.06	1.06	0.070	0.070	0.39
26...	1000	16100	311	7.6	2.0	1.01	1.01	0.150	<0.020	0.32
27...	1100	27300	232	7.5	3.0	0.880	0.880	0.060	0.050	0.58
28...	1105	45100	174	7.4	3.0	0.790	0.790	0.130	0.130	0.68
29...	1110	78700	132	7.6	3.0	0.700	0.700	0.140	0.120	0.95
30...	1015	118000	116	7.3	3.5	0.620	0.620	0.210	0.100	0.93
31...	1030	133000	102	7.0	3.0	0.620	0.620	0.180	0.020	1.3
APR										
01...	1050	136000	99	7.0	4.0	0.660	0.660	0.260	0.130	0.90
02...	1045	152000	95	7.1	4.5	0.620	0.620	0.130	0.100	0.57
03...	1353	129000	106	7.1	5.0	0.680	0.680	0.140	0.100	0.29
04...	1425	91400	115	6.8	5.5	0.770	0.770	0.150	0.060	0.42
05...	1355	69500	126	6.8	5.5	0.810	0.810	0.120	0.070	0.42
07...	1230	55100	140	7.0	7.5	0.810	0.810	0.120	0.060	0.34
09...	1115	56600	129	7.0	8.0	0.750	0.750	0.080	<0.020	0.32
22...	1255	55300	175	7.3	8.0	0.570	0.570	0.050	0.050	0.32
29...	1125	43600	171	7.0	19.0	0.640	0.640	0.040	0.030	0.32
MAY										
05...	1315	14000	235	7.4	14.0	1.01	1.01	0.040	0.030	0.16
10...	1600	10700	309	7.6	18.0	0.860	0.860	0.170	0.030	0.96
JUN										
17...	1230	3320	365	8.2	25.0	0.660	0.660	<0.020	<0.020	0.49
JUL										
15...	1240	1290	422	8.1	29.0	0.280	0.280	0.020	<0.020	0.52
AUG										
17...	1230	1210	368	8.4	25.0	0.070	0.070	0.030	<0.020	0.73
SEP										
22...	1240	1210	380	8.2	16.0	0.660	0.660	<0.020	<0.020	0.40

SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT 13...	0.45	0.65	0.50	1.3	0.090	0.040	--	4.4	29	695
NOV 04...	0.43	0.83	0.47	1.4	0.090	0.040	0.010	4.3	55	4010
05...	0.18	0.36	0.22	0.89	0.080	0.030	--	3.6	30	1830
06...	0.37	0.41	0.39	0.96	0.070	0.030	--	3.2	21	1280
08...	0.51	0.63	0.58	1.2	0.050	0.030	--	4.1	1	51
09...	0.29	0.40	0.36	1.0	0.050	0.030	0.010	2.9	17	718
16...	0.34	0.41	0.39	1.0	0.040	0.030	--	3.3	9	396
DEC 08...	0.31	0.44	0.44	1.4	0.030	0.030	0.010	2.6	1	24
JAN 05...	0.27	0.36	0.36	1.2	0.050	0.030	0.010	2.5	34	2320
06...	0.19	0.62	0.25	1.3	0.080	0.030	--	3.3	43	4110
07...	0.58	0.80	0.65	1.3	0.050	0.020	--	2.8	21	1650
27...	0.31	0.65	0.39	1.6	0.050	0.030	--	2.3	3	96
FEB 09...	0.23	0.52	0.33	1.9	0.040	0.030	0.010	2.2	1	11
MAR 22...	--	0.88	0.88	2.1	0.030	0.070	0.040	1.1	14	147
24...	0.18	0.20	0.20	1.3	0.040	0.020	0.010	1.3	21	332
25...	0.32	0.46	0.39	1.5	0.080	0.030	0.010	1.6	35	919
26...	--	0.47	0.40	1.5	0.060	0.030	0.010	1.9	30	1300
27...	0.38	0.64	0.43	1.5	0.090	0.030	0.010	1.9	324	23900
28...	0.35	0.81	0.48	1.6	0.140	0.040	0.010	2.1	285	34700
29...	0.34	1.1	0.46	1.8	0.220	0.050	0.010	4.3	332	70500
30...	0.33	1.1	0.43	1.8	0.320	0.060	0.010	5.6	492	157000
31...	0.36	1.5	0.38	2.1	0.370	0.050	0.010	4.0	499	179000
APR 01...	0.40	1.2	0.53	1.8	0.290	0.050	0.020	3.8	321	118000
02...	0.45	0.70	0.55	1.3	0.260	0.030	0.010	3.4	419	172000
03...	0.18	0.43	0.28	1.1	0.130	0.030	0.010	3.2	179	62300
04...	0.27	0.57	0.33	1.3	0.130	0.030	0.010	2.9	122	30100
05...	0.22	0.54	0.29	1.3	0.110	0.040	0.010	2.9	104	19500
07...	0.22	0.46	0.28	1.3	0.090	0.020	0.010	2.9	77	11500
09...	--	0.40	0.40	1.2	0.070	0.030	--	2.5	60	9170
22...	0.19	0.37	0.24	0.94	0.080	0.030	0.010	3.1	57	8510
29...	0.19	0.36	0.22	1.0	0.070	0.030	--	3.0	39	4590
MAY 05...	0.17	0.20	0.20	1.2	0.050	0.030	--	2.3	29	1100
10...	0.80	1.1	0.83	2.0	0.050	0.030	--	3.4	15	433
JUN 17...	--	0.49	0.40	1.2	<0.020	<0.020	--	3.5	7	63
JUL 15...	--	0.54	0.20	0.82	0.070	0.030	0.010	3.7	5	17
AUG 17...	--	0.76	0.30	0.83	0.120	<0.020	0.020	4.6	15	49
SEP 22...	--	0.40	0.40	1.1	0.060	0.060	0.020	4.1	4	13

SUSQUEHANNA RIVER BASIN

01533400 SUSQUEHANNA RIVER AT MESHOPPEN, PA

LOCATION.--Lat 41°36'26", long 76°03'02", Wyoming County, Hydrologic Unit 02050106, on right bank 0.3 mi south of Meshoppen, 0.3 mi downstream from Meshoppen Creek, 2.3 mi upstream from bridge on State Highway 87, and 2.4 mi upstream from Mehoopany Creek.

DRAINAGE AREA.--8,720 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 599.76 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. National Weather Service satellite and landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of 43.51 ft, from floodmark information by local resident, discharge, about 331,000 ft³/s, from rating curve extended above 220,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7730	9750	18000	66200	7660	e3500	147000	34000	3280	3290	1040	940
2	6660	9110	16300	51900	7000	e3600	159000	27400	3420	3110	1120	979
3	5970	14900	14600	34500	5910	e3500	152000	22100	3740	2900	1140	1190
4	5590	29300	13300	25200	6580	e3500	119000	18800	3910	2770	1140	1250
5	5130	25300	12300	25500	7150	e3600	87900	16200	3650	2640	1140	1780
6	4650	23500	11400	36200	e6400	e3600	69300	21100	3460	2510	1140	2430
7	4190	23000	10600	33700	e5400	e3500	62500	23200	3410	2360	1150	2350
8	3880	20500	9850	26600	e5000	e3500	61200	19300	4120	2270	1220	2230
9	3610	17600	9130	21800	e5200	e3800	59900	16100	4560	2120	1300	2090
10	5080	14700	8290	18100	e5600	e4200	73600	13100	5280	1960	1360	1950
11	7950	13300	7420	14800	e5400	e4700	138000	11600	6250	1920	1340	1900
12	10600	13100	7650	13200	e5200	e4500	146000	10100	5400	1790	1240	1750
13	10400	20600	8350	14600	e5000	e4000	103000	9120	4500	1630	1280	1630
14	9180	27900	8270	25000	e4900	e3400	79800	8350	3820	1580	1200	1520
15	8120	23500	7790	23700	e4700	e3000	61500	7720	3420	1530	1140	1390
16	8150	18600	7360	18800	e4700	e3200	52500	7260	3820	1410	1140	1360
17	10400	15900	8260	15800	e4500	e3800	97200	6860	3560	1310	1380	1320
18	11400	14600	21200	13900	e4100	e3600	105000	6530	3290	1250	1490	1370
19	10500	13800	28800	11800	e3800	e4100	77700	6320	3220	1210	1780	1370
20	9860	13000	25300	10200	e3500	e4600	60400	6250	3120	1200	1660	1400
21	9350	11900	27200	8870	e3400	e4900	51300	6180	3040	1200	1620	1440
22	8720	11600	24800	8920	e3600	e5000	66200	6010	3620	1170	1510	1410
23	8400	19700	20100	10300	e3900	e5600	65700	5690	6070	1140	1440	1370
24	8140	38200	17400	11300	e3700	e6000	78000	5310	5980	1090	1360	1430
25	10900	39400	14200	12800	e3600	e10000	77600	4910	4970	1060	1320	1410
26	16200	39400	12600	14600	e3600	e17000	71900	4520	4090	1060	1330	1490
27	15300	34100	10200	13300	e3600	28600	98600	4270	3400	1060	1310	1660
28	13400	28100	8850	11400	e3500	52700	74400	3970	2960	1080	1220	2460
29	11600	23400	8800	9910	---	85300	55600	3730	2830	1080	1160	3080
30	10600	20300	11100	9340	---	127000	42200	3480	2760	1140	1030	3460
31	10300	---	41200	8130	---	143000	---	3310	---	1080	941	---
TOTAL	271960	628060	450620	620370	136600	560300	2594000	342790	118950	52920	39641	51409
MEAN	8773	20940	14540	20010	4879	18070	86470	11060	3965	1707	1279	1714
MAX	16200	39400	41200	66200	7660	143000	159000	34000	6250	3290	1780	3460
MIN	3610	9110	7360	8130	3400	3000	42200	3310	2760	1060	941	940
CFSM	1.01	2.40	1.67	2.29	.56	2.07	9.92	1.27	.45	.20	.15	.20
IN.	1.16	2.68	1.92	2.65	.58	2.39	11.07	1.46	.51	.23	.17	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	MEAN	8720	11350	13620	11040	14200	24540	28580	13900	7200	3602	3003	3985
MAX	35100	25260	29260	29920	36100	48830	86470	31730	21470	8142	9300	24900	
(WY)	1978	1978	1978	1979	1981	1979	1993	1989	1989	1984	1992	1977	
MIN	1045	2858	4440	2168	2702	9955	9638	4027	2298	1100	1153	967	
(WY)	1983	1983	1990	1981	1980	1981	1981	1985	1991	1991	1991	1980	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1977 - 1993

ANNUAL TOTAL	4640910	5867620		
ANNUAL MEAN	12680	16080		
HIGHEST ANNUAL MEAN			11950	1978
LOWEST ANNUAL MEAN			18930	1985
HIGHEST DAILY MEAN	76800	Mar 28	159000	Apr 2
LOWEST DAILY MEAN	1920	Jul 5-6	940	Sep 1
ANNUAL SEVEN-DAY MINIMUM	2010	Jul 2	1070	Aug 28
INSTANTANEOUS PEAK FLOW			172000	Apr 2
INSTANTANEOUS PEAK STAGE			a32.20	Apr 2
INSTANTANEOUS LOW FLOW			920	Aug 31, Sep 1
ANNUAL RUNOFF (CFSM)	1.45		1.84	
ANNUAL RUNOFF (INCHES)	19.80		25.03	
10 PERCENT EXCEEDS	25700		41600	28600
50 PERCENT EXCEEDS	9960		5980	6160
90 PERCENT EXCEEDS	3600		1310	1460

a From outside floodmark, 31.39 ft in gage well.

e Estimated.

TUNKHANNOCK CREEK BASIN

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA

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

DRAINAGE AREA.--383 mi².

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

REVISED RECORDS.--WSP 756: Drainage area. WSP 1051: 1921(M), 1932, 1934-35(M), 1936, 1938(M), 1939-40, 1942-44, 1945(M). WSP 1302: 1922, 1923(M), 1924-25, 1927-28. WSP 1432: 1919(M), 1920, 1933, 1934(P). WDR PA-85-2: 1954(P), 1955(M), 1956(P), 1957(M), 1958-64(P), 1967-71(P), 1977(M), 1978(P), 1981(M), 1982-84(P).

GAGE.--Water-stage recorder. Datum of gage is 610.50 ft above sea level (Pennsylvania Department of Transportation bench mark). Prior to Aug. 10, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	165	631	2090	e220	e68	7820	1060	152	62	38	27
2	100	178	561	1340	e190	e80	6770	845	137	57	37	24
3	91	932	512	1020	e210	e90	4110	701	115	61	38	119
4	82	792	449	956	e190	e94	2600	599	106	65	40	249
5	75	580	426	2120	e210	e100	1890	659	106	62	38	162
6	68	715	e360	1710	e180	e110	1550	1400	142	56	33	94
7	63	600	e330	1250	e160	e120	1310	891	132	52	34	64
8	60	489	e300	1060	e150	179	1130	697	112	72	37	50
9	98	424	267	890	e140	304	1020	596	134	98	39	49
10	1590	384	252	721	e150	293	4850	520	261	75	34	57
11	676	397	346	650	e140	231	13000	459	170	63	39	75
12	753	456	474	626	e130	175	3920	412	125	53	71	63
13	496	1620	415	918	e120	298	2430	439	104	50	67	48
14	381	1000	375	1140	e110	499	1780	376	93	46	50	39
15	367	746	328	878	e100	468	1400	326	82	43	40	34
16	393	616	329	764	e110	368	2690	307	176	40	42	33
17	336	536	923	e620	e120	315	5010	280	148	36	191	66
18	277	504	1760	e520	e110	e270	2860	249	108	33	151	76
19	268	448	1130	e450	e100	e240	1970	250	91	34	95	66
20	261	392	1220	e440	e94	e220	1490	252	85	43	67	56
21	236	366	1200	448	e88	e210	1610	233	101	45	59	50
22	240	700	893	517	e96	e230	4270	211	160	39	58	59
23	217	2010	786	591	e92	e300	3730	192	137	33	49	67
24	209	1500	e600	538	e86	e900	2890	181	98	31	41	62
25	248	1380	e500	882	e80	1730	2210	172	80	29	44	59
26	234	1160	e400	588	e76	1920	2510	157	70	29	58	104
27	207	1210	e350	e500	e72	2930	3990	140	67	31	50	214
28	187	937	e360	e400	e70	6710	2220	129	74	34	42	351
29	175	797	445	e350	---	11900	1680	126	76	32	36	210
30	177	718	807	e300	---	9960	1340	117	72	32	33	152
31	173	---	3570	e260	---	6160	---	113	---	38	30	---
TOTAL	8851	22752	21299	25537	3594	47472	96050	13089	3514	1474	1681	2779
MEAN	286	758	687	824	128	1531	3202	422	117	47.5	54.2	92.6
MAX	1590	2010	3570	2120	220	11900	13000	1400	261	98	191	351
MIN	60	165	252	260	70	68	1020	113	67	29	30	24
CFSM	.75	1.98	1.79	2.15	.34	4.00	8.36	1.10	.31	.12	.14	.24
IN.	.86	2.21	2.07	2.48	.35	4.61	9.33	1.27	.34	.14	.16	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

	MEAN	316	531	607	540	650	1169	1114	638	347	211	168	198
MAX	1772	1934	1621	1978	1682	2910	3202	1806	1939	1007	830	1130	
(WY)	1956	1973	1984	1979	1925	1936	1993	1989	1972	1947	1933	1975	
MIN	21.4	25.9	51.6	59.0	76.3	288	235	122	48.4	23.9	19.0	12.4	
(WY)	1965	1965	1923	1981	1980	1915	1946	1941	1962	1962	1930	1964	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1914 - 1993	
ANNUAL TOTAL	184164		248092			
ANNUAL MEAN	503		680		538	
HIGHEST ANNUAL MEAN					897	
LOWEST ANNUAL MEAN					220	
HIGHEST DAILY MEAN	3570	Dec 31	13000	Apr 11	22700	Apr 16 1983
LOWEST DAILY MEAN	59	Sep 18	24	Sep 2	6.9	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	66	Jul 2	31	Jul 24	7.9	Sep 18 1964
INSTANTANEOUS PEAK FLOW			21800	Apr 11	a32200	Apr 5 1947
INSTANTANEOUS PEAK STAGE			13.60	Apr 11	b15.77	Mar 15 1986
INSTANTANEOUS LOW FLOW			24	Sep 2,3	6.2	Sep 24 1964
ANNUAL RUNOFF (CFSM)	1.31		1.77		1.41	
ANNUAL RUNOFF (INCHES)	17.89		24.10		19.10	
10 PERCENT EXCEEDS	1100		1610		1230	
50 PERCENT EXCEEDS	347		214		254	
90 PERCENT EXCEEDS	89		42		50	

a Gage height, 13.96 ft, from rating curve extended above 14,000 ft³/s on basis of contracted-opening measurement of peak flow.

b Discharge, 30,600 ft³/s.

c Estimated.

LACKAWANNA RIVER BASIN**01534180 STILLWATER LAKE NEAR FOREST CITY, PA**

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

DRAINAGE AREA.--37.1 mi².

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

GAGE.--Water-stage recorder. Datum is given in feet above sea level (levels by U.S. Army Corps of Engineers).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 10,700 acre-ft, April 2, elevation, 1,617.84 ft; minimum, 173 acre-ft, June 21, elevation, 1,569.69 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
Sept. 30	1,573.81	512	--
Oct. 31	1,573.60	491	- 0.34
Nov. 30	1,574.36	567	+ 1.3
Dec. 31	1,582.37	1,580	+ 16.5
CAL YR 1992	--	--	+ 1.49
Jan. 31	1,573.30	462	- 18.2
Feb. 28	1,572.84	419	- 0.77
Mar. 31	1,608.04	7,210	+110
Apr. 30	1,575.15	650	-110
May 31	1,572.69	405	- 4.0
June 30	1,572.66	402	- 0.05
July 31	1,572.36	375	- 0.44
Aug. 31	1,572.27	367	- 0.13
Sept. 30	1,572.91	425	+ 0.97
WTR YR 1993	--	--	- 0.12

LACKAWANNA RIVER BASIN

01534300 LACKAWANNA RIVER NEAR FOREST CITY, PA

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

DRAINAGE AREA.--38.8 mi².

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

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1959 by Stillwater Dam (station 01534180). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	41	105	e340	49	e17	60	150	19	8.5	3.2	1.7
2	29	39	92	e360	e40	e20	370	112	20	7.2	3.4	1.7
3	26	79	82	e340	40	e21	1120	91	18	7.7	3.7	3.9
4	23	130	74	e210	41	e22	1160	79	15	9.3	3.3	16
5	20	121	72	220	40	e23	1100	81	14	8.3	2.8	17
6	17	108	70	272	38	e24	1010	136	18	6.9	2.2	12
7	15	99	65	235	e33	e24	930	132	19	6.4	2.2	8.8
8	14	86	61	175	e31	e24	840	103	17	14	2.5	6.5
9	21	74	51	133	e30	e26	742	85	22	17	2.0	6.2
10	187	66	47	100	e29	e27	541	73	28	14	1.4	7.0
11	281	63	51	89	e29	e27	474	64	27	10	1.5	8.5
12	250	67	57	87	e30	e27	784	56	27	8.7	3.8	8.4
13	188	144	58	e85	e32	e28	670	50	23	8.0	5.3	7.1
14	118	198	55	e90	e32	e29	493	44	19	7.0	4.9	5.7
15	93	158	50	83	e31	e27	322	40	20	6.4	3.9	4.8
16	87	120	49	72	e31	e28	194	40	21	5.0	3.2	4.1
17	82	112	60	69	e32	e32	438	37	19	4.1	6.5	6.0
18	73	97	119	e65	e32	e39	453	32	19	3.3	9.1	9.1
19	65	79	131	50	e29	e40	352	32	18	3.3	8.8	9.7
20	60	69	116	49	e27	42	245	32	16	4.8	7.1	8.7
21	56	65	115	51	e25	38	187	32	17	5.5	6.2	8.2
22	55	122	103	54	e24	35	206	29	17	6.2	5.4	9.5
23	53	215	e75	60	e24	36	467	26	22	6.9	4.6	10
24	50	281	e66	62	e24	44	412	24	21	4.6	3.5	11
25	50	263	e60	84	e24	66	358	23	14	3.3	3.2	10
26	51	234	e54	80	e21	86	279	21	11	2.5	3.8	15
27	52	218	e50	69	e19	122	281	18	9.9	2.4	3.8	30
28	49	185	e45	e60	e18	126	467	16	9.6	2.4	3.0	41
29	45	145	e50	47	---	58	334	16	9.7	2.4	2.7	38
30	43	120	e85	e45	---	52	220	14	9.8	2.4	2.2	30
31	42	---	e150	45	---	46	---	14	---	2.6	1.9	---
TOTAL	2229	3798	2318	3781	855	1256	15509	1702	540.0	201.1	121.1	355.6
MEAN	71.9	127	74.8	122	30.5	40.5	517	54.9	18.0	6.49	3.91	11.9
MAX	281	281	150	360	49	126	1160	150	28	17	9.1	41
MIN	14	39	45	45	18	17	60	14	9.6	2.4	1.4	1.7
MEAN [‡]	71.6	128	91.3	104	29.7	150	407	50.9	18.0	6.09	3.81	12.9
CFSM [‡]	1.85	3.30	2.35	2.68	.77	3.87	10.5	1.31	.46	.16	.10	.33
IN. [‡]	2.13	3.68	2.71	3.10	.83	4.46	11.7	1.51	.51	.18	.12	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1993, BY WATER YEAR (WY)

	MEAN	47.4	73.9	84.0	67.0	78.2	131	169	85.5	55.1	27.0	17.8	29.4
MAX	239	264	234	208	245	261	517	232	205	123	59.7	221	221
(WY)	1978	1973	1974	1979	1981	1979	1993	1989	1989	1973	1986	1977	1977
MIN	2.45	2.48	25.3	9.64	13.2	40.5	58.8	31.5	11.1	4.67	2.92	1.17	1.17
(WY)	1965	1965	1990	1981	1980	1993	1968	1982	1980	1991	1980	1980	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1959 - 1993

ANNUAL TOTAL	26604.7	32665.8	
ANNUAL MEAN	72.7	89.5	71.9
HIGHEST ANNUAL MEAN			112
LOWEST ANNUAL MEAN			36.3
HIGHEST DAILY MEAN	438	1160	1160
LOWEST DAILY MEAN	a7.0	1.4	b.00
ANNUAL SEVEN-DAY MINIMUM	9.3	2.1	.43
INSTANTANEOUS PEAK FLOW		1200	cd1390
INSTANTANEOUS PEAK STAGE		5.47	6.41
INSTANTANEOUS LOW FLOW		1.3	b.00
ANNUAL RUNOFF (CFSM)	1.87	2.31	1.85
ANNUAL RUNOFF (INCHES)	25.51	31.32	25.19
10 PERCENT EXCEEDS	159	220	171
50 PERCENT EXCEEDS	53	35	39
90 PERCENT EXCEEDS	13	4.4	7.1

[‡] Adjusted for change in contents in Stillwater Lake.

a Computed using estimated daily discharges.

b Result of shutoff at Stillwater Dam.

c From rating curve extended above 930 ft³/s.

d Instantaneous peak since regulation, 1,020 ft³/s, Feb. 26, 1975, gage height, 4.85 ft.

e Estimated.

LACKAWANNA RIVER BASIN

01534500 LACKAWANNA RIVER AT ARCHBALD, PA

LOCATION.--Lat 41°30'16", long 75°32'33", Lackawanna County, Hydrologic Unit 02050107, on right bank along SR 1012 in Archbald, and 0.5 mi upstream from White Oak Run and Gilmartin Street bridge.

DRAINAGE AREA.--108 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 889.33 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by mine pumps upstream from station. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 17 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	88	232	965	e100	e45	1830	435	73	41	25	25
2	66	92	210	827	e84	e51	1870	358	71	41	24	25
3	61	323	194	582	e80	e56	1970	305	67	42	26	74
4	57	296	177	445	e86	e50	1740	268	64	40	24	100
5	54	270	173	837	e84	e47	1540	296	64	38	24	65
6	51	269	159	665	e79	e45	1440	388	69	36	23	57
7	49	239	e145	551	e70	e45	1350	341	64	35	24	51
8	48	208	e130	435	e65	e50	1260	289	61	42	24	50
9	82	184	e120	357	e66	e58	1160	254	89	48	23	51
10	427	168	e110	294	e70	e62	1260	229	89	42	22	50
11	404	170	133	262	e76	e56	1490	206	73	37	33	49
12	395	174	143	247	e70	e56	1340	199	68	36	39	45
13	292	375	140	271	e66	e41	1100	227	65	33	29	43
14	219	350	132	263	e66	e39	852	181	59	33	26	39
15	183	296	124	235	e63	e38	623	162	62	32	24	37
16	168	244	121	212	e62	e50	738	151	71	28	35	36
17	156	224	239	198	e60	e71	1030	139	58	27	63	47
18	139	211	354	e150	e56	e86	949	129	56	26	50	43
19	133	180	312	e140	e50	e90	721	127	54	34	42	42
20	124	161	336	e125	e47	e84	567	124	54	32	36	40
21	119	154	318	e120	e46	e81	533	119	62	28	36	43
22	116	257	276	e140	e48	e83	1160	112	62	27	32	48
23	111	419	245	e160	e58	e88	1170	103	53	27	30	45
24	108	437	e190	e150	e47	170	945	98	57	27	28	45
25	109	449	e170	e210	e43	226	779	92	49	25	43	42
26	107	409	e150	e180	e42	285	834	86	46	25	31	70
27	106	401	e130	e165	e41	442	900	80	44	26	28	84
28	101	346	e130	e150	e40	1230	924	75	44	24	27	108
29	97	294	e150	e130	---	1770	702	74	42	23	26	90
30	95	257	371	e120	---	1630	543	70	41	25	25	87
31	91	---	1110	e120	---	1230	---	68	---	32	24	---
TOTAL	4342	7945	6924	9706	1765	8355	33320	5785	1831	1012	946	1631
MEAN	140	265	223	313	63.0	270	1111	187	61.0	32.6	30.5	54.4
MAX	427	449	1110	965	100	1770	1970	435	89	48	63	108
MIN	48	88	110	120	40	38	533	68	41	23	22	25
MEAN‡	140	266	240	295	62.2	380	1001	183	61.0	32.2	30.4	55.4
CFSM‡	1.30	2.46	2.22	2.73	.58	3.52	9.27	1.69	.56	.30	.28	.51
IN.‡	1.50	2.74	2.56	3.15	.60	4.06	10.34	1.95	.62	.35	.32	.57

‡ Adjusted for change in contents in Stillwater Lake.

e Estimated.

LACKAWANNA RIVER BASIN

01534500 LACKAWANNA RIVER AT ARCHBALD, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	126	193	224	180	219	364	426	264	170	92.3	67.6	85.6
MAX	578	661	581	535	598	741	1111	610	605	278	173	377
(WY)	1978	1973	1974	1979	1981	1977	1993	1989	1972	1984	1969	1987
MIN	15.8	17.4	77.9	38.2	40.4	143	174	101	47.9	25.6	25.0	18.4
(WY)	1965	1965	1965	1981	1980	1981	1988	1982	1962	1965	1966	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1960 - 1993

ANNUAL TOTAL	67307		83562									
ANNUAL MEAN	184	‡185	229	‡229						201	‡198	
HIGHEST ANNUAL MEAN										313		1973
LOWEST ANNUAL MEAN										101		1965
HIGHEST DAILY MEAN	1110	Dec 31	1970	Apr 3						3250	Mar 15	1986
LOWEST DAILY MEAN	30	Feb 15	22	Aug 10						13	Nov 1	1964
ANNUAL SEVEN-DAY MINIMUM	42	Feb 9	23	Aug 4						14	Oct 26	1964
INSTANTANEOUS PEAK FLOW			2410	Apr 1						a5390	Mar 15	1986
INSTANTANEOUS PEAK STAGE			5.86	Apr 1						8.22	Mar 15	1986
INSTANTANEOUS LOW FLOW			21	Aug 10,11								
ANNUAL RUNOFF (CFSM)	1.70	‡1.71	2.12	‡2.12						1.86	‡1.83	
ANNUAL RUNOFF (INCHES)	23.18	‡23.37	28.78	‡28.77						25.23	‡24.90	
10 PERCENT EXCEEDS	384		598							460		
50 PERCENT EXCEEDS	130		89							120		
90 PERCENT EXCEEDS	53		32							35		

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

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

SUMMARY STATISTICS

WATER YEARS 1940 - 1959

ANNUAL MEAN	203											
HIGHEST ANNUAL MEAN	266											1956
LOWEST ANNUAL MEAN	153											1957
HIGHEST DAILY MEAN	4840			May 23	1942							
LOWEST DAILY MEAN	17			Oct 12	1941							
ANNUAL SEVEN-DAY MINIMUM	20			Oct 18	1953							
INSTANTANEOUS PEAK FLOW	a9510			May 22	1942							
INSTANTANEOUS PEAK STAGE	10.58			May 22	1942							
INSTANTANEOUS LOW FLOW	3.0			Oct 9,11	1943							
ANNUAL RUNOFF (CFSM)	1.88											
ANNUAL RUNOFF (INCHES)	25.54											
10 PERCENT EXCEEDS	439											
50 PERCENT EXCEEDS	123											
90 PERCENT EXCEEDS	42											

‡ Adjusted for change in contents in Stillwater Lake.

a From rating curve extended above 1,900 ft³/s on basis of slope-area measurement of peak flow.

LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA

LOCATION.--Lat 41°21'33", long 75°44'41", Lackawanna County, Hydrologic Unit 02050107, on right bank 100 ft downstream from bridge on SR 3017, 150 ft upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, and 0.5 mi upstream from St. Johns Creek.

DRAINAGE AREA.--332 mi².

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

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

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 33 mi upstream. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	159	397	2760	e200	e110	5540	1050	153	76	56	86
2	106	179	382	1940	e180	e130	5700	857	140	90	56	51
3	99	665	350	1370	e170	e135	4220	723	138	96	60	412
4	92	512	311	1100	e180	e120	3200	621	135	77	58	627
5	91	456	306	2570	e180	e115	2610	820	136	72	59	186
6	94	487	276	1920	e170	e110	2330	970	144	69	54	126
7	90	407	e250	1410	e150	e110	2130	771	126	92	60	107
8	93	346	e225	1130	e140	e120	1960	635	124	93	56	130
9	189	306	e210	911	e140	e160	1800	555	171	101	50	120
10	708	287	e195	732	e150	e210	3430	497	173	98	48	129
11	540	285	325	628	e160	e180	5730	440	138	78	77	101
12	540	292	326	595	e150	e170	3310	395	129	73	113	83
13	412	602	281	838	e140	e140	2350	426	121	69	62	83
14	339	540	256	872	e140	e120	1740	359	115	66	54	80
15	284	471	242	677	e130	e110	1310	314	108	70	47	91
16	252	394	237	576	e130	e130	2070	290	144	62	117	86
17	236	348	645	e490	e130	e160	3100	271	123	57	187	133
18	217	341	1170	e410	e120	e220	2290	250	106	53	102	93
19	220	296	864	e350	e105	e250	1650	251	101	81	74	82
20	205	272	921	e320	e100	e240	1270	243	116	81	65	79
21	198	269	919	e310	e98	e240	1230	231	153	64	63	118
22	196	351	723	e350	e100	e240	3630	215	138	60	52	98
23	187	727	619	413	e120	e260	3040	199	108	58	51	93
24	194	676	e460	402	e100	e300	2380	189	100	58	50	99
25	192	718	e370	578	e90	809	1820	181	93	53	66	88
26	188	660	e330	e430	e90	993	2540	170	92	55	55	228
27	183	665	e280	e370	e88	1580	3550	158	107	70	48	260
28	177	572	e270	e330	e87	3580	2370	150	95	60	126	286
29	172	491	e330	e300	---	5060	1740	151	88	62	74	213
30	170	436	984	e270	---	4870	1320	138	81	82	56	298
31	166	---	3900	e250	---	3920	---	141	---	102	56	---
TOTAL	6941	13210	17354	25602	3738	24892	81360	12661	3696	2278	2152	4666
MEAN	224	440	560	826	133	803	2712	408	123	73.5	69.4	156
MAX	708	727	3900	2760	200	5060	5730	1050	173	102	187	627
MIN	90	159	195	250	87	110	1230	138	81	53	47	51
MEAN‡	224	441	576	808	132	913	2602	404	123	73.1	69.3	157
CFSM‡	.67	1.33	1.73	2.43	.40	2.75	7.84	1.22	.37	.22	.21	.47
IN.‡	.77	1.48	1.99	2.80	.42	3.17	8.75	1.41	.41	.25	.24	.52

‡ Adjusted for change in contents in Stillwater Lake.

e Estimated.

LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	262	391	475	401	506	806	936	624	370	193	142	183
MAX	1276	1223	1312	1282	1198	1767	2712	1658	1488	566	333	978
(WY)	1978	1973	1974	1979	1981	1977	1993	1989	1972	1984	1986	1987
MIN	37.3	45.2	125	61.4	88.7	291	353	199	69.8	46.4	49.5	37.8
(WY)	1965	1965	1965	1981	1980	1981	1985	1962	1962	1965	1964	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1960 - 1993

ANNUAL TOTAL	144997		198550									
ANNUAL MEAN	396	‡398	544	‡544					440	‡432		
HIGHEST ANNUAL MEAN									712			1960
LOWEST ANNUAL MEAN									194			1965
HIGHEST DAILY MEAN	3900	Dec 31	5730	Apr 11					9580	Sep 27		1985
LOWEST DAILY MEAN	57	Sep 20	47	Aug 15					26	Jul 16		1962
ANNUAL SEVEN-DAY MINIMUM	65	Sep 15	55	Aug 4					29	Sep 16		1964
INSTANTANEOUS PEAK FLOW			7770	Apr 11					a24000	Sep 27		1985
INSTANTANEOUS PEAK STAGE			8.45	Apr 11					b16.49	Sep 27		1985
INSTANTANEOUS LOW FLOW			37	Aug 16					20	Sep 21		1964
ANNUAL RUNOFF (CFSM)	1.19	‡1.20	1.64	‡1.64					1.33	‡1.30		
ANNUAL RUNOFF (INCHES)	16.25	‡16.31	22.25	‡22.24					18.01	‡17.67		
10 PERCENT EXCEEDS	880		1480						1060			
50 PERCENT EXCEEDS	258		189						240			
90 PERCENT EXCEEDS	97		68						66			

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

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

SUMMARY STATISTICS

WATER YEARS 1939 - 1959

ANNUAL MEAN	566											
HIGHEST ANNUAL MEAN	781					1956						
LOWEST ANNUAL MEAN	401					1944						
HIGHEST DAILY MEAN	14000				Aug 19	1955						
LOWEST DAILY MEAN	73				Sep 26	1943						
ANNUAL SEVEN-DAY MINIMUM	87				Oct 8	1943						
INSTANTANEOUS PEAK FLOW	a31000				Aug 19	1955						
INSTANTANEOUS PEAK STAGE	b20.05				Aug 19	1955						
INSTANTANEOUS LOW FLOW	54				Sep 1,2	1957						
ANNUAL RUNOFF (CFSM)	1.70											
ANNUAL RUNOFF (INCHES)	23.16											
10 PERCENT EXCEEDS	1200											
50 PERCENT EXCEEDS	340											
90 PERCENT EXCEEDS	138											

‡ Adjusted for change in contents in Stillwater Lake.

a From rating curve extended above 3,800 ft³/s on basis of slope-area measurements at gage heights 15.30 ft, 16.49 ft, and at peak flow.

b From floodmark.

SUSQUEHANNA RIVER BASIN

01536500 SUSQUEHANNA RIVER AT WILKES-BARRE, PA

LOCATION.--Lat 41°15'03", long 75°52'52", Luzerne County, Hydrologic Unit 02050107, on left bank at foot of West Union Street, 800 ft downstream from North Street bridge in Wilkes-Barre, and 1.6 mi upstream from Toby Creek.

DRAINAGE AREA.--9,960 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 512.07 ft above sea level. See WSP 1722 for history of changes prior to Mar. 23, 1949.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 8 flood-control reservoirs, which have a combined capacity of 368,800 acre-ft. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1899, 33.1 ft, Mar. 18, 1865, from floodmarks, discharge, about 232,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9330	10500	20500	67900	9220	4130	176000	38500	4020	3220	1400	1280
2	7860	9960	18500	63400	8120	4120	184000	31200	4010	3640	1380	1210
3	6930	11700	16700	43500	7000	4380	181000	25200	4080	3500	1380	1540
4	6250	26700	15100	31000	6860	4600	154000	21500	4400	3260	1380	3570
5	5780	29100	14000	30000	7300	4540	106000	19000	4400	3100	1380	2750
6	5310	25200	12900	38300	7860	4790	79800	e22200	4240	2930	1380	2610
7	4760	24800	12000	40300	6720	5040	68400	25800	4050	2780	1380	2940
8	4360	22900	11100	32700	6110	5360	65500	22200	4120	2620	1380	2750
9	4310	20000	10400	26200	5510	5490	63900	19000	4990	2560	1380	2590
10	6760	17000	9540	22000	5870	6340	77100	15900	5420	2440	1410	2440
11	8600	14900	9020	18100	6580	6730	167000	14000	6380	2220	1560	2260
12	11200	14200	8670	15700	6320	6490	174000	12500	6380	2140	1740	2150
13	12100	19200	9170	15700	6230	5900	132000	11200	5410	1950	1570	1950
14	10900	29500	9480	23400	5920	5610	92000	10100	4670	1790	1550	1810
15	9820	28300	9030	28200	5420	4220	71400	9220	4100	1750	1480	1760
16	8970	22300	8540	22600	5620	3700	58300	8530	3840	1690	1520	1610
17	10100	18600	8910	18900	5630	5370	97400	8010	4360	1570	2160	1640
18	11800	16600	17100	16500	5820	5910	123000	7570	3850	1490	2070	1620
19	11700	15400	31100	14000	5060	5940	93000	7290	3650	1440	2020	1650
20	10800	14600	29000	12000	4590	6430	69600	7180	3580	1460	2070	1600
21	10300	13600	28700	10700	4320	7020	54900	7060	3580	1460	1950	1710
22	9680	13200	29300	10600	4010	7030	72800	6920	3580	1460	1830	1680
23	9180	17200	23700	11300	4840	7210	76800	6600	4710	1460	1740	1660
24	8880	35500	20400	12600	4990	8850	82600	6220	6480	1460	1650	1660
25	8990	42000	16700	14000	4820	13600	86600	5850	5820	1440	1610	1670
26	14700	42100	14600	15900	4390	19700	77900	5380	4850	1400	1540	1900
27	16500	39200	12100	15400	4500	31300	108000	5030	4230	1390	1510	2170
28	14700	32800	10100	13600	4380	55600	91800	4750	3670	1390	1570	2890
29	12900	27000	9920	12100	---	102000	66100	4530	3320	1390	1560	3750
30	11400	23300	11500	10800	---	157000	49300	4250	3170	1390	1400	4170
31	10900	---	32600	10200	---	173000	---	4070	---	1410	1300	---
TOTAL	295770	677360	490380	717600	164010	687400	3000200	396760	133360	63200	49250	64990
MEAN	9541	22580	15820	23150	5857	22170	100000	12800	4445	2039	1589	2166
MAX	16500	42100	32600	67900	9220	173000	184000	38500	6480	3640	2160	4170
MIN	4310	9960	8540	10200	4010	3700	49300	4070	3170	1390	1300	1210
CFSM	.96	2.27	1.59	2.32	.59	2.23	10.0	1.29	.45	.20	.16	.22
IN.	1.10	2.53	1.83	2.68	.61	2.57	11.21	1.48	.50	.24	.18	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1993, BY WATER YEAR (WY)

	MEAN	6971	11060	13700	13530	14680	30340	31180	16410	8980	5321	3888	4291
MAX	39860	32130	36630	36070	43030	80560	100000	39590	54330	29010	18630	28680	
(WY)	1978	1928	1973	1913	1976	1936	1993	1943	1972	1902	1915	1975	
MIN	705	724	1357	1386	2710	10250	6918	3388	2428	1086	853	637	
(WY)	1965	1965	1909	1931	1920	1965	1946	1903	1921	1962	1964	1964	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1899 - 1993
ANNUAL TOTAL	5146100	6740280	
ANNUAL MEAN	14060	18470	13370
HIGHEST ANNUAL MEAN			21990
LOWEST ANNUAL MEAN			6186
HIGHEST DAILY MEAN	84400	Mar 28	184000
LOWEST DAILY MEAN	2290	Jul 8	1210
ANNUAL SEVEN-DAY MINIMUM	2430	Jul 2	1380
INSTANTANEOUS PEAK FLOW			185000
INSTANTANEOUS PEAK STAGE			29.87
INSTANTANEOUS LOW FLOW			1210
ANNUAL RUNOFF (CFSM)	1.41	1.85	1.34
ANNUAL RUNOFF (INCHES)	19.22	25.17	18.24
10 PERCENT EXCEEDS	28400	45800	32200
50 PERCENT EXCEEDS	11100	6930	7010
90 PERCENT EXCEEDS	4310	1570	1650

a From slope-area measurement of peak flow near West Pittston and adjusted for flow from intervening area.

b From floodmark.

c Estimated.

TOBY CREEK BASIN

01537000 TOBY CREEK AT LUZERNE, PA

LOCATION.--Lat 41°16'57", long 75°53'46", Luzerne County, Hydrologic Unit 02050107, on left bank at Luzerne, 150 ft upstream from bridge on State Highway 309, 0.5 mi upstream from inlet works of flood basin, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--32.4 mi².

PERIOD OF RECORD.--August 1941 to September 1993 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 574.60 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Slight regulation by Huntsville Reservoir 5.9 mi upstream, usable capacity 5,900 acre-ft. Diversion from reservoir for municipal supply. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion provided by Pennsylvania Gas and Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	11	38	e60	e22	e9.8	595	89	16	6.8	6.6	14
2	9.0	13	36	e47	e18	14	629	74	12	14	6.4	6.9
3	9.3	61	34	e41	e19	18	324	64	11	24	6.6	60
4	8.9	23	30	e40	e18	19	189	56	11	21	5.2	124
5	8.6	22	31	e110	e17	18	140	98	12	19	5.8	27
6	7.5	29	27	e80	e16	17	117	122	14	13	5.5	14
7	8.3	20	25	e60	e15	19	95	89	9.8	11	7.6	9.7
8	7.4	18	24	e54	e14	24	81	71	9.1	6.5	7.6	12
9	114	16	21	e50	e14	32	72	61	24	6.4	5.7	11
10	109	16	20	e43	e15	30	695	53	13	6.9	5.1	15
11	34	17	30	e40	e14	25	837	45	9.1	7.2	13	10
12	24	20	35	e60	e13	22	328	39	9.3	6.1	13	9.2
13	20	59	30	e80	e14	20	191	34	7.8	5.5	8.4	7.4
14	20	29	27	e110	e13	e19	139	30	8.3	5.9	7.5	7.4
15	20	24	24	83	e12	e17	119	26	7.7	5.6	7.7	8.7
16	17	21	23	73	e14	e24	392	24	8.2	5.7	10	8.6
17	15	21	83	e60	e16	60	457	22	6.3	5.9	46	11
18	14	20	96	e52	e14	61	248	21	6.3	6.2	8.1	10
19	14	18	71	46	e13	53	163	22	7.3	6.9	7.9	8.1
20	13	18	79	41	e12	42	129	20	9.2	7.6	6.9	7.1
21	13	29	e60	38	e11	43	144	17	13	6.2	8.2	13
22	12	66	e50	47	e13	52	455	17	12	5.3	7.1	9.1
23	12	104	e46	46	e12	62	312	17	8.5	5.1	6.7	8.5
24	13	57	e43	47	e11	140	202	15	7.6	5.6	5.4	9.9
25	13	65	e39	64	e11	132	153	14	8.1	6.9	5.7	8.4
26	10	55	e36	45	e12	187	232	12	8.2	9.0	5.2	20
27	11	50	e34	e36	e11	251	245	12	10	10	6.0	29
28	10	42	e32	e32	e10	423	157	11	8.2	7.9	9.7	27
29	12	39	e35	e29	---	484	128	14	8.0	7.5	7.6	16
30	11	39	e50	e27	---	398	110	12	8.3	7.2	7.8	18
31	12	---	e90	e26	---	250	---	14	---	6.5	7.3	---
TOTAL	611.9	1022	1299	1667	394	2965.8	8078	1215	303.3	268.4	267.3	540.0
MEAN	19.7	34.1	41.9	53.8	14.1	95.7	269	39.2	10.1	8.66	8.62	18.0
MAX	114	104	96	110	22	484	837	122	24	24	46	124
MIN	7.4	11	20	26	10	9.8	72	11	6.3	5.1	5.1	6.9
(†)	4.00	3.33	3.24	3.03	3.78	3.67	3.35	3.89	4.20	4.16	4.00	4.42
MEAN‡	23.7	37.4	45.1	56.8	17.9	99.4	272	43.1	14.3	12.8	12.6	22.4
CFSM‡	.73	1.15	1.39	1.75	.55	3.07	8.40	1.33	.44	.40	.39	.69
IN.‡	.84	1.28	1.60	2.02	.57	3.54	9.37	1.53	.49	.46	.45	.77

† Diversion for municipal supply, equivalent in cubic feet per second.

‡ Adjusted for diversion.

e Estimated.

TOBY CREEK BASIN

01537000 TOBY CREEK AT LUZERNE, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

MEAN	20.8	31.4	42.5	41.2	49.9	81.7	83.5	57.3	30.7	21.7	14.7	18.7
MAX	124	88.4	134	122	119	175	269	161	222	123	62.3	143
(WY)	1977	1944	1973	1978	1951	1950	1993	1989	1972	1945	1945	1973
MIN	3.76	3.21	6.36	4.61	11.9	14.0	22.9	11.9	5.54	3.32	3.70	3.00
(WY)	1942	1965	1947	1981	1969	1965	1946	1962	1965	1949	1953	1951

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1942 - 1993

ANNUAL TOTAL	11430.8		18631.7			
ANNUAL MEAN	31.2		51.0		41.1	
HIGHEST ANNUAL MEAN	#35.3		#54.8		#45.6	
LOWEST ANNUAL MEAN					67.5	
HIGHEST DAILY MEAN	228	Mar 27	837	Apr 11	1700	Dec 30 1942
LOWEST DAILY MEAN	7.4	Oct 8	5.1	Jul 23, Aug 10	.50	Sep 20 1946
ANNUAL SEVEN-DAY MINIMUM	8.4	Oct 2	5.8	Jul 12	.90	Sep 14 1946
INSTANTANEOUS PEAK FLOW			1670	Apr 10	a3390	Jun 22 1972
INSTANTANEOUS PEAK STAGE			4.10	Apr 10	b6.07	Jun 22 1972
INSTANTANEOUS LOW FLOW			3.4	Aug 2, 26	.10	Sep 12 1944
ANNUAL RUNOFF (CFSM)	.96	#1.09	1.58	#1.69	1.27	#1.41
ANNUAL RUNOFF (INCHES)	13.12	#14.85	21.39	#22.97	17.23	#19.11
10 PERCENT EXCEEDS	64		115		93	
50 PERCENT EXCEEDS	20		18		20	
90 PERCENT EXCEEDS	11		7.1		5.6	

Adjusted for diversion.

a From rating curve extended above 1,200 ft³/s on basis of slope-area measurement of peak flow.

b In gage, 7.59 ft from outside floodmark.

WAPWALLOPEN CREEK BASIN

01538000 WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA

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

DRAINAGE AREA.--43.8 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 752.41 ft above sea level (Penn Central Railroad bench mark).

Prior to Mar. 15, 1930, nonrecording gage at same site and datum.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	20	73	115	e44	e27	401	139	27	12	7.3	9.3
2	14	20	68	91	e43	e30	631	118	23	13	6.5	10
3	14	78	65	81	e45	e45	466	103	22	17	6.7	10
4	14	58	59	80	e45	71	312	92	21	14	6.3	71
5	13	42	59	218	e47	94	237	156	21	12	6.5	31
6	12	57	53	152	e44	81	190	165	21	11	6.3	18
7	12	46	51	121	e42	90	160	112	20	11	7.3	15
8	12	39	48	108	e40	69	137	93	19	11	9.7	25
9	32	36	45	96	e39	68	117	83	24	10	8.0	27
10	218	34	63	85	e38	63	756	75	28	9.6	7.3	22
11	62	33	85	79	e36	53	1310	68	20	8.7	8.2	18
12	51	36	99	80	e34	47	469	62	18	8.7	20	15
13	41	142	78	121	e32	154	306	58	16	9.5	11	14
14	37	83	70	127	e31	362	228	52	16	9.9	8.9	13
15	38	68	64	95	e30	334	185	48	15	11	7.8	13
16	32	61	62	87	33	249	576	43	15	9.5	7.9	19
17	29	57	164	82	37	207	660	40	14	8.6	216	21
18	27	54	186	75	35	e170	359	37	14	7.9	35	19
19	28	49	124	69	e33	e140	258	39	14	8.3	22	16
20	27	45	141	e64	e32	e120	202	37	16	10	18	14
21	26	47	124	e66	e31	e95	187	33	23	9.0	16	14
22	25	118	102	68	e36	80	636	32	28	8.0	13	15
23	24	214	95	67	e34	79	381	30	18	7.8	11	14
24	24	134	87	64	e33	212	266	28	15	7.4	11	17
25	27	150	e80	79	e32	212	209	27	14	7.0	11	15
26	25	119	e74	61	e30	266	299	25	13	6.6	10	47
27	23	110	e70	56	e29	359	360	23	18	7.5	9.5	55
28	22	95	e66	52	e28	548	226	23	15	7.5	9.4	84
29	21	86	e64	e49	---	686	187	26	14	8.0	11	40
30	21	79	89	e47	---	530	160	24	13	8.1	9.7	36
31	20	---	176	e45	---	365	---	23	---	7.7	9.0	---
TOTAL	986	2210	2684	2680	1013	5906	10871	1914	555	297.3	547.3	737.3
MEAN	31.8	73.7	86.6	86.5	36.2	191	362	61.7	18.5	9.59	17.7	24.6
MAX	218	214	186	218	47	686	1310	165	28	17	216	84
MIN	12	20	45	45	28	27	117	23	13	6.6	6.3	9.3
CFSM	.73	1.68	1.98	1.97	.83	4.35	8.27	1.41	.42	.22	.40	.56
IN.	.84	1.88	2.28	2.28	.86	5.02	9.23	1.63	.47	.25	.46	.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1993, BY WATER YEAR (WY)

	MEAN	38.1	59.6	73.6	68.5	82.7	117	115	87.9	49.8	35.4	24.7	27.0
MAX	202	203	192	284	283	327	362	243	248	172	149	160	
(WY)	1956	1927	1974	1979	1981	1936	1993	1947	1972	1947	1933	1987	
MIN	4.95	5.35	5.90	6.39	14.9	48.7	47.0	25.8	10.9	5.21	4.46	3.37	
(WY)	1964	1931	1931	1931	1940	1981	1955	1955	1962	1955	1953	1936	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1920 - 1993

ANNUAL TOTAL	22494		30400.9										
ANNUAL MEAN	61.5		83.3							64.8			
HIGHEST ANNUAL MEAN										108		1978	
LOWEST ANNUAL MEAN										30.9		1965	
HIGHEST DAILY MEAN	508	Mar 27	1310	Apr 11	2070						Jun 22	1972	
LOWEST DAILY MEAN	11	Sep 21	6.3	Aug 4, 6	1.5						Aug 31	1953	
ANNUAL SEVEN-DAY MINIMUM	12	Sep 16	6.7	Aug 1	1.8						Aug 27	1953	
INSTANTANEOUS PEAK FLOW			2740	Apr 11	a5410						Jun 22	1972	
INSTANTANEOUS PEAK STAGE			8.24	Apr 11	11.04						Jun 22	1972	
INSTANTANEOUS LOW FLOW			5.1	Jul 18	1.1						Aug 4	1955	
ANNUAL RUNOFF (CFSM)	1.40		1.90		1.48								
ANNUAL RUNOFF (INCHES)	19.10		25.82		20.11								
10 PERCENT EXCEEDS	118		208		138								
50 PERCENT EXCEEDS	51		38		41								
90 PERCENT EXCEEDS	20		9.7		8.7								

a From rating curve extended above 1,400 ft³/s on basis of contracted-opening measurement of peak flow.

e Estimated.

FISHING CREEK BASIN

01539000 FISHING CREEK NEAR BLOOMSBURG, PA

LOCATION.--Lat 41°04'41", long 76°25'53", Columbia County, Hydrologic Unit 02050107, on left bank 10 ft downstream from Bowmans Mill bridge on SR 4034, 0.8 mi downstream from Green Creek, 0.9 mi west of Orangeville, and 5.5 mi north of Bloomsburg².

DRAINAGE AREA.--274 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 543.84 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234	123	641	1350	e250	e100	6440	912	145	54	24	43
2	205	123	563	1030	e200	e100	6030	778	133	53	23	45
3	182	828	501	824	e190	e110	4240	683	121	68	25	121
4	164	756	438	712	e190	e150	2700	608	115	69	25	415
5	150	574	413	1700	e180	e320	e1800	796	111	58	24	378
6	140	602	365	1700	e170	e290	e1300	1250	121	52	22	218
7	134	496	335	1300	e150	e250	e1150	1000	114	50	22	156
8	129	429	308	1060	e150	e260	e1050	831	104	48	23	132
9	136	379	277	838	e140	e450	e1000	722	132	44	24	122
10	684	341	254	680	e140	e400	e4100	639	157	41	24	112
11	454	318	341	599	e160	e310	10000	568	127	39	37	103
12	393	326	399	563	e180	e260	3260	501	108	36	70	87
13	332	1190	341	959	e170	e240	e1900	444	97	34	54	77
14	289	979	318	1150	e160	e200	e1300	391	89	34	38	69
15	312	748	292	915	e160	e190	e1100	351	82	34	32	69
16	273	616	285	783	e170	e180	e1500	320	78	31	30	70
17	243	529	508	682	e180	e200	3520	289	73	30	752	119
18	221	467	838	588	e150	e200	2490	260	68	28	430	110
19	211	407	684	e430	e120	e190	1800	249	65	28	196	101
20	198	357	684	e380	e130	e180	1410	243	75	31	138	82
21	183	347	638	e370	e150	e170	1500	220	90	31	107	81
22	174	1380	561	e400	e160	e250	2660	202	132	28	83	94
23	163	2210	522	e440	e170	e400	2350	185	98	27	70	85
24	157	1750	476	e420	e160	1220	1820	172	80	26	62	82
25	157	1470	e350	e540	e140	1520	1560	164	72	25	81	79
26	154	1260	e300	e440	e130	1830	1620	154	67	24	63	203
27	147	1250	e270	e400	e120	2450	2060	142	66	24	54	420
28	140	1030	e260	e360	e110	3910	1550	135	64	24	49	675
29	135	868	e280	e330	---	5380	1270	135	61	26	47	442
30	132	734	460	e300	---	4990	1070	127	58	24	46	338
31	128	---	1570	e280	---	3820	---	123	---	24	44	---
TOTAL	6754	22887	14472	22523	4480	30520	75550	13594	2903	1145	2719	5128
MEAN	218	763	467	727	160	985	2518	439	96.8	36.9	87.7	171
MAX	684	2210	1570	1700	250	5380	10000	1250	157	69	752	675
MIN	128	123	254	280	110	100	1000	123	58	24	22	43
CFSM	.80	2.78	1.70	2.65	.58	3.59	9.19	1.60	.35	.13	.32	.62
IN.	.92	3.11	1.96	3.06	.61	4.14	10.26	1.85	.39	.16	.37	.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

	MEAN	294	462	595	482	565	894	903	629	344	205	158	215
MAX	1589	995	1530	1509	1456	1680	2518	1712	2230	835	514	1286	
(WY)	1977	1946	1973	1979	1981	1977	1993	1989	1972	1947	1990	1975	
MIN	12.5	16.4	112	53.5	128	293	221	127	74.3	30.3	15.5	9.96	
(WY)	1965	1965	1965	1981	1940	1981	1946	1941	1939	1964	1964	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1938 - 1993

ANNUAL TOTAL	170570	202675	
ANNUAL MEAN	466	555	478
HIGHEST ANNUAL MEAN			739
LOWEST ANNUAL MEAN			229
HIGHEST DAILY MEAN	3940	Mar 27	10000
LOWEST DAILY MEAN	e85	Jul 8	22
ANNUAL SEVEN-DAY MINIMUM	a97	Jul 2	23
INSTANTANEOUS PEAK FLOW			14300
INSTANTANEOUS PEAK STAGE			10.84
INSTANTANEOUS LOW FLOW			22
ANNUAL RUNOFF (CFSM)	1.70		2.03
ANNUAL RUNOFF (INCHES)	23.16		27.52
10 PERCENT EXCEEDS	944	1360	1080
50 PERCENT EXCEEDS	363	203	271
90 PERCENT EXCEEDS	125	42	54

a Computed using estimated daily discharges.

b From rating curve extended above 9,500 ft³/s on basis of contracted-opening measurement at gage height 12.08 ft.

c From floodmark in gage.

e Estimated.

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA
(National stream-quality accounting network station)

LOCATION.--Lat 40°57'29", long 76°37'10", Montour County, Hydrologic Unit 02050107, on right bank 200 ft upstream from Mill Street bridge on State Highway 54 at Danville and 0.8 mi upstream from Mahoning Creek.

DRAINAGE AREA.--11,220 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1899 to current year. Prior to April 1905 monthly discharge only, published in WSP 1302.
REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1904, 1914-17, 1923. WSP 1432: 1900-03, 1905-06, 1908-10, 1912-13, 1933.

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 8 flood-control reservoirs which have a combined capacity of 368,800 acre-ft. National Weather Service satellite telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12300	11800	25300	54700	e11000	e4000	164000	49100	4840	3450	1600	1600
2	9980	11400	22600	68000	e9600	e4000	182000	40000	4710	3450	1580	1550
3	8560	12200	20600	52800	e8200	e4500	186000	33000	4580	3980	1510	1530
4	7630	19000	18600	38400	e8000	5470	168000	27600	4600	3870	1520	2680
5	6930	32300	17100	34000	e7800	7540	126000	25100	4870	3590	1540	5040
6	6370	29400	15900	39700	e8000	7000	95500	25800	4920	3370	1550	3660
7	5870	27600	14600	44200	e7800	6510	78100	30200	4730	3200	1590	3120
8	5310	26300	13700	39800	e7200	7140	71100	29100	4530	3090	1660	3470
9	5040	23800	12700	32800	e6400	8130	68900	25100	4760	2900	1640	3430
10	8250	20900	11800	27600	e6000	8180	73100	21700	5780	2830	1600	3130
11	9660	17900	11700	23600	e6200	8460	140000	18500	5940	2740	1710	2910
12	11100	16500	11900	20200	e6600	8330	177000	16700	6780	2520	2440	2720
13	13600	19300	11500	18800	e6400	8070	154000	14900	6650	2440	2380	2560
14	13600	28800	11700	22800	e6200	7070	110000	13400	5710	2300	1930	2360
15	12400	33400	11600	31600	e6000	6350	86300	12100	4980	2270	1830	2200
16	11100	28500	11000	29900	e5800	5760	70300	11100	4430	2160	1740	2210
17	10300	23500	11100	24800	e6000	5550	89200	10200	4150	2010	3290	2320
18	11800	20500	15100	21400	e6000	9230	119000	9570	4540	1890	5100	2210
19	13400	18500	27900	18600	e6000	8230	113000	9130	4150	1800	3130	2160
20	12800	17300	34200	15500	e5000	8250	85200	8810	4030	1790	2690	2090
21	11900	16400	31700	14000	e4100	8430	68300	8520	4110	1780	2630	2060
22	11400	17100	32500	12800	e4000	9160	74000	8260	4290	1710	2410	2190
23	10600	21200	29600	13100	e4300	9810	91200	8010	4090	1660	2230	2150
24	10200	31200	25100	14000	e4700	13600	86000	7610	4970	1630	2090	2130
25	9980	46100	21700	15700	e4500	18000	92300	7170	6580	1590	2030	2110
26	11100	44700	18500	17200	e4300	24400	87700	6700	6000	1550	1990	2350
27	17300	45800	17400	18500	e4200	34200	97000	6140	5220	1520	1870	3120
28	17200	40100	14000	17200	e4100	55300	109000	5720	4560	1530	1810	3960
29	15300	33800	12500	15200	---	87200	82600	5480	3980	1590	1850	4290
30	13500	28900	12700	13400	---	126000	63100	5250	3630	1570	1890	4670
31	12300	---	19600	12600	---	154000	---	4920	---	1550	1680	---
TOTAL	336780	764200	565900	822900	174400	677870	3207900	504890	147110	73330	64510	81980
MEAN	10860	25470	18250	26550	6229	21870	106900	16290	4904	2365	2081	2733
MAX	17300	46100	34200	68000	11000	154000	186000	49100	6780	3980	5100	5040
MIN	5040	11400	11000	12600	4000	4000	63100	4920	3630	1520	1510	1530
CFSM	.97	2.27	1.63	2.37	.56	1.95	9.53	1.45	.44	.21	.19	.24
IN.	1.12	2.53	1.88	2.73	.58	2.25	10.64	1.67	.49	.24	.21	.27

e Estimated.

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7824	12800	15710	15670	16750	32680	35050	19400	10610	6232	4511	5137
MAX	43890	38540	42700	43230	46420	91900	106900	44980	62370	28490	23110	30900
(WY)	1978	1927	1973	1913	1976	1936	1993	1943	1972	1915	1915	1975
MIN	868	852	1602	1853	2841	11740	7664	5643	2803	1308	1091	740
(WY)	1965	1965	1909	1931	1920	1965	1946	1941	1939	1965	1964	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1905 - 1993

ANNUAL TOTAL	5865660	7421770				
ANNUAL MEAN	16030	20330			15190	\$15320
HIGHEST ANNUAL MEAN					24670	1978
LOWEST ANNUAL MEAN					6948	1965
HIGHEST DAILY MEAN	86400	Mar 29	186000	Apr 3	335000	Jun 25 1972
LOWEST DAILY MEAN	2870	Jul 8	1510	Aug 3	558	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	3160	Jul 2	1550	Jul 31	579	Sep 21 1964
INSTANTANEOUS PEAK FLOW			187000	Apr 3	a363000	Jun 25 1972
INSTANTANEOUS PEAK STAGE			b23.97	Apr 3	b32.32	Jun 24 1972
INSTANTANEOUS LOW FLOW			1510	Jul 27c	508	Sep 27 1964
ANNUAL RUNOFF (CFSM)	1.43		1.81		1.35	\$1.37
ANNUAL RUNOFF (INCHES)	19.45		24.61		18.39	\$18.54
10 PERCENT EXCEEDS	31300		53600		36100	
50 PERCENT EXCEEDS	12900		8330		8320	
90 PERCENT EXCEEDS	5080		1970		2090	

‡ Includes period of monthly mean discharges October 1899 to March 1905.

a From rating curve extended above 250,000 ft³/s.

b Backwater from West Branch Susquehanna River.

c Also July 28, Aug. 3, 4, and Sept. 3, 4.

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1957 to current year.

REMARKS.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey.

Agency analyzing codes: 9813 - Pennsylvania Department of Environmental Resources, 80020, 1028 - U.S. Geological Survey. Suspended-sediment samples analyzed by collecting agency.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD (μ S/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
OCT									
14...	1030	42011	9813	13700	226	6.7	12.0	0.660	--
NOV									
04...	1030	42011	9813	16200	230	7.5	10.0	0.770	--
05...	1100	42011	9813	33500	178	7.5	9.0	0.660	--
06...	1015	42011	9813	29700	185	7.5	9.0	0.590	--
07...	0855	42011	9813	27500	179	6.5	7.0	0.570	--
08...	1100	42011	9813	26300	182	7.6	8.0	0.620	--
09...	1100	42011	9813	23900	215	7.8	7.0	0.660	--
18...	1300	42011	9813	20400	154	7.2	5.0	0.700	--
DEC									
08...	1000	42011	9813	13800	212	7.4	2.5	0.920	--
JAN									
05...	1608	42011	9813	35000	153	7.5	4.0	0.760	--
06...	1545	42011	9813	41000	220	7.1	4.0	0.770	--
07...	1015	42011	9813	44700	227	8.0	3.5	0.790	--
07...	1440	1028	80020	45300	128	7.4	4.0	0.840	0.840
08...	1245	42011	9813	40600	270	7.6	4.0	0.770	--
27...	1015	42011	9813	18500	293	7.8	1.0	1.10	--
FEB									
09...	1140	42011	9813	6400	313	7.4	2.0	1.39	--
MAR									
24...	1300	42011	9813	14100	424	--	3.5	1.19	--
24...	1645	42011	9813	14900	276	7.6	6.0	1.34	--
25...	1330	1028	80020	17900	260	7.6	3.0	1.39	1.39
25...	1545	42011	9813	18200	248	7.8	4.0	1.28	--
26...	1310	42011	9813	24200	196	7.4	4.5	1.27	--
27...	1405	42011	9813	33800	173	7.4	5.0	1.19	--
28...	1415	42011	9813	57100	179	7.4	5.0	1.06	--
29...	1410	42011	9813	90900	149	7.5	5.5	0.810	--
30...	1355	42011	9813	132000	117	6.9	5.5	0.680	--
31...	1350	42011	9813	161000	102	7.3	5.5	0.680	--
APR									
01...	1335	42011	9813	170000	101	7.1	5.5	0.680	--
02...	1415	42011	9813	185000	98	7.0	5.5	0.680	--
03...	1049	42011	9813	186000	91	6.6	6.0	0.660	--
04...	1140	42011	9813	172000	97	6.3	4.0	0.680	--
05...	1625	42011	9813	119000	170	6.7	4.5	0.770	--
07...	1045	42011	9813	78100	136	6.9	6.0	0.900	--
09...	1405	42011	9813	68900	148	7.2	8.5	0.840	--
22...	1050	42011	9813	70200	175	7.1	8.5	0.680	--
29...	1450	42011	9813	79300	165	7.4	15.0	0.570	--
MAY									
05...	1120	42011	9813	24900	195	7.6	15.0	0.920	--
12...	1330	42011	9813	16700	269	7.9	20.0	0.620	--
JUN									
14...	1315	1028	80020	5640	405	8.2	20.0	0.620	--
17...	1030	42011	9813	4120	370	8.1	25.0	0.640	--
JUL									
15...	1045	42011	9813	2250	418	8.0	28.0	0.660	--
AUG									
17...	1030	42011	9813	1900	505	8.5	25.0	0.070	--
SEP									
22...	1030	42011	9813	2250	404	8.5	17.0	0.350	--
28...	1340	1028	80020	4120	315	8.1	16.0	0.790	--

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT								
14...	--	0.660	--	0.020	0.020	0.57	0.34	0.59
NOV								
04...	--	0.770	--	0.050	0.050	0.58	0.48	0.63
05...	--	0.660	--	0.050	0.040	0.63	0.20	0.68
06...	--	0.590	--	0.060	0.030	0.47	0.40	0.53
07...	--	0.570	--	0.040	0.040	0.50	0.25	0.54
08...	--	0.620	--	0.030	0.030	0.42	0.26	0.45
09...	--	0.660	--	0.070	0.070	0.42	0.34	0.49
18...	--	0.700	--	0.050	0.050	0.34	0.34	0.39
DEC								
08...	--	0.920	--	0.140	0.110	0.27	0.30	0.41
JAN								
05...	--	0.760	--	0.090	0.090	0.45	0.31	0.54
06...	--	0.770	--	0.080	0.080	0.52	0.26	0.60
07...	--	0.790	--	0.050	0.030	0.71	0.58	0.76
07...	0.020	--	0.860	--	0.050	--	--	--
08...	--	0.770	--	0.070	0.050	0.88	0.65	0.95
27...	--	1.10	--	0.350	0.160	0.27	0.33	0.62
FEB								
09...	--	1.39	--	0.120	0.120	0.25	0.14	0.37
MAR								
24...	--	1.19	--	0.040	0.040	0.38	0.30	0.42
24...	--	1.34	--	0.060	0.060	0.34	0.14	0.40
25...	0.010	--	1.40	--	0.050	0.45	--	0.50
25...	--	1.28	--	0.050	0.050	0.34	0.15	0.39
26...	--	1.27	--	0.060	0.020	0.47	0.26	0.53
27...	--	1.19	--	0.300	0.020	0.60	0.30	0.90
28...	--	1.06	--	0.110	0.040	1.1	0.33	1.2
29...	--	0.810	--	0.190	0.110	0.81	0.50	1.0
30...	--	0.680	--	0.230	0.130	1.4	0.21	1.7
31...	--	0.680	--	0.230	<0.020	1.6	--	1.9
APR								
01...	--	0.680	--	0.200	0.120	1.9	0.64	2.1
02...	--	0.680	--	0.100	0.090	1.4	0.27	1.5
03...	--	0.660	--	0.090	0.080	0.85	0.26	0.94
04...	--	0.680	--	0.080	0.080	0.24	0.19	0.32
05...	--	0.770	--	0.090	0.040	0.51	0.56	0.60
07...	--	0.900	--	0.130	0.065	0.21	0.21	0.34
09...	--	0.840	--	0.060	<0.020	0.42	--	0.48
22...	--	0.680	--	0.070	0.040	0.41	0.16	0.48
29...	--	0.570	--	0.080	0.030	0.26	0.17	0.34
MAY								
05...	--	0.920	--	0.060	<0.020	0.14	--	0.20
12...	--	0.620	--	<0.020	<0.020	0.41	--	0.41
JUN								
14...	<0.010	--	0.620	--	0.030	--	--	<0.20
17...	--	0.640	--	<0.020	<0.020	0.43	--	0.43
JUL								
15...	--	0.660	--	<0.020	<0.020	0.32	--	0.32
AUG								
17...	--	0.070	--	0.050	<0.020	0.97	--	1.0
SEP								
22...	--	0.350	--	<0.020	<0.020	0.73	--	0.73
28...	<0.010	--	0.790	--	0.010	0.29	--	0.30

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 14...	0.36	1.2	0.090	0.030	--	3.9	39	1440	--
NOV 04...	0.53	1.4	0.070	0.040	0.010	3.2	6	262	--
05...	0.24	1.3	0.170	0.030	--	3.7	86	7780	--
06...	0.43	1.1	0.100	0.030	--	3.8	49	3930	--
07...	0.29	1.1	0.090	0.030	--	3.8	34	2530	--
08...	0.29	1.1	0.070	0.030	--	3.1	19	1350	--
09...	0.41	1.2	0.070	0.030	--	3.2	15	969	--
18...	0.39	1.1	0.050	0.030	--	2.8	18	991	--
DEC 08...	0.41	1.3	0.040	0.030	0.010	2.5	5	186	--
JAN 05...	0.40	1.3	0.080	0.030	--	3.0	46	4350	--
06...	0.34	1.4	0.070	0.020	--	3.1	28	3100	--
07...	0.61	1.5	0.060	0.020	--	3.0	29	3500	--
07...	--	--	0.040	0.010	<0.010	--	27	3300	--
08...	0.70	1.7	0.070	0.030	0.010	3.0	28	3070	--
27...	0.49	1.7	0.040	0.040	--	2.3	30	1500	--
FEB 09...	0.26	1.8	0.050	0.020	--	2.3	8	138	--
MAR 24...	0.34	1.6	0.050	0.020	0.010	1.5	3	114	--
24...	0.20	1.7	0.080	0.020	0.010	1.1	52	2090	--
25...	--	1.9	0.060	<0.010	<0.010	--	39	1880	90
25...	0.20	1.7	0.090	0.020	<0.010	1.3	44	2160	--
26...	0.28	1.8	0.090	0.030	--	1.7	276	18000	--
27...	0.32	2.1	0.190	0.030	--	8.7	242	22100	--
28...	0.37	2.3	0.200	0.030	<0.010	5.0	732	113000	--
29...	0.61	1.8	0.230	0.040	0.010	3.4	284	69700	--
30...	0.34	2.3	0.380	0.040	0.010	3.3	480	171000	--
31...	0.62	2.5	0.500	0.040	0.010	4.1	700	304000	--
APR 01...	0.76	2.8	0.440	0.040	0.010	4.3	619	284000	--
02...	0.36	2.2	0.400	0.030	0.010	4.0	800	400000	--
03...	0.34	1.6	0.270	0.030	0.010	3.5	268	135000	--
04...	0.27	1.0	0.200	0.020	0.010	3.1	167	77600	--
05...	0.60	1.4	0.130	0.050	0.010	2.8	83	26700	--
07...	0.27	1.2	0.090	0.020	0.010	3.1	66	13900	--
09...	0.33	1.3	0.050	0.040	--	2.4	51	9490	--
22...	0.20	1.2	0.090	0.020	0.010	3.0	61	11600	--
29...	0.20	0.91	0.080	0.020	--	3.0	53	11300	--
MAY 05...	<0.20	1.1	0.050	0.020	--	2.3	21	1410	--
12...	<0.20	1.0	0.050	0.020	--	3.0	11	496	--
JUN 14...	--	--	0.010	<0.010	<0.010	--	9	137	93
17...	0.21	1.1	<0.020	<0.020	0.010	3.2	7	78	--
JUL 15...	0.24	0.98	0.040	0.020	--	3.2	6	36	--
AUG 17...	0.26	1.1	0.120	<0.020	<0.020	5.0	13	67	--
SEP 22...	0.22	1.1	0.080	0.020	--	3.4	8	49	--
28...	--	1.1	0.030	<0.010	<0.010	--	15	167	94

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 μ M-MF (COLS./ 100 ML) (31625)
JAN 07...	1440	1028	80020	45300	128	7.4	4.0	8.5	760	12.4	95	700
MAR 25...	1330	1028	80020	17900	260	7.6	3.0	11	762	13.6	101	K 70
JUN * 14...	1315	1028	80020	5640	405	8.2	20.0	1.0	763	10.0	110	K 9
SEP 28...	1340	1028	80020	4120	315	8.1	16.0	1.3	755	11.2	115	160

DATE	STREP- TOCOCI FECAL KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)
JAN 07...	1800	51	20	15	3.3	7.1	23	0.4	1.3	38	--	32
MAR 25...	320	71	34	20	5.0	20	38	1	1.5	37	3	36
JUN 14...	ND	130	--	36	8.6	16	21	0.6	1.6	--	--	79
SEP 28...	60	110	75	29	9.5	21	29	0.9	2.3	45	--	38

DATE	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)
JAN 07...	31	34	17	11	<0.10	4.6	85	82	0.12	10400	20
MAR 25...	36	38	29	34	<0.10	2.6	149	141	0.20	7200	50
JUN 14...	--	81	43	26	0.10	0.75	199	182	0.27	3030	50
SEP 28...	37	51	61	30	0.20	3.1	200	182	0.27	2220	20

DATE	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (μ G/L AS MO) (01060)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	SILVER, DIS- SOLVED (μ G/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (μ G/L AS V) (01085)
JAN 07...	21	<3	85	<4	40	<10	1	<1	<1.0	48	<6
MAR 25...	29	<3	210	<4	120	<10	2	<1	<1.0	84	<6
JUN 14...	29	<3	8	6	11	<10	2	<1	<1.0	150	<6
SEP 28...	28	<3	12	8	9	<10	2	<1	<1.0	170	<6

* June 14--Triazine screen (ELISA) as Atrazine (34756) is <0.10 μ G/L.

ADDITIONAL REMARKS.--Sampling method codes: 70 - Grab sample; 120 - Velocity Integrated sample.

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (000027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (000028)	SAM- PLING METHOD, CODES (82398)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN											
07...	1300	1028	1028	--	1320	--	--	--	--	--	--
07...	1310	1028	1028	120	1270	147	7.3	3.5	14.8	25	--
07...	1320	1028	1028	120	1210	149	7.2	3.5	14.8	27	--
07...	1330	1028	1028	120	1080	152	7.5	3.5	14.8	27	--
07...	1350	1028	1028	120	1020	155	7.5	3.5	14.7	29	--
07...	1400	1028	1028	120	886	158	7.8	3.5	14.9	31	--
07...	1415	1028	1028	120	823	160	7.7	3.5	14.8	28	--
07...	1435	1028	1028	70	670	--	--	4.0	12.4	--	--
07...	1441	1028	1028	120	695	161	7.8	3.5	14.8	29	--
07...	1500	1028	1028	120	630	162	7.7	3.5	14.8	28	--
07...	1510	1028	1028	120	504	163	7.6	3.5	14.8	27	--
07...	1520	1028	1028	120	440	163	7.6	3.5	14.8	27	--
07...	1530	1028	1028	120	311	162	7.7	3.5	14.8	27	--
07...	1550	1028	1028	120	250	160	7.7	3.5	14.8	27	--
07...	1600	1028	1028	120	120	160	7.6	3.5	14.8	26	--
07...	1615	1028	1028	120	58	160	7.5	3.5	14.6	25	--
07...	1620	1028	1028	--	15	--	--	--	--	--	--
JUN											
14...	1140	1028	1028	--	1290	--	--	--	--	--	--
14...	1155	1028	80020	120	1270	389	8.2	24.0	9.6	11	98
14...	1205	1028	1028	120	1210	--	8.5	24.5	9.8	11	96
14...	1215	1028	1028	120	1060	380	8.5	24.5	9.7	11	91
14...	1225	1028	1028	120	1020	354	8.6	24.5	9.9	13	97
14...	1235	1028	1028	120	890	408	8.4	24.5	9.6	10	97
14...	1245	1028	1028	120	825	367	8.6	24.5	9.5	9	97
14...	1250	1028	1028	70	690	--	--	20.0	10.0	--	--
14...	1300	1028	1028	120	690	330	8.4	24.5	9.7	8	97
14...	1310	1028	1028	120	630	317	8.4	24.5	10.0	9	81
14...	1335	1028	1028	120	505	330	8.6	25.0	10.7	5	92
14...	1345	1028	1028	120	440	320	8.7	25.0	10.1	4	90
14...	1355	1028	1028	120	310	360	8.7	25.0	9.9	4	86
14...	1405	1028	1028	120	250	--	8.8	25.5	10.1	6	71
14...	1445	1028	1028	120	120	334	8.6	25.5	10.1	6	75
14...	1450	1028	1028	--	60	--	--	--	--	--	--

ADDITIONAL REMARKS.--Ecological water-quality data were collected as part of an ecological survey of sites for NAWQA. The sample was collected at the richest-targeted habitat. Other synoptic sites are shown in figure 12, page 278. All data collected at ecological survey sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, AUGUST 1993

LOCAL IDENTIFIER	DATE	TIME	STREAM VELOCITY, MEAN (F/S) (00055)	SPECIFIC CONDUCTANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRES-SURE (MM OF HG) (00025)	BICARBONATE WATER WH FET FIELD (MG/L AS HCO3) (00440)
ESS13	8-13-93	1045	1.23	401	9.1	27.0	750	54
	CARBONATE WATER WH FET FIELD (MG/L AS CO3) (00445)	ALKALINITY WAT WH TOT FET FIELD (MG/L AS CaCO3) (00410)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70958)	PERI-PHYTON BIOMASS ASH MASS (G/SQ M) (00572)	PERI-PHYTON BIOMASS TOTAL DRY MASS (G/SQ M) (00573)	PERI-PHYTON BIOMASS ASH-FREE DRY MASS (G/SQ M) ()	
	8	58	30.0	6.80	298	318	20	

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA

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

DRAINAGE AREA.--315 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,207.14 ft above sea level. Prior to Oct. 17, 1929, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1913, about 18.5 ft, May 13, 1889, discharge, about 27,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	123	443	3280	e520	e260	4000	924	325	111	124	62
2	198	130	405	1860	e360	266	3600	755	203	319	139	71
3	184	1370	384	1270	e400	323	2630	636	166	414	215	100
4	168	795	348	1160	e380	e450	1790	558	156	215	140	364
5	155	557	356	1810	353	e670	1320	534	151	158	114	206
6	143	627	349	1530	349	e620	1090	525	141	133	101	118
7	136	559	307	1150	291	600	919	446	129	120	93	98
8	132	473	291	961	301	757	789	397	293	118	87	93
9	145	408	274	804	e300	1290	692	364	2310	110	80	82
10	183	363	e220	665	e290	1010	874	331	1050	102	76	76
11	158	330	197	602	286	833	1170	302	560	95	116	83
12	181	403	e370	585	285	684	864	276	393	93	159	72
13	158	1030	410	1460	280	e500	770	293	307	104	112	67
14	150	750	339	1860	259	e320	673	275	250	105	91	65
15	182	581	306	1270	250	e490	616	245	216	94	80	64
16	161	495	346	1040	241	e530	e1600	230	194	86	76	69
17	153	429	843	884	e260	1040	e3800	215	177	79	77	70
18	145	394	1710	742	e200	1540	e2800	207	164	76	80	67
19	145	349	1320	e540	e150	1070	e1900	305	188	72	74	63
20	147	306	2050	e480	e200	907	1350	266	161	75	69	60
21	145	320	2230	525	e240	973	1350	220	168	75	72	59
22	138	731	1560	1010	e290	1090	1500	200	179	70	70	122
23	132	1250	1250	988	e340	1210	1580	186	144	68	65	104
24	130	998	1160	1140	e300	3070	1330	178	126	67	62	103
25	130	1060	831	e1800	e240	3860	1130	175	118	66	62	102
26	130	892	769	e1200	e250	4970	e1900	161	117	77	61	182
27	131	745	e540	1080	e260	5210	e2700	151	132	224	58	654
28	126	630	e550	895	e250	5570	e2000	143	118	108	58	847
29	124	552	e540	783	---	5480	1550	153	113	356	62	367
30	124	489	1050	593	---	4840	1170	163	116	231	66	312
31	125	---	4140	e570	---	4190	---	208	---	154	58	---
TOTAL	4676	18139	25888	34537	8125	54623	49457	10022	8865	4175	2797	4802
MEAN	151	605	835	1114	290	1762	1649	323	295	135	90.2	160
MAX	217	1370	4140	3280	520	5570	4000	924	2310	414	215	847
MIN	124	123	197	480	150	260	616	143	113	66	58	59
CFSM	.48	1.92	2.65	3.54	.92	5.59	5.23	1.03	.94	.43	.29	.51
IN.	.55	2.14	3.06	4.08	.96	6.45	5.84	1.18	1.05	.49	.33	.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

	MEAN	254	422	623	710	815	1216	942	651	405	274	203	184
MAX	915	1579	1958	2136	1924	3369	2079	1480	2446	1522	850	1349	
(WY)	1928	1922	1924	1937	1918	1936	1940	1919	1972	1977	1956	1926	
MIN	22.5	27.2	51.0	32.9	120	271	202	116	82.0	49.7	25.7	24.1	
(WY)	1931	1931	1931	1931	1934	1969	1925	1926	1949	1965	1930	1939	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1914 - 1993

ANNUAL TOTAL	174534	226106	
ANNUAL MEAN	477	619	557
HIGHEST ANNUAL MEAN			955
LOWEST ANNUAL MEAN			284
HIGHEST DAILY MEAN	4140	Dec 31	5570 Mar 28
LOWEST DAILY MEAN	69	Jul 2	58 Aug 27,28,31
ANNUAL SEVEN-DAY MINIMUM	79	Jun 26	61 Aug 25
INSTANTANEOUS PEAK FLOW			6020 Mar 28
INSTANTANEOUS PEAK STAGE			10.92 Mar 28
INSTANTANEOUS LOW FLOW			56 Aug 29,31, Sep 1
ANNUAL RUNOFF (CFSM)	1.51		1.97
ANNUAL RUNOFF (INCHES)	20.61		26.70
10 PERCENT EXCEEDS	999	1410	1300
50 PERCENT EXCEEDS	341	293	280
90 PERCENT EXCEEDS	124	77	60

a Also Aug. 31 to Sept. 2, 1939.

b From rating curve extended above 7,200 ft³/s on basis of slope-area measurement of peak flow.

c From floodmark in gage.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541200 WEST BRANCH SUSQUEHANNA RIVER AT CURWENSVILLE, PA

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

DRAINAGE AREA.--367 mi².

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

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

REMARKS.--No estimated daily discharges. Records fair except those below 100 ft³/s, which are poor. Flow regulated since November 1965 by Curwensville Dam (station 01541180). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	144	708	3270	592	269	1030	1140	266	131	194	59
2	222	145	519	3190	455	269	1280	1000	292	143	141	59
3	190	724	438	2570	380	282	3730	736	283	465	171	64
4	189	1390	438	1710	380	421	4710	503	223	385	173	162
5	167	973	402	2050	406	682	5000	306	184	226	141	368
6	143	649	380	2110	420	846	5030	256	156	183	117	285
7	138	596	380	1530	379	748	5120	245	138	166	103	141
8	138	522	369	1220	333	743	5140	324	164	143	102	114
9	138	475	342	988	332	1290	5100	348	1850	131	102	96
10	148	394	327	757	299	1440	4750	339	1830	131	102	84
11	170	358	263	649	283	1020	4280	338	824	131	102	86
12	192	358	213	626	311	812	3300	319	424	119	116	87
13	208	674	276	1130	334	667	1690	307	309	112	128	88
14	217	895	392	2290	342	535	758	307	275	110	119	90
15	217	895	432	1670	332	408	612	297	253	111	97	92
16	217	666	432	1230	303	472	1330	254	203	95	97	90
17	217	507	667	981	258	821	3070	207	182	81	97	89
18	217	569	1830	796	242	1790	3730	201	164	82	94	89
19	193	595	1620	630	242	1320	3390	214	170	84	94	89
20	156	543	1800	422	242	986	2540	254	191	84	94	89
21	144	514	2510	427	255	1100	2130	279	218	85	85	90
22	144	696	2040	921	308	1300	2240	275	219	89	70	79
23	143	1440	1290	1170	327	1460	1910	221	198	89	70	67
24	144	1480	1250	1260	327	2400	1290	197	193	89	70	89
25	144	1300	1080	2240	327	3350	1100	197	170	90	71	114
26	144	1300	722	1680	327	3950	1420	197	140	92	72	181
27	144	1160	588	1270	308	4280	3090	193	131	92	65	456
28	144	976	555	1170	269	2280	4000	177	131	121	47	1120
29	144	827	612	871	---	107	3030	168	131	210	49	542
30	144	808	788	636	---	113	1540	166	131	347	50	364
31	144	---	2810	540	---	539	---	194	---	334	55	---
TOTAL	5343	22573	26473	42004	9313	36700	87340	10159	10043	4751	3088	5423
MEAN	172	752	854	1355	333	1184	2911	328	335	153	99.6	181
MAX	283	1480	2810	3270	592	4280	5140	1140	1850	465	194	1120
MIN	138	144	213	422	242	107	612	166	131	81	47	59
MEAN‡	173	686	905	1294	330	2009	2096	371	332	158	96.0	178
CFSM‡	.47	1.87	2.47	3.53	.90	5.47	5.71	1.01	.90	.43	.26	.49
IN.‡	.54	2.09	2.85	4.07	.94	6.31	6.37	1.16	1.00	.50	.30	.55

‡ Adjusted for change in contents in Curwensville Lake.

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	362	626	865	718	957	1307	1151	743	519	421	252	278
MAX	950	1516	1865	1640	1847	2532	2911	1593	2074	1650	765	1091
(WY)	1980	1986	1973	1974	1986	1979	1993	1966	1972	1977	1977	1975
MIN	77.4	166	214	209	305	154	437	182	123	54.7	63.8	57.8
(WY)	1986	1992	1990	1977	1980	1969	1976	1986	1991	1966	1966	1968

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	197497						263210					
ANNUAL MEAN	540	‡545					721	‡721		682	‡675	
HIGHEST ANNUAL MEAN										905		1972
LOWEST ANNUAL MEAN										452		1992
HIGHEST DAILY MEAN	3200			Apr 2			5140	Apr 8		8420	Jun 26	1972
LOWEST DAILY MEAN	e56			Jun 22			47	Aug 28		19	Aug 16, 17	1966
ANNUAL SEVEN-DAY MINIMUM	70			Jun 19			55	Aug 28		36	Aug 11	1966
INSTANTANEOUS PEAK FLOW							5250	Apr 7		8590	Jun 25	1972
INSTANTANEOUS PEAK STAGE							8.31	Apr 7		11.40	Jun 25	1972
ANNUAL RUNOFF (CFSM)	1.47	‡1.49					1.96	‡1.96		1.86	‡1.84	
ANNUAL RUNOFF (INCHES)	20.02	‡20.21					26.68	‡26.68		25.23	‡24.98	
10 PERCENT EXCEEDS	1210						1840			1620		
50 PERCENT EXCEEDS	370						309			394		
90 PERCENT EXCEEDS	144						90			104		

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

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

SUMMARY STATISTICS

WATER YEARS 1956 - 1965

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

‡ Adjusted for change in contents in Curwensville Lake.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541303 WEST BRANCH SUSQUEHANNA RIVER AT HYDE, PA

LOCATION.--Lat 41°00'16", long 78°27'25", Clearfield County, Hydrologic Unit 02050201, on right bank 60 ft downstream from bridge at intersection of SR 1001 and State Highway 879 at Hyde.

DRAINAGE AREA.--474 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,093.90 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1965 by Curwensville Dam (station 01541180) located about 5 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 10, 1964, reached a stage of 18.1 ft, from floodmarks, discharge, about 19,400 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	374	208	998	4770	848	428	3780	1550	424	155	253	69
2	319	222	779	4160	e640	395	3470	1400	427	218	179	70
3	264	1220	629	3440	e530	386	4700	1110	396	518	230	87
4	261	1860	606	2370	523	537	5320	812	326	487	234	156
5	248	1490	565	2940	541	877	5380	637	266	280	174	366
6	217	1110	513	2990	566	1060	5350	480	231	226	152	352
7	208	997	504	2190	e530	e920	5390	425	200	193	117	184
8	204	876	473	1770	e420	921	5380	496	221	177	114	129
9	220	767	423	1510	e420	1420	5300	528	1940	150	110	121
10	226	654	e530	1210	370	1650	5130	497	2440	148	110	90
11	234	555	e1500	1040	349	1250	4740	485	1470	145	113	87
12	261	603	1250	985	e440	991	3930	462	890	136	124	87
13	265	1190	588	1570	e490	960	2320	446	687	118	142	84
14	288	1390	494	2930	e520	e1800	1200	441	e490	116	141	81
15	300	1330	e540	2250	e510	e1200	963	423	e430	116	107	81
16	292	1090	555	1670	e480	e940	2210	377	e320	109	107	84
17	291	804	846	1410	e440	1020	4660	317	e260	83	114	84
18	291	859	2320	1170	e400	2180	4770	299	e220	81	112	83
19	277	898	2110	993	e390	1810	4240	321	e322	84	108	81
20	244	795	2310	e680	e400	1230	3340	373	317	87	106	81
21	219	765	3250	679	444	1320	2850	392	345	85	105	81
22	217	1020	2660	1220	636	1500	2920	382	330	81	85	83
23	214	1900	1840	1510	616	1680	2640	321	268	81	83	72
24	214	1970	1660	1610	e540	2820	1760	272	237	81	81	76
25	222	1790	1510	2830	e540	4010	1580	272	220	81	81	102
26	217	1740	1070	2250	e540	4760	2060	269	191	81	81	212
27	211	1570	910	1650	e520	5330	3680	264	170	81	81	442
28	208	1370	807	1510	e450	4730	4520	251	164	128	72	1260
29	208	1150	843	1250	---	2480	3750	232	163	384	70	638
30	208	1100	1120	e960	---	2480	2120	234	160	397	70	417
31	208	---	4640	792	---	2570	---	291	---	394	68	---
TOTAL	7630	33293	38843	58309	14093	55655	109453	15059	14525	5501	3724	5840
MEAN	246	1110	1253	1881	503	1795	3648	486	484	177	120	195
MAX	374	1970	4640	4770	848	5330	5390	1550	2440	518	253	1260
MIN	204	208	423	679	349	386	963	232	160	81	68	69
MEAN‡	247	1044	1304	1820	500	2620	2833	529	482	182	116	192
CFSM‡	.52	2.20	2.75	3.84	1.05	5.53	5.98	1.12	1.02	.38	.24	.41
IN.‡	.60	2.45	3.17	4.43	1.09	6.38	6.67	1.29	1.14	.44	.28	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	MEAN	406	846	1038	914	1259	1618	1576	900	752	563	345	274
MAX	1264	2008	1944	1881	2302	3377	3648	1831	1663	1406	1084	637	
(WY)	1980	1987	1991	1993	1986	1979	1993	1989	1989	1990	1984	1979	
MIN	97.0	181	262	302	392	647	663	307	160	131	98.7	82.3	
(WY)	1983	1992	1990	1981	1980	1990	1988	1986	1991	1988	1988	1991	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1979 - 1993

ANNUAL TOTAL	277800		361925									
ANNUAL MEAN	759	‡764	992	‡992						871	‡872	
HIGHEST ANNUAL MEAN										1071		1984
LOWEST ANNUAL MEAN										611		1992
HIGHEST DAILY MEAN	4640	Dec 31	5390	Apr 7						6850	Mar 8	1979
LOWEST DAILY MEAN	87	Jul 2	68	Aug 31						46	Sep 14	1982
ANNUAL SEVEN-DAY MINIMUM	98	Jun 17	71	Aug 27						53	Oct 6	1983
INSTANTANEOUS PEAK FLOW			5560	Mar 27						a7360	Feb 13	1984
INSTANTANEOUS PEAK STAGE			9.54	Mar 27						b11.45	Feb 18	1981
ANNUAL RUNOFF (CFSM)	1.60	‡1.61	2.09	‡2.09						1.84	‡1.84	
ANNUAL RUNOFF (INCHES)	21.80	‡21.92	28.40	‡28.40						24.98	‡24.98	
10 PERCENT EXCEEDS	1620		2650							2060		
50 PERCENT EXCEEDS	541		480							525		
90 PERCENT EXCEEDS	207		87							127		

‡ Adjusted for change in contents in Curwensville Lake.

a From rating curve extended above 6,000 ft³/s; gage height 10.82 ft.

b Backwater from ice.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541500 CLEARFIELD CREEK AT DIMELING, PA

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

DRAINAGE AREA.--371 mi².

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	173	374	3970	e520	e240	6120	1580	272	104	112	51
2	247	171	348	2210	e400	e240	5420	1320	235	170	105	59
3	270	721	330	1500	e410	e260	4380	1080	192	323	129	101
4	260	677	309	1270	e410	e300	3060	924	181	229	105	253
5	249	439	306	1830	e380	e400	2320	898	176	164	97	256
6	203	464	299	1790	e310	e600	1870	810	167	136	84	146
7	157	425	274	1270	e290	e570	1560	665	156	125	79	110
8	152	362	258	1060	e300	e550	1330	575	178	116	73	96
9	176	324	245	900	e270	e700	1160	512	970	106	71	87
10	245	296	253	761	e300	e800	1330	459	910	99	65	84
11	256	278	272	686	e290	e700	1980	423	468	93	102	84
12	265	312	330	653	e290	e600	1420	388	345	90	191	78
13	437	560	329	1300	e280	e560	1220	394	291	96	143	72
14	509	537	325	1840	e280	e500	1030	377	254	101	104	65
15	646	418	275	1320	e260	e450	910	336	229	94	88	63
16	629	369	317	1080	e270	e500	2800	313	209	83	81	67
17	564	342	483	926	e260	e700	6600	290	190	76	106	67
18	551	326	1420	794	e240	e900	4670	277	177	72	141	65
19	549	306	1150	e620	e200	e650	2860	349	177	71	104	62
20	544	280	1380	e540	e230	e550	2150	351	190	73	90	61
21	538	301	1820	e560	e250	e500	2430	293	179	73	85	59
22	357	491	1330	758	e250	e600	2900	265	178	68	77	71
23	176	991	1080	784	e300	e700	2790	245	157	65	71	108
24	166	851	e1000	818	e270	2040	2460	235	140	61	66	101
25	165	791	e720	1360	e250	3000	2060	228	124	61	63	92
26	165	689	e580	e1000	e260	4120	3040	212	122	61	61	135
27	180	587	e460	e860	e260	4790	5740	195	125	73	60	472
28	200	508	e500	e740	e250	5620	3520	185	121	115	57	1180
29	196	451	564	e660	---	6510	2500	186	111	198	53	444
30	189	406	664	e560	---	6360	1940	185	108	226	53	346
31	179	---	3220	e560	---	6390	---	214	---	144	52	---
TOTAL	9640	13846	21215	34980	8280	51400	83570	14764	7332	3566	2768	4935
MEAN	311	462	684	1128	296	1658	2786	476	244	115	89.3	164
MAX	646	991	3220	3970	520	6510	6600	1580	970	323	191	1180
MIN	152	171	245	540	200	240	910	185	108	61	52	51
MEAN‡	161	501	778	1155	288	1722	2754	440	243	113	87.3	176
CFSM‡	.43	1.35	2.10	3.11	.78	4.64	7.42	1.19	.65	.30	.24	.47
IN.‡	.50	1.51	2.42	3.59	.81	5.35	8.28	1.37	.73	.35	.28	.52

‡ Adjusted for change in contents in Glendale Lake.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01541500 CLEARFIELD CREEK AT DIMELING, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	269	435	619	611	832	1291	1083	733	459	304	200	221
MAX	1024	1132	1693	1490	1708	2578	2786	1800	2522	1189	635	1003
(WY)	1980	1986	1973	1978	1976	1979	1993	1978	1972	1977	1984	1975
MIN	41.1	73.3	68.4	139	154	318	378	248	90.3	46.1	55.3	43.4
(WY)	1964	1965	1961	1961	1963	1969	1968	1976	1965	1965	1965	1964

SUMMARY STATISTICS FOR 1992 CALENDAR YEAR FOR 1993 WATER YEAR WATER YEARS 1961 - 1993

ANNUAL TOTAL	180761		256296									
ANNUAL MEAN	494	‡492	702	‡702								
HIGHEST ANNUAL MEAN									587	‡588		1978
LOWEST ANNUAL MEAN									866			1969
HIGHEST DAILY MEAN	3340	Apr 1	6600	Apr 17					350			1972
LOWEST DAILY MEAN	88	Jul 2	51	Sep 1					21100		Jun 23	1972
ANNUAL SEVEN-DAY MINIMUM	105	Jun 27	55	Aug 27					30		Aug 17	1988
INSTANTANEOUS PEAK FLOW			6920	Apr 17					37		Aug 12	1988
INSTANTANEOUS PEAK STAGE			a10.36	Mar 15, 16					22400		Jun 23	1972
ANNUAL RUNOFF (CFSM)	1.33	‡1.33	1.89	‡1.89					17.56		Jun 23	1972
ANNUAL RUNOFF (INCHES)	18.12	‡18.04	25.70	‡25.71					1.58	‡1.58		
10 PERCENT EXCEEDS	934		1800						21.49	‡21.52		
50 PERCENT EXCEEDS	344		300						1320			
90 PERCENT EXCEEDS	153		78						326			
									82			

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

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

SUMMARY STATISTICS WATER YEARS 1914 - 1960

ANNUAL MEAN	576											
HIGHEST ANNUAL MEAN	921				1928							
LOWEST ANNUAL MEAN	309				1931							
HIGHEST DAILY MEAN	27100			Mar 18	1936							
LOWEST DAILY MEAN	7.1			Oct 1	1925							
ANNUAL SEVEN-DAY MINIMUM	13			Oct 4	1925							
INSTANTANEOUS PEAK FLOW	b30600			Mar 18	1936							
INSTANTANEOUS PEAK STAGE	c18.49			Mar 18	1936							
INSTANTANEOUS LOW FLOW	6.0			Oct 1, 9	1925							
ANNUAL RUNOFF (CFSM)	1.55											
ANNUAL RUNOFF (INCHES)	21.08											
10 PERCENT EXCEEDS	1380											
50 PERCENT EXCEEDS	278											
90 PERCENT EXCEEDS	54											

‡ Adjusted for change in contents in Glendale Lake.

a Backwater from ice.

b From rating curve extended above 15,000 ft³/s.

c From floodmark in gage.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542000 MOSHANNON CREEK AT OSCEOLA MILLS, PA

LOCATION.--Lat 40°50'58", long 78°16'05", Clearfield County, Hydrologic Unit 02050201, on left bank 10 ft upstream from Penn Central Railroad bridge at Osceola Mills, and 0.1 mi downstream from Trout Run.

DRAINAGE AREA.--68.8 mi².

PERIOD OF RECORD.--October 1940 to September 1993 (discontinued).

REVISED RECORDS.--WSP 1232: 1941-46, 1948, 1950-51, Drainage area. WDR PA-91-2: 1980 (m), 1981 (monthly and yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 1,446.98 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	37	109	885	e96	e47	1670	339	64	24	21	23
2	54	40	102	590	e92	49	1410	281	53	66	30	41
3	53	172	97	414	90	57	1040	246	49	52	28	93
4	51	87	90	342	88	e74	726	219	49	36	22	125
5	49	83	92	411	84	97	541	222	46	31	21	53
6	47	105	83	296	83	81	424	192	43	28	20	33
7	46	90	78	247	e74	73	355	167	41	27	21	28
8	46	82	74	222	74	90	318	151	64	26	20	26
9	55	78	70	e190	e68	111	293	140	134	25	20	25
10	53	77	67	e170	72	95	366	134	75	24	43	29
11	50	76	81	e150	72	85	358	126	52	26	73	26
12	48	99	89	e140	73	79	302	121	45	28	50	22
13	44	165	76	e160	71	e74	271	123	41	27	27	21
14	50	127	72	e190	66	e130	242	113	39	24	22	20
15	52	123	69	e180	62	e110	219	105	37	25	20	21
16	46	117	73	174	65	e93	591	103	36	22	20	24
17	44	114	140	165	65	e100	1370	94	34	21	64	23
18	43	111	180	150	e58	e110	953	97	33	20	78	23
19	45	110	160	132	e56	e100	686	109	34	21	32	20
20	43	90	246	122	e54	92	497	95	36	23	28	20
21	42	101	230	119	e58	92	629	85	34	20	30	22
22	40	125	202	140	60	e95	661	79	33	20	22	29
23	39	212	190	138	56	117	594	73	30	20	20	27
24	39	155	177	147	e54	225	556	72	28	21	20	34
25	40	159	149	177	e51	318	487	68	27	22	20	26
26	38	148	137	138	e47	519	770	63	28	22	19	49
27	37	139	e110	133	e45	735	952	59	30	25	19	212
28	36	130	117	128	e44	1160	741	56	26	23	20	122
29	36	123	119	125	---	1060	547	56	25	54	20	71
30	36	115	165	e100	---	1240	418	52	27	26	20	71
31	36	---	700	e100	---	1410	---	61	---	23	21	---
TOTAL	1393	3390	4344	6775	1878	8718	18987	3901	1293	852	891	1359
MEAN	44.9	113	140	219	67.1	281	633	126	43.1	27.5	28.7	45.3
MAX	55	212	700	885	96	1410	1670	339	134	66	78	212
MIN	36	37	67	100	44	47	219	52	25	20	19	20
CFSM	.65	1.64	2.04	3.18	.97	4.09	9.20	1.83	.63	.40	.42	.66
IN.	.75	1.83	2.35	3.66	1.02	4.71	10.27	2.11	.70	.46	.48	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	47.6	69.0	104	110	136	230	222	172	107	56.4	43.3	35.9
MAX	206	282	329	299	322	540	633	427	580	224	199	159	
(WY)	1980	1951	1951	1952	1981	1945	1993	1960	1972	1956	1956	1975	
MIN	12.2	14.5	13.5	15.6	28.6	71.0	66.1	45.0	31.1	15.6	12.5	10.8	
(WY)	1969	1954	1961	1981	1963	1969	1946	1941	1965	1965	1962	1943	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	35146	53781		
ANNUAL MEAN	96.0	147		
HIGHEST ANNUAL MEAN			111	1951
LOWEST ANNUAL MEAN			176	1969
HIGHEST DAILY MEAN	700	Dec 31	1670	Apr 1
LOWEST DAILY MEAN	28	Jul 2	19	Aug 26, 27
ANNUAL SEVEN-DAY MINIMUM	33	Jun 28	20	Aug 23
INSTANTANEOUS PEAK FLOW			1740	Apr 1
INSTANTANEOUS PEAK STAGE			7.51	Apr 1
INSTANTANEOUS LOW FLOW			18	Aug 26, 27b
ANNUAL RUNOFF (CFSM)	1.40		2.14	
ANNUAL RUNOFF (INCHES)	19.00		29.08	
10 PERCENT EXCEEDS	174		340	239
50 PERCENT EXCEEDS	76		73	67
90 PERCENT EXCEEDS	42		22	17

a From rating curve extended above 1,800 ft³/s on basis of contracted-opening measurements at gage heights 7.58 ft, 9.00 ft, and 14.25 ft.

b Also Sept. 15, 20.

c Result of freezeup.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542500 WEST BRANCH SUSQUEHANNA RIVER AT KARTHAUS, PA

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

DRAINAGE AREA.--1,462 mi², includes that of Mosquito Creek.

PERIOD OF RECORD.--February 1940 to current year. October 1918 to September 1920 (gage heights only) in reports of Water Supply Commission of Pennsylvania.

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

REMARKS.--Records fair. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 70 mi upstream and since November 1965 by Curwensville Dam (station 01541180) about 50 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 24.5 ft, Mar. 18, 1936, from floodmarks at highway bridge, discharge, about 135,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	835	2920	14300	2380	933	23900	6400	1200	489	820	239
2	1380	856	2520	11200	2120	911	20900	5510	1220	584	651	250
3	1310	e3000	2130	8980	1870	1010	17800	4750	1110	1100	650	359
4	1210	e5200	1930	6940	1730	1190	14800	4020	1010	1390	628	679
5	1140	e4700	1870	6890	1720	1690	12600	3660	914	1010	580	886
6	1090	e3800	1720	8070	1680	2410	11100	3030	823	719	489	975
7	967	2890	1590	6340	1520	2260	10300	2710	752	599	448	779
8	872	2680	1490	5170	1420	2200	9720	2400	692	543	390	570
9	885	2350	1430	4510	1330	2700	9280	2320	1580	524	360	450
10	974	2190	1400	3800	1300	3740	9440	2190	5010	462	367	429
11	1000	2020	1380	3370	1320	3340	10100	2050	3030	431	494	401
12	1020	2030	1350	3040	1230	2690	8850	1900	1830	421	534	357
13	1000	3180	1420	3760	1270	2510	6910	1850	1370	414	588	345
14	1270	3890	1460	6680	1260	2070	4980	1800	1130	389	545	316
15	1600	3650	1520	6270	1230	1710	4080	1660	1010	386	451	302
16	1590	3350	1520	4840	1220	1990	7380	1540	868	385	399	295
17	1530	2900	1900	4220	1130	2340	19600	1410	832	355	397	295
18	1450	2580	4140	3660	1040	3810	18500	1260	749	322	566	295
19	1430	2460	5360	3280	786	4250	13200	1280	693	305	649	294
20	1410	2320	4950	2880	824	3330	10300	1390	699	317	478	279
21	1350	2200	7010	2400	986	3130	9570	1390	752	332	453	272
22	1290	2690	6670	2740	965	3100	10400	1290	843	313	394	281
23	1110	4180	5360	3570	1210	3360	10200	1210	806	301	356	303
24	954	5520	4360	3640	1100	5330	8750	1110	712	284	319	310
25	849	5170	4170	5120	989	8970	7840	1030	626	272	316	333
26	862	4860	3370	5780	1020	11900	8440	970	593	261	315	439
27	838	4530	2770	4140	1020	14900	14800	909	576	261	303	1140
28	838	3970	2490	3850	988	18400	14400	856	533	290	286	3330
29	838	3400	2410	3450	---	19600	11500	820	506	1680	270	2820
30	838	3100	2600	2860	---	20200	8450	805	503	1180	251	1700
31	838	---	8500	2610	---	21000	---	831	---	981	241	---
TOTAL	35243	96501	93710	158360	36658	176974	348090	64351	32972	17300	13988	19723
MEAN	1137	3217	3023	5108	1309	5709	11600	2076	1099	558	451	657
MAX	1600	5520	8500	14300	2380	21000	23900	6400	5010	1680	820	3330
MIN	838	835	1350	2400	786	911	4080	805	503	261	241	239
MEAN‡	988	3190	3168	5074	1298	6598	10753	2083	1095	562	445	666
CFSM‡	.68	2.18	2.17	3.47	.89	4.51	7.35	1.42	.75	.38	.30	.46
IN.‡	.78	2.43	2.50	4.00	.93	5.20	8.20	1.64	.84	.44	.35	.51

‡ Adjusted for change in contents in Curwensville and Glendale Lakes.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1201	1957	2693	2399	3330	5271	4653	3085	2205	1362	905	922
MAX	4107	5126	6771	5478	6878	10900	11600	6951	10810	4448	3537	4101
(WY)	1980	1987	1973	1974	1981	1964	1993	1978	1972	1977	1984	1975
MIN	162	259	281	474	706	1217	1882	1093	549	237	245	154
(WY)	1964	1965	1961	1961	1963	1969	1976	1976	1991	1965	1965	1964

SUMMARY STATISTICS FOR 1992 CALENDAR YEAR FOR 1993 WATER YEAR WATER YEARS 1961 - 1993

ANNUAL TOTAL	809466		1093870									
ANNUAL MEAN	2212	‡2215	2997	‡2998					2493	‡2495		
HIGHEST ANNUAL MEAN									3585			1972
LOWEST ANNUAL MEAN									1731			1969
HIGHEST DAILY MEAN	9150	Apr 2	23900	Apr 1					79200	Jun 23		1972
LOWEST DAILY MEAN	358	Jul 3	239	Sep 1					120	Nov 11		1964
ANNUAL SEVEN-DAY MINIMUM	446	Jun 28	263	Aug 27					134	Sep 13		1964
INSTANTANEOUS PEAK FLOW			25400	Apr 1					a84300	Jun 23		1972
INSTANTANEOUS PEAK STAGE			10.57	Apr 1					18.57	Jun 23		1972
INSTANTANEOUS LOW FLOW									100	Sep 26,27		1964
ANNUAL RUNOFF (CFSM)	1.51	‡1.52	2.05	‡2.05					1.71	‡1.71		
ANNUAL RUNOFF (INCHES)	20.60	‡20.62	27.83	‡27.82					23.17	‡23.18		
10 PERCENT EXCEEDS	4150		8220						5730			
50 PERCENT EXCEEDS	1830		1410						1500			
90 PERCENT EXCEEDS	786		357						386			

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

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

SUMMARY STATISTICS WATER YEARS 1940 - 1960

ANNUAL MEAN	2499											
HIGHEST ANNUAL MEAN	3809				1951							
LOWEST ANNUAL MEAN	1656				1954							
HIGHEST DAILY MEAN	44600			Mar 31	1940							
LOWEST DAILY MEAN	111			Sep 30	1943							
ANNUAL SEVEN-DAY MINIMUM	116			Sep 24	1943							
INSTANTANEOUS PEAK FLOW	50900			Apr 01	1940							
INSTANTANEOUS PEAK STAGE	13.90			Apr 01	1940							
INSTANTANEOUS LOW FLOW	109			Sep 30	1943							
ANNUAL RUNOFF (CFSM)	1.71											
ANNUAL RUNOFF (INCHES)	23.22											
10 PERCENT EXCEEDS	5960											
50 PERCENT EXCEEDS	1400											
90 PERCENT EXCEEDS	263											

‡ Adjusted for change in contents in Curwensville and Glendale Lakes.

a From rating curve extended above 50,000 ft³/s.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542810 WALDY RUN NEAR EMPORIUM, PA

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

DRAINAGE AREA.--5.24 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,263.62 ft above sea level. July 25, 1963, to Aug. 27, 1964, crest-stage gage at same site and datum.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.4	7.9	81	e5.8	e.90	132	10	1.7	.61	.64	.55
2	4.3	5.7	6.7	35	e4.5	e1.3	88	8.0	.99	.68	1.1	1.1
3	3.8	47	5.7	21	e3.9	e1.6	54	6.6	.86	.77	.90	12
4	3.3	39	4.6	20	3.2	e1.7	32	5.7	.86	.65	.72	15
5	2.7	24	4.5	70	e3.5	e2.0	21	6.0	.83	.56	.67	10
6	2.3	17	3.7	50	e3.0	2.1	16	5.1	.79	.50	.58	5.8
7	1.9	14	3.5	27	e2.5	e2.3	14	4.4	.80	1.4	.62	4.0
8	1.8	13	3.2	18	e3.2	2.7	12	4.0	.95	2.1	.53	2.6
9	4.7	10	2.8	12	e2.8	3.5	11	3.7	2.5	1.5	.46	2.0
10	4.2	8.8	e3.2	9.0	2.0	3.6	12	3.4	1.6	1.1	.40	1.9
11	4.1	7.9	e5.2	7.5	1.9	3.6	14	3.1	1.2	.86	.46	1.5
12	3.8	13	3.4	6.4	1.9	3.2	14	3.0	.95	.80	.44	1.1
13	3.4	56	2.9	17	2.1	e4.7	12	2.7	.84	.71	.38	.91
14	4.0	37	2.7	24	2.0	e9.0	10	2.4	.77	1.0	.32	.83
15	3.8	21	3.3	19	1.8	e10	8.7	2.2	.73	1.4	.29	.89
16	5.0	14	3.8	14	1.5	e8.0	48	2.0	.68	.77	2.3	.85
17	7.2	11	20	11	1.6	6.0	93	1.7	.62	.69	5.4	.73
18	8.6	8.7	33	8.3	e2.1	e7.0	52	1.5	.58	.62	5.8	.71
19	8.8	7.0	22	e7.4	e1.3	e6.6	28	1.6	1.0	1.2	3.4	.63
20	7.7	6.0	29	e6.0	e1.2	6.1	19	1.4	1.3	1.0	2.1	.57
21	7.4	7.1	30	e6.4	e1.6	5.5	15	1.2	1.9	.71	1.4	.64
22	6.4	13	21	5.8	e1.8	5.3	15	1.1	1.9	.62	.98	.65
23	5.7	37	15	4.9	e1.4	6.2	16	.94	1.2	.57	.83	.65
24	7.3	32	11	6.7	e1.1	15	17	1.2	.95	.52	.97	.76
25	8.7	28	e7.8	9.0	e.92	34	18	1.0	.84	.47	.87	.65
26	10	28	e6.0	e10	e.88	57	31	.88	.85	.58	.69	5.2
27	9.9	21	e4.5	9.4	e.84	78	45	.81	.82	.64	.62	7.9
28	8.5	16	e4.4	7.9	e.82	116	29	.83	.75	.51	.57	15
29	7.4	12	e4.5	7.1	---	135	19	.78	.73	1.0	.52	11
30	6.2	9.4	e10	e6.4	---	140	14	.71	.66	.95	.47	7.2
31	5.2	---	107	5.5	---	115	---	2.6	---	.84	.47	---
TOTAL	173.1	568.0	392.3	542.7	61.16	792.90	909.7	90.55	31.15	26.33	35.90	113.32
MEAN	5.58	18.9	12.7	17.5	2.18	25.6	30.3	2.92	1.04	.85	1.16	3.78
MAX	10	56	107	81	5.8	140	132	10	2.5	2.1	5.8	15
MIN	1.8	4.4	2.7	4.9	.82	.90	8.7	.71	.58	.47	.29	.55
CFSM	1.07	3.61	2.42	3.34	.42	4.88	5.79	.56	.20	.16	.22	.72
IN.	1.23	4.03	2.79	3.85	.43	5.63	6.46	.64	.22	.19	.25	.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	4.68	8.71	11.2	7.90	11.0	17.7	17.1	10.9	6.64	2.89	2.07	3.72
MEAN	4.68	8.71	11.2	7.90	11.0	17.7	17.1	10.9	6.64	2.89	2.07	3.72
MAX	22.1	29.3	27.8	17.9	30.7	33.0	48.3	25.0	30.9	9.87	17.9	15.7
(WY)	1982	1986	1973	1974	1976	1979	1970	1984	1972	1992	1984	1987
MIN	.10	.31	2.02	.83	.98	4.25	5.34	1.98	.75	.26	.19	.080
(WY)	1965	1965	1990	1981	1980	1981	1976	1985	1991	1966	1991	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1964 - 1993

ANNUAL TOTAL	3732.15	3737.11	8.70
ANNUAL MEAN	10.2	10.2	12.5
HIGHEST ANNUAL MEAN			5.11
LOWEST ANNUAL MEAN			1984
HIGHEST DAILY MEAN	131 Sep 22	140 Mar 30	275 Jun 23 1972
LOWEST DAILY MEAN	.28 Jul 2	.29 Aug 15	.00 Sep 14 1964
ANNUAL SEVEN-DAY MINIMUM	.35 Jun 26	.39 Aug 9	.01 Sep 13 1964
INSTANTANEOUS PEAK FLOW		163 Mar 30	a828 Sep 28 1967
INSTANTANEOUS PEAK STAGE		4.69 Mar 30	6.32 Sep 28 1967
INSTANTANEOUS LOW FLOW			.00 Sep 14 1964
ANNUAL RUNOFF (CFSM)	1.95	1.95	1.66
ANNUAL RUNOFF (INCHES)	26.50	26.53	22.55
10 PERCENT EXCEEDS	23	24	21
50 PERCENT EXCEEDS	5.8	3.6	3.5
90 PERCENT EXCEEDS	1.2	.65	.43

a From rating curve extended above 80 ft³/s on basis of slope-area measurements at gage heights 5.09 ft, 5.86 ft, and at peak flow.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA

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

DRAINAGE AREA.--272 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 894.84 ft above sea level. Oct. 1, 1913, to Sept. 30, 1931, nonrecording gage, Oct. 1, 1931, to Sept. 30, 1932, and Oct. 1, 1942, to Oct. 3, 1991, water-stage recorder at site 50 feet upstream on steel-truss bridge at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	218	482	4510	e250	e100	6650	625	e130	38	94	82
2	282	241	411	2630	e150	e130	5200	491	e80	38	83	76
3	248	1890	364	1650	e140	e150	3500	411	65	60	136	532
4	216	1870	311	1710	e140	190	2280	355	59	56	86	784
5	184	1400	300	3150	e200	218	1470	363	56	41	78	523
6	161	1160	258	2940	e160	e230	1060	359	58	34	63	367
7	146	859	240	2000	e100	e240	867	299	52	30	56	302
8	134	710	222	1360	e150	e220	765	270	56	83	52	235
9	220	597	203	906	e140	319	684	254	97	56	44	179
10	278	503	177	653	e130	e330	808	235	117	45	38	156
11	199	457	228	541	e150	e270	918	216	75	37	41	137
12	185	633	265	465	e130	e230	821	199	56	33	41	114
13	168	2290	228	1190	e120	e170	711	182	47	30	40	98
14	178	1970	204	1620	e120	e200	604	166	41	27	32	87
15	233	1360	e180	1280	e110	e350	523	154	36	39	28	80
16	261	914	239	973	e110	e270	2060	152	35	33	43	90
17	345	694	703	762	e100	e260	4450	133	31	25	208	76
18	339	563	1720	581	e100	e300	3070	120	28	21	336	70
19	380	445	1350	e400	e84	e330	1870	123	35	29	147	62
20	348	372	1880	e360	e80	e300	1230	126	87	79	107	54
21	332	376	2060	e350	e90	e290	1020	108	100	45	120	56
22	304	591	1530	e400	e120	e280	881	98	149	30	86	84
23	276	1450	1060	390	e110	e350	814	89	91	24	69	66
24	290	1520	764	432	e110	880	808	90	65	20	61	92
25	364	1720	e540	714	e100	2000	839	94	54	18	77	73
26	332	1600	e450	e540	e99	2990	1510	e87	51	16	70	475
27	322	1310	e330	e520	e96	4020	2250	e76	52	77	51	674
28	300	963	e350	e460	e92	5320	1700	e66	48	41	43	929
29	282	733	e370	e400	---	6010	1160	e62	51	99	40	688
30	267	577	592	e330	---	6240	831	e60	44	100	35	525
31	241	---	3980	e300	---	5710	---	e58	---	124	38	---
TOTAL	8139	29986	21991	34517	3481	38897	51354	6121	1946	1428	2443	7766
MEAN	263	1000	709	1113	124	1255	1712	197	64.9	46.1	78.8	259
MAX	380	2290	3980	4510	250	6240	6650	625	149	124	336	929
MIN	134	218	177	300	80	100	523	58	28	16	28	54
CFSM	.97	3.67	2.61	4.09	.46	4.61	6.29	.73	.24	.17	.29	.95
IN.	1.11	4.10	3.01	4.72	.48	5.32	7.02	.84	.27	.20	.33	1.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

MEAN	188	391	487	504	547	1014	926	648	340	181	117	129
MAX	838	1917	1394	2027	2047	3366	2310	1758	1783	1381	898	743
(WY)	1918	1951	1928	1937	1918	1936	1940	1953	1972	1974	1917	1987
MIN	10.0	21.2	24.5	33.2	76.0	250	199	104	38.8	16.9	9.20	5.16
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1991	1966	1957	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1914 - 1993

ANNUAL TOTAL	205231	208069	455
ANNUAL MEAN	561	570	1027
HIGHEST ANNUAL MEAN			1974
LOWEST ANNUAL MEAN			235
HIGHEST DAILY MEAN	5130	Jul 16	18600
LOWEST DAILY MEAN	20	Jul 2	.40
ANNUAL SEVEN-DAY MINIMUM	29	Jun 27	.87
INSTANTANEOUS PEAK FLOW		7400	Apr 1
INSTANTANEOUS PEAK STAGE		6.00	Apr 1
INSTANTANEOUS LOW FLOW			a47800
ANNUAL RUNOFF (CFSM)	2.06	2.10	b14.70
ANNUAL RUNOFF (INCHES)	28.07	28.46	.40
10 PERCENT EXCEEDS	1350	1520	1100
50 PERCENT EXCEEDS	320	228	205
90 PERCENT EXCEEDS	103	43	26

a From rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmarks.

c Also Sept. 13, 14, 1930.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING. PA

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

DRAINAGE AREA.--685 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 769.36 ft above sea level.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 21.94 ft, Mar. 18, 1936, from floodmark, discharge, 61,200 ft³/s, from rating curve extended above 31,000 ft³/s on basis of slope-area measurement at gage height 21.58 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	839	510	1360	9200	e800	e280	14500	1920	419	113	226	179
2	747	519	1180	5290	e600	e350	12100	1570	288	110	178	186
3	674	3000	1050	3490	e600	e400	8020	1320	212	166	245	921
4	593	3210	905	3200	e560	e500	5310	1130	193	184	205	1720
5	517	2580	865	5220	e540	e600	3650	1110	178	136	164	1110
6	458	2410	769	5090	e500	e700	2780	1080	176	105	146	736
7	420	1990	702	3750	e400	e700	2270	906	161	90	122	598
8	389	1740	649	2820	e450	e600	1980	802	159	110	110	558
9	428	1530	588	2160	e420	e700	1770	741	412	119	97	423
10	666	1360	643	1720	e390	e900	1980	678	684	95	82	356
11	492	1230	807	1490	e500	e700	2480	614	362	82	84	318
12	471	1440	791	1320	e450	e600	2140	559	260	75	92	267
13	450	4010	697	2260	e400	e540	1900	523	211	69	118	229
14	422	3640	621	3370	e370	e620	1670	484	179	62	114	200
15	675	2770	551	2730	e350	e680	1490	444	162	59	83	179
16	728	2150	656	2280	e340	e640	4410	431	146	73	80	191
17	867	1780	1330	1940	e330	e840	10100	391	134	55	341	187
18	831	1540	3410	1620	e320	e1200	7120	354	122	47	497	165
19	895	1280	2840	e1100	e310	e1300	4570	355	118	55	316	147
20	851	1070	3580	e940	e300	e1200	3200	376	173	139	226	129
21	806	1030	4160	e900	e350	e1100	2690	331	218	138	338	128
22	755	1610	3240	e1200	e500	e1000	2470	296	283	81	242	183
23	697	2670	2480	e1100	e400	e1100	2300	263	223	61	172	180
24	675	2820	2010	e1000	e350	2100	2220	250	160	51	143	175
25	774	3150	1540	2030	e330	4280	2170	266	131	45	144	181
26	714	2990	e1400	e1500	e310	6330	3450	247	118	40	177	1020
27	687	2610	e960	e1400	e300	8550	5720	215	126	78	124	1720
28	641	2170	e980	e1300	e280	11300	4380	193	128	83	102	2170
29	600	1840	e1000	e1100	---	14000	3170	191	128	440	91	1570
30	587	1560	e1200	e940	---	13900	2400	184	124	387	82	1200
31	544	---	7670	e900	---	13100	---	178	---	291	72	---
TOTAL	19893	62209	50634	74360	11750	90810	124410	18402	6388	3639	5213	17326
MEAN	642	2074	1633	2399	420	2929	4147	594	213	117	168	578
MAX	895	4010	7670	9200	800	14000	14500	1920	684	440	497	2170
MIN	389	510	551	900	280	280	1490	178	118	40	72	128
CFSM	.94	3.03	2.38	3.50	.61	4.28	6.05	.87	.31	.17	.25	.84
IN.	1.08	3.38	2.75	4.04	.64	4.93	6.76	1.00	.35	.20	.28	.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1993, BY WATER YEAR (WY)

MEAN	464	926	1273	1233	1454	2480	2337	1617	849	442	280	329
MAX	2186	4836	2883	4349	3732	5608	5500	3771	4066	2134	1822	1706
(WY)	1991	1951	1973	1952	1976	1945	1940	1953	1972	1992	1956	1975
MIN	31.5	52.0	64.1	91.8	257	771	556	313	121	37.9	28.7	29.6
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1991	1966	1957	1939

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1939 - 1993

ANNUAL TOTAL	486333		485034			
ANNUAL MEAN	1329		1329		1138	
HIGHEST ANNUAL MEAN					1798	1951
LOWEST ANNUAL MEAN					710	1939
HIGHEST DAILY MEAN	10900	Jul 16	14500	Apr 1	44000	Jun 23 1972
LOWEST DAILY MEAN	74	Jul 2	40	Jul 26	1.4	Sep 3 1939
ANNUAL SEVEN-DAY MINIMUM	101	Jun 27	60	Jul 13	4.2	Aug 29 1939
INSTANTANEOUS PEAK FLOW			16100	Apr 1	60800	Jun 23 1972
INSTANTANEOUS PEAK STAGE			10.01	Apr 1	21.78	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.2	Sep 4 1939
ANNUAL RUNOFF (CFSM)	1.94		1.94		1.66	
ANNUAL RUNOFF (INCHES)	26.41		26.34		22.58	
10 PERCENT EXCEEDS	2860		3180		2780	
50 PERCENT EXCEEDS	865		600		558	
90 PERCENT EXCEEDS	325		118		72	

a From rating curve extended above 31,000 ft³/s on basis of slope-area measurement at gage height 21.58 ft.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA

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

DRAINAGE AREA.--245 mi².

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

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

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since Jan. 31, 1956 by George B. Stevenson Dam (station 01543900). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known, 80,000 ft³/s, July 18, 1942, by slope-area measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	502	229	509	4020	263	66	592	666	126	54	40	73
2	381	243	424	2510	173	64	1270	555	123	58	31	76
3	358	791	371	1450	128	78	4480	474	81	64	34	302
4	289	1350	312	1150	194	115	5790	377	73	73	39	497
5	235	1170	280	1510	167	127	5550	414	73	66	37	385
6	209	1050	259	1950	159	131	5250	444	70	53	29	290
7	193	816	237	1540	132	119	4880	410	60	46	19	259
8	156	698	234	1110	97	121	4430	418	52	58	19	178
9	192	603	218	828	129	180	3850	396	115	64	26	142
10	210	522	178	599	143	212	2400	347	144	57	23	143
11	184	467	208	526	150	163	1340	315	95	48	22	133
12	175	527	244	413	129	172	1200	276	77	41	29	102
13	161	1430	202	581	109	172	913	251	66	41	42	84
14	146	1790	169	934	128	124	743	226	66	38	28	79
15	176	1280	176	881	117	e110	604	196	63	37	20	66
16	228	960	201	727	89	166	1790	183	52	37	20	89
17	299	757	262	614	102	192	3840	173	45	29	100	79
18	363	528	987	519	104	207	3710	134	43	28	119	55
19	409	440	1200	348	e68	e190	2060	151	44	31	68	54
20	398	374	1080	309	e52	223	1240	154	105	44	48	54
21	360	350	1370	288	82	224	1020	142	123	51	52	48
22	354	489	1100	382	99	218	927	120	208	34	44	55
23	305	1090	816	303	103	232	953	104	183	21	25	55
24	294	1420	658	296	96	328	1150	99	137	17	24	55
25	350	1460	474	392	e80	708	1300	104	116	14	38	57
26	325	1460	418	345	75	1510	1470	109	102	13	52	182
27	343	1300	290	342	e68	2380	2250	87	97	13	46	435
28	324	971	277	343	e64	2030	1850	75	88	17	29	903
29	314	757	354	307	---	76	1220	75	92	52	28	665
30	308	621	345	212	---	75	930	71	76	41	11	502
31	275	---	2440	255	---	398	---	65	---	43	19	---
TOTAL	8816	25943	16293	25984	3300	11111	69002	7611	2795	1283	1161	6097
MEAN	284	865	526	838	118	358	2300	246	93.2	41.4	37.5	203
MAX	502	1790	2440	4020	263	2380	5790	666	208	73	119	903
MIN	146	229	169	212	52	64	592	65	43	13	11	48
MEAN‡	284	865	546	819	117	948	1690	247	92.5	41.6	37.7	203
CFSM‡	1.16	3.53	2.23	3.34	.48	3.87	6.90	1.01	.38	.17	.15	.83
IN.‡	1.34	3.94	2.57	3.85	.50	4.46	7.70	1.16	.42	.20	.17	.93

‡ Adjusted for change in contents in First Fork Sinnemahoning Creek Reservoir.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	213	369	459	351	463	820	896	516	270	175	109	141
MAX	1033	1162	1051	965	1452	1820	2300	1037	1334	808	564	837
(WY)	1991	1986	1991	1979	1981	1964	1993	1984	1989	1992	1992	1975
MIN	9.76	17.6	21.3	16.6	77.9	171	320	103	40.5	14.5	14.2	5.31
(WY)	1964	1965	1961	1961	1963	1960	1976	1985	1991	1966	1962	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1956 - 1993

ANNUAL TOTAL	188964		179396									
ANNUAL MEAN	516	‡518	491	‡491					398	‡398		
HIGHEST ANNUAL MEAN									537			1978
LOWEST ANNUAL MEAN									260			1963
HIGHEST DAILY MEAN	3690		Jul 17		5790		Apr 4		7360		Mar 10	1956
LOWEST DAILY MEAN	27		Jul 2		11		Aug 30		.10		Aug 8	1975
ANNUAL SEVEN-DAY MINIMUM	41		Jun 27		18		Jul 22		3.6		Oct 23	1963
INSTANTANEOUS PEAK FLOW					6930		Apr 3		10200		Mar 1	1956
INSTANTANEOUS PEAK STAGE					5.02		Apr 3		6.60		Mar 1	1956
ANNUAL RUNOFF (CFSM)	2.11	‡2.11			2.01		‡2.00		1.62		‡1.62	
ANNUAL RUNOFF (INCHES)	28.69	‡28.79			27.24		‡27.24		22.05		‡22.06	
10 PERCENT EXCEEDS	1140				1270				950			
50 PERCENT EXCEEDS	335				192				193			
90 PERCENT EXCEEDS	122				41				28			

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

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

SUMMARY STATISTICS

WATER YEARS 1954 - 1955

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

‡ Adjusted for change in contents in First Fork Sinnemahoning Creek Reservoir.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01544500 KETTLE CREEK AT CROSS FORK, PA

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

DRAINAGE AREA.--136 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,027.12 ft above sea level.

REMARKS.--Records fair 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 and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 14.0 ft, Mar. 18, 1936, from information by local residents, discharge, about 20,000 ft³/s, from rating curve extended above 9,200 ft³/s on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309	126	336	2240	e100	e42	4370	440	70	30	17	64
2	259	138	290	1350	e90	e49	3350	354	47	32	15	43
3	220	444	256	842	e90	e60	2280	290	42	39	17	71
4	184	573	219	636	e110	e64	1440	245	41	33	15	119
5	156	550	205	990	e100	e70	947	270	39	29	14	79
6	134	499	175	1160	e84	e80	754	310	38	26	13	64
7	118	432	162	894	e80	e64	761	340	34	25	13	79
8	106	392	148	650	e120	e70	861	342	38	24	13	63
9	136	352	133	483	115	e90	942	312	66	23	12	51
10	129	314	131	391	101	e74	1130	269	55	22	11	53
11	112	284	159	332	86	e66	1370	230	39	20	15	46
12	110	360	138	287	74	e60	1070	200	33	20	29	39
13	102	1310	119	368	82	e80	764	173	31	19	17	35
14	113	1160	109	400	e80	e150	564	150	29	18	14	31
15	118	798	106	395	e72	e190	453	134	28	18	12	30
16	145	569	107	370	70	e150	1270	122	28	17	17	33
17	173	453	164	337	76	e210	3440	105	26	15	55	29
18	191	373	279	288	e70	e240	2010	95	24	15	52	28
19	213	304	302	237	e64	e200	1140	95	46	18	28	25
20	201	256	384	218	e52	186	761	89	65	24	22	23
21	194	260	449	214	e50	183	665	77	74	18	21	24
22	180	304	427	204	e56	e150	682	70	75	15	17	28
23	169	475	377	183	e54	e170	691	64	52	14	16	24
24	176	612	322	182	e50	e200	798	62	44	13	16	25
25	180	722	271	192	e47	e350	805	60	40	13	27	23
26	164	738	241	162	e45	924	1200	54	39	12	23	113
27	156	667	178	170	e44	1400	1900	50	39	14	17	207
28	151	551	212	153	e43	2210	1260	48	36	13	15	359
29	148	463	207	140	---	2860	825	48	38	22	14	317
30	146	392	226	e120	---	3400	577	43	34	22	13	245
31	135	---	1170	e120	---	3450	---	59	---	20	15	---
TOTAL	5028	14871	8002	14708	2105	17492	39080	5200	1290	643	595	2370
MEAN	162	496	258	474	75.2	564	1303	168	43.0	20.7	19.2	79.0
MAX	309	1310	1170	2240	120	3450	4370	440	75	39	55	359
MIN	102	126	106	120	43	42	453	43	24	12	11	23
CFSM	1.19	3.64	1.90	3.49	.55	4.15	9.58	1.23	.32	.15	.14	.58
IN.	1.38	4.07	2.19	4.02	.58	4.78	10.69	1.42	.35	.18	.16	.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	200	244	214	254	490	512	325	167	86.8	51.7	62.0
MAX	700	868	552	663	800	1055	1303	721	797	436	340	699
(WY)	1991	1951	1973	1952	1981	1945	1993	1946	1972	1992	1992	1975
MIN	6.23	9.53	18.8	18.4	52.1	132	112	63.8	22.1	12.8	7.07	6.32
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1991	1962	1971	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	98942	111384	226
ANNUAL MEAN	270	305	351
HIGHEST ANNUAL MEAN			1951
LOWEST ANNUAL MEAN			125
HIGHEST DAILY MEAN	2250	Jul 18	4370
LOWEST DAILY MEAN	29	Jul 2	11
ANNUAL SEVEN-DAY MINIMUM	36	Jun 27	13
INSTANTANEOUS PEAK FLOW			4760
INSTANTANEOUS PEAK STAGE			7.06
ANNUAL RUNOFF (CFSM)	1.99		2.24
ANNUAL RUNOFF (INCHES)	27.06		30.47
10 PERCENT EXCEEDS	550		778
50 PERCENT EXCEEDS	184		119
90 PERCENT EXCEEDS	70		18

a From rating curve extended above 9,200 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA

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

DRAINAGE AREA.--233 mi².

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

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

REMARKS.--Records good except those below 100 ft³/s, which are fair, and those for estimated daily discharges, which are poor. Flow regulated since February 1962 by Alvin R. Bush Dam (station 01544800). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	457	189	520	3080	e190	e76	151	750	127	59	32	26
2	385	178	438	2160	e160	e80	1220	662	105	69	32	50
3	327	671	396	1470	e160	e88	4840	511	82	81	32	79
4	271	1030	345	1100	e150	125	5440	457	73	71	31	165
5	238	947	298	1430	e140	145	5420	433	73	63	26	171
6	199	852	288	1830	e130	114	5130	496	68	57	21	119
7	188	666	245	1440	e110	e110	4940	517	66	53	21	123
8	160	639	230	1130	e100	124	4740	517	67	43	21	123
9	201	566	207	811	e120	168	4260	515	83	33	21	97
10	189	488	206	601	e120	e180	2130	458	115	37	21	83
11	169	443	244	554	e120	176	2130	388	99	37	21	85
12	145	465	242	466	e100	e150	1720	341	74	37	21	72
13	159	1900	195	561	e100	e150	1190	305	62	37	22	53
14	163	2010	195	726	e95	e120	949	267	59	36	23	54
15	174	1350	179	738	e94	e110	727	232	45	35	24	55
16	191	956	194	700	e92	e150	1790	214	37	32	26	55
17	218	727	240	602	e90	e160	3710	211	42	32	52	56
18	269	597	456	537	e90	e160	3740	178	45	32	89	54
19	298	458	580	387	e88	e160	2470	175	44	33	65	45
20	282	378	681	337	e86	e160	1380	187	94	32	37	43
21	270	394	846	338	e84	180	1160	165	143	32	36	41
22	260	479	798	363	e82	197	1190	148	137	32	30	42
23	246	672	657	337	e80	220	1200	138	120	31	24	47
24	244	951	555	310	e80	306	1430	96	96	27	25	88
25	266	1130	421	330	e78	641	1410	57	81	23	29	124
26	229	1150	410	287	e78	1300	1690	84	73	21	42	185
27	213	1090	e280	298	e76	1890	2890	89	73	21	39	299
28	223	871	e280	308	e76	1890	2110	85	70	21	32	654
29	206	733	358	276	---	124	1420	80	76	27	26	575
30	207	603	338	e210	---	132	1010	80	72	36	25	420
31	204	---	1410	e200	---	140	---	77	---	40	21	---
TOTAL	7251	23583	12732	23917	2969	9726	73587	8913	2401	1220	967	4083
MEAN	234	786	411	772	106	314	2453	288	80.0	39.4	31.2	136
MAX	457	2010	1410	3080	190	1890	5440	750	143	81	89	654
MIN	145	178	179	200	76	76	151	57	37	21	21	26
MEAN‡	234	786	412	772	105	785	1968	286	79.7	39.2	30.7	130
CFSM‡	1.00	3.37	1.77	3.31	.45	3.37	8.45	1.23	.34	.17	.13	.56
IN.‡	1.15	3.76	2.04	3.82	.47	3.89	9.43	1.42	.38	.20	.15	.62

‡ Adjusted for change in contents in Kettle Creek Lake.
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	196	341	415	328	451	740	822	482	289	160	88.2	127
MAX	1096	1060	954	857	1330	1739	2453	850	1278	677	569	1058
(WY)	1991	1971	1973	1979	1981	1979	1993	1984	1972	1972	1992	1975
MIN	13.5	5.37	61.3	63.8	78.8	167	309	142	42.0	8.06	7.69	13.0
(WY)	1965	1965	1965	1981	1963	1968	1976	1985	1991	1962	1962	1991

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1962 - 1993

ANNUAL TOTAL	157844			171349								
ANNUAL MEAN	431	‡431		469	‡468				369	‡369		
HIGHEST ANNUAL MEAN									530			1978
LOWEST ANNUAL MEAN									240			1965
HIGHEST DAILY MEAN	3280			Jul 18		5440	Apr 4		7200		Apr 14	1970
LOWEST DAILY MEAN	31			Jul 2		21	Jul 26-28a		4.4	Nov 3,6,12		1964
ANNUAL SEVEN-DAY MINIMUM	52			Jun 27		21	Aug 6		4.6	Nov 2		1964
INSTANTANEOUS PEAK FLOW						5670	Apr 4		7540		Apr 13	1970
INSTANTANEOUS PEAK STAGE						9.02	Apr 4		10.17		Apr 13	1970
INSTANTANEOUS LOW FLOW									3.0		Dec 6	1964
ANNUAL RUNOFF (CFSM)	1.85	‡1.85				2.01	‡2.01		1.58	‡1.58		
ANNUAL RUNOFF (INCHES)	25.20	‡25.16				27.36	‡27.33		21.52	‡21.51		
10 PERCENT EXCEEDS	945					1180			873			
50 PERCENT EXCEEDS	284					174			180			
90 PERCENT EXCEEDS	121					32			31			

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

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

SUMMARY STATISTICS

WATER YEARS 1955 - 1961

ANNUAL MEAN	372											
HIGHEST ANNUAL MEAN	492					1956						
LOWEST ANNUAL MEAN	266					1955						
HIGHEST DAILY MEAN	5970			Mar 8	1956							
LOWEST DAILY MEAN	8.9			Sep 10	1957							
ANNUAL SEVEN-DAY MINIMUM	10			Sep 24	1959							
INSTANTANEOUS PEAK FLOW	b7970			Mar 8	1956							
INSTANTANEOUS PEAK STAGE	c13.31			Jan 22	1959							
INSTANTANEOUS LOW FLOW	8.9			Sep 9,10	1957							
ANNUAL RUNOFF (CFSM)	1.60											
ANNUAL RUNOFF (INCHES)	21.69											
10 PERCENT EXCEEDS	942											
50 PERCENT EXCEEDS	160											
90 PERCENT EXCEEDS	26											

‡ Adjusted for change in contents in Kettle Creek Lake.

a Also Aug. 6-12, 31.

b Gage height 10.48 ft.

c Backwater from ice.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOV, PA

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

DRAINAGE AREA.--2,975 mi².

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

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

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 27.3 ft, June 1, 1889, from floodmark, discharge, about 211,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3960	2000	6150	35800	4370	e1400	48800	11600	1530	770	1290	376
2	3420	1880	5480	26300	3500	1390	43500	9440	1940	763	1020	515
3	3090	5280	4840	18300	3110	1490	40800	8070	1620	1110	919	845
4	2760	10600	4250	14700	3080	1800	37500	e7000	1420	1590	938	2830
5	2490	9980	3880	15500	3030	2390	32000	6270	1300	1640	873	2920
6	2240	9050	3680	19100	2860	3170	28200	e8000	1150	1120	764	2320
7	2070	7730	3290	15600	2480	3410	25600	e7000	1070	889	667	2000
8	1850	6810	3100	12200	2190	3250	23700	e6000	993	771	602	1660
9	1790	6120	2890	9890	2250	4020	21600	e5200	1250	726	530	1240
10	2180	5440	2700	8100	2230	5210	18100	e4500	4910	721	496	1040
11	2160	5040	2920	7020	2380	5110	18500	e4000	4440	637	515	961
12	2020	4910	3080	6280	2190	4280	16200	3580	2740	600	632	857
13	1960	10600	3010	7090	2060	3870	13000	3290	1890	571	706	718
14	1920	13000	2880	12500	2080	3100	10100	3140	1520	570	756	665
15	2550	11000	2840	12600	2020	2740	8170	2910	1300	560	665	617
16	2800	8790	2880	10300	2000	3420	13800	2690	1170	526	578	599
17	3010	7470	3530	8780	1830	3690	42500	2510	1070	512	609	600
18	3110	6220	8320	7630	1720	5130	40400	2260	1010	480	1070	594
19	3150	5380	11400	6240	e1300	6490	27400	2140	953	453	1190	538
20	3230	4860	10900	5340	e1200	5780	19400	2260	980	460	927	512
21	3100	4400	14300	4710	e1400	5150	17000	2260	1290	538	826	486
22	2920	5350	13800	e4500	e1900	5020	17700	2070	1370	535	809	484
23	2740	8630	11000	e4600	e1800	5320	17600	1910	1500	462	678	540
24	2380	11700	9010	e4700	e1700	7240	16700	1750	1210	423	574	574
25	2360	12000	7690	7530	e1700	14800	15400	1540	1030	394	543	627
26	2390	12000	6650	8590	e1600	22000	16300	1510	924	371	534	816
27	2250	11100	5460	7210	e1500	30600	29200	1410	901	356	565	3190
28	2250	9430	4550	6590	e1500	38700	27700	1300	871	373	507	6120
29	2170	8070	4830	5940	---	42400	20600	1200	824	858	449	6820
30	2170	6900	4840	5030	---	42300	15500	1150	822	2340	415	4570
31	2130	---	16000	4420	---	44000	---	1150	---	1420	381	---
TOTAL	78620	231740	190150	323090	60980	328670	722970	119110	44998	23539	22028	46634
MEAN	2536	7725	6134	10420	2178	10600	24100	3842	1500	759	711	1554
MAX	3960	13000	16000	35800	4370	44000	48800	11600	4910	2340	1290	6820
MIN	1790	1880	2700	4420	1200	1390	8170	1150	822	356	381	376
CFSM	.85	2.60	2.06	3.50	.73	3.56	8.10	1.29	.50	.26	.24	.52
IN.	.98	2.90	2.38	4.04	.76	4.11	9.04	1.49	.56	.29	.28	.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1993, BY WATER YEAR (WY)

	MEAN	2179	3760	4932	5704	6199	10980	9929	7131	3972	2150	1357	1441
MAX	10330	16700	13570	19060	16640	34360	25010	16670	18840	8100	7664	9220	
(WY)	1912	1951	1928	1937	1915	1936	1940	1919	1972	1928	1956	1975	
MIN	139	174	307	196	1077	3141	2456	1436	843	368	166	166	
(WY)	1931	1931	1931	1931	1934	1969	1925	1941	1991	1965	1930	1908	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1908 - 1993
ANNUAL TOTAL	1833532	2192529	
ANNUAL MEAN	5010	6007	4971
HIGHEST ANNUAL MEAN			7683
LOWEST ANNUAL MEAN			2579
HIGHEST DAILY MEAN	23000	Jul 16	201000
LOWEST DAILY MEAN	590	Jul 3	80
ANNUAL SEVEN-DAY MINIMUM	765	Jun 27	104
INSTANTANEOUS PEAK FLOW		54000	Apr 1
INSTANTANEOUS PEAK STAGE		13.36	Apr 1
INSTANTANEOUS LOW FLOW			80
ANNUAL RUNOFF (CFSM)	1.68	2.02	1.67
ANNUAL RUNOFF (INCHES)	22.93	27.42	22.70
10 PERCENT EXCEEDS	10300	15500	11800
50 PERCENT EXCEEDS	3730	2800	2710
90 PERCENT EXCEEDS	1640	588	470

a From rating curve extended above 87,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

c Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOV, PA
(Hydrologic bench-mark station and radiochemical program)

LOCATION.--Lat 41°23'22", long 77°41'28", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4005, 0.3 mi downstream from Laureilly Fork, 1.5 mi upstream from Left Branch Young Womans Creek, 3.7 mi upstream from mouth, and 5.0 mi northeast of Renovo.
DRAINAGE AREA.--46.2 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 780.41 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	23	116	381	e45	e16	1250	195	30	14	7.5	9.7
2	56	29	102	324	e40	e17	1040	157	21	17	9.9	9.5
3	50	116	91	245	e47	e20	832	129	20	20	10	16
4	43	121	80	205	44	e23	547	110	19	16	7.4	37
5	38	127	74	266	e37	e25	412	131	18	14	7.0	24
6	34	129	67	275	e33	e27	344	123	18	13	6.2	21
7	30	117	62	240	e31	e23	336	114	16	12	6.4	27
8	28	108	56	199	e38	e25	353	109	17	12	6.1	23
9	30	100	52	162	e35	e33	363	103	36	11	5.5	21
10	28	92	52	133	e42	e27	408	95	25	11	7.2	21
11	27	85	58	113	34	e24	431	87	18	10	14	20
12	26	101	53	101	41	e22	376	79	16	10	12	17
13	24	219	48	140	e45	e30	303	72	15	9.5	8.1	15
14	26	226	44	152	29	e60	240	66	14	9.2	6.7	14
15	25	199	42	144	28	e64	195	60	13	9.4	6.0	14
16	26	165	45	135	e25	e54	373	55	13	8.3	7.7	15
17	29	139	65	123	e28	e80	638	49	12	7.8	16	13
18	26	117	87	107	e22	e100	524	46	11	7.5	14	13
19	28	98	86	91	e19	84	388	45	14	9.8	9.4	12
20	26	84	115	81	e18	74	308	42	33	11	8.9	11
21	26	87	136	76	e17	55	341	37	31	8.3	9.0	12
22	25	100	129	76	e23	41	376	33	31	7.4	7.5	13
23	24	230	117	71	e21	47	367	30	22	6.7	6.7	11
24	26	243	103	72	e20	79	358	29	19	6.2	16	12
25	30	246	90	73	e18	127	330	28	18	5.9	30	11
26	27	227	81	62	e18	209	407	25	17	5.8	15	40
27	26	207	e66	60	e17	295	544	23	17	6.8	12	71
28	25	180	69	56	e17	521	440	22	16	5.9	11	89
29	25	156	65	53	---	756	333	22	20	11	10	78
30	25	134	78	e52	---	928	255	20	16	8.9	9.6	68
31	24	---	209	51	---	978	---	31	---	8.9	9.2	---
TOTAL	945	4205	2538	4319	832	4864	13412	2167	586	314.3	312.0	758.2
MEAN	30.5	140	81.9	139	29.7	157	447	69.9	19.5	10.1	10.1	25.3
MAX	62	246	209	381	47	978	1250	195	36	20	30	89
MIN	24	23	42	51	17	16	195	20	11	5.8	5.5	9.5
CFSM	.66	3.03	1.77	3.02	.64	3.40	9.68	1.51	.42	.22	.22	.55
IN.	.76	3.39	2.04	3.48	.67	3.92	10.80	1.74	.47	.25	.25	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1993, BY WATER YEAR (WY)

	MEAN	39.2	71.7	81.3	60.4	88.9	135	161	97.6	65.3	36.3	17.5	23.8
MAX	181	199	194	155	250	349	447	175	303	162	56.9	211	
(WY)	1991	1971	1973	1979	1984	1979	1993	1978	1972	1992	1992	1975	
MIN	4.05	10.9	9.59	8.25	19.6	44.7	60.9	31.9	9.09	4.64	3.21	3.36	
(WY)	1983	1992	1965	1981	1987	1969	1988	1985	1991	1966	1966	1980	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1965 - 1993	
ANNUAL TOTAL	28549		35252.5		73.7	
ANNUAL MEAN	78.0		96.6		108	
HIGHEST ANNUAL MEAN					47.2	
LOWEST ANNUAL MEAN					1966	
HIGHEST DAILY MEAN	674	Jul 18	1250	Apr 1	3310	Jun 23 1972
LOWEST DAILY MEAN	12	Jul 2	5.5	Aug 9	1.1	Aug 22 1988
ANNUAL SEVEN-DAY MINIMUM	15	Aug 21	6.4	Jul 22	1.4	Aug 16 1988
INSTANTANEOUS PEAK FLOW			1420	Apr 1	a5370	Jun 23 1972
INSTANTANEOUS PEAK STAGE			4.55	Apr 1	7.98	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.0	Aug 22, 23 1988
ANNUAL RUNOFF (CFSM)	1.69		2.09		1.60	
ANNUAL RUNOFF (INCHES)	22.99		28.39		21.68	
10 PERCENT EXCEEDS	167		259		169	
50 PERCENT EXCEEDS	57		34		41	
90 PERCENT EXCEEDS	21		9.7		6.6	

a From rating curve extended above 1,000 ft³/s on basis of slope-area measurement of peak flow.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR REMO, PA--Continued
(Hydrologic bench-mark station and radiochemical program)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 μM-MF (COLS./100 ML) (31625)	STREP-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 27...	1030	26	43	7.2	6.0	0.60	740	13.8	114	4	28
JAN 26...	0900	56	41	6.8	0.5	0.40	751	14.1	99	K 2	K 0
MAY 11...	1201	79	37	6.7	13.0	0.80	740	10.4	102	K 1	110
JUL 21...	1000	8.0	44	7.1	17.5	0.20	742	8.9	96	50	210

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)
OCT 27...	15	8	4.0	1.1	0.90	11	0.1	0.70	8	10	7
JAN 26...	13	9	3.7	1.0	0.80	11	0.1	0.60	5	--	4
MAY 11...	13	10	3.9	0.86	0.70	10	0.1	0.70	5	--	4
JUL 21...	16	8	4.6	1.1	1.3	14	0.1	0.90	10	--	8

DATE	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
OCT 27...	8.0	7.8	1.2	0.10	4.2	43	25	0.06	2.98	0.130	--
JAN 26...	5.9	8.7	1.0	<0.10	4.3	24	24	0.03	3.60	0.330	0.330
MAY 11...	7.3	8.6	0.90	<0.10	3.7	28	23	0.04	5.97	0.190	--
JUL 21...	12	7.2	1.3	<0.10	4.3	27	27	0.04	0.58	0.290	--

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 27...	<0.010	0.160	<0.010	<0.20	<0.010	<0.010	<0.010	0	0.0	--
JAN 26...	0.020	0.350	0.010	<0.20	<0.010	<0.010	<0.010	1	0.15	60
MAY 11...	<0.010	0.190	0.030	<0.20	<0.010	<0.010	<0.010	3	0.64	89
JUL 21...	<0.010	0.290	0.040	<0.20	<0.010	<0.010	<0.010	2	0.04	25

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR REMOVO, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	ARSENIC DIS- SOLVED (μ G/L AS AS) (01000)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (μ G/L AS BE) (01010)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)
OCT 27...	1030	26	<10	--	37	--	--	--	<3	--	11
JAN 26...	0900	56	10	--	36	--	--	--	<3	--	9
MAY 11...	1201	79	20	<1	22	<0.5	<1.0	<1	<3	<1	11
JUL 21...	1000	8.0	10	--	36	--	--	--	<3	--	22

DATE	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (μ G/L AS MO) (01060)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	SILVER, DIS- SOLVED (μ G/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (μ G/L AS V) (01085)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)
OCT 27...	--	<4	3	<10	1	<1	<1.0	29	<6	--
JAN 26...	--	<4	2	<10	<1	<1	<1.0	25	<6	--
MAY 11...	<1	<4	4	<10	<1	<1	<1.0	22	<6	12
JUL 21...	--	<4	10	<10	<1	<1	<1.0	32	<6	--

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	GROSS ALPHA, DIS- SOLVED (μ G/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (μ G/L AS U-NAT) (80040)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (μ G/L) (75986)	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCI/L) (75987)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)
OCT 27...	1030	26	0.70	<0.6	<0.6	0.22	0.13	0.9	<0.6	0.9	<0.6
MAY 11...	1201	79	0.70	<0.6	<0.6	0.31	0.20	0.9	<0.6	0.9	<0.6

DATE	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCI/L (75988)	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCI/L) (75989)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	RA-228 2 SIGMA WATER, DISS, (PCI/L) (76000)	URANIUM NATURAL DIS- SOLVED (μ G/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS, (μ G/L) (75990)	ALPHA RADIO. WATER DISS TH-230 (PCI/L) (04126)	ALPHA SED SUSP DRY WGH AS TH-230 (PCI/L) (04127)	ALPHA, 2 SIGMA SED SUS TOT DRY AS TH-230 (PCI/L) (76004)	BETA, 2 SIGMA SED, SUSP, TOT DRY SR90Y90 (PCI/L) (76005)
OCT 27...	0.45	0.49	0.03	0.010	--	<0.01	<1.0	<0.6	<0.6	0.22	0.51
MAY 11...	0.48	0.52	0.03	0.010	0.4	<0.01	<1.0	<0.6	<0.6	0.17	0.50

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546400 SPRING CREEK AT HOUSEVILLE, PA

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

DRAINAGE AREA.--58.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 926.63 ft above sea level.

REMARKS.--Records fair. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	16	e43	182	61	33	771	274	65	36	30	25
2	19	20	e42	153	59	36	693	235	59	57	30	25
3	19	39	e41	133	57	38	592	206	57	44	30	32
4	18	21	e41	119	54	63	471	187	57	39	29	44
5	18	23	e41	173	53	66	375	261	55	37	29	e30
6	18	22	e41	135	51	58	310	196	54	36	29	e28
7	18	19	e38	123	49	55	264	165	53	34	28	e28
8	18	18	e37	113	48	69	232	148	61	33	28	e28
9	23	19	e37	103	47	88	209	138	88	33	27	e27
10	20	18	e45	94	46	82	298	130	62	32	56	e27
11	21	18	e56	89	45	74	294	127	55	36	48	e26
12	19	44	e52	90	47	68	251	122	53	33	33	e26
13	19	54	e50	110	46	65	223	116	51	32	30	e25
14	22	35	e45	100	44	e62	198	110	49	37	29	e24
15	19	32	e45	89	43	60	179	105	48	32	27	e24
16	19	30	e45	86	44	60	572	100	47	32	28	e25
17	18	31	e70	83	42	71	665	95	45	31	33	e23
18	18	31	e92	77	40	74	513	97	44	31	28	e24
19	19	28	e80	72	e39	68	398	96	44	31	28	e23
20	18	27	e90	68	38	66	330	88	45	31	37	e22
21	18	37	e100	77	38	68	407	83	44	31	28	e24
22	17	34	e92	89	40	71	411	79	43	31	27	e22
23	16	56	e90	81	38	86	386	77	41	30	27	e24
24	17	47	e82	83	36	137	371	75	40	29	25	e22
25	16	58	e74	80	35	172	328	72	40	29	21	e25
26	16	e52	e68	72	35	221	539	69	38	35	22	28
27	16	e49	e64	71	34	291	632	66	38	34	22	63
28	17	e47	e62	69	33	509	494	64	36	33	23	25
29	17	e45	e62	66	---	611	395	63	41	58	23	25
30	16	e43	61	61	---	682	325	60	37	31	23	24
31	16	---	143	61	---	690	---	75	---	30	24	---
TOTAL	564	1013	1929	3002	1242	4794	12126	3779	1490	1078	902	818
MEAN	18.2	33.8	62.2	96.8	44.4	155	404	122	49.7	34.8	29.1	27.3
MAX	23	58	143	182	61	690	771	274	88	58	56	63
MIN	16	16	37	61	33	33	179	60	36	29	21	22
CFSM	.31	.58	1.06	1.66	.76	2.64	6.91	2.08	.85	.59	.50	.47
IN.	.36	.64	1.23	1.91	.79	3.05	7.71	2.40	.95	.69	.57	.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1993, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	34.2	47.5	63.2	59.4	67.1	97.5	127	81.1	59.5
MAX	107	82.3	138	117	114	155	404	126	142
(WY)	1991	1991	1991	1991	1986	1993	1989	1989	1989
MIN	18.2	26.4	29.1	34.6	32.2	54.0	52.5	57.0	35.1
(WY)	1993	1992	1989	1992	1992	1990	1988	1986	1991

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1985 - 1993

ANNUAL TOTAL	16341	32737	
ANNUAL MEAN	44.6	89.7	62.3
HIGHEST ANNUAL MEAN			89.7
LOWEST ANNUAL MEAN			42.4
HIGHEST DAILY MEAN	232	Mar 27	771
LOWEST DAILY MEAN	16	Oct 23 ^a	16
ANNUAL SEVEN-DAY MINIMUM	16	Oct 25	16
INSTANTANEOUS PEAK FLOW		835	835
INSTANTANEOUS PEAK STAGE		7.14	7.14
INSTANTANEOUS LOW FLOW		15	15
ANNUAL RUNOFF (CFSM)	.76	1.53	1.06
ANNUAL RUNOFF (INCHES)	10.39	20.82	14.46
10 PERCENT EXCEEDS	80	214	111
50 PERCENT EXCEEDS	36	45	45
90 PERCENT EXCEEDS	19	21	23

^a Also Oct. 25-27, Oct. 30-Nov. 1, 1992.

^b Also Nov. 6-10, 14-20, 1991.

^c Also Oct. 25, 1992.

^d Also Nov. 21, 1991 and Oct. 23, 27, 28, 1992.

^e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01546500 SPRING CREEK NEAR AXEMANN, PA

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

DRAINAGE AREA.--87.2 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 788.81 ft above sea level. Prior to Nov. 19, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	34	64	241	85	53	965	356	106	68	56	51
2	40	38	62	210	81	56	786	313	97	87	55	50
3	39	65	61	186	80	58	639	280	95	76	56	66
4	38	43	61	165	75	89	502	253	95	72	54	100
5	39	40	61	227	75	102	410	313	93	67	54	65
6	38	46	58	197	73	89	350	260	90	64	54	59
7	37	39	58	178	71	81	307	223	92	63	54	58
8	37	37	55	165	72	91	278	204	95	64	52	56
9	41	37	55	150	75	121	256	189	120	65	51	54
10	41	37	59	138	75	114	315	179	99	66	68	54
11	41	37	82	130	75	106	335	175	92	66	91	52
12	39	43	81	130	75	96	292	171	89	68	68	50
13	38	107	74	153	73	96	267	166	85	63	59	50
14	41	58	70	150	69	90	247	156	85	63	59	47
15	40	53	70	132	68	86	223	152	84	67	55	48
16	38	51	71	127	70	86	640	145	82	60	55	47
17	39	50	111	122	68	99	875	141	80	60	65	46
18	38	51	132	116	66	102	600	140	79	59	56	46
19	39	48	119	108	64	95	470	143	79	60	59	44
20	38	47	139	104	63	93	384	132	80	59	63	44
21	37	54	144	106	63	94	450	127	79	57	65	47
22	36	59	140	126	64	97	455	122	77	59	55	45
23	36	77	133	115	62	114	435	119	76	56	55	44
24	35	72	126	114	58	180	441	117	75	55	55	47
25	35	84	113	115	56	217	396	115	74	54	54	45
26	36	74	106	103	56	276	600	111	73	55	53	72
27	35	71	96	101	56	333	835	108	73	57	52	111
28	35	70	92	94	54	506	600	106	72	55	52	77
29	37	68	92	91	---	644	489	105	72	94	50	66
30	35	65	93	86	---	755	410	101	72	60	50	61
31	34	---	167	85	---	850	---	109	---	59	51	---
TOTAL	1172	1655	2845	4265	1922	5869	14252	5331	2560	1978	1776	1702
MEAN	37.8	55.2	91.8	138	68.6	189	475	172	85.3	63.8	57.3	56.7
MAX	41	107	167	241	85	850	965	356	120	94	91	111
MIN	34	34	55	85	54	53	223	101	72	54	50	44
CFSM	.43	.63	1.05	1.58	.79	2.17	5.45	1.97	.98	.73	.66	.65
IN.	.50	.71	1.21	1.82	.82	2.50	6.08	2.27	1.09	.84	.76	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	57.6	66.1	80.9	88.3	108	147	154	121	98.8	70.9	59.4	54.6
MAX	184	206	228	219	257	294	294	475	257	369	216	137	163
(WY)	1980	1978	1951	1978	1984	1979	1993	1978	1972	1972	1984	1979	
MIN	26.1	26.0	22.8	23.3	38.1	36.5	49.6	50.5	41.1	28.0	24.4	24.9	
(WY)	1964	1966	1966	1966	1963	1969	1969	1969	1965	1965	1966	1965	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	26031	45327	
ANNUAL MEAN	71.1	124	92.1
HIGHEST ANNUAL MEAN			161
LOWEST ANNUAL MEAN			43.5
HIGHEST DAILY MEAN	252	Mar 27	965
LOWEST DAILY MEAN	34	Oct 31, Nov 1	34
ANNUAL SEVEN-DAY MINIMUM	35	Oct 26	35
INSTANTANEOUS PEAK FLOW			1090
INSTANTANEOUS PEAK STAGE			4.58
INSTANTANEOUS LOW FLOW			7.47
ANNUAL RUNOFF (CFSM)	.82	1.42	9.6
ANNUAL RUNOFF (INCHES)	11.10	19.34	14.35
10 PERCENT EXCEEDS	114	271	163
50 PERCENT EXCEEDS	63	74	71
90 PERCENT EXCEEDS	41	41	40

a Also Jan 28, 29, 31, 1966.

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

c In gage, 8.75 ft from outside floodmark.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547100 SPRING CREEK AT MILESBERG, PA

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

DRAINAGE AREA.--142 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 696.42 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	112	174	489	211	149	1600	605	255	180	155	140
2	119	120	169	445	204	151	1330	546	238	220	154	154
3	117	160	164	388	202	158	1070	501	233	200	153	162
4	118	131	161	353	197	197	864	471	235	190	151	190
5	116	129	160	441	196	252	736	539	232	182	150	153
6	116	138	155	397	192	232	647	478	228	180	151	146
7	115	127	152	370	186	218	577	431	226	182	150	145
8	115	123	149	349	185	240	526	410	232	179	149	143
9	122	123	146	322	182	305	491	392	269	176	147	144
10	121	122	152	299	180	303	561	377	240	175	154	145
11	120	122	204	284	179	281	592	368	224	173	200	142
12	119	139	201	282	180	258	531	360	220	176	165	140
13	118	219	190	320	180	260	496	352	215	172	156	140
14	123	171	183	319	174	242	466	338	213	170	154	136
15	123	162	181	292	169	231	440	329	210	174	150	138
16	120	157	180	284	174	227	1230	318	206	167	150	137
17	118	154	245	277	169	246	1540	311	204	165	159	137
18	117	152	296	264	164	259	1020	307	202	163	151	137
19	121	147	277	248	159	245	796	315	201	165	152	135
20	118	144	306	240	159	242	680	298	204	164	151	135
21	119	152	326	241	162	244	762	288	205	160	160	141
22	116	171	317	268	163	256	798	281	199	160	147	140
23	116	201	299	257	160	285	781	275	194	157	146	136
24	115	196	283	255	156	455	743	273	190	155	146	139
25	115	211	256	259	153	570	684	267	189	154	145	137
26	115	200	243	239	153	714	1010	261	187	155	143	171
27	112	195	225	235	151	876	1340	255	185	157	142	215
28	113	190	217	230	149	1340	966	251	182	160	141	176
29	114	186	213	225	---	1340	796	248	184	203	139	159
30	114	180	216	213	---	1450	688	243	187	163	139	159
31	113	---	327	214	---	1480	---	256	---	160	139	---
TOTAL	3637	4734	6767	9299	4889	13706	24761	10944	6389	5337	4689	4472
MEAN	117	158	218	300	175	442	825	353	213	172	151	149
MAX	123	219	327	489	211	1480	1600	605	269	220	200	215
MIN	112	112	146	213	149	149	440	243	182	154	139	135
CFSM	.83	1.11	1.54	2.11	1.23	3.11	5.81	2.49	1.50	1.21	1.07	1.05
IN.	.95	1.24	1.77	2.44	1.28	3.59	6.49	2.87	1.67	1.40	1.23	1.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1993, BY WATER YEAR (WY)

	MEAN	171	187	220	218	269	325	339	265	247	194	167	156
MAX	375	421	414	443	500	615	825	507	729	434	357	348	
(WY)	1980	1978	1978	1978	1984	1979	1993	1978	1972	1972	1984	1979	
MIN	102	117	131	122	127	104	149	147	123	118	110	108	
(WY)	1970	1972	1983	1981	1969	1969	1969	1969	1969	1969	1968	1969	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1967 - 1993

ANNUAL TOTAL	63333	99624	
ANNUAL MEAN	173	273	230
HIGHEST ANNUAL MEAN			350
LOWEST ANNUAL MEAN			128
HIGHEST DAILY MEAN	551	Mar 27	1600
LOWEST DAILY MEAN	112	Oct 27, Nov 1	112
ANNUAL SEVEN-DAY MINIMUM	113	Oct 26	113
INSTANTANEOUS PEAK FLOW			1980
INSTANTANEOUS PEAK STAGE			7.96
INSTANTANEOUS LOW FLOW			91
ANNUAL RUNOFF (CFSM)	1.22	1.92	1.62
ANNUAL RUNOFF (INCHES)	16.59	26.10	22.03
10 PERCENT EXCEEDS	247	511	365
50 PERCENT EXCEEDS	152	189	188
90 PERCENT EXCEEDS	121	123	128

a From rating curve extended above 900 ft³/s on basis of computation of peak discharge at dam.

b From peak-stage indicator.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBERG, PA

LOCATION.--Lat 40°56'35", long 77°47'12", Centre County, Hydrologic Unit 02050204, on right bank 130 ft downstream from bridge on State Highway 144 at Milesburg, and 250 ft downstream from Spring Creek.

DRAINAGE AREA.--265 mi².

PERIOD OF RECORD.--October 1955 to current year. Prior to October 1967, published as North Bald Eagle Creek below Spring Creek at Milesburg.

GAGE.--Water-stage recorder. Datum of gage is 682.49 ft above sea level. Prior to Aug. 31, 1956, nonrecording gage at site 130 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good except those below 130 ft³/s, which are fair. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	134	329	1580	318	184	4220	1000	307	195	159	138
2	186	150	306	1050	257	194	3030	856	273	288	156	159
3	175	573	283	796	291	230	2210	757	265	295	155	202
4	169	366	265	675	280	325	1670	689	265	229	151	254
5	162	311	262	949	268	443	1330	928	262	211	148	194
6	156	351	242	763	259	440	1110	788	254	201	149	162
7	150	289	231	675	224	399	953	679	250	201	148	155
8	145	263	223	613	240	493	855	625	259	199	146	151
9	164	244	215	540	238	715	788	583	381	192	144	148
10	169	228	206	475	240	637	1190	544	348	188	153	149
11	160	221	480	440	238	542	1340	515	268	183	241	144
12	155	299	603	434	228	454	1110	487	252	187	290	142
13	150	907	483	765	232	408	938	469	240	179	184	142
14	164	543	416	858	233	347	816	441	234	175	167	137
15	178	424	373	690	222	396	729	420	230	178	156	138
16	163	355	373	595	218	378	6550	400	226	169	155	137
17	153	317	848	530	222	438	5320	384	222	166	184	138
18	151	292	1020	461	207	515	2380	376	220	164	170	139
19	152	265	770	396	189	456	1620	406	220	166	166	136
20	149	243	878	360	199	438	1290	373	235	166	164	135
21	148	317	881	356	205	427	1910	350	231	161	176	142
22	144	573	739	449	211	459	2300	334	219	160	158	141
23	143	928	635	454	213	577	2020	322	210	156	154	135
24	142	710	564	484	201	1300	1730	317	205	154	152	141
25	143	801	450	586	190	1570	1440	311	202	153	152	140
26	143	646	418	472	192	1950	2980	301	201	155	147	210
27	139	546	346	450	188	2360	3500	290	199	156	145	516
28	138	460	348	416	184	3990	2000	284	195	159	144	378
29	138	405	364	384	---	4340	1490	279	197	271	142	248
30	138	361	379	320	---	4940	1210	271	204	182	139	264
31	137	---	1220	344	---	3980	---	288	---	167	138	---
TOTAL	4800	12522	15150	18360	6387	34325	60029	15067	7274	5806	5033	5415
MEAN	155	417	489	592	228	1107	2001	486	242	187	162	180
MAX	196	928	1220	1580	318	4940	6550	1000	381	295	290	516
MIN	137	134	206	320	184	184	729	271	195	153	138	135
CFSM	.58	1.58	1.84	2.23	.86	4.18	7.55	1.83	.91	.71	.61	.68
IN.	.67	1.76	2.13	2.58	.90	4.82	8.43	2.12	1.02	.82	.71	.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	MEAN	254	316	393	361	527	757	709	498	366	254	215	199
MAX	950	811	956	812	1227	1467	2001	1162	1689	804	643	708	
(WY)	1977	1978	1973	1978	1984	1979	1993	1978	1972	1972	1956	1979	
MIN	89.8	94.3	103	141	147	255	276	257	131	102	101	84.3	
(WY)	1964	1965	1966	1981	1963	1969	1968	1965	1965	1965	1965	1965	

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1956 - 1993	
ANNUAL TOTAL	121950		190168		403	
ANNUAL MEAN	333		521		638	
HIGHEST ANNUAL MEAN					213	
LOWEST ANNUAL MEAN					15000	
HIGHEST DAILY MEAN	1940	Mar 27	6550	Apr 16	15000	Jun 23 1972
LOWEST DAILY MEAN	134	Nov 1	134	Nov 1	79	Sep 11 1965
ANNUAL SEVEN-DAY MINIMUM	138	Oct 26	137	Sep 14	80	Sep 17 1965
INSTANTANEOUS PEAK FLOW			11400	Apr 16	a21300	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.76	Apr 16	b11.67	Jun 23 1972
INSTANTANEOUS LOW FLOW					50	Aug 3 1966
ANNUAL RUNOFF (CFSM)	1.26		1.97		1.52	
ANNUAL RUNOFF (INCHES)	17.12		26.70		20.68	
10 PERCENT EXCEEDS	622		1010		789	
50 PERCENT EXCEEDS	244		265		258	
90 PERCENT EXCEEDS	160		148		132	

a From rating curve extended above 9,000 ft³/s.

b From floodmark in gage.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547500 BALD EAGLE CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'06", long 77°36'17", Centre County, Hydrologic Unit 02050204, on left bank 0.4 mi downstream from Foster Joseph Sayers Dam, 0.7 mi upstream from Marsh Creek, and 0.9 mi south of Blanchard.

DRAINAGE AREA.--339 mi².

PERIOD OF RECORD.--May 1954 to current year. Prior to October 1967, published as North Bald Eagle Creek at Blanchard.

REVISED RECORDS.--WSP 1903: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 579.79 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since March 1971 by Foster Joseph Sayers Dam (station 01547480). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	143	412	1080	405	227	5.3	3370	302	196	264	152
2	1530	156	373	1180	324	227	5.5	3610	304	289	208	152
3	1460	645	327	1240	331	238	678	3810	304	357	177	160
4	1390	416	304	1070	349	391	1780	3810	304	282	175	542
5	868	336	304	981	307	589	2640	3450	304	232	175	416
6	326	367	304	1040	304	633	3080	3770	304	223	175	185
7	141	367	262	915	304	546	3340	3760	291	223	175	168
8	140	334	231	710	277	614	3460	3590	282	223	175	168
9	140	260	242	640	257	794	3550	3010	541	223	160	168
10	185	219	260	584	269	836	2880	1900	768	223	151	167
11	194	227	541	528	290	777	3060	614	462	223	152	165
12	157	295	957	496	304	615	3450	352	252	223	152	165
13	149	738	659	748	304	540	3470	433	241	223	159	156
14	184	697	534	976	288	420	3400	397	213	200	152	149
15	217	486	496	978	273	452	3350	372	204	196	152	149
16	204	498	486	784	273	534	1020	367	204	181	152	149
17	179	498	774	676	269	534	20	358	204	172	171	149
18	158	500	1030	583	257	609	733	335	203	172	274	149
19	158	498	1040	485	235	673	2000	328	200	172	294	149
20	159	494	1030	410	235	595	2000	328	201	172	209	149
21	159	504	1030	426	233	526	1600	307	202	172	178	149
22	159	868	1030	497	255	508	1520	286	200	172	178	149
23	159	1000	939	557	278	625	2090	286	200	172	178	149
24	159	1060	735	570	232	1030	2250	286	200	172	178	149
25	169	945	517	607	196	1240	2210	286	200	172	178	149
26	175	938	433	640	209	1170	1140	286	200	172	178	155
27	165	1120	433	595	227	1070	675	265	200	172	178	466
28	159	992	433	510	227	249	1770	245	200	172	178	882
29	159	653	433	485	---	5.3	2610	235	197	265	178	1010
30	159	494	433	385	---	5.8	3070	235	196	430	178	1140
31	148	---	783	378	---	5.3	---	277	---	382	162	---
TOTAL	11299	16748	17765	21754	7712	17278.4	62856.8	40958	8083	6858	5644	8205
MEAN	364	558	573	702	275	557	2095	1321	269	221	182	273
MAX	1590	1120	1040	1240	405	1240	3550	3810	768	430	294	1140
MIN	140	143	231	378	196	5.3	5.3	235	196	172	151	149
MEAN‡	180	498	582	694	273	1272	2452	631	272	212	176	200
CFSM‡	.53	1.47	1.72	2.05	.81	3.75	7.23	1.86	.80	.63	.52	.59
IN.‡	.61	1.64	1.98	2.36	.84	4.32	8.07	2.14	.89	.73	.60	.66

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547500 BALD EAGLE CREEK AT BLANCHARD, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	433	580	573	502	608	730	668	594	478	358	273	315
MAX	1012	1291	995	948	1450	1664	2095	1328	1184	1580	867	809
(WY)	1980	1978	1973	1978	1984	1979	1993	1978	1972	1972	1984	1979
MIN	165	188	204	133	275	238	208	213	195	162	148	167
(WY)	1983	1988	1990	1981	1993	1990	1976	1976	1991	1991	1991	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1971 - 1993

ANNUAL TOTAL	138545		225161.2									
ANNUAL MEAN	379	\$380	617	\$622					508	\$510		
HIGHEST ANNUAL MEAN									764			1978
LOWEST ANNUAL MEAN									333			1992
HIGHEST DAILY MEAN	1640	Sep 30			3810	May 3			4730		Jun 29	1972
LOWEST DAILY MEAN	140	Oct 8,9			5.3	Mar 29a			5.3		Mar 29	1993a
ANNUAL SEVEN-DAY MINIMUM	156	Oct 27			136	Mar 28			71		Apr 20	1971
INSTANTANEOUS PEAK FLOW					3990	May 4			44890		Jun 28	1972
INSTANTANEOUS PEAK STAGE					7.67	May 4			9.37		Jun 28	1972
INSTANTANEOUS LOW FLOW									c.00			
ANNUAL RUNOFF (CFSM)	1.12	\$1.12			1.82	\$1.83			1.50		\$1.50	
ANNUAL RUNOFF (INCHES)	15.20	\$15.22			24.71	\$24.84			20.38		\$20.43	
10 PERCENT EXCEEDS	698				1300				1040			
50 PERCENT EXCEEDS	283				304				338			
90 PERCENT EXCEEDS	187				158				167			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1970, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	224	287	330	318	506	855	797	547	289	212	201	178
MAX	534	557	686	547	909	1376	1392	1053	561	478	623	437
(WY)	1956	1960	1957	1960	1956	1964	1957	1960	1968	1956	1956	1956
MIN	105	102	109	161	158	304	318	289	137	105	100	99.8
(WY)	1965	1965	1966	1966	1963	1969	1968	1955	1965	1965	1966	1965

SUMMARY STATISTICS

WATER YEARS 1954 - 1970

ANNUAL MEAN	395											
HIGHEST ANNUAL MEAN	555					1956						
LOWEST ANNUAL MEAN	247					1965						
HIGHEST DAILY MEAN	7010			Mar 10		1964						
LOWEST DAILY MEAN	90		Sep 11,13			1966						
ANNUAL SEVEN-DAY MINIMUM	93		Sep 7			1966						
INSTANTANEOUS PEAK FLOW	b10100		Mar 10			1964						
INSTANTANEOUS PEAK STAGE	11.59		Mar 10			1964						
ANNUAL RUNOFF (CFSM)	1.16											
ANNUAL RUNOFF (INCHES)	15.82											
10 PERCENT EXCEEDS	834											
50 PERCENT EXCEEDS	235											
90 PERCENT EXCEEDS	124											

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

a Also Mar. 31 and Apr. 1.

b From rating curve extended above 4,100 ft³/s.

c No flow parts of June 16, Nov. 10, 1970, due to construction of dam; May 12, 18, 19, 1976; Mar. 6, 1979, result of shutoff at dam.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547700 MARSH CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'34", long 77°36'22", Centre County, Hydrologic Unit 02050204, on right bank 20 ft downstream from highway bridge on SR 1002, 0.5 mi southwest of Blanchard, 0.6 mi downstream from bridge on State Highway 150, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi².

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

REVISED RECORDS.--WDR PA-72-1: 1971 (runoff in CFSM and inches).

GAGE.--Water-stage recorder. Datum of gage is 586.16 ft above sea level. Prior to Aug. 31, 1956, nonrecording gage at site 20 ft upstream at same datum.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	11	68	284	46	12	730	130	14	3.6	3.4	3.9
2	35	17	61	219	e30	14	563	100	10	12	3.2	4.1
3	32	129	55	164	37	23	383	82	9.7	17	3.9	6.0
4	28	101	49	133	34	36	246	70	10	8.3	3.0	11
5	24	99	47	153	30	56	158	134	9.3	6.4	2.5	6.2
6	21	104	40	119	27	57	108	120	9.2	4.9	2.4	4.4
7	20	84	36	109	e16	55	79	114	8.1	4.2	2.4	4.0
8	18	75	33	99	23	71	62	100	8.5	3.8	2.2	4.1
9	21	65	30	82	22	101	51	87	21	3.5	2.0	3.8
10	19	58	28	67	25	95	109	74	11	3.2	4.7	3.9
11	18	54	108	62	23	81	138	64	8.0	2.8	16	3.6
12	18	89	119	60	20	66	125	56	7.0	2.6	11	3.1
13	16	313	96	134	22	e54	97	50	6.5	2.5	6.7	3.0
14	22	208	80	153	22	e48	74	43	5.9	2.3	4.7	2.8
15	23	155	69	144	20	e60	58	38	5.7	2.5	3.8	2.7
16	18	113	71	125	17	54	1270	35	5.6	2.1	3.5	3.1
17	17	87	174	106	21	60	1030	31	5.2	1.8	19	3.0
18	15	70	211	82	13	67	513	29	4.9	1.7	24	3.2
19	16	60	178	64	11	65	300	29	5.1	2.0	9.4	3.0
20	15	53	194	57	16	62	210	26	5.4	2.8	27	2.5
21	14	84	189	54	16	63	306	23	5.7	2.4	31	2.9
22	14	132	170	60	18	70	434	20	5.1	1.9	14	3.8
23	13	343	138	59	18	106	389	18	4.3	1.7	11	3.2
24	13	246	108	71	14	307	317	18	3.8	1.5	9.2	3.4
25	14	222	83	77	e10	385	257	17	3.6	1.5	8.4	3.1
26	14	181	69	68	13	481	574	14	3.5	1.6	6.9	7.9
27	13	155	57	69	12	576	704	13	4.1	1.7	5.9	37
28	13	127	55	65	11	1010	403	12	3.7	1.8	5.3	25
29	13	103	53	60	---	1120	251	12	3.5	29	4.7	15
30	13	82	57	52	---	1130	175	10	4.2	6.0	4.4	19
31	12	---	176	49	---	735	---	12	---	4.1	4.0	---
TOTAL	581	3620	2902	3100	587	7120	10114	1581	211.6	143.2	259.6	201.7
MEAN	18.7	121	93.6	100	21.0	230	337	51.0	7.05	4.62	8.37	6.72
MAX	39	343	211	284	46	1130	1270	134	21	29	31	37
MIN	12	11	28	49	10	12	51	10	3.5	1.5	2.0	2.5
CFSM	.42	2.74	2.12	2.27	.48	5.21	7.64	1.16	.16	.10	.19	.15
IN.	.49	3.05	2.45	2.61	.50	6.01	8.53	1.33	.18	.12	.22	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1993, BY WATER YEAR (WY)

	MEAN	27.8	49.3	66.3	51.7	86.5	133	115	73.1	49.7	23.6	16.4	16.4
MAX	154	151	252	134	267	257	337	171	344	170	77.5	91.2	
(WY)	1991	1978	1973	1979	1984	1964	1993	1978	1972	1972	1984	1975	
MIN	1.08	1.94	4.72	4.01	14.0	32.5	29.9	20.1	5.37	1.18	.61	.25	
(WY)	1965	1965	1966	1981	1963	1969	1968	1977	1991	1965	1966	1964	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1956 - 1993
ANNUAL TOTAL	20819.9	30421.1	
ANNUAL MEAN	56.9	83.3	58.9
HIGHEST ANNUAL MEAN			102
LOWEST ANNUAL MEAN			28.6
HIGHEST DAILY MEAN	532	Mar 27	1270
LOWEST DAILY MEAN	6.3	Jul 2	1.5
ANNUAL SEVEN-DAY MINIMUM	8.2	Jun 27	1.7
INSTANTANEOUS PEAK FLOW			2630
INSTANTANEOUS PEAK STAGE			5.46
INSTANTANEOUS LOW FLOW			7.85
ANNUAL RUNOFF (CFSM)	1.29		1.89
ANNUAL RUNOFF (INCHES)	17.56		25.66
10 PERCENT EXCEEDS	137		184
50 PERCENT EXCEEDS	34		25
90 PERCENT EXCEEDS	12		3.2

a From rating curve extended above 4,900 ft³/s.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA

LOCATION.--Lat 41°06'42", long 77°42'09", Centre County, Hydrologic Unit 02050204, on right bank 800 ft downstream from bridge at Monument, 850 ft downstream from Monument Run, 0.6 mi upstream from Twin Run, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--152 mi².

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 741.60 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	88	402	1420	219	136	3590	708	127	38	29	26
2	239	104	359	1120	188	142	2800	582	97	69	68	26
3	218	359	321	880	199	127	2130	495	89	112	86	36
4	196	362	286	728	178	126	1520	432	88	75	41	72
5	176	376	269	747	167	143	1140	509	84	54	33	49
6	159	409	241	620	161	136	930	472	80	45	29	33
7	147	359	224	548	147	e110	803	427	74	40	27	30
8	137	329	207	497	163	129	716	402	75	37	25	31
9	141	304	191	439	143	144	641	376	129	34	23	28
10	138	282	189	388	143	141	733	348	112	32	27	31
11	131	267	233	351	134	136	771	322	81	30	47	29
12	126	350	222	329	134	130	688	295	71	29	56	25
13	116	915	200	467	140	e120	619	272	67	29	49	26
14	126	790	185	493	127	e220	548	247	62	27	33	23
15	141	678	177	466	122	284	488	227	60	31	27	23
16	120	567	180	452	e110	237	1860	210	58	26	28	26
17	116	490	273	427	127	183	2940	192	55	24	63	25
18	109	426	377	384	106	179	1970	180	52	24	117	26
19	113	364	366	331	e100	178	1330	181	52	26	55	23
20	108	316	452	300	144	182	1020	168	61	29	63	21
21	106	339	489	284	176	184	1200	153	57	25	117	24
22	103	411	489	297	197	197	1330	144	60	23	60	27
23	99	697	468	285	156	239	1260	135	49	21	47	25
24	101	733	426	285	121	460	1260	132	44	20	41	26
25	106	786	371	318	112	678	1130	125	42	20	43	24
26	103	717	335	271	148	951	1550	115	42	20	36	49
27	100	651	292	268	132	1300	2070	107	45	21	31	150
28	96	575	283	261	127	2100	1530	101	41	20	29	165
29	95	508	256	252	---	2940	1130	100	40	117	27	99
30	95	451	278	233	---	3340	884	93	41	53	26	98
31	92	---	845	227	---	3280	---	108	---	35	25	---
TOTAL	4115	14003	9886	14368	4121	18852	40581	8358	2035	1186	1408	1296
MEAN	133	467	319	463	147	608	1353	270	67.8	38.3	45.4	43.2
MAX	262	915	845	1420	219	3340	3590	708	129	117	117	165
MIN	92	88	177	227	100	110	488	93	40	20	23	21
CFSM	.87	3.07	2.10	3.05	.97	4.00	8.90	1.77	.45	.25	.30	.28
IN.	1.01	3.43	2.42	3.52	1.01	4.61	9.93	2.05	.50	.29	.34	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1993, BY WATER YEAR (WY)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	152	253	302	238	336	483	503	334	276	178	91.9	105													
MAX	620	673	621	585	809	949	1353	709	895	621	225	509													
(WY)	1991	1971	1973	1979	1981	1979	1993	1978	1972	1972	1990	1975													
MIN	21.8	41.2	71.6	54.9	73.8	167	213	112	48.0	27.8	17.8	20.9													
(WY)	1992	1992	1990	1981	1980	1969	1988	1976	1991	1991	1991	1991													

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1969 - 1993
ANNUAL TOTAL	85795	120209	
ANNUAL MEAN	234	329	270
HIGHEST ANNUAL MEAN			385
LOWEST ANNUAL MEAN			172
HIGHEST DAILY MEAN	915	Nov 13	3590
LOWEST DAILY MEAN	56	Jul 8	20
ANNUAL SEVEN-DAY MINIMUM	66	Jul 2	21
INSTANTANEOUS PEAK FLOW			3840
INSTANTANEOUS PEAK STAGE			10.81
ANNUAL RUNOFF (CFSM)	1.54		2.17
ANNUAL RUNOFF (INCHES)	21.00		29.42
10 PERCENT EXCEEDS	452		757
50 PERCENT EXCEEDS	181		144
90 PERCENT EXCEEDS	95		27

a From rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01548005 BALD EAGLE CREEK NEAR BEECH CREEK STATION, PA

LOCATION.--Lat 41°04'51", long 77°32'59", Clinton County, Hydrologic Unit 02050204, on right bank at abandoned railroad bridge, 1.5 mi downstream from Beech Creek Station, 1.5 mi downstream from Beech Creek, and 4.2 mi downstream from Foster Joseph Sayers Dam.

DRAINAGE AREA.--562 mi².

PERIOD OF RECORD.--July 1910 to current year. Prior to October 1967, published as North Bald Eagle Creek at Beech Creek Station, and prior to October 1984 as Bald Eagle Creek at Beech Creek Station.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1111: 1936(M). WSP 1302: 1911(M), 1912-15, 1918, 1922, 1923-25(M), 1931. WSP 1502: 1919, 1920(M).

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft above sea level. Prior to October 1984 at site 1.2 mi upstream at datum 11.74 ft higher. July 1910, to Jan. 10, 1930, nonrecording gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since March 1971 by Foster Joseph Sayers Dam (station 01547480). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2080	251	927	2830	666	328	5560	4040	427	236	291	177
2	1990	273	814	2670	635	339	4280	4060	399	332	238	177
3	1910	1140	730	2350	560	363	3590	4060	384	497	275	195
4	1800	906	654	2000	566	526	3680	3990	381	371	215	578
5	1220	793	633	1890	494	800	3850	3810	381	296	205	526
6	571	896	610	1810	494	858	3900	4010	381	270	200	223
7	321	834	552	1610	446	747	3940	3950	358	263	200	193
8	295	756	486	1330	446	825	3910	3770	350	262	194	192
9	291	656	473	1220	411	1100	3910	3290	627	262	181	190
10	329	577	485	1060	443	1130	3560	2330	916	251	179	186
11	342	565	897	1040	450	1050	3790	1080	571	249	206	192
12	305	681	e1400	944	463	847	3980	694	319	249	215	192
13	279	2010	e1000	1350	463	728	3890	764	305	249	248	182
14	317	1810	846	1660	441	579	3750	696	271	230	196	170
15	382	1410	784	1630	404	670	3620	638	255	225	188	170
16	345	1260	753	1400	405	756	4710	615	254	209	183	170
17	323	1140	1280	1250	407	780	5250	581	256	190	278	170
18	289	1050	1750	1080	370	871	3650	536	251	188	418	170
19	284	942	1680	899	310	931	3820	521	249	188	358	170
20	281	875	1760	765	e320	872	3470	514	257	194	276	168
21	280	924	1820	755	e340	799	3240	478	261	200	333	167
22	275	1500	1790	849	380	796	3580	442	259	193	255	167
23	271	2130	1690	916	416	1010	3900	428	251	189	232	166
24	271	2140	1360	936	345	2030	4080	424	243	188	225	166
25	278	2040	1070	1020	285	2860	3900	420	242	188	227	166
26	284	1920	882	998	e300	2770	3580	409	241	188	217	193
27	288	2000	816	953	e320	3160	3940	374	245	188	212	589
28	278	1790	783	842	326	3600	3990	345	240	190	205	1150
29	276	1360	760	e780	---	4720	4010	334	236	368	204	1190
30	276	1110	770	670	---	5390	4010	321	236	472	204	1310
31	267	---	1680	646	---	5290	---	362	---	430	190	---
TOTAL	16998	35739	31935	40153	11906	47525	118340	48286	10046	8005	7248	9655
MEAN	548	1191	1030	1295	425	1533	3945	1558	335	258	234	322
MAX	2080	2140	1820	2830	666	5390	5560	4060	916	497	418	1310
MIN	267	251	473	646	285	328	3240	321	236	188	179	166
MEAN‡	364	1131	1039	1287	423	2248	4302	868	338	249	228	249
CFSM‡	.65	2.01	1.85	2.29	.75	4.00	7.65	1.54	.60	.44	.41	.44
IN.‡	.75	2.24	2.13	2.64	.78	4.61	8.54	1.78	.67	.51	.47	.49

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01548005 BALD EAGLE CREEK NEAR BEECH CREEK STATION, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	666	967	1060	886	1175	1541	1393	1063	921	607	396	475
MAX	1907	2374	2158	1896	2926	3396	3945	2540	3076	2633	1239	1443
(WY)	1980	1978	1973	1979	1984	1979	1993	1978	1972	1972	1984	1975
MIN	212	309	339	207	398	492	495	387	271	204	174	203
(WY)	1981	1992	1990	1981	1980	1990	1976	1976	1991	1991	1991	1980

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1971 - 1993

ANNUAL TOTAL	263460						385836					
ANNUAL MEAN	720	‡721					1057	‡1062		927	‡929	
HIGHEST ANNUAL MEAN									1396			1978
LOWEST ANNUAL MEAN									591			1992
HIGHEST DAILY MEAN	2870			Apr 1			5560	Apr 1	16600		Jun 23	1972
LOWEST DAILY MEAN	251			Nov 1			166	Sep 23-25	124		Aug 20	1971
ANNUAL SEVEN-DAY MINIMUM	273			Oct 27			167	Sep 19	134		Sep 1	1971
INSTANTANEOUS PEAK FLOW							6420	Apr 16	ab19400		Jun 23	1972
INSTANTANEOUS PEAK STAGE							12.76	Apr 16	12.76		Apr 16	1993
ANNUAL RUNOFF (CFSM)	1.28	‡1.28					1.88	‡1.89	1.65		‡1.65	
ANNUAL RUNOFF (INCHES)	17.44	‡17.45					25.54	‡25.61	22.42		‡22.45	
10 PERCENT EXCEEDS	1400						3590		2010			
50 PERCENT EXCEEDS	552						521		571			
90 PERCENT EXCEEDS	295						193		239			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1970, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	376	589	667	799	911	1664	1521	1187	644	354	283	283
MAX	1941	2026	1806	2131	2499	4958	3142	2585	3966	1268	997	1723
(WY)	1912	1951	1928	1949	1915	1936	1940	1919	1916	1928	1956	1911
MIN	113	107	121	108	218	500	458	291	220	132	126	117
(WY)	1931	1931	1931	1931	1931	1931	1925	1941	1965	1965	1966	1932

SUMMARY STATISTICS

WATER YEARS 1910 - 1970

ANNUAL MEAN	772											
HIGHEST ANNUAL MEAN	1236					1928						
LOWEST ANNUAL MEAN	447					1965						
HIGHEST DAILY MEAN	18600				Jun 17	1916						
LOWEST DAILY MEAN	80			Jan 16, 24, 25	1931							
ANNUAL SEVEN-DAY MINIMUM	89			Jan 21	1931							
INSTANTANEOUS PEAK FLOW	a25600			Mar 18	1936							
INSTANTANEOUS PEAK STAGE	b14.42			Mar 18	1936							
INSTANTANEOUS LOW FLOW	29			Aug 22	1930							
ANNUAL RUNOFF (CFSM)	1.37											
ANNUAL RUNOFF (INCHES)	18.66											
10 PERCENT EXCEEDS	1690											
50 PERCENT EXCEEDS	429											
90 PERCENT EXCEEDS	161											

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

a From rating curve extended above 12,000 ft³/s.

b Site and datum in use before October 1984.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01548500 PINE CREEK AT CEDAR RUN, PA

LOCATION.--Lat 41°31'18", long 77°26'52", Lycoming County, Hydrologic Unit 02050205, on left bank at upstream side of highway bridge on Township Route 762 at village of Cedar Run, 2,000 ft downstream from Cedar Run, and 1.2 mi upstream from Gamble Run.

DRAINAGE AREA.--604 mi².

PERIOD OF RECORD.--July 1918 to current year. Prior to October 1918 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 780.36 ft above sea level. Prior to Feb. 13, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1000	355	1290	6900	e340	e220	16000	2010	332	126	62	288
2	856	366	1120	4600	e280	e240	13700	1600	263	117	66	264
3	734	1320	999	3150	e300	e260	9730	1340	215	125	79	485
4	613	1350	872	2500	e320	e300	6260	1150	202	129	97	775
5	509	1380	817	3990	e330	e320	4440	1430	194	113	66	624
6	432	1630	718	3670	e300	e330	3830	2670	194	99	55	472
7	380	1410	665	3120	e280	e300	3670	2120	183	89	51	419
8	345	1230	612	2520	e260	e320	3860	1820	165	90	55	377
9	333	1110	558	1940	e260	e370	4160	1560	244	97	56	342
10	415	1010	514	1530	e270	e390	5560	1320	365	82	55	288
11	336	932	612	1320	e280	e370	7110	1130	242	73	64	276
12	324	1070	559	1170	e270	e320	5070	974	189	68	81	231
13	290	3640	502	1670	e280	e290	3690	845	166	63	71	193
14	279	3310	433	1950	e290	e270	2790	744	156	60	56	172
15	327	2640	402	1520	e270	e310	2210	662	146	64	51	164
16	467	2020	471	1370	e290	e420	7580	615	144	64	62	165
17	471	1650	664	1260	e340	e410	11400	535	122	57	212	166
18	411	1420	1450	e1100	e290	e500	7920	473	118	50	300	157
19	411	1180	1260	e850	e260	e480	4990	466	121	53	187	144
20	408	993	1580	e780	e240	e450	3560	463	176	79	141	127
21	397	940	1760	e750	e260	e420	4290	408	259	97	120	121
22	411	1200	1510	e800	e280	e400	4050	367	350	65	105	122
23	379	2730	1340	e770	e290	e470	3850	333	240	52	90	118
24	388	2430	1180	e740	e270	e760	4060	314	172	48	86	114
25	489	2790	e900	e830	e250	e1400	3690	310	150	44	176	124
26	441	2620	e800	e620	e240	2460	5750	284	141	43	148	184
27	427	2420	e660	e620	e220	3510	6340	258	134	45	99	520
28	413	2040	e710	e570	e210	5800	4740	239	134	45	82	992
29	412	1740	789	e500	---	8860	3440	226	169	55	80	762
30	409	1500	1160	e440	---	12300	2610	210	149	61	71	663
31	382	---	4700	e400	---	12900	---	215	---	71	64	---
TOTAL	13889	50426	31607	53950	7770	56150	170350	27091	5835	2324	2988	9849
MEAN	448	1681	1020	1740	277	1811	5678	874	194	75.0	96.4	328
MAX	1000	3640	4700	6900	340	12900	16000	2670	365	129	300	992
MIN	279	355	402	400	210	220	2210	210	118	43	51	114
CFSM	.74	2.78	1.69	2.88	.46	3.00	9.40	1.45	.32	.12	.16	.54
IN.	.86	3.11	1.95	3.32	.48	3.46	10.49	1.67	.36	.14	.18	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1993, BY WATER YEAR (WY)

	MEAN	355	722	827	805	891	1876	1991	1267	622	285	199	203
MAX	2910	3077	2260	2741	3090	6362	5678	3580	3601	1160	1136	2458	
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	1928	1984	1975	
MIN	28.9	41.3	65.4	47.6	119	590	374	238	90.4	50.2	32.6	19.3	
(WY)	1965	1931	1961	1931	1920	1981	1946	1941	1991	1966	1939	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1919 - 1993

ANNUAL TOTAL	339768	432229	
ANNUAL MEAN	928	1184	836
HIGHEST ANNUAL MEAN			1400
LOWEST ANNUAL MEAN			444
HIGHEST DAILY MEAN	4700	Dec 31	16000
LOWEST DAILY MEAN	106	Jul 8	43
ANNUAL SEVEN-DAY MINIMUM	127	Jul 2	47
INSTANTANEOUS PEAK FLOW			16700
INSTANTANEOUS PEAK STAGE			8.74
INSTANTANEOUS LOW FLOW			42
ANNUAL RUNOFF (CFSM)	1.54	1.96	1.38
ANNUAL RUNOFF (INCHES)	20.93	26.62	18.81
10 PERCENT EXCEEDS	2050	3530	2040
50 PERCENT EXCEEDS	658	402	390
90 PERCENT EXCEEDS	247	80	64

a From rating curve extended above 16,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark.

c Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01549500 BLOCKHOUSE CREEK NEAR ENGLISH CENTER, PA

LOCATION.--Lat 41°28'25", long 77°13'52", Lycoming County, Hydrologic Unit 02050205, on right bank just downstream from bridge on State Highway 284, 0.7 mi upstream from Blacks Creek, 1.7 mi upstream from confluence with Texas Creek, and 5.0 mi northeast of English Center.

DRAINAGE AREA.--37.7 mi².

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

REVISED RECORDS.--WSP 951: 1941. WSP 1031: 1942-44(M). WSP 1502: 1942. WDR PA-75-2: 1973(P), 1974(P).

GAGE.--Water-stage recorder. Datum of gage is 1,041.85 ft above sea level.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 9.0 ft, from floodmark, discharge, 5,780 ft³/s, from rating curve extended above 1,200 ft³/s on basis of contracted-opening measurement at gage height 8.81 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	18	76	447	e28	e11	1140	105	23	4.9	2.1	21
2	43	21	67	245	e24	e12	914	79	15	5.2	2.2	8.8
3	36	88	60	155	e25	e14	607	64	13	6.8	3.2	7.3
4	31	64	53	134	e26	e16	390	55	13	6.1	2.7	24
5	26	67	50	298	e29	e19	280	166	12	4.8	2.2	16
6	23	88	44	182	e24	e21	236	242	11	4.1	1.9	9.2
7	21	73	42	152	e20	e21	221	166	9.8	3.7	1.8	7.8
8	20	66	38	123	e19	e23	224	124	9.7	3.3	1.6	8.6
9	25	61	35	94	e19	e31	233	96	24	3.0	1.4	6.8
10	27	58	35	74	e17	e30	575	74	19	2.8	1.3	7.5
11	25	56	42	68	e16	e27	718	61	13	2.5	1.5	7.2
12	24	127	38	66	e14	e22	418	52	10	2.4	2.6	5.3
13	21	442	34	135	e15	e14	272	46	8.7	2.4	3.2	4.4
14	26	221	31	105	e15	e16	193	41	7.7	2.2	2.2	3.9
15	29	146	32	83	e13	e20	151	37	7.3	2.1	1.8	3.7
16	26	105	32	75	e14	e25	1150	34	7.0	1.9	5.6	3.9
17	27	88	76	68	e17	e28	825	31	6.3	1.8	26	3.9
18	24	76	91	e54	e15	e32	459	29	5.7	1.6	10	8.4
19	24	64	76	e49	e14	e29	287	29	6.0	2.1	5.3	6.9
20	22	55	113	e46	e13	e26	199	27	13	3.0	3.9	4.6
21	21	74	98	e45	e15	e25	456	24	21	2.5	3.4	4.1
22	20	102	84	e49	e17	e24	374	22	24	2.0	2.7	4.1
23	19	356	77	e52	e16	e29	377	20	12	1.7	2.3	4.0
24	21	220	e64	e58	e15	e37	337	20	8.8	1.4	2.8	4.0
25	29	234	e56	e56	e13	e60	277	18	7.0	1.3	29	3.9
26	23	177	e49	e46	e13	e160	479	16	6.8	1.3	9.5	13
27	21	149	e45	e43	e12	e280	432	14	7.3	1.5	5.2	61
28	20	119	e42	e40	e11	e580	301	14	6.1	1.5	3.8	59
29	20	101	e47	e38	---	874	202	13	6.6	2.1	3.2	33
30	21	87	142	e33	---	1030	142	12	5.7	2.2	2.7	25
31	19	---	532	e34	---	860	---	17	---	2.3	4.1	---
TOTAL	785	3603	2301	3147	489	4396	12869	1748	339.5	86.5	151.2	380.3
MEAN	25.3	120	74.2	102	17.5	142	429	56.4	11.3	2.79	4.88	12.7
MAX	51	442	532	447	29	1030	1150	242	24	6.8	29	61
MIN	19	18	31	33	11	11	142	12	5.7	1.3	1.3	3.7
CFSM	.67	3.19	1.97	2.69	.46	3.76	11.4	1.50	.30	.07	.13	.34
IN.	.77	3.56	2.27	3.11	.48	4.34	12.70	1.72	.33	.09	.15	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

	MEAN	32.2	59.9	66.5	53.2	67.4	125	125	80.5	43.4	19.2	12.1	15.3
MAX	194	195	184	146	268	260	429	211	303	74.7	53.8	115	
(WY)	1991	1978	1974	1979	1981	1945	1993	1946	1972	1990	1973	1975	
MIN	1.36	3.61	6.72	6.18	12.8	16.5	24.8	15.7	5.42	1.98	1.21	.43	
(WY)	1965	1965	1965	1981	1941	1969	1946	1941	1991	1955	1966	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	22468.3	30295.5	58.2	
ANNUAL MEAN	61.4	83.0	104	1978
HIGHEST ANNUAL MEAN			26.3	1965
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	537	Mar 27	1150	Apr 16
LOWEST DAILY MEAN	7.2	Aug 24	1.3	Jul 25, 26, Aug 10
ANNUAL SEVEN-DAY MINIMUM	9.2	Jul 2	1.5	Jul 22
INSTANTANEOUS PEAK FLOW			3270	Apr 16
INSTANTANEOUS PEAK STAGE			7.11	Apr 16
INSTANTANEOUS LOW FLOW			1.1	Jul 25
ANNUAL RUNOFF (CFSM)	1.63		2.20	
ANNUAL RUNOFF (INCHES)	22.17		29.89	
10 PERCENT EXCEEDS	132		228	
50 PERCENT EXCEEDS	38		24	
90 PERCENT EXCEEDS	17		2.8	

a Also Aug. 31, Sept. 1, 2, 1962.

b From rating curve extended above 1,200 ft³/s on basis of contracted-opening measurement at gage height 8.81 ft.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA

LOCATION.--Lat 41°16'25", long 77°19'28", Lycoming County, Hydrologic Unit 02050205, on left bank on State Highway 44, on abutment of abandoned bridge 0.9 mi downstream from Ramsey Run, 4.0 mi downstream from Little Pine Creek, 4.0 mi south of Waterville, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--944 mi².

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

REVISED RECORDS.--WDR PA-72-1: 1964(P).

GAGE.--Water-stage recorder. Datum of gage is 570.62 ft above sea level. Prior to June 16, 1982, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flood flows subject to regulation by Little Pine Dam 8.5 mi upstream, capacity 24,900 acre-ft. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	543	2140	11000	e640	e380	24900	e3400	432	226	81	206
2	1300	538	1860	7680	e500	e410	22700	e2700	464	204	81	396
3	1130	1280	1640	5220	e520	e460	17200	e2200	356	219	96	319
4	983	1980	1440	4000	e580	e520	11800	e1800	328	219	103	e830
5	848	1880	1310	5340	e600	e540	8830	2020	314	205	112	792
6	754	2180	1180	5980	e530	e560	7810	4090	301	169	85	592
7	669	2050	1070	5000	e470	e580	7380	3630	282	152	75	471
8	616	1820	1000	4060	e440	e640	7400	3100	282	137	66	454
9	587	1650	917	3190	e470	e700	7470	2640	339	129	64	399
10	629	1510	835	2520	e490	e740	8030	2220	519	129	69	356
11	607	1420	940	e2200	e470	e700	11700	1870	420	118	78	314
12	561	1450	989	e1900	e450	e600	8990	1600	314	105	112	282
13	561	4980	906	e2600	e470	e470	6970	1400	275	100	120	237
14	571	5080	794	3260	e490	e440	4710	1210	243	101	99	207
15	532	4090	712	2610	e450	e490	3610	1060	219	103	78	185
16	598	3160	753	2340	e500	e600	10700	970	213	96	69	164
17	694	2550	922	2120	e540	e740	18400	898	204	84	224	164
18	660	2180	2200	1860	e490	e770	13400	775	174	78	409	164
19	611	1840	2140	e1300	e460	e760	9130	736	169	72	e310	155
20	612	1550	2370	e1200	e420	e740	6980	740	355	78	e230	141
21	614	1420	3000	e1100	e440	e740	7450	669	557	99	e190	128
22	610	1880	2610	e1200	e480	e730	7830	587	622	112	e170	124
23	568	4530	2290	e1100	e490	e770	e7400	536	e532	88	e150	120
24	549	4700	2020	e1000	e460	e860	e6900	511	349	75	e140	116
25	609	4600	e1500	e1100	e420	e1300	e6700	486	e287	66	e270	112
26	648	4420	e1400	e1000	e400	e2500	e8700	454	262	64	e230	140
27	614	3990	e1200	e970	e380	e5000	e10000	407	249	64	e150	393
28	589	3390	e1000	e940	e360	9300	e7400	377	231	64	e130	1200
29	587	2860	e1200	e900	---	14100	e5600	349	229	69	e120	974
30	587	2470	1300	e840	---	18600	e4400	328	255	75	e110	800
31	573	---	5780	e740	---	21000	---	326	---	78	e100	---
TOTAL	21581	77991	49418	86270	13410	86740	290490	44089	9776	3578	4321	10935
MEAN	696	2600	1594	2783	479	2798	9683	1422	326	115	139	364
MAX	1510	5080	5780	11000	640	21000	24900	4090	622	226	409	1200
MIN	532	538	712	740	360	380	3610	326	169	64	64	112
CFSM	.74	2.75	1.69	2.95	.51	2.96	10.3	1.51	.35	.12	.15	.39
IN.	.85	3.07	1.95	3.40	.53	3.42	11.45	1.74	.39	.14	.17	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1958	677	4597	1991	46.7	1964
1959	1197	4337	1991	66.3	1965
1960	1477	3860	1974	107	1961
1961	1182	3847	1979	93.7	1961
1962	1664	5148	1981	410	1987
1963	2925	6840	1964	850	1969
1964	3316	9683	1993	1171	1988
1965	1905	3919	1960	446	1985
1966	1187	6070	1972	153	1991
1967	545	2423	1972	73.4	1964
1968	349	1668	1984	51.7	1966
1969	432	4053	1975	30.4	1964

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1958 - 1993
ANNUAL TOTAL	535823	698599	
ANNUAL MEAN	1464	1914	1401
HIGHEST ANNUAL MEAN			2379
LOWEST ANNUAL MEAN			739
HIGHEST DAILY MEAN	6480	Mar 28	24900
LOWEST DAILY MEAN	201	Jul 3	64
ANNUAL SEVEN-DAY MINIMUM	251	Jul 2	68
INSTANTANEOUS PEAK FLOW			26400
INSTANTANEOUS PEAK STAGE			10.11
INSTANTANEOUS LOW FLOW			Apr 1
ANNUAL RUNOFF (CFSM)	1.55	2.03	1.48
ANNUAL RUNOFF (INCHES)	21.12	27.53	20.17
10 PERCENT EXCEEDS	3330	5270	3380
50 PERCENT EXCEEDS	1010	611	655
90 PERCENT EXCEEDS	439	112	110

a From rating curve extended above 22,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark.

c Also Sept. 26, 27, 1964.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01550000 LYCOMING CREEK NEAR TROUT RUN. PA

LOCATION.--Lat 41°25'06", long 77°01'59", Lycoming County, Hydrologic Unit 02050206, on right bank 150 ft upstream from bridge on Township Route 840, 0.5 mi downstream from Grays Run, and 2.6 mi northeast of Trout Run.

DRAINAGE AREA -- 173 mi²

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

REVISED RECORDS.--WSP 756: Drainage area. WSP 921: 1933, 1934(M), 1935-39. WSP 1302: 1914-16, 1922(M), 1932-25, 1926(M), 1927-28, 1930, 1931(M). WSP 1502: 1920-21(M), 1932(M), 1933.

GAGE.--Water-stage recorder. Datum of gage is 693.95 ft above sea level. Prior to June 1, 1939, nonrecording gage at site 150 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges and July 23 to Sept. 13, which are poor. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	289	118	426	1540	e100	e35	5290	571	118	20	14	40
2	250	122	370	963	e74	49	4000	469	83	27	15	43
3	214	595	327	702	e80	54	2550	401	68	47	22	39
4	179	485	282	625	e80	66	1580	353	64	47	20	62
5	150	432	260	1430	e70	82	1150	738	60	39	19	70
6	130	577	221	1040	e55	80	989	1470	58	32	16	50
7	118	488	205	802	e40	73	909	905	51	28	19	41
8	106	419	184	655	e50	83	860	675	47	26	16	38
9	195	376	159	516	52	117	825	551	90	28	e15	35
10	430	344	145	405	53	117	1890	457	113	25	27	40
11	281	324	184	360	51	104	3200	389	72	22	47	46
12	265	411	180	349	50	90	1710	333	55	20	38	37
13	231	2220	154	608	49	102	1170	287	46	18	32	29
14	232	1200	134	604	e41	111	867	253	44	18	28	24
15	269	838	124	454	e35	128	690	225	40	17	23	22
16	243	638	132	399	e38	108	3660	206	37	14	27	23
17	240	527	318	359	e32	112	3370	183	32	e13	46	23
18	216	453	500	306	e27	152	1880	164	28	e12	54	42
19	213	384	383	227	e26	129	1230	163	28	13	43	52
20	196	325	473	211	e25	113	875	155	58	18	35	40
21	180	373	467	204	e24	109	1790	135	96	17	30	35
22	164	667	396	302	e35	122	1670	122	110	15	25	32
23	151	1730	362	302	e28	163	1520	111	71	e13	19	30
24	152	1260	321	277	e25	281	1490	105	51	e12	17	31
25	199	1230	e220	337	e24	435	1240	99	40	e11	207	29
26	175	993	e210	e200	e23	759	2060	88	33	e10	75	41
27	155	839	e170	e190	e23	1220	2010	79	31	e15	48	170
28	140	687	190	e170	e22	2510	1340	73	28	e14	37	305
29	132	579	210	e150	---	3790	961	68	28	13	30	160
30	134	492	470	e130	---	4750	719	61	25	13	25	113
31	129	---	1930	e140	---	3600	---	73	---	14	22	---
TOTAL	6158	20126	10107	14957	1232	19644	53495	9962	1705	631	1091	1742
MEAN	199	671	326	482	44.0	634	1783	321	56.8	20.4	35.2	58.1
MAX	430	2220	1930	1540	100	4750	5290	1470	118	47	207	305
MIN	106	118	124	130	22	35	690	61	25	10	14	22
CFSM	1.15	3.88	1.88	2.79	.25	3.66	10.3	1.86	.33	.12	.20	.34
IN.	1.32	4.33	2.17	3.22	.26	4.22	11.50	2.14	.37	.14	.23	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1993, BY WATER YEAR (WY)

MEAN	153	297	300	256	289	593	630	394	212	115	82.2	95.0
MAX	983	1044	845	772	1082	1788	1783	979	1487	674	488	776
(WY)	1991	1927	1974	1979	1981	1936	1993	1919	1972	1915	1933	1975
MIN	7.65	13.4	26.4	20.5	37.8	160	132	74.8	18.0	16.0	10.3	6.25
(WY)	1965	1965	1965	1931	1931	1969	1946	1941	1991	1964	1964	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1914 - 1993

ANNUAL TOTAL	113759		140850						
ANNUAL MEAN	311		386			284			
HIGHEST ANNUAL MEAN						491			1978
LOWEST ANNUAL MEAN						124			1965
HIGHEST DAILY MEAN	2880	Mar 27	5290	Apr 1	13900			Jun 22	1972
LOWEST DAILY MEAN	e25	Aug 25	e10	Jul 26	4.0			Sep 19-24	1936a
ANNUAL SEVEN-DAY MINIMUM	33	Aug 20	13	Jul 23	4.1			Sep 18	1936
INSTANTANEOUS PEAK FLOW			8520	Apr 16	b25900			Jun 22	1972
INSTANTANEOUS PEAK STAGE			11.03	Apr 16	c20.19			Jun 22	1972
INSTANTANEOUS LOW FLOW					3.2			Sep 27	1936
ANNUAL RUNOFF (CFSM)	1.80		2.23			1.64			
ANNUAL RUNOFF (INCHES)	24.46		30.29			22.32			
10 PERCENT EXCEEDS	661		1010			665			
50 PERCENT EXCEEDS	214		129			140			
90 PERCENT EXCEEDS	64		23			25			

a Also Sept. 27, 28, 1936 and Sept. 1, 1968.

b From rating curve extended above 5,300 ft³/s on basis of slope-area measurement of peak flow.

c From floodmark in gage.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA

LOCATION.--Lat 41°14'10", long 76°59'49", Lycoming County, Hydrologic Unit 02050206, on right bank 100 ft upstream from Market Street bridge at South Williamsport, and 350 ft upstream from Hagermans Run.

DRAINAGE AREA.--5,682 mi².

PERIOD OF RECORD.--March 1895 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1925-28. WSP 1502: 1895-1904, 1912-13, 1919.

GAGE.--Water-stage recorder. Datum of gage is 494.98 ft above sea level.

Mar. 1, 1895, to Sept. 30, 1928, nonrecording gage at bridge 100 ft downstream at same datum. Prior to July 1980, 100 ft downstream on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges and June 16 to August 4, which are fair. Flow slightly regulated by 6 flood-control reservoirs which have a combined capacity of 440,200 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service and city of Williamsport landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 32.4 ft, June 1, 1889, discharge, about 252,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9840	3630	12700	48300	7790	e2900	111000	26200	3100	1760	2190	1070
2	8890	3590	11400	50700	6690	3070	115000	21400	3420	1760	1940	1060
3	7980	5300	10200	35700	e5600	3180	92400	18700	3600	2140	1740	1350
4	7310	12600	9060	27200	6090	3690	72800	16600	3230	2340	1540	2500
5	6550	14900	8250	26000	5880	5010	57900	16000	3000	2630	1460	5170
6	5380	14500	7640	32100	5620	5880	49000	19500	2770	2630	1380	4510
7	4450	13500	7080	29800	4790	6330	44000	18200	2600	2080	1280	3560
8	4010	11800	6500	23900	4270	6420	41100	16200	2490	1730	1160	3150
9	3860	10800	6080	19500	4360	7060	38700	14500	2780	1530	1060	2800
10	4770	9660	5760	16000	4590	8330	37500	12900	3750	1430	999	2390
11	4860	8930	6270	13700	4570	9070	50500	10800	7280	1380	1270	2050
12	4510	8740	e6600	12300	4590	8100	42500	8920	5580	1270	1490	1880
13	4160	16000	e6800	12500	4350	7210	33900	8160	3960	1170	1440	1730
14	4070	24800	6690	17700	4040	5660	26700	7540	3100	1160	1470	1550
15	4230	22100	6220	21000	4020	5020	21300	6950	2690	1250	1340	1390
16	4740	17900	6020	18900	4060	5190	29800	6430	2410	1210	1260	1310
17	4920	14900	7140	16100	3830	6790	78800	5950	2230	1060	1270	1250
18	5120	12900	11800	14200	e3500	7660	82900	5500	2040	1000	1810	1340
19	5050	11200	17100	12300	e3200	8930	58700	5150	1980	1020	2280	1290
20	5100	9880	17900	10300	2710	9640	41400	4970	2460	1030	2280	1200
21	5060	9140	20400	9230	2610	8620	36000	4930	3000	982	1880	1160
22	4840	10900	22500	9270	2940	8230	38900	4650	3290	977	1650	1140
23	4620	17800	19900	9930	3760	8710	39100	4310	3210	1020	1540	1120
24	4400	24500	16500	10200	e3500	11600	38500	4070	2930	955	1380	1150
25	4100	24700	13700	10700	e3200	18700	35200	3870	2460	892	1410	1180
26	4260	24300	12000	12600	e3100	30100	34900	3550	2160	864	1490	1430
27	4140	22600	10200	12200	e3000	44100	53400	3350	1960	841	1350	2250
28	3980	20100	9170	10900	e3000	61000	54900	2960	1880	804	1240	6840
29	3900	17000	8580	e9800	---	84500	42600	2940	1800	878	1100	10000
30	3800	14400	9400	e9000	---	95800	33200	2790	1800	1200	997	9010
31	3770	---	16000	8050	---	102000	---	2790	---	2870	970	---
TOTAL	156670	433070	335560	570080	119660	598500	1532600	290780	88960	43863	45666	77830
MEAN	5054	14440	10820	18390	4274	19310	51090	9380	2965	1415	1473	2594
MAX	9840	24800	22500	50700	7790	102000	115000	26200	7280	2870	2280	10000
MIN	3770	3590	5760	8050	2610	2900	21300	2790	1800	804	970	1060
CFSM	.89	2.54	1.91	3.24	.75	3.40	8.99	1.65	.52	.25	.26	.46
IN.	1.03	2.84	2.20	3.73	.78	3.92	10.03	1.90	.58	.29	.30	.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1993, BY WATER YEAR (WY)

MEAN	4134	6848	8713	9593	10500	20110	18380	12410	7209	4124	2771	2687
MAX	20850	28330	24140	30210	29100	62970	51090	32030	37400	20080	10200	20280
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	1902	1956	1975
MIN	416	408	642	423	1965	5559	4633	2766	1733	847	592	425
(WY)	1931	1931	1931	1931	1931	1969	1946	1941	1991	1966	1910	1932

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1895 - 1993

ANNUAL TOTAL	3305610	4293239	
ANNUAL MEAN	9032	11760	8958
HIGHEST ANNUAL MEAN			14010
LOWEST ANNUAL MEAN			5357
HIGHEST DAILY MEAN	28800	Mar 28	115000
LOWEST DAILY MEAN	1520	Jul 3	804
ANNUAL SEVEN-DAY MINIMUM	1780	Jun 29	893
INSTANTANEOUS PEAK FLOW			122000
INSTANTANEOUS PEAK STAGE			20.52
INSTANTANEOUS LOW FLOW			789
ANNUAL RUNOFF (CFSM)	1.59		2.07
ANNUAL RUNOFF (INCHES)	21.64		28.11
10 PERCENT EXCEEDS	17900		30900
50 PERCENT EXCEEDS	7160		5120
90 PERCENT EXCEEDS	3220		1270

a From rating curve extended above 210,000 ft³/s on basis of slope-area measurement at gage height 33.57 ft.
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA

LOCATION.--Lat 41°19'30", Long 76°54'46", Lycoming County, Hydrologic Unit 02050206, on right bank 30 ft downstream from bridge on State Highway 973 at Loyalsockville, 2.5 mi downstream from Wallis Run, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--443 mi².

PERIOD OF RECORD.--August 1925 to September 1974, October 1975 to current year. Prior to October 1925, monthly discharge only, published in WSP 1302. Prior to October 1969, published as "at Loyalsock".

REVISED RECORDS.--WSP 756: Drainage area. WSP 871: 1938(M). WSP 1051: 1926(M), 1933(M), 1936(M). WSP 1302: 1926-30. WSP 1502: 1932-33, 1935(M), 1937(M).

GAGE.--Water-stage recorder. Datum of gage is 585.63 ft above sea level. August 1925 to Sept. 16, 1926, nonrecording gage, and Sept. 17, 1926, to June 13, 1988, water-stage recorder at site 500 feet downstream on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 26, 1975, reached a stage of 14.50 ft, from floodmark, discharge, 84,600 ft³/s, from rating curve extended above 16,000 ft³/s on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	691	339	1060	3860	e480	e170	16400	1500	173	68	31	54
2	616	345	915	2340	e400	191	11700	1210	171	69	33	51
3	564	1360	805	1720	e430	193	6190	1010	148	78	34	100
4	500	1490	692	1440	436	208	3780	857	136	79	32	1610
5	434	1100	637	3750	383	240	2800	1140	131	77	31	984
6	389	1260	571	3200	e350	241	2410	2770	128	68	31	462
7	358	1120	538	2250	e260	e210	2200	1990	124	64	32	291
8	333	943	507	1800	254	234	2050	1540	120	66	37	230
9	376	810	454	1430	294	273	1990	1260	166	64	33	212
10	2270	723	664	1110	290	291	3870	1050	239	56	34	194
11	1430	671	503	968	294	271	13200	881	196	55	46	189
12	1290	755	526	891	279	232	4760	743	142	50	56	165
13	1030	4500	468	1400	276	e220	3100	620	115	50	68	141
14	848	2870	429	1740	e250	e190	2340	528	103	42	66	127
15	945	2000	386	1290	e230	e230	1870	457	91	45	52	110
16	804	1550	400	1110	279	314	2750	403	94	40	47	106
17	762	1260	572	983	e240	311	6750	359	86	38	51	103
18	663	1090	1430	843	e220	e350	4220	327	80	34	385	115
19	622	926	1070	e680	e200	e340	2900	312	78	34	244	126
20	581	785	1060	e640	e170	338	2210	306	107	38	147	120
21	539	786	1220	e640	e150	309	2630	280	131	38	98	109
22	497	1990	996	716	e230	301	3070	260	268	39	87	101
23	458	4590	881	793	e220	346	2740	238	210	34	79	101
24	440	3460	e790	666	e200	562	2990	223	136	32	68	98
25	483	2920	e650	897	e180	987	2700	214	104	31	273	96
26	476	2410	e640	e660	e180	1550	3230	199	90	30	151	117
27	441	2060	e560	e620	e170	2710	4870	179	82	33	99	278
28	398	1710	e600	566	e160	5170	3090	165	73	31	77	771
29	379	1430	e660	538	---	8240	2380	153	71	30	62	460
30	376	1230	904	e480	---	11700	1890	143	75	29	59	309
31	365	---	4750	e520	---	8750	---	145	---	30	52	---
TOTAL	20358	48483	26338	40541	7505	45672	127080	21462	3868	1472	2595	7930
MEAN	657	1616	850	1308	268	1473	4236	692	129	47.5	83.7	264
MAX	2270	4590	4750	3860	480	11700	16400	2770	268	79	385	1610
MIN	333	339	386	480	150	170	1870	143	71	29	31	51
CFSM	1.48	3.65	1.92	2.95	.61	3.33	9.56	1.56	.29	.11	.19	.60
IN.	1.71	4.07	2.21	3.40	.63	3.84	10.67	1.80	.32	.12	.22	.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1993, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1926	469	2512	1991	20.2	1965
1927	853	2856	1951	28.4	1965
1928	885	3033	1974	80.5	1931
1929	733	2612	1979	34.1	1931
1930	809	2961	1981	108	1931
1931	1491	4490	1936	449	1969
1932	1589	4236	1993	363	1946
1933	985	2694	1946	220	1941
1934	525	4327	1972	92.4	1991
1935	276	1206	1928	41.6	1962
1936	257	1634	1933	31.5	1964
1937	263	1503	1933	13.8	1964

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1926 - 1993
ANNUAL TOTAL	281625	353304	760
ANNUAL MEAN	769	968	1312
HIGHEST ANNUAL MEAN			1978
LOWEST ANNUAL MEAN			1965
HIGHEST DAILY MEAN	8070	Mar 27	16400
LOWEST DAILY MEAN	100	Jul 3	29
ANNUAL SEVEN-DAY MINIMUM	112	Jun 29	31
INSTANTANEOUS PEAK FLOW			23900
INSTANTANEOUS PEAK STAGE			10.08
INSTANTANEOUS LOW FLOW			27
ANNUAL RUNOFF (CFSM)	1.74	2.19	1.72
ANNUAL RUNOFF (INCHES)	23.65	29.67	23.32
10 PERCENT EXCEEDS	1470	2500	1700
50 PERCENT EXCEEDS	552	376	400
90 PERCENT EXCEEDS	220	53	68

a From rating curve extended above 16,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

c Also Nov. 24, 1964.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552500 MUNCY CREEK NEAR SONESTOWN, PA

LOCATION.--Lat 41°21'25", long 76°32'06", Sullivan County, Hydrologic Unit 02050206, on right bank 150 ft downstream from Slip Run, 185 ft downstream from bridge on SR 2002, and 1.2 mi east of Sonestown.

DRAINAGE AREA.--23.8 mi².

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

REVISED RECORDS.--WSP 1502: 1941-42.

GAGE.--Water-stage recorder. Datum of gage is 1,025.01 ft above sea level. Prior to Mar. 31, 1941, nonrecording gage at same site and datum.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 9.3 ft, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	20	55	153	e15	e8.0	1170	63	12	3.4	2.1	8.1
2	34	22	47	98	e15	e9.0	555	52	8.2	3.8	2.3	5.3
3	30	135	43	76	e24	e10	265	45	7.3	5.2	2.9	260
4	26	80	38	67	e23	e11	158	39	7.5	4.3	2.1	161
5	23	69	37	230	e21	e12	117	102	6.9	3.5	1.8	77
6	21	77	33	128	e16	e13	105	162	7.5	3.1	1.7	46
7	19	61	29	97	e14	e11	99	102	6.1	3.5	2.6	33
8	18	52	27	79	e17	e9.0	100	78	5.8	3.2	3.1	27
9	175	45	26	62	e15	e9.0	105	64	21	2.8	2.1	23
10	174	42	49	51	e13	e10	520	53	13	2.6	2.5	25
11	106	40	37	46	e12	e9.0	500	44	7.8	2.4	9.8	19
12	96	62	30	46	e11	e9.0	212	37	6.4	2.3	7.4	15
13	72	402	26	83	e10	e8.4	138	32	6.5	2.1	3.5	13
14	68	149	24	67	e9.5	e10	100	29	5.3	2.0	2.6	11
15	60	102	24	54	e9.0	e13	80	25	4.9	2.1	2.3	11
16	54	77	22	50	e11	e14	191	22	4.9	1.9	10	11
17	51	64	61	45	e10	e15	320	19	4.2	1.8	46	11
18	44	54	60	40	e10	e25	184	17	3.9	1.7	26	13
19	43	46	50	e34	e7.7	e22	125	17	4.2	2.0	11	11
20	37	41	67	e32	e7.0	e19	94	16	6.9	2.7	8.1	8.7
21	34	72	57	e33	e7.0	e17	153	14	16	2.1	6.9	9.1
22	30	196	51	e40	e10	e16	152	13	18	1.7	5.5	8.8
23	29	422	47	e35	e9.0	e19	151	12	7.7	1.6	4.7	8.2
24	28	184	e40	e33	e8.0	51	150	11	5.6	1.6	4.3	8.9
25	28	156	e35	e30	e7.0	67	127	11	4.7	1.5	14	7.6
26	26	123	e30	e25	e9.0	96	228	9.6	4.4	1.6	7.0	19
27	25	106	e27	e25	e8.0	167	193	8.7	4.5	1.9	5.1	24
28	22	85	e25	e23	e7.4	460	134	8.2	4.1	1.7	4.9	30
29	21	73	e29	e21	---	567	101	8.3	3.9	2.1	4.8	22
30	21	64	e70	e20	---	613	79	8.5	3.8	2.5	3.9	22
31	19	---	246	e19	---	465	---	11	---	2.7	3.7	---
TOTAL	1474	3121	1442	1842	335.6	2784.4	6606	1133.3	223.0	77.4	214.7	948.7
MEAN	47.5	104	46.5	59.4	12.0	89.8	220	36.6	7.43	2.50	6.93	31.6
MAX	175	422	246	230	24	613	1170	162	21	5.2	46	260
MIN	18	20	22	19	7.0	8.0	79	8.2	3.8	1.5	1.7	5.3
CFSM	2.00	4.37	1.95	2.50	.50	3.77	9.25	1.54	.31	.10	.29	1.33
IN.	2.30	4.88	2.25	2.88	.52	4.35	10.33	1.77	.35	.12	.34	1.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY)

MEAN	32.5	57.2	62.1	47.9	53.6	86.8	90.0	62.5	31.0	18.3	16.2	22.0
MAX	127	140	161	167	236	168	220	156	240	93.0	75.6	167
(WY)	1977	1973	1974	1976	1981	1964	1993	1946	1972	1972	1967	1975
MIN	1.44	2.62	12.8	6.60	7.70	25.4	20.9	11.9	4.93	2.50	1.60	.73
(WY)	1965	1965	1990	1981	1987	1981	1946	1941	1991	1993	1957	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1941 - 1993

ANNUAL TOTAL	17555.4	20202.1	48.3	
ANNUAL MEAN	48.0	55.3	77.3	1978
HIGHEST ANNUAL MEAN			22.1	1965
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	534	Mar 27	1170	Apr 1
LOWEST DAILY MEAN	5.2	Jul 8	1.5	Jul 25
ANNUAL SEVEN-DAY MINIMUM	6.4	Jun 29	1.7	Jul 22
INSTANTANEOUS PEAK FLOW			2530	Apr 1
INSTANTANEOUS PEAK STAGE			5.79	Apr 1
INSTANTANEOUS LOW FLOW				
ANNUAL RUNOFF (CFSM)	2.02		2.33	
ANNUAL RUNOFF (INCHES)	27.44		31.58	
10 PERCENT EXCEEDS	84		136	
50 PERCENT EXCEEDS	36		22	
90 PERCENT EXCEEDS	12		3.2	

a Also Sept. 12, 13, 1964.

b From rating curve extended above 3,400 ft³/s.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA
(National stream-quality accounting network station)

LOCATION.--Lat 40°58'05", long 76°52'25", Northumberland County, Hydrologic Unit 02050206, at downstream side of left abutment of Market Street bridge on State Highway 45 at Lewisburg, 0.2 mi downstream from Buffalo Creek, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--6,847 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. September 1913 to August 1923 (gage heights only), are contained in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

GAGE.--Water-stage recorder. Datum of gage is 428.20 ft above sea level. Sept. 21, 1913, to Aug. 31, 1923, Dec. 7, 1939, to July 2, 1940, and Oct. 20, 1987, to Sept. 30, 1988, nonrecording gage at same site and datum. Since Oct. 1, 1942, water-stage recorder for Susquehanna River at Sunbury (station 01553990) used as an auxiliary gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 6 flood-control reservoirs, which have a combined capacity of 440,200 acre-ft. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 32.1 ft, from floodmarks (back-water from Susquehanna River), discharge, 287,000 ft³/s from slope-area measurement at Watsontown, 8.0 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11600	3980	15600	41100	8670	3200	126000	33500	3880	2270	3080	1110
2	10500	3850	13800	57300	8590	3150	143000	27300	4200	2270	2410	1180
3	9410	6590	12400	42700	6950	3320	124000	23200	4620	2590	2270	1360
4	8480	12000	10900	32000	6590	3780	96300	20500	4400	2890	2020	2690
5	7600	17300	9880	29900	6680	5840	73700	19200	4000	3070	1810	5480
6	6580	17100	8980	35800	6330	7130	58900	23400	3770	3300	1760	6660
7	5460	16200	8370	35000	5690	7220	51100	23500	3550	2970	1650	4960
8	4730	14200	7670	29100	5270	7880	46900	20600	3340	2410	1530	4120
9	4700	12600	7080	23700	4960	8510	44200	18300	3480	2100	1410	3760
10	8420	11400	6640	19500	5080	9650	43600	16300	4300	1890	1320	3260
11	7590	10300	6890	16600	4980	10300	71800	14400	6860	1800	1440	2790
12	6800	9890	e8800	14800	4960	9660	67100	12100	7960	1730	e2000	2420
13	5890	17900	e9200	15100	4950	8540	51500	10700	5810	1600	e1900	2260
14	5250	28500	8100	19300	4590	6910	37900	9970	4400	1500	1970	2060
15	5400	26800	7350	23900	4370	5870	29100	9420	3640	1490	1800	1830
16	5490	22200	7000	22600	4400	5600	28600	8690	3230	1530	1700	1690
17	5810	18300	7970	19500	4410	7010	78500	8100	2920	1440	1900	1610
18	5870	15800	12700	17100	4030	8210	96300	7550	2700	1280	2400	1600
19	5880	13600	18300	14800	3430	9100	75000	7170	2550	1270	2940	1670
20	5790	11800	20800	12300	3200	10800	53000	6870	2860	1310	3040	1580
21	5740	10800	21500	10900	2770	9990	42800	6750	3720	1290	2650	1520
22	5520	13300	24500	10700	2830	9350	47200	6540	4190	1210	2210	1480
23	5230	21100	23100	11300	3820	10000	48700	6100	4240	1210	1980	1430
24	4980	30100	19600	11700	4010	14700	46000	5710	3950	1240	e1860	1400
25	4680	29700	16300	12000	3820	20600	43700	5480	3490	1140	e1700	1450
26	4600	29000	14200	13500	3600	32200	42100	5140	3000	1080	1790	1680
27	4670	27200	12200	14100	3270	46200	60500	4660	2680	1030	1780	2190
28	4410	24500	10600	12700	3200	65300	66600	4170	2490	1020	1570	5910
29	4280	21000	9690	11700	---	91500	54000	4010	2370	1080	1420	10300
30	4170	18000	10300	10400	---	109000	41700	3820	2330	1120	1220	10900
31	4090	---	16000	9510	---	116000	---	3650	---	2160	1100	---
TOTAL	189620	515010	386420	650610	135450	666520	1889800	376800	114930	54290	59630	92350
MEAN	6117	17170	12470	20990	4837	21500	62990	12150	3831	1751	1924	3078
MAX	11600	30100	24500	57300	8670	116000	143000	33500	7960	3300	3080	10900
MIN	4090	3850	6640	9510	2770	3150	28600	3650	2330	1020	1100	1110
CFSM	.89	2.51	1.82	3.07	.71	3.14	9.20	1.78	.56	.26	.28	.45
IN.	1.03	2.80	2.10	3.53	.74	3.62	10.27	2.05	.62	.29	.32	.50

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5145	8839	11410	11030	12940	22060	22840	15270	9133	4876	3317	3436
MAX	24900	32000	28230	30740	33010	49200	62990	28750	46900	20120	11380	24080
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1972	1984	1975
MIN	659	762	1727	1752	2914	6169	5822	3353	2048	1032	983	601
(WY)	1964	1965	1961	1981	1940	1969	1946	1941	1991	1965	1966	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993	
ANNUAL TOTAL	3829950		5131430		10840	
ANNUAL MEAN	10460		14060		16710	
HIGHEST ANNUAL MEAN					16710	
LOWEST ANNUAL MEAN					6158	
HIGHEST DAILY MEAN	39400	Mar 28	143000	Apr 2	285000	Jun 24 1972
LOWEST DAILY MEAN	1860	Jul 3	1020	Jul 28	417	Nov 16 1964
ANNUAL SEVEN-DAY MINIMUM	2090	Jun 29	1100	Jul 24	511	Sep 15 1964
INSTANTANEOUS PEAK FLOW			146000	Apr 2	a300000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			21.33	Apr 2	b34.23	Jun 24 1972
INSTANTANEOUS LOW FLOW			968	Jul 28	390	Nov 16 1964
ANNUAL RUNOFF (CFSM)	1.53		2.05		1.58	
ANNUAL RUNOFF (INCHES)	20.81		27.88		21.51	
10 PERCENT EXCEEDS	20900		36600		24800	
50 PERCENT EXCEEDS	8370		6590		6320	
90 PERCENT EXCEEDS	3710		1610		1460	

a About.

b From floodmarks (backwater from Susquehanna River).

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-53, 1956-58, 1960 to current year.

REMARKS.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey.

Agency analyzing codes: 9813 - Pennsylvania Department of Environmental Resources, 80020, 1028 - U.S. Geological Survey. Suspended-sediment samples analyzed by collecting agency.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD (μ S/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
OCT									
14...	1130	42011	9813	5250	184	6.1	11.0	0.530	--
NOV									
04...	1100	42011	9813	9570	172	7.6	9.0	0.660	--
05...	1145	42011	9813	14800	163	7.0	9.0	0.570	--
06...	1020	42011	9813	18400	172	5.9	9.0	0.480	--
08...	1150	42011	9813	14200	165	7.4	8.0	0.480	--
09...	1030	42011	9813	12600	157	6.1	5.0	0.550	--
18...	1100	42011	9813	15800	125	7.7	6.5	0.700	--
DEC									
08...	1055	42011	9813	7670	158	6.7	2.5	0.730	--
21...	1300	1028	80020	21300	177	7.2	3.5	0.760	0.760
JAN									
05...	1515	42011	9813	29700	132	7.2	5.0	0.630	--
06...	1430	42011	9813	36400	186	7.2	6.0	0.620	--
07...	1120	42011	9813	35200	210	7.8	4.5	0.640	--
08...	1340	42011	9813	28400	216	7.2	4.5	0.660	--
27...	1100	42011	9813	14200	231	7.2	1.5	0.790	--
FEB									
09...	1030	42011	9813	4960	248	7.4	2.0	1.08	--
MAR									
24...	1145	42011	9813	16300	224	--	3.5	1.19	--
24...	1515	42011	9813	17100	198	7.7	7.5	0.920	--
25...	1000	42011	9813	19500	192	7.7	4.0	1.03	--
26...	0715	42011	9813	30600	171	7.4	4.0	1.14	--
26...	1240	1028	80020	32200	168	7.3	6.0	0.940	--
27...	0815	42011	9813	43700	145	7.6	4.0	0.900	--
28...	0800	42011	9813	60800	125	7.6	5.5	0.810	--
29...	0745	42011	9813	92700	102	7.6	6.0	0.730	--
30...	0725	42011	9813	107000	95	7.6	6.0	0.590	--
31...	0655	42011	9813	116000	83	6.7	5.5	0.550	--
APR									
01...	0745	42011	9813	137000	91	6.8	7.5	0.590	--
02...	0735	42011	9813	144000	93	7.0	7.0	0.660	--
03...	0900	42011	9813	128000	92	5.5	8.0	0.530	--
04...	1022	42011	9813	97700	102	5.8	6.5	0.530	--
05...	1115	42011	9813	73900	118	6.7	6.0	0.680	--
07...	0935	42011	9813	51500	132	6.9	7.5	0.680	--
09...	0745	42011	9813	44500	140	7.5	9.0	0.700	--
22...	1010	42011	9813	47100	155	7.1	9.0	0.620	--
29...	1600	42011	9813	51000	135	7.1	14.0	0.510	--
MAY									
05...	1010	42011	9813	18800	223	7.3	14.0	1.00	--
12...	1200	42011	9813	12700	238	7.1	19.0	0.950	--
26...	1401	1028	80020	5140	310	7.9	20.0	0.740	--
JUN									
15...	1230	1028	80020	3640	375	7.4	23.5	0.650	--
17...	1520	42011	9813	2880	355	8.1	28.0	0.750	--
JUL									
15...	1415	42011	9813	1470	423	8.2	32.0	0.900	--
AUG									
17...	1530	42011	9813	1730	451	8.3	25.0	0.950	--
SEP									
22...	1515	42011	9813	1530	270	8.3	18.0	0.840	--
29...	1500	1028	80020	10300	355	7.2	16.0	0.650	--

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 14...	--	0.530	--	0.020	0.020	0.28	0.28	0.30
NOV 04...	--	0.660	--	0.030	0.030	0.68	0.34	0.71
05...	--	0.570	--	0.030	0.030	0.29	0.17	0.32
06...	--	0.480	--	0.030	0.030	0.44	0.17	0.47
08...	--	0.480	--	0.020	0.020	0.18	0.18	0.20
09...	--	0.550	--	0.070	0.060	0.22	0.19	0.29
18...	--	0.700	--	0.070	0.050	0.31	0.33	0.38
DEC 08...	--	0.730	--	0.070	0.070	0.48	0.35	0.55
21...	0.020	--	0.780	--	0.040	0.26	--	0.30
JAN 05...	--	0.630	--	0.090	0.080	0.23	0.19	0.32
06...	--	0.620	--	0.060	0.050	0.19	0.20	0.25
07...	--	0.640	--	0.090	0.090	0.49	0.39	0.58
08...	--	0.660	--	0.030	0.020	0.65	0.58	0.68
27...	--	0.790	--	0.210	0.070	0.09	0.14	0.30
FEB 09...	--	1.08	--	0.260	0.110	0.0	0.15	0.26
MAR 24...	--	1.19	--	0.420	0.120	0.41	0.71	0.83
24...	--	0.920	--	0.140	0.080	0.20	0.14	0.34
25...	--	1.03	--	0.200	0.080	0.14	0.15	0.34
26...	--	1.14	--	0.060	0.050	0.50	0.17	0.56
26...	<0.010	--	0.940	--	0.060	0.54	--	0.60
27...	--	0.900	--	0.130	0.050	0.44	0.15	0.57
28...	--	0.810	--	0.060	0.040	0.48	0.16	0.54
29...	--	0.730	--	0.050	0.040	0.55	0.21	0.60
30...	--	0.590	--	0.070	0.040	0.50	0.16	0.57
31...	--	0.550	--	0.030	0.020	0.64	0.26	0.67
APR 01...	--	0.590	--	0.050	0.020	0.45	0.48	0.50
02...	--	0.660	--	0.050	0.040	0.49	0.20	0.54
03...	--	0.530	--	0.050	0.040	0.20	0.16	0.25
04...	--	0.530	--	0.050	0.030	0.22	0.17	0.27
05...	--	0.680	--	0.020	<0.020	0.32	--	0.34
07...	--	0.680	--	0.040	0.040	0.27	0.20	0.31
09...	--	0.700	--	<0.020	<0.020	0.20	--	0.20
22...	--	0.620	--	0.050	0.020	0.15	0.18	0.20
29...	--	0.510	--	<0.020	<0.020	0.21	--	0.21
MAY 05...	--	1.00	--	0.030	0.030	0.17	0.17	0.20
12...	--	0.950	--	0.030	0.030	0.18	0.17	0.21
26...	<0.010	--	0.740	--	0.020	--	--	<0.20
JUN 15...	<0.010	--	0.650	--	0.050	--	--	<0.20
17...	--	0.750	--	<0.020	<0.020	0.33	--	0.33
JUL 15...	--	0.900	--	<0.020	<0.020	0.30	--	0.30
AUG 17...	--	0.950	--	0.020	<0.020	--	--	<0.20
SEP 22...	--	0.840	--	<0.020	<0.020	--	--	<0.20
29...	<0.010	--	0.650	--	0.030	0.17	--	0.20

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
14...	0.30	0.83	0.040	0.020	--	1.8	2	28	--
NOV									
04...	0.37	1.4	0.070	0.020	--	2.2	13	336	--
05...	0.20	0.89	0.050	0.020	--	1.7	25	999	--
06...	0.20	0.95	0.060	0.020	--	2.5	42	2080	--
08...	0.20	0.68	0.030	0.020	--	1.7	9	345	--
09...	0.25	0.84	0.040	0.020	--	1.5	3	102	--
18...	0.38	1.1	0.020	0.020	--	1.3	1	43	--
DEC									
08...	0.42	1.3	0.020	0.020	--	2.4	8	166	--
21...	--	1.1	0.040	<0.010	<0.010	--	16	920	--
JAN									
05...	0.27	0.95	0.030	0.020	--	1.5	9	722	--
06...	0.25	0.87	0.040	0.020	--	1.9	16	1570	--
07...	0.48	1.2	0.030	0.020	--	1.5	5	475	--
08...	0.60	1.3	0.030	0.020	--	1.5	9	690	--
27...	0.21	1.1	0.030	<0.020	--	1.1	7	268	--
FEB									
09...	0.26	1.3	0.020	<0.020	--	1.2	6	80	--
MAR									
24...	0.83	2.0	0.090	0.030	0.010	1.4	63	2770	--
24...	0.22	1.3	0.060	0.020	0.010	<1.0	47	2170	--
25...	0.23	1.4	0.080	0.020	0.020	1.3	56	2950	--
26...	0.22	1.7	0.130	0.020	<1.00	1.7	110	9090	--
26...	--	1.5	0.090	<0.010	<0.010	--	82	7130	87
27...	0.20	1.5	0.880	0.020	--	2.3	107	12600	--
28...	0.20	1.3	0.090	0.020	--	2.1	100	16400	--
29...	0.25	1.3	0.110	0.030	0.010	1.0	194	48600	--
30...	0.20	1.2	0.130	0.030	0.020	3.8	167	48200	--
31...	0.28	1.2	0.100	0.030	0.010	2.9	173	54200	--
APR									
01...	0.50	1.1	0.090	0.030	0.010	2.7	168	62100	--
02...	0.24	1.2	0.150	0.020	0.010	3.0	148	57500	--
03...	0.20	0.78	0.070	0.020	0.010	2.3	65	22500	--
04...	0.20	0.80	0.050	<0.020	0.010	1.7	51	13500	--
05...	<0.20	1.0	0.070	0.020	0.010	1.8	75	15000	--
07...	0.24	0.99	0.040	0.020	0.010	2.1	48	6670	--
09...	0.20	0.90	0.030	0.020	--	1.4	25	3000	--
22...	0.20	0.82	0.040	0.020	0.010	1.6	20	2540	--
29...	<0.20	0.72	0.040	0.020	--	1.5	18	2480	--
MAY									
05...	0.20	1.2	0.180	0.200	0.120	1.4	13	660	--
12...	0.20	1.2	0.040	<0.020	--	1.6	11	377	--
26...	--	--	<0.010	<0.010	<0.010	--	2	28	83
JUN									
15...	--	--	<0.010	<0.010	<0.010	--	3	29	80
17...	0.33	1.1	<0.020	<0.020	0.010	2.4	1	7.8	--
JUL									
15...	<0.20	1.2	0.040	0.020	0.010	2.3	8	32	--
AUG									
17...	<0.20	--	0.030	<0.020	0.020	2.5	2	9.3	--
SEP									
22...	<0.20	--	0.060	0.050	0.020	1.7	6	25	--
29...	--	0.85	0.040	<0.010	<0.010	--	21	584	74

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 μM-MF (COLS./ 100 ML) (31625)
DEC 21...	1300	1028	80020	21300	177	7.2	3.5	6.8	764	12.8	96	120
MAR 26...	1240	1028	80020	32200	168	7.3	6.0	32	763	12.8	103	K 130
MAY 26...	1401	1028	80020	5140	310	7.9	20.0	1.5	E 756	10.7	118	ND
JUN * 15...	1230	1028	80020	3640	375	7.4	23.5	0.40	758	8.8	104	K 7
SEP 29...	1500	1028	80020	10300	355	7.2	16.0	1.2	761	9.8	100	ND
DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)
DEC 21...	360	64	48	16	5.8	4.5	13	0.2	1.2	20	--	16
MAR 26...	310	66	49	17	5.8	5.9	16	0.3	1.2	21	--	18
MAY 26...	ND	120	99	29	11	5.1	9	0.2	1.3	18	2	20
JUN 15...	ND	150	--	37	14	8.7	11	0.3	1.5	--	--	25
SEP 29...	820	140	120	34	13	8.5	12	0.3	1.6	14	5	21
DATE	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- INUM, DIS- SOLVED (μG/L AS AL) (01106)	
DEC 21...	16	17	45	6.7	<0.10	5.1	93	98	0.13	5350	<10	
MAR 26...	17	21	46	10	<0.10	4.6	109	106	0.15	9480	40	
MAY 26...	19	19	97	8.3	0.10	2.5	170	170	0.23	2360	<10	
JUN 15...	--	26	120	11	0.10	2.5	216	213	0.29	2120	30	
SEP 29...	20	23	110	12	0.10	3.7	206	198	0.28	5730	<10	
DATE	BARIUM, DIS- SOLVED (μG/L AS BA) (01005)	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	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)	VANA- DIUM, DIS- SOLVED (μG/L AS V) (01085)	
DEC 21...	29	4	12	4	410	<10	10	<1	<1.0	82	<6	
MAR 26...	30	4	8	<4	440	<10	10	<1	<1.0	85	<6	
MAY 26...	33	10	12	9	730	<10	19	<1	<1.0	140	<6	
JUN 15...	37	<3	3	9	320	<10	11	<1	<1.0	200	<6	
SEP 29...	34	<3	6	6	4	<10	5	<1	<1.0	190	<6	

* June 15--Triazine screen (ELISA) as Atrazine (34756) is <0.10 μ G/L.

ADDITIONAL REMARKS.--Sample method codes: 70 - Grab sample: 120 - Velocity integrated sample.

CROSS-SECTION ANALYSES. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ADDITIONAL REMARKS.--Ecological water-quality data were collected as part of an ecological survey of sites for NAWQA. The sample was collected at the richest-targeted habitat. Other synoptic sites are shown in figure 12, page 278. All data collected at ecological survey sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, AUGUST 1993

LOCAL IDENTIFIER	DATE	TIME	STREAM VELOCITY, MEAN (F/S) (00055)	SPECIFIC CONDUCTANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESURE (MM OF HG) (00025)	BICARBONATE WATER WH FIELD (MG/L AS HCO3) (00440)
ESS15	8-17-93	1110	1.39	370	7.6	24.5	749	44
	CARBONATE WATER WH FIELD (MG/L AS CO3) (00445)	ALKALINITY WAT WH TOT FET FIELD (MG/L AS CAC03) (00410)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70958)	PERI-PHYTON BIOMASS ASH MASS (G/SQ M) (00572)	PERI-PHYTON BIOMASS TOTAL DRY MASS (G/SQ M) (00573)	PERI-PHYTON BIOMASS ASH-FREE DRY MASS (G/SQ M) ()	
	0	36	20	7.7 *	316	328	12	

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553700 CHILLISQUAKE CREEK AT WASHINGTONVILLE, PA

LOCATION.--Lat 41°03'42", long 76°40'50", Montour County, Hydrologic Unit 02050206, on left bank 60 ft upstream from bridge on State Highway 54, and 0.7 mi north of U.S. Post Office in Washingtonville.

DRAINAGE AREA.--51.3 mi².

PERIOD OF RECORD.--May 1979 to current year.

REVISED RECORDS.--WDR PA-82-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.70 ft above sea level (Pennsylvania Power and Light Co. bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow includes diversion from West Branch Susquehanna River. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	21	54	113	34	21	861	66	18	18	17	15
2	28	22	47	81	35	23	936	54	18	19	17	14
3	27	191	42	68	30	27	476	46	18	20	18	19
4	23	89	37	66	29	62	212	42	18	19	19	30
5	22	63	37	278	27	307	144	70	19	19	18	20
6	18	89	32	145	26	212	109	80	19	18	19	17
7	16	57	31	109	23	173	86	53	17	17	18	16
8	17	50	29	90	24	238	73	46	17	17	17	15
9	30	44	26	70	23	292	63	41	24	17	17	15
10	93	39	26	56	24	183	283	36	22	17	19	14
11	54	37	112	51	25	116	847	32	17	17	23	15
12	66	45	103	56	27	99	229	29	16	17	25	15
13	44	243	69	275	29	92	136	26	16	18	28	15
14	53	106	57	201	29	108	98	24	15	17	20	15
15	72	69	51	135	27	83	80	22	15	18	19	17
16	48	52	49	108	26	65	377	21	15	18	19	18
17	37	45	190	87	28	90	702	20	15	17	30	20
18	35	41	177	66	24	119	285	19	15	19	27	20
19	33	34	117	51	23	86	143	19	16	18	18	18
20	29	30	115	46	22	74	103	19	50	17	17	16
21	27	58	83	43	21	76	193	20	43	16	15	20
22	26	187	70	62	24	132	433	21	77	16	16	19
23	25	296	64	62	24	193	297	19	28	16	16	18
24	25	153	54	61	23	541	153	17	22	17	16	17
25	25	151	49	73	22	443	110	17	20	17	26	18
26	25	125	47	49	23	457	364	15	19	17	18	37
27	24	122	40	47	22	486	368	15	20	18	16	40
28	23	90	39	44	22	657	216	15	20	18	15	39
29	23	76	40	41	---	769	123	15	19	22	15	26
30	22	63	69	37	---	533	83	14	19	21	15	24
31	21	---	140	37	---	281	---	16	---	18	15	---
TOTAL	1038	2688	2096	2708	716	7038	8583	949	667	553	588	602
MEAN	33.5	89.6	67.6	87.4	25.6	227	286	30.6	22.2	17.8	19.0	20.1
MAX	93	296	190	278	35	769	936	80	77	22	30	40
MIN	16	21	26	37	21	21	63	14	15	16	15	14
CFSM	.65	1.75	1.32	1.70	.50	4.43	5.58	.60	.43	.35	.37	.39
IN.	.75	1.95	1.52	1.96	.52	5.10	6.22	.69	.48	.40	.43	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1993, BY WATER YEAR (WY)

	47.5	89.6	90.4	60.3	103	122	116	71.4	59.4	37.6	29.9	33.5
MEAN	47.5	89.6	90.4	60.3	103	122	116	71.4	59.4	37.6	29.9	33.5
MAX	211	149	231	123	243	227	286	228	221	102	87.0	99.8
(WY)	1991	1987	1984	1991	1981	1993	1993	1989	1982	1984	1990	1987
MIN	16.5	34.4	22.2	27.5	25.6	38.3	42.9	20.0	16.0	13.4	18.3	18.7
(WY)	1983	1981	1990	1981	1993	1981	1988	1987	1991	1991	1991	1984

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1979 - 1993

ANNUAL TOTAL	21894	28226	71.4
ANNUAL MEAN	59.8	77.3	108
HIGHEST ANNUAL MEAN			52.2
LOWEST ANNUAL MEAN			188
HIGHEST DAILY MEAN	1410	Mar 27	2080
LOWEST DAILY MEAN	15	Jul 1-3 ^a	6.2
ANNUAL SEVEN-DAY MINIMUM	16	Jun 29	11
INSTANTANEOUS PEAK FLOW		1500	3510
INSTANTANEOUS PEAK STAGE		6.89	10.82
ANNUAL RUNOFF (CFSM)	1.17	1.51	1.39
ANNUAL RUNOFF (INCHES)	15.88	20.47	18.92
10 PERCENT EXCEEDS	125	188	140
50 PERCENT EXCEEDS	37	29	37
90 PERCENT EXCEEDS	17	16	18

^a Also Sept. 2, 5, 21, 1992.

^b Also Sept. 2, 10, 1993.

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

WEST BRANCH SUSQUEHANNA RIVER BASIN

RESERVOIRS IN WEST BRANCH SUSQUEHANNA RIVER BASIN

- 01541180 CURWENSVILLE LAKE.**--Lat 40°57'13", long 78°31'40", Clearfield County, Hydrologic Unit 02050201, at Curwensville Dam on West Branch Susquehanna River, 0.7 mi upstream from State Highway 453, 1.2 mi south of Curwensville, and 2.5 mi upstream from Anderson Creek. DRAINAGE AREA, 365 mi². PERIOD OF RECORD, November 1965 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).
- REMARKS.--Reservoir formed by earthfill dam with excavated chute spillway and concrete control sill at elevation 1,228.00 ft. Storage began in November 1965. Capacity at elevation 1,228.00 ft is 124,200 acre-ft. Conservation pool elevation is 1,155.00 ft, capacity, 4,870 acre-ft. Reservoir is used for flood control, recreation and study of water quality. Figures given herein represent total contents. Flow regulated by three gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemetry at station.
- COOPERATION.--Records provided by U.S. Army Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 87,650 acre-ft, June 25, 1972, elevation, 1,214.11 ft; minimum, 252 acre-ft, Nov. 6, 1968, elevation, 1,136.70 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 73,040 acre-ft, Apr. 3, elevation, 1,207.17 ft; minimum, 3,860 acre-ft, Mar. 14, elevation, 1,153.04 ft.
- 01541340 GLENDALE LAKE.**--Lat 40°41'50", long 78°32'15", Cambria County, Hydrologic Unit 02050201, at Glendale Dam on Beaverdam Run, 1.0 mi upstream from Dutch Run, 1.3 mi southwest of Flinton, 1.9 mi above mouth, and 3.4 mi south of Coalport. DRAINAGE AREA, 41.9 mi². PERIOD OF RECORD, January 1963 to current year. GAGE, water-stage recorder. Datum of gage is sea level.
- REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 1,435.00 ft. Storage began Dec. 1, 1960. Capacity at elevation 1,435.00 ft is 41,200 acre-ft of which 15,900 acre-ft is controlled storage above elevation 1,427.00 ft. Dead storage is 25,300 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Outflow is controlled by 72-inch gate and an 8-inch bypass valve.
- COOPERATION.--Records provided by Pennsylvania Department of Environmental Resources.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 33,390 acre-ft, June 24, 1972, elevation, 1,431.63 ft; minimum, 10,640 acre-ft, Nov. 16, 1965, elevation, 1,415.53 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents recorded, 29,780 acre-ft, Mar. 31, elevation, 1,429.75 ft; minimum recorded, 16,350 acre-ft, Nov. 2, elevation, 1,420.29 ft.
- 01543900 FIRST FORK SINNEMAHONING CREEK RESERVOIR.**--Lat 41°24'25", long 78°01'10", Cameron County, Hydrologic Unit 02050202, at control tower of George B. Stevenson Dam, on First Fork Sinnemahoning Creek, 8.0 mi northeast of Sinnemahoning, and 8.0 mi upstream from mouth. DRAINAGE AREA, 243 mi². PERIOD OF RECORD, January 1956 to current year. GAGE, water-stage recorder. Datum of gage is sea level.
- REMARKS.--Reservoir is formed by an earthfill dam. Storage began Jan. 31, 1956. Capacity, 75,800 acre-ft between elevations 890.00 ft (sill of outlet gates) and 1,026.00 ft (crest of spillway). No dead storage. Ordinary minimum (conservation) pool elevation is 920.00 ft, capacity, 2,000 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. U.S. Army Corps of Engineers satellite telemetry at station.
- COOPERATION.--Records provided by Pennsylvania Department of Environmental Resources.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,030 acre-ft, June 26, 1972, elevation, 1,015.87 ft; minimum, (after first filling), 37 acre-ft many days in October 1973, elevation, 891.84 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,840 acre-ft, Apr. 3, elevation, 1,011.69 ft; minimum, 2,000 acre-ft, Nov. 15, elevation, 919.95 ft.
- 01544800 KETTLE CREEK LAKE** (formerly published as Alvin R. Bush Reservoir).--Lat 41°21'37", long 77°55'27", Clinton County, Hydrologic Unit 02050203, at control tower of dam on Kettle Creek, 1.1 mi downstream from Sugar Camp Run, and 8.5 mi upstream from mouth and Westport. DRAINAGE AREA, 226 mi². PERIOD OF RECORD, February 1962 to current year. GAGE, water-stage recorder. Datum of gage is National Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).
- REMARKS.--Reservoir formed by an earthfill embankment, rock faced, with ungated concrete spillway at elevation 937.00 ft. Storage began Feb. 7, 1962; water in reservoir first reached conservation pool elevation in March 1962. Total capacity at elevation 937.00 ft is 75,000 acre-ft. No dead storage. Ordinary minimum (conservation) pool elevation is 840.00 ft, capacity, 1,590 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Storage is regulated by three gates and low-flow bypass system. U.S. Army Corps of Engineers satellite and landline telemetry at station.
- COOPERATION.--Records provided by U.S. Army Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 52,960 acre-ft, Apr. 2, 1993, elevation, 920.23 ft; minimum, no storage, June 7, 1962.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 52,960 acre-ft, Apr. 2, elevation, 920.23 ft; minimum, 1,340 acre-ft, Sept. 30, elevation, 838.12 ft.
- 01547480 FOSTER JOSEPH SAYERS LAKE.**--Lat 41°02'53", long 77°36'35", Centre County, Hydrologic Unit 02050204, at Foster Joseph Sayers Dam, on Bald Eagle Creek, 1.0 mi upstream from Marsh Creek, and 1.2 mi south of Blanchard. DRAINAGE AREA, 339 mi². PERIOD OF RECORD, March 1971 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).
- REMARKS.--Reservoir formed by an earthfill dam with ungated concrete ogee weir at elevation 657.00 ft with abutting concrete gravity walls and partially paved exit channel. Storage began in March 1971. Capacity at elevation 657.00 ft is 99,100 acre-ft. Dead storage is 25 acre-ft. Ordinary minimum (conservation) pool elevation is 610.0 ft, capacity, 6,300 acre-ft. Reservoir used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by two gates. U.S. Army Corps of Engineers satellite and landline telemetry at station.
- COOPERATION.--Records provided by U.S. Army Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,900 acre-ft, June 25, 1972, elevation, 658.41 ft; minimum, 3,250 acre-ft, Oct. 27, 1987, elevation, 604.45 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 75,490 acre-ft, Apr. 28, elevation, 649.61 ft; minimum, 6,220 acre-ft, Dec. 25, elevation, 609.86 ft.

WEST BRANCH SUSQUEHANNA RIVER BASIN

Reservoirs in West Branch Susquehanna River basin--Continued

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
01541180 Curwensville Lake				01541340 Glendale Lake		
Sept. 30.....	1,162.03	9,560	--	1,427.25	25,700	--
Oct. 31.....	1,162.10	9,620	+ 1.0	1,420.39	16,470	-150
Nov. 30.....	1,156.39	5,670	- 66.4	1,422.31	18,800	+ 39.2
Dec. 31.....	1,161.02	8,800	+ 50.9	1,426.53	24,600	+ 94.3
CAL YR 1992.....	--	--	+ 5.0	--	--	- 2.0
Jan. 31.....	1,155.34	5,060	- 60.8	1,427.60	26,260	+ 27.0
Feb. 28.....	1,155.00	4,880	- 3.2	1,427.32	25,810	- 8.1
Mar. 31.....	1,197.71	55,610	+825	1,429.74	29,760	+ 64.2
Apr. 30.....	1,158.67	7,120	-815	1,428.59	27,840	- 32.3
May 31.....	1,162.28	9,770	+ 43.1	1,427.20	25,620	- 36.1
June 30.....	1,162.10	9,620	- 2.5	1,427.15	25,540	- 1.3
July 31.....	1,162.51	9,960	+ 5.5	1,427.09	25,440	- 1.6
Aug. 31.....	1,162.24	9,740	- 3.6	1,427.01	25,320	- 2.0
Sept. 30.....	1,162.01	9,550	- 3.2	1,427.46	26,040	+ 12.1
WTR YR 1993.....	--	--	0	--	--	+ 0.5
01543900 F. F. Simmemahoning Cr. Reservoir				01544800 Kettle Creek Lake		
Sept. 30.....	921.27	2,330	--	841.38	1,800	--
Oct. 31.....	921.12	2,310	- 0.3	841.29	1,790	- 0.2
Nov. 30.....	921.21	2,320	+ 0.2	841.24	1,780	- 0.2
Dec. 31.....	928.09	3,520	+ 19.5	841.42	1,810	+ 0.5
CAL YR 1992.....	--	--	+ 1.6	--	--	0
Jan. 31.....	921.68	2,370	- 18.7	841.55	1,830	+ 0.3
Feb. 28.....	921.21	2,320	- 0.9	841.03	1,750	- 1.4
Mar. 31.....	993.78	38,610	+590	898.16	30,740	+471
Apr. 30.....	921.03	2,300	-610	841.99	1,900	-485
May 31.....	921.46	2,350	+ 0.8	841.24	1,780	- 2.0
June 30.....	921.09	2,310	- 0.7	841.09	1,760	- 0.3
July 31.....	921.24	2,320	+ 0.2	841.05	1,750	- 0.2
Aug. 31.....	921.30	2,330	+ 0.2	840.82	1,720	- 0.5
Sept. 30.....	921.39	2,340	+ 0.2	838.34	1,370	- 5.9
WTR YR 1993.....	--	--	0	--	--	- 0.6
01547480 Foster Joseph Sayers Lake						
Sept. 30.....	625.17	21,300	--			
Oct. 31.....	615.00	10,000	-184			
Nov. 30.....	610.20	6,430	- 60			
Dec. 31.....	611.01	6,980	+ 8.9			
CAL YR 1992.....	--	--	+ 0.6			
Jan. 31.....	610.28	6,490	- 8.0			
Feb. 28.....	610.13	6,390	- 1.8			
Mar. 31.....	640.51	50,330	+715			
Apr. 30.....	648.24	71,570	+357			
May 31.....	630.18	29,120	-690			
June 30.....	630.27	29,280	+ 2.7			
July 31.....	629.94	28,700	- 9.4			
Aug. 31.....	630.15	29,070	- 6.0			
Sept. 30.....	627.50	24,740	- 72.8			
WTR YR 1993.....	--	--	+ 4.8			

SUSQUEHANNA RIVER BASIN

01554000 SUSQUEHANNA RIVER AT SUNBURY, PA

LOCATION.--Lat 40°51'15", long 76°48'21", Snyder County, Hydrologic Unit 02050301, on right bank at borough of Shamokin Dam, on grounds of Pennsylvania Power and Light Co. generating plant, 1.0 mi downstream from Shamokin Creek, 1.5 mi downstream from Sunbury Fabridam, and 1.8 mi south of Sunbury.

DRAINAGE AREA.--18,300 mi², approximately (excluding that of Shamokin Creek).

PERIOD OF RECORD.--October 1937 to current year. June 1918 to September 1918 (gage heights only), in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 891: 1936(M). WDR PA-79-2: 1978(M).

GAUGE.--Water-stage recorder. Datum of gage is 408.61 ft above sea level. See WSP 1903 for history of changes prior to Dec. 13, 1937. Dec. 13, 1937, to Mar. 23, 1967, water-stage recorder at site 1.7 mi upstream at datum 11.05 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 14 flood-control reservoirs which have a capacity of about 809,000 acre-ft, and during low flow by Fabridam upstream. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24900	16500	41300	87800	e21000	e7800	295000	83500	9320	5920	4730	2970
2	21500	16000	36700	129000	e19000	e7600	329000	67600	9420	5930	4070	2870
3	19000	18500	33200	101000	e17000	e7400	315000	56300	9580	6650	3770	3090
4	17000	27400	29900	73800	e16000	e10000	268000	47900	9570	7020	3470	4980
5	15400	48700	27300	63300	e15000	15800	203000	43900	9390	6830	3320	10100
6	13900	47300	25300	74500	e16000	17300	156000	48400	9330	6810	3200	11000
7	12200	43800	23500	80400	e15000	16200	130000	52800	8890	6460	3190	8490
8	10800	40900	21900	71500	e14000	17500	118000	50100	8430	5760	3180	7910
9	10300	36900	20400	58100	e13000	19200	112000	43500	8670	5200	2990	7600
10	16000	32900	19100	47900	e13000	20300	114000	38100	10300	4860	2910	6900
11	17900	28900	18800	40600	e12000	20700	213000	32500	12400	4630	3160	6070
12	19500	26700	21100	35200	e13000	20200	247000	28400	15200	4360	4050	5440
13	21400	34600	21200	33800	13900	19000	207000	24600	13200	4110	4750	5040
14	20300	55300	20400	40300	13300	16200	149000	21700	10800	3930	3970	4620
15	18900	61200	19600	53800	12600	14900	116000	21600	9300	3770	3670	4250
16	17700	52500	18700	53300	12300	13900	97800	20100	8280	3700	3440	4000
17	17000	42700	19100	44700	12400	14100	162000	18700	7440	3490	4190	4170
18	17700	36700	26600	38600	11800	18300	217000	17500	7450	3190	8370	3940
19	20100	32400	42700	33900	e10000	19500	191000	16700	7320	3120	6350	3920
20	19500	29400	56000	28800	e9400	20500	141000	16000	7280	3140	5890	3660
21	18400	27500	53600	25900	e8600	20200	112000	15600	8240	3070	5550	3620
22	17700	29800	57100	24500	e8000	20000	120000	15200	8880	2920	4800	3680
23	16800	40400	54400	24900	e9000	21400	141000	14600	8800	2820	4330	3620
24	16000	59100	45800	25900	e9400	28800	131000	14000	8570	2840	4070	3520
25	15500	75200	39100	27600	e9000	38900	134000	12200	10300	2720	4130	3520
26	15500	75900	32900	30200	e8600	55900	129000	12700	9660	2630	4070	4090
27	21100	73400	29500	32200	e8400	80000	155000	11500	8530	2580	3880	5270
28	22200	65800	24700	30500	e8000	118000	176000	10600	7560	2530	3560	8890
29	20500	55900	22500	27700	---	181000	140000	10100	6790	2780	3440	14400
30	18700	47500	22500	25600	---	241000	107000	9750	6260	2730	3290	16100
31	17200	---	30900	23300	---	276000	---	9270	---	3160	3070	---
TOTAL	550600	1279800	955800	1488600	348700	1397600	5125800	885420	275160	129660	126860	177730
MEAN	17760	42660	30830	48020	12450	45080	170900	28560	9172	4183	4092	5924
MAX	24900	75900	57100	129000	21000	276000	329000	83500	15200	7020	8370	16100
MIN	10300	16000	18700	23300	8000	7400	97800	9270	6260	2530	2910	2870
CFSM	.97	2.33	1.68	2.62	.68	2.46	9.34	1.56	.50	.23	.22	.32
IN.	1.12	2.60	1.94	3.03	.71	2.84	10.42	1.80	.56	.26	.26	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1993, BY WATER YEAR (WY)

MEAN	13180	22130	28790	26670	31950	54550	59270	35790	20480	10730	7522	8563
MAX	62760	54540	71460	67320	78120	115800	170900	69950	111600	38930	20750	55820
(WY)	1978	1978	1973	1979	1981	1945	1993	1989	1972	1972	1992	1975
MIN	1607	1673	5802	4510	7500	21370	14560	9826	5423	2390	2533	1372
(WY)	1965	1965	1961	1981	1980	1969	1946	1941	1991	1965	1939	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1938 - 1993

ANNUAL TOTAL	9811960	12741730	26590	
ANNUAL MEAN	26810	34910	42520	1978
HIGHEST ANNUAL MEAN			13420	1965
LOWEST ANNUAL MEAN			609000	Jun 24 1972
HIGHEST DAILY MEAN	126000	Mar 29	1110	Sep 24 1964
LOWEST DAILY MEAN	5150	Jul 5	1140	Sep 22 1964
ANNUAL SEVEN-DAY MINIMUM	5670	Jul 1	620000	Jun 24 1972
INSTANTANEOUS PEAK FLOW			27.00	Apr 2
INSTANTANEOUS PEAK STAGE			2430	Jul 26, 28
INSTANTANEOUS LOW FLOW			1.91	1.45
ANNUAL RUNOFF (CFSM)	1.46		19.74	
ANNUAL RUNOFF (INCHES)	19.95			
10 PERCENT EXCEEDS	52500	91800	60600	
50 PERCENT EXCEEDS	22400	17000	15500	
90 PERCENT EXCEEDS	9420	3670	3750	

a Result of shutoff at Fabridam.

e Estimated.

SHAMOKIN CREEK BASIN

01554500 SHAMOKIN CREEK NEAR SHAMOKIN, PA

LOCATION.--Lat 40°48'37", long 76°35'04", Northumberland County, Hydrologic Unit 02050301, on right bank at Weigh Scales, 1.0 mi downstream from Trout Run, 1.1 mi upstream from Bennys Run, and 2.0 mi northwest of Shamokin.

DRAINAGE AREA.--54.2 mi².

PERIOD OF RECORD.--December 1939 to September 1993 (discontinued). Prior to October 1964, published as "at Weigh Scales".

REVISED RECORDS.--WDR PA-91-2: 1990(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 606.28 ft above sea level. Nov. 14, 1939, to Jan. 9, 1967, water-stage recorder at site 0.4 mi upstream at datum 2.00 ft higher, and Jan. 10 to Dec. 10, 1967, nonrecording gage at site 0.4 mi downstream at datum 11.50 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation by mine pumps upstream from station. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	45	94	e96	80	58	506	284	110	64	44	33
2	50	43	90	e94	78	59	502	253	102	76	42	40
3	49	84	83	e90	79	61	456	233	99	67	41	41
4	48	56	83	e89	77	103	390	217	98	63	41	65
5	46	53	82	e110	76	115	341	339	97	62	41	40
6	45	54	79	e100	75	88	301	294	94	60	42	35
7	44	52	78	e98	73	82	267	250	93	59	42	34
8	42	51	76	e96	73	92	240	239	93	58	40	38
9	105	50	73	e94	71	100	220	228	120	56	39	35
10	104	49	68	e92	71	96	413	215	93	56	44	36
11	70	45	106	e90	71	92	559	204	88	55	47	33
12	64	50	104	95	72	88	433	195	86	54	43	33
13	60	90	90	120	73	90	374	186	84	53	58	32
14	61	68	85	107	69	87	328	177	82	52	43	32
15	58	62	82	100	67	85	291	170	80	52	40	42
16	56	59	80	100	70	84	413	164	79	51	39	46
17	54	59	103	100	70	132	492	158	77	49	46	40
18	53	57	111	98	66	121	394	154	77	49	41	38
19	56	55	103	95	64	107	352	148	93	49	37	38
20	52	57	111	93	64	105	314	142	80	49	41	34
21	51	71	108	93	64	110	346	136	88	47	38	36
22	49	98	107	98	67	115	556	132	78	46	37	34
23	49	154	105	94	63	131	444	128	73	46	36	33
24	51	110	102	96	61	233	388	124	71	45	36	33
25	52	102	97	96	59	218	349	121	69	45	41	35
26	48	118	95	89	60	252	464	117	76	45	35	50
27	47	112	91	88	59	302	413	114	75	44	35	48
28	46	105	89	86	58	400	369	112	68	44	35	41
29	45	101	88	84	---	473	341	113	66	82	34	34
30	45	97	114	82	---	442	313	108	65	45	33	33
31	44	---	103	83	---	381	---	114	---	43	33	---
TOTAL	1695	2207	2880	2946	1930	4902	11569	5569	2554	1666	1244	1142
MEAN	54.7	73.6	92.9	95.0	68.9	158	386	180	85.1	53.7	40.1	38.1
MAX	105	154	114	120	80	473	559	339	120	82	58	65
MIN	42	43	68	82	58	58	220	108	65	43	33	32
CFSM	1.01	1.36	1.71	1.75	1.27	2.92	7.12	3.31	1.57	.99	.74	.70
IN.	1.16	1.51	1.98	2.02	1.32	3.36	7.94	3.82	1.75	1.14	.85	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	MEAN	55.5	68.6	81.4	80.7	88.5	116	134	124	96.2	69.1	57.4	54.3
MAX	194	223	267	202	193	208	386	247	450	203	106	183	
(WY)	1977	1944	1951	1979	1951	1979	1993	1989	1972	1972	1947	1975	
MIN	19.2	26.2	24.3	20.9	24.4	46.7	51.7	45.6	33.5	23.3	31.0	30.4	
(WY)	1942	1981	1981	1940	1940	1969	1965	1941	1965	1965	1966	1980	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1940 - 1993

ANNUAL TOTAL	26020	40304	
ANNUAL MEAN	71.1	110	85.5
HIGHEST ANNUAL MEAN			141
LOWEST ANNUAL MEAN			38.7
HIGHEST DAILY MEAN	290	Mar 27	2960
LOWEST DAILY MEAN	36	Feb 10 ^a	9.8
ANNUAL SEVEN-DAY MINIMUM	37	Feb 7	14
INSTANTANEOUS PEAK FLOW			54070
INSTANTANEOUS PEAK STAGE			8.72
INSTANTANEOUS LOW FLOW			3.2
ANNUAL RUNOFF (CFSM)	1.31		1.58
ANNUAL RUNOFF (INCHES)	17.86		21.42
10 PERCENT EXCEEDS	112	259	151
50 PERCENT EXCEEDS	57	78	69
90 PERCENT EXCEEDS	40	40	35

^a Also Feb. 12-13, Sept. 19-21.

^b From rating curve extended above 560 ft³/s on basis of slope-area measurement of peak flow.

^c Estimated.

PENNS CREEK BASIN

01555000 PENNS CREEK AT PENNS CREEK, PA

LOCATION.--Lat 40°52'00", long 77°02'55", Union County, Hydrologic Unit 02050301, on left bank 200 ft downstream from bridge on State Highway 104, 0.8 mi northeast of Penns Creek, and 2.9 mi upstream from Sweitzers Run.

DRAINAGE AREA.--301 mi².

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1965, published as Penn Creek at Penns Creek.

REVISED RECORDS.--WSP 891: 1934(M). WSP 1502: 1933(M), 1934, 1936(M). WDR PA-72-1: 1933-34(M), 1936(M), 1940(M), 1951(M). WDR PA-79-2: 1978.

GAGE.--Water-stage recorder. Datum of gage is 506.72 ft above sea level. Prior to Feb. 1, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges and Aug. 21 to Sept. 30, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	86	474	1200	e330	e120	7460	1470	256	128	89	81
2	113	94	446	1160	e310	e110	7210	1230	232	172	84	104
3	108	505	420	1010	e300	e150	5480	1060	218	225	88	89
4	101	404	392	901	e300	269	3770	928	212	165	81	153
5	96	284	378	1390	314	548	2760	1150	207	153	76	192
6	90	283	354	1290	306	587	2160	1210	201	140	72	128
7	89	260	334	1080	268	497	1760	912	191	123	77	104
8	86	238	320	979	e250	475	1500	808	195	114	73	95
9	129	222	303	870	e240	581	1300	739	292	109	70	91
10	160	214	298	770	e230	600	1890	678	312	100	69	88
11	148	212	406	698	e230	536	3010	633	225	98	104	82
12	129	245	603	668	e240	474	2210	585	193	94	112	77
13	115	1010	499	843	e230	465	1770	545	178	93	128	74
14	123	697	423	886	e220	404	1470	506	170	89	102	71
15	133	553	381	725	e210	e360	1270	474	163	100	84	70
16	131	481	368	680	e210	e340	2660	445	158	94	77	69
17	115	439	688	650	e210	e360	4840	419	151	85	92	72
18	106	419	1080	600	e200	e350	3210	400	146	83	e130	77
19	109	381	865	e500	e170	e300	2330	401	146	81	e110	78
20	107	349	876	e470	e160	e280	1840	390	193	86	e90	72
21	104	352	942	e450	e150	e270	2020	359	193	84	116	70
22	103	487	844	555	e180	e270	2550	338	173	78	113	70
23	99	785	789	606	e180	541	2330	320	146	75	91	70
24	98	666	738	548	e170	1100	2300	311	133	72	81	71
25	104	703	623	544	e160	1510	2030	297	127	71	82	72
26	101	664	581	481	e150	1950	2850	279	123	71	85	100
27	97	618	516	456	e140	2470	4500	265	120	71	78	151
28	93	574	e480	446	e130	4250	3070	253	118	71	70	411
29	90	537	e460	431	---	5770	2290	246	119	125	67	249
30	90	502	e450	390	---	6500	1810	237	158	151	65	192
31	89	---	652	e370	---	6360	---	233	---	103	64	---
TOTAL	3376	13264	16983	22647	6188	38797	85650	18121	5449	3304	2720	3323
MEAN	109	442	548	731	221	1252	2855	585	182	107	87.7	111
MAX	160	1010	1080	1390	330	6500	7460	1470	312	225	130	411
MIN	86	86	298	370	130	110	1270	233	118	71	64	69
CFSM	.36	1.47	1.82	2.43	.73	4.16	9.49	1.94	.60	.35	.29	.37
IN.	.42	1.64	2.10	2.80	.76	4.79	10.59	2.24	.67	.41	.34	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	MEAN	215	352	437	422	522	897	891	625	401	197	151	151
MAX	1355	1567	1352	1155	1697	3093	2855	1793	2845	759	684	1295	
(WY)	1991	1978	1951	1978	1984	1936	1993	1978	1972	1989	1984	1979	
MIN	35.9	34.1	47.9	76.0	108	195	330	179	107	57.2	37.0	36.4	
(WY)	1931	1931	1931	1981	1940	1931	1946	1941	1962	1962	1966	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1930 - 1993

ANNUAL TOTAL	128354	219822	438	
ANNUAL MEAN	351	602	878	1978
HIGHEST ANNUAL MEAN			205	1965
LOWEST ANNUAL MEAN			24600	Jun 23 1972
HIGHEST DAILY MEAN	3170	Mar 27	7460	Apr 1
LOWEST DAILY MEAN	77	Sep 21	64	Aug 31
ANNUAL SEVEN-DAY MINIMUM	82	Sep 16	72	Sep 19
INSTANTANEOUS PEAK FLOW			7820	Apr 1
INSTANTANEOUS PEAK STAGE			9.37	Apr 1
INSTANTANEOUS LOW FLOW			61	Aug 28
ANNUAL RUNOFF (CFSM)	1.17	2.00	1.45	
ANNUAL RUNOFF (INCHES)	15.86	27.17	19.76	
10 PERCENT EXCEEDS	699	1420	970	
50 PERCENT EXCEEDS	243	250	260	
90 PERCENT EXCEEDS	101	81	67	

a From rating curve extended above 6,800 ft³/s on basis of contracted-opening measurement of peak flow.

b From floodmark in gage.

c Estimated.

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA
(National water-quality assessment station)

LOCATION.--Lat 40°39'48", long 76°41'30", Schuylkill County, Hydrologic Unit 02050301, on left bank at Klingerstown, 400 ft upstream from highway bridge on State Route 4002, and 0.2 mi upstream from Pine Creek.
DRAINAGE AREA.--44.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 520 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Records for October 1, 1992 to April 16, 1993, were furnished by U.S. Department of Agriculture.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	17	77	46	e38	e17	479	115	25	7.4	3.9	3.5
2	20	17	69	39	e36	e19	569	93	15	17	3.2	3.3
3	17	109	61	35	e47	e43	429	78	14	20	3.0	8.0
4	15	113	52	35	e40	202	303	69	13	13	2.8	91
5	13	91	50	118	e43	481	216	137	13	10	2.7	42
6	12	87	43	135	e33	256	162	218	13	7.9	2.8	24
7	11	68	41	113	e31	174	127	168	10	7.2	4.3	16
8	11	61	37	97	e37	214	105	128	11	6.1	3.4	14
9	48	54	34	81	e36	264	89	103	26	5.1	2.5	13
10	205	49	35	70	e35	215	288	86	22	4.9	2.0	16
11	114	47	132	63	e28	153	816	75	13	4.5	24	11
12	79	55	182	61	e23	114	397	67	11	4.2	37	7.9
13	57	619	154	92	e26	97	242	59	10	3.5	33	7.0
14	47	279	120	132	e33	111	175	51	9.6	9.2	15	6.1
15	44	168	98	133	e28	117	137	46	8.5	46	9.0	7.7
16	36	120	85	113	e26	90	263	41	8.3	11	6.7	19
17	33	96	134	100	e31	146	628	36	7.5	7.0	7.9	17
18	28	80	183	80	e28	229	370	34	6.7	5.5	9.7	15
19	32	66	169	67	e26	155	237	34	6.7	5.4	6.4	13
20	32	55	155	e58	e24	118	173	31	11	6.3	9.1	10
21	28	55	120	e56	e22	107	178	28	13	4.9	22	9.2
22	25	118	105	e58	e29	116	428	25	14	4.0	9.6	8.9
23	24	481	95	e54	e25	157	383	23	7.7	3.2	6.8	8.4
24	25	294	83	e52	e22	628	258	22	6.0	2.8	5.9	9.7
25	29	205	e70	e58	e20	513	188	20	5.6	2.8	5.4	8.6
26	24	157	e64	e52	e18	497	268	18	10	3.1	4.8	29
27	22	134	e60	e48	e17	526	331	16	27	3.6	4.4	40
28	20	117	e54	e45	e16	567	241	15	13	2.6	4.0	66
29	19	102	54	e41	---	484	182	17	10	17	4.3	49
30	18	87	49	e37	---	384	143	14	8.8	6.4	3.9	36
31	18	---	49	e39	---	294	---	17	---	4.7	3.3	---
TOTAL	1129	4001	2714	2208	818	7488	8805	1884	369.4	256.3	262.8	609.3
MEAN	36.4	133	87.5	71.2	29.2	242	293	60.8	12.3	8.27	8.48	20.3
MAX	205	619	183	135	47	628	816	218	27	46	37	91
MIN	11	17	34	35	16	17	89	14	5.6	2.6	2.0	3.3
CFSM	.81	2.98	1.96	1.59	.65	5.40	6.57	1.36	.28	.18	.19	.45
IN.	.94	3.33	2.26	1.84	.68	6.23	7.33	1.57	.31	.21	.22	.51

SUMMARY STATISTICS

FOR 1993 WATER YEAR

ANNUAL TOTAL	30544.8	
ANNUAL MEAN	83.7	
HIGHEST DAILY MEAN	816	Apr 11
LOWEST DAILY MEAN	2.0	Aug 10
ANNUAL SEVEN-DAY MINIMUM	2.9	Aug 4
INSTANTANEOUS PEAK FLOW	1090	Apr 11
INSTANTANEOUS PEAK STAGE	4.56	Apr 11
INSTANTANEOUS LOW FLOW	1.9	Jul 28, Aug 10
ANNUAL RUNOFF (CFSM)	1.87	
ANNUAL RUNOFF (INCHES)	25.42	
10 PERCENT EXCEEDS	215	
50 PERCENT EXCEEDS	36	
90 PERCENT EXCEEDS	5.8	

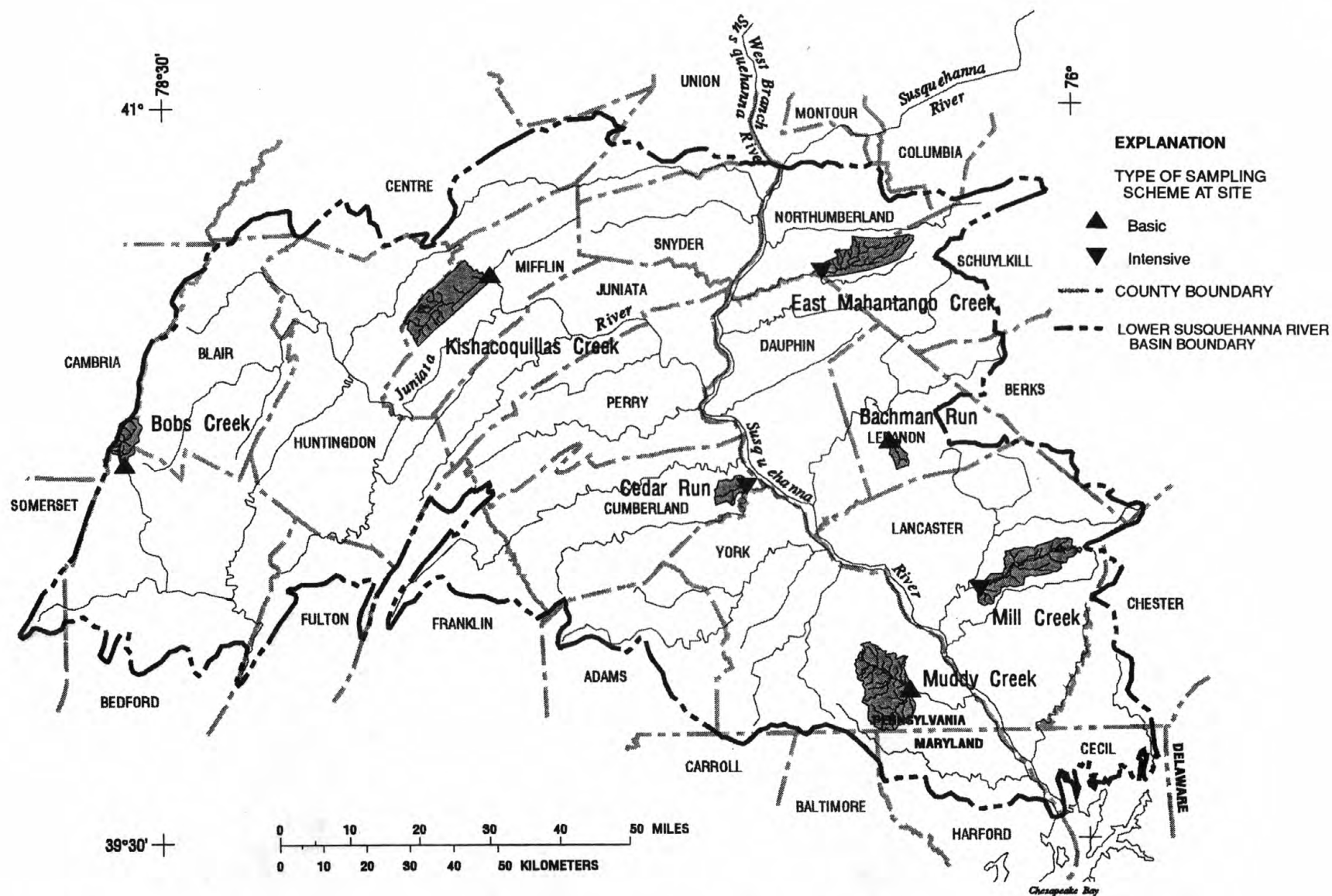


Figure 10. Location of fixed-station network drainage basins monitored by the Lower Susquehanna River NAWQA program.

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to current year.

TEMPERATURE: April 1993 to current year.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--Interruptions in the daily record were due to malfunctions of the equipment. All water-quality samples collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122. For a complete list of pesticides analyzed and their corresponding reporting levels, see tables 3, 4, pages 126-127.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED OF (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
MAR										
30...	0955	453	100	7.1	12.5	7.5	742	11.3	97	35
APR										
08...	0900	100	114	7.2	6.0	7.0	752	11.4	95	41
13...	0945	258	126	7.1	9.0	7.0	748	11.2	94	47
20...	0950	182	119	7.1	19.0	10.5	745	9.8	90	42
27...	0945	342	139	6.5	6.5	7.0	756	11.2	93	51
MAY										
04...	1110	69	111	7.5	18.0	14.5	761	10.1	99	40
11...	1000	75	115	7.4	26.0	17.0	761	9.8	102	41
18...	0955	34	113	7.8	18.0	13.0	761	10.7	102	39
25...	0935	20	118	8.3	20.5	17.0	747	10.4	110	42
JUN										
01...	1000	25	128	7.6	19.5	14.5	744	9.7	98	46
08...	1000	10	125	7.5	21.5	18.0	748	8.2	88	46
15...	0855	8.5	137	7.5	22.0	19.5	749	8.1	90	47
22...	0900	15	132	7.5	20.5	20.5	743	7.8	89	49
29...	0905	10	168	7.5	23.0	22.0	747	7.3	85	61
JUL										
02...	1150	11	144	7.6	18.5	19.5	749	7.2	80	51
06...	0945	8.0	161	7.6	26.0	24.0	750	7.3	88	55
13...	0930	3.8	180	7.9	27.0	24.5	749	7.6	93	54
20...	0945	6.6	165	7.5	27.0	22.5	746	7.7	91	61
27...	0940	3.8	150	7.9	27.5	23.0	745	7.8	93	57
AUG										
03...	0930	3.3	158	7.7	23.5	21.5	749	8.5	98	60
17...	0950	7.0	170	7.9	25.5	22.0	749	8.4	98	60
31...	0940	3.3	158	7.9	26.0	23.0	756	7.8	92	58
SEP										
14...	1030	6.2	173	7.9	22.5	18.5	756	9.3	100	64
28...	0940	69	193	7.5	12.0	13.0	748	9.6	93	73

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)
MAR 30...	28	8.3	3.5	2.6	13	0.2	1.6	9.3	0	7.6
APR 08...	31	9.5	4.2	3.0	13	0.2	1.5	12	0	10
13...	38	11	4.8	3.1	12	0.2	1.5	11	0	9.2
20...	32	9.6	4.3	3.1	13	0.2	1.4	11	0	9.4
27...	38	12	5.2	2.8	10	0.2	1.6	17	0	14
MAY 04...	30	9.3	4.1	3.1	14	0.2	1.3	12	0	10
11...	29	9.5	4.2	3.1	14	0.2	1.4	15	0	12
18...	27	9.2	4.0	3.2	14	0.2	1.3	15	0	13
25...	23	10	4.1	3.3	14	0.2	1.5	22	0	18
JUN 01...	24	11	4.5	3.7	14	0.2	2.2	26	0	22
08...	23	11	4.5	3.9	15	0.3	1.7	28	0	23
15...	20	11	4.7	4.3	16	0.3	2.0	33	0	27
22...	21	12	4.6	4.3	15	0.3	2.3	34	0	28
29...	33	15	5.7	4.9	14	0.3	2.8	34	0	28
JUL 02...	21	12	5.0	4.8	16	0.3	2.3	37	0	30
06...	22	13	5.4	4.8	15	0.3	2.6	40	0	33
13...	17	13	5.2	5.5	17	0.3	2.5	46	0	37
20...	30	15	5.6	5.4	15	0.3	3.1	37	0	30
27...	16	14	5.4	5.2	16	0.3	2.5	50	0	41
AUG 03...	20	15	5.4	5.2	15	0.3	3.4	48	0	39
17...	25	15	5.5	6.3	18	0.4	3.3	43	0	36
31...	30	14	5.5	5.8	17	0.3	3.0	34	0	28
SEP 14...	27	16	5.9	5.5	15	0.3	2.9	46	0	38
28...	43	18	6.7	5.7	14	0.3	3.7	36	0	30

DATE	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS NO3) (71851)
MAR 30...	13	5.8	<0.10	5.1	65	64	0.09	79.5	--	--
APR 08...	13	6.9	<0.10	5.3	79	72	0.11	21.3	4.99	22
13...	15	7.2	<0.10	5.6	93	81	0.13	64.8	--	--
20...	14	6.4	<0.10	5.2	81	73	0.11	39.8	5.19	23
27...	15	6.7	<0.10	5.5	100	86	0.14	92.3	--	--
MAY 04...	12	6.6	0.30	4.8	75	67	0.10	14.0	--	--
11...	13	6.4	0.20	4.5	63	69	0.09	12.8	4.49	20
18...	10	6.6	<0.10	1.7	71	60	0.10	6.52	3.79	17
25...	10	7.1	<0.10	0.33	68	63	0.09	3.67	3.48	15
JUN 01...	11	7.4	<0.10	1.8	70	71	0.09	4.73	3.66	16
08...	11	7.5	<0.10	1.7	73	70	0.10	2.01	3.27	14
15...	11	8.5	<0.10	1.4	81	74	0.11	1.86	3.38	15
22...	11	7.7	0.10	3.2	81	75	0.11	3.28	2.88	13
29...	14	9.6	<0.10	3.6	117	94	0.16	3.22	4.88	22
JUL 02...	11	8.1	<0.10	2.2	86	79	0.12	2.55	3.49	15
06...	12	9.5	0.10	3.2	99	89	0.13	2.14	4.08	18
13...	11	9.3	<0.10	2.4	93	80	0.13	0.95	1.89	8.4
20...	13	9.9	0.10	3.1	95	90	0.13	1.69	--	--
27...	11	9.2	<0.10	1.1	89	82	0.12	0.91	--	--
AUG 03...	13	9.4	<0.10	1.2	92	85	0.13	0.82	--	--
17...	14	9.8	<0.10	3.6	99	95	0.13	1.87	--	--
31...	11	9.6	0.10	1.2	91	73	0.12	0.81	1.29	5.7
SEP 14...	14	11	0.10	3.0	101	97	0.14	1.69	--	--
28...	17	10	<0.10	7.2	110	112	0.15	20.5	5.88	26

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR										
30...	<0.010	--	4.40	0.05	0.06	--	0.40	<0.20	--	0.080
APR										
08...	0.010	0.03	5.00	0.02	0.03	--	<0.20	<0.20	--	0.020
13...	<0.010	--	6.20	0.02	0.03	0.18	0.30	0.20	6.4	0.050
20...	0.010	0.03	5.20	0.03	0.04	0.17	<0.20	0.20	5.4	0.020
27...	<0.010	--	6.60	0.04	0.05	0.16	0.40	0.20	6.8	0.060
MAY										
04...	<0.010	--	4.30	0.01	0.01	0.39	0.30	0.40	4.7	0.010
11...	0.010	0.03	4.50	0.02	0.03	--	0.20	<0.20	--	0.020
18...	0.010	0.03	3.80	0.03	0.04	--	0.30	<0.20	--	<0.010
25...	0.020	0.07	3.50	0.02	0.03	--	0.30	<0.20	--	<0.010
JUN										
01...	0.040	0.13	3.70	0.08	0.10	0.32	0.60	0.40	4.1	0.040
08...	0.030	0.10	3.30	0.04	0.05	0.36	0.40	0.40	3.7	0.020
15...	0.020	0.07	3.40	0.04	0.05	0.16	0.30	0.20	3.6	0.030
22...	0.020	0.07	2.90	0.05	0.06	0.25	0.30	0.30	3.2	0.060
29...	0.020	0.07	4.90	0.06	0.08	0.24	0.30	0.30	5.2	0.020
JUL										
02...	0.010	0.03	3.50	0.05	0.06	0.25	0.30	0.30	3.8	0.020
06...	0.020	0.07	4.10	0.04	0.05	0.26	0.20	0.30	4.4	0.030
13...	0.010	0.03	1.90	0.04	0.05	0.26	0.40	0.30	2.2	0.060
20...	<0.010	--	3.80	0.03	0.03	--	0.30	--	--	0.060
27...	<0.010	--	2.00	0.03	0.04	0.27	0.40	0.30	2.3	0.040
AUG										
03...	<0.010	--	1.90	0.04	0.05	0.26	1.4	0.30	2.2	0.050
17...	<0.010	--	3.60	0.04	0.05	0.36	0.30	0.40	4.0	0.060
31...	0.010	0.03	1.30	0.04	0.05	0.26	0.30	0.30	1.6	0.050
SEP										
14...	<0.010	--	3.50	0.02	0.03	0.18	0.30	0.20	3.7	0.030
28...	0.020	0.07	5.90	0.03	0.04	0.37	0.40	0.40	6.3	0.110
DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDEED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR										
30...	0.020	0.030	0.09	36	18	3.3	0.3	96	117	73
APR										
08...	0.020	0.010	0.03	29	16	12	0.3	15	4.1	96
13...	<0.010	0.020	0.06	19	17	2.7	0.1	42	29	83
20...	0.030	0.020	0.06	16	12	2.1	0.8	22	11	93
27...	0.020	0.020	0.06	22	19	33	0.9	40	37	77
MAY										
04...	0.010	<0.010	--	16	10	24	0.3	9	1.7	86
11...	0.010	<0.010	--	20	11	2.0	0.1	10	2.0	93
18...	<0.010	<0.010	--	20	8	5.7	0.3	10	0.92	72
25...	<0.010	<0.010	--	19	6	11	0.3	3	0.16	100
JUN										
01...	0.010	<0.010	--	46	11	19	0.8	15	1.0	92
08...	0.040	<0.010	--	24	14	6.0	0.3	5	0.14	77
15...	0.030	0.010	0.03	33	18	3.9	0.4	5	0.11	100
22...	0.040	0.030	0.09	44	18	48	0.5	11	0.45	96
29...	0.030	0.040	0.12	28	18	44	0.4	8	0.22	100
JUL										
02...	0.040	0.030	0.09	38	24	2.6	0.4	10	0.30	100
06...	0.030	0.020	0.06	32	17	25	0.3	9	0.19	97
13...	0.040	0.030	0.09	31	18	2.8	0.4	4	0.04	89
20...	0.040	0.030	0.09	31	16	6.2	0.5	11	0.20	98
27...	0.010	0.020	0.06	37	15	2.8	0.4	7	0.07	100
AUG										
03...	0.020	0.030	0.09	32	15	7.2	0.3	6	0.05	100
17...	0.040	0.040	0.12	32	14	2.8	0.4	7	0.13	93
31...	0.030	0.030	0.09	41	17	2.9	0.3	7	0.06	81
SEP										
14...	0.020	0.030	0.09	32	8	6.4	0.3	3	0.05	93
28...	0.060	0.050	0.15	48	10	35	1.1	25	4.7	97

WATER RESOURCES DATA - PENNSYLVANIA, 1993

NATIONAL WATER QUALITY ASSESSMENT PROGRAM (NAWQA)

TABLE 3.--PESTICIDE SCHEDULE A.

REMARKS.--Water samples from the three intensive fixed sites (figure 10) were analyzed for two schedules of pesticides (schedules A and B). The table below lists the 47 pesticides on this schedule, the unit of measure (micrograms per liter, $\mu\text{G/L}$), the U.S. Geological Survey National Water Information System parameter code, and the reporting level. Pesticide schedule A includes selected pesticides and metabolites that are efficiently partitioned from a water sample by solid-phase extraction and are sufficiently volatile and thermally stable for analysis by gas chromatography. Water samples are filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Each sample was analyzed for all of the compounds in this schedule. Only pesticide compounds measured at or above the reporting level are listed in the water-quality data tables.

ALACHLOR ($\mu\text{G/L}$) (46342)	ALPHA BHC ($\mu\text{G/L}$) (34253)	ATRAZINE ($\mu\text{G/L}$) (39632)	BENFLURALIN ($\mu\text{G/L}$) (82673)	BUTYLATE ($\mu\text{G/L}$) (04028)	CARBARYL ($\mu\text{G/L}$) (82680)
<0.013	<0.010	<0.017	<0.013	<0.008	<0.050
CARBOFURAN ($\mu\text{G/L}$) (82674)	CHLOR- PYRIFOS ($\mu\text{G/L}$) (38933)	CYANAZINE ($\mu\text{G/L}$) (04041)	DCPA ($\mu\text{G/L}$) (82682)	DESETHYL ATRAZINE ($\mu\text{G/L}$) (04040)	DIAZINON ($\mu\text{G/L}$) (39572)
<0.019	<0.007	<0.019	<0.005	<0.02	<0.012
DIELDRIN ($\mu\text{G/L}$) (39381)	DIETHYL- ANALINE-2,6 ($\mu\text{G/L}$) (82660)	DIMETHOATE ($\mu\text{G/L}$) (82662)	DISULFOTON ($\mu\text{G/L}$) (82677)	EPTC ($\mu\text{G/L}$) (82668)	ETHAL- FLURALIN ($\mu\text{G/L}$) (82663)
<0.02	<0.009	<0.035	<0.02	<0.01	<0.019
ETHOPROP ($\mu\text{G/L}$) (82672)	FONOFOS ($\mu\text{G/L}$) (04095)	LINDANE ($\mu\text{G/L}$) (39341)	LINURON ($\mu\text{G/L}$) (82666)	MALATHION ($\mu\text{G/L}$) (39532)	METHYL AZINPHOS ($\mu\text{G/L}$) (82686)
<0.017	<0.012	<0.039	<0.039	<0.014	<0.055
METHYL PARATHION ($\mu\text{G/L}$) (82667)	METOLACHLOR ($\mu\text{G/L}$) (39415)	METRIBUZIN ($\mu\text{G/L}$) (82630)	MOLINATE ($\mu\text{G/L}$) (82671)	NAPROP- AMIDE ($\mu\text{G/L}$) (82684)	P, P-DDE ($\mu\text{G/L}$) (34653)
<0.051	<0.009	<0.012	<0.010	<0.01	<0.02
PARATHION ($\mu\text{G/L}$) (39542)	PEBULATE ($\mu\text{G/L}$) (82669)	PENDI- METHALIN ($\mu\text{G/L}$) (82683)	PERMETHRIN- CIS ($\mu\text{G/L}$) (82687)	PHORATE ($\mu\text{G/L}$) (82664)	PROMETON ($\mu\text{G/L}$) (04037)
<0.032	<0.010	<0.026	<0.023	<0.02	<0.010
PRONAMIDE ($\mu\text{G/L}$) (82676)	PROPACHLOR ($\mu\text{G/L}$) (04024)	PROPANIL ($\mu\text{G/L}$) (82679)	PROPARGITE ($\mu\text{G/L}$) (82685)	SIMAZINE ($\mu\text{G/L}$) (04035)	TEBUTHIURON ($\mu\text{G/L}$) (82670)
<0.013	<0.022	<0.023	<0.01	<0.010	<0.022
TERBACIL ($\mu\text{G/L}$) (82665)	TERBUFOS ($\mu\text{G/L}$) (82675)	THIOBENCARB ($\mu\text{G/L}$) (82681)	* TRIALLATE ($\mu\text{G/L}$) (82678)	TRIFLURALIN ($\mu\text{G/L}$) (82661)	
<0.03	<0.017	<0.012	<0.008	<0.017	

WATER RESOURCES DATA - PENNSYLVANIA, 1993

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NATIONAL WATER QUALITY ASSESSMENT PROGRAM (NAWQA)

TABLE 4.--PESTICIDE SCHEDULE B.

REMARKS.--Water samples from the three intensive fixed sites (figure 10) were analyzed for two schedules of pesticides (schedules A and B). Pesticide schedule B includes chlorophenoxy-acid herbicides, carbamate pesticides, and selected other pesticides and herbicides that are efficiently partitioned from a water sample by solid-phase extraction for analysis by high-performance liquid chromatography. Water samples are filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Results for schedule B were not available at the time of publication of this volume.

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ALA- CHLOR, WATER, DISS, REC, (μG/L) (46342)	ATRA- ZINE, WATER, DISS, REC (μG/L) (39632)	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)	DCPA WATER FLTRD 0.7 μ GF, REC (μG/L) (82682)	DESETHYL ATRA- ZINE, WATER, DISS, REC (μG/L) (04040)	
MAR											
30...	0955	453	0.029	0.073	<0.050	0.027	<0.007	<0.019	<0.005	0.020	
APR											
08...	0900	100	0.017	0.060	<0.050	<0.019	<0.007	<0.019	<0.005	0.029	
13...	0945	258	0.025	0.070	<0.050	<0.019	<0.007	<0.019	<0.005	0.031	
20...	0950	182	0.023	0.065	<0.050	<0.019	<0.007	<0.019	<0.005	0.024	
27...	0945	342	0.022	0.083	<0.050	<0.019	<0.007	<0.019	0.018	0.051	
MAY											
04...	1110	69	<0.013	0.054	<0.050	<0.019	<0.007	<0.019	<0.005	0.020	
11...	1000	75	0.018	0.081	<0.050	<0.019	<0.007	<0.019	0.024	0.021	
18...	0955	34	<0.013	0.180	<0.050	<0.019	<0.007	<0.019	<0.005	0.053	
25...	0935	20	0.022	0.093	<0.050	<0.019	0.030	0.030	0.006	0.024	
JUN											
01...	1000	25	<0.013	0.130	<0.050	<0.019	<0.007	<0.019	<0.005	0.033	
08...	1000	10	0.023	0.170	<0.050	<0.019	<0.007	0.082	0.012	0.045	
15...	0855	8.5	0.030	0.560	<0.050	<0.019	0.013	0.170	0.140	0.076	
22...	0900	15	0.078	0.750	0.230	0.043	<0.007	0.390	0.037	0.089	
29...	0905	10	0.057	0.900	<0.050	0.077	0.038	0.740	0.055	0.170	
JUL											
02...	1150	11	0.020	0.420	<0.050	<0.019	0.010	0.140	0.020	0.073	
06...	0945	8.0	0.055	0.760	<0.050	<0.019	0.009	0.150	0.037	0.094	
13...	0930	3.8	0.015	0.290	<0.050	<0.019	<0.007	0.030	0.009	0.071	
20...	0945	6.6	0.037	0.410	<0.050	0.075	0.007	0.067	0.052	0.079	
27...	0940	3.8	<0.013	0.210	<0.050	0.036	<0.007	0.078	0.011	0.088	
AUG											
03...	0930	3.3	0.029	0.340	<0.050	0.480	<0.007	0.700	0.019	0.089	
17...	0950	7.0	<0.013	0.250	0.099	0.060	<0.007	0.630	0.023	0.073	
31...	0940	3.3	<0.013	0.120	<0.050	<0.019	<0.007	0.180	<0.005	0.035	
SEP											
14...	1030	6.2	<0.013	0.100	<0.050	<0.019	<0.007	0.085	<0.005	0.040	
28...	0940	69	0.025	0.190	<0.050	<0.019	0.011	0.310	<0.005	0.067	
DATE		LIN- URON WATER FLTRD 0.7 μ GF, REC (μG/L) (82666)	MALA- THION, DIS- SOLVED (μG/L) (39532)	METO- LACHLOR WATER DISSOLV (μG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (μG/L) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 μ GF, REC (μG/L) (82684)	PEB- ULATE WATER FILTRD 0.7 μ GF, REC (μG/L) (82669)	PRO- METON, WATER, DISS, REC (μG/L) (04037)	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)
MAR											
30...		<0.039	<0.014	0.083	<0.012	<0.01	<0.010	<0.010	0.015	<0.022	<0.03
APR											
08...		<0.039	<0.014	0.062	<0.012	<0.01	<0.010	<0.010	0.014	<0.022	<0.03
13...		<0.039	<0.014	0.069	<0.012	<0.01	<0.010	<0.010	0.013	<0.022	<0.03
20...		<0.039	<0.014	0.065	<0.012	<0.01	<0.010	<0.010	0.013	<0.022	<0.03
27...		<0.039	<0.014	0.081	<0.012	<0.01	<0.010	<0.010	0.016	<0.022	<0.03
MAY											
04...		<0.039	<0.014	0.042	<0.012	<0.01	<0.010	<0.010	<0.010	<0.022	<0.03
11...		<0.039	<0.014	0.100	<0.012	0.01	0.053	<0.010	0.010	<0.022	<0.03
18...		<0.039	<0.014	0.042	<0.012	<0.01	<0.010	0.180	0.052	0.022	<0.03
25...		<0.039	<0.014	0.073	<0.012	<0.01	<0.010	<0.010	0.013	<0.022	<0.03
JUN											
01...		<0.039	<0.014	0.028	<0.012	<0.01	<0.010	0.081	0.035	<0.022	<0.03
08...		<0.039	<0.014	0.190	<0.012	<0.01	<0.010	<0.010	0.013	<0.022	<0.03
15...		<0.039	<0.014	0.280	<0.012	<0.01	<0.010	<0.010	0.026	<0.022	<0.03
22...		0.064	<0.014	1.10	<0.012	<0.01	<0.010	<0.010	0.025	<0.022	<0.03
29...		<0.039	<0.014	1.20	<0.012	<0.01	<0.010	<0.010	0.054	<0.022	<0.03
JUL											
02...		<0.039	<0.014	0.370	<0.012	<0.01	<0.010	<0.010	0.035	0.064	<0.03
06...		<0.039	<0.014	0.710	<0.012	<0.01	<0.010	<0.010	0.044	<0.022	<0.03
13...		<0.039	<0.014	0.180	<0.012	<0.01	<0.010	<0.010	0.018	<0.022	<0.03
20...		<0.039	<0.014	0.590	<0.012	<0.01	<0.010	<0.010	0.075	<0.022	<0.03
27...		<0.039	<0.014	0.200	<0.012	<0.01	<0.010	0.013	0.027	<0.022	<0.03
AUG											
03...		<0.039	<0.014	0.860	0.017	<0.01	<0.010	0.018	0.046	<0.022	0.21
17...		<0.039	<0.014	0.900	<0.012	<0.01	<0.010	<0.010	0.600	<0.022	<0.03
31...		<0.039	<0.014	0.200	<0.012	<0.01	<0.010	<0.010	0.067	<0.022	<0.03
SEP											
14...		<0.039	<0.014	0.260	<0.012	<0.01	<0.010	<0.010	0.018	<0.022	<0.03
28...		<0.039	0.022	0.610	<0.012	<0.01	<0.010	0.011	0.019	<0.022	<0.03

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- IFIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS06	07-07-93	0925	.69	162	8.1	24.0	30	4.5	295	306	11
	07-07-93	1030	.09	160	8.1	25.0	2	.2	1620	1720	100

EAST MAHANTANGO CREEK BASIN

01555500 EAST MAHANTANGO CREEK NEAR DALMATIA, PA

LOCATION.--Lat 40°36'40", long 76°54'44", Northumberland County, Hydrologic Unit 02050301, on right bank at bridge on SR 3017, 2.0 mi upstream from mouth, and 3.2 mi south of Dalmatia.

DRAINAGE AREA.--162 mi².

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1945, published as Mahantango Creek East near Dalmatia.

REVISED RECORDS.--WSP 891: 1933(M). WSP 1302: 1930(M), 1938(M).

GAGE--Water-stage recorder. Datum of gage is 401.22 ft above sea level. Oct. 1, 1929, to Feb. 11, 1930, nonrecording gage, and Feb. 12, 1930, to Nov. 18, 1973, water-stage recorder at present site at datum 0.72 ft lower. Nov. 19, 1973, to June 18, 1974, nonrecording gage at site 2 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Intermittent regulation evident during low flows. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	48	257	157	e120	e64	1960	489	104	37	21	15
2	59	48	229	133	e100	e70	2350	402	78	47	19	16
3	55	292	202	121	e110	e100	1800	337	70	85	19	20
4	50	427	175	118	e115	315	1280	291	67	61	16	148
5	45	288	167	297	e120	1620	945	361	65	48	15	116
6	38	257	148	409	e100	997	724	714	64	42	14	65
7	37	199	135	326	e76	666	576	519	60	38	14	47
8	36	168	125	282	e110	732	478	415	56	35	17	40
9	43	146	116	246	e100	883	406	343	79	31	18	39
10	553	128	100	207	e120	773	734	292	107	28	17	40
11	310	120	315	187	e100	579	2970	254	72	25	27	60
12	199	121	583	184	e80	437	1550	229	60	23	139	41
13	144	1980	510	255	e100	374	1020	212	54	22	84	32
14	115	1140	389	454	e120	328	747	190	51	21	80	29
15	111	646	301	415	e100	e310	596	172	45	80	45	26
16	95	446	264	351	e94	292	920	156	46	54	32	37
17	80	339	371	305	e110	387	2430	143	43	36	32	48
18	75	277	646	257	e100	824	1470	132	40	29	46	46
19	73	226	536	211	e94	562	994	139	41	26	37	42
20	81	187	490	e190	e88	447	740	128	47	27	36	34
21	74	173	411	e180	e80	388	702	117	61	27	62	29
22	68	364	339	210	e100	406	1500	108	66	22	50	28
23	64	1600	307	221	e90	516	1480	101	52	19	35	28
24	62	1120	273	187	e80	2050	1030	96	42	16	30	30
25	67	775	e220	228	e72	1870	767	90	38	15	26	32
26	64	583	e200	202	e66	1710	947	85	37	15	24	50
27	58	492	e160	e170	e62	1890	1390	78	82	15	23	103
28	57	408	e200	e150	e58	2070	957	75	60	16	21	145
29	53	346	182	e140	---	1910	739	75	47	22	19	114
30	52	296	165	e130	---	1600	596	74	43	36	18	84
31	50	---	167	e140	---	1260	---	77	---	26	17	---
TOTAL	2938	13640	8683	7063	2665	26430	34798	6894	1777	1024	1053	1584
MEAN	94.8	455	280	228	95.2	853	1160	222	59.2	33.0	34.0	52.8
MAX	553	1980	646	454	120	2070	2970	714	107	85	139	148
MIN	36	48	100	118	58	64	406	74	37	15	14	15
CFSM	.59	2.81	1.73	1.41	.59	5.26	7.16	1.37	.37	.20	.21	.33
IN.	.67	3.13	1.99	1.62	.61	6.07	7.99	1.58	.41	.24	.24	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

MEAN	121	205	280	257	303	419	368	284	179	100	77.2	96.9
MAX	1025	553	822	1038	831	1212	1160	986	2361	504	585	1112
(WY)	1977	1951	1951	1979	1981	1936	1993	1989	1972	1947	1933	1975
MIN	5.14	8.65	14.0	12.4	54.3	111	126	67.5	29.7	13.5	9.36	3.98
(WY)	1931	1931	1931	1981	1934	1931	1965	1941	1965	1965	1957	1932

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1930 - 1993
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ANNUAL TOTAL	74799		108549			
ANNUAL MEAN	204		297		224	
HIGHEST ANNUAL MEAN					454	1972
LOWEST ANNUAL MEAN					70.7	1931
HIGHEST DAILY MEAN	3350	Mar 27	2970	Apr 11	39000	Jun 22 1972
LOWEST DAILY MEAN	18	Sep 3	14	Aug 6,7	1.5	Sep 21 1932
ANNUAL SEVEN-DAY MINIMUM	23	Aug 22	16	Aug 4	1.7	Sep 16 1932
INSTANTANEOUS PEAK FLOW			3610	Apr 11	a69900	Jun 22 1972
INSTANTANEOUS PEAK STAGE			7.58	Apr 11	b26.62	Jun 22 1972
INSTANTANEOUS LOW FLOW			13	Aug 6	1.3	Oct 7 1957c
ANNUAL RUNOFF (CFSM)	1.26		1.84		1.38	
ANNUAL RUNOFF (INCHES)	17.18		24.93		18.77	
10 PERCENT EXCEEDS	448		769		488	
50 PERCENT EXCEEDS	110		114		119	
90 PERCENT EXCEEDS	33		27		23	

a From rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

c Also Nov. 3, 1964.

c ALSO NOV.
e Estimated.

JUNIATA RIVER BASIN

01556000 FRANKSTOWN BRANCH JUNIATA RIVER AT WILLIAMSBURG, PA

LOCATION.--Lat 40°27'47", long 78°12'00", Blair County, Hydrologic Unit 02050302, on left bank 10 ft downstream from highway bridge on SR 2015 at Williamsburg, and 2.5 mi upstream from Clover Creek.

DRAINAGE AREA.--291 mi².

PERIOD OF RECORD.--October 1916 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WDR PA-71-1: 1954(M), 1960(M), 1961(M). WDR PA-77-2: 1936-39(M)

GAGE.--Water-stage recorder. Datum of gage is 831.78 ft above sea level (Penn Central Railroad bench mark). Prior to Aug. 14, 1928, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation at low flow by mill above station. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 19.1 ft, from floodmark, discharge, about 35,500 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	73	154	2750	305	e130	4640	926	244	130	99	79
2	83	94	142	1410	220	e150	4090	767	184	575	94	74
3	81	596	138	943	236	e250	2710	648	172	394	93	91
4	79	192	135	750	233	781	1810	581	170	207	87	148
5	78	140	153	1000	e190	1170	1340	666	164	164	85	103
6	75	158	140	782	e180	767	1080	579	156	144	82	83
7	74	126	130	651	e180	609	921	474	147	134	86	76
8	75	116	125	572	192	879	831	424	187	126	83	77
9	78	103	115	494	185	1350	785	394	792	119	79	78
10	81	97	107	428	190	1020	1710	369	408	112	78	78
11	80	93	188	396	191	774	1720	371	286	108	273	76
12	81	99	359	411	189	613	1310	341	241	104	231	71
13	77	387	276	e600	196	551	1040	375	211	103	122	70
14	76	202	229	e840	185	408	861	321	188	99	105	69
15	86	163	208	e720	180	e350	755	294	171	104	94	68
16	79	148	202	e600	182	e280	5270	271	161	e110	91	69
17	76	134	749	e520	192	e400	6560	255	151	e100	88	72
18	73	127	1110	e450	178	e560	2720	259	143	e94	87	85
19	74	117	692	e400	140	498	1700	382	153	e92	83	75
20	74	110	835	323	167	e400	1260	282	156	99	83	69
21	73	112	868	e320	e140	e330	2030	252	173	93	83	70
22	72	223	629	e300	e125	e500	3280	228	157	88	79	144
23	73	308	595	e270	e180	e700	2380	213	134	85	75	87
24	72	231	639	e260	164	2760	1710	208	122	84	75	87
25	73	343	442	e240	148	2710	1350	202	117	83	77	85
26	71	283	e330	e230	e145	3060	3050	188	113	86	74	240
27	71	240	e270	e210	e140	3440	4130	181	113	93	72	627
28	69	206	e250	e200	e135	4570	2150	174	109	88	71	363
29	70	183	e230	e190	---	5390	1490	184	107	198	70	171
30	70	165	e270	e230	---	4890	1150	171	108	132	71	166
31	72	---	2300	e300	---	4260	---	190	---	107	89	---
TOTAL	2351	5569	13010	17790	5088	44550	65833	11170	5738	4255	2959	3651
MEAN	75.8	186	420	574	182	1437	2194	360	191	137	95.5	122
MAX	86	596	2300	2750	305	5390	6560	926	792	575	273	627
MIN	69	73	107	190	125	130	755	171	107	83	70	68
CFSM	.26	.64	1.44	1.97	.62	4.94	7.54	1.24	.66	.47	.33	.42
IN.	.30	.71	1.66	2.27	.65	5.70	8.42	1.43	.73	.54	.38	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1993, BY WATER YEAR (WY)

MEAN	182	263	370	415	548	892	775	522	306	185	142	134
MAX	969	937	1268	1446	1340	3561	2194	1314	1743	824	738	648
(WY)	1977	1986	1973	1937	1971	1936	1993	1924	1972	1989	1956	1945
MIN	45.9	48.0	52.4	61.3	86.0	263	215	127	83.0	49.7	46.9	45.9
(WY)	1931	1931	1931	1918	1934	1990	1925	1934	1965	1965	1966	1932

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1917 - 1993

ANNUAL TOTAL	97247	181964	
ANNUAL MEAN	266	499	394
HIGHEST ANNUAL MEAN			670
LOWEST ANNUAL MEAN			200
HIGHEST DAILY MEAN	2300	Dec 31	6560
LOWEST DAILY MEAN	64	Aug 26	68
ANNUAL SEVEN-DAY MINIMUM	68	Aug 21	71
INSTANTANEOUS PEAK FLOW			9470
INSTANTANEOUS PEAK STAGE			14.08
INSTANTANEOUS LOW FLOW			66
ANNUAL RUNOFF (CFSM)	.91		1.71
ANNUAL RUNOFF (INCHES)	12.43		23.26
10 PERCENT EXCEEDS	595		1130
50 PERCENT EXCEEDS	150		182
90 PERCENT EXCEEDS	78		76

a From rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

c Estimated.

JUNIATA RIVER BASIN

01557500 BALD EAGLE CREEK AT TYRONE, PA

LOCATION.--Lat 40°41'01", long 78°14'02", Blair County, Hydrologic Unit 02050302, on left bank 0.2 mi upstream from plant of West Virginia Pulp and Paper Co. at Tyrone, 0.2 mi upstream from Laurel Run, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi².

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1967, published as South Bald Eagle Creek at Tyrone.

REVISED RECORDS.--WSP 1903: 1954(M). WDR PA-75-2: 1974.

GAGE.--Water-stage recorder. Datum of gage is 921.80 ft above sea level. Oct. 1, 1944, to Nov. 15, 1950, water-stage recorder, and Nov. 16, 1950, to Nov. 30, 1952, nonrecording gage at site 0.5 mi downstream at datum 17.99 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to Nov. 30, 1952, daily discharges were affected by diversion of West Virginia Pulp and Paper Co. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 15 ft, Mar. 17 or 18, 1936, site and datum in use prior to Dec. 1, 1952.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	13	74	575	e32	e45	1120	164	31	12	e8.0	e6.4
2	21	21	69	449	e31	e54	769	131	25	51	e6.8	e5.8
3	20	125	64	264	e30	e60	514	111	23	27	e7.0	14
4	20	53	58	194	e29	102	354	98	23	17	e6.8	30
5	19	48	57	238	e28	144	265	129	22	14	e6.4	12
6	18	57	51	232	e28	97	213	96	21	13	e5.8	8.7
7	18	46	48	172	e32	73	184	83	19	12	e5.8	7.6
8	17	42	45	147	e35	101	169	77	28	11	e6.6	7.4
9	22	39	42	126	e35	130	160	73	61	11	e6.2	7.2
10	20	38	44	106	e31	110	271	70	38	10	e5.8	7.9
11	19	37	113	95	e28	94	236	66	25	9.7	e76	7.3
12	18	53	93	90	e27	80	209	65	22	10	e60	6.4
13	17	135	75	166	e30	e70	176	65	20	11	e35	6.1
14	18	92	66	186	e30	e60	147	57	19	9.3	e21	5.8
15	18	84	60	140	e28	e52	127	53	18	9.0	e16	5.7
16	17	76	61	119	e34	e43	1020	49	17	8.6	e12	5.9
17	16	70	144	105	e41	e60	900	46	16	8.5	e10	6.1
18	16	64	198	90	e34	e110	487	50	16	8.1	e9.4	6.6
19	17	58	171	78	e30	99	316	60	16	8.3	e8.2	6.0
20	16	53	152	e70	e40	82	258	47	16	8.9	e7.6	5.2
21	15	87	147	e62	e50	82	416	42	15	8.1	e7.0	6.5
22	15	111	141	e58	66	91	506	38	15	7.7	e6.6	8.0
23	14	148	135	e54	61	133	381	36	14	7.3	e6.0	7.0
24	14	120	124	e50	52	266	305	34	13	e7.0	e5.8	8.4
25	14	159	108	e48	47	319	255	32	12	e6.4	e5.2	7.4
26	14	127	106	e45	e43	461	689	30	12	e6.2	e5.0	28
27	14	112	93	e43	e40	593	645	28	13	e9.0	e4.9	131
28	14	100	148	e40	e36	1050	392	27	12	e8.6	e4.9	55
29	14	89	135	e37	---	1060	276	26	12	e19	e4.9	35
30	13	81	68	e35	---	1280	209	24	12	e15	e4.9	30
31	14	---	115	e33	---	951	---	33	---	e12	e4.9	---
TOTAL	524	2338	3005	4147	1028	7952	11969	1940	606	375.7	380.5	484.4
MEAN	16.9	77.9	96.9	134	36.7	257	399	62.6	20.2	12.1	12.3	16.1
MAX	22	159	198	575	66	1280	1120	164	61	51	76	131
MIN	13	13	42	33	27	43	127	24	12	6.2	4.9	5.2
CFSM	.38	1.77	2.20	3.03	.83	5.82	9.05	1.42	.46	.27	.28	.37
IN.	.44	1.97	2.53	3.50	.87	6.71	10.10	1.64	.51	.32	.32	.41

e Estimated.

JUNIATA RIVER BASIN

01557500 BALD EAGLE CREEK AT TYRONE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.7	54.2	76.7	80.4	102	166	147	109	66.7	32.2	21.7	22.9
MAX	178	216	217	226	251	364	399	304	377	138	99.8	125
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1956	1956	1975
MIN	4.10	5.95	6.43	10.9	15.9	48.1	34.0	23.8	12.1	5.41	4.15	3.59
(WY)	1964	1954	1966	1981	1963	1990	1946	1976	1965	1965	1966	1965

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1945 - 1993		
ANNUAL TOTAL	21683			34749.6					
ANNUAL MEAN	59.2			95.2			75.9		
HIGHEST ANNUAL MEAN							133		
LOWEST ANNUAL MEAN							46.7		
HIGHEST DAILY MEAN	329			1280			2800		
LOWEST DAILY MEAN	12			e4.9			1.4		
ANNUAL SEVEN-DAY MINIMUM	13			a5.0			1.7		
INSTANTANEOUS PEAK FLOW				b1640			c5140		
INSTANTANEOUS PEAK STAGE				5.07			d7.50		
INSTANTANEOUS LOW FLOW				f4.7			1.4		
ANNUAL RUNOFF (CFSM)	1.34			2.16			1.72		
ANNUAL RUNOFF (INCHES)	18.29			29.31			23.40		
10 PERCENT EXCEEDS	130			209			173		
50 PERCENT EXCEEDS	42			38			41		
90 PERCENT EXCEEDS	15			7.1			7.7		

a Using estimated daily values.

b Gage height 4.64 ft.

c From rating curve extended above 2,100 ft³/s on basis of contracted-opening measurement of peak flow.

d From floodmark, site and datum then in use.

e Estimated.

f May have been less during period of estimated daily discharges July 24 to Sept. 2.

JUNIATA RIVER BASIN

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA

LOCATION.--Lat 40°36'45", long 78°08'27", Huntingdon County, Hydrologic Unit 02050302, on right bank on SR 4006, 150 ft downstream from Penn Central Railroad bridge, 0.5 mi northwest of village of Spruce Creek, and 0.5 mi upstream from Spruce Creek.

DRAINAGE AREA.--220 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 751.15 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 19.1 ft, from floodmarks 175 ft downstream, discharge, 39,800 ft³/s, from rating curve extended as explained below.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e140	e105	293	2140	e230	e110	5130	913	258	106	83	71
2	e135	e200	275	1430	e200	e120	3550	746	185	351	81	71
3	e130	560	264	1100	e250	e200	2430	626	175	260	93	102
4	e130	260	237	895	251	410	1760	557	175	163	81	169
5	e125	221	247	1180	e210	584	1390	653	167	136	75	113
6	e120	265	221	922	e190	471	1170	523	160	124	73	87
7	e115	220	208	784	203	406	1020	454	149	115	74	79
8	e115	202	198	690	210	590	909	423	178	110	74	77
9	e120	190	186	601	204	826	845	398	485	107	71	77
10	e125	182	180	521	200	674	1280	379	281	102	73	80
11	e120	179	255	477	203	566	1240	368	204	98	187	80
12	e120	200	393	458	202	481	1090	353	181	98	224	75
13	e115	491	319	782	205	e430	932	370	168	105	115	72
14	e110	335	287	837	196	e350	794	325	159	98	96	71
15	e125	308	266	655	188	e300	699	303	153	93	85	70
16	e120	284	254	e560	186	e270	4340	284	149	89	82	72
17	e115	264	616	e450	205	e350	5230	271	142	86	84	74
18	e110	251	791	e400	176	e480	2410	274	138	84	99	80
19	e110	235	604	e360	139	419	1630	350	151	84	89	80
20	e110	219	731	e330	e120	e330	1300	279	142	86	85	72
21	e105	271	745	e300	e100	e400	1820	253	140	86	84	81
22	e105	428	636	e270	e92	509	2260	237	134	82	80	127
23	e105	473	601	e260	e170	626	1770	225	125	79	76	92
24	e105	411	587	e240	159	1380	1440	221	116	76	77	95
25	e105	506	471	e300	144	1520	1210	214	113	76	86	88
26	e105	445	439	e270	e130	1950	2910	203	112	78	76	194
27	e100	404	361	e240	e120	2290	2900	194	112	111	72	561
28	e100	370	e330	e220	e115	3740	1860	190	109	91	71	357
29	e100	340	e310	e200	---	3870	1400	190	107	133	71	207
30	e100	314	e300	e180	---	4730	1120	182	106	109	71	176
31	e100	---	e1200	e250	---	4170	---	207	---	93	70	---
TOTAL	3540	9133	12805	18302	4998	33552	57839	11165	4974	3509	2758	3650
MEAN	114	304	413	590	178	1082	1928	360	166	113	89.0	122
MAX	140	560	1200	2140	251	4730	5230	913	485	351	224	561
MIN	100	105	180	180	92	110	699	182	106	76	70	70
CFSM	.52	1.38	1.88	2.68	.81	4.92	8.76	1.64	.75	.51	.40	.55
IN.	.60	1.54	2.17	3.09	.85	5.67	9.78	1.89	.84	.59	.47	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1993, BY WATER YEAR (WY)

	186	257	357	370	486	778	726	522	347	191	140	140
MEAN	186	257	357	370	486	778	726	522	347	191	140	140
MAX	816	1092	997	991	1128	1609	1928	1239	2022	623	389	533
(WY)	1991	1951	1973	1949	1976	1979	1993	1978	1972	1956	1956	1975
MIN	64.7	71.3	73.2	90.5	138	261	228	150	104	70.4	56.9	64.3
(WY)	1964	1939	1966	1940	1963	1990	1946	1976	1965	1965	1966	1966

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1939 - 1993

ANNUAL TOTAL	106588		166225									
ANNUAL MEAN	291		455							374		
HIGHEST ANNUAL MEAN										630		1972
LOWEST ANNUAL MEAN										248		1966
HIGHEST DAILY MEAN	1410	Mar 27	5230	Apr 17	21100	Jun 23	1972					
LOWEST DAILY MEAN	85	Aug 22-26	70	Aug 31	50	Sep 2	1966					
ANNUAL SEVEN-DAY MINIMUM	86	Aug 21	71	Aug 27	51	Aug 28	1966					
INSTANTANEOUS PEAK FLOW			7530	Apr 17	a28600	Jun 23	1972					
INSTANTANEOUS PEAK STAGE			8.88	Apr 17	16.98	Jun 23	1972					
INSTANTANEOUS LOW FLOW			69	Aug 10,31, Sep 15	45	Sep 26	1943b					
ANNUAL RUNOFF (CFSM)	1.32		2.07		1.70							
ANNUAL RUNOFF (INCHES)	18.02		28.11		23.11							
10 PERCENT EXCEEDS	590		1090		811							
50 PERCENT EXCEEDS	201		203		220							
90 PERCENT EXCEEDS	105		81		83							

a From rating curve extended above 5,600 ft³/s on basis of slope-area measurement at gage height 15.77 ft.

b Also Oct. 4, 1949.

c Estimated.

JUNIATA RIVER BASIN

01559000 JUNIATA RIVER AT HUNTINGDON, PA

LOCATION.--Lat 40°29'05", long 78°01'09", Huntingdon County, Hydrologic Unit 02050302, on right bank 170 ft downstream from Smithfield Bridge on State Highway 26 at Huntingdon, and 0.8 mi upstream from Standing Stone Creek.

DRAINAGE AREA.--816 mi².

PERIOD OF RECORD.--October 1941 to current year. Gage-height records collected in this vicinity for the period May 1895 to December 1938 are contained in reports of U.S. Weather Bureau. Prior to October 1950, published as Frankstown Branch Juniata River at Huntingdon.

REVISED RECORDS.--WDR PA-73-1: 1936(M). WDR PA-80-2: 1972(M). WDR PA-84-2: 1936(M) 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 599.69 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. Flow regulated September 1941 to June 1972, and since December 15, 1985 by Warrior Ridge Hydroelectric Plant 4 mi upstream (reservoir capacity 400 acre-ft). National Weather Service satellite telemeter and U.S. Army Corps of Engineers landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.87 ft, from floodmark, discharge, 81,000 ft³/s, from rating curve extended on basis of computation of peak discharge at dam and runoff comparison with downstream station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	232	580	6370	786	368	12500	2910	781	374	321	311
2	302	249	612	4060	623	436	10500	2380	613	579	304	288
3	283	989	578	2820	644	583	7530	2000	558	1250	334	307
4	301	806	533	2170	649	1130	5360	1770	545	673	305	490
5	279	503	521	2640	640	2610	4120	1970	539	482	298	420
6	271	531	517	2360	595	1760	3330	1830	505	436	278	331
7	279	551	478	1840	534	1410	2770	1520	486	400	300	295
8	274	418	453	1600	541	1750	2410	1320	519	389	282	291
9	272	417	437	1380	516	2970	2210	1280	1410	373	289	295
10	288	389	429	1180	509	2500	3190	1160	1120	345	271	306
11	256	379	872	1070	521	1920	4620	1140	753	354	471	291
12	260	396	1250	1040	528	1480	3450	1070	662	329	840	270
13	248	941	989	1660	536	1370	2840	1120	578	350	444	272
14	250	733	832	2460	508	995	2350	1020	541	322	358	254
15	250	623	742	1730	487	1200	2010	940	518	321	321	260
16	253	580	699	1440	506	1120	8870	885	483	321	311	258
17	248	487	1420	1310	508	1120	18200	840	469	304	315	263
18	237	511	2910	1130	475	1410	8210	817	463	303	331	294
19	224	462	1950	993	384	1160	5280	1050	467	293	319	286
20	236	422	1840	889	424	1130	3990	902	461	316	306	253
21	236	443	2360	862	467	1050	5130	791	519	309	309	259
22	223	776	1770	1300	474	1440	7110	757	478	285	304	363
23	223	1050	1640	1440	e450	1640	6240	717	435	296	276	332
24	240	970	1610	1260	e430	5110	4740	696	399	277	287	293
25	213	1040	1210	1490	416	5680	3950	683	375	276	292	294
26	242	997	1110	1180	423	6690	6210	645	382	298	287	472
27	225	929	897	1090	439	7930	10800	610	374	313	271	972
28	211	750	881	996	416	10600	6140	586	440	309	269	1590
29	217	748	850	950	---	12500	4510	597	357	373	270	584
30	219	671	856	815	---	12500	3590	581	295	473	278	464
31	210	---	3060	819	---	11500	---	595	---	357	285	---
TOTAL	7775	18993	34886	52344	14429	105062	172160	35182	16525	12080	10126	11658
MEAN	251	633	1125	1689	515	3389	5739	1135	551	390	327	389
MAX	305	1050	3060	6370	786	12500	18200	2910	1410	1250	840	1590
MIN	210	232	429	815	384	368	2010	581	295	276	269	253
CFSM	.31	.78	1.38	2.07	.63	4.15	7.03	1.39	.68	.48	.40	.48
IN.	.35	.87	1.59	2.39	.66	4.79	7.85	1.60	.75	.55	.46	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1993, BY WATER YEAR (WY)

	MEAN	547	755	1057	1118	1435	2248	2049	1480	980	575	446	429
MAX	2114	2577	3100	2655	3059	4586	5739	3217	5562	1920	1447	1571	
(WY)	1991	1951	1973	1949	1971	1979	1993	1978	1972	1989	1956	1975	
MIN	146	233	232	265	379	693	747	528	312	201	163	143	
(WY)	1964	1964	1966	1981	1963	1969	1946	1976	1965	1966	1966	1963	

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1942 - 1993
ANNUAL TOTAL	274468	491220	
ANNUAL MEAN	750	1346	1091
HIGHEST ANNUAL MEAN			1830
LOWEST ANNUAL MEAN			595
HIGHEST DAILY MEAN	4420	Mar 27	18200
LOWEST DAILY MEAN	210	Oct 31	210
ANNUAL SEVEN-DAY MINIMUM	220	Oct 25	220
INSTANTANEOUS PEAK FLOW			21400
INSTANTANEOUS PEAK STAGE			12.11
INSTANTANEOUS LOW FLOW			71
ANNUAL RUNOFF (CFSM)	.92		1.65
ANNUAL RUNOFF (INCHES)	12.51		22.39
10 PERCENT EXCEEDS	1450	2930	2340
50 PERCENT EXCEEDS	499	545	654
90 PERCENT EXCEEDS	271	272	263

a From rating curve extended above 22,000 ft³/s on basis of computation of peak discharge at dam, slope-conveyance study, and Pennsylvania Department of Environmental Resources step-backwater study.

b Minimum recorded; Also Aug. 2, 1954.

c Estimated.

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA
(National water-quality assessment station)

LOCATION.--Lat 40°16'21", long 78°35'55", Bedford County, Hydrologic Unit 02050303, on left bank 0.7 mi upstream from highway bridge on SR 869, 0.8 mi upstream from Wallacks Branch, and 1.3 mi northwest of Pavia at Blue Knob State Park.

DRAINAGE AREA.--16.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,510 ft above sea level, from topographic map.

REMARKS.--Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period June to September, 188 ft³/s, June 9, gage height, 8.77 ft; minimum, 1.2 ft³/s, Sept. 20, 21, gage height, 7.41 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	11	5.2	2.5	1.3
2	---	---	---	---	---	---	---	---	8.3	19	2.5	1.5
3	---	---	---	---	---	---	---	---	7.8	9.4	2.7	5.0
4	---	---	---	---	---	---	---	---	7.8	6.3	2.2	6.2
5	---	---	---	---	---	---	---	---	7.4	5.2	2.2	2.7
6	---	---	---	---	---	---	---	---	6.7	4.7	2.0	1.9
7	---	---	---	---	---	---	---	---	6.2	4.2	2.4	1.7
8	---	---	---	---	---	---	---	---	12	4.1	1.9	1.7
9	---	---	---	---	---	---	---	---	67	3.7	1.7	1.7
10	---	---	---	---	---	---	---	---	74	3.5	19	2.5
11	---	---	---	---	---	---	---	---	54	3.5	39	1.8
12	---	---	---	---	---	---	---	---	39	3.1	14	1.5
13	---	---	---	---	---	---	---	---	30	3.0	9.1	1.5
14	---	---	---	---	---	---	---	---	24	3.4	6.6	1.3
15	---	---	---	---	---	---	---	---	20	3.5	5.2	1.3
16	---	---	---	---	---	---	---	---	17	2.7	4.3	1.4
17	---	---	---	---	---	---	---	---	14	2.5	4.2	1.6
18	---	---	---	---	---	---	---	---	13	2.3	3.6	1.9
19	---	---	---	---	---	---	---	---	12	2.6	3.2	1.4
20	---	---	---	---	---	---	---	---	10	2.8	3.1	1.2
21	---	---	---	---	---	---	---	---	9.1	2.3	3.3	1.4
22	---	---	---	---	---	---	---	---	8.5	2.1	2.3	2.3
23	---	---	---	---	---	---	---	---	7.6	1.9	2.2	1.8
24	---	---	---	---	---	---	---	---	6.5	1.9	2.0	2.9
25	---	---	---	---	---	---	---	---	5.9	1.9	2.0	2.2
26	---	---	---	---	---	---	---	---	5.7	2.0	1.8	10
27	---	---	---	---	---	---	---	---	5.4	2.3	1.6	29
28	---	---	---	---	---	---	---	---	5.0	1.8	1.6	17
29	---	---	---	---	---	---	---	---	5.0	13	1.6	11
30	---	---	---	---	---	---	---	---	4.8	3.6	1.4	11
31	---	---	---	---	---	---	---	---	---	2.9	1.4	---
MEAN	---	---	---	---	---	---	---	---	16.8	4.21	4.92	4.32
MAX	---	---	---	---	---	---	---	---	74	19	39	29
MIN	---	---	---	---	---	---	---	---	4.8	1.8	1.4	1.2
CFSM	---	---	---	---	---	---	---	---	1.01	.25	.30	.26
IN.	---	---	---	---	---	---	---	---	1.13	.29	.34	.29

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

REMARKS.--All water-quality samples collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
APR 12...	1330	126	59	6.6	6.5	7.0	716	11.0	96	20	16	4.7
MAY 07...	1115	29	65	7.0	21.5	12.0	725	9.7	94	22	12	5.2
21...	1005	14	68	7.0	12.5	7.5	720	11.5	102	23	14	5.4
JUN 18...	0900	13	70	7.3	18.5	14.5	727	8.9	92	24	13	5.6
JUL 15...	1010	3.5	74	7.0	21.0	19.5	723	8.6	99	26	12	6.2
AUG 20...	1040	2.7	78	7.4	20.5	18.5	721	5.9	66	27	11	6.4
SEP 08...	1105	1.7	78	7.6	17.5	16.5	724	8.9	96	28	11	6.6

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LINITY WAT DIS FIX END CACO3 (MG/L) (39036)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
APR 12...	2.0	1.6	14	0.2	0.90	5.2	0	4.3	12	3.0	<0.10
MAY 07...	2.3	2.0	16	0.2	0.90	12	0	10	13	3.3	0.20
21...	2.2	2.0	16	0.2	0.90	11	0	8.7	12	3.8	<0.10
JUN 18...	2.4	2.1	15	0.2	1.0	13	0	11	11	3.5	<0.10
JUL 15...	2.5	2.4	16	0.2	1.3	17	0	14	11	3.7	<0.10
AUG 20...	2.7	2.5	16	0.2	1.3	19	0	16	12	3.8	0.10
SEP 08...	2.7	2.9	18	0.2	1.2	20	0	17	11	4.2	<0.10

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
APR 12...	5.0	38	37	0.05	12.9	<0.010	1.10	0.020	0.03	<0.20	<0.20
MAY 07...	4.9	47	42	0.06	3.68	<0.010	0.830	0.030	0.04	<0.20	<0.20
21...	4.8	39	40	0.05	1.50	<0.010	0.860	0.010	0.01	<0.20	<0.20
JUN 18...	5.1	39	42	0.05	1.37	<0.010	0.980	0.010	0.01	<0.20	<0.20
JUL 15...	4.5	43	43	0.06	0.41	<0.010	0.680	0.030	0.04	<0.20	<0.20
AUG 20...	4.3	49	45	0.07	0.36	<0.010	0.580	0.030	0.04	<0.20	<0.20
SEP 08...	4.6	46	45	0.06	0.21	<0.010	0.410	0.020	0.03	<0.20	<0.20

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	IRON, DIS-SOLVED (μG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (μG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 12...	<0.010	<0.010	<0.010	--	4	3	14	0.1	8	2.7	72
MAY 07...	0.010	0.010	<0.010	--	9	3	15	0.1	4	0.31	85
21...	0.010	0.010	<0.010	--	7	3	0.8	0.1	8	0.31	50
JUN 18...	0.020	0.010	0.020	0.06	8	3	1.0	0.3	5	0.18	76
JUL 15...	0.020	0.020	0.020	0.06	11	4	1.3	0.2	2	0.02	100
AUG 20...	0.010	<0.010	0.010	0.03	11	5	18	0.2	2	0.02	90
SEP 08...	0.040	0.020	0.030	0.09	10	4	1.0	0.1	1	0.00	83

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- IFIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS01	07-09-93	0825	.67	77	7.0	19.0	17	5.2	246	253	7
	07-09-93	0830	.03	76	7.0	19.0	18	1.4	579	640	61

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA
(National stream-quality accounting network station)

LOCATION.--Lat 40°12'57", long 78°15'56", Bedford County, Hydrologic Unit 02050303, on left bank 500 ft downstream from bridge on State Highway 913, 0.5 mi west of Saxton, and 1.5 mi upstream from Shoup Run.

DRAINAGE AREA.--756 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to current year. Monthly discharge only for September 1911 published in WSP 1302.

REVISED RECORDS.--WSP 1302: 1912-13(M), 1914-15. WSP 1502: 1934, 1936.

GAGE.--Water-stage recorder. Datum of gage is 795.77 ft above sea level. Prior to Oct. 1, 1931, nonrecording gage at site 0.8 mi downstream at datum 4.82 ft lower.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 23.0 ft at present site and datum, from floodmarks, discharge, about 71,300 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	103	497	9530	e620	e210	9430	2190	339	180	187	103
2	125	117	455	5450	e520	e230	11800	1860	335	247	160	105
3	119	259	440	3250	e470	393	11100	1500	327	359	152	111
4	115	788	417	2290	627	1390	7730	1300	305	547	140	139
5	112	527	396	2140	553	6860	5100	1280	304	317	135	138
6	107	402	410	2220	499	3520	3140	1480	304	251	135	150
7	103	362	398	1740	e450	2390	2140	1160	303	217	138	156
8	101	320	366	1510	e400	2660	1780	1010	311	194	136	147
9	103	270	347	1350	e380	4210	1550	931	616	177	134	128
10	105	242	e330	1170	e400	4060	3200	884	781	167	132	121
11	108	224	e320	1040	415	3100	7750	990	570	169	345	115
12	110	220	508	989	398	2390	4660	880	461	159	442	113
13	110	300	530	1210	403	2030	3360	828	392	152	593	111
14	105	731	771	1840	401	1340	2450	787	344	145	301	109
15	103	546	599	1730	380	e1150	2100	698	308	139	229	107
16	99	455	540	1560	381	e1000	8190	632	284	135	187	108
17	99	401	946	e1300	387	e940	20500	582	264	135	168	116
18	96	359	3030	e1100	e320	1820	10600	606	252	135	154	116
19	93	331	2860	e940	e260	1720	5180	658	243	134	145	115
20	93	308	2260	e800	e230	1650	3530	837	233	135	139	110
21	93	289	2490	e780	e220	1330	3080	637	238	130	136	113
22	97	340	2190	1240	391	1700	5810	545	245	129	129	120
23	99	602	1930	1590	407	2740	6910	498	217	125	124	112
24	99	860	2260	1550	345	9590	4580	457	209	122	121	110
25	101	746	1990	1480	e300	10900	3540	430	197	119	117	111
26	99	826	1640	1300	e260	10200	3930	408	185	121	112	168
27	99	766	1330	1040	e240	10200	9040	379	181	125	107	228
28	99	692	1160	e920	e220	11200	5500	358	176	119	104	358
29	99	623	1130	e820	---	13600	3780	346	179	176	101	550
30	99	552	1070	e740	---	11400	2870	324	177	184	99	309
31	101	---	4600	e680	---	9660	---	324	---	195	101	---
TOTAL	3229	13561	38210	55299	10877	135583	174330	25799	9280	5639	5403	4597
MEAN	104	452	1233	1784	388	4374	5811	832	309	182	174	153
MAX	138	860	4600	9530	627	13600	20500	2190	781	547	593	550
MIN	93	103	320	680	220	210	1550	324	176	119	99	103
CFSM	.14	.60	1.63	2.36	.51	5.79	7.69	1.10	.41	.24	.23	.20
IN.	.16	.67	1.88	2.72	.54	6.67	8.58	1.27	.46	.28	.27	.23

e Estimated.

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	431	572	849	990	1418	2096	1757	1233	726	401	264	258
MAX	3561	2630	3254	3477	4817	7669	5811	3425	4624	2847	851	1475
(WY)	1977	1986	1973	1937	1979	1936	1993	1924	1972	1989	1915	1975
MIN	59.5	65.3	93.6	132	138	459	338	211	134	66.6	55.1	57.6
(WY)	1964	1931	1931	1981	1934	1990	1915	1926	1965	1966	1966	1963

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1912 - 1993	
ANNUAL TOTAL	209229		481807		913	
ANNUAL MEAN	572		1320		1517	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					402	
HIGHEST DAILY MEAN	4600	Dec 31	20500	Apr 17	58300	Mar 18 1936
LOWEST DAILY MEAN	88	Aug 27	93	Oct 19-21	39	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	96	Oct 16	96	Oct 16	41	Sep 7 1966
INSTANTANEOUS PEAK FLOW			22100	Apr 17	a80500	Mar 18 1936
INSTANTANEOUS PEAK STAGE			14.44	Apr 17	b24.54	Mar 18 1936
INSTANTANEOUS LOW FLOW			93	Oct 16, 19-22	39	Sep 6 1966
ANNUAL RUNOFF (CFSM)	.76		1.75		1.21	
ANNUAL RUNOFF (INCHES)	10.30		23.71		16.42	
10 PERCENT EXCEEDS	1420		3290		2150	
50 PERCENT EXCEEDS	306		387		420	
90 PERCENT EXCEEDS	111		110		119	

a From rating curve extended above 21,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-56, 1958-64, 1966-68, 1972-76, 1987 to September 1993 (discontinued).

REMARKS.--Agency collection codes: 1028 - U.S. Geological Survey. Agency analyzing codes: 80020, 1028 - U.S. Geological Survey. Sample method codes: 10 - Equal width increment; 40 - Multiple verticals; 70 - Grab sample; 120 - Velocity integrated sample.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

		AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING METHOD, CODES (82398)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)
NOV												
13...	1300	1028	80020	319	10	282	8.3	9.5	3.9	741	11.4	103
18...	1335	1028	80020	356	10	236	8.0	5.0	2.7	751	12.8	102
FEB												
08...	1430	1028	80020	445	10	260	7.7	0.5	1.7	749	13.8	97
MAR												
31...	1705	1028	80020	9400	10	130	7.5	11.0	23	737	10.2	96
MAY												
07...	1520	1028	80020	1150	10	240	8.5	20.0	3.3	749	10.8	121
JUN												
23...	1441	1028	80020	213	40	343	8.4	27.5	0.60	752	9.8	126
SEP												
24...	1515	1028	80020	104	10	390	7.9	19.5	0.60	752	11.2	124
DATE	COLI-FORM, FECAL, 0.7 μM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	
NOV												
13...	--	--	90	--	24	7.2	7.5	15	0.3	2.4	--	--
18...	90	200	110	53	30	8.8	7.4	12	0.3	2.9	25	23
FEB												
08...	>0	>0	110	42	28	9.3	7.4	13	0.3	1.4	20	30
MAR												
31...	120	280	45	23	12	3.7	4.0	16	0.3	1.5	16	5
MAY												
07...	100	ND	98	37	26	8.1	4.5	9	0.2	1.6	52	12
JUN												
23...	K 9	K 2	150	--	38	14	7.1	9	0.3	2.0	--	--
SEP												
24...	K 20	K 3	180	72	42	19	7.9	8	0.3	2.2	136	ND
DATE	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CAC03) (00410)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03) (39086)	ALKA-LINITY LAB (MG/L AS CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	ALUM-INUM, DIS-SOLVED (μG/L AS AL) (01106)
NOV												
13...	--	--	78	28	12	<0.10	5.3	139	139	0.19	120	50
18...	59	58	60	26	13	<0.10	4.5	131	135	0.18	126	70
FEB												
08...	65	66	70	28	14	<0.10	4.6	146	143	0.20	175	--
MAR												
31...	24	22	23	18	7.1	<0.10	5.5	81	73	0.11	2060	50
MAY												
07...	63	62	66	23	9.5	0.10	3.7	132	121	0.18	410	130
JUN												
23...	105	--	115	33	13	0.10	4.2	205	184	0.28	118	170
SEP												
24...	111	111	131	47	18	0.60	2.4	232	215	0.32	65.1	70

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (μ G/L AS MO) (01060)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	SILVER, DIS- SOLVED (μ G/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (μ G/L AS V) (01085)
NOV 13...	35	<3	44	<4	21	<10	2	<1	<1.0	180	<6
18...	38	<3	76	5	32	<10	2	<1	<1.0	230	<6
FEB 08...	--	--	--	--	--	--	--	--	--	--	--
MAR 31...	34	<3	34	<4	49	<10	3	<1	<1.0	58	<6
MAY 07...	37	<3	45	<4	26	<10	3	<1	<1.0	130	<6
JUN 23...	55	<3	5	<4	4	<10	3	<1	<1.0	250	<6
SEP 24...	52	<3	6	<4	11	<10	4	<2	<1.0	340	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD (μ S/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NOV 13...	1300	1028	80020	319	282	8.3	9.5	1.39	1.28	0.020	1.30
18...	1335	1028	80020	356	236	8.0	5.0	1.48	1.48	0.020	1.50
FEB 08...	1430	1028	80020	445	260	7.7	0.5	2.28	2.28	0.020	2.30
MAR 31...	1705	1028	80020	9400	130	7.5	11.0	1.70	--	<0.010	1.70
MAY 07...	1520	1028	80020	1150	240	8.5	20.0	1.70	--	<0.010	1.70
JUN 23...	1441	1028	80020	213	343	8.4	27.5	1.99	1.99	0.010	2.00
SEP 24...	1515	1028	80020	104	390	7.9	19.5	1.90	--	<0.010	1.90

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 13...	0.020	0.28	0.30	1.7	0.060	0.030	0.020	7	6.0	--
18...	0.010	0.18	0.20	1.7	0.020	<0.010	<0.010	1	0.96	--
FEB 08...	0.020	--	<0.20	--	<0.010	<0.010	<0.010	12	14	88
MAR 31...	0.030	0.47	0.50	2.2	0.050	<0.010	<0.010	70	1780	92
MAY 07...	<0.010	0.30	0.30	2.0	0.020	0.010	<0.010	7	22	92
JUN 23...	0.020	--	<0.20	--	<0.010	<0.010	<0.010	9	5.2	75
SEP 24...	<0.010	0.20	0.20	2.1	0.030	0.030	<0.010	4	1.1	91

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SEXTON, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SAM- PLING METHOD, CODES (82398)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
NOV											
13...	1200	1028	1028	--	2	--	--	--	--	--	--
13...	1210	1028	1028	120	9	7.5	260	8.1	7.5	13.7	12
13...	1230	1028	1028	120	29	45	277	8.2	8.5	14.7	7
13...	1245	1028	1028	120	49	57	277	8.2	9.0	14.6	6
13...	1255	1028	1028	70	69	--	--	--	9.5	11.4	--
13...	1301	1028	1028	120	69	67	275	8.3	9.5	14.7	7
13...	1315	1028	1028	120	89	70	279	8.3	9.5	14.7	7
13...	1335	1028	1028	120	109	41	278	8.3	9.5	14.8	6
13...	1355	1028	1028	120	129	31	274	8.3	10.0	14.7	7
13...	1415	1028	1028	--	147	--	--	--	--	--	--
NOV											
18...	1230	1028	1028	--	0	--	--	--	--	--	--
18...	1240	1028	1028	120	7	7.4	240	8.0	5.0	15.6	2
18...	1300	1028	1028	120	27	50	234	8.0	5.0	16.6	2
18...	1320	1028	1028	120	47	61	233	8.1	5.0	16.7	2
18...	1334	1028	1028	70	67	--	--	--	5.0	12.8	--
18...	1336	1028	1028	120	67	73	232	8.1	4.5	16.8	2
18...	1350	1028	1028	120	87	71	234	8.1	4.5	16.7	2
18...	1410	1028	1028	120	107	51	231	8.1	5.0	16.8	a68
18...	1430	1028	1028	120	127	43	233	8.1	5.0	16.7	2
18...	1445	1028	1028	--	147	--	--	--	--	--	--

a Observed sediment plume.

JUNIATA RIVER BASIN

01563100 RAYSTOWN LAKE NEAR HUNTINGDON, PA

LOCATION.--Lat 40°26'06", long 78°00'25", Huntingdon County, Hydrologic Unit 02050303, at Raystown Dam on Raystown Branch Juniata River, 3.5 mi south of Huntingdon, and 5.7 mi upstream from mouth.

DRAINAGE AREA.--959 mi².

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum is given in feet above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with a gated spillway in right abutment at elevation 768.6 ft (capacity, 383,500 acre-ft), and an ungated spillway separate from embankment at elevation 812.0 ft (capacity, 762,000 acre-ft). Storage began November 1972. Conservation pool elevation is 786.0 ft, capacity 514,000 acre-ft. Lake is used for flood control, low-flow augmentation, and recreation. Figures given herein represent total contents. U.S. Army Corps of Engineers satellite telemeter at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 667,010 acre-ft, Apr. 3, 1993, elevation, 802.89 ft; minimum, 2,240 acre-ft, March 2, 1973, elevation, 628.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 667,010 acre-ft, Apr. 3, elevation, 802.89 ft; minimum, 505,390 acre-ft, Sept. 25, elevation, 785.01 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
Sept. 30	786.29	516,460	--
Oct. 31	785.43	509,040	- 121
Nov. 30	786.13	515,100	+ 102
Dec. 31	787.15	523,780	+ 141
CAL YR 1992	--	--	+ 92.0
Jan. 31	786.32	516,720	- 115
Feb. 28	785.96	513,650	+ 55.3
Mar. 31	797.44	613,940	+1630
Apr. 30	786.85	521,220	-1560
May 31	786.59	519,020	- 35.8
June 30	786.32	516,720	- 38.7
July 31	786.02	514,170	- 41.5
Aug. 31	785.62	510,690	- 56.6
Sept. 30	785.35	508,340	- 39.5
WTR YR 1993	--	--	- 11.2

JUNIATA RIVER BASIN

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA

LOCATION.--Lat 40°25'44", long 77°59'29", Huntingdon County, Hydrologic Unit 02050303, on left bank 1.0 mi downstream from Raystown Dam on Township Route 430, 4.0 mi south of Huntingdon, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--960 mi².

PERIOD OF RECORD.--January 1946 to current year. Prior to October 1946 monthly discharge only, published in WSP 1302. Prior to Oct. 1, 1969, published as Raystown Branch Juniata River near Huntingdon.

GAGE.--Water-stage recorder. Datum of gage is 597.36 ft above sea level (U.S. Army Corps of Engineers benchmark). Prior to Oct. 1, 1969, water-stage recorder at site 4.3 mi upstream at datum 22.72 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1972 by Raystown Dam (station 01563100). Several measurements of water temperature were made during the year. National Weather Service satellite telemeter and U.S. Army Corps of Engineers landline telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 31.0 ft, discharge, 87,000 ft³/s, at previous site and datum, by computation of peak discharge at dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	185	630	10600	802	499	1800	3630	351	213	207	207
2	204	183	507	8420	805	500	1850	3600	350	214	209	210
3	203	185	454	3560	807	504	6360	2390	352	213	206	211
4	201	182	460	2420	747	964	12000	1720	352	213	207	210
5	201	182	461	2280	707	4890	13200	1700	351	213	207	209
6	201	182	457	2600	638	5250	15100	1710	351	213	207	210
7	202	180	457	2300	594	3680	15400	1690	348	213	207	210
8	200	180	447	2110	527	3070	15300	1690	362	213	207	210
9	199	179	444	1840	498	3320	15200	1690	625	213	207	210
10	199	179	445	1670	496	4970	10000	1200	788	212	210	210
11	201	177	648	1670	499	5710	8020	927	782	212	230	210
12	199	179	1230	1660	500	4420	8870	927	781	214	210	210
13	197	332	776	1670	500	3650	5960	813	781	212	210	207
14	196	456	791	1670	500	3140	3350	665	511	211	210	207
15	194	467	1000	1670	500	2060	2710	617	352	211	210	207
16	193	378	828	1670	605	1690	4450	563	353	217	210	207
17	195	355	1030	1670	770	1680	3350	456	329	213	208	207
18	192	410	2310	1670	664	1690	11700	397	311	209	210	207
19	191	413	3570	1670	497	1690	13400	459	277	205	210	207
20	191	482	2950	1670	495	1690	14600	730	258	202	210	205
21	191	453	2030	1670	495	1690	12800	666	259	211	210	206
22	192	436	2090	1660	496	1690	9230	487	258	206	210	219
23	190	486	1850	1380	498	3790	8310	445	235	206	211	207
24	190	644	1670	1470	498	9490	7080	441	215	207	210	207
25	189	823	1670	1670	498	11500	5600	441	213	207	210	207
26	191	882	1670	1670	495	11000	4380	441	213	201	210	207
27	199	883	1670	1670	495	11000	6250	441	213	206	209	208
28	185	882	1670	1680	496	7220	10500	441	213	206	210	208
29	185	881	1670	1670	---	1840	7700	409	213	207	210	207
30	185	727	1670	1370	---	1810	3690	365	213	207	209	207
31	185	---	4320	955	---	1780	---	352	---	207	207	---
TOTAL	6045	12563	41875	71355	16122	117877	258160	32503	11210	6507	6498	6254
MEAN	195	419	1351	2302	576	3802	8605	1048	374	210	210	208
MAX	204	883	4320	10600	807	11500	15400	3630	788	217	230	219
MIN	185	177	444	955	495	499	1800	352	213	201	206	205
MEAN‡	74	521	1492	2187	631	5432	7045	1012	335	168	153	168
CFSM‡	.08	.54	1.55	2.28	.66	5.66	7.34	1.05	.35	.18	.16	.18
IN.‡	.09	.60	1.79	2.63	.69	6.53	8.19	1.21	.39	.21	.18	.20

‡ Adjusted for change in contents in Raystown Lake.

JUNIATA RIVER BASIN

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	825	985	1271	1131	1730	2323	2434	1426	755	557	344	382
MAX	4616	3778	4204	3008	3999	5610	8605	3438	2241	3484	802	1880
(WY)	1977	1974	1973	1974	1984	1979	1993	1978	1989	1989	1979	1975
MIN	150	125	215	208	440	360	370	18.6	59.1	133	118	134
(WY)	1975	1975	1981	1981	1992	1974	1974	1973	1973	1973	1973	1973

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1973 - 1993

ANNUAL TOTAL	220840		586969									
ANNUAL MEAN	603	‡695	1608	‡1597								
HIGHEST ANNUAL MEAN			1608	‡1154								1993
LOWEST ANNUAL MEAN			525									1992
HIGHEST DAILY MEAN	4990	Mar 28	15400	Apr 7								1993
LOWEST DAILY MEAN	177	Nov 11	177	Nov 11								1973
ANNUAL SEVEN-DAY MINIMUM	179	Nov 6	179	Nov 6								1973
INSTANTANEOUS PEAK FLOW			16200	Apr 6								1993
INSTANTANEOUS PEAK STAGE			15.12	Apr 6								1993
ANNUAL RUNOFF (CFSM)	.63	‡0.72	1.68	‡1.66								
ANNUAL RUNOFF (INCHES)	8.56	‡9.85	22.75	‡22.59								
10 PERCENT EXCEEDS	1650		4340									
50 PERCENT EXCEEDS	430		457									
90 PERCENT EXCEEDS	199		201									

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	343	651	985	1195	1649	2695	2132	1500	875	442	303	229
MAX	1587	2796	2877	2915	4150	4481	4632	3346	5740	1722	925	648
(WY)	1955	1971	1951	1949	1971	1963	1970	1960	1972	1972	1956	1950
MIN	64.7	65.3	131	220	317	754	683	482	180	80.1	66.0	67.6
(WY)	1964	1958	1966	1954	1954	1969	1968	1969	1965	1966	1966	1963

SUMMARY STATISTICS

WATER YEARS 1947 - 1972

ANNUAL MEAN	1080											
HIGHEST ANNUAL MEAN	1960				1972							
LOWEST ANNUAL MEAN	497				1969							
HIGHEST DAILY MEAN	22200			Apr 3	1970							
LOWEST DAILY MEAN	5.0			Oct 30	1957							
ANNUAL SEVEN-DAY MINIMUM	7.7			Nov 3	1957							
INSTANTANEOUS PEAK FLOW	a24500			Nov 25	1950							
INSTANTANEOUS PEAK STAGE	b18.54			Apr 3	1970							
INSTANTANEOUS LOW FLOW	4.3			Oct 31	1957							
ANNUAL RUNOFF (CFSM)	1.13											
ANNUAL RUNOFF (INCHES)	15.29											
10 PERCENT EXCEEDS	2580											
50 PERCENT EXCEEDS	475											
90 PERCENT EXCEEDS	114											

‡ Adjusted for change in contents in Raystown Lake.

a From rating curve extended above 16,000 ft³/s on basis of computation of peak discharge at dam, gage height, 16.74 ft, site and datum then in use.

b Present site and datum.

JUNIATA RIVER BASIN

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA

LOCATION.--Lat 40°23'32", long 77°56'07", Huntingdon County, Hydrologic Unit 02050304, on right bank 0.2 mi downstream from Scrub Run, and 0.3 mi downstream from bridge on State Highway 655 at Mapleton Depot.

DRAINAGE AREA.--2,030 mi².

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WDR PA-73-1: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 557.31 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since October 1972 by Raystown Dam (station 01563100) 12 mi upstream. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter and U.S. Army Corps of Engineers and National Weather Service landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 38.2 ft, from floodmark, discharge, 165,000 ft³/s from rating curve extended as explained on following page.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	545	465	1460	17700	1890	996	17500	6900	1350	662	561	538
2	540	500	1390	13700	1660	1060	15900	6250	1140	822	544	501
3	534	1200	1250	6870	1690	1280	15400	4900	1060	1680	569	521
4	527	1360	1200	4880	1680	2500	19000	3860	1040	1030	560	668
5	513	861	1170	4970	1560	8060	18200	4050	1020	811	525	695
6	507	843	1170	5330	1490	8250	19100	4040	998	736	513	570
7	507	893	1110	4520	1310	5530	19000	3590	958	695	523	520
8	498	753	1070	4050	1250	5480	18300	3340	1100	674	515	504
9	520	733	1050	3650	1210	6940	18100	3250	2370	651	506	509
10	550	680	1040	3240	1190	7900	15100	2780	2240	630	498	515
11	539	657	2090	3090	1190	8000	13900	2410	1730	619	663	503
12	515	700	3630	3080	1200	6370	13200	2320	1590	606	1170	496
13	504	1260	2500	3610	1210	5240	9690	2270	1480	613	737	488
14	496	1590	2050	4620	1200	4420	6070	2000	e1300	597	601	474
15	529	1270	2150	3860	1160	3710	5040	1830	e1200	583	551	473
16	499	1140	1950	3570	1200	3200	15500	1710	e1100	588	529	477
17	462	1040	3080	3400	1450	3260	25700	1550	e1000	562	533	480
18	501	1110	5820	3200	1360	3550	22400	1440	e960	555	537	506
19	479	1000	5950	2980	1020	3300	20000	1720	e920	551	534	507
20	479	1070	5280	2840	1020	3240	19600	1810	e900	556	520	476
21	474	1050	4970	2780	e1100	3130	20100	1730	e960	562	524	476
22	471	1500	4250	3370	e1100	3580	19100	1460	871	543	518	560
23	475	1970	3940	3430	1160	5330	16700	1350	795	527	497	589
24	484	1990	3660	3180	1100	15900	13200	1320	700	518	491	517
25	476	2210	3280	3580	1020	19200	10200	1300	676	526	494	516
26	473	2340	3130	3250	1070	19700	12600	1250	682	524	498	696
27	479	2070	2830	3140	1020	21500	20500	1200	664	547	477	1150
28	459	1990	2800	3040	1030	22200	18400	1180	737	554	477	2080
29	463	1880	2820	e2800	---	18700	13900	1160	697	591	471	987
30	468	1720	2820	2540	---	18100	7760	1110	527	740	466	773
31	469	---	6450	2160	---	16600	---	1100	---	601	482	---
TOTAL	15435	37845	87360	136430	35540	256226	479160	76180	32765	20454	17084	18765
MEAN	498	1261	2818	4401	1269	8265	15970	2457	1092	660	551	625
MAX	550	2340	6450	17700	1890	22200	25700	6900	2370	1680	1170	2080
MIN	459	465	1040	2160	1020	996	5040	1100	527	518	466	473
MEAN‡	377	1363	2959	4286	1324	9895	14410	2421	1053	618	494	586
CFSM‡	.19	.67	1.46	2.11	.65	4.87	7.10	1.19	.52	.30	.24	.29
IN.‡	.22	.75	1.68	2.43	.68	5.61	7.92	1.37	.58	.35	.28	.32

‡ Adjusted for change in contents in Raystown Lake.

e Estimated.

JUNIATA RIVER BASIN

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1739	2117	2905	2618	3810	5183	5272	3366	2051	1366	905	981
MAX	7397	5802	8006	5712	8159	11490	15970	7725	5274	6123	2020	3757
(WY)	1977	1986	1973	1974	1984	1979	1993	1978	1989	1989	1979	1975
MIN	494	578	872	481	1269	1612	2601	1309	679	608	528	496
(WY)	1992	1979	1981	1981	1993	1990	1976	1976	1991	1988	1974	1985

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1973 - 1993

ANNUAL TOTAL	562035		1213244									
ANNUAL MEAN	1536	‡1628	3324	‡3313					2685	‡2800		
HIGHEST ANNUAL MEAN									3647			1978
LOWEST ANNUAL MEAN									1360			1992
HIGHEST DAILY MEAN	10400	Mar 28	25700	Apr 17					32000		Feb 15	1984
LOWEST DAILY MEAN	459	Aug 25, 27	459	Oct 28					416		Nov 5	1991
ANNUAL SEVEN-DAY MINIMUM	468	Oct 26	468	Oct 26					423		Jan 11	1981
INSTANTANEOUS PEAK FLOW			28600	Apr 17					39400		Feb 15	1984
INSTANTANEOUS PEAK STAGE			15.54	Apr 17					18.33		Feb 15	1984
ANNUAL RUNOFF (CFSM)	.76	‡0.80	1.64	‡1.63					1.32		‡1.38	
ANNUAL RUNOFF (INCHES)	10.30	‡10.92	22.23	‡22.16					17.97		‡18.73	
10 PERCENT EXCEEDS	3020		9890						5940			
50 PERCENT EXCEEDS	1060		1190						1560			
90 PERCENT EXCEEDS	515		500						561			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	925	1473	2124	2500	3303	5542	4766	3324	2215	1058	812	664
MAX	3136	6057	6058	6342	8327	8641	9845	7044	14450	3864	2638	3073
(WY)	1938	1951	1951	1949	1971	1967	1940	1960	1972	1972	1956	1945
MIN	245	377	374	610	826	1763	1697	849	540	317	244	262
(WY)	1964	1958	1966	1940	1963	1969	1968	1941	1965	1966	1966	1964

SUMMARY STATISTICS

WATER YEARS 1938 - 1972

ANNUAL MEAN	2387											
HIGHEST ANNUAL MEAN	4479					1972						
LOWEST ANNUAL MEAN	1329					1969						
HIGHEST DAILY MEAN	115000			Jun 23	1972							
LOWEST DAILY MEAN	101			Aug 21	1966							
ANNUAL SEVEN-DAY MINIMUM	203			Sep 7	1964							
INSTANTANEOUS PEAK FLOW	a125000			Jun 23	1972							
INSTANTANEOUS PEAK STAGE	33.07			Jun 23	1972							
INSTANTANEOUS LOW FLOW	68			Sep 13	1964							
ANNUAL RUNOFF (CFSM)	1.18											
ANNUAL RUNOFF (INCHES)	15.97											
10 PERCENT EXCEEDS	5520											
50 PERCENT EXCEEDS	1210											
90 PERCENT EXCEEDS	393											

‡ Adjusted for change in contents in Raystown Lake.

a From rating curve extended above 39,000 ft³/s on basis of runoff comparison with upstream and downstream stations.

JUNIATA RIVER BASIN

01564500 AUGHWICK CREEK NEAR THREE SPRINGS, PA

LOCATION.--Lat 40°12'45", long 77°55'32", Huntingdon County, Hydrologic Unit 02050304, on right bank 10 ft downstream from bridge on State Highway 994, 300 ft upstream from East Broad Top Railroad bridge, 350 ft upstream from Three Springs Creek, and 3.5 mi northeast of Three Springs. Records include flow of Three Springs Creek.

DRAINAGE AREA.--205 mi², includes that of Three Springs Creek.

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

GAGE.--Water-stage recorder. Datum of gage is 618.65 ft above sea level.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of about 19.3 ft, discharge, about 24,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	19	140	1250	e160	e44	2650	542	57	26	17	6.4
2	26	24	128	851	e140	e42	3110	446	57	50	14	6.2
3	26	220	118	624	e130	128	1930	372	49	179	13	6.7
4	26	184	107	512	e120	899	1240	321	48	78	12	12
5	25	96	101	588	e105	2390	891	391	47	48	11	23
6	25	79	99	510	e110	1110	697	398	47	36	12	21
7	23	74	89	420	e90	793	561	289	44	30	14	15
8	20	59	84	381	e78	973	468	242	50	37	15	13
9	19	49	78	341	e70	1500	403	213	171	38	14	12
10	19	43	66	285	e68	1290	954	194	106	27	19	14
11	20	40	1110	257	e72	907	1510	207	62	23	312	12
12	20	40	1390	253	e70	657	985	198	46	19	208	10
13	19	263	805	351	e65	563	726	207	40	17	81	9.7
14	18	222	551	517	135	385	570	171	37	16	45	9.2
15	18	144	417	453	114	e300	480	145	34	15	32	8.3
16	19	113	356	403	97	e250	2380	129	32	14	26	9.3
17	20	95	1050	361	e86	e230	3540	117	30	13	23	12
18	17	89	1630	307	e78	e220	1600	110	27	12	19	14
19	17	85	939	249	e72	e200	1010	142	26	11	18	13
20	17	75	828	222	e66	e180	745	132	30	12	17	12
21	17	73	900	280	e60	e350	845	104	37	12	15	12
22	16	185	715	e400	e58	602	1760	92	40	11	13	15
23	16	547	618	500	e68	868	1520	83	33	11	12	18
24	17	455	667	468	e62	3270	1010	77	26	9.7	11	16
25	17	347	526	443	e56	2730	772	73	25	9.5	9.4	15
26	16	282	e420	352	e52	2500	1620	66	21	9.5	9.4	30
27	17	242	e330	e310	e48	2650	2170	60	21	10	8.5	75
28	17	199	e260	e280	e46	4180	1210	57	24	9.9	7.9	118
29	17	172	e220	e240	---	4400	856	54	24	17	8.5	62
30	17	154	308	e210	---	3430	669	50	25	23	7.4	35
31	18	---	704	e180	---	2150	---	50	---	25	7.0	---
TOTAL	605	4669	15754	12798	2376	40191	38882	5732	1316	848.6	1031.1	634.8
MEAN	19.5	156	508	413	84.9	1296	1296	185	43.9	27.4	33.3	21.2
MAX	26	547	1630	1250	160	4400	3540	542	171	179	312	118
MIN	16	19	66	180	46	42	403	50	21	9.5	7.0	6.2
CFSM	.10	.76	2.48	2.01	.41	6.32	6.32	.90	.21	.13	.16	.10
IN.	.11	.85	2.86	2.32	.43	7.29	7.06	1.04	.24	.15	.19	.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1993, BY WATER YEAR (WY)

	MEAN	109	177	262	241	380	561	481	315	188	86.1	61.6	52.7
	MAX	656	946	890	683	1399	1296	1296	798	1985	848	355	406
	(WY)	1977	1951	1973	1953	1984	1993	1993	1960	1972	1989	1967	1979
	MIN	6.59	18.3	16.2	14.2	63.5	93.0	103	55.0	25.0	8.40	3.25	5.08
	(WY)	1964	1942	1966	1981	1963	1990	1971	1941	1991	1966	1966	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1939 - 1993

ANNUAL TOTAL	57363		124837.5										
ANNUAL MEAN	157		342										
HIGHEST ANNUAL MEAN										242			
LOWEST ANNUAL MEAN										486			1972
HIGHEST DAILY MEAN	1940	Mar 27	4400	Mar 29	18700					105			1992
LOWEST DAILY MEAN	e12	Feb 13, 14	6.2	Sep 2	.80					1.2			Sep 3 1966
ANNUAL SEVEN-DAY MINIMUM	c14	Feb 8	7.2	Aug 28	1.2								Aug 29 1966
INSTANTANEOUS PEAK FLOW			5400	Mar 28	a23700								Jun 22 1972
INSTANTANEOUS PEAK STAGE			11.47	Mar 28	19.20								Jun 22 1972
INSTANTANEOUS LOW FLOW			6.0	Sep 2, 3	.80								Sep 2 1966b
ANNUAL RUNOFF (CFSM)	.76		1.67		1.18								
ANNUAL RUNOFF (INCHES)	10.41		22.65		16.04								
10 PERCENT EXCEEDS	375		920		573								
50 PERCENT EXCEEDS	73		78		99								
90 PERCENT EXCEEDS	19		12		14								

a From rating curve extended above 7,100 ft³/s on basis of contracted-opening measurement at gage height 18.04 ft.

b Also Sept. 3, 4, 11, 12, 13, 1966.

c Computed using estimated daily discharges.

e Estimated.

JUNIATA RIVER BASIN

01564997 KISHACOQUILLAS CREEK AT LUMBER CITY, PA
(National water-quality assessment station)

LOCATION.--Lat 40°39'42", long 77°36'01", Mifflin County, Hydrologic Unit 02050304, on left bank 20 ft upstream from bridge at Lumber City.
DRAINAGE AREA.--57.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 590 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	e50	26	17	17
2	---	---	---	---	---	---	---	---	e55	34	19	14
3	---	---	---	---	---	---	---	---	e52	32	21	15
4	---	---	---	---	---	---	---	---	e55	27	17	16
5	---	---	---	---	---	---	---	---	e50	26	16	14
6	---	---	---	---	---	---	---	---	e47	25	16	13
7	---	---	---	---	---	---	---	---	e45	25	16	13
8	---	---	---	---	---	---	---	---	e70	27	15	13
9	---	---	---	---	---	---	---	---	e58	23	15	13
10	---	---	---	---	---	---	---	---	48	22	18	12
11	---	---	---	---	---	---	---	---	44	22	30	12
12	---	---	---	---	---	---	---	---	41	23	21	11
13	---	---	---	---	---	---	---	---	39	22	18	11
14	---	---	---	---	---	---	---	---	38	20	16	11
15	---	---	---	---	---	---	---	---	37	20	15	11
16	---	---	---	---	---	---	---	---	36	19	15	11
17	---	---	---	---	---	---	---	---	35	18	16	11
18	---	---	---	---	---	---	---	---	34	18	16	12
19	---	---	---	---	---	---	---	---	33	19	15	11
20	---	---	---	---	---	---	---	---	37	20	15	10
21	---	---	---	---	---	---	---	---	37	18	15	11
22	---	---	---	---	---	---	---	---	35	17	14	13
23	---	---	---	---	---	---	---	---	31	17	14	12
24	---	---	---	---	---	---	---	---	30	16	14	12
25	---	---	---	---	---	---	---	---	29	16	14	12
26	---	---	---	---	---	---	---	---	28	17	13	33
27	---	---	---	---	---	---	---	---	28	17	13	41
28	---	---	---	---	---	---	---	---	27	16	12	35
29	---	---	---	---	---	---	---	---	27	27	12	22
30	---	---	---	---	---	---	---	---	26	19	12	20
31	---	---	---	---	---	---	---	---	---	17	12	---
MEAN	---	---	---	---	---	---	---	---	40.1	21.5	15.9	15.4
MAX	---	---	---	---	---	---	---	---	70	34	30	41
MIN	---	---	---	---	---	---	---	---	26	16	12	10
CFSM	---	---	---	---	---	---	---	---	.70	.37	.28	.27
IN.	---	---	---	---	---	---	---	---	.78	.43	.32	.30

e Estimated.

JUNIATA RIVER BASIN

01564997 KISHACOQUILLAS CREEK AT LUMBER CITY, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

REMARKS.--All water-quality samples collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE OF HG (00025)	OXYGEN, DIS- SOLVED (MM SOLVED MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
MAR										
26...	0940	--	398	8.0	5.0	5.5	--	--	--	--
31...	1045	719	309	8.1	19.0	7.0	743	11.1	94	140
APR										
22...	1020	376	340	8.0	2.5	7.5	737	--	--	160
MAY										
20...	0945	91	478	8.4	20.5	11.5	739	12.5	118	220
JUN										
17...	0905	37	530	8.3	21.0	16.5	753	9.7	101	260
24...	0905	32	533	8.4	24.5	16.5	755	10.2	106	260
JUL										
22...	1000	18	535	8.6	18.5	22.5	750	10.8	127	260
AUG										
19...	1025	14	533	8.4	22.5	20.5	751	9.0	102	270
25...	1005	14	542	8.4	27.0	22.0	753	10.2	118	280
SEP										
09...	1015	12	562	8.4	18.5	17.5	745	8.6	92	270

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)
MAR										
26...	--	--	--	--	--	--	--	--	--	--
31...	44	38	11	3.1	4	0.1	3.0	120	0	96
APR										
22...	43	45	12	3.3	4	0.1	0.90	150	0	120
MAY										
20...	41	59	18	4.2	4	0.1	2.3	220	0	180
JUN										
17...	48	69	21	5.8	5	0.2	3.0	260	0	210
24...	37	68	21	6.6	5	0.2	3.5	260	3.6	210
JUL										
22...	20	69	22	6.9	5	0.2	3.5	280	9.6	230
AUG										
19...	37	71	22	7.3	5	0.2	4.4	270	3.6	230
25...	57	75	22	7.5	5	0.2	4.3	260	3.6	220
SEP										
09...	42	71	23	7.6	6	0.2	4.1	270	3.6	220

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
MAR										
26...	--	--	--	--	--	--	--	--	--	--
31...	19	9.4	0.20	5.7	184	174	0.25	357	6.08	27
APR										
22...	20	10	0.10	5.6	193	194	0.26	196	5.68	25
MAY										
20...	24	12	0.10	4.3	272	267	0.37	66.8	7.87	35
JUN										
17...	21	15	0.10	6.8	306	304	0.42	--	7.86	35
24...	22	15	<0.10	6.7	315	310	0.43	27.2	7.88	35
JUL										
22...	22	15	0.10	3.3	323	320	0.44	15.7	6.88	30
AUG										
19...	25	17	0.10	4.3	326	319	0.44	12.3	6.29	28
25...	23	18	0.10	4.7	316	317	0.43	11.9	6.39	28
SEP										
09...	23	18	<0.10	6.2	327	320	0.44	10.6	--	--

JUNIATA RIVER BASIN

01564997 KISHACOQUILLAS CREEK AT LUMBER CITY, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR 26...	--	--	--	--	--	--	--	--	--	--
MAR 31...	0.020	0.07	6.10	0.060	0.08	0.24	0.70	0.30	6.4	0.190
APR 22...	0.020	0.07	5.70	0.090	0.12	0.31	0.60	0.40	6.1	0.110
MAY 20...	0.030	0.10	7.90	<0.010	--	--	0.40	0.20	8.1	0.170
JUN 17...	0.040	0.13	7.90	0.040	0.05	--	0.30	<0.20	--	0.440
JUN 24...	0.020	0.07	7.90	0.040	0.05	0.16	0.30	0.20	8.1	0.370
JUL 22...	0.020	0.07	6.90	0.040	0.05	0.26	0.40	0.30	7.2	0.540
AUG 19...	0.010	0.03	6.30	0.040	0.05	0.26	0.40	0.30	6.6	0.690
AUG 25...	0.010	0.03	6.40	0.030	0.04	--	0.30	<0.20	--	0.620
SEP 09...	<0.010	--	6.30	0.040	0.05	0.16	0.30	0.20	6.5	0.570

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 26...	--	--	--	--	--	--	--	--	--	--
MAR 31...	0.060	0.070	0.21	21	14	71	0.1	102	198	91
APR 22...	0.090	0.070	0.21	37	9	15	1.7	54	55	94
MAY 20...	0.150	0.130	0.40	4	5	7.4	0.4	10	2.5	70
JUN 17...	0.410	0.440	1.3	<3	6	1.8	0.3	10	--	91
JUN 24...	0.360	0.360	1.1	6	5	2.0	0.3	5	0.43	94
JUL 22...	0.490	0.470	1.4	4	5	2.0	0.3	2	0.10	100
AUG 19...	0.650	0.630	1.9	5	6	9.9	0.3	7	0.26	90
AUG 25...	0.530	0.560	1.7	4	6	6.6	0.2	7	0.26	74
SEP 09...	0.590	0.580	1.8	<3	5	2.1	0.2	5	0.16	91

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- IFIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS05	07-06-93	0920	1.29	529	8.5	21.5	49	7.8	149	161	12
	07-06-93	1020	.16	529	8.5	22.0	32	2.0	1610	1800	200

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA

LOCATION.--Lat 40°28'42", long 77°07'46", Perry County, Hydrologic Unit 02050304, on right bank at downstream side of bridge on State Highway 34 at Newport and 1,000 ft upstream from Little Buffalo Creek.

DRAINAGE AREA.--3,354 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1899 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1902(M). WSP 1302: 1915-17. WSP 1502: 1899-1908, 1914, 1924, 1936. WSP 1722: 1916.

GAGE.--Water-stage recorder. Datum of gage is 363.93 ft above sea level. Prior to July 16, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since October 1972 by Raystown Dam (station 01563100) about 75 mi upstream. National Weather Service satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 35.9 ft, from floodmarks, discharge, 209,000 ft³/s, from rating curve extended above 100,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	954	687	2900	10600	3720	e1300	35800	12900	1920	933	937	686
2	856	696	2490	21400	e3000	e1400	40800	11200	1930	888	857	725
3	814	1280	2390	15500	e2700	e1500	32600	10000	1980	1430	812	743
4	790	1670	2140	9660	2790	2990	28100	8340	1740	1880	809	902
5	779	2450	2020	7810	2820	13600	26600	7280	1650	2140	751	941
6	759	1790	1890	8030	2590	18600	24600	10300	1600	1530	749	988
7	739	1420	1830	8130	e2200	13700	24300	8140	1550	1220	726	1070
8	728	1350	1760	6920	e2100	11300	23000	6730	1510	1160	704	970
9	743	1310	1690	6120	e2100	12800	21900	5990	1800	1150	684	862
10	820	1180	1650	e5100	e2000	14800	22900	5540	3040	1040	680	842
11	850	1110	2590	e4700	2010	14300	25500	5120	3420	965	874	779
12	823	1090	9370	e4400	2000	12700	22100	4520	2700	914	945	758
13	807	1750	9860	4770	2030	10400	19200	4340	2240	877	1570	745
14	760	1870	6830	6200	1990	8680	14200	4120	2020	833	1650	739
15	747	2740	4990	7540	1940	7490	10600	3780	1900	855	1100	739
16	739	2300	4480	6400	1970	6710	11200	3410	1550	835	864	724
17	723	2000	4560	5780	1990	6020	39700	3210	1360	818	781	740
18	706	1760	9840	5370	e1900	e5600	37600	2920	1310	800	843	751
19	694	1610	12200	e4400	e1300	e4600	29500	2770	1260	791	763	767
20	684	1610	10700	e4200	e1200	e4600	26000	2790	1260	780	748	736
21	695	1580	9660	e4100	e1200	e4800	25400	2930	1410	774	946	717
22	695	2170	8920	4280	e1300	6080	30400	2950	1380	753	826	728
23	695	3950	7470	5110	e1400	7110	31500	2580	1270	742	747	728
24	695	4310	6840	5700	e1300	17900	25100	2280	1190	727	712	728
25	695	4350	e5500	5270	e1200	31500	19600	2180	1070	706	700	824
26	695	4040	e5100	e4800	e1200	32000	18600	2110	991	698	695	960
27	695	4100	e4300	e5000	e1300	33400	32100	2010	980	718	682	1360
28	695	3650	e4000	4760	e1300	40500	30400	1900	931	726	681	1630
29	695	3340	e3900	4610	---	44600	25500	1840	901	769	679	2500
30	695	3120	e4100	4380	---	41700	18600	1830	951	896	669	2350
31	695	---	4360	4110	---	35800	---	1780	---	831	665	---
TOTAL	23160	66283	160330	205150	54550	468480	773400	147790	48814	30179	25849	28732
MEAN	747	2209	5172	6618	1948	15110	25780	4767	1627	974	834	958
MAX	954	4350	12200	21400	3720	44600	40800	12900	3420	2140	1650	2500
MIN	684	687	1650	4100	1200	1300	10600	1780	901	698	665	686
MEAN‡	626	2311	5313	6503	2003	16740	24220	4731	1588	932	777	918
CFSM‡	.19	.69	1.58	1.94	.60	4.99	7.22	1.41	.47	.28	.23	.27
IN.‡	.22	.77	1.82	2.24	.62	5.75	8.05	1.63	.52	.32	.26	.30

‡ Adjusted for change in contents in Raystown Lake.

e Estimated.

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2762	3381	5028	4436	6196	8293	8686	5603	3416	2311	1494	1584
MAX	11610	8494	13770	9801	15070	17080	25780	13940	8510	12080	3637	6282
(WY)	1977	1986	1973	1974	1984	1979	1993	1978	1982	1989	1979	1975
MIN	730	871	1262	495	1779	2576	4138	2363	1084	864	782	586
(WY)	1992	1979	1990	1981	1980	1990	1988	1977	1991	1988	1985	1986

SUMMARY STATISTICS FOR 1992 CALENDAR YEAR FOR 1993 WATER YEAR WATER YEARS 1973 - 1993

ANNUAL TOTAL	971761		2032717									
ANNUAL MEAN	2655	‡2750	5569	‡5560					4421	‡4453		
HIGHEST ANNUAL MEAN									6682			1978
LOWEST ANNUAL MEAN									2271			1992
HIGHEST DAILY MEAN	20700		Mar 28	44600		Mar 29			87100		Feb 15	1984
LOWEST DAILY MEAN	651		Aug 25-27	665		Aug 31			450		Jan 13	1981
ANNUAL SEVEN-DAY MINIMUM	666		Aug 22	680		Aug 26			461		Jan 9	1981
INSTANTANEOUS PEAK FLOW				46500		Mar 29			90500		Feb 15	1984
INSTANTANEOUS PEAK STAGE				16.24		Mar 29			23.21		Feb 15	1984
INSTANTANEOUS LOW FLOW				662		Aug 30,31			195		Jul 27	1966
ANNUAL RUNOFF (CFSM)	.79	‡.82		1.66	‡1.66				1.32	‡1.33		
ANNUAL RUNOFF (INCHES)	10.78	‡11.15		22.55	‡22.50				17.91	‡18.03		
10 PERCENT EXCEEDS	5110			18200					9890			
50 PERCENT EXCEEDS	1640			1920					2700			
90 PERCENT EXCEEDS	787			726					829			

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1820	2658	3649	4621	5570	9856	8097	5797	3612	2072	1563	1419
MAX	8108	10880	11310	13300	16160	33600	17160	14870	25050	7865	4605	6890
(WY)	1928	1951	1902	1937	1915	1936	1940	1908	1972	1972	1905	1911
MIN	351	418	471	841	943	2340	2026	1319	890	455	327	370
(WY)	1964	1931	1931	1931	1934	1931	1915	1941	1965	1966	1966	1964

SUMMARY STATISTICS WATER YEARS 1899 - 1972

ANNUAL MEAN	4228											
HIGHEST ANNUAL MEAN	7403					1972						
LOWEST ANNUAL MEAN	2166					1969						
HIGHEST DAILY MEAN	172000			Mar 19	1936							
LOWEST DAILY MEAN	207			Jul 27	1966							
ANNUAL SEVEN-DAY MINIMUM	269			Aug 3	1966							
INSTANTANEOUS PEAK FLOW	a190000			Mar 19	1936							
INSTANTANEOUS PEAK STAGE	b34.24			Mar 19	1936							
INSTANTANEOUS LOW FLOW	195			Jul 27	1966							
ANNUAL RUNOFF (CFSM)	1.26											
ANNUAL RUNOFF (INCHES)	17.13											
10 PERCENT EXCEEDS	9360											
50 PERCENT EXCEEDS	2300											
90 PERCENT EXCEEDS	680											

‡ Adjusted for change in contents in Raystown Lake.

a From rating curve extended above 100,000 ft³/s.

b From floodmark in gage.

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945 to 1990, 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to June 1993 (discontinued).

pH: October 1969 to September 1970, October 1972 to September 1973.

WATER TEMPERATURE: October 1944 to June 1953, April 1958 to September 1962, October 1964 to September 1993 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: January 1951 to June 1993 (discontinued).

INSTRUMENTATION.--Sediment sampler and shelter attached to downstream bridge-rail about 445 ft from left bank.

REMARKS.--Once-daily water temperatures and laboratory specific conductance values obtained from suspended-sediment samples.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (Water years 1965-86, 1991-92) Maximum daily, 558 microsiemens, Oct. 27, 1969; minimum daily, 107 microsiemens, Dec. 2, 1984.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 23, 24, 1987, Aug. 2, 1988, July 9, 1993; minimum daily, 0.0°C on many days during winter periods based on unpublished records.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,130 mg/L, Mar. 2, 1954; minimum daily mean, <1 mg/L on many days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 365,000 tons, June 23, 1972; minimum daily, <.01 ton on many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE.--Maximum daily, 401 microsiemens, Oct. 29; minimum daily, 136 microsiemens, Apr. 2.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 9; minimum daily, 0.0°C, several days during winter period.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 366 mg/L, Apr. 17; minimum daily mean, 1 mg/L, many days during the year.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 40,100 tons, Apr. 17; minimum daily, 1.9 tons, Oct. 21, 22, 27, 30.

ADDITIONAL REMARKS.--Ecological water-quality data were collected as part of an ecological survey of sites for NAWQA. The sample was collected at the richest-targeted habitat. Other synoptic sites are shown in figure 12, page 278. All data collected at ecological survey sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
ESS17	08-23-93	1.25	240	9.1	24.0	755	9.8
OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER WH FET FIELD (MG/L AS HCO3) (00440)	CAR- BONATE WATER WH FET FIELD (MG/L AS CO3) (00445)	ALKA- LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS TOTAL ASH MASS (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL ASH-FREE MASS (G/SQ M) (00573)
118	85	10	86	62	3.9	333	24

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SPECIFIC CONDUCTANCE, $\mu\text{S}/\text{CM}$ @ 25° CENTIGRADE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	342	361	207	199	211	272	139	183	268			
2	378	358	214	170	226	289	136	189	279			
3	381	325	216	170	225	243	139	194	289			
4	351	334	221	174	241	---	157	198	276			
5	341	345	217	170	233	180	187	213	224			
6	354	379	222	174	231	199	200	197	285			
7	380	367	218	177	---	196	203	202	279			
8	332	382	178	177	236	209	211	207	295			
9	307	306	225	183	249	191	212	209	299			
10	---	323	---	---	245	198	207	212	274			
11	333	349	---	186	227	193	184	212	256			
12	341	348	---	181	257	199	162	220	281			
13	350	320	---	202	244	---	179	234	250			
14	351	299	---	199	246	---	179	238	240			
15	353	304	---	219	248	---	188	233	231			
16	393	309	---	202	258	---	181	237	264			
17	382	313	---	198	258	217	147	247	266			
18	377	297	---	197	256	214	150	255	270			
19	353	389	179	203	---	228	163	255	276			
20	334	296	188	211	276	224	164	260	286			
21	346	277	190	207	---	226	175	260	250			
22	353	276	194	191	267	235	169	269	---			
23	391	208	188	213	270	191	166	251	---			
24	391	206	195	216	---	191	156	245	---			
25	378	213	199	239	---	188	170	266	---			
26	339	199	201	221	---	188	176	267	---			
27	309	204	201	217	---	184	153	274	---			
28	394	200	207	217	---	170	151	277	---			
29	401	203	207	202	---	150	166	273	---			
30	399	205	215	217	---	139	173	255	---			
31	391	---	212	219	---	138	---	260	---			
MEAN	361	297	204	198	245	202	171	235	268			

WATER TEMPERATURE, (°C) WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ONCE DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	8.0	6.0	4.0	1.5	2.5	9.0	16.0	20.0	24.5	26.0	28.0
2	17.0	8.0	6.0	4.0	5.0	5.0	8.0	17.0	18.5	22.0	26.0	29.0
3	14.5	11.5	5.0	4.0	2.5	6.0	7.0	16.0	21.5	18.0	26.0	29.5
4	15.0	11.5	5.0	5.5	2.0	---	6.5	16.0	19.0	27.5	26.0	27.0
5	17.0	9.5	4.0	6.0	4.0	2.0	6.5	17.0	19.5	28.0	26.0	27.0
6	15.5	9.0	3.0	6.0	---	7.5	7.0	18.0	20.5	29.0	22.0	26.0
7	17.0	7.0	3.5	5.5	---	2.0	8.0	18.0	22.0	30.5	24.0	25.0
8	17.0	8.0	8.0	5.0	1.0	4.5	8.5	18.5	21.0	32.0	26.0	22.0
9	17.0	7.0	4.0	3.0	1.5	4.5	7.0	20.0	23.0	33.0	27.0	23.0
10	---	8.0	---	---	3.5	3.5	7.5	21.5	24.5	22.5	27.0	24.0
11	17.0	8.0	---	2.0	3.0	4.0	8.0	22.0	24.5	31.5	25.5	20.0
12	15.0	10.5	---	2.5	1.0	4.0	9.5	20.5	24.0	31.5	25.0	21.0
13	15.0	10.0	---	3.5	1.5	---	10.0	20.5	25.0	32.0	28.0	23.5
14	14.0	7.0	---	3.5	2.0	---	10.0	20.5	26.0	29.0	28.0	24.0
15	17.0	6.0	---	3.5	3.0	---	11.0	21.0	25.0	31.0	29.0	26.5
16	18.0	5.0	---	3.5	1.0	---	11.5	18.5	26.0	30.0	26.0	20.5
17	14.0	5.5	---	3.5	2.0	3.0	10.5	20.0	27.0	29.5	28.0	19.5
18	11.0	5.5	---	3.0	1.0	2.0	11.0	16.0	29.0	29.0	28.0	20.0
19	10.0	5.0	4.5	3.0	---	2.5	11.5	16.0	28.0	26.0	27.0	20.0
20	9.0	5.0	4.5	3.0	1.0	3.0	13.0	17.0	28.0	29.5	26.0	18.0
21	10.0	6.0	4.0	1.5	---	4.5	12.0	18.0	27.0	27.0	26.5	18.0
22	11.0	9.0	4.5	2.5	1.5	5.5	9.0	17.0	23.0	28.0	25.0	19.0
23	12.5	9.5	4.5	3.5	5.0	4.0	9.0	18.0	27.0	28.5	27.5	18.5
24	12.0	9.0	3.5	3.5	---	5.0	10.0	20.5	27.5	28.5	27.5	20.0
25	10.5	9.5	3.0	3.0	---	5.0	12.5	22.0	27.5	29.0	30.0	18.5
26	11.0	10.0	1.0	2.0	---	6.0	10.5	22.0	28.0	26.5	31.0	19.0
27	---	9.0	5.0	2.5	---	6.5	11.0	22.0	28.5	29.0	31.0	17.5
28	12.5	8.0	1.0	2.0	---	6.0	12.0	24.0	29.0	29.5	31.0	17.0
29	12.0	7.5	2.0	1.0	---	6.5	13.0	23.0	26.0	29.5	31.0	16.0
30	11.0	8.0	3.0	1.0	---	8.5	14.0	24.0	28.0	26.5	30.0	15.0
31	9.0	---	4.0	1.5	---	9.5	---	19.5	---	26.0	29.0	---
MEAN	13.5	8.0	4.0	3.5	2.0	4.5	10.0	19.5	25.0	28.0	27.5	21.5

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	954	2	5.2	687	3	5.6	2900	2	16
2	856	3	6.9	696	2	3.8	2490	1	6.7
3	814	5	11	1280	5	17	2390	1	6.5
4	790	6	13	1670	10	45	2140	2	12
5	779	3	6.3	2450	17	112	2020	3	16
6	759	7	14	1790	8	39	1890	2	10
7	739	10	20	1420	5	19	1830	2	9.9
8	728	3	5.9	1350	4	15	1760	1	4.8
9	743	8	16	1310	3	11	1690	2	9.1
10	820	7	15	1180	1	3.2	1650	3	13
11	850	4	9.2	1110	2	6.0	2590	17	167
12	823	5	11	1090	2	5.9	9370	100	2620
13	807	3	6.5	1750	5	24	9860	72	1940
14	760	3	6.2	1870	4	20	6830	46	852
15	747	1	2.0	2740	12	89	4990	28	378
16	739	2	4.0	2300	4	25	4480	20	242
17	723	3	5.9	2000	2	11	4560	24	312
18	706	2	3.8	1760	3	14	9840	92	2560
19	694	2	3.7	1610	2	8.7	12200	70	2340
20	684	3	5.5	1610	1	4.3	10700	37	1080
21	695	1	1.9	1580	1	4.3	9660	20	522
22	695	1	1.9	2170	2	12	8920	14	337
23	695	11	21	3950	18	201	7470	12	242
24	695	11	21	4310	34	390	6840	12	222
25	695	6	11	4350	33	388	5500	8	119
26	695	2	3.8	4040	27	300	5100	6	83
27	695	1	1.9	4100	26	288	4300	4	46
28	695	3	5.6	3650	16	158	4000	3	32
29	695	2	3.8	3340	8	72	3900	2	21
30	695	1	1.9	3120	4	34	4100	2	22
31	695	3	5.6	---	---	---	4360	4	47
TOTAL	23160	---	250.5	66283	---	2325.8	160330	---	14288.0
JANUARY			FEBRUARY			MARCH			
1	10600	60	2460	3720	5	50	1300	1	3.5
2	21400	122	7120	3000	9	73	1400	3	11
3	15500	42	1840	2700	3	22	1500	6	24
4	9660	20	556	2790	3	23	2990	24	254
5	7810	14	295	2820	3	23	13600	125	4750
6	8030	22	486	2590	2	14	18600	103	5160
7	8130	26	573	2200	2	12	13700	29	1120
8	6920	13	243	2100	3	17	11300	24	747
9	6120	9	149	2100	3	17	12800	36	1250
10	5100	8	110	2000	3	16	14800	41	1650
11	4700	7	89	2010	2	11	14300	23	888
12	4400	5	59	2000	4	22	12700	12	411
13	4770	5	64	2030	2	11	10400	10	281
14	6200	12	201	1990	1	5.4	8680	8	187
15	7540	16	326	1940	2	10	7490	8	162
16	6400	12	207	1970	2	11	6710	8	145
17	5780	8	125	1990	2	11	6020	6	98
18	5370	5	72	1900	3	15	5600	7	106
19	4400	4	48	1300	3	11	4600	6	75
20	4200	4	45	1200	2	6.5	4600	4	50
21	4100	2	22	1200	2	6.5	4800	4	52
22	4280	4	46	1300	2	7.0	6080	4	66
23	5110	6	83	1400	3	11	7110	7	134
24	5700	6	92	1300	3	11	17900	60	3490
25	5270	7	100	1200	2	6.5	31500	93	7900
26	4800	7	91	1200	2	6.5	32000	66	5720
27	5000	5	67	1300	2	7.0	33400	78	7060
28	4760	5	64	1300	1	3.5	40500	105	11600
29	4610	5	62	---	---	---	44600	167	20100
30	4380	4	47	---	---	---	41700	132	14900
31	4110	5	55	---	---	---	35800	89	8660
TOTAL	205150	---	15797	54550	---	439.9	468480	---	97054.5

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL				MAY			JUNE		
1	35800	100	9730	12900	23	801	1920	2	10
2	40800	111	12200	11200	23	696	1930	2	10
3	32600	50	4540	10000	23	621	1980	3	16
4	28100	34	2580	8340	20	450	1740	3	14
5	26600	24	1750	7280	29	635	1650	4	18
6	24600	16	1060	10300	61	1720	1600	3	13
7	24300	15	984	8140	27	607	1550	3	13
8	23000	16	994	6730	18	327	1510	2	8.2
9	21900	13	769	5990	20	323	1800	5	30
10	22900	27	1760	5540	18	269	3040	21	174
11	25500	52	3650	5120	14	194	3420	20	185
12	22100	38	2310	4520	12	146	2700	14	102
13	19200	27	1420	4340	12	141	2240	11	67
14	14200	31	1200	4120	9	100	2020	12	65
15	10600	22	630	3780	7	71	1900	11	56
16	11200	46	1780	3410	6	55	1550	10	42
17	39700	366	40100	3210	4	35	1360	8	29
18	37600	175	18400	2920	4	32	1310	9	32
19	29500	56	4530	2770	3	22	1260	8	27
20	26000	32	2250	2790	2	15	1260	9	31
21	25400	28	1940	2930	2	16	1410	9	34
22	30400	44	3620	2950	4	32	1380	---	---
23	31500	50	4270	2580	4	28	1270	---	---
24	25100	32	2170	2280	2	12	1190	---	---
25	19600	23	1220	2180	4	24	1070	---	---
26	18600	39	2260	2110	3	17	991	---	---
27	32100	98	8470	2010	3	16	980	---	---
28	30400	56	4620	1900	3	15	931	---	---
29	25500	33	2270	1840	2	9.9	901	---	---
30	18600	22	1130	1830	2	9.9	951	---	---
31	---	---	---	1780	1	4.8	---	---	---
TOTAL	773400	---	144607	147790	---	7444.6	48814	---	976.2

SHERMAN CREEK BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA

LOCATION.--Lat 40°22'15", long 77°24'09", Perry County, Hydrologic Unit 02050305, on right bank 400 ft upstream from bridge on State Highway 850 at Bixler, 2.3 mi upstream from mouth, and 3.6 mi west of Loysville.

DRAINAGE AREA.--15.0 mi².

REVISED RECORDS.--WRD PA-90-2: 1989 (M).

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

GAGE.--Water-stage recorder. Datum of gage is 601.22 ft above sea level. Prior to May 14, 1954, nonrecording gage and crest-stage gage 400 ft downstream at same datum.

REMARKS.--Records fair. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.2	8.9	18	14	7.0	399	50	13	6.8	2.6	e3.5
2	2.7	4.4	8.3	17	11	8.9	364	43	11	16	2.6	3.3
3	2.7	36	7.9	16	11	14	164	38	11	11	2.6	3.9
4	2.7	7.7	7.5	16	11	139	105	36	11	8.5	2.5	5.8
5	2.7	5.8	7.8	19	11	144	78	52	11	7.7	2.5	3.8
6	2.7	5.7	7.1	16	11	70	64	43	10	7.2	3.0	3.6
7	2.7	4.9	7.0	15	9.4	58	54	35	9.5	8.3	3.4	3.7
8	2.8	4.6	6.5	15	e8.4	71	48	32	12	11	3.0	4.1
9	3.6	4.3	6.0	13	e8.0	86	43	30	17	7.2	2.9	4.2
10	3.6	4.3	6.5	13	e8.0	75	209	27	10	6.6	3.5	4.5
11	3.0	4.4	120	12	8.9	58	150	26	9.2	6.3	6.5	3.9
12	3.1	16	94	13	9.3	46	84	25	8.7	5.7	4.0	4.0
13	3.1	37	51	28	9.7	49	63	25	8.6	5.3	3.4	4.0
14	3.1	11	36	25	9.0	48	53	23	8.3	5.4	3.2	3.9
15	3.1	8.1	28	23	8.5	42	47	21	8.2	5.0	3.0	4.0
16	3.0	6.8	27	22	9.2	33	151	20	7.8	5.0	3.1	4.7
17	2.9	6.1	92	20	e8.0	46	183	19	7.7	4.9	3.9	5.1
18	3.1	5.7	63	17	e7.2	49	90	19	7.5	4.8	3.6	5.0
19	3.0	5.4	46	15	e6.6	39	68	21	7.4	5.3	3.1	4.4
20	3.0	5.1	44	13	e7.0	35	57	18	7.9	5.2	4.4	4.1
21	3.1	9.9	36	14	7.9	38	76	17	8.4	4.4	4.1	4.7
22	3.1	31	32	26	8.6	42	224	16	7.7	3.8	3.1	5.5
23	3.1	64	29	23	8.2	63	126	15	7.0	3.7	3.1	4.5
24	3.2	23	25	22	7.5	194	85	14	6.9	3.7	3.7	4.4
25	3.2	20	22	e19	7.1	182	69	13	6.7	3.7	3.7	5.1
26	3.1	16	e17	e17	7.2	181	237	13	7.3	3.0	3.6	12
27	3.1	14	e14	e16	7.1	222	138	12	7.4	2.4	3.2	10
28	3.1	12	e15	e15	7.0	523	89	12	6.9	2.2	3.0	8.1
29	3.2	10	17	e14	---	528	69	13	6.9	3.5	2.9	6.2
30	3.2	9.5	18	e13	---	453	58	11	6.7	2.7	2.7	5.9
31	3.2	---	18	15	---	222	---	13	---	2.7	e2.5	---
TOTAL	93.9	395.9	917.5	540	246.8	3765.9	3645	752	268.7	179.0	102.4	149.9
MEAN	3.03	13.2	29.6	17.4	8.81	121	121	24.3	8.96	5.77	3.30	5.00
MAX	3.6	64	120	28	14	528	399	52	17	16	6.5	12
MIN	2.7	3.2	6.0	12	6.6	7.0	43	11	6.7	2.2	2.5	3.3
CFSM	.20	.88	1.97	1.16	.59	8.10	8.10	1.62	.60	.38	.22	.33
IN.	.23	.98	2.28	1.34	.61	9.34	9.04	1.86	.67	.44	.25	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1993, BY WATER YEAR (WY)

	MEAN	10.2	14.1	18.8	16.6	27.6	38.0	33.6	23.8	17.9	12.1	6.82	6.71
MAX	48.6	61.9	54.3	49.0	91.0	121	121	81.2	172	112	32.3	37.7	
(WY)	1977	1957	1978	1979	1984	1993	1993	1978	1972	1989	1955	1975	
MIN	2.07	2.96	2.70	3.51	6.67	9.77	10.4	6.79	4.12	2.62	2.28	2.38	
(WY)	1964	1966	1966	1981	1992	1990	1963	1969	1965	1966	1966	1963	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1954 - 1993

ANNUAL TOTAL	4075.7	11057.0	
ANNUAL MEAN	11.1	30.3	18.9
HIGHEST ANNUAL MEAN			42.6
LOWEST ANNUAL MEAN			7.59
HIGHEST DAILY MEAN	129	Mar 27	2120
LOWEST DAILY MEAN	e2.3	Jan 19	1.9
ANNUAL SEVEN-DAY MINIMUM	2.7	Sep 14	1.9
INSTANTANEOUS PEAK FLOW			a16000
INSTANTANEOUS PEAK STAGE			b12.90
INSTANTANEOUS LOW FLOW			1.5
ANNUAL RUNOFF (CFSM)	.74		1.26
ANNUAL RUNOFF (INCHES)	10.11		17.15
10 PERCENT EXCEEDS	25		37
50 PERCENT EXCEEDS	5.7		9.3
90 PERCENT EXCEEDS	2.9		3.5

a From rating curve extended above 2,700 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.

b From outside floodmark; 12.19 ft in gage well.

e Estimated.

SHERMAN CREEK BASIN

01568000 SHERMAN CREEK AT SHERMANS DALE, PA

LOCATION.--Lat 40°19'24", long 77°10'09", Perry County, Hydrologic Unit 02050305, on left bank on downstream side of bridge on State Highway 34 at Shermans Dale, and 1.2 mi upstream from Fishing Run.

DRAINAGE AREA.--200 mi².

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1962, published as "at Shermendale".

REVISED RECORDS.--WSP 1302: 1930(M). WSP 1502: 1933, 1934(M), 1935-36.

GAGE.--Water-stage recorder. Datum of gage is 422.63 ft above sea level. Prior to Jan. 29, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. National Weather Service satellite telemeter at station. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1927, reached a stage of 20.34 ft, from floodmark, discharge, about 44,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	35	238	541	e210	e100	6820	653	128	53	40	28
2	32	40	217	478	e160	e110	5330	570	111	218	38	28
3	30	676	200	436	e160	169	2850	515	102	350	37	36
4	29	262	179	414	e170	888	1830	479	99	172	36	208
5	28	125	178	620	e180	2360	1340	636	97	102	36	95
6	26	101	166	535	e150	1170	1050	636	96	80	35	58
7	25	84	155	461	e130	853	863	488	89	140	37	42
8	25	70	146	439	e120	971	730	446	88	419	36	40
9	38	61	136	408	e140	1280	634	412	225	180	36	45
10	48	57	133	356	e160	1090	1270	373	174	117	36	47
11	46	54	1040	327	e150	795	2440	342	108	92	237	45
12	39	57	2060	323	e130	612	1240	312	86	80	199	38
13	34	1450	958	488	e140	e500	912	337	79	68	79	34
14	31	441	633	613	e120	e390	728	284	74	62	58	31
15	28	284	502	487	e100	e400	624	247	70	59	49	29
16	28	216	440	446	e110	e350	1440	224	69	55	45	30
17	27	182	919	413	e100	e450	2670	208	64	51	47	36
18	27	162	1190	360	e80	e520	1390	194	62	48	74	40
19	27	144	740	305	e60	e480	976	218	59	46	55	41
20	26	130	691	e260	e54	e430	770	208	106	47	46	36
21	27	129	657	e250	e52	e370	822	178	116	48	52	34
22	28	422	555	418	e110	e500	2190	164	72	46	42	36
23	29	1230	507	481	171	736	1850	154	61	43	38	37
24	32	617	483	421	170	2590	1220	146	54	41	35	35
25	33	502	412	434	e140	2370	946	139	51	40	33	35
26	32	439	390	361	e130	2140	1870	126	63	39	31	99
27	32	394	e310	e320	e120	2330	2370	117	85	39	31	245
28	30	331	e310	e300	e110	4390	1310	114	67	37	29	241
29	31	291	e300	e280	---	4740	980	110	60	46	28	116
30	31	259	e320	e240	---	5230	792	106	57	49	29	78
31	36	---	423	e230	---	3660	---	104	---	47	28	---
TOTAL	969	9245	15588	12445	3627	42974	50257	9240	2672	2914	1632	1943
MEAN	31.3	308	503	401	130	1386	1675	298	89.1	94.0	52.6	64.8
MAX	48	1450	2060	620	210	5230	6820	653	225	419	237	245
MIN	25	35	133	230	52	100	624	104	51	37	28	28
CFSM	.16	1.54	2.51	2.01	.65	6.93	8.38	1.49	.45	.47	.26	.32
IN.	.18	1.72	2.90	2.31	.67	7.99	9.35	1.72	.50	.54	.30	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

	MEAN	143	239	308	300	393	598	555	401	209	117	101	86.7
MAX	905	924	964	868	1253	1941	1675	1196	1969	1187	777	476	
(WY)	1977	1971	1973	1953	1984	1936	1993	1978	1972	1989	1933	1975	
MIN	18.5	22.1	22.7	22.0	54.2	133	184	88.8	48.4	18.9	18.1	18.6	
(WY)	1964	1931	1931	1981	1931	1931	1971	1941	1965	1966	1930	1930	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1930 - 1993

ANNUAL TOTAL	78344	153506	287	
ANNUAL MEAN	214	421	544	1972
HIGHEST ANNUAL MEAN			122	1931
LOWEST ANNUAL MEAN			10	
HIGHEST DAILY MEAN	3110	Mar 27	6820	Apr 1
LOWEST DAILY MEAN	18	Aug 20	25	Oct 7, 8
ANNUAL SEVEN-DAY MINIMUM	20	Aug 14	27	Oct 15
INSTANTANEOUS PEAK FLOW			8070	Apr 1
INSTANTANEOUS PEAK STAGE			10.06	Apr 1
INSTANTANEOUS LOW FLOW			24	Oct 8
ANNUAL RUNOFF (CFSM)	1.07		2.10	
ANNUAL RUNOFF (INCHES)	14.57		28.55	
10 PERCENT EXCEEDS	519		978	640
50 PERCENT EXCEEDS	109		144	140
90 PERCENT EXCEEDS	29		34	31

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

e Estimated.

CLARK CREEK BASIN

01568400 DeHART RESERVOIR NEAR CARSONVILLE, PA

LOCATION.--Lat 40°27'50", long 76°44'50", Dauphin County, Hydrologic Unit 02050305, at DeHart Dam on Clark Creek, 1.8 mi southeast of Carsonville, and 15.3 mi upstream from mouth.

DRAINAGE AREA.--21.7 mi².

PERIOD OF RECORD.--October 1940 to current year (discontinued).

GAGE.--Staff. Datum is given in feet above sea level (levels by city of Harrisburg).

REMARKS.--Reservoir formed by earthfill dam with ungated concrete spillway at elevation 644.00 ft (capacity, 18,480 acre-ft). Storage began Jan. 21, 1940; crest of spillway raised 4 ft in November 1954. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is controlled by valves on pipe through dam.

COOPERATION.--Records provided by city of Harrisburg.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 19,460 acre-ft, Sept. 27, 1975, elevation, 645.75 ft; minimum (after first filling), 4,680 acre-ft, Jan. 2, 1966, elevation, 613.33 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,130 acre-ft, Apr. 1, elevation 645.17 ft; minimum, 13,390 acre-ft, Sept. 30, elevation, 635.33 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
Sept. 30.....	640.00	16,140	--
Oct. 31.....	639.25	15,680	- 7.5
Nov. 30.....	644.33	18,660	+50.1
Dec. 31.....	644.17	18,570	- 1.5
CAL YR 1992.....	--	--	+11.2
Jan. 31.....	644.17	18,570	0
Feb. 28.....	644.00	18,480	- 1.6
Mar. 31.....	644.92	18,980	+ 8.1
Apr. 30.....	644.33	18,660	- 5.4
May 31.....	644.00	18,480	- 2.9
June 30.....	642.50	17,600	-14.8
July 31.....	640.17	16,240	-22.1
Aug. 31.....	637.67	14,750	-24.2
Sept. 30.....	635.33	13,390	-22.9
WTR YR 1993.....	--	--	- 3.8

CLARK CREEK BASIN

01568500 CLARK CREEK NEAR CARSONVILLE, PA

LOCATION.--Lat 40°27'37", long 76°45'06", Dauphin County, Hydrologic Unit 02050305, on right bank 0.3 mi downstream from DeHart Dam, 1.8 mi southeast of Carsonville, and 15.0 mi upstream from mouth.

DRAINAGE AREA.--22.5 mi².

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WSP 1302: 1940(M). WSP 1702: 1942 (monthly mean).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 552.32 ft above sea level. Prior to Jan. 6, 1939, water-stage recorder at site 1,700 ft upstream at datum 9.49 ft higher. Jan. 6, 1939, to July 27, 1940, nonrecording gage at site 100 ft downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since Jan. 28, 1940 by DeHart Dam (station 01568400). Diversion from reservoir to city of Harrisburg. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion and change in reservoir contents provided by city of Harrisburg.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.1	51	e38	23	7.5	605	66	10	8.2	11	11
2	5.5	6.4	44	e35	17	7.6	524	58	10	10	11	11
3	5.5	11	41	e32	16	7.8	320	49	10	9.9	11	11
4	5.5	6.8	31	e38	15	10	203	40	10	9.7	11	11
5	5.5	6.7	29	e50	13	35	143	70	10	8.5	11	11
6	5.5	6.8	25	e47	14	52	109	92	10	7.5	11	11
7	5.5	6.6	22	e43	12	47	84	67	10	7.5	11	11
8	5.5	6.5	19	e40	11	48	67	55	10	7.5	11	11
9	12	6.5	18	e38	9.9	58	59	47	10	7.5	11	11
10	8.5	6.5	33	e37	9.0	60	156	43	10	7.5	11	11
11	6.7	6.5	44	e40	8.5	59	427	37	10	7.5	11	10
12	6.5	7.5	36	e37	11	50	246	33	10	10	11	10
13	6.3	11	37	e45	16	65	167	32	10	10	11	10
14	6.3	7.5	33	50	13	67	123	25	10	7.5	11	10
15	6.2	7.2	29	41	11	45	98	21	10	7.6	11	10
16	6.1	7.1	26	37	15	34	131	20	10	6.7	11	10
17	6.1	7.0	39	35	15	43	228	17	10	6.7	11	10
18	6.1	6.9	48	32	11	57	155	16	10	7.2	11	10
19	6.1	6.8	41	28	8.2	48	119	15	10	8.3	11	10
20	6.1	6.7	43	26	7.3	42	97	14	10	8.4	11	10
21	6.1	6.9	43	25	8.1	44	89	12	10	8.3	11	6.6
22	6.1	9.2	39	36	8.8	41	126	11	10	9.8	11	4.5
23	6.1	86	36	37	7.4	47	112	9.6	10	11	11	4.5
24	6.1	199	33	35	6.6	127	88	9.4	11	11	11	5.3
25	6.1	188	29	38	7.2	144	74	9.1	12	11	11	6.0
26	6.1	146	27	33	7.5	152	108	8.1	12	11	11	6.2
27	6.1	113	24	29	7.6	196	148	7.9	10	11	11	6.5
28	6.1	88	24	27	7.5	342	105	7.9	6.9	11	11	6.5
29	6.1	71	e25	25	---	431	87	8.0	6.9	11	11	6.3
30	6.1	59	e30	22	---	413	75	11	6.9	11	11	6.3
31	6.1	---	e38	22	---	331	---	12	---	11	11	---
TOTAL	194.2	1110.2	1037	1098	316.6	3110.9	5073	923.0	295.7	280.8	341	268.7
MEAN	6.26	37.0	33.5	35.4	11.3	100	169	29.8	9.86	9.06	11.0	8.96
MAX	12	199	51	50	23	431	605	92	12	11	11	11
MIN	5.5	6.1	18	22	6.6	7.5	59	7.9	6.9	6.7	11	4.5
(†)	18.0	17.5	17.4	17.9	18.1	18.1	17.8	18.3	19.4	20.0	20.7	18.5
MEAN‡	16.8	105	49.4	53.3	27.8	126	181	45.2	14.5	6.96	7.50	4.56
CFSM‡	.75	4.67	2.20	2.37	1.24	5.60	8.04	2.01	.64	.31	.33	.20
IN.‡	.86	5.21	2.54	2.73	1.29	6.46	8.97	2.32	.71	.36	.38	.22

† Diversion for municipal supply of city of Harrisburg, equivalent in cubic feet per second.

‡ Adjusted for diversion and change in reservoir contents.

e Estimated.

CLARK CREEK BASIN

01568500 CLARK CREEK NEAR CARSONVILLE, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.1	13.3	16.9	19.8	18.8	34.4	42.8	38.0	20.0	10.2	6.29	8.49
MAX	95.5	108	85.6	113	76.1	120	176	106	280	56.3	13.8	102
(WY)	1977	1943	1991	1979	1951	1977	1983	1978	1972	1947	1945	1975
MIN	3.15	3.31	1.60	.84	.86	2.79	2.85	4.35	4.29	3.27	3.09	2.62
(WY)	1986	1992	1992	1992	1992	1981	1989	1955	1965	1986	1986	1986

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1941 - 1993	
ANNUAL TOTAL	4755.22		14049.1			
ANNUAL MEAN	13.0		38.5		19.9	
HIGHEST ANNUAL MEAN	#42.9		#53.2		53.3	
LOWEST ANNUAL MEAN					4.58	
HIGHEST DAILY MEAN	199	Nov 24	605	Apr 1	4130	Jun 22 1972
LOWEST DAILY MEAN	.67	Feb 10	4.5	Sep 22,23	.67	Feb 10 1992
ANNUAL SEVEN-DAY MINIMUM	.68	Feb 8	5.5	Oct 2	.68	Feb 8 1992
INSTANTANEOUS PEAK FLOW			691	Apr 1	a4800	Jun 22 1972
INSTANTANEOUS PEAK STAGE			4.24	Apr 1	10.98	Jun 22 1972
INSTANTANEOUS LOW FLOW			4.4	Sep 21		
ANNUAL RUNOFF (CFSM)	.58	#1.91	1.71	#2.36	.88	#1.78
ANNUAL RUNOFF (INCHES)	7.86	#25.95	23.23	#32.09	12.02	#24.14
10 PERCENT EXCEEDS	33		88		49	
50 PERCENT EXCEEDS	5.9		11		6.2	
90 PERCENT EXCEEDS	.81		6.5		4.1	

Adjusted for diversion and change in reservoir contents.

a From rating curve extended above 2,400 ft³/s on basis of computation of peak discharge at dam.

CONODOGUINET CREEK BASIN

01569800 LETORT SPRING RUN NEAR CARLISLE, PA

LOCATION.--Lat 40°14'05", long 77°08'23", Cumberland County, Hydrologic Unit 02050305, on right bank 320 ft downstream from bridge on U.S. Highway 11, 0.2 mi upstream from mouth, 3.1 mi west of New Kingstown, and 3.7 mi east of Carlisle.

DRAINAGE AREA.--21.6 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 410 ft above sea level, from topographic map.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 8.8 ft, discharge not determined, and flood in June 1972 reached a stage of 8.4 ft, from information by local resident, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	19	28	36	36	30	177	105	59	47	37	36
2	20	25	27	35	35	32	168	101	58	78	37	e34
3	20	51	26	35	35	35	138	97	58	58	38	e37
4	20	29	25	33	35	85	125	94	59	54	37	e45
5	20	27	25	42	34	101	120	99	59	51	37	e37
6	19	26	24	37	34	89	113	90	58	50	40	e35
7	19	24	24	37	33	83	108	87	58	55	37	e36
8	19	23	23	38	32	85	102	84	62	54	37	e38
9	30	23	24	37	32	85	98	81	66	48	36	e39
10	23	23	24	36	32	85	128	79	58	45	35	e41
11	22	23	54	36	31	80	123	78	56	45	53	e37
12	21	25	55	38	32	75	110	78	56	44	41	e38
13	20	30	47	46	34	76	104	75	55	43	38	e38
14	20	24	44	43	33	73	99	73	54	41	37	e37
15	19	23	42	43	32	69	96	72	54	41	36	e38
16	19	22	41	42	35	69	130	71	53	40	36	e39
17	20	21	52	41	35	76	147	69	53	39	50	e41
18	19	20	44	e42	33	74	121	69	53	39	48	e39
19	19	20	43	e41	32	72	113	70	60	41	42	e35
20	19	20	44	39	32	71	107	68	60	40	44	e34
21	19	25	41	40	32	74	123	66	55	38	42	e37
22	19	33	41	43	34	76	187	65	53	38	38	e41
23	19	52	40	39	33	103	159	64	52	37	37	e36
24	20	37	40	40	32	158	134	64	50	37	36	e34
25	19	35	38	39	31	145	124	63	49	36	35	e38
26	19	33	38	38	31	131	157	62	49	36	35	e52
27	19	31	38	38	30	125	133	61	49	36	34	e47
28	19	30	38	38	30	134	121	61	49	35	34	41
29	19	29	38	37	---	132	114	61	48	47	34	38
30	19	28	38	36	---	123	109	60	47	38	33	36
31	20	---	37	37	---	115	---	61	---	37	33	---
TOTAL	620	831	1143	1202	920	2761	3788	2328	1650	1368	1187	1154
MEAN	20.0	27.7	36.9	38.8	32.9	89.1	126	75.1	55.0	44.1	38.3	38.5
MAX	30	52	55	46	36	158	187	105	66	78	53	52
MIN	19	19	23	33	30	30	96	60	47	35	33	34
CFSM	.93	1.28	1.71	1.80	1.52	4.12	5.85	3.48	2.55	2.04	1.77	1.78
IN.	1.07	1.43	1.97	2.07	1.58	4.76	6.52	4.01	2.84	2.36	2.04	1.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1993, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	34.7	34.0	39.4	41.0	46.6	54.6	60.6	51.4	43.4	38.2	33.8	31.9						
MAX	79.6	54.4	65.9	92.0	84.4	93.1	126	84.5	66.1	59.3	54.5	57.9						
(WY)	1977	1980	1978	1979	1979	1978	1993	1978	1978	1984	1989	1987						
MIN	20.0	23.0	22.4	24.2	22.3	30.4	29.3	32.9	28.9	23.4	20.7	21.7						
(WY)	1993	1992	1982	1989	1989	1989	1989	1982	1991	1987	1992	1992						

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1976 - 1993

ANNUAL TOTAL	10717	18952	
ANNUAL MEAN	29.3	51.9	42.3
HIGHEST ANNUAL MEAN			61.9
LOWEST ANNUAL MEAN			28.3
HIGHEST DAILY MEAN	92	Mar 27	187
LOWEST DAILY MEAN	17	Sep 1	19
ANNUAL SEVEN-DAY MINIMUM	18	Aug 30	19
INSTANTANEOUS PEAK FLOW			240
INSTANTANEOUS PEAK STAGE			4.89
INSTANTANEOUS LOW FLOW			17
ANNUAL RUNOFF (CFSM)	1.36	2.40	1.96
ANNUAL RUNOFF (INCHES)	18.46	32.64	26.64
10 PERCENT EXCEEDS	43	102	66
50 PERCENT EXCEEDS	26	39	37
90 PERCENT EXCEEDS	19	23	24

a Also Oct. 7, 8, 15, 16, 18-23, 25-30, Nov. 1.

b From rating curve extended above 680 ft³/s on basis of slope-area measurement at gage height 6.43 ft.

c Part of day.

d Also Oct. 28-30.

e Estimated.

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA

LOCATION.--Lat 40°15'08", long 77°01'17", Cumberland County, Hydrologic Unit 02050305, on left bank 1,000 ft upstream from highway bridge on Township Route 596 (Sample Bridge Road), 0.4 mi downstream from Hogestown Run, and 1.0 mi northeast of Hogestown.

DRAINAGE AREA.--470 mi².

PERIOD OF RECORD.--October 1911 to September 1917, October 1929 to September 1958, July 1967 to current year. October 1917 to December 1919 (gage heights and discharge measurements only), in reports of Water Supply Commission of Pennsylvania. Published as "at Brysons Bridge" 1912-17.

REVISED RECORDS.--WSP 1722: 1913, 1917.

GAGE.--Water-stage recorder. Datum of gage is 351.00 ft above sea level. Prior to December 1919, nonrecording gage at site 2 mi downstream at different datum. Oct. 1, 1929, to Aug. 3, 1931, nonrecording gage at site 1,000 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since June 1969 the Pa. American Water Co. has diverted water upstream from station for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 7.8 ft³/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	84	464	630	e380	e180	5440	1370	369	217	175	134
2	105	91	421	687	e330	e210	7880	1200	359	346	165	127
3	100	361	384	591	e310	297	6950	1060	342	835	173	138
4	97	986	347	538	352	e1020	3690	958	338	714	159	381
5	93	494	320	646	333	4670	2520	978	334	580	158	549
6	90	354	300	856	e300	3250	2000	1150	334	426	164	313
7	86	300	276	724	e280	2290	1660	962	319	496	170	225
8	84	252	264	659	e260	2260	1410	820	314	617	169	195
9	114	218	248	626	e250	2730	1250	757	437	506	162	193
10	170	188	248	550	273	2870	1500	711	526	401	155	221
11	130	172	693	502	269	2150	3420	674	384	331	226	210
12	129	171	5720	495	e300	1590	2370	639	322	288	450	177
13	108	418	4540	713	321	1420	1780	756	297	261	381	152
14	101	1250	2070	1090	295	954	1460	780	285	243	284	137
15	95	597	1400	998	293	e700	1280	653	277	228	216	140
16	91	447	1080	823	e290	e660	1650	602	269	214	185	160
17	89	362	1200	712	e280	1080	4350	566	263	204	188	170
18	86	314	2160	628	e250	1730	3000	544	256	194	345	178
19	83	282	1630	538	e220	1560	2060	557	252	195	260	164
20	83	253	1280	474	e210	1240	1650	581	329	205	205	151
21	82	239	1130	439	e200	1110	1520	530	299	200	204	146
22	83	522	966	533	e190	1330	2930	488	279	188	187	138
23	84	2290	849	797	294	1640	3300	466	261	180	166	136
24	83	2670	782	823	281	4610	2260	451	244	173	153	137
25	90	1410	686	794	247	6130	1800	430	231	170	144	137
26	85	1080	605	690	e220	5150	1900	411	224	169	135	275
27	84	865	537	600	e200	4370	3780	392	237	167	130	506
28	85	708	486	555	e190	4810	2470	374	239	165	123	937
29	85	596	488	516	---	6200	1910	368	243	191	121	718
30	80	518	500	461	---	5930	1590	358	235	190	121	481
31	86	---	529	427	---	4460	---	359	---	192	121	---
TOTAL	2975	18492	32603	20115	7618	78601	80780	20945	9098	9486	5995	7726
MEAN	96.0	616	1052	649	272	2536	2693	676	303	306	193	258
MAX	170	2670	5720	1090	380	6200	7880	1370	526	835	450	937
MIN	80	84	248	427	190	180	1250	358	224	165	121	127
CFSM	.20	1.31	2.24	1.38	.58	5.39	5.73	1.44	.65	.65	.41	.55
IN.	.24	1.46	2.58	1.59	.60	6.22	6.39	1.66	.72	.75	.47	.61

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

	352	462	634	678	787	1034	943	684	486	323	302	290
MEAN	352	462	634	678	787	1034	943	684	486	323	302	290
MAX	1838	1436	1775	1742	2257	3210	2693	1500	3120	1184	1584	1408
(WY)	1977	1971	1973	1979	1984	1936	1993	1978	1972	1989	1915	1975
MIN	55.1	53.4	57.3	83.5	150	287	268	194	148	98.0	86.5	68.0
(WY)	1931	1931	1931	1931	1931	1931	1915	1941	1991	1930	1932	1932

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL TOTAL	150843	294434	
ANNUAL MEAN	412	807	580
HIGHEST ANNUAL MEAN			1045
LOWEST ANNUAL MEAN			234
HIGHEST DAILY MEAN	5720	7880	24500
LOWEST DAILY MEAN	e67	80	26
ANNUAL SEVEN-DAY MINIMUM	b77	83	27
INSTANTANEOUS PEAK FLOW		8310	33700
INSTANTANEOUS PEAK STAGE		9.47	a17.01
INSTANTANEOUS LOW FLOW		72	24
ANNUAL RUNOFF (CFSM)	.88	1.72	1.23
ANNUAL RUNOFF (INCHES)	11.94	23.30	16.78
10 PERCENT EXCEEDS	857	2020	1230
50 PERCENT EXCEEDS	240	358	340
90 PERCENT EXCEEDS	91	130	117

a From floodmark in gage.

b Computed using estimated daily discharges.

e Estimated.

LOCATION.--Lat 40°14'05", long 76°59'32", Cumberland County, Hydrologic Unit 02050305, on left bank 1.1 mi upstream from Trindle Spring Run and 1.5 mi northeast of Mechanicsburg.

PERIOD OF RECORD.--October 1992 to September 1993 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 406.39 ft above sea level.

REMARKS. --Records good. Several measurements of water temperature were made during the year. Additional data including precipitation records and ground-water levels for 10 wells may be found in Water-Resources Investigation Report 94-4059, "Water and Sediment Budgets for the Stormwater-Drainage Channel at the Navy Ship Parts Control Center near Mechanicsburg, Pennsylvania, Water Year 1993", by L.A. Reed, R.R. Durlin, and J.K. Bender. Ordering information may be found on page 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	21	.00	.00	.00	.00	.00
2	.00	4.2	.00	.00	.00	.00	6.9	.00	.00	12	.00	.00
3	.00	10	.00	.00	.00	.00	2.7	.00	.00	.00	4.2	3.2
4	.00	.00	.00	.00	.00	16	1.5	.00	.00	.00	.00	11
5	.00	.00	.00	1.5	.00	6.4	.69	6.9	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.10	.12	.00	.00	.00	1.0	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.7	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	1.2	.00	.00	.00
9	13	.00	.00	.00	.00	.00	.00	.00	3.2	.00	.00	.00
10	.00	.00	1.4	.00	.00	.00	11	.00	.00	.00	.00	.00
11	.00	.00	9.3	.00	.00	.00	1.3	.00	.00	.00	5.2	.00
12	.00	3.7	.18	.00	.00	.00	.08	3.8	.00	.00	.00	.00
13	.00	.01	.00	1.1	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.23
16	.00	.00	.00	.00	.00	.00	11	.00	.00	.00	.00	2.0
17	.00	.00	3.6	.00	.00	2.8	3.0	.00	.00	.00	18	.00
18	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	7.3	.00	.00	.00
21	.00	.3	.00	.00	.00	.06	8.0	.00	.00	.00	.00	.00
22	.00	3.0	.00	.41	.32	.00	13	.00	.00	.00	.00	.00
23	.00	8.9	.00	.00	.00	9.8	1.5	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	4.8	.53	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	3.0	.07	.00	.00	.00	.00	7.0
26	.00	.00	.00	.00	.00	2.3	16	.00	.00	.00	.00	4.0
27	.00	.00	.00	.00	.00	2.2	1.5	.00	.00	.00	.00	.24
28	.00	.00	.00	.00	.00	3.0	.55	.00	1.4	.00	.00	.00
29	.00	.00	.00	.00	---	5.6	.03	.00	.00	2.6	.00	.00
30	.00	.00	.00	.00	---	1.8	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	3.9	---	.00	---	.00	.00	---
TOTAL MEAN MAX MIN	13.00 .42 13 .00	30.11 1.00 10 .00	14.48 .47 9.3 .00	3.01 .097 1.5 .00	0.32 .011 .32 .00	61.76 1.99 16 .00	100.53 3.35 21 .00	10.70 .35 6.9 .00	13.10 .44 7.3 .00	16.30 .53 12 .00	28.40 .92 18 .00	27.67 .92 11 .00

WTR YR 1993 TOTAL 319.38 MEAN .88 MAX 21 MIN .00

CONODOGUINET CREEK BASIN

01570010 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 1, NEAR MECHANICSBURG, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD--October 1992 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT					MAR				
09...	0725	18	514	25	04...	1120	43	48	5.5
09...	0735	58	415	64	04...	1125	43	64	7.3
09...	0755	22	126	7.5	04...	1130	41	46	5.1
09...	0756	22	104	6.2	04...	1140	40	60	6.5
09...	0840	1.0	37	0.10	04...	1200	39	74	7.8
09...	1330	15	15	0.61	04...	1230	41	81	9.0
09...	1331	15	12	0.49	04...	1300	51	57	7.9
09...	1540	5.1	32	0.44	04...	1315	50	61	8.3
09...	1745	18	122	5.9	04...	1420	44	79	9.3
09...	1755	46	304	38	04...	1540	58	60	9.3
09...	1805	195	174	92	04...	1600	95	61	16
09...	1855	21	46	2.6	04...	1625	49	46	6.1
09...	2025	2.2	34	0.21	23...	1710	26	73	5.0
NOV					23...	1759	30	68	5.5
02...	2030	12	24	0.75	23...	1920	39	57	6.0
02...	2245	30	13	1.1	23...	1940	43	49	5.6
02...	2246	30	6	0.49	23...	2005	41	48	5.4
02...	2345	43	19	2.2	23...	2105	44	33	3.9
03...	0210	90	11	2.7	25...	0831	3.0	5	0.04
03...	0230	104	8	2.2	27...	1345	2.2	40	0.24
03...	0250	88	24	5.7	29...	0919	22	69	4.1
03...	0330	46	29	3.6	29...	1120	7.4	44	0.88
03...	0500	3.9	12	0.13	31...	1230	0.49	48	0.06
12...	2030	26	17	1.2	31...	2240	43	64	7.3
12...	2100	50	48	6.5	31...	2255	48	64	8.2
12...	2130	66	24	4.3	31...	2335	40	78	8.4
12...	2140	36	19	1.9	31...	2355	51	74	10
12...	2141	36	19	1.9	APR				
12...	2320	3.0	12	0.10	01...	0025	55	64	9.5
21...	1955	0.44	14	0.02	01...	0110	48	46	5.9
21...	2035	6.2	10	0.17	01...	0240	55	58	8.6
21...	2155	0.06	11	0.00	01...	0540	16	19	0.82
22...	2205	6.8	33	0.61	01...	1952	55	15	2.2
22...	2250	5.1	27	0.37	01...	2000	66	55	9.8
22...	2320	31	48	4.1	01...	2010	95	107	27
22...	2350	92	53	13	01...	2020	90	113	28
23...	0055	127	47	16	01...	2030	88	156	37
23...	0140	23	29	1.8	01...	2031	88	163	39
23...	0141	23	27	1.7	01...	2050	63	77	13
23...	0255	3.0	29	0.23	02...	1040	8.8	12	0.29
23...	0415	18	36	1.7	05...	0940	0.88	8	0.02
23...	0510	24	42	2.8	05...	1431	0.62	83	0.14
DEC					10...	1500	58	23	3.6
11...	0040	33	11	0.97	10...	1501	58	24	3.7
11...	0240	18	11	0.53	10...	1530	55	41	6.1
11...	0410	10	16	0.45	10...	1610	50	37	5.0
11...	0440	9.6	9	0.23	10...	1611	50	38	5.1
11...	1441	9.6	12	0.31	10...	1721	33	23	2.0
17...	0540	8.8	35	0.83	16...	1120	65	137	24
17...	0630	17	29	1.3	16...	1130	111	212	64
17...	0730	8.8	22	0.52	16...	1150	164	150	66
17...	0955	9.6	19	0.49	16...	1202	138	141	53
17...	0956	9.6	18	0.47	16...	1220	72	78	15
JAN					16...	1305	68	52	9.6
05...	0305	3.0	99	0.79	16...	1616	3.2	29	0.25
05...	0540	38	34	3.5	18...	1244	0.00	19	0.00
13...	0345	3.6	34	0.33	21...	0930	4.3	35	0.40
13...	0400	4.7	29	0.37	21...	2030	40	21	2.3
13...	0515	12	18	0.56	21...	2045	44	20	2.4
FEB					21...	2110	40	23	2.5
22...	1520	13	24	0.85	21...	2140	53	25	3.6
22...	1705	1.0	14	0.04	22...	1142	8.8	15	0.36

CONODOGUINET CREEK BASIN

01570010 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 1, NEAR MECHANICSBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
APR--Con't				
22...	1310	24	33	2.2
22...	1525	38	29	2.9
23...	1505	1.3	25	0.09
26...	1153	61	336	56
26...	1155	62	227	38
26...	1205	218	606	357
26...	1207	242	490	320
26...	1212	291	474	372
26...	1247	184	137	68
26...	1440	18	44	2.1
MAY				
05...	1455	249	361	243
05...	1510	135	223	81
05...	1530	34	246	22
05...	1535	33	179	16
12...	1740	95	342	88
JUN				
09...	1505	199	153	82
09...	1515	168	202	92
09...	1525	95	127	33
20...	1900	62	147	24
20...	1910	516	226	315
20...	1920	255	140	96
20...	1930	114	103	32
20...	1955	35	65	6.1
AUG				
06...	1726	0.23	14	0.01
11...	0720	112	84	25
SEP				
03...	2345	236	100	64
03...	2355	122	87	29
04...	0010	89	62	15
04...	0030	81	71	15
04...	0310	79	30	6.4
04...	0325	105	41	12
04...	0340	67	27	4.9
04...	0350	63	21	3.6
25...	1945	59	22	3.5
25...	2000	67	22	4.0
25...	2020	77	20	4.1
25...	2045	66	23	4.1
25...	2105	56	27	4.1
26...	0435	92	29	7.2

CONODOGUINET CREEK BASIN

01570030 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 2, NEAR MECHANICSBURG, PA

LOCATION.--Lat 40°14'17", long 76°59'49", Cumberland County, Hydrologic Unit 02050305, on right bank 0.8 mi upstream from Trindle Spring Run, and 1.8 mi northeast of Mechanicsburg.

DRAINAGE AREA.--1.26 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to September 1993 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 400.74 ft above sea level.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Additional data including precipitation records and ground-water levels for 10 wells may be found in Water-Resources Investigation Report 94-4059, "Water and Sediment Budgets for the Stormwater-Drainage Channel at the Navy Ship Parts Control Center near Mechanicsburg, Pennsylvania, Water Year 1993", by L.A. Reed, R.R. Durlin, and J.K. Bender. Ordering information may be found on page 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	16	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	3.9	.00	.00	3.9	.00	.00
3	.00	6.0	.00	.00	.00	.00	.21	.00	.00	.00	1.1	.00
4	.00	.00	.00	.00	.00	7.7	.00	.00	.00	.00	.00	4.7
5	.00	.00	.00	.00	.00	1.8	.00	3.2	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	6.6	.00	.00	.00	.00	.00	.00	.00	.47	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	4.7	.00	.00	.00	.00	.00
11	.00	.00	.66	.00	.00	.00	.13	.00	.00	.00	.31	.00
12	.00	.50	.05	.00	.00	.00	.00	1.3	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	6.5	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.46	.00	.00	.00	12	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	3.8	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	2.9	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	7.3	.00	.00	.00	.00	.00
23	.00	5.8	.00	.00	.00	5.3	.08	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.21	.00	.00	.00	.00	.00	1.9
26	.00	.00	.00	.00	.00	.00	13	.00	.00	.00	.00	.83
27	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	1.5	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.81	---	.00	---	.00	.00	---
TOTAL	6.60	12.30	0.71	0.00	0.00	18.42	55.20	4.50	4.27	3.90	13.41	7.43
MEAN	.21	.41	.023	.000	.000	.59	1.84	.15	.14	.13	.43	.25
MAX	6.6	6.0	.66	.00	.00	7.7	16	3.2	3.8	3.9	12	4.7
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

WTR YR 1993 TOTAL 126.74 MEAN .35 MAX 16 MIN .00

CONODOGUINET CREEK BASIN

01570030 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 2, NEAR MECHANICSBURG, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD--October 1992 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT					APR				
09...	1827	31	105	8.8	01...	0055	37	48	4.8
09...	1829	125	163	55	01...	0135	32	42	3.7
09...	1830	127	159	55	01...	0235	70	70	13
09...	1832	227	138	85	01...	0330	31	47	3.9
09...	1833	278	129	97	01...	0506	14	30	1.2
09...	1840	227	161	99	01...	0606	2.4	31	0.20
09...	1850	176	129	61	01...	1650	1.5	18	0.08
09...	1910	89	72	17	01...	2050	68	107	20
09...	1935	31	47	3.9	01...	2110	53	100	14
09...	2000	9.1	44	1.1	01...	2111	53	99	14
09...	2001	9.1	37	0.91	01...	2145	32	60	5.2
09...	2150	0.30	20	0.02	01...	2245	15	44	1.8
NOV					01...	2335	11	38	1.1
02...	2400	0.26	20	0.01	02...	0235	5.0	31	0.42
03...	0020	18	15	0.71	02...	1235	3.9	6	0.06
03...	0040	15	13	0.53	10...	1535	24	59	3.8
03...	0100	14	11	0.43	10...	1545	39	35	3.6
03...	0140	18	12	0.57	10...	1620	34	30	2.7
03...	0300	74	28	5.6	10...	1621	34	30	2.7
03...	0410	20	18	0.98	10...	1720	25	26	1.8
03...	0411	20	21	1.1	10...	2125	7.6	16	0.33
03...	0550	0.56	11	0.02	16...	1155	1.0	184	0.51
12...	2150	0.56	47	0.07	16...	1210	107	113	33
12...	2205	21	22	1.3	16...	1240	77	73	15
12...	2245	2.0	27	0.14	16...	1241	77	87	18
12...	2246	2.0	15	0.08	16...	1335	37	41	4.1
12...	2400	0.26	13	0.01	16...	1710	4.2	31	0.35
23...	0010	24	43	2.8	16...	1800	0.22	18	0.01
23...	0030	40	43	4.7	21...	2130	0.10	45	0.01
23...	0055	99	47	13	21...	2145	19	26	1.3
23...	0145	37	32	3.2	21...	2230	40	24	2.6
23...	0325	0.66	26	0.05	21...	2325	24	19	1.2
23...	0550	9.1	35	0.86	22...	0035	29	17	1.3
23...	0551	9.1	30	0.74	22...	0320	3.0	12	0.10
23...	0715	0.56	20	0.03	22...	1535	13	37	1.3
23...	1015	0.03	22	0.00	26...	1230	206	102	57
DEC					26...	1250	185	80	40
11...	0045	0.15	42	0.02	26...	1257	173	178	83
11...	0155	6.7	17	0.31	26...	1300	165	153	68
11...	0310	3.0	10	0.08	26...	1310	143	60	23
11...	0620	0.35	9	0.01	26...	1315	127	106	36
MAR					26...	1455	18	43	2.1
04...	1200	0.08	229	0.05	MAY				
04...	1220	16	89	3.8	05...	1510	5.0	248	3.3
04...	1305	27	75	5.5	05...	1525	120	192	62
04...	1425	29	59	4.6	05...	1550	48	112	14
04...	1436	34	107	9.8	05...	1630	5.4	84	1.2
04...	1550	39	42	4.4	05...	1735	0.30	41	0.03
04...	1725	14	46	1.7	12...	1820	55	177	26
23...	1820	0.48	83	0.11	12...	1830	53	122	17
23...	1835	0.76	98	0.20	12...	1910	8.1	77	1.7
23...	1855	14	68	2.6	12...	1945	0.48	45	0.06
23...	1950	27	53	3.9	12...	2045	0.12	29	0.01
23...	2045	34	44	4.0	JUN				
23...	2300	19	25	1.3	09...	1555	24	60	3.9
24...	0010	6.3	20	0.34	09...	1620	3.9	83	0.87
24...	0748	0.89	12	0.03	09...	1730	0.18	55	0.03
24...	1230	0.40	13	0.01	20...	1925	151	166	68
25...	1030	0.18	15	0.01	20...	1940	132	102	36
29...	0825	0.66	59	0.11	20...	2015	25	36	2.4
29...	0850	16	60	2.6	20...	2055	0.48	26	0.03
29...	0930	14	33	1.3	20...	2150	0.15	27	0.01
29...	0931	14	35	1.4	JUL				
29...	1145	2.2	31	0.18	02...	1545	0.48	22	0.03
29...	1345	0.66	31	0.05	02...	1605	44	25	3.0
31...	2335	26	71	5.0	02...	1625	31	26	2.2
31...	2355	29	62	4.8	02...	1655	29	11	0.85

CONODOGUINET CREEK BASIN

01570030 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 2, NEAR MECHANICSBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
JUL--Con't				
02...	1740	44	11	1.3
02...	1840	7.6	8	0.16
AUG				
03...	0210	57	72	11
03...	0215	51	69	9.5
03...	0225	32	52	4.5
03...	0240	14	43	1.7
03...	0305	0.66	28	0.05
03...	0400	0.15	23	0.01
11...	0900	16	67	2.9
11...	0910	18	51	2.4
11...	0920	10	49	1.4
11...	1025	0.26	20	0.01
17...	1830	138	530	197
17...	1835	389	319	335
17...	1840	406	231	253
17...	1845	402	179	194
17...	1850	370	135	135
17...	1905	227	73	45
17...	1940	48	40	5.1
17...	2110	0.35	20	0.02
SEP				
04...	0135	18	55	2.7
04...	0145	34	39	3.6
04...	0205	35	20	1.9
04...	0325	1.0	15	0.04
04...	0410	13	17	0.59
25...	2125	12	38	1.3
25...	2145	44	18	2.1
25...	2205	39	18	1.9
25...	2235	20	13	0.71
25...	2310	1.3	14	0.05
26...	0010	0.30	12	0.01

CONODOGUINET CREEK BASIN

01570060 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 3, NEAR MECHANICSBURG, PA

LOCATION.--Lat 40°14'33", long 77°00'19", Cumberland County, Hydrologic Unit 02050305, on right bank 225 ft above Trindle Spring Run, and 2.2 mi northeast of Mechanicsburg.

DRAINAGE AREA.--1.55 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to September 1993 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 350.00 ft above sea level.

REMARKS.--Records good. Additional data including precipitation records and ground-water levels for 10 wells may be found in Water-Resources Investigation Report 94-4059, "Water and Sediment Budgets for the Stormwater-Drainage Channel at the Navy Ship Parts Control Center near Mechanicsburg, Pennsylvania, Water Year 1993", by L.A. Reed, R.R. Durlin, and J.K. Bender. Ordering information may be found on page 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	9.7	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.63	.00	.00	1.4	.00	.00
3	.00	3.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	4.5	.00	.00	.00	.00	.00	1.3
5	.00	.00	.00	.00	.00	.00	.00	2.0	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	5.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	1.1	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	4.0	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.3	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	2.3	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.87	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	3.5	.00	.00	.00	.00	.00
23	.00	3.3	.00	.00	.00	2.8	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.23	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.17
26	.00	.00	.00	.00	.00	.00	11	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	5.00	6.30	0.00	0.00	0.00	7.53	30.80	2.08	2.30	1.40	9.30	1.47
MEAN	.16	.21	.000	.000	.000	.24	1.03	.067	.077	.045	.30	.049
MAX	5.0	3.3	.00	.00	.00	4.5	11	2.0	2.3	1.4	9.3	1.3
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

WTR YR 1993 TOTAL 66.18 MEAN .18 MAX 11 MIN .00

CONODOGUINET CREEK BASIN

01570060 UNNAMED TRIBUTARY TO TRINDLE SPRING RUN, SITE 3, NEAR MECHANICSBURG, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD--October 1992 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT					APR--Con't				
09...	1858	93	238	60	01...	2130	53	103	15
09...	1900	120	365	118	01...	2210	30	85	6.8
09...	1905	157	280	119	01...	2300	12	58	1.9
09...	1910	154	159	66	02...	0100	3.9	38	0.40
09...	1911	154	155	64	10...	1710	15	136	5.3
09...	1920	129	119	41	10...	1730	14	77	2.9
09...	1932	103	105	29	10...	1756	12	25	0.78
09...	1940	74	87	17	10...	1820	8.0	51	1.1
09...	1941	74	87	17	10...	2015	0.13	20	0.01
09...	1955	45	74	9.0	16...	1230	39	302	32
09...	2025	15	51	2.0	16...	1240	70	198	37
NOV					16...	1300	51	173	24
03...	0315	44	31	3.7	16...	1313	63	127	21
03...	0506	6.4	15	0.26	16...	1330	55	89	13
03...	0518	4.2	16	0.18	16...	1350	32	68	5.9
23...	0115	23	248	15	16...	1520	3.9	52	0.55
23...	0120	67	83	15	16...	1625	0.02	40	0.00
23...	0135	81	50	11	21...	2250	18	117	5.8
23...	0200	52	34	4.8	21...	2305	22	36	2.1
23...	0201	52	34	4.8	21...	2335	15	26	1.1
23...	0245	12	29	0.91	22...	0110	18	28	1.4
23...	0330	1.8	28	0.14	22...	0355	0.40	20	0.02
MAR					22...	1420	24	55	3.6
04...	1410	13	112	3.9	22...	1450	25	43	2.9
04...	1425	17	101	4.6	22...	1635	3.6	55	0.53
04...	1450	16	83	3.7	26...	1240	142	645	247
04...	1600	20	63	3.4	26...	1250	208	436	245
04...	1620	31	128	11	26...	1310	186	248	125
04...	1640	59	153	24	26...	1311	186	321	161
04...	1641	59	150	24	26...	1335	126	168	57
04...	1645	61	150	25	26...	1341	117	147	46
04...	1700	51	123	17	26...	1400	88	100	24
04...	1730	24	89	5.8	26...	1530	9.0	50	1.2
04...	1825	5.1	53	0.73	MAY				
23...	2105	18	107	5.1	05...	1540	95	159	41
23...	2125	36	91	8.8	05...	1630	30	93	7.5
23...	2145	34	86	7.8	12...	1920	2.8	121	0.91
23...	2205	27	70	5.2	12...	1925	5.1	103	1.4
23...	2235	21	56	3.2	JUN				
23...	2340	11	40	1.2	20...	2005	108	132	38
24...	0045	3.1	30	0.25	20...	2015	95	90	23
APR					20...	2045	22	56	3.3
01...	0045	17	104	4.8	20...	2046	22	49	2.9
01...	0055	24	95	6.0	20...	2110	5.4	42	0.61
01...	0110	24	75	4.8	AUG				
01...	0130	23	62	3.8	17...	1755	116	493	154
01...	0155	24	55	3.5	17...	1800	271	301	220
01...	0220	20	57	3.0	17...	1805	273	223	164
01...	0240	33	90	8.0	17...	1815	251	140	95
01...	0305	60	85	14	17...	1830	176	78	37
01...	0345	34	51	4.6	17...	1855	76	48	9.9
01...	0400	26	59	4.1	SEP				
01...	0625	3.9	57	0.60	04...	0420	29	25	2.0
01...	0640	2.8	34	0.26	04...	0430	34	22	2.0
01...	1105	1.7	19	0.09	04...	0445	28	17	1.3
01...	2055	38	364	38	04...	0500	21	18	1.0
01...	2105	62	189	32	25...	2200	6.4	30	0.52
01...	2120	59	133	21					

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA

(National stream-quality accounting network, radiochemical and tritium program)

LOCATION.--Lat 40°15'17", long 76°53'11", Dauphin County, Hydrologic Unit 02050305, on east bank of City Island, 60 ft downstream from Market Street bridge in Harrisburg, 3,670 ft upstream from sanitary dam, and 1.7 mi upstream from Paxton Creek.

DRAINAGE AREA.--24,100 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1890 to current year.

REVISED RECORDS.--WSP 711: 1929. WSP 1502: 1891-1923, 1926(M), 1928. WSP 1702: 1953 (total runoff in inches), 1958 (1957 calendar year mean discharge).

GAGE.--Water-stage recorder. Concrete control since Aug. 29, 1916. Datum of gage is 290.01 ft above sea level. Prior to Oct. 1, 1928, nonrecording gage at Walnut Street Bridge 600 ft upstream, and Oct. 1, 1928, to Aug. 31, 1975, water-stage recorder at site 3,170 ft downstream, all gages at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 15 flood-control reservoirs which have a combined capacity of 1,571,000 acre-ft. National Weather Service satellite and landline telemeters at station.

COOPERATION.--Daily discharges through Safe Harbor Dam provided by Safe Harbor Water Power Corporation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known during period 1786 to 1890, 26.8 ft at Walnut Street bridge, June 2, 1889, discharge, 654,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28100	16900	48100	50900	27700	e8500	347000	117000	12200	8200	4500	4390
2	24200	16400	42800	142000	24600	e9000	394000	93400	12000	8620	5490	4350
3	21000	18300	38600	140000	22900	e11000	393000	77600	11900	9540	6010	4540
4	18600	23700	35300	99200	21900	e12800	340000	65800	11900	10000	5440	5710
5	16800	36200	32100	75900	19400	32200	276000	57500	11800	10600	5180	6370
6	15300	50200	29500	77700	18900	45500	213000	63400	11500	9820	4950	10100
7	13900	45800	27400	89100	18600	40000	177000	65200	11300	9510	4930	11700
8	12500	43100	25600	87500	17100	34700	156000	64200	11100	9080	4750	9930
9	12000	40000	23900	72800	16100	38200	146000	57400	11200	8490	4680	8970
10	12500	36200	22600	59800	15800	41900	143000	50900	12200	7600	4560	8780
11	17600	32500	22500	50800	15400	41100	205000	45300	14500	6990	4970	8070
12	18600	29300	34100	44600	15200	38600	288000	39300	15300	6660	5710	7420
13	19900	31100	40600	41300	16100	36100	262000	35100	17100	6320	6470	6790
14	21600	47900	33700	45100	16500	32200	202000	30600	15100	5980	7570	6330
15	20200	62500	29300	55200	15300	30800	152000	26900	12900	5730	6760	6070
16	18800	60000	27000	64100	14900	26800	125000	26200	11400	5600	5820	5900
17	17500	49800	26300	57000	14600	23900	181000	24100	10300	5400	5360	5770
18	16800	42200	34700	49200	14300	27300	264000	22500	9440	5240	5540	5790
19	17600	37300	46700	43600	e13000	32700	256000	21300	9240	5040	8740	5600
20	20000	33600	63500	38400	e11000	30900	202000	20200	9760	4780	8150	5470
21	19100	30900	66400	33200	e9500	31000	160000	19600	10600	4670	7950	5340
22	18200	31200	64600	31500	e9200	30500	158000	19000	10400	4670	7510	5270
23	17500	43000	65500	31500	e8700	32500	193000	18300	10600	4600	6630	5210
24	16600	60300	58200	33200	e8500	49200	179000	17400	10500	4420	5980	5130
25	15900	74700	50200	33600	e7800	83100	168000	16400	9850	4320	5560	5170
26	15400	83700	43900	35500	e8200	97300	163000	14700	11200	4320	5310	5860
27	15600	80600	38600	37600	e8600	121000	189000	15000	11500	4240	5360	6550
28	21200	75100	34700	38200	e8200	162000	224000	13900	10400	4080	5200	8620
29	21700	64900	30400	35700	---	226000	200000	13100	9360	4260	4950	11400
30	20000	55100	28500	32500	---	286000	154000	12500	8680	4420	4700	17300
31	18300	---	29200	30300	---	321000	---	12200	---	4620	4560	---
TOTAL	563000	1352500	1194500	1757000	418000	2033800	6510000	1176000	345230	197820	179290	213900
MEAN	18160	45080	38530	56680	14930	65610	217000	37940	11510	6381	5784	7130
MAX	28100	83700	66400	142000	27700	321000	394000	117000	17100	10600	8740	17300
MIN	12000	16400	22500	30300	7800	8500	125000	12200	8680	4080	4500	4350
CFSM	.75	1.87	1.60	2.35	.62	2.72	9.00	1.57	.48	.26	.24	.30
IN.	.87	2.09	1.84	2.71	.65	3.14	10.05	1.82	.53	.31	.28	.33

e Estimated.

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17290	26200	33760	36220	40600	74400	72750	45140	26340	15340	11520	11410
MAX	75150	83540	95820	92550	153500	216100	217000	103900	166800	71450	38990	69050
(WY)	1977	1927	1973	1937	1891	1936	1993	1894	1972	1902	1915	1975
MIN	2356	2303	3835	3876	9122	27460	20380	12750	7328	3315	2878	2066
(WY)	1931	1931	1931	1931	1931	1960	1946	1941	1962	1965	1930	1964

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1891 - 1993	
ANNUAL TOTAL	11104320		15941040		34200	
ANNUAL MEAN	30340		43670		53040	
HIGHEST ANNUAL MEAN					16940	
LOWEST ANNUAL MEAN					954000	
HIGHEST DAILY MEAN	158000	Mar 29	394000	Apr 2	Jun 24 1972	
LOWEST DAILY MEAN	7370	Jul 5	4080	Jul 28	Nov 29 1930	
ANNUAL SEVEN-DAY MINIMUM	7650	Jul 3	4290	Jul 24	Sep 17 1964	
INSTANTANEOUS PEAK FLOW			410000	Apr 2	Jun 24 1972	
INSTANTANEOUS PEAK STAGE			20.50	Apr 2	a32.57	
INSTANTANEOUS LOW FLOW			3980	Jul 28,29	b1600	
ANNUAL RUNOFF (CFSM)	1.26		1.81		1.42	
ANNUAL RUNOFF (INCHES)	17.14		24.61		19.28	
10 PERCENT EXCEEDS	58700		123000		79100	
50 PERCENT EXCEEDS	25700		19100		20000	
90 PERCENT EXCEEDS	10700		5360		5430	

a From floodmark.

b Result of freezeup. Minimum daily discharge since construction of sanitary dam and not affected by freezeup, 1,700 ft³/s, Sept. 18, 1964.

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued
(National stream-quality accounting network, radiochemical and tritium program)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-53, 1956 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1974 to August 1979.

pH: May 1974 to June 1979.

WATER TEMPERATURE: May 1974 to August 1979.

DISSOLVED OXYGEN: May 1974 to August 1979.

SUSPENDED SEDIMENT DISCHARGE: March, April, 1962, October 1963 to September 1968, April 1970 to September 1979, March 1980 to March 1981.

INSTRUMENTATION.--Water-quality monitor May 1974 to August 1979.

REMARKS.--Agency collection codes: 1028 - U.S. Geological Survey. Agency analyzing codes: 80020, 1028 - U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	
NOV												
16...	1400	1028	80020	59200	162	7.5	5.5	13	765	11.9	94	
25...	1235	1028	80020	75600	156	7.6	7.5	16	760	11.2	94	
DEC												
22...	1315	1028	80020	65000	175	7.4	3.0	8.6	763	13.2	98	
MAR												
10...	1235	1028	80020	42200	232	7.7	3.0	11	754	13.4	101	
30...	1640	1028	80020	297000	125	7.5	5.5	44	756	12.0	96	
APR												
06...	1605	1028	80020	205000	137	7.5	5.0	16	763	12.8	100	
JUN												
17...	1540	1028	80020	9960	361	8.5	29.0	1.0	752	9.0	119	
DATE		COLI- FORM, FECAL, 0.7 μM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	
NOV												
16...	--	--	57	25	16	4.1	5.4	17	0.3	1.6	38	
25...	--	--	57	26	16	4.1	5.3	16	0.3	1.6	17	
DEC												
22...	160	60	69	35	19	5.1	7.3	18	0.4	1.5	41	
MAR												
10...	32	58	82	40	23	6.0	9.8	20	0.5	1.8	34	
30...	90	1400	42	24	12	3.0	4.5	18	0.3	1.5	19	
APR												
06...	--	--	50	29	14	3.7	3.9	14	0.2	1.3	20	
JUN												
17...	ND	750	140	85	37	12	12	15	0.4	1.8	64	
DATE		CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
NOV												
16...	ND	32	31	33	25	8.0	<0.10	4.6	87	87	0.12	
25...	10	32	31	29	26	8.6	<0.10	4.9	91	91	0.12	
DEC												
22...	ND	35	33	36	30	12	<0.10	4.9	104	106	0.14	
MAR												
10...	8	41	42	43	33	17	<0.10	4.5	110	130	0.15	
30...	2	20	19	22	19	8.3	<0.10	4.3	69	69	0.09	
APR												
06...	3	21	21	24	25	7.2	<0.10	4.7	80	76	0.11	
JUN												
17...	2	60	57	62	81	17	0.10	1.2	214	199	0.29	

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV											
16...	13900	0.840	0.810	<0.010	0.020	0.860	0.830	0.030	0.020	0.27	0.30
25...	18600	1.18	1.18	<0.010	0.020	1.20	1.20	0.040	0.040	0.46	0.50
DEC											
22...	18300	1.17	1.17	--	0.030	--	1.20	--	0.050	0.25	0.30
MAR											
10...	12500	2.10	--	--	<0.010	--	2.10	--	0.030	0.37	0.40
30...	55300	1.00	--	--	<0.010	--	1.00	--	0.080	0.62	0.70
APR											
06...	44300	0.860	0.860	--	0.010	--	0.870	--	0.050	0.25	0.30
JUN											
17...	5750	0.660	--	--	<0.010	--	0.660	--	0.020	--	<0.20

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS ORGANIC TOTAL (MG/L AS P) (00670)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	BARIIUM, DIS- SOLVED (MG/L AS BA) (01005)	COBALT, DIS- SOLVED (MG/L AS CO) (01035)	IRON, DIS- SOLVED (MG/L AS FE) (01046)	LITHIUM DIS- SOLVED (MG/L AS LI) (01130)
NOV											
16...	1.2	0.070	<0.010	0.020	<0.010	0.05	--	--	--	--	--
25...	1.7	0.110	<0.010	0.020	0.020	0.09	--	--	--	--	--
DEC											
22...	1.5	0.030	<0.010	--	<0.010	--	30	28	<3	48	<4
MAR											
10...	2.5	0.040	<0.010	--	<0.010	--	--	--	--	--	--
30...	1.7	0.160	<0.010	--	0.010	--	40	23	<3	39	<4
APR											
06...	1.2	0.070	0.010	--	<0.010	--	--	--	--	--	--
JUN											
17...	--	<0.010	<0.010	--	<0.010	--	30	33	<3	<3	7

DATE	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (MG/L AS MO) (01060)	NICKEL, DIS- SOLVED (MG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (MG/L AS SE) (01145)	SILVER, DIS- SOLVED (MG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (MG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (MG/L AS V) (01085)	^a SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV										
16...	--	--	--	--	--	--	--	41	6550	92
25...	--	--	--	--	--	--	--	54	11000	90
DEC										
22...	130	<10	4	<1	<1.0	92	<6	25	4390	92
MAR										
10...	--	--	--	--	--	--	--	25	2850	94
30...	83	<10	2	<1	<1.0	54	<6	180	144000	83
APR										
06...	--	--	--	--	--	--	--	54	29900	85
JUN										
17...	2	<10	2	<1	<1.0	210	<6	30	807	83

^a The suspended-sediment concentration (80154) is from a composite or average of individual sediment samples at the cross-section locations used to collect water for the chemical analysis.

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	GROSS ALPHA, SUSP. TOTAL (μG/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (μG/L AS U-NAT)	ALPHA, COUNT, 2 SIGMA WAT DIS AS NAT U (μG/L)	ALPHA SED SUSP DRY WGH AS TH-230 (PCI/L)	ALPHA RADIO. WATER DISS AS TH-230 (PCI/L)	ALPHA, 2 SIGMA SED SUS TOT DRY AS TH-230 (PCI/L)	ALPHA COUNT, 2 SIGMA WAT DIS AS TH-230 (PCI/L)
APR 06...	1605	1028	80020	205000	1.3	0.7	<0.6	0.37	0.9	<0.6	0.75	0.26

DATE	TIME	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	BETA, 2 SIGMA SED, SUSP, TOT DRY SR90Y90 (76005)	BETA, 2 SIGMA WATER, DISS, AS CS-137 (PCI/L) (75989)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	BETA, 2 SIGMA WATER, DISS, AS SR90 /Y90 (PCI/L (75988)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	RA-226 2 SIGMA WATER, DISS, (PCI/L) (76001)	URANIUM NATURAL DIS- SOLVED (μG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA WATER, DISS, (μG/L) (75990)
APR 06...	1.2	1.6	0.59	0.60	1.1	1.4	0.55	0.03	0.010	0.02	<1.0	

ADDITIONAL REMARKS.--Sampling method codes: 10 - Equal width increment sample; 70 - Grab sample; 120 - Velocity integrated sample.

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	SAM- PLING METHOD, CODES (82398)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	SPE- CIFIC CON- DUCT- ANCE (μS/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JUN 17...	1210	1028	1028	--	3640	--	--	--	--	--	--
17...	1230	1028	1028	120	3600	487	7.7	24.5	6.5	10	35
17...	1245	1028	1028	120	3500	340	8.2	25.5	6.0	7	96
17...	1300	1028	1028	120	3400	248	8.7	26.0	6.4	9	98
17...	1315	1028	1028	120	3300	260	8.8	26.5	6.6	7	97
17...	1325	1028	1028	120	3200	283	8.7	26.5	6.7	4	95
17...	1340	1028	1028	120	3100	316	8.6	26.5	6.2	5	93
17...	1400	1028	1028	120	2990	315	8.4	27.0	6.4	3	89
17...	1410	1028	1028	120	2900	358	8.2	27.0	5.7	3	90
17...	1430	1028	1028	120	2800	306	8.3	27.5	4.6	3	89
17...	1450	1028	1028	120	2700	383	8.0	27.0	5.1	2	86
17...	1500	1028	1028	120	2600	390	8.0	27.0	9.2	3	89
17...	1515	1028	1028	120	2500	391	8.0	27.5	5.6	3	89
17...	1520	1028	1028	--	2420	--	--	--	--	--	--
17...	1605	1028	1028	--	1330	--	--	--	--	--	--
17...	1610	1028	1028	120	1270	390	7.9	28.0	5.3	2	88
17...	1625	1028	1028	120	1180	394	8.0	28.0	5.0	1	83
17...	1645	1028	1028	120	1100	395	8.2	28.0	5.3	2	91
17...	1655	1028	1028	120	1000	394	8.3	28.0	10.0	3	92
17...	1710	1028	1028	120	900	391	8.4	28.5	5.3	5	96
17...	1720	1028	1028	120	800	381	8.5	28.0	5.9	8	97
17...	1740	1028	1028	120	700	328	--	28.5	--	11	98
17...	1755	1028	1028	120	600	370	8.4	29.0	21.1	10	98
17...	1805	1028	1028	70	600	--	--	29.0	9.0	--	--
17...	1820	1028	1028	120	500	365	8.4	28.5	6.9	9	93
17...	1835	1028	1028	120	400	382	8.4	28.0	6.9	9	98
17...	1845	1028	1028	120	300	392	8.3	27.5	7.1	7	97
17...	1900	1028	1028	120	200	395	8.3	27.5	7.1	7	96
17...	1910	1028	1028	120	100	395	8.2	28.0	5.3	a 799	81
17...	1915	1028	1028	--	25	--	--	--	--	--	--
17...	1955	1028	1028	10	--	361	8.5	--	--	b 5	93

a Heavy suspended material observed in flow; believed to be from sewage outfall upstream.

b This concentration is the mean sediment concentration in the mixing churn which contains water collected at the cross-section locations used for the chemical analysis. This water is mixed in the churn prior to analysis for all the water-quality constituents presented, except radiochemical analyses. The radiochemical analysis is from an individual sample.

PAXTON CREEK BASIN

01570980 PAXTON CREEK NEAR LINGLESTOWN, PA

LOCATION.--Lat 40°20'44", long 76°49'18", Dauphin County, Hydrologic Unit 02050305, at culvert under Patton Road, 0.6 mi north of Linglestown Road and 1.5 mi west of Linglestown.

DRAINAGE AREA.--0.92 mi².

PERIOD OF RECORD.--November 1991 to September 1993 (discontinued).

COOPERATION.--Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT											
15...	1100	1028	9813	0.40	241	7.6	10.5	0.260	0.260	0.050	0.050
NOV											
18...	1020	1028	9813	0.55	180	8.1	6.0	0.570	0.570	0.060	0.060
18...	1025	1028	9813	0.55	180	8.1	6.0	0.570	0.570	0.050	0.050
DEC											
09...	1020	1028	9813	0.68	201	6.8	2.0	0.640	0.640	0.030	0.020
17...	0540	1028	9813	3.2	208	7.4	3.0	0.770	0.770	0.020	<0.020
17...	0845	1028	9813	8.0	170	7.2	4.0	0.550	0.530	0.020	0.020
17...	1300	1028	9813	8.0	157	7.6	5.0	0.660	0.610	0.060	0.020
18...	0545	1028	9813	3.0	200	7.5	3.5	0.830	0.830	0.020	0.020
19...	1400	1028	9813	2.4	196	7.3	5.5	0.830	0.830	0.020	0.090
JAN											
11...	1020	1028	9813	1.3	180	7.0	1.5	0.810	0.810	0.030	<0.020
11...	1025	1028	9813	1.3	180	7.0	1.5	0.790	0.790	<0.020	<0.020
FEB											
09...	1025	1028	9813	0.31	231	8.1	0.0	0.750	0.750	<0.020	<0.020
MAR											
04...	1010	1028	9813	5.4	215	7.1	1.0	0.900	0.900	0.030	0.030
04...	1515	1028	9813	12	168	7.3	1.0	0.990	0.990	0.040	0.040
04...	2000	1028	9813	12	165	7.3	1.0	1.03	1.01	0.040	0.040
05...	0950	1028	9813	6.7	210	7.3	--	1.23	1.23	0.020	0.020
06...	1200	1028	9813	4.5	218	7.1	3.0	1.27	1.27	0.040	0.040
06...	1205	1028	9813	4.5	218	7.1	3.0	1.27	1.27	0.040	0.040
22...	1205	1028	9813	3.5	180	7.9	4.0	0.900	0.880	0.040	0.020
22...	1210	1028	9813	3.5	180	7.9	4.0	0.880	0.880	0.020	<0.020
APR											
28...	1116	1028	9813	3.1	157	6.9	10.5	0.570	0.570	<0.020	<0.020
MAY											
05...	1030	1028	9813	5.2	140	7.8	14.0	0.400	0.400	0.090	0.050
05...	1915	1028	9813	7.0	120	7.7	16.0	0.420	0.400	0.170	0.040
05...	2040	1028	9813	5.0	115	7.6	16.0	0.400	0.400	0.090	<0.020
06...	0810	1028	9813	2.6	138	8.0	13.5	0.420	0.420	<0.020	<0.020
07...	0925	1028	9813	1.8	160	8.0	13.0	0.440	0.440	<0.020	<0.020
18...	1100	1028	9813	0.60	145	8.2	12.0	0.570	0.570	0.050	0.050
18...	1105	1028	9813	0.60	145	8.2	12.0	0.550	0.550	0.040	0.030
JUN											
23...	1220	1028	9813	0.11	244	8.1	--	0.400	0.370	0.040	<0.020
JUL											
02...	0920	1028	9813	0.37	218	7.3	18.0	0.460	0.460	0.040	<0.020
02...	1045	1028	9813	1.9	188	7.0	17.5	0.550	0.550	0.040	0.030
02...	1405	1028	9813	3.5	141	7.5	18.0	0.530	0.510	0.060	0.040
02...	1850	1028	9813	5.2	145	7.4	18.5	0.530	0.510	0.070	0.070
03...	1010	1028	9813	0.68	198	6.8	18.5	0.440	0.440	0.030	<0.020
15...	1105	1028	9813	0.01	245	7.6	--	0.200	0.180	0.020	<0.020
15...	1110	1028	9813	0.01	245	7.6	--	0.200	0.200	0.020	<0.020
AUG											
19...	1450	1028	9813	<0.01	240	7.9	23.0	0.090	0.070	0.100	0.060
SEP											
29...	1155	1028	9813	0.15	275	7.4	12.5	0.350	0.330	<0.020	<0.020
29...	1200	1028	9813	0.15	275	7.4	12.5	0.330	0.330	<0.020	<0.020

PAXTON CREEK BASIN

01570980 PAXTON CREEK NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT										
15...	0.22	0.19	0.27	0.24	0.53	0.50	0.020	0.019	<0.002	--
NOV										
18...	0.16	--	0.22	<0.20	0.79	--	0.020	0.018	<0.002	--
18...	0.20	0.17	0.25	0.22	0.82	0.79	0.020	0.017	<0.002	--
DEC										
09...	0.20	0.18	0.23	0.20	0.87	0.84	0.020	0.020	0.003	0.01
17...	0.40	--	0.42	0.21	1.2	0.98	0.063	0.020	<0.002	--
17...	0.48	0.25	0.50	0.27	1.0	0.80	0.090	0.024	<0.002	--
17...	0.42	0.28	0.48	0.30	1.1	0.91	0.063	0.021	<0.002	--
18...	0.23	--	0.25	<0.20	1.1	--	0.032	0.019	<0.002	--
19...	--	--	<0.20	<0.20	--	--	0.026	0.015	<0.002	--
JAN										
11...	--	--	<0.20	<0.20	--	--	0.020	0.018	0.003	0.01
11...	0.27	--	0.27	<0.20	1.1	--	0.020	0.016	<0.002	--
FEB										
09...	--	--	<0.20	<0.20	--	--	0.020	0.017	<0.002	--
MAR										
04...	0.92	0.18	0.95	0.21	1.8	1.1	0.120	0.016	<0.002	--
04...	1.3	0.27	1.4	0.31	2.4	1.3	0.220	0.018	<0.002	--
04...	0.78	0.19	0.82	0.23	1.8	1.2	0.130	0.016	<0.002	--
05...	0.26	--	0.28	<0.20	1.5	--	0.040	0.016	<0.002	--
06...	--	--	<0.20	<0.20	--	--	0.030	0.014	<0.002	--
06...	0.16	--	0.20	<0.20	1.5	--	0.030	0.019	<0.002	--
22...	--	--	<0.20	<0.20	--	--	0.020	0.017	<0.010	--
22...	--	--	<0.20	<0.20	--	--	0.020	0.015	<0.010	--
APR										
28...	--	--	<0.20	<0.20	--	--	0.020	0.017	<0.002	--
MAY										
05...	1.0	0.33	1.1	0.38	1.5	0.78	0.130	0.017	<0.002	--
05...	2.8	0.28	3.0	0.32	3.4	0.72	0.520	0.016	<0.002	--
05...	1.0	--	1.1	0.35	1.5	0.75	0.150	0.017	<0.002	--
06...	--	--	<0.20	<0.20	--	--	0.030	0.013	<0.002	--
07...	0.21	--	0.21	<0.20	0.65	--	0.030	0.016	<0.002	--
18...	--	--	<0.20	<0.20	--	--	<0.020	0.016	<0.002	--
18...	--	--	<0.20	<0.20	--	--	0.020	0.013	<0.002	--
JUN										
23...	0.18	--	0.22	<0.20	0.62	--	0.040	0.021	0.008	0.02
JUL										
02...	0.48	--	0.52	0.21	0.98	0.67	0.110	0.038	<0.002	--
02...	0.62	--	0.66	<0.20	1.2	--	0.120	0.024	<0.002	--
02...	1.0	0.23	1.1	0.27	1.6	0.78	0.160	0.021	0.003	0.01
02...	0.77	0.31	0.84	0.38	1.4	0.89	0.080	0.028	<0.002	--
03...	0.33	--	0.36	0.23	0.80	0.67	0.030	0.022	<0.002	--
15...	0.29	--	0.31	0.20	0.51	0.38	0.060	0.023	0.005	0.02
15...	0.36	--	0.38	0.26	0.58	0.46	0.070	0.023	0.006	0.02
AUG										
19...	0.17	0.16	0.27	0.22	0.36	0.29	0.020	<0.020	0.007	0.02
SEP										
29...	0.38	--	0.38	0.38	0.73	0.71	0.030	0.021	0.005	0.02
29...	0.34	--	0.34	0.32	0.67	0.65	0.030	0.022	0.005	0.02

PAXTON CREEK BASIN

01570980 PAXTON CREEK NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	COPPER, TOTAL RECOVER -ABLE (μ G/L) (01119)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LEAD, TOTAL RECOVER -ABLE (μ G/L) (01114)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ZINC, TOTAL RECOVER -ABLE (μ G/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. ELECTRO METRIC (MG/L) (00560)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT										
15...	1	1	0	0	1	2	3.4	<0.5	2	0.00
NOV										
18...	1	1	0	0	2	1	2.3	<0.5	8	0.01
18...	1	1	0	0	2	2	2.3	--	8	0.01
DEC										
09...	2	2	0	0	2	0	1.8	<0.5	5	0.01
17...	1	2	1	1	3	9	2.6	<0.5	35	0.30
17...	1	3	1	1	4	30	5.4	<0.5	61	1.3
17...	2	2	1	1	9	10	5.9	<0.5	21	0.45
18...	1	1	0	0	4	6	2.8	<0.5	4	0.03
19...	1	1	0	0	6	7	2.1	<0.5	6	0.04
JAN										
11...	0	0	0	0	1	1	1.8	<0.5	6	0.02
11...	0	0	0	0	1	0	1.8	<0.5	6	0.02
FEB										
09...	1	1	0	0	1	1	1.4	<0.5	3	0.00
MAR										
04...	1	58	0	55	2	120	3.8	<0.5	119	1.7
04...	1	6	0	8	1	30	5.7	<0.5	258	8.7
04...	1	4	0	4	2	10	5.5	<0.5	131	4.2
05...	1	1	0	1	2	4	3.5	<0.5	17	0.31
06...	1	1	0	0	2	2	2.5	<0.5	8	0.10
06...	1	1	0	0	1	2	2.5	<0.5	8	0.10
22...	1	1	0	0	1	1	<1.0	<0.5	4	0.04
22...	0	0	0	0	1	1	<1.0	<0.5	2	0.02
APR										
28...	1	1	0	0	3	4	2.1	0.6	8	0.07
MAY										
05...	3	6	1	5	3	20	7.1	<0.5	118	1.7
05...	1	14	0	22	5	60	8.2	0.6	503	9.5
05...	2	4	0	6	4	20	7.9	<0.5	129	1.7
06...	1	1	0	1	2	3	3.5	<0.5	14	0.10
07...	1	1	0	1	1	4	2.4	0.6	11	0.05
18...	2	3	0	0	1	2	2.0	0.5	1	0.00
18...	2	3	0	3	1	2	2.0	<0.5	--	--
JUN										
23...	2	2	0	0	--	3	3.3	<0.5	8	0.00
JUL										
02...	1	3	0	2	0	6	4.5	<0.5	61	0.06
02...	1	4	0	3	1	10	4.4	<0.5	89	0.46
02...	1	6	0	7	3	20	6.7	<0.5	199	1.9
02...	2	5	0	3	3	10	8.0	<0.5	65	0.91
03...	1	2	0	0	3	3	4.9	<0.5	2	0.00
15...	1	2	0	1	2	3	3.8	<0.5	2	0.00
15...	1	2	0	1	2	2	3.9	<0.5	19	0.00
AUG										
19...	2	1	0	0	2	1	3.5	<0.5	5	0.00
SEP										
29...	1	2	0	0	2	1	4.0	<0.5	1	0.00
29...	2	1	0	0	6	3	4.0	--	--	--

PAXTON CREEK BASIN

01570984 PAXTON CREEK TRIBUTARY, SITE 1, NEAR LINGLESTOWN, PA

LOCATION.--Lat 40°20'27", long 76°49'43", Dauphin County, Hydrologic Unit 02050305, at Wimbleton Drive, 0.1 mi west of Colonial Road, 0.3 mi north of Linglestown Road, and 2.0 mi west of Linglestown.

DRAINAGE AREA.--1.23 mi².

PERIOD OF RECORD.--November 1991 to September 1993 (discontinued).

COOPERATION.--Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT											
15...	1020	1028	9813	0.48	369	7.4	11.0	0.790	0.790	0.060	0.050
NOV											
18...	0930	1028	9813	1.7	240	8.0	8.0	0.590	0.590	0.100	0.070
DEC											
09...	0940	1028	9813	0.66	271	6.5	3.5	0.480	0.480	0.040	0.020
17...	0550	1028	9813	8.5	208	7.6	4.0	0.640	0.620	0.050	0.040
17...	0850	1028	9813	23	130	7.5	5.0	0.440	0.440	0.030	0.050
17...	1320	1028	9813	15	141	7.4	6.0	0.640	0.620	0.030	0.030
18...	0555	1028	9813	4.3	218	7.6	5.5	0.880	0.880	0.020	0.020
19...	1410	1028	9813	2.9	212	7.5	7.5	0.840	0.790	0.030	<0.020
JAN											
11...	1055	1028	9813	1.5	480	7.0	4.0	0.620	0.620	0.030	<0.020
FEB											
09...	1000	1028	9813	0.67	268	8.0	0.5	0.370	0.370	<0.020	<0.020
MAR											
04...	1018	1028	9813	18	350	6.9	3.5	0.860	0.860	0.030	<0.020
04...	1525	1028	9813	39	212	6.8	2.0	0.950	0.920	0.020	0.020
04...	2015	1028	9813	37	215	7.0	1.5	1.06	0.950	0.040	0.030
05...	1005	1028	9813	18	275	7.2	3.5	1.19	1.19	0.040	<0.020
06...	1215	1028	9813	11	274	7.0	5.5	1.17	1.17	<0.020	<0.020
22...	1250	1028	9813	4.3	230	8.0	6.0	0.640	0.620	0.020	<0.020
APR											
28...	1155	1028	9813	4.9	227	6.8	12.5	0.680	0.660	0.070	0.060
28...	1200	1028	9813	4.9	227	6.8	12.5	0.680	0.660	0.080	0.060
MAY											
05...	1045	1028	9813	7.5	140	7.9	14.0	0.480	0.460	0.100	0.080
05...	1930	1028	9813	22	105	7.5	16.5	0.480	0.460	0.270	0.090
05...	2055	1028	9813	10	135	7.6	15.0	0.530	0.510	0.160	0.060
06...	0825	1028	9813	3.7	190	7.8	13.0	0.570	0.550	0.020	<0.020
07...	0935	1028	9813	3.0	205	8.0	13.0	0.480	0.480	<0.020	<0.020
18...	1135	1028	9813	0.88	195	8.1	12.0	0.420	0.420	0.030	0.030
18...	1140	1028	9813	0.88	195	8.1	12.0	0.420	0.400	0.030	0.020
JUN											
23...	1240	1028	9813	0.31	374	7.6	18.0	0.810	0.810	<0.020	<0.020
JUL											
02...	0935	1028	9813	17	146	7.4	18.0	0.860	0.840	0.100	0.100
02...	1100	1028	9813	5.0	118	7.1	18.5	0.680	0.680	0.110	0.080
02...	1425	1028	9813	26	136	7.4	19.0	0.810	0.790	0.160	0.130
02...	1900	1028	9813	12	172	7.2	19.0	0.900	0.880	0.060	0.040
03...	1030	1028	9813	2.1	345	7.3	18.0	1.32	1.32	0.040	<0.020
15...	1120	1028	9813	0.13	320	7.5	22.0	0.460	0.460	<0.020	<0.020
15...	1125	1028	9813	0.13	320	7.5	22.0	0.460	0.460	<0.020	<0.020
AUG											
19...	1505	1028	9813	0.13	360	8.1	21.0	0.440	0.440	<0.020	<0.020
SEP											
29...	1225	1028	9813	0.71	410	7.7	14.0	1.63	1.63	0.020	<0.020
29...	1230	1028	9813	0.71	410	7.7	14.0	1.65	1.65	<0.020	<0.020

PAXTON CREEK BASIN

01570984 PAXTON CREEK TRIBUTARY, SITE 1, NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT										
15...	0.15	--	0.21	<0.20	1.0	--	0.020	0.023	0.003	0.01
NOV										
18...	--	0.24	<0.20	0.31	--	0.90	0.020	0.017	<0.002	--
DEC										
09...	--	--	<0.20	<0.20	--	--	<0.020	0.018	0.004	0.01
17...	0.60	0.26	0.65	0.30	1.3	0.92	0.120	0.028	0.002	0.01
17...	1.0	0.33	1.1	0.38	1.5	0.82	0.160	0.040	0.004	0.01
17...	0.50	0.26	0.53	0.29	1.2	0.91	0.079	0.040	0.004	0.01
18...	0.21	0.18	0.23	0.20	1.1	1.1	0.037	0.022	0.002	0.01
19...	--	--	<0.20	<0.20	--	--	0.032	0.018	0.002	0.01
JAN										
11...	0.28	--	0.31	0.23	0.93	0.85	0.020	0.017	0.004	0.01
FEB										
09...	--	--	<0.20	<0.20	--	--	0.020	0.015	0.002	0.01
MAR										
04...	1.7	--	1.7	0.33	2.6	1.2	0.270	0.025	<0.002	--
04...	1.6	0.49	1.6	0.51	2.6	1.4	0.280	0.028	0.002	0.01
04...	0.73	0.30	0.77	0.33	1.8	1.3	0.100	0.026	0.003	0.01
05...	0.29	--	0.33	0.22	1.5	1.4	0.040	0.022	<0.002	--
06...	--	--	<0.20	<0.20	--	--	0.030	0.017	<0.002	--
22...	--	--	<0.20	<0.20	--	--	0.020	0.018	<0.010	--
APR										
28...	2.1	2.0	2.1	2.1	2.8	2.7	0.040	0.031	0.012	0.04
28...	2.1	2.0	2.2	2.1	2.9	2.8	0.040	0.033	0.013	0.04
MAY										
05...	0.61	0.30	0.71	0.38	1.2	0.84	0.080	0.021	<0.002	--
05...	1.7	0.46	2.0	0.55	2.4	1.0	0.300	0.024	<0.002	--
05...	0.76	0.33	0.92	0.39	1.4	0.90	0.140	0.023	<0.002	--
06...	--	--	<0.20	<0.20	--	--	0.030	0.015	<0.002	--
07...	--	--	<0.20	<0.20	--	--	0.030	0.018	<0.002	--
18...	--	--	<0.20	<0.20	--	--	0.030	0.019	<0.002	--
18...	--	0.18	<0.20	0.20	--	0.60	0.020	0.017	<0.002	--
JUN										
23...	0.32	--	0.32	0.28	1.1	1.1	0.050	0.020	0.017	0.05
JUL										
02...	1.6	0.18	1.7	0.28	2.6	1.1	0.320	0.030	<0.002	--
02...	0.46	0.17	0.57	0.25	1.2	0.93	0.090	0.037	<0.002	--
02...	1.2	0.24	1.3	0.37	2.1	1.2	0.230	0.041	<0.002	--
02...	0.68	0.34	0.74	0.38	1.6	1.3	0.100	0.047	<0.002	--
03...	0.18	--	0.22	<0.20	1.5	--	0.040	0.026	<0.002	--
15...	--	--	<0.20	<0.20	--	--	0.050	0.028	0.011	0.03
15...	--	--	<0.20	<0.20	--	--	0.060	0.024	0.011	0.03
AUG										
19...	--	--	<0.20	<0.20	--	--	0.020	0.020	0.004	0.01
SEP										
29...	0.31	--	0.33	0.33	2.0	2.0	0.030	0.028	0.013	0.04
29...	0.33	--	0.33	0.33	2.0	2.0	0.030	0.028	0.013	0.04

PAXTON CREEK BASIN

01570984 PAXTON CREEK TRIBUTARY, SITE 1, NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	COPPER, TOTAL RECOVER (µG/L) (01119)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LEAD, TOTAL RECOVER (µG/L) (01114)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)	ZINC, TOTAL RECOVER (µG/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. ELECTRO METRIC (MG/L) (00560)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT										
15...	0	1	0	0	4	4	1.9	<0.5	25	0.03
NOV										
18...	1	1	--	0	4	2	1.7	<0.5	8	0.04
DEC										
09...	3	3	0	0	4	3	1.4	0.7	7	0.01
17...	1	3	2	2	31	70	3.9	<0.5	108	2.5
17...	3	5	3	3	12	60	6.8	0.6	112	6.8
17...	2	4	0	0	14	70	6.2	<0.5	32	1.3
18...	1	2	0	0	14	80	2.8	<0.5	8	0.09
19...	1	1	0	0	8	60	1.9	<0.5	9	0.07
JAN										
11...	0	0	0	0	7	7	1.6	<0.5	1	0.00
FEB										
09...	1	0	0	0	4	3	1.2	<0.5	6	0.01
MAR										
04...	2	10	0	9	12	170	5.6	<0.5	316	15
04...	1	6	0	6	9	80	5.7	<0.5	214	22
04...	1	3	0	2	11	40	5.7	<0.5	93	9.2
05...	1	1	0	1	20	30	3.9	<0.5	17	0.82
06...	1	1	0	0	17	20	2.8	<0.5	7	0.20
22...	1	1	0	0	12	10	1.5	<0.5	5	0.06
APR										
28...	6	9	0	0	9	20	2.0	<0.5	8	0.11
28...	6	9	0	0	9	10	2.0	<0.5	7	0.09
MAY										
05...	2	3	0	2	9	30	6.4	0.6	60	1.2
05...	2	8	0	7	8	90	10	<0.5	261	15
05...	2	4	0	3	12	40	9.7	0.7	100	2.8
06...	1	1	0	0	5	10	3.3	<0.5	13	0.13
07...	1	1	0	0	4	7	1.8	3	5	0.04
18...	0	0	0	0	2	4	1.7	<0.5	4	0.01
18...	0	0	0	0	2	2	1.6	<0.5	--	--
JUN										
23...	1	1	0	0	5	5	2.1	1	5	0.00
JUL										
02...	1	3	0	3	7	50	4.7	<0.5	322	14
02...	1	4	0	3	5	50	4.4	<0.5	97	1.3
02...	3	7	0	6	5	80	6.8	<0.5	261	18
02...	3	4	0	1	8	30	8.2	<0.5	45	1.5
03...	1	1	0	0	3	7	4.2	<0.5	4	0.02
15...	1	1	0	0	2	4	1.6	<0.5	--	--
15...	1	1	0	0	2	3	1.6	<0.5	9	0.00
AUG										
19...	1	1	0	0	1	2	1.9	<0.5	7	0.00
SEP										
29...	1	4	0	2	2	4	3.2	<0.5	0	0.0
29...	1	1	0	0	3	4	2.8	--	--	--

PAXTON CREEK BASIN

01570988 STORM-WATER MANAGEMENT POND No.1 NEAR LINGLESTOWN, PA

LOCATION.--Lat 40°19'55", long 76°48'36", Dauphin County, Hydrologic Unit 02050305, at culvert on Goose Valley Road, 0.2 mi west of Colonial Club Road, and 1.0 mi southwest of Linglestown.

DRAINAGE AREA.--0.04 mi².

PERIOD OF RECORD.--January 1992 to September 1993 (discontinued).

COOPERATION.--Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
DEC											
17...	0525	1028	9813	0.03	395	7.4	4.0	0.330	0.310	0.450	0.390
17...	0830	1028	9813	0.15	268	7.2	4.0	0.310	0.260	0.400	0.420
17...	1250	1028	9813	0.19	217	6.9	4.5	0.310	0.290	0.230	0.280
18...	0530	1028	9813	0.06	239	6.8	2.5	0.310	0.260	0.330	0.300
19...	1350	1028	9813	<0.01	288	6.8	5.5	0.310	0.290	0.370	0.400
JAN											
11...	0935	1028	9813	0.01	345	8.1	2.0	0.310	0.290	0.640	0.170
FEB											
09...	1040	1028	9813	<0.01	847	8.5	0.5	0.220	0.220	0.120	<0.020
MAR											
04...	1000	1028	9813	0.12	670	7.3	2.0	0.480	0.460	<0.020	<0.020
04...	1505	1028	9813	0.48	420	7.5	1.0	0.420	0.420	0.050	<0.020
04...	1945	1028	9813	0.56	322	7.6	1.0	0.400	0.350	0.020	<0.020
05...	0940	1028	9813	0.12	340	7.5	2.5	0.440	0.440	0.040	<0.020
06...	1140	1028	9813	0.09	405	7.5	5.5	0.840	0.840	0.020	<0.020
22...	1145	1028	9813	0.04	360	7.6	3.0	0.350	0.330	0.020	<0.020
APR											
28...	1100	1028	9813	0.02	127	7.0	13.5	0.240	0.200	<0.020	<0.020
MAY											
05...	1010	1028	9813	0.03	135	8.2	16.5	0.260	0.220	0.170	0.070
05...	1900	1028	9813	0.05	125	8.1	19.0	0.310	0.280	0.210	<0.020
05...	2030	1028	9813	0.05	140	7.7	19.0	0.350	0.330	0.300	0.020
06...	0750	1028	9813	0.03	210	8.4	16.0	0.350	0.330	0.350	0.020
07...	0905	1028	9813	0.01	143	8.2	17.5	0.200	0.200	0.160	0.030
JUN											
23...	1200	1028	9813	<0.01	127	7.0	--	0.480	0.440	0.620	0.120
JUL											
02...	0910	1028	9813	0.03	154	6.9	21.0	0.310	0.290	0.290	0.070
02...	1035	1028	9813	0.08	135	6.9	21.0	0.310	0.310	0.310	0.080
02...	1350	1028	9813	0.25	113	7.4	20.0	0.400	0.370	0.360	0.120
02...	1840	1028	9813	0.37	95	7.6	21.0	0.440	0.420	0.240	0.100
03...	0945	1028	9813	0.10	103	7.6	20.0	0.440	0.420	0.160	<0.020
SEP											
29...	1135	1028	9813	<0.01	135	7.9	17.0	0.220	0.200	0.210	0.080
29...	1140	1028	9813	<0.01	135	7.9	17.0	0.200	0.200	0.220	0.080

PAXTON CREEK BASIN

01570988 STORM-WATER MANAGEMENT POND No.1 NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
DEC										
17...	1.5	0.56	1.9	0.95	2.2	1.3	0.510	0.123	0.072	0.22
17...	1.3	0.42	1.7	0.84	2.0	1.1	0.530	0.140	0.086	0.26
17...	1.2	0.44	1.5	0.72	1.8	1.0	0.460	0.137	0.097	0.30
18...	1.1	0.49	1.4	0.79	1.7	1.0	0.380	0.132	0.067	0.21
19...	1.1	0.66	1.5	1.1	1.8	1.3	0.370	0.150	0.065	0.20
JAN										
11...	0.66	0.47	1.3	0.64	1.6	0.93	0.170	0.024	<0.002	--
FEB										
09...	0.84	--	0.96	0.82	1.2	1.0	0.050	0.016	<0.002	--
MAR										
04...	1.3	--	1.3	0.78	1.8	1.2	0.160	0.019	<0.002	--
04...	0.83	--	0.88	0.44	1.3	0.86	0.150	0.022	<0.002	--
04...	0.65	--	0.67	0.48	1.1	0.83	0.160	0.024	<0.002	--
05...	0.47	--	0.51	0.25	0.95	0.69	0.110	0.027	0.002	0.01
06...	0.43	--	0.45	0.29	1.3	1.1	0.080	0.020	<0.002	--
22...	0.47	--	0.49	0.31	0.84	0.64	0.090	0.017	<0.010	--
APR										
28...	0.99	--	0.99	<0.20	1.2	--	0.260	0.018	<0.002	--
MAY										
05...	0.98	0.23	1.2	0.30	1.4	0.52	0.150	0.015	<0.002	--
05...	0.78	--	0.99	0.31	1.3	0.59	0.200	0.015	<0.002	--
05...	0.72	0.22	1.0	0.24	1.4	0.57	0.260	0.014	<0.002	--
06...	1.7	0.30	2.1	0.32	2.4	0.65	0.260	0.017	<0.002	--
07...	1.1	0.33	1.2	0.36	1.5	0.56	0.180	0.020	<0.002	--
JUN										
23...	1.6	0.61	2.2	0.73	2.7	1.2	0.430	0.011	0.006	0.02
JUL										
02...	1.6	0.41	1.9	0.48	2.2	0.77	0.260	0.028	<0.002	--
02...	0.91	0.27	1.2	0.35	1.5	0.66	0.250	0.029	<0.002	--
02...	0.83	0.29	1.2	0.41	1.6	0.78	0.250	0.034	<0.002	--
02...	0.57	0.23	0.81	0.33	1.2	0.75	0.220	0.035	<0.002	--
03...	1.0	--	1.2	0.26	1.6	0.68	0.220	0.034	<0.002	--
SEP										
29...	0.65	0.33	0.86	0.41	1.1	0.61	0.150	0.027	<0.002	--
29...	0.68	1.0	0.90	1.1	1.1	1.3	0.150	0.043	<0.002	--

PAXTON CREEK BASIN

01570988 STORM-WATER MANAGEMENT POND No.1 NEAR LINGLESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	COPPER, TOTAL RECOVER -ABLE (μ G/L) (01119)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LEAD, TOTAL RECOVER -ABLE (μ G/L) (01114)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ZINC, TOTAL RECOVER -ABLE (μ G/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. ELECTRO METRIC (MG/L) (00560)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
DEC										
17...	2	13	9	9	36	200	7.3	<0.5	226	0.02
17...	2	13	6	6	21	200	7.3	<0.5	201	0.08
17...	2	10	5	5	28	120	7.1	0.6	182	0.09
18...	2	9	5	5	22	90	7.2	<0.5	139	0.02
19...	1	8	3	3	38	100	7.1	<0.5	288	0.00
JAN										
11...	0	3	0	3	41	80	6.8	<0.5	83	0.00
FEB										
09...	2	2	0	1	28	40	5.4	<0.5	17	0.00
MAR										
04...	2	5	0	4	24	120	5.3	0.6	123	0.04
04...	1	5	0	5	12	90	5.2	0.6	--	--
04...	1	4	0	3	11	60	4.9	<0.5	104	0.16
05...	1	3	0	2	19	60	4.5	<0.5	58	0.02
06...	1	2	0	1	59	80	3.7	<0.5	42	0.01
22...	1	2	0	1	43	80	1.8	<0.5	38	0.00
APR										
28...	1	6	0	5	7	50	5.8	<0.5	137	0.01
MAY										
05...	2	5	1	3	4	50	7.1	<0.5	81	0.01
05...	2	6	1	5	3	80	8.2	0.8	175	0.02
05...	2	8	1	7	3	80	8.5	1	190	0.02
06...	2	8	1	6	3	70	10	0.6	104	0.01
07...	1	4	0	3	1	40	7.8	0.9	82	0.00
JUN										
23...	1	8	0	9	5	70	11	<0.5	240	0.00
JUL										
02...	1	4	0	5	5	90	12	<0.5	213	0.02
02...	1	4	0	5	3	70	10	<0.5	228	0.05
02...	1	5	0	5	4	90	8.5	<0.5	235	0.16
02...	1	4	0	4	5	50	6.6	<0.5	174	0.17
03...	1	4	0	3	7	60	6.6	<0.5	103	0.03
SEP										
29...	2	3	0	3	25	30	6.8	<0.5	76	0.00
29...	2	3	0	3	12	30	6.7	--	--	--

PAXTON CREEK BASIN

01570992 STORM-WATER MANAGEMENT POND No.2 NEAR PAXTONIA, PA

LOCATION.--Lat 40°18'46", long 76°48'40", Dauphin County, Hydrologic Unit 02050305, at downstream end of storm drain, 10 feet upstream of culvert under Berwyn Drive, and 1.0 mi west of Paxtonia.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--May 1992 to September 1993 (discontinued).

COOPERATION.--Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV											
18...	1055	1028	9813	0.01	500	7.9	11.5	1.08	1.08	0.100	0.080
DEC											
09...	1045	1028	9813	<0.01	696	7.8	7.5	0.970	0.970	<0.020	<0.020
17...	0505	1028	9813	0.20	358	7.4	6.5	0.550	0.550	0.140	0.150
17...	0810	1028	9813	0.87	113	7.5	5.5	0.290	0.290	0.140	0.140
17...	1215	1028	9813	0.63	131	7.3	5.0	0.440	0.440	0.140	0.160
18...	0515	1028	9813	0.03	445	7.2	7.0	0.810	0.810	0.050	0.030
19...	1330	1028	9813	<0.01	580	7.3	8.5	1.23	1.23	0.040	0.040
JAN											
11...	0810	1028	9813	0.01	530	7.9	7.5	1.23	1.23	0.020	<0.020
11...	0815	1028	9813	0.01	530	7.9	7.5	1.23	1.23	<0.020	<0.020
FEB											
09...	1100	1028	9813	<0.01	935	8.5	4.5	0.810	0.810	<0.020	<0.020
MAR											
04...	0935	1028	9813	0.70	490	6.7	2.5	0.810	0.810	0.090	0.070
04...	1445	1028	9813	0.95	288	7.4	2.0	0.480	0.480	0.070	0.070
04...	1915	1028	9813	0.78	272	7.3	2.5	0.530	0.510	0.070	0.060
05...	0910	1028	9813	0.51	450	7.3	2.0	0.990	0.990	0.100	0.070
06...	1100	1028	9813	0.09	870	7.1	4.5	1.54	1.54	0.050	0.040
06...	1105	1028	9813	0.09	870	7.1	4.5	1.56	1.56	0.050	0.030
22...	1030	1028	9813	0.03	550	7.5	5.0	1.27	1.27	0.040	0.020
22...	1035	1028	9813	0.03	550	7.5	5.0	1.27	1.27	0.040	0.020
APR											
28...	0940	1028	9813	0.03	592	6.6	10.5	1.43	1.43	0.030	<0.020
MAY											
05...	0950	1028	9813	0.35	120	7.8	15.0	0.640	0.640	0.450	0.420
05...	1825	1028	9813	0.40	265	7.7	17.5	0.700	0.680	0.210	0.090
05...	2000	1028	9813	0.44	108	7.7	17.5	0.750	0.700	0.470	0.260
06...	0720	1028	9813	0.03	550	8.0	13.5	0.880	0.880	0.090	0.040
07...	0830	1028	9813	0.02	680	8.0	13.0	1.12	1.12	0.040	0.040
18...	1015	1028	9813	0.01	615	8.2	14.0	1.01	1.01	0.020	0.020
18...	1020	1028	9813	0.01	615	8.2	14.0	1.03	1.03	0.070	0.030
JUN											
23...	1100	1028	9813	0.01	670	8.0	17.0	1.17	1.17	0.020	0.020
JUL											
02...	0845	1028	9813	0.62	74	7.7	19.5	0.370	0.350	0.120	0.110
02...	1010	1028	9813	0.67	70	7.2	19.0	0.620	0.620	0.150	0.150
02...	1325	1028	9813	0.66	96	7.4	20.0	0.660	0.660	0.210	0.210
02...	1810	1028	9813	0.88	100	7.5	21.0	0.460	0.460	0.130	0.120
03...	0920	1028	9813	0.12	270	7.2	20.0	0.480	0.480	0.030	<0.020
15...	1010	1028	9813	0.01	640	8.2	21.0	0.920	0.920	<0.020	<0.020
15...	1015	1028	9813	0.01	640	8.2	21.0	0.970	0.970	<0.020	<0.020
AUG											
19...	1350	1028	9813	<0.01	665	8.2	21.5	0.950	0.950	0.030	0.020
SEP											
29...	1020	1028	9813	0.02	630	7.4	16.5	1.14	1.14	0.020	<0.020
29...	1025	1028	9813	0.02	630	7.4	16.5	1.21	1.17	<0.020	<0.020

PAXTON CREEK BASIN

01570992 STORM-WATER MANAGEMENT POND No.2 NEAR PAXTONIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
NOV										
18...	--	--	<0.20	<0.20	--	--	0.020	0.017	<0.002	--
DEC										
09...	--	--	<0.20	<0.20	--	--	0.030	0.020	0.004	0.01
17...	0.36	0.22	0.50	0.37	1.0	0.92	0.053	0.016	<0.002	--
17...	0.29	0.17	0.43	0.31	0.72	0.60	0.053	0.022	0.002	0.01
17...	0.39	0.23	0.53	0.39	0.97	0.83	0.079	0.022	<0.002	--
18...	0.40	0.33	0.45	0.36	1.3	1.2	0.053	0.019	<0.002	--
19...	0.24	0.21	0.28	0.25	1.5	1.5	0.026	0.017	<0.002	--
JAN										
11...	0.29	--	0.31	0.23	1.5	1.5	0.020	0.014	<0.002	--
11...	0.26	--	0.26	0.25	1.5	1.5	0.020	0.017	<0.002	--
FEB										
09...	--	--	<0.20	<0.20	--	--	0.020	0.015	<0.002	--
MAR										
04...	0.76	0.26	0.85	0.33	1.7	1.1	0.130	0.017	<0.002	--
04...	0.32	0.16	0.39	0.23	0.87	0.71	0.070	0.017	<0.002	--
04...	0.29	0.19	0.36	0.25	0.89	0.76	0.060	0.019	<0.002	--
05...	0.22	0.18	0.32	0.25	1.3	1.2	0.040	0.018	<0.002	--
06...	0.47	0.47	0.52	0.51	2.1	2.1	0.040	0.020	<0.002	--
06...	0.45	0.45	0.50	0.48	2.1	2.0	0.030	0.013	<0.002	--
22...	0.29	0.24	0.33	0.26	1.6	1.5	0.030	0.016	0.010	0.03
22...	0.35	0.28	0.39	0.30	1.7	1.6	0.030	0.016	<0.010	--
APR										
28...	--	--	<0.20	<0.20	--	--	0.020	0.016	<0.002	--
MAY										
05...	0.46	0.45	0.91	0.87	1.5	1.5	0.100	0.041	<0.002	--
05...	0.78	0.34	0.99	0.43	1.7	1.1	0.170	0.036	<0.002	--
05...	0.85	0.16	1.3	0.42	2.1	1.1	0.330	0.043	0.012	0.04
06...	0.41	0.24	0.50	0.28	1.4	1.2	0.070	0.016	<0.002	--
07...	0.17	0.17	0.21	0.21	1.3	1.3	0.020	0.015	<0.002	--
18...	--	--	<0.20	<0.20	--	--	<0.020	0.013	<0.002	--
18...	--	--	<0.20	<0.20	--	--	<0.020	0.011	<0.002	--
JUN										
23...	0.26	0.26	0.28	0.28	1.5	1.5	0.030	0.010	0.008	0.02
JUL										
02...	0.52	0.22	0.64	0.33	1.0	0.68	0.040	0.024	<0.002	--
02...	0.22	0.05	0.37	0.20	0.99	0.82	0.040	0.019	<0.002	--
02...	0.20	0.12	0.41	0.33	1.1	0.99	0.030	0.020	<0.002	--
02...	0.19	0.08	0.32	0.20	0.78	0.66	0.040	0.027	<0.002	--
03...	0.43	--	0.46	0.26	0.94	0.74	0.070	0.052	<0.002	--
15...	--	--	<0.20	<0.20	--	--	0.040	0.017	0.003	0.01
15...	0.21	--	0.21	<0.20	1.2	--	0.040	0.019	0.004	0.01
AUG										
19...	--	--	<0.20	<0.20	--	--	<0.020	<0.020	0.010	0.03
SEP										
29...	0.24	--	0.26	0.25	1.4	1.4	0.020	0.018	0.003	0.01
29...	--	--	<0.20	<0.20	--	--	0.020	0.020	0.003	0.01

PAXTON CREEK BASIN

01570992 STORM-WATER MANAGEMENT POND No.2 NEAR PAXTONIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	COPPER, TOTAL RECOVER (μ G/L) (01119)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LEAD, TOTAL RECOVER (μ G/L) (01114)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ZINC, TOTAL RECOVER (μ G/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. ELECTRO METRIC (MG/L) (00560)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
NOV 18...	0	0	0	0	120	140	2.0	<0.5	25	0.00
DEC 09...	4	4	0	0	120	120	1.9	<0.5	32	0.00
17...	0	0	0	0	630	680	2.4	<0.5	29	0.02
17...	0	1	1	0	180	240	2.3	0.6	19	0.05
17...	0	2	2	2	180	220	2.7	0.6	40	0.07
18...	1	3	0	0	350	400	3.2	<0.5	6	0.00
19...	1	2	0	0	350	380	2.2	<0.5	1	0.0
JAN 11...	1	1	0	0	180	200	2.2	<0.5	11	0.00
11...	1	2	0	0	170	200	2.2	<0.5	9	0.00
FEB 09...	0	0	0	0	120	130	1.9	<0.5	8	0.00
MAR 04...	2	5	0	8	270	500	4.0	1	235	0.44
04...	2	3	0	4	180	250	2.9	2	30	0.08
04...	2	2	0	3	150	190	2.7	2	31	0.06
05...	1	2	0	1	200	220	2.8	<0.5	3	0.00
06...	1	1	0	0	510	530	2.7	<0.5	3	0.00
06...	1	1	0	1	510	540	2.7	0.6	9	0.00
22...	1	1	0	1	380	480	1.3	<0.5	14	0.00
22...	1	1	0	1	400	500	<1.0	<0.5	12	0.00
APR 28...	1	1	0	0	320	350	1.9	<0.5	4	0.00
MAY 05...	2	3	0	2	230	300	8.7	0.9	37	0.03
05...	2	4	0	4	200	320	9.5	0.6	74	0.08
05...	1	7	0	10	99	330	5.7	0.6	187	0.22
06...	2	1	0	1	160	270	5.1	<0.5	39	0.00
07...	1	1	0	0	210	250	2.2	0.7	6	0.00
18...	0	0	0	0	130	150	1.9	<0.5	7	0.00
18...	0	0	0	0	120	160	1.8	1	--	--
JUN 23...	1	1	0	0	100	150	2.4	<0.5	37	0.00
JUL 02...	0	1	0	4	34	140	1.6	<0.5	15	0.02
02...	1	1	0	1	200	300	2.6	0.8	17	0.03
02...	1	2	0	3	160	220	3.2	<0.5	14	0.02
02...	1	1	0	2	140	170	3.0	<0.5	24	0.06
03...	1	2	0	1	200	290	6.5	<0.5	14	0.00
15...	0	0	0	0	37	60	1.9	<0.5	43	0.00
15...	1	1	0	0	35	70	1.9	<0.5	15	0.00
AUG 19...	1	.3	0	0	99	110	2.3	<0.5	14	0.00
SEP 29...	2	1	0	0	140	180	2.6	<0.5	2	0.00
29...	1	1	0	0	120	180	2.6	--	--	--

PAXTON CREEK BASIN

01570996 PAXTON CREEK TRIBUTARY, SITE 5, NEAR PAXTONIA, PA

LOCATION.--Lat 40°19'01", long 76°48'55", Dauphin County, Hydrologic Unit 02050305, at culvert on Earl Drive, 0.4 mi east of Colonial Road, and 1.3 mi west of Paxtonia.

DRAINAGE AREA.--1.00 mi².

PERIOD OF RECORD.--November 1991 to September 1993 (discontinued).

COOPERATION.--Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT											
15...	1200	1028	9813	0.23	468	7.8	13.5	1.19	1.19	0.050	0.050
NOV											
18...	1130	1028	9813	0.26	360	7.6	8.5	1.14	1.14	0.060	0.050
DEC											
09...	1105	1028	9813	0.13	486	8.0	7.5	1.06	1.06	<0.020	<0.020
17...	0515	1028	9813	3.5	395	7.3	4.5	1.21	1.21	0.040	0.020
17...	0820	1028	9813	15	215	7.3	4.5	0.480	0.460	0.050	0.060
17...	1225	1028	9813	10	248	7.3	5.0	0.620	0.590	0.080	0.060
18...	0520	1028	9813	2.2	385	7.4	5.5	1.30	1.30	0.030	0.030
19...	1340	1028	9813	1.8	410	7.6	7.5	1.45	1.45	0.020	<0.020
JAN											
11...	0840	1028	9813	0.36	500	7.8	3.0	1.28	1.28	<0.020	<0.020
FEB											
09...	1115	1028	9813	0.18	552	8.3	0.5	1.03	1.03	<0.020	<0.020
MAR											
04...	0947	1028	9813	13	705	7.5	2.0	0.990	0.990	0.060	0.060
04...	1455	1028	9813	21	555	7.6	2.5	0.860	0.840	0.060	0.060
04...	1930	1028	9813	20	486	7.7	2.5	1.10	1.10	0.070	0.070
05...	0925	1028	9813	8.1	560	7.7	5.0	1.74	1.74	0.100	0.100
06...	1130	1028	9813	4.6	690	7.6	5.5	1.91	1.91	0.050	0.020
22...	1055	1028	9813	1.9	530	7.9	5.5	1.30	1.30	<0.020	<0.020
APR											
28...	1030	1028	9813	1.6	350	6.8	10.5	1.30	1.27	<0.020	<0.020
MAY											
05...	1005	1028	9813	5.3	215	8.2	16.0	0.680	0.660	0.170	0.150
05...	1845	1028	9813	7.2	215	7.6	18.0	0.680	0.680	0.130	0.050
05...	2010	1028	9813	4.5	135	7.7	17.0	0.700	0.700	0.160	0.070
06...	0735	1028	9813	0.73	370	7.9	14.0	0.730	0.730	0.030	<0.020
07...	0845	1028	9813	0.25	420	7.7	13.5	0.730	0.720	0.020	<0.020
18...	1040	1028	9813	0.12	380	8.0	13.0	0.510	0.510	<0.020	<0.020
18...	1045	1028	9813	0.12	380	8.0	13.0	0.510	0.510	0.050	0.020
JUN											
23...	1110	1028	9813	0.35	409	7.4	17.5	1.10	1.10	<0.020	<0.020
JUL											
02...	0855	1028	9813	4.5	218	6.9	19.0	1.30	1.19	0.130	0.120
02...	1020	1028	9813	11	128	7.0	19.0	0.790	0.770	0.130	0.100
02...	1340	1028	9813	12	154	7.4	19.0	0.590	0.550	0.150	0.140
02...	1820	1028	9813	20	157	7.1	20.0	0.480	0.480	0.110	0.020
03...	0930	1028	9813	2.8	310	7.0	18.0	1.01	1.01	0.040	<0.020
15...	1035	1028	9813	0.05	460	8.1	22.0	0.460	0.460	<0.020	<0.020
15...	1040	1028	9813	0.05	460	8.1	22.0	0.480	0.480	<0.020	<0.020
AUG											
19...	1425	1028	9813	0.08	470	8.1	22.0	0.220	0.200	<0.020	<0.020
SEP											
29...	1050	1028	9813	0.53	420	7.6	14.5	1.17	1.17	0.020	<0.020
29...	1055	1028	9813	0.53	420	7.6	14.5	1.19	1.19	0.020	<0.020

PAXTON CREEK BASIN

01570996 PAXTON CREEK TRIBUTARY, SITE 5, NEAR PAXTONIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT										
15...	0.19	0.19	0.24	0.24	1.4	1.4	0.030	0.030	0.011	0.03
NOV										
18...	0.16	0.25	0.22	0.30	1.4	1.4	0.030	0.025	0.002	0.01
DEC										
09...	0.34	--	0.34	0.31	1.4	1.4	0.024	0.020	0.006	0.02
17...	0.54	0.36	0.58	0.38	1.8	1.6	0.074	0.020	<0.002	--
17...	0.91	0.37	0.96	0.43	1.4	0.89	0.185	0.036	0.008	0.02
17...	0.59	0.35	0.67	0.41	1.3	1.0	0.100	0.037	0.009	0.03
18...	0.50	0.38	0.53	0.41	1.8	1.7	0.048	0.023	0.006	0.02
19...	0.36	--	0.38	0.30	1.8	1.7	0.042	0.020	0.004	0.01
JAN										
11...	0.45	--	0.45	0.44	1.7	1.7	0.020	0.016	<0.002	--
FEB										
09...	--	--	<0.20	<0.20	--	--	0.020	0.014	<0.002	--
MAR										
04...	2.7	0.56	2.7	0.62	3.7	1.6	0.540	0.026	0.004	0.01
04...	1.4	0.44	1.4	0.50	2.3	1.3	0.270	0.038	0.010	0.03
04...	0.96	0.41	1.0	0.48	2.1	1.6	0.200	0.059	0.027	0.08
05...	0.77	0.64	0.87	0.74	2.6	2.5	0.120	0.068	0.038	0.12
06...	0.38	0.39	0.43	0.41	2.3	2.3	0.060	0.035	0.011	0.03
22...	0.34	--	0.34	0.34	1.6	1.6	0.030	0.017	<0.010	--
APR										
28...	--	--			--	--	0.040	0.026	0.003	0.01
MAY										
05...	0.62	0.27	0.79	0.42	1.5	1.1	0.110	0.031	<0.002	--
05...	1.4	0.22	1.5	0.27	2.2	0.95	0.220	0.021	<0.002	--
05...	0.84	0.26	1.0	0.33	1.7	1.0	0.180	0.027	0.024	0.07
06...	--	--	<0.20	<0.20	--	--	0.040	0.018	<0.002	--
07...	--	--	<0.20	<0.20	--	--	0.030	0.020	<0.002	--
18...	--	--	<0.20	<0.20	--	--	0.020	0.018	<0.002	--
18...	--	--	<0.20	<0.20	--	--	<0.020	0.018	<0.002	--
JUN										
23...	--	--	<0.20	<0.20	--	--	0.040	0.017	0.007	0.02
JUL										
02...	1.6	0.25	1.7	0.37	3.0	1.6	0.300	0.045	0.007	0.02
02...	0.84	0.12	0.97	0.22	1.8	0.99	0.220	0.046	<0.002	--
02...	0.81	0.13	0.96	0.27	1.6	0.82	0.140	0.029	<0.002	--
02...	0.71	0.29	0.82	0.31	1.3	0.79	0.130	0.033	<0.002	--
03...	0.34	--	0.38	0.20	1.4	1.2	0.060	0.030	<0.002	--
15...	--	--	<0.20	<0.20	--	--	0.060	0.031	0.017	0.05
15...	--	--	<0.20	<0.20	--	--	0.050	0.033	0.017	0.05
AUG										
19...	--	--	<0.20	<0.20	--	--	0.040	0.030	0.020	0.06
SEP										
29...	0.19	--	0.21	0.21	1.4	1.4	0.040	0.029	<0.011	--
29...	0.18	--	0.20	0.20	1.4	1.4	0.040	0.028	0.007	0.02

PAXTON CREEK BASIN

01570996 PAXTON CREEK TRIBUTARY, SITE 5, NEAR PAXTONIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	COPPER, TOTAL RECOVER -ABLE (μ G/L) (01119)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LEAD, TOTAL RECOVER -ABLE (μ G/L) (01114)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ZINC, TOTAL RECOVER -ABLE (μ G/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. ELECTRO METRIC (MG/L) (00560)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT										
15...	1	1	0	0	2	2	2.6	<0.5	5	0.00
NOV										
18...	1	1	0	0	6	2	2.4	<0.5	3	0.00
DEC										
09...	4	4	0	0	10	90	2.1	<0.5	13	0.00
17...	1	1	2	2	8	20	3.0	<0.5	24	0.23
17...	2	5	7	7	12	60	4.3	0.5	136	5.5
17...	1	2	3	3	15	40	4.5	<0.5	22	0.59
18...	1	1	0	0	11	20	3.1	<0.5	15	0.09
19...	0	0	0	0	5	6	2.5	<0.5	2	0.01
JAN										
11...	1	0	0	0	5	6	2.2	<0.5	2	0.00
FEB										
09...	1	1	0	0	2	3	2.1	0.6	5	0.00
MAR										
04...	3	22	0	60	6	230	7.9	3	650	23
04...	2	10	0	22	7	100	5.6	2	367	21
04...	2	6	0	11	13	60	5.3	0.6	154	8.1
05...	2	3	0	2	21	30	4.1	2	19	0.42
06...	2	2	0	1	23	30	3.5	0.6	8	0.10
22...	1	1	0	1	5	10	1.3	<0.5	2	0.01
APR										
28...	1	1	0	3	4	5	2.3	1	1	0.00
MAY										
05...	3	5	1	6	10	30	6.8	0.6	43	0.62
05...	2	6	0	12	5	70	6.3	1	155	3.0
05...	3	7	0	11	8	60	7.0	0.7	201	2.4
06...	1	2	0	1	5	8	3.6	<0.5	3	0.01
07...	1	1	0	0	4	5	2.6	<0.5	2	0.00
18...	1	1	0	0	2	2	2.3	<0.5	1	0.00
18...	1	1	0	0	3	1	2.3	<0.5	--	--
JUN										
23...	1	1	0	1	3	3	2.7	<0.5	1	0.00
JUL										
02...	1	6	0	14	5	140	5.3	<0.5	256	3.1
02...	1	7	0	16	4	70	4.6	<0.5	178	5.3
02...	1	4	0	8	4	40	5.2	<0.5	81	2.6
02...	1	4	0	5	6	30	5.8	<0.5	72	3.9
03...	2	2	0	1	4	10	4.3	0.6	9	0.07
15...	1	1	0	0	3	2	2.5	<0.5	11	0.00
15...	1	1	0	0	3	2	2.5	<0.5	--	--
AUG										
19...	1	0	0	0	4	0	2.7	<0.5	2	0.00
SEP										
29...	1	1	0	0	4	4	3.0	<0.5	1	0.00
29...	1	1	0	0	5	10	2.9	--	--	--

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA

LOCATION.--Lat 40°18'30", long 76°51'00", Dauphin County, Hydrologic Unit 02050305, on right bank 90 ft upstream from bridge on North Progress Avenue, 0.3 mi north of Interstate Highway 81, and 2.0 mi north of Penbrook.

DRAINAGE AREA.--11.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1940 to September 1950; October 1984 to December 1988. October 1991 to current year.

Annual maximum, water years 1974-84, 1990-91.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 350 ft above sea level, from topographic map. Mar. 1, 1940, to Sept. 30, 1950, water-stage recorder at bridge 100 ft downstream at same datum.

REMARKS.--Records good except those below 1.0 ft³/s and estimated daily discharges, which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972 reached a stage of 13.45 ft, from floodmarks, discharge, 3,300 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	3.4	11	8.6	8.0	e4.6	352	18	4.6	1.5	.73	.84
2	4.5	7.8	9.8	7.1	e6.6	e8.4	134	15	2.7	78	2.9	1.2
3	3.9	124	8.4	6.8	6.0	18	64	12	2.5	14	.97	3.7
4	3.4	19	7.5	7.0	6.0	185	44	11	2.3	7.4	.97	23
5	3.1	13	8.1	42	5.7	123	32	35	2.5	5.0	1.5	2.7
6	2.8	14	6.6	18	e5.4	74	25	20	2.4	32	3.7	1.7
7	2.8	8.7	6.3	15	e5.0	69	21	13	2.0	9.0	1.2	1.4
8	2.7	7.1	6.1	18	e4.8	73	18	10	6.8	5.5	.91	14
9	135	6.1	5.5	14	e4.7	64	16	9.3	15	4.2	.86	3.9
10	30	5.5	6.7	11	4.6	50	404	8.4	4.2	3.2	2.1	2.7
11	13	5.2	56	10	4.5	39	208	7.5	2.7	3.0	5.6	1.7
12	9.5	9.9	43	19	5.6	29	60	27	2.3	2.4	88	1.4
13	7.3	32	23	58	11	e27	40	14	2.1	2.1	7.1	1.3
14	6.3	10	17	34	8.3	e25	30	8.4	1.9	1.9	3.0	1.2
15	5.6	8.2	15	25	7.2	e22	24	7.2	1.8	1.5	2.2	12
16	4.9	7.0	14	21	9.5	e19	191	6.2	1.8	1.3	2.0	21
17	4.7	6.3	59	18	13	e56	149	5.6	1.6	1.2	2.1	8.7
18	4.7	5.7	29	14	9.6	48	52	5.9	1.5	1.1	1.6	5.4
19	5.6	5.0	22	11	e6.4	32	37	7.4	2.1	1.4	1.4	3.5
20	5.0	4.5	28	9.6	e5.8	28	28	5.5	85	1.1	8.0	2.5
21	4.6	12	18	9.4	e6.0	37	39	4.6	30	.94	2.1	3.6
22	4.2	58	16	26	e9.0	47	95	4.1	9.3	.86	1.4	5.2
23	3.9	452	14	14	e9.0	182	51	3.8	4.7	.86	1.3	2.9
24	4.2	52	11	18	e7.0	257	35	3.6	3.4	.84	1.2	2.4
25	4.5	48	9.2	17	e6.0	98	27	3.3	2.7	.85	1.1	8.4
26	3.6	33	8.6	12	e5.4	71	144	3.0	2.4	.88	1.0	29
27	3.5	24	7.6	12	e5.0	58	46	2.8	2.6	.79	.97	20
28	3.3	19	8.0	11	e4.7	63	32	2.7	2.6	2.6	.98	10
29	3.3	16	9.0	9.8	---	58	26	3.3	2.3	1.0	1.0	5.6
30	3.3	13	14	8.2	---	45	21	2.5	1.8	.84	.97	4.9
31	3.7	---	11	8.4	---	34	---	5.1	---	.75	.86	---
TOTAL	302.1	1029.4	508.4	512.9	189.8	1944.0	2445	285.2	209.6	188.01	149.72	205.84
MEAN	9.75	34.3	16.4	16.5	6.78	62.7	81.5	9.20	6.99	6.06	4.83	6.86
MAX	135	452	59	58	13	257	404	35	85	78	88	29
MIN	2.7	3.4	5.5	6.8	4.5	4.6	16	2.5	1.5	.75	.73	.84
CFSM	.87	3.06	1.46	1.48	.61	5.60	7.28	.82	.62	.54	.43	.61
IN.	1.00	3.42	1.69	1.70	.63	6.46	8.12	.95	.70	.62	.50	.68

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

	MEAN	5.79	15.6	17.1	15.4	19.3	27.8	24.2	21.9	9.06	8.90	6.64	7.77
MAX	23.2	34.3	35.2	36.4	41.9	62.7	81.5	46.0	32.2	33.7	32.1	49.6	
(WY)	1943	1993	1949	1949	1950	1993	1993	1946	1946	1945	1942	1987	
MIN	.56	1.50	4.00	5.08	6.78	9.41	7.89	2.21	1.53	1.15	.36	.16	
(WY)	1942	1942	1944	1985	1993	1985	1946	1941	1949	1941	1941	1943	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL TOTAL	5344.68	7969.97	
ANNUAL MEAN	14.6	21.8	14.9
HIGHEST ANNUAL MEAN			21.8
LOWEST ANNUAL MEAN			7.84
HIGHEST DAILY MEAN	452	Nov 23	644
LOWEST DAILY MEAN	.78	Aug 26	.10
ANNUAL SEVEN-DAY MINIMUM	1.0	Aug 21	.10
INSTANTANEOUS PEAK FLOW			a4600
INSTANTANEOUS PEAK STAGE			13.25
ANNUAL RUNOFF (CFSM)	1.30	1.95	1.33
ANNUAL RUNOFF (INCHES)	17.75	26.47	18.03
10 PERCENT EXCEEDS	26	51	32
50 PERCENT EXCEEDS	6.3	7.2	6.9
90 PERCENT EXCEEDS	1.8	1.4	1.0

a From rating curve extended above 2,800 ft³/s on basis of peak flow through culvert.

e Estimated.

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966, 1985 to 1989, 1992 to current year.

INSTRUMENTATION.--Automatic pumping sampler June 1985 to December 1988, October 1991 to current year.

COOPERATION.--Agency collection codes: 1028 - U.S. Geological Survey, 42011 - Susquehanna River Basin Commission.

Agency analyzing codes: 80020 - U.S. Geological Survey, 9813 - Pennsylvania Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT											
09...	1922	42011	9813	490	170	6.9	--	0.570	0.570	0.570	0.050
09...	2022	42011	9813	1230	140	6.9	20.0	0.570	0.570	0.570	0.040
09...	2122	42011	9813	310	140	6.9	--	0.590	0.590	0.590	0.050
15...	0915	42011	9813	5.9	380	7.5	11.0	1.30	1.30	1.30	0.050
NOV											
18...	1210	42011	9813	5.6	300	7.5	7.0	1.10	1.10	1.10	0.170
22...	2330	1028	9813	273	--	--	--	--	--	--	--
23...	0030	1028	9813	1530	--	--	--	--	--	--	--
23...	0130	1028	9813	1610	--	--	--	--	--	--	--
23...	0230	1028	9813	1900	--	--	--	--	--	--	--
23...	0330	1028	9813	1490	--	--	--	--	--	--	--
23...	0430	1028	9813	720	--	--	--	--	--	--	--
23...	0530	1028	9813	730	--	--	--	--	--	--	--
23...	0630	1028	9813	840	--	--	--	--	--	--	--
23...	0730	1028	9813	610	--	--	--	--	--	--	--
23...	0830	1028	9813	375	--	--	--	--	--	--	--
23...	0930	1028	9813	230	--	--	--	--	--	--	--
23...	1100	1028	9813	159	--	--	--	--	--	--	--
DEC											
09...	1130	42011	9813	5.5	336	8.4	3.5	1.12	1.12	1.12	<0.020
17...	0610	42011	9813	30	292	7.5	5.5	0.640	0.640	0.640	0.040
17...	0905	42011	9813	98	255	7.3	5.0	0.950	0.950	0.950	0.040
17...	1105	42011	9813	133	186	7.3	5.0	0.680	0.680	0.680	0.040
17...	1345	42011	9813	94	175	7.3	5.0	0.660	0.660	0.660	0.050
17...	1715	42011	9813	62	204	7.2	5.0	0.860	0.860	0.860	0.040
18...	0615	42011	9813	32	282	7.6	4.5	1.36	1.36	1.36	0.040
19...	1430	42011	9813	22	286	7.7	5.5	1.45	1.45	1.45	0.030
JAN											
11...	1140	42011	9813	9.9	--	8.1	--	--	<0.200	--	<0.020
FEB											
09...	1230	42011	9813	4.7	--	8.6	0.5	0.920	0.920	--	<0.020
MAR											
04...	1030	42011	9813	69	--	--	2.5	1.21	1.21	--	0.020
04...	1345	42011	9813	231	--	--	2.5	--	--	--	--
04...	1545	42011	9813	375	--	--	1.5	1.01	1.01	--	0.040
04...	1730	42011	9813	585	--	--	--	--	--	--	--
04...	2030	42011	9813	332	--	--	1.0	1.21	1.21	--	0.060
05...	1020	42011	9813	107	--	--	3.0	1.74	1.74	--	<0.020
06...	1235	42011	9813	68	--	--	5.0	1.89	1.89	--	<0.020
22...	1315	42011	9813	36	--	8.1	8.0	1.17	1.17	--	0.020
APR											
10...	1600	42011	9813	199	--	8.3	--	0.770	0.770	--	0.090
10...	1700	42011	9813	977	--	8.2	--	0.510	0.510	--	0.090
10...	1800	42011	9813	1200	--	8.1	--	0.510	0.510	--	0.090
10...	1900	42011	9813	1100	--	8.0	--	0.530	0.530	--	0.100
10...	2000	42011	9813	1140	--	8.0	--	0.510	0.510	--	0.100
10...	2100	42011	9813	1260	--	7.9	--	0.590	0.590	--	0.080
10...	2200	42011	9813	1350	--	7.9	--	0.660	0.660	--	0.070
10...	2300	42011	9813	1230	--	7.9	--	0.620	0.620	--	0.070
10...	2400	42011	9813	1100	--	7.8	--	0.680	0.680	--	0.100
11...	0100	42011	9813	800	--	7.7	--	0.750	0.750	--	0.050
11...	0200	42011	9813	573	--	7.7	--	0.810	0.810	--	0.060
11...	0300	42011	9813	424	--	7.7	--	0.900	0.900	--	0.060
11...	0400	42011	9813	321	--	7.6	--	0.990	0.990	--	0.050
11...	0500	42011	9813	258	--	7.6	--	1.01	1.01	--	0.070
11...	0600	42011	9813	216	--	7.6	--	1.08	1.08	--	0.040
11...	0700	42011	9813	183	--	7.6	--	1.19	1.19	--	0.060
28...	1240	42011	9813	32	--	6.8	--	1.32	1.32	--	<0.020
MAY											
05...	1125	42011	9813	44	--	7.7	15.0	0.900	0.900	--	0.100
05...	1945	42011	9813	46	--	7.5	17.0	0.790	0.790	--	0.160
05...	2110	42011	9813	79	--	7.6	16.0	0.680	0.680	--	0.090
05...	2325	42011	9813	44	--	8.3	16.0	0.680	0.680	--	0.170
06...	0615	42011	9813	23	--	7.7	14.0	0.770	0.770	--	0.080
06...	1545	42011	9813	18	--	8.3	17.0	0.750	0.750	--	<0.020
07...	1000	42011	9813	13	--	8.3	16.0	0.790	0.790	--	0.030
18...	1205	42011	9813	5.2	--	7.8	14.0	0.970	0.970	--	0.030

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT										
09...	0.050	2.8	0.71	2.9	0.76	3.4	1.3	0.620	0.060	0.020
09...	0.030	3.6	0.71	3.7	0.74	4.2	1.3	0.960	0.060	0.004
09...	0.040	2.3	0.65	2.4	0.69	3.0	1.3	0.500	0.070	0.020
15...	0.050	0.18	0.15	0.23	0.20	1.5	1.5	0.030	0.030	0.003
NOV										
18...	0.130	0.32	0.18	0.49	0.31	1.6	1.4	0.020	0.020	0.002
22...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
DEC										
09...	<0.020	0.27	--	0.27	0.27	1.4	1.4	0.020	0.020	0.004
17...	0.040	0.68	--	0.72	<0.20	1.4	--	0.140	0.020	0.003
17...	0.040	0.55	0.20	0.59	0.24	1.5	1.2	0.120	0.030	0.002
17...	0.040	0.85	0.27	0.89	0.31	1.6	0.99	0.180	0.040	0.004
17...	0.050	0.67	0.30	0.72	0.35	1.4	1.0	0.140	0.040	0.010
17...	0.040	0.51	0.33	0.55	0.37	1.4	1.2	0.100	0.040	0.010
18...	0.030	0.29	0.23	0.33	0.26	1.7	1.6	0.050	0.030	0.010
19...	0.030	0.30	0.24	0.33	0.27	1.8	1.7	0.030	0.020	0.003
JAN										
11...	<0.020	--	--	<0.20	<0.20	--	--	1.34	0.020	--
FEB										
09...	<0.020	0.24	--	0.24	<0.20	1.2	--	0.030	0.020	--
MAR										
04...	<0.020	0.96	--	0.98	0.18	2.2	--	0.180	0.020	--
04...	--	--	--	--	--	--	--	--	--	0.00
04...	0.040	2.4	0.34	2.4	0.38	3.4	--	0.520	0.030	--
04...	--	--	--	--	--	--	--	--	--	0.00
04...	0.040	1.1	0.32	1.2	0.36	2.4	--	0.220	0.030	0.010
05...	<0.020	0.47	--	0.47	0.29	2.2	--	0.070	0.030	--
06...	<0.020	0.28	--	0.28	0.22	2.2	--	0.040	0.020	--
22...	<0.020	0.19	--	0.21	<0.20	1.4	--	0.020	0.010	0.010
APR										
10...	0.060	1.9	0.64	2.0	0.70	2.8	--	0.320	0.030	--
10...	0.090	3.0	0.68	3.1	0.77	3.6	--	0.760	0.040	--
10...	0.090	1.7	0.67	1.8	0.76	2.3	--	0.730	0.040	--
10...	0.090	1.6	0.87	1.7	0.96	2.2	--	0.430	0.050	--
10...	0.060	1.0	0.60	1.1	0.66	1.6	--	0.300	0.040	0.010
10...	0.070	1.1	0.50	1.2	0.57	1.8	--	0.450	0.040	--
10...	0.070	1.4	0.63	1.4	0.70	2.1	--	0.300	0.040	--
10...	0.060	0.81	0.48	0.88	0.54	1.5	--	0.240	0.030	--
10...	0.070	1.1	0.70	1.2	0.77	1.9	--	0.200	0.030	--
11...	0.050	1.1	0.62	1.2	0.67	1.9	--	0.150	0.040	--
11...	0.060	0.89	0.47	0.95	0.53	1.8	--	0.150	0.040	--
11...	0.050	0.87	0.51	0.93	0.56	1.8	--	0.150	0.040	--
11...	0.040	0.56	0.40	0.61	0.44	1.6	--	0.090	0.040	--
11...	0.050	0.57	0.31	0.64	0.36	1.7	--	0.110	0.030	--
11...	0.040	0.57	0.45	0.61	0.49	1.7	--	0.090	0.030	--
11...	0.030	0.56	0.49	0.62	0.52	1.8	--	0.090	0.030	--
28...	<0.020	--	--	<0.20	<0.20	--	--	0.020	0.020	--
MAY										
05...	0.060	0.38	0.23	0.48	0.29	1.4	--	0.070	0.010	--
05...	0.040	0.64	0.38	0.80	0.42	1.6	--	0.260	0.030	--
05...	<0.020	0.55	--	0.64	<0.20	1.3	--	0.130	0.020	--
05...	0.040	0.60	0.22	0.77	0.26	1.4	--	0.190	0.020	--
06...	<0.020	0.38	--	0.46	0.27	1.2	--	0.060	0.020	--
06...	<0.020	0.29	--	0.29	0.29	1.0	--	0.030	0.020	--
07...	<0.020	0.18	--	0.21	<0.20	1.0	--	0.030	0.020	--
18...	0.030	0.17	0.17	0.20	0.20	1.2	--	0.030	0.020	--

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO ₄) (00660)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	COPPER, TOTAL RECOVER (μG/L) (01119)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LEAD, TOTAL RECOVER (μG/L) (01114)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)	ZINC, TOTAL RECOVER (μG/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT										
09...	0.06	--	--	--	--	--	--	11	910	1200
09...	0.01	--	--	--	--	--	--	11	1560	5180
09...	0.06	--	--	--	--	--	--	10	558	467
15...	0.01	1	1	0	0	2	8	2.4	1	0.02
NOV										
18...	0.01	1	1	0	0	3	3	2.0	4	0.06
22...	--	--	--	--	--	--	--	--	292	215
23...	--	--	--	--	--	--	--	--	1180	4880
23...	--	--	--	--	--	--	--	--	1660	7190
23...	--	--	--	--	--	--	--	--	1570	8040
23...	--	--	--	--	--	--	--	--	729	2930
23...	--	--	--	--	--	--	--	--	544	1060
23...	--	--	--	--	--	--	--	--	592	1170
23...	--	--	--	--	--	--	--	--	481	1090
23...	--	--	--	--	--	--	--	--	334	550
23...	--	--	--	--	--	--	--	--	322	326
23...	--	--	--	--	--	--	--	--	183	114
23...	--	--	--	--	--	--	--	--	126	54
DEC										
09...	0.01	3	4	0	0	3	3	1.9	5	0.07
17...	0.01	0	7	6	6	9	60	2.5	42	3.4
17...	0.01	0	2	4	4	6	30	3.8	53	14
17...	0.01	1	4	4	4	28	80	5.5	107	38
17...	0.03	1	4	3	3	6	30	6.1	69	18
17...	0.03	1	2	1	1	9	20	5.6	21	3.5
18...	0.03	0	1	0	0	6	10	3.2	1	0.09
19...	0.01	0	0	0	0	3	9	2.2	2	0.12
JAN										
11...	--	--	--	--	--	--	--	1.8	1	0.03
FEB										
09...	--	1	1	0	0	1	4	1.9	1	0.01
MAR										
04...	--	--	--	--	--	--	--	4.1	113	21
04...	0.0	--	--	--	--	--	--	--	719	448
04...	--	--	--	--	--	--	--	8.4	610	618
04...	0.0	--	--	--	--	--	--	--	985	1560
04...	0.03	--	--	--	--	--	--	5.6	226	203
05...	--	--	--	--	--	--	--	4.0	30	8.7
06...	--	--	--	--	--	--	--	3.0	13	2.4
22...	0.03	--	--	--	--	--	--	1.6	7	0.69
APR										
10...	--	--	--	--	--	--	--	5.7	1140	613
10...	--	--	--	--	--	--	--	5.7	1920	5060
10...	--	--	--	--	--	--	--	3.5	1260	4090
10...	--	--	--	--	--	--	--	5.4	1300	3860
10...	0.03	--	--	--	--	--	--	5.2	779	2400
10...	--	--	--	--	--	--	--	4.9	1410	4780
10...	--	--	--	--	--	--	--	5.0	627	2290
10...	--	--	--	--	--	--	--	4.7	912	3030
10...	--	--	--	--	--	--	--	4.5	460	1370
11...	--	--	--	--	--	--	--	4.6	715	1540
11...	--	--	--	--	--	--	--	4.7	275	425
11...	--	--	--	--	--	--	--	4.1	418	479
11...	--	--	--	--	--	--	--	3.8	264	229
11...	--	--	--	--	--	--	--	3.7	212	148
11...	--	--	--	--	--	--	--	3.5	156	91
11...	--	--	--	--	--	--	--	3.4	172	85
28...	--	1	1	0	0	2	5	2.1	5	0.43
MAY										
05...	--	2	3	0	2	4	10	6.6	28	3.3
05...	--	2	6	0	11	2	50	6.9	187	23
05...	--	1	4	0	6	2	30	5.5	104	22
05...	--	2	6	0	6	3	40	7.3	160	19
06...	--	2	2	0	2	4	10	6.0	28	1.7
06...	--	1	2	0	1	2	5	3.5	1	0.05
07...	--	1	1	0	0	2	4	1.3	3	0.11
18...	--	0	0	0	0	1	3	2.5	1	0.01

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
JUN										
20...	2022	42011	9813	896	--	6.8	--	1.23	1.23	0.270
20...	2122	42011	9813	650	--	6.8	--	1.06	1.06	0.230
20...	2222	42011	9813	132	--	6.9	--	1.03	1.03	0.210
21...	1000	42011	9813	13	--	6.9	--	1.25	1.25	0.090
23...	1315	42011	9813	4.9	--	8.0	--	1.36	1.36	0.050
JUL										
02...	0950	42011	9813	184	--	7.4	19.0	0.970	0.970	0.120
02...	1120	42011	9813	269	--	7.1	19.0	0.680	0.680	0.120
02...	1305	42011	9813	205	--	7.3	19.0	0.880	0.880	0.140
02...	1500	42011	9813	81	--	7.4	19.0	0.770	0.770	0.170
02...	1725	42011	9813	51	--	7.4	19.0	0.680	0.680	0.120
02...	1900	42011	9813	50	--	7.2	20.0	0.730	0.730	0.100
03...	1040	42011	9813	18	--	7.2	18.0	1.25	1.25	0.050
15...	1150	42011	9813	1.6	--	8.4	25.0	0.840	0.840	<0.020
AUG										
19...	1530	42011	9813	1.3	--	8.2	24.0	1.19	1.19	<0.020
SEP										
29...	1310	42011	9813	5.6	--	7.2	15.0	1.50	1.50	<0.020
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
JUN										
20...		0.270	8.5	0.65	8.8	0.92	10	2.20	0.050	0.06
20...		0.210	3.3	0.50	3.5	0.71	4.5	0.900	0.040	0.03
20...		0.210	1.4	0.60	1.6	0.81	2.6	0.300	0.050	0.03
21...		0.080	0.76	0.49	0.85	0.57	2.1	0.140	0.040	0.03
23...		<0.020	0.24	--	0.29	<0.20	1.6	0.080	0.030	0.06
JUL										
02...		0.100	0.95	0.15	1.1	0.25	2.0	0.180	0.030	--
02...		0.100	0.88	0.10	1.0	0.20	1.7	0.200	0.030	--
02...		0.090	0.28	0.19	0.42	0.28	1.3	0.080	0.040	--
02...		0.080	0.99	0.16	1.2	0.24	1.9	0.290	0.040	--
02...		0.060	1.0	0.23	1.1	0.29	1.8	0.260	0.050	--
02...		0.060	0.56	0.27	0.66	0.33	1.4	0.120	0.060	0.06
03...		0.040	0.48	0.34	0.53	0.38	1.8	0.070	0.040	0.03
15...		<0.020	0.28	--	0.28	0.22	1.1	<0.020	0.020	0.03
AUG										
19...		<0.020	--	--	<0.20	<0.20	--	0.020	0.020	<0.020
SEP										
29...		<0.020	0.26	--	0.26	<0.20	1.8	0.040	0.030	0.06

PAXTON CREEK BASIN

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	COPPER, TOTAL RECOVER -ABLE (μ G/L) (01119)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LEAD, TOTAL RECOVER -ABLE (μ G/L) (01114)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ZINC, TOTAL RECOVER -ABLE (μ G/L) (01094)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
JUN									
20...	--	--	--	--	--	--	7.7	3270	7910
20...	--	--	--	--	--	--	7.7	2220	3900
20...	--	--	--	--	--	--	7.4	765	273
21...	--	--	--	--	--	--	6.7	194	6.8
23...	--	--	--	--	--	--	3.3	14	0.19
JUL									
02...	1	5	0	22	4	60	4.6	139	69
02...	1	5	0	8	1	40	3.7	190	138
02...	1	4	0	8	2	40	5.1	170	94
02...	1	6	0	10	1	50	5.6	260	57
02...	2	7	0	10	3	60	6.3	236	32
02...	2	5	0	5	3	30	7.1	114	15
03...	2	2	0	1	2	8	5.5	23	1.1
15...	1	1	0	0	1	2	2.7	1	<0.01
AUG									
19...	1	2	0	1	1	4	2.7	2	0.01
SEP									
29...	1	1	0	0	2	3	3.3	1	0.02

ADDITIONAL REMARKS.--Ecological water-quality data were collected as part of an ecological survey of sites for NAWQA. The sample was collected at the richest-targeted habitat. Other synoptic sites are shown in figure 12, page 278. All data collected at ecological survey sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	TIME	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BICAR- BONATE WATER WH FET FIELD (MG/L AS HCO3) (00440)
ESS09	8-02-93	1320	0.83	473	8.1	21.5	160
CAR- BONATE WATER WH FET FIELD (MG/L AS CO3) (00445)	ALKA- LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH MASS (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY MASS (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH-FREE DRY MASS (G/SQ M) ()	20
0	128	53	13	409	429		

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA
(National water-quality assessment station)

LOCATION.--Lat 40°13'30", long 76°54'24", Cumberland County, Hydrologic Unit 02050305, on right bank at Eberlys Mill, 50 ft downstream from bridge on SR 2031, and 0.5 mi upstream from mouth.
DRAINAGE AREA.--12.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 350 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e120	34	16	10	e7.4	e8.3
2	---	---	---	---	---	---	e140	32	15	31	e6.9	8.3
3	---	---	---	---	---	---	e92	30	15	18	e11	9.8
4	---	---	---	---	---	---	e70	29	15	14	e9.6	22
5	---	---	---	---	---	---	e60	36	14	13	e9.3	9.8
6	---	---	---	---	---	---	e50	31	14	12	e11	8.9
7	---	---	---	---	---	---	e42	28	13	12	e11	8.3
8	---	---	---	---	---	---	e37	26	15	14	e10	20
9	---	---	---	---	---	---	e35	25	20	11	e10	9.5
10	---	---	---	---	---	---	e44	24	15	11	e9.6	8.5
11	---	---	---	---	---	---	e70	23	14	12	e18	7.7
12	---	---	---	---	---	---	e51	30	14	11	e16	7.3
13	---	---	---	---	---	---	e41	26	13	e11	e13	6.8
14	---	---	---	---	---	---	e37	23	13	e10	e11	6.6
15	---	---	---	---	---	---	e35	21	12	e9.6	e9.6	10
16	---	---	---	---	---	---	e56	21	12	e9.0	e9.0	16
17	---	---	---	---	---	---	e76	20	12	e8.6	e13	10
18	---	---	---	---	---	---	e56	20	11	e8.6	e24	9.7
19	---	---	---	---	---	---	e45	20	12	e9.3	e16	8.7
20	---	---	---	---	---	---	e40	19	19	e9.6	e13	8.2
21	---	---	---	---	---	---	e38	19	16	e9.0	e13	10
22	---	---	---	---	---	---	e72	18	12	e8.6	e11	8.3
23	---	---	---	---	---	---	e62	18	12	e8.0	e11	7.7
24	---	---	---	---	---	---	e52	17	11	e8.3	e10	7.3
25	---	---	---	---	---	---	e47	17	11	e8.6	e9.0	14
26	---	---	---	---	---	---	e63	16	11	e8.6	e8.6	22
27	---	---	---	---	---	---	e50	16	11	e8.6	e8.6	13
28	---	---	---	---	---	---	44	16	13	e8.3	e8.3	11
29	---	---	---	---	---	---	39	16	12	e8.3	e8.3	9.7
30	---	---	---	---	---	---	37	15	11	e8.0	e8.3	8.9
31	---	---	---	---	---	---	---	16	---	e8.0	e8.3	---
MEAN	---	---	---	---	---	---	56.7	22.6	13.5	10.9	11.1	10.5
MAX	---	---	---	---	---	---	140	36	20	31	24	22
MIN	---	---	---	---	---	---	35	15	11	8.0	6.9	6.6
CFSM	---	---	---	---	---	---	4.50	1.80	1.07	.86	.88	.84
IN.	---	---	---	---	---	---	5.02	2.07	1.19	.99	1.01	.93

e Estimated.

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to current year.

TEMPERATURE: April 1993 to current year.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--Interruptions in the daily record were due to malfunctions of the equipment. All water-quality samples were collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122. For a complete list of pesticides analyzed and their corresponding reporting levels, see tables 3, 4, pages 126-127.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CaCO ₃) (00900)
MAR										
25...	0945	92	631	7.3	7.5	9.0	765	10.3	89	260
APR										
06...	0840	51	648	8.2	8.5	9.5	757	10.6	94	280
13...	1345	42	641	8.3	13.0	14.5	753	--	--	290
20...	1450	41	636	8.1	19.0	17.0	745	11.8	126	270
27...	1510	50	599	8.1	23.0	15.0	761	10.0	99	260
MAY										
04...	1505	24	643	8.1	21.0	15.0	761	10.1	100	270
11...	1400	24	642	8.0	31.5	19.0	761	10.3	111	280
18...	1300	20	657	8.0	18.0	13.0	761	9.9	94	280
25...	1420	17	651	8.1	29.0	18.5	752	9.8	107	270
JUN										
01...	1435	16	647	8.1	22.5	17.5	749	10.4	111	290
08...	1430	13	671	8.0	23.5	17.0	753	7.8	82	290
15...	1220	13	653	8.1	26.5	18.0	754	9.3	100	270
22...	1245	13	655	8.1	23.0	18.5	750	9.3	101	290
29...	1340	11	643	8.0	21.5	18.0	752	8.6	92	280
JUL										
02...	0920	29	449	8.1	18.0	16.0	754	13.5	138	220
06...	1400	13	640	7.7	32.0	20.0	755	9.3	103	260
13...	1455	9.6	645	8.1	33.0	23.0	754	8.9	105	280
20...	1345	9.6	638	8.1	28.0	21.5	752	8.6	99	270
27...	1310	8.6	636	8.2	25.0	22.0	750	9.6	112	290
AUG										
03...	1345	10	605	8.1	28.0	22.0	754	9.0	104	270
17...	1430	9.0	653	8.2	28.5	20.5	752	9.7	109	270
31...	1320	8.3	655	8.2	31.0	21.0	755	9.2	104	290
SEP										
14...	1440	6.6	647	8.2	27.5	20.5	759	9.7	108	290
28...	1300	11	651	8.1	17.5	14.5	755	10.3	102	290

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)
MAR 25...	65	83	12	25	17	0.7	2.9	230	0	190
APR 06...	63	91	12	23	15	0.6	2.4	260	0	210
13...	65	96	13	24	15	0.6	2.3	260	9.6	210
20...	55	87	12	22	15	0.6	2.3	260	0	210
27...	39	84	11	21	15	0.6	2.2	260	0	220
MAY 04...	42	90	12	22	15	0.6	2.1	280	0	230
11...	51	91	12	21	14	0.5	2.1	280	0	230
18...	50	94	12	22	14	0.6	2.2	290	0	240
25...	57	90	12	22	15	0.6	2.2	270	0	220
JUN 01...	76	95	13	22	14	0.6	2.2	260	0	220
08...	79	98	12	23	14	0.6	2.1	260	0	220
15...	50	87	12	22	15	0.6	2.2	260	0	220
22...	67	95	12	22	14	0.6	2.3	270	0	220
29...	58	91	12	22	15	0.6	2.3	270	0	220
JUL 02...	50	73	9.6	19	16	0.6	2.1	210	0	170
06...	41	86	12	22	15	0.6	2.1	270	0	220
13...	57	92	13	24	15	0.6	2.3	280	0	230
20...	58	89	12	22	15	0.6	2.4	260	0	210
27...	64	94	13	22	14	0.6	2.2	270	0	220
AUG 03...	55	89	12	20	14	0.5	2.3	260	0	220
17...	38	88	13	23	15	0.6	2.4	290	0	240
31...	64	94	13	23	15	0.6	2.3	270	0	220
SEP 14...	59	94	13	22	14	0.6	2.2	280	0	230
28...	60	96	13	20	13	0.5	2.3	290	0	230

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
MAR 25...	30	55	<0.10	6.9	372	351	0.51	92.4	4.68	21
APR 06...	31	51	0.10	6.2	376	365	0.51	52.2	--	--
13...	32	51	0.10	5.9	361	382	0.49	40.9	4.59	20
20...	30	46	0.20	6.0	360	352	0.49	40.2	4.39	19
27...	30	43	0.20	7.0	337	348	0.46	45.5	4.39	19
MAY 04...	31	48	0.10	6.9	369	371	0.50	23.9	--	--
11...	32	47	0.20	7.1	369	367	0.50	23.9	4.39	19
18...	32	47	<0.10	7.6	374	377	0.51	20.2	--	--
25...	31	50	0.10	7.6	375	365	0.51	17.2	4.39	19
JUN 01...	31	47	0.20	8.3	359	368	0.49	15.5	4.49	20
08...	31	53	0.30	8.3	391	377	0.53	13.7	4.49	20
15...	31	47	0.10	7.9	372	359	0.51	13.1	4.49	20
22...	30	46	0.20	8.2	381	367	0.52	13.4	4.29	19
29...	30	46	0.20	7.9	383	359	0.52	11.6	3.69	16
JUL 02...	27	37	0.20	6.2	311	293	0.42	24.4	3.38	15
06...	30	46	0.20	8.0	369	358	0.50	13.0	4.09	18
13...	31	47	0.10	7.9	374	370	0.51	9.69	3.89	17
20...	29	47	0.20	7.9	357	357	0.49	9.25	4.28	19
27...	31	43	0.10	7.9	353	366	0.48	8.20	4.18	19
AUG 03...	27	42	0.10	7.7	360	346	0.49	9.72	3.58	16
17...	32	44	0.20	7.7	352	370	0.48	8.55	4.09	18
31...	30	41	0.10	7.8	357	365	0.49	8.00	4.48	20
SEP 14...	29	41	<0.10	7.8	339	365	0.46	6.04	4.29	19
28...	29	40	0.20	8.5	345	365	0.47	10.2	--	--

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR										
25...	0.020	0.07	4.70	0.080	0.10	0.72	0.40	0.80	5.5	0.050
APR										
06...	<0.010	--	4.70	0.010	0.01	--	<0.20	<0.20	--	<0.010
13...	0.010	0.03	4.60	0.020	0.03	--	<0.20	<0.20	--	<0.010
20...	0.010	0.03	4.40	0.020	0.03	0.28	<0.20	0.30	4.7	0.010
27...	0.010	0.03	4.40	0.030	0.04	--	0.20	<0.20	--	0.030
MAY										
04...	<0.010	--	4.40	0.020	0.03	0.28	<0.20	0.30	4.7	0.010
11...	0.010	0.03	4.40	0.030	0.04	--	<0.20	<0.20	--	0.020
18...	<0.010	--	4.40	0.030	0.04	--	0.20	<0.20	--	0.010
25...	0.010	0.03	4.40	0.030	0.04	--	<0.20	<0.20	--	0.020
JUN										
01...	0.010	0.03	4.50	0.040	0.05	--	<0.20	<0.20	--	0.020
08...	0.010	0.03	4.50	0.040	0.05	--	<0.20	<0.20	--	0.010
15...	0.010	0.03	4.50	0.040	0.05	--	<0.20	<0.20	--	0.020
22...	0.010	0.03	4.30	0.050	0.06	0.15	<0.20	0.20	4.5	0.020
29...	0.010	0.03	3.70	0.040	0.05	--	<0.20	<0.20	--	<0.010
JUL										
02...	0.020	0.07	3.40	0.160	0.21	--	0.30	<0.20	--	0.010
06...	0.010	0.03	4.10	0.040	0.05	--	<0.20	<0.20	--	<0.010
13...	0.010	0.03	3.90	0.030	0.04	--	<0.20	<0.20	--	0.030
20...	0.020	0.07	4.30	0.040	0.05	--	0.20	<0.20	--	0.030
27...	0.020	0.07	4.20	0.040	0.05	0.26	0.30	0.30	4.5	0.010
AUG										
03...	0.020	0.07	3.60	0.040	0.05	0.16	0.30	0.20	3.8	0.020
17...	0.010	0.03	4.10	0.030	0.04	--	<0.20	<0.20	--	<0.010
31...	0.020	0.07	4.50	0.040	0.05	--	<0.20	<0.20	--	0.020
SEP										
14...	0.010	0.03	4.30	0.030	0.04	--	<0.20	<0.20	--	0.020
28...	<0.010	--	3.50	0.030	0.04	--	<0.20	<0.20	--	0.020
DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (MG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR										
25...	0.020	0.020	0.06	6	10	23	0.3	100	25	25
APR										
06...	<0.010	<0.010	--	4	9	3.5	0.3	108	15	63
13...	<0.010	<0.010	--	<3	5	5.4	<0.1	78	8.8	24
20...	0.030	<0.010	--	<3	6	1.9	1.1	106	12	43
27...	<0.010	0.020	0.06	<3	8	1.5	0.8	91	12	25
MAY										
04...	0.010	<0.010	--	<3	7	51	0.4	102	6.6	22
11...	0.010	<0.010	--	4	7	2.5	0.2	106	6.9	14
18...	0.010	<0.010	--	<3	6	3.6	0.4	132	7.1	69
25...	<0.010	0.010	0.03	<3	6	1.2	0.5	102	4.7	19
JUN										
01...	0.020	0.010	0.03	<3	5	27	0.4	104	4.5	40
08...	0.020	0.010	0.03	<3	5	18	0.5	91	3.2	41
15...	0.020	0.010	0.03	3	6	1.5	0.6	119	4.2	53
22...	0.020	0.020	0.06	<3	6	2.6	0.4	74	2.6	23
29...	0.010	0.010	0.03	5	7	1.2	0.5	124	3.7	12
JUL										
02...	0.030	0.030	0.09	7	6	3.9	3.7	166	13	94
06...	<0.010	0.010	0.03	3	5	1.7	0.3	82	2.9	16
13...	0.020	<0.010	--	<3	5	1.2	0.4	92	2.4	19
20...	0.010	0.010	0.03	<3	5	7.5	0.5	67	1.7	23
27...	<0.010	<0.010	--	6	5	1.1	0.4	73	1.7	14
AUG										
03...	<0.010	0.010	0.03	3	6	1.7	0.5	61	1.6	28
17...	<0.010	<0.010	--	5	5	0.8	0.8	43	1.0	22
31...	<0.010	0.010	0.03	<3	5	1.0	0.4	43	0.96	64
SEP										
14...	<0.010	0.020	0.06	4	4	0.8	0.3	133	2.4	14
28...	0.020	0.020	0.06	5	6	1.5	0.2	99	2.9	7

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ALA- CHLOR, WATER, DISS, REC, (μ G/L) (46342)	ATRA- ZINE, WATER, DISS, REC, (μ G/L) (39632)	CARBO- FURAN WATER FLTRD 0.7 μ GF, REC (μ G/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (μ G/L) (38933)	CYANA- ZINE, WATER, DISS, REC, (μ G/L) (04041)	DCPA WATER FLTRD 0.7 μ GF, REC (μ G/L) (82682)
MAR								
25...	0945	92	<0.013	0.18	<0.019	<0.007	<0.019	<0.005
APR								
06...	0840	51	<0.013	0.17	<0.019	<0.007	<0.019	<0.005
13...	1345	42	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
20...	1450	41	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
27...	1510	50	<0.013	0.18	<0.019	<0.007	<0.019	<0.005
MAY								
04...	1505	24	<0.013	0.16	<0.019	<0.007	<0.019	<0.005
11...	1400	24	<0.013	0.14	<0.019	<0.007	<0.019	<0.005
18...	1300	20	<0.013	0.10	<0.019	<0.007	0.028	0.005
25...	1420	17	<0.013	0.14	<0.019	<0.007	<0.019	<0.005
JUN								
01...	1435	16	0.400	1.10	0.062	0.021	0.360	0.019
08...	1430	13	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
15...	1220	13	<0.013	0.17	<0.019	<0.007	<0.019	<0.005
22...	1245	13	<0.013	0.18	<0.019	<0.007	<0.019	<0.005
29...	1340	11	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
JUL								
02...	0920	29	0.015	0.13	<0.019	0.024	<0.019	0.005
06...	1400	13	<0.013	0.17	<0.019	<0.007	<0.019	<0.005
13...	1455	9.6	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
20...	1345	9.6	<0.013	0.13	<0.019	<0.007	<0.019	<0.005
27...	1310	8.6	<0.013	0.15	<0.019	<0.007	<0.019	<0.005
AUG								
03...	1345	10	<0.013	0.12	<0.019	<0.007	<0.019	<0.005
17...	1430	9.0	<0.013	0.16	<0.019	<0.007	<0.019	<0.005
31...	1320	8.3	<0.013	0.12	<0.019	<0.007	<0.019	<0.005
SEP								
14...	1440	6.6	<0.013	0.11	<0.019	<0.007	<0.019	<0.005
28...	1300	11	<0.013	0.12	<0.019	<0.007	<0.019	<0.005

DATE	DESETHYL ATRA- ZINE, WATER, DISS, REC (μ G/L) (04040)	DI- AZINON, DIS- SOLVED (μ G/L) (39572)	ETHO- PROP WATER FLTRD 0.7 μ GF, REC (μ G/L) (82672)	METO- LACHLOR WATER DISSOLV (μ G/L) (39415)	PENDI- METH- ALIN WAT FLT 0.7 μ GF, REC (μ G/L) (82683)	PRO- METON, WATER, DISS, REC (μ G/L) (04037)	SI- MAZINE, WATER, DISS, REC (μ G/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC (μ G/L) (82670)
MAR								
25...	0.051	<0.012	<0.017	0.042	<0.026	0.13	0.051	<0.022
APR								
06...	0.038	<0.012	<0.017	0.048	<0.026	0.17	0.044	<0.022
13...	0.052	<0.012	<0.017	0.038	<0.026	0.18	0.044	<0.022
20...	0.060	<0.012	<0.017	0.058	<0.026	0.12	0.045	<0.022
27...	0.063	<0.012	<0.017	0.067	<0.026	0.13	0.046	0.075
MAY								
04...	0.056	<0.012	<0.017	0.050	<0.026	0.17	0.045	<0.022
11...	0.050	<0.012	<0.017	0.035	<0.026	0.15	0.041	<0.022
18...	<0.020	<0.012	<0.017	0.170	<0.026	<0.01	<0.010	<0.022
25...	0.093	<0.012	<0.017	0.028	<0.026	0.13	0.039	<0.022
JUN								
01...	0.054	<0.012	<0.017	0.890	0.036	<0.01	0.017	<0.022
08...	0.092	<0.012	<0.017	0.022	<0.026	0.14	0.038	<0.022
15...	0.100	<0.012	<0.017	0.025	<0.026	0.12	0.041	<0.022
22...	0.096	<0.012	<0.017	0.043	<0.026	0.17	0.047	<0.022
29...	0.110	<0.012	<0.017	0.024	<0.026	0.15	0.039	<0.022
JUL								
02...	0.067	0.015	<0.017	0.065	<0.026	0.14	0.031	<0.022
06...	0.110	<0.012	<0.017	0.028	<0.026	0.21	0.044	<0.022
13...	0.085	<0.012	0.052	0.020	<0.026	0.16	0.037	<0.022
20...	0.092	<0.012	<0.017	0.017	<0.026	0.14	0.037	<0.022
27...	0.150	<0.012	<0.017	0.018	<0.026	0.17	0.040	0.028
AUG								
03...	0.100	<0.012	<0.017	0.015	<0.026	0.18	0.037	0.026
17...	0.100	<0.012	<0.017	0.015	<0.026	0.21	0.046	0.044
31...	0.072	<0.012	<0.017	0.010	<0.026	0.15	<0.010	<0.022
SEP								
14...	0.057	<0.012	<0.017	0.012	<0.026	0.15	0.028	<0.022
28...	0.066	<0.012	<0.017	0.013	<0.026	0.27	0.039	0.056

YELLOW BREECHES CREEK BASIN

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS02	07-08-93	1325	1.70	634	8.0	21.5	23	2.6	445	463	18
	07-08-93	1420	.23	629	8.0	22.0	4	.5	489	534	45

YELLOW BREECHES CREEK BASIN

01571500 YELLOW BREECHES CREEK NEAR CAMP HILL, PA

LOCATION.--Lat 40°13'29", long 76°53'54", Cumberland County, Hydrologic Unit 02050305, on left bank 50 ft downstream from single-span highway bridge on Green Lane Drive, 150 ft downstream from Olmsted Mill dam, 1.0 mi southeast of Camp Hill, and 3.1 mi upstream from mouth.

DRAINAGE AREA.--216 mi².

PERIOD OF RECORD.--April 1909 to December 1919, July 1954 to current year. Prior to January 1910 monthly discharge only, published in WSP 1302. Prior to June 1954, published as "at Olmsted Mill".

REVISED RECORDS.--WSP 1302: 1910, 1912-13, 1914(M), 1916.

GAGE.--Water-stage recorder. Datum of gage is 307.49 ft above sea level. March 1909 to December 1919, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. The Mechanicsburg Water Co. diverts water about 4 mi upstream from station, for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 2.1 ft³/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1953, reached a stage of 9.4 ft, from floodmarks, discharge, 3,940 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	113	186	335	245	e160	2790	834	279	176	154	125
2	118	120	181	340	220	e165	3440	749	274	196	152	125
3	111	556	175	329	218	220	2330	679	259	281	160	130
4	111	318	167	315	224	640	1640	637	249	266	152	224
5	110	200	168	410	215	1620	1310	665	251	220	152	194
6	108	182	164	412	215	1040	1110	650	249	198	158	153
7	107	164	156	331	202	848	956	565	241	190	175	139
8	107	149	154	319	e185	869	851	516	236	188	163	220
9	244	140	151	323	e180	923	775	485	309	192	152	181
10	361	135	158	295	e170	900	998	461	332	198	147	156
11	179	131	432	278	e180	760	1630	441	262	191	159	144
12	156	138	957	292	207	660	1080	436	240	180	239	138
13	140	257	585	435	231	649	897	450	229	181	182	135
14	129	219	407	455	233	512	806	418	218	172	159	132
15	128	171	334	365	210	565	789	384	211	168	151	139
16	124	155	302	336	218	541	1250	366	206	161	147	181
17	118	147	421	321	240	645	1770	362	201	159	159	196
18	116	143	534	305	222	793	1260	356	196	157	224	174
19	115	139	421	282	193	612	1010	365	194	158	171	155
20	112	128	421	264	e180	580	887	361	246	172	161	149
21	115	133	439	262	e175	630	870	347	250	170	172	154
22	114	189	391	353	210	731	1810	333	223	158	150	151
23	112	686	377	368	229	868	1690	324	206	153	142	148
24	112	414	364	311	e190	2010	1240	317	190	151	141	144
25	113	303	330	328	e180	1900	1050	308	181	150	137	152
26	113	265	309	289	e170	1690	1370	294	175	149	134	250
27	113	239	283	274	e165	1700	1730	285	176	150	131	227
28	112	219	272	268	e160	2070	1260	280	175	149	130	235
29	111	205	276	262	---	2510	1050	272	179	177	128	188
30	110	193	300	246	---	2560	930	262	179	173	128	163
31	110	---	316	245	---	2330	---	259	---	157	127	---
TOTAL	4042	6551	10131	9948	5667	32701	40579	13461	6816	5541	4837	5002
MEAN	130	218	327	321	202	1055	1353	434	227	179	156	167
MAX	361	686	957	455	245	2560	3440	834	332	281	239	250
MIN	107	113	151	245	160	160	775	259	175	149	127	125
CFSM	.60	1.01	1.51	1.49	.94	4.88	6.26	2.01	1.05	.83	.72	.77
IN.	.70	1.13	1.74	1.71	.98	5.63	6.99	2.32	1.17	.95	.83	.86

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

	MEAN	186	206	258	287	373	478	471	365	290	202	186	183
MAX	620	407	569	741	824	1055	1353	777	1639	486	573	1012	
(WY)	1977	1976	1984	1979	1984	1993	1993	1989	1972	1989	1915	1975	
MIN	98.6	99.4	97.2	92.4	153	221	216	167	122	81.2	80.6	94.7	
(WY)	1964	1966	1966	1981	1989	1911	1966	1969	1966	1966	1966	1965	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL TOTAL	83732											
ANNUAL MEAN	229											
HIGHEST ANNUAL MEAN										290		
LOWEST ANNUAL MEAN										159		1972
HIGHEST DAILY MEAN	2090	Mar 27				3440	Apr 2		12400		Jun 22	1972
LOWEST DAILY MEAN	94	Sep 3, 4, 5				107	Oct 7, 8		67		Sep 13	1966
ANNUAL SEVEN-DAY MINIMUM	97	Aug 30				110	Oct 2		70		Sep 7	1966
INSTANTANEOUS PEAK FLOW						3890	Apr 2		19300		Sep 26	1975
INSTANTANEOUS PEAK STAGE						9.19	Apr 2		18.77		Sep 26	1975
INSTANTANEOUS LOW FLOW						107	Oct 6, 7, 8, 9		23		Sep 12	1966
ANNUAL RUNOFF (CFSM)	1.06					1.84			1.34			
ANNUAL RUNOFF (INCHES)	14.42					25.02			18.27			
10 PERCENT EXCEEDS	396					898			513			
50 PERCENT EXCEEDS	175					220			211			
90 PERCENT EXCEEDS	110					131			116			

a From floodmark.

e Estimated.

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA

LOCATION.--Lat 40°31'57", long 76°24'09", Schuylkill County, Hydrologic Unit 02050305, on right bank 1.0 mi downstream from Lower Little Swatara Creek, 1.3 mi southwest of Pine Grove, and 1.6 mi upstream from bridge on Interstate Highway 81.

DRAINAGE AREA.--116 mi².

PERIOD OF RECORD.--October 1988 to January 1991, October 1991 to current year.

REVISED RECORDS.--WDR PA-90-2; 1989.

GAGE.--Water-stage recorder. Elevation of gage is 490 ft above sea level, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	66	274	181	e160	e75	2020	367	154	59	27	24
2	98	73	250	159	e140	e80	2150	321	97	94	27	23
3	86	703	230	150	e140	e100	1430	287	87	125	28	31
4	78	360	207	149	e140	337	982	263	83	81	26	135
5	72	272	201	414	e130	1060	758	809	83	67	25	63
6	68	265	181	378	e120	580	612	830	83	90	28	41
7	66	213	172	309	e110	412	506	574	74	189	30	36
8	64	188	162	282	e100	464	430	458	73	85	27	50
9	202	169	151	250	e95	546	381	386	108	68	27	53
10	622	154	145	216	e100	467	1210	335	100	60	26	130
11	304	145	419	200	e100	368	2120	295	75	55	42	69
12	216	191	485	202	e100	299	1120	264	68	53	67	49
13	169	824	394	370	e105	274	775	242	64	50	128	43
14	146	528	320	433	e100	265	605	219	62	64	52	39
15	138	385	276	364	e100	266	506	201	60	114	38	38
16	121	307	253	315	e105	217	1090	187	65	55	34	52
17	111	263	413	281	e110	415	1450	172	60	42	34	58
18	107	232	484	244	e100	622	887	166	56	38	35	50
19	e115	206	399	213	e95	407	669	173	57	40	31	43
20	e110	185	396	194	e90	330	543	162	72	41	35	39
21	88	190	329	184	e90	307	474	148	108	36	42	38
22	86	398	291	326	e95	319	816	137	100	34	30	37
23	83	1730	271	272	e90	367	696	128	70	32	29	36
24	80	1020	248	259	e85	1420	554	121	61	30	28	39
25	78	742	218	307	e80	1170	473	111	57	29	30	34
26	76	560	e190	262	e75	1180	688	102	69	30	27	122
27	75	466	e170	e230	e75	1270	773	97	169	31	26	113
28	73	390	e160	e200	e70	1500	584	93	90	29	25	123
29	72	340	e160	e190	---	1530	488	92	73	39	25	87
30	70	301	e170	e180	---	1370	420	86	65	32	24	74
31	68	---	199	e180	---	1080	---	111	---	29	24	---
TOTAL	3853	11866	8218	7894	2900	19097	26210	7937	2443	1821	1077	1769
MEAN	124	396	265	255	104	616	874	256	81.4	58.7	34.7	59.0
MAX	622	1730	485	433	160	1530	2150	830	169	189	128	135
MIN	64	66	145	149	70	75	381	86	56	29	24	23
CFSM	1.07	3.41	2.29	2.20	.89	5.31	7.53	2.21	.70	.51	.30	.51
IN.	1.24	3.81	2.64	2.53	.93	6.12	8.41	2.55	.78	.58	.35	.57

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

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	144	224	218	225	168	357	392	386	194	149	72.2	74.7
MAX	269	396	529	326	328	616	874	756	317	378	107	90.7
(WY)	1991	1993	1991	1991	1990	1993	1993	1989	1989	1989	1990	1992
MIN	42.1	102	77.8	91.9	104	185	149	232	81.4	58.7	34.7	59.0
(WY)	1989	1992	1990	1992	1993	1990	1989	1992	1993	1993	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL TOTAL	72683	95085	
ANNUAL MEAN	199	261	206
HIGHEST ANNUAL MEAN			261
LOWEST ANNUAL MEAN			157
HIGHEST DAILY MEAN	2530 Mar 27	2150 Apr 2	2770 May 17 1989
LOWEST DAILY MEAN	29 Aug 27	23 Sep 2	e18 Oct 18 1988
ANNUAL SEVEN-DAY MINIMUM	32 Aug 22	24 Aug 27	23 Oct 14 1988
INSTANTANEOUS PEAK FLOW		2770 Apr 11	a3940 May 16 1989
INSTANTANEOUS PEAK STAGE		10.13 Apr 11	11.88 May 16 1989
INSTANTANEOUS LOW FLOW		22 Sep 2	18 Oct 4 1991
ANNUAL RUNOFF (CFSM)	1.71	2.25	1.77
ANNUAL RUNOFF (INCHES)	23.31	30.49	24.10
10 PERCENT EXCEEDS	400	608	458
50 PERCENT EXCEEDS	138	138	136
90 PERCENT EXCEEDS	44	35	41

a From rating curve extended above 3,300 ft³/s on basis of step-backwater analysis.

e Estimated.

SWATARA CREEK BASIN

01572190 SWATARA CREEK NEAR INWOOD, PA

LOCATION.--Lat 40°28'45", long 76°31'52", Lebanon County, Hydrologic Unit 02050305, on right bank 20 ft downstream from single-span steel-truss bridge on Appalachian Trail, 0.4 mi upstream from steel-truss bridge at Inwood, 0.5 mi downstream from Trout Run, and 2.0 mi north of Lickdale.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--October 1988 to January 1991, October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 430 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. The Pennsylvania American Water Co. diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 5.0 ft³/s. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	78	383	292	e220	e110	2920	586	230	64	32	26
2	117	84	356	236	e200	e110	3120	492	132	98	31	26
3	102	1130	328	215	236	132	2160	426	111	184	33	30
4	90	709	321	201	213	387	1520	381	102	113	31	142
5	82	427	297	580	194	1560	1190	1060	98	83	30	93
6	77	412	267	594	174	990	982	1370	104	87	31	55
7	74	315	238	473	148	690	824	971	91	328	40	44
8	70	274	206	418	e130	752	693	784	87	130	34	57
9	176	242	208	369	e140	906	600	648	114	94	31	72
10	1000	220	206	318	145	819	1520	538	138	77	31	154
11	549	207	614	291	146	640	3170	453	96	66	36	100
12	328	227	757	290	150	495	1730	393	81	60	98	67
13	237	1670	617	519	160	456	1220	352	73	56	140	56
14	191	928	469	713	149	424	985	314	68	53	76	50
15	180	705	375	596	139	371	835	283	65	139	51	46
16	153	521	343	543	149	311	1350	255	67	78	43	62
17	133	399	662	470	168	562	2160	232	65	59	43	73
18	120	355	773	454	e140	983	1370	213	60	50	43	66
19	122	318	612	334	e120	677	1060	230	59	50	39	57
20	120	287	603	262	e120	535	895	213	72	55	44	49
21	109	285	498	257	e130	474	781	190	128	55	61	47
22	101	608	424	465	159	478	1280	175	144	51	40	47
23	96	3100	389	402	146	563	1080	161	89	48	34	44
24	94	1730	352	377	e120	1950	897	154	69	45	34	46
25	94	1200	312	485	e110	1790	773	145	61	44	36	43
26	91	968	e280	538	e100	1750	961	131	62	43	33	124
27	88	810	e250	377	e100	1910	1230	121	186	38	31	133
28	90	673	e240	337	e100	2310	946	115	108	36	29	155
29	86	568	257	318	---	2290	807	113	84	45	28	112
30	83	419	284	286	---	2070	690	107	72	42	27	93
31	81	---	335	279	---	1690	---	112	---	35	27	---
TOTAL	5063	19869	12256	12289	4206	29185	39749	11718	2916	2406	1317	2169
MEAN	163	662	395	396	150	941	1325	378	97.2	77.6	42.5	72.3
MAX	1000	3100	773	713	236	2310	3170	1370	230	328	140	155
MIN	70	78	206	201	100	110	600	107	59	35	27	26
CFSM	.98	3.97	2.37	2.37	.90	5.64	7.93	2.26	.58	.46	.25	.43
IN.	1.13	4.43	2.73	2.74	.94	6.50	8.85	2.61	.65	.54	.29	.48

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

	MEAN	205	338	313	329	246	546	607	587	285	215	96.7	98.9
MAX	383	662	780	485	485	941	1325	1184	471	576	147	120	
(WY)	1991	1993	1991	1991	1990	1993	1993	1989	1989	1989	1990	1992	
MIN	61.1	135	114	108	149	271	237	308	97.2	77.6	42.5	72.3	
(WY)	1989	1992	1989	1992	1992	1990	1989	1992	1993	1993	1993	1993	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL TOTAL	108419	143143	
ANNUAL MEAN	296	392	306
HIGHEST ANNUAL MEAN			392
LOWEST ANNUAL MEAN			225
HIGHEST DAILY MEAN	3840	Mar 27	4790
LOWEST DAILY MEAN	35	Sep 5	26
ANNUAL SEVEN-DAY MINIMUM	39	Aug 22	28
INSTANTANEOUS PEAK FLOW			3980
INSTANTANEOUS PEAK STAGE			10.60
INSTANTANEOUS LOW FLOW			25
ANNUAL RUNOFF (CFSM)	1.77		2.35
ANNUAL RUNOFF (INCHES)	24.15		31.89
10 PERCENT EXCEEDS	683	982	705
50 PERCENT EXCEEDS	172	184	187
90 PERCENT EXCEEDS	54	44	53

a Also Sept. 1, 2, 1993.

b From rating curve extended above 4,500 ft³/s.

c Estimated.

SWATARA CREEK BASIN

01573000 SWATARA CREEK AT HARPER TAVERN. PA

LOCATION.--Lat 40°24'09", long 76°34'39", Lebanon County, Hydrologic Unit 02050305, on left bank 100 ft downstream from bridge on State Highway 934 at Harper Tavern, 6.0 mi northwest of Annville, and 8.5 mi downstream from Little Swatara Creek.

DRAINAGE AREA.--337 mi².

PERIOD OF RECORD.--January 1919 to current year. Prior to October 1927, published as "at Harpers".

REVISED RECORDS.--WSP 1202: 1948. WSP 1302: 1920(M), 1921, 1924-25(M), 1927-28(M), 1930(M). WSP 1903: Drainage area. WDR PA-72-1: 1889 (M). WDR PA-85-2: 1984(P)(m).

GAGE.--Water-stage recorder. Datum of gage is 356.68 ft above sea level. Prior to July 16, 1931, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. The Pa. American Water Co. diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 9.9 ft³/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 25.6 ft, from floodmark, discharge, 88,000 ft³/s, from rating curve extended as explained above.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	121	674	556	468	e195	5440	974	365	106	50	38
2	308	129	627	435	345	224	6600	847	258	217	44	35
3	273	2590	569	388	425	346	4110	744	201	519	44	37
4	235	1430	540	384	386	1430	2790	671	181	269	43	223
5	204	863	521	1170	339	4760	2140	1670	174	180	41	242
6	180	847	465	1080	327	2450	1690	2360	182	142	44	103
7	168	625	427	845	242	1750	1380	1460	163	848	61	72
8	157	508	381	773	298	1800	1160	1140	154	333	61	152
9	331	440	362	722	282	1910	1020	957	201	215	50	234
10	1820	400	347	595	270	1560	2640	823	237	161	45	192
11	954	372	1490	537	261	1230	6520	719	178	135	66	202
12	614	386	e1530	557	266	993	3220	639	138	116	205	118
13	449	2200	e1160	1130	297	878	2210	595	125	102	301	92
14	367	1400	897	1380	298	609	1690	534	115	91	188	86
15	342	959	738	1050	263	e500	1390	480	109	153	96	90
16	296	762	660	939	283	e600	2200	440	105	159	73	175
17	252	606	1210	835	407	1190	4420	404	105	101	67	199
18	219	533	1630	748	338	2320	2500	372	99	82	68	167
19	206	468	1070	640	212	1400	1850	399	95	75	65	131
20	195	417	1060	490	274	1100	1480	384	112	87	73	102
21	178	403	932	471	253	1020	1270	347	215	84	204	91
22	164	1150	776	877	285	1160	2360	315	292	79	104	105
23	158	5160	712	815	303	1480	1850	291	171	70	69	103
24	152	3250	652	678	e230	5070	1420	276	118	66	60	95
25	152	2220	538	883	e220	4160	1210	263	100	60	56	e83
26	145	1610	528	784	e205	3570	1620	236	100	62	55	e250
27	140	1360	e420	683	e195	3460	2560	216	271	60	51	e500
28	136	1080	e450	590	e190	3690	1580	203	214	54	47	e400
29	132	930	480	558	---	3600	1310	196	143	59	42	293
30	128	759	524	476	---	3200	1120	187	122	73	40	221
31	126	---	619	485	---	2600	---	191	---	58	38	---
TOTAL	9530	33978	22989	22554	8162	60255	72750	19333	5043	4816	2451	4831
MEAN	307	1133	742	728	291	1944	2425	624	168	155	79.1	161
MAX	1820	5160	1630	1380	468	5070	6600	2360	365	848	301	500
MIN	126	121	347	384	190	195	1020	187	95	54	38	35
CFSM	.91	3.36	2.20	2.16	.86	5.77	7.20	1.85	.50	.46	.23	.48
IN.	1.05	3.75	2.54	2.49	.90	6.65	8.03	2.13	.56	.53	.27	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1993, BY WATER YEAR (WY)

MEAN	327	521	689	651	753	1050	889	696	440	307	247	267
MAX	2104	1752	1868	2489	2097	2986	2466	2189	3952	1472	1772	2000
(WY)	1977	1927	1984	1979	1925	1920	1983	1989	1972	1945	1933	1975
MIN	28.1	35.9	60.0	42.1	162	358	297	154	80.2	30.8	22.0	15.9
(WY)	1942	1932	1931	1981	1980	1985	1988	1926	1965	1966	1966	1932

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1919 - 1993

ANNUAL TOTAL	202494		266692			
ANNUAL MEAN	553		731		568	
HIGHEST ANNUAL MEAN					948	1972
LOWEST ANNUAL MEAN					201	1931
HIGHEST DAILY MEAN	5990	Mar 27	6600	Apr 2	42500	Jun 23 1972
LOWEST DAILY MEAN	68	Sep 21	35	Sep 2	6.6	Aug 21 1965
ANNUAL SEVEN-DAY MINIMUM	81	Aug 22	40	Aug 28	10	Sep 19 1932
INSTANTANEOUS PEAK FLOW			7510	Apr 11	66700	Jun 23 1972
INSTANTANEOUS PEAK STAGE			9.58	Apr 11	23.72	Jun 23 1972
INSTANTANEOUS LOW FLOW			34	Sep 2,3	6.0	Aug 21 1965
ANNUAL RUNOFF (CFSM)	1.64		2.17		1.68	
ANNUAL RUNOFF (INCHES)	22.35		29.44		22.89	
10 PERCENT EXCEEDS	1210		1770		1280	
50 PERCENT EXCEEDS	346		347		318	
90 PERCENT EXCEEDS	119		73		65	

a From rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.

e Estimated.

SWATARA CREEK BASIN

01573095 BACHMAN RUN AT ANNVILLE, PA
(National water-quality assessment station)

LOCATION.--Lat 40°18'59", long 76°30'58", Lebanon County, Hydrologic Unit 02050305, on left bank 5 ft downstream from bridge on Township Route 429 (Louser Road), 0.6 mi upstream from Quittapahilla Creek, and 0.9 mi south-east of Annville.

DRAINAGE AREA.--7.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 395 ft above sea level, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April 8 to September 30, 144 ft³/s, April 11, gage height, 2.53 ft; minimum 6.3 ft³/s, Sept. 2, 3, 15, 24, 25, gage height, 1.02 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e60	25	12	9.7	8.0	6.7
2	---	---	---	---	---	---	e45	23	12	13	7.7	6.6
3	---	---	---	---	---	---	e35	23	11	12	7.7	6.6
4	---	---	---	---	---	---	e31	22	11	10	7.6	9.5
5	---	---	---	---	---	---	e29	28	11	10	7.4	7.3
6	---	---	---	---	---	---	e27	25	11	9.9	7.5	7.0
7	---	---	---	---	---	---	e26	23	11	10	7.6	6.8
8	---	---	---	---	---	---	25	21	10	9.7	7.2	10
9	---	---	---	---	---	---	24	20	11	9.2	7.2	7.8
10	---	---	---	---	---	---	53	20	10	8.9	7.1	7.3
11	---	---	---	---	---	---	56	19	10	8.9	9.7	6.9
12	---	---	---	---	---	---	35	19	9.8	9.0	9.4	6.7
13	---	---	---	---	---	---	32	e18	9.6	9.0	9.5	6.6
14	---	---	---	---	---	---	30	e18	9.8	8.9	8.2	6.6
15	---	---	---	---	---	---	29	e18	9.7	8.6	7.5	7.0
16	---	---	---	---	---	---	42	e17	9.7	8.4	7.4	9.1
17	---	---	---	---	---	---	40	e17	9.6	8.4	7.4	7.6
18	---	---	---	---	---	---	32	e20	9.6	8.3	7.2	7.4
19	---	---	---	---	---	---	29	e18	9.6	8.7	7.1	7.1
20	---	---	---	---	---	---	28	e16	10	8.8	7.6	6.8
21	---	---	---	---	---	---	28	15	11	8.4	7.8	6.7
22	---	---	---	---	---	---	42	14	9.9	8.4	7.2	6.6
23	---	---	---	---	---	---	30	14	9.6	8.4	7.2	6.7
24	---	---	---	---	---	---	27	14	9.5	8.6	6.9	6.6
25	---	---	---	---	---	---	26	14	9.3	8.5	6.9	6.9
26	---	---	---	---	---	---	34	13	10	8.6	6.8	10
27	---	---	---	---	---	---	30	13	11	8.4	6.8	7.8
28	---	---	---	---	---	---	28	13	9.6	8.3	6.8	7.7
29	---	---	---	---	---	---	27	13	9.9	8.4	6.8	7.1
30	---	---	---	---	---	---	26	12	9.8	8.3	6.7	6.9
31	---	---	---	---	---	---	---	12	---	8.4	6.7	---
MEAN	---	---	---	---	---	---	33.5	18.0	10.2	9.10	7.50	7.35
MAX	---	---	---	---	---	---	60	28	12	13	9.7	10
MIN	---	---	---	---	---	---	24	12	9.3	8.3	6.7	6.6
CFSM	---	---	---	---	---	---	4.59	2.46	1.40	1.25	1.03	1.01
IN.	---	---	---	---	---	---	5.13	2.84	1.56	1.44	1.19	1.12

e Estimated.

SWATARA CREEK BASIN

01573095 BACHMAN RUN AT ANNVILLE, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to current year.

REMARKS.--All water-quality samples collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED OF (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
MAR										
23...	1200	18	574	8.2	3.5	8.0	763	9.4	80	260
APR										
21...	1310	27	584	7.8	18.5	12.0	745	--	--	290
MAY										
19...	1245	16	599	7.9	17.0	12.0	761	11.2	104	300
JUN										
16...	1205	9.7	592	8.1	26.0	16.5	756	10.8	112	290
23...	1500	9.0	584	8.2	23.5	18.5	754	11.0	119	280
JUL										
21...	1420	8.1	591	8.3	23.5	17.0	750	12.5	132	270
AUG										
18...	1315	7.0	608	8.1	28.0	17.0	753	11.1	116	310
25...	1415	6.8	605	8.2	29.5	20.5	757	9.9	111	310
SEP										
07...	1350	6.8	607	8.2	25.0	17.0	755	10.6	111	280

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)
MAR										
23...	76	76	17	9.6	7	0.3	3.3	220	0	180
APR										
21...	100	70	29	16	10	0.4	4.4	230	0	190
MAY										
19...	89	89	19	7.3	5	0.2	3.0	260	0	210
JUN										
16...	87	83	19	6.9	5	0.2	2.8	240	0	200
23...	71	81	18	6.9	5	0.2	3.0	250	0	210
JUL										
21...	55	80	17	6.1	5	0.2	3.0	260	0	220
AUG										
18...	94	92	20	7.0	5	0.2	3.6	270	0	220
25...	97	92	19	7.1	5	0.2	3.5	260	0	210
SEP										
07...	75	81	20	6.8	5	0.2	3.9	260	0	210

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
MAR										
23...	32	24	<0.10	11	342	327	0.47	16.6	9.97	44
APR										
21...	41	29	0.10	4.7	372	358	0.51	27.1	11.0	49
MAY										
19...	31	20	0.20	12	347	362	0.47	15.0	12.0	53
JUN										
16...	28	20	0.10	12	339	348	0.46	8.88	13.0	57
23...	29	18	0.10	11	350	348	0.48	8.51	13.0	57
JUL										
21...	27	18	0.10	10	352	348	0.48	7.70	13.0	57
AUG										
18...	32	17	0.20	12	350	368	0.48	6.61	11.9	53
25...	38	17	0.20	12	343	368	0.47	6.30	12.0	53
SEP										
07...	39	22	0.10	12	348	364	0.47	6.39	12.0	53

SWATARA CREEK BASIN

01573095 BACHMAN RUN AT ANNVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR 23...	0.030	0.10	10.0	0.020	0.03	--	0.40	<0.20	--	0.040
APR 21...	0.030	0.10	11.0	0.020	0.03	0.28	0.20	0.30	11	0.080
MAY 19...	0.030	0.10	12.0	0.040	0.05	--	0.30	<0.20	--	0.030
JUN 16...	0.020	0.07	13.0	0.030	0.04	--	0.20	<0.20	--	0.020
23...	0.030	0.10	13.0	0.040	0.05	--	<0.20	<0.20	--	0.020
JUL 21...	0.040	0.13	13.0	0.020	0.03	--	0.20	<0.20	--	0.020
AUG 18...	0.060	0.20	12.0	0.040	0.05	--	0.20	<0.20	--	0.040
25...	0.040	0.13	12.0	0.040	0.05	0.26	0.30	0.30	12	0.030
SEP 07...	0.050	0.16	12.0	0.060	0.08	--	0.30	<0.20	--	0.060

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (MG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L AS C) (80154)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)
MAR 23...	<0.010	<0.010	--	3	8	1.3	0.1	17	0.83	65
APR 21...	0.050	0.060	0.18	5	32	2.8	1.6	77	5.6	30
MAY 19...	0.010	<0.010	--	4	7	2.5	0.5	100	4.3	15
JUN 16...	0.020	0.020	0.06	3	4	1.0	0.6	112	2.9	17
23...	0.030	0.030	0.09	10	3	0.9	0.5	80	1.9	21
JUL 21...	0.030	<0.010	--	<3	2	1.1	0.3	37	0.81	15
AUG 18...	0.030	0.030	0.09	<3	8	1.1	0.6	62	1.2	32
25...	0.030	0.030	0.09	4	6	1.6	0.6	26	0.48	67
SEP 07...	0.040	0.030	0.09	7	10	1.2	0.6	18	0.33	88

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS04	07-08-93	1000	1.14	601	8.1	16.0	42	8.3	443	473	30
	07-08-93	1110	.37	596	8.1	17.0	3	.5	535	572	37

SWATARA CREEK BASIN

01573160 QUITTAPAHILLA CREEK NEAR BELLEGROVE, PA

LOCATION.--Lat 40°20'34", long 76°33'46", Lebanon County, Hydrologic Unit 02050305, on right bank 210 ft downstream from bridge on SR 4008, 0.7 mi downstream from Killinger Creek, and 1.8 mi south of Bellegrove.

DRAINAGE AREA.--74.2 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 361.88 ft above sea level (levels by Susquehanna River Basin Commission).

REMARKS.--No estimated daily discharges. Records poor. Slight regulation from Millard limestone quarry 0.7 mi upstream. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	53	103	85	73	52	486	256	100	50	35	63
2	63	51	94	73	61	50	559	229	87	156	46	62
3	60	198	90	75	63	54	446	204	74	169	58	63
4	47	90	87	74	67	140	363	211	79	78	43	125
5	52	84	87	100	64	379	307	284	68	80	44	60
6	59	81	81	95	64	282	297	249	76	84	56	55
7	46	56	74	91	63	239	277	224	60	103	51	55
8	56	62	74	96	64	219	260	210	54	92	40	148
9	82	52	66	96	60	235	243	205	84	75	39	82
10	118	55	77	91	56	210	409	181	65	80	34	84
11	76	64	152	85	57	185	622	168	58	83	70	72
12	86	57	139	92	58	163	370	182	58	77	78	70
13	76	94	117	117	69	169	342	185	56	77	108	56
14	72	69	108	106	68	139	309	177	64	111	52	58
15	70	59	108	99	63	154	291	164	53	107	43	65
16	69	51	104	118	74	134	392	159	55	75	53	121
17	70	47	146	114	89	212	493	148	54	68	57	86
18	66	44	132	92	76	238	332	157	54	71	58	73
19	74	43	120	95	70	214	301	160	55	68	68	67
20	74	44	133	85	67	180	297	139	64	78	69	71
21	69	50	123	94	65	188	289	138	78	64	78	62
22	65	92	113	114	69	196	391	157	71	55	48	68
23	48	195	97	98	65	245	313	148	58	51	63	70
24	49	111	109	106	59	492	302	122	55	48	66	71
25	47	163	93	86	60	412	283	117	52	47	66	72
26	48	144	96	82	58	392	335	122	61	51	68	138
27	54	134	85	82	56	359	341	128	138	49	70	98
28	52	123	83	76	54	354	297	105	64	46	69	97
29	50	123	82	76	---	316	274	114	61	50	59	84
30	49	113	90	82	---	275	263	106	54	44	65	82
31	59	---	85	76	---	275	---	95	---	34	67	---
TOTAL	1983	2602	3148	2851	1812	7152	10484	5244	2010	2321	1821	2378
MEAN	64.0	86.7	102	92.0	64.7	231	349	169	67.0	74.9	58.7	79.3
MAX	118	198	152	118	89	492	622	284	138	169	108	148
MIN	46	43	66	73	54	50	243	95	52	34	34	55
CFSM	.86	1.17	1.37	1.24	.87	3.11	4.71	2.28	.90	1.01	.79	1.07
IN.	.99	1.30	1.58	1.43	.91	3.59	5.26	2.63	1.01	1.16	.91	1.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1993, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	82.0	83.1	98.6	114	118	131	141	117	110	99.3	80.9	74.6						
MAX	209	167	219	411	327	271	349	208	262	201	164	132						
(WY)	1977	1976	1984	1979	1979	1978	1993	1989	1982	1984	1976	1979						
MIN	41.7	32.9	29.7	30.7	56.6	54.1	52.9	52.5	46.0	28.3	44.5	41.1						
(WY)	1982	1981	1981	1981	1983	1981	1981	1991	1991	1991	1991	1981						

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1976 - 1993

ANNUAL TOTAL	30388	43806	
ANNUAL MEAN	83.0	120	102
HIGHEST ANNUAL MEAN			151
LOWEST ANNUAL MEAN			53.2
HIGHEST DAILY MEAN	316	622	4000
LOWEST DAILY MEAN	43	34	19
ANNUAL SEVEN-DAY MINIMUM	48	43	21
INSTANTANEOUS PEAK FLOW		942	a4800
INSTANTANEOUS PEAK STAGE		7.17	13.27
ANNUAL RUNOFF (CFSM)	1.12	1.62	1.38
ANNUAL RUNOFF (INCHES)	15.23	21.96	18.74
10 PERCENT EXCEEDS	121	275	169
50 PERCENT EXCEEDS	73	81	85
90 PERCENT EXCEEDS	53	52	47

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

SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA

LOCATION.--Lat 40°17'54", long 76°40'05", Dauphin County, Hydrologic Unit 02050305, on left bank, 0.4 mi downstream from Manada Creek, 0.5 mi upstream from State Highway 39, and 1.5 mi northwest of Hershey.

DRAINAGE AREA.--483 mi².

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

GAGE.--Water-stage recorder and gated concrete control. Datum of gage is 325.94 ft above sea level (levels by Susquehanna River Basin Commission).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Daily discharges adjusted for occasional periods of diversion by Hershey Chocolate U.S.A. National Weather Service satellite and landline telemeters at station.

COOPERATION.--Records of daily diversion furnished by Hershey Chocolate U.S.A., a division of Hershey Foods Corporation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	461	240	904	729	612	e300	6040	1430	386	208	128	96
2	403	237	833	597	e450	335	7810	1240	345	303	122	97
3	360	2720	744	528	493	465	5610	1030	279	758	114	86
4	316	2100	688	518	539	1540	3830	1000	278	424	126	221
5	284	1190	667	1250	462	5690	2990	1780	287	318	132	310
6	264	1090	612	1460	447	3660	2430	3240	293	289	131	181
7	246	842	560	1110	365	2620	1940	1980	284	744	162	147
8	240	673	509	1020	362	2640	1600	1530	269	444	144	223
9	469	597	472	970	383	2720	1370	1320	328	313	142	351
10	2270	541	463	809	386	2270	3010	1130	325	275	117	287
11	1200	509	1560	709	365	1810	8140	916	300	255	150	323
12	787	505	2050	743	368	1460	4650	872	262	222	321	255
13	592	2160	1530	1420	422	e1200	3180	835	239	212	347	207
14	490	1900	1200	1850	431	e1100	2480	789	235	207	257	210
15	449	1220	995	1430	387	e1000	2000	682	227	223	147	231
16	410	984	884	1270	402	e1000	2620	592	220	278	113	380
17	368	794	1410	1140	550	e1400	5880	574	213	219	135	425
18	334	682	2170	995	514	3060	3510	565	208	189	145	364
19	236	617	1440	888	338	2050	2660	587	198	178	152	302
20	319	557	1390	e700	379	1600	2130	561	235	193	146	286
21	303	529	1300	e650	373	1480	1800	505	341	189	245	262
22	282	1280	1050	e1200	390	1640	2930	491	400	182	200	270
23	266	5670	951	1130	439	2150	2670	467	307	177	147	260
24	262	4460	877	889	353	6030	1970	431	234	163	138	256
25	258	2990	725	1120	e310	5640	1660	394	218	160	133	254
26	254	2150	692	958	e300	4680	2050	368	199	151	128	511
27	250	1820	597	908	e295	4420	3550	362	278	157	104	650
28	244	1440	620	766	e290	4530	2270	341	334	150	105	538
29	245	1250	640	712	---	4510	1830	356	255	138	99	442
30	242	1060	683	635	---	4060	1600	354	226	136	93	362
31	241	---	791	623	---	3370	---	336	---	143	100	---
TOTAL	13345	42807	30007	29727	11405	80430	96210	27058	8203	7998	4723	8787
MEAN	430	1427	968	959	407	2595	3207	873	273	258	152	293
MAX	2270	5670	2170	1850	612	6030	8140	3240	400	758	347	650
MIN	236	237	463	518	290	300	1370	336	198	136	93	86
CFSM	1.89	2.95	2.00	1.99	.84	5.37	6.64	1.81	.57	.53	.32	.61
IN.	1.03	3.30	2.31	2.29	.88	6.19	7.41	2.08	.63	.62	.36	.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1993, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	600	716	940	877	937	1303	1275	973	579	426	312	341						
MAX	2632	1427	2606	3370	1653	2595	3207	2708	1959	1536	1036	1320						
(WY)	1977	1993	1984	1979	1986	1993	1993	1989	1982	1989	1978	1987						
MIN	85.3	152	111	79.9	226	459	424	457	166	143	106	73.0						
(WY)	1981	1982	1981	1981	1980	1985	1988	1976	1991	1987	1987	1980						

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1976 - 1993
ANNUAL TOTAL	267343	360700	
ANNUAL MEAN	730	988	773
HIGHEST ANNUAL MEAN			1225
LOWEST ANNUAL MEAN			380
HIGHEST DAILY MEAN	7100	Mar 27	8140
LOWEST DAILY MEAN	122	Sep 4	86
ANNUAL SEVEN-DAY MINIMUM	146	Aug 22	97
INSTANTANEOUS PEAK FLOW			8500
INSTANTANEOUS PEAK STAGE			6.94
INSTANTANEOUS LOW FLOW			74
ANNUAL RUNOFF (CFSM)	1.51	2.05	1.60
ANNUAL RUNOFF (INCHES)	20.59	27.78	21.73
10 PERCENT EXCEEDS	1530	2450	1730
50 PERCENT EXCEEDS	485	490	432
90 PERCENT EXCEEDS	187	161	132

e Estimated.

WEST CONEWAGO CREEK BASIN

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA

LOCATION.--Lat 40°04'56", long 76°43'13", York County, Hydrologic Unit 02050306, on left bank 500 ft upstream from bridge on State Highway 181, 0.6 mi downstream from Little Conewago Creek, and 1.5 mi north of Manchester.

DRAINAGE AREA.--510 mi².

PERIOD OF RECORD.--October 1928 to current year. Prior to October 1931, published as Conewago Creek near Manchester.

REVISED RECORDS.--WSP 741: Drainage area. WSP 1502: 1930, 1936.

GAGE.--Water-stage recorder. Datum of gage is 263.68 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional slight regulation since October 1959 by Conewago Lake about 13 miles upstream, capacity, 3,570 acre-ft. Gage height record affected at times by backwater from the Susquehanna River. Pennsylvania Department of Environmental Resources satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	83	480	864	e350	328	9260	1020	216	74	65	61
2	96	89	442	620	e300	370	11800	932	314	121	57	52
3	87	1620	407	485	e260	529	6990	831	228	306	50	54
4	78	1620	365	456	321	2960	3910	752	183	411	46	742
5	71	666	344	1140	297	11400	2240	873	173	248	46	959
6	66	471	338	1510	e260	5510	1610	1050	171	164	54	273
7	64	390	306	946	e220	3890	1350	843	171	158	100	143
8	59	296	287	851	e200	3980	1200	649	153	167	119	463
9	97	239	273	943	e220	3970	1090	566	315	143	121	1380
10	1440	202	272	805	265	3480	2350	520	542	107	87	378
11	795	182	2720	653	238	2080	7770	479	303	93	68	377
12	348	172	7490	714	261	1620	2980	441	202	86	268	199
13	228	320	2310	2080	361	1530	1880	535	165	74	399	124
14	175	793	1410	2140	670	1130	1370	603	145	66	172	101
15	145	372	1130	1270	618	e1000	1210	441	140	60	103	88
16	127	264	993	1060	564	e900	2370	389	132	54	78	180
17	116	234	1730	946	740	1670	7510	360	123	51	70	480
18	103	253	2480	836	e560	4410	2830	342	117	46	178	326
19	96	238	1320	710	e450	2550	1840	331	109	49	208	276
20	91	224	1210	558	e370	1730	1350	381	126	64	113	227
21	92	216	1270	490	e310	1970	1200	346	162	52	88	158
22	92	298	972	811	e350	3580	6460	298	203	102	72	127
23	88	8260	864	1260	659	4150	5720	277	164	80	65	123
24	87	3300	828	920	693	13000	2080	261	127	63	59	127
25	95	1380	667	1020	497	8780	1590	245	106	58	52	108
26	96	1210	533	845	e410	4640	1590	228	98	52	47	225
27	96	1020	437	650	e350	3780	2720	205	107	45	43	842
28	95	819	446	596	e310	4780	1530	190	89	39	40	528
29	91	650	491	523	---	4640	1270	182	85	49	36	481
30	83	551	620	446	---	4450	1130	171	76	57	35	266
31	82	---	914	402	---	3600	---	168	---	59	68	---
TOTAL	5393	26432	34349	27550	11104	112407	98200	14909	5245	3198	3007	9868
MEAN	174	881	1108	889	397	3626	3273	481	175	103	97.0	329
MAX	1440	8260	7490	2140	740	13000	11800	1050	542	411	399	1380
MIN	59	83	272	402	200	328	1090	168	76	39	35	52
CFSM	.34	1.73	2.17	1.74	.78	7.11	6.42	.94	.34	.20	.19	.64
IN.	.39	1.93	2.51	2.01	.81	8.20	7.16	1.09	.38	.23	.22	.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1993, BY WATER YEAR (WY)

	MEAN	270	443	645	738	955	1224	1001	660	431	251	225	258
MAX	1783	1534	2314	2428	2521	3626	3273	2874	4445	1419	2423	3862	
(WY)	1977	1933	1978	1978	1971	1993	1993	1989	1972	1969	1933	1975	
MIN	9.71	14.7	43.3	37.7	86.2	345	276	135	52.7	12.2	13.3	12.0	
(WY)	1942	1932	1966	1981	1934	1931	1963	1941	1965	1966	1930	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1929 - 1993

ANNUAL TOTAL	191289		351662										
ANNUAL MEAN	523		963							590			
HIGHEST ANNUAL MEAN										1117		1972	
LOWEST ANNUAL MEAN										154		1931	
HIGHEST DAILY MEAN	11400	Mar 27		13000	Mar 24					64000	Sep 26	1975	
LOWEST DAILY MEAN	32	Sep 2		35	Aug 30					2.0	Aug 8	1930	
ANNUAL SEVEN-DAY MINIMUM	36	Aug 30		45	Aug 24					3.9	Aug 3	1966	
INSTANTANEOUS PEAK FLOW				14600	Mar 24					a96200	Sep 26	1975	
INSTANTANEOUS PEAK STAGE				14.46	Mar 24					b32.11	Sep 26	1975	
INSTANTANEOUS LOW FLOW				35	Aug 29,30,31					1.9	Oct 13	1941	
ANNUAL RUNOFF (CFSM)	1.02			1.89						1.16			
ANNUAL RUNOFF (INCHES)	13.95			25.65						15.71			
10 PERCENT EXCEEDS	1120			2360						1270			
50 PERCENT EXCEEDS	264			342						247			
90 PERCENT EXCEEDS	66			67						45			

- a From rating curve extended above 45,000 ft³/s on basis of slope-area computation at gage height 30.26 ft.
b From floodmarks.
c Estimated.

CODORUS CREEK BASIN

01574500 CODORUS CREEK AT SPRING GROVE, PA

LOCATION.--Lat 39°52'43", long 76°51'13", York County, Hydrologic Unit 02050306, on right bank 15 ft downstream from abutments of dismantled county highway bridge on Township Route 452, 0.1 mi downstream from small left-bank tributary, 0.3 mi downstream from east boundary of Spring Grove, and 7.0 mi southwest of York.

DRAINAGE AREA.--75.5 mi².

PERIOD OF RECORD.--May 1929 to September 1964, November 1965 to current year. October 1962 to September 1968, published as West Branch Codorus Creek at Spring Grove.

REVISED RECORDS.--WSP 1302: 1929-30. WSP 1502: 1932(M), 1933, 1935(M), 1940, 1942(M), 1943, 1944-46(M), 1951(M), 1955(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 430.86 ft above sea level. Prior to Jan. 18, 1930, nonrecording gage, Jan. 18, 1930, to Sept. 9, 1941, water-stage recorder at site 0.9 mi upstream, and Sept. 10, 1941, to Sept. 30, 1964, water-stage recorder at site 0.8 mi upstream, all at datum 5.64 ft higher. Nov. 1 to Dec. 20, 1965, nonrecording gage about 40 ft downstream at unknown datum, Dec. 21, 1965, to Mar. 31, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Daily discharges include water diverted around station by waste treatment plant of P.H. Glatfelter Company. Flow regulated by dam on Lake Marburg (station 01574390) about 20 miles upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records of change in lake contents and daily diversion furnished by P.H. Glatfelter Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	37	47	47	44	39	662	176	100	48	48	48
2	47	42	47	42	40	44	652	160	53	68	49	49
3	51	124	45	42	53	62	407	148	56	72	50	126
4	48	39	42	44	53	482	328	144	52	67	49	342
5	45	47	49	103	52	595	292	204	48	54	49	53
6	49	49	44	62	54	306	259	212	51	52	80	64
7	47	45	51	54	49	260	230	154	48	57	68	56
8	46	45	46	59	51	235	211	138	64	54	55	53
9	59	44	45	58	50	194	196	127	119	53	48	54
10	75	45	53	50	45	157	470	121	88	62	49	123
11	46	46	338	47	44	136	751	118	65	64	55	47
12	47	48	266	71	47	109	365	151	53	58	110	47
13	47	62	112	114	68	103	292	164	53	46	48	47
14	47	48	77	86	59	114	256	123	54	41	52	48
15	44	46	67	73	45	95	232	113	52	39	49	56
16	40	48	62	69	58	84	572	108	54	32	49	119
17	43	45	117	62	74	300	560	106	52	37	57	71
18	42	46	79	57	60	334	331	101	51	43	64	60
19	43	43	65	50	45	177	284	103	56	55	48	55
20	48	45	73	48	45	146	250	91	61	95	51	50
21	47	45	61	48	46	268	258	85	69	54	53	51
22	47	59	57	76	53	345	983	78	56	47	48	57
23	47	679	55	59	56	463	485	74	42	45	46	51
24	50	86	50	54	44	1010	354	70	43	46	49	48
25	48	70	48	51	42	476	303	68	42	45	48	54
26	48	54	47	45	43	406	288	63	41	45	50	95
27	50	44	41	45	42	405	260	60	49	46	48	73
28	50	42	43	42	40	424	220	58	48	46	50	75
29	48	36	47	43	---	388	211	56	48	60	122	58
30	44	46	58	40	---	341	201	51	48	44	52	55
31	43	---	56	44	---	284	---	60	---	45	48	---
TOTAL	1484	2155	2288	1785	1402	8782	11163	3485	1716	1620	1742	2185
MEAN	47.9	71.8	73.8	57.6	50.1	283	372	112	57.2	52.3	56.2	72.8
MAX	75	679	338	114	74	1010	983	212	119	95	122	342
MIN	40	36	41	40	40	39	196	51	41	32	46	47
MEAN‡	17.3	70.0	124	77.6	73.1	403	372	108	40.9	21.7	25.1	60.9
CFSM‡	.23	.93	1.64	1.03	.97	5.34	4.93	1.43	.54	.29	.33	.81
IN.‡	.26	1.04	1.89	1.19	1.01	6.16	5.50	1.65	.60	.33	.38	.90

‡ Adjusted for change in contents in Lake Marburg.

CODORUS CREEK BASIN

01574500 CODORUS CREEK AT SPRING GROVE, PA--Continued

REMARKS.--Daily and monthly discharge figures (and those data determined from them) include water diverted by P.H. Gladfelter Co. Instantaneous data reflect actual discharge past gage.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.3	57.8	71.5	82.3	101	111	121	90.4	89.6	62.1	53.9	65.2
MAX	269	136	170	255	269	283	372	171	699	185	77.7	360
(WY)	1980	1976	1973	1976	1971	1993	1993	1975	1972	1970	1990	1975
MIN	18.1	15.8	16.9	19.5	25.7	33.0	31.2	28.8	21.4	17.4	17.1	19.2
(WY)	1967	1966	1966	1966	1969	1969	1969	1969	1966	1966	1966	1966

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1966 - 1993

ANNUAL TOTAL	20820		39807									
ANNUAL MEAN	56.9	58.0	109	116						82.2	a184.2	
HIGHEST ANNUAL MEAN										163		1972
LOWEST ANNUAL MEAN										33.6		1969
HIGHEST DAILY MEAN	742	Mar 27	1010	Mar 24	11000	Jun 22	1972					
LOWEST DAILY MEAN	29	Jul 16	32	Jul 16	.60	Sep 4	1966					
ANNUAL SEVEN-DAY MINIMUM	35	Jul 14	42	Jul 13	10	Sep 1	1966					
INSTANTANEOUS PEAK FLOW			1690	Nov 23	b19400	Jun 22	1972					
INSTANTANEOUS PEAK STAGE			6.79	Nov 23	c15.57	Jun 22	1972					
ANNUAL RUNOFF (CFSM)	.75	1.77	1.44	1.54	1.09	a11.12						
ANNUAL RUNOFF (INCHES)	10.26	10.42	19.61	20.92	14.79	a15.14						
10 PERCENT EXCEEDS	71		274		147							
50 PERCENT EXCEEDS	47		54		53							
90 PERCENT EXCEEDS	40		44		31							

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1964, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	38.4	52.7	64.4	87.4	114	144	125	86.1	55.6	38.7	44.0	41.7
MAX	151	148	164	223	244	360	326	206	165	157	321	424
(WY)	1943	1938	1951	1949	1951	1936	1952	1952	1946	1945	1933	1934
MIN	8.76	11.9	18.1	19.5	27.3	50.1	41.3	26.6	19.6	9.09	11.9	8.93
(WY)	1942	1937	1959	1942	1932	1959	1947	1963	1959	1954	1935	1941

SUMMARY STATISTICS

WATER YEARS 1929 - 1964

ANNUAL MEAN	d74.1											
HIGHEST ANNUAL MEAN	127					1933						
LOWEST ANNUAL MEAN	31.4					1959						
HIGHEST DAILY MEAN	3920			Sep 16	1934							
LOWEST DAILY MEAN	.80			Oct 26	1947							
ANNUAL SEVEN-DAY MINIMUM	5.0			Jul 9	1959							
INSTANTANEOUS PEAK FLOW	b11200			Aug 23	1933							
INSTANTANEOUS PEAK STAGE	f11.84			Aug 23	1933							
INSTANTANEOUS LOW FLOW	.00			Oct 26	1947							
ANNUAL RUNOFF (CFSM)	.98											
ANNUAL RUNOFF (INCHES)	13.34											
10 PERCENT EXCEEDS	151											
50 PERCENT EXCEEDS	42											
90 PERCENT EXCEEDS	14											

‡ Adjusted for change in contents in Lake Marburg.

a Adjusted for diversion and storage since 1966.

b From rating curve extended above 1,400 ft³/s on basis of computation of peak discharge at dam at gage height 6.80 ft and at peak flow.

c From floodmark in gage.

d Adjusted for diversion since March 1961.

f Site and datum then in use.

CODORUS CREEK BASIN

01575000 SOUTH BRANCH CODORUS CREEK NEAR YORK, PA

LOCATION.--Lat 39°55'14", long 76°44'57", York County, Hydrologic Unit 02050306, on right bank 100 ft downstream from dam at pumping station of York Water Co., 200 ft upstream from Conrail bridge, 0.5 mi upstream from mouth, and 3.0 mi southwest of York.

DRAINAGE AREA.--117 mi².

PERIOD OF RECORD.--October 1927 to current year. May 1925 to September 1927 (gage heights and discharge measurements only), in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1302: 1931. WSP 1502: 1932-33, 1941, 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 373.03 ft above sea level. Prior to Aug. 21, 1928, nonrecording gage at site 180 ft upstream at datum 5.00 ft higher. June 22, 1972, to Jan. 12, 1973, nonrecording gage at present site.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by pumping station upstream which diverts water for municipal supply of city of York. Some regulation during entire period of record by reservoirs of York Water Co., combined capacity, 8,092 acre-ft. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion provided by York Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	17	46	95	78	70	822	257	172	42	8.4	12
2	12	25	45	82	63	79	1210	237	94	72	8.0	11
3	10	137	40	80	66	88	729	218	91	115	8.4	45
4	9.6	35	37	71	69	1080	537	203	89	100	9.6	340
5	11	23	44	167	66	e1900	477	323	89	57	11	65
6	12	21	38	129	71	684	418	317	84	40	54	33
7	9.5	21	47	109	63	557	368	213	77	33	82	20
8	9.5	25	31	121	66	629	331	194	75	33	34	26
9	25	17	26	117	61	489	311	181	165	30	17	51
10	66	13	53	105	60	390	623	173	94	26	12	90
11	26	13	728	96	62	303	1110	161	78	25	10	34
12	21	24	588	123	74	285	508	175	70	21	53	22
13	13	66	305	208	129	316	387	234	72	16	22	16
14	17	40	207	191	105	299	362	167	65	14	13	11
15	17	26	169	167	85	244	334	150	57	19	13	11
16	17	22	150	152	108	206	675	146	51	16	11	92
17	15	18	204	146	165	557	745	141	46	10	116	61
18	21	17	184	130	122	789	437	134	48	10	197	55
19	16	17	144	113	93	437	369	157	54	11	66	38
20	19	19	157	103	92	362	330	149	143	45	171	25
21	26	18	137	102	96	468	325	129	116	20	142	24
22	19	35	118	147	102	607	1430	118	93	11	132	22
23	13	974	119	127	105	806	818	118	60	8.5	59	21
24	15	122	106	109	82	2770	526	111	52	11	11	18
25	24	90	96	109	68	1490	409	101	47	9.4	10	19
26	30	82	90	86	80	950	450	96	44	13	9.9	64
27	27	73	82	87	73	750	396	90	46	13	10	55
28	19	64	89	87	70	705	318	89	44	8.7	15	92
29	24	57	98	84	---	642	275	87	43	17	45	34
30	17	51	114	79	---	575	292	88	45	8.6	10	29
31	24	---	114	80	---	451	---	91	---	8.7	11	---
TOTAL	595.6	2162	4406	3602	2374	19978	16322	5048	2304	863.9	1371.3	1436
MEAN	19.2	72.1	142	116	84.8	644	544	163	76.8	27.9	44.2	47.9
MAX	66	974	728	208	165	2770	1430	323	172	115	197	340
MIN	9.5	13	26	71	60	70	275	87	43	8.5	8.0	11
(†)	28.8	28.0	27.6	27.7	28.0	29.1	28.4	30.6	31.8	32.8	32.1	31.4
MEAN‡	48.0	100	170	144	113	673	572	194	109	60.7	58.4	82.7
CFSM‡	.41	.85	1.45	1.23	.96	5.75	4.89	1.66	.93	.52	.50	.71
IN.‡	.47	.95	1.67	1.42	1.00	6.63	5.46	1.91	1.04	.60	.58	.79

† Diversion for municipal supply of city of York, equivalent in cubic feet per second.

‡ Adjusted for diversion and change in reservoir contents.

e Estimated.

CODORUS CREEK BASIN

01575000 SOUTH BRANCH CODORUS CREEK NEAR YORK, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	58.2	72.3	105	130	167	200	194	139	101	60.4	56.1	62.1
MAX	489	195	354	486	440	644	552	461	1097	291	686	921
(WY)	1980	1938	1984	1978	1971	1993	1983	1989	1972	1970	1933	1975
MIN	.37	6.94	7.79	4.52	41.7	67.9	50.6	20.6	8.48	1.00	.016	2.79
(WY)	1964	1965	1981	1981	1932	1931	1967	1969	1966	1966	1966	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1928 - 1993

ANNUAL TOTAL	25663.9		60462.8									
ANNUAL MEAN	70.1	‡99.1	166	‡194					112	‡134		
HIGHEST ANNUAL MEAN			234									1972
LOWEST ANNUAL MEAN									36.5			1966
HIGHEST DAILY MEAN	1330	Mar 27	2770	Mar 24					16000		Jun 22	1972
LOWEST DAILY MEAN	7.4	Sep 24	8.0	Aug 2					.00		Jul 13	1959
ANNUAL SEVEN-DAY MINIMUM	11	Oct 2	9.0	Jul 30					.00		Aug 1	1966
INSTANTANEOUS PEAK FLOW			5020	Mar 5					a26700		Jun 22	1972
INSTANTANEOUS PEAK STAGE			8.21	Mar 5					b22.62		Jun 22	1972
INSTANTANEOUS LOW FLOW			6.0	Nov 10					No flow at times.			
ANNUAL RUNOFF (CFSM)	.60	‡0.85	1.42	‡1.66					.96		‡1.15	
ANNUAL RUNOFF (INCHES)	8.16	‡11.53	19.22	‡22.53					12.98		‡15.55	
10 PERCENT EXCEEDS	118		442						233			
50 PERCENT EXCEEDS	51		79						67			
90 PERCENT EXCEEDS	15		13						10			

‡ Adjusted for diversion and change in reservoir contents.

a From rating curve extended above 6,300 ft³/s on basis of contracted-opening measurement at gage height 17.97 ft, and contracted-opening and flow-over-road measurement at peak flow.

b From floodmark.

CODORUS CREEK BASIN

01575500 CODORUS CREEK NEAR YORK, PA

LOCATION.--Lat 39°56'46", long 76°45'20", York County, Hydrologic Unit 02050306, on left bank 0.5 mi upstream from bridge on Richland Avenue (SR 3054), 2.0 mi downstream from South Branch Codorus Creek, and 2.0 mi southwest of York.

DRAINAGE AREA.--222 mi².

PERIOD OF RECORD.--August 1940 to current year. October 1915 to August 1923, and August 1926 to September 1932 (gage heights and discharge measurements only), in reports of Pennsylvania Department of Forests and Waters. Published as "at York" 1915-32.

REVISED RECORDS.--WDR PA-83-2: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 356.39 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Sept. 30, 1932, nonrecording gage at site 1.6 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flows by mills and pumping station of York Water Co. Diversion upstream for municipal supply of city of York. Flood flows regulated by Indian Rock Dam (station 01574700) and by 3 reservoirs, combined capacity, 65,650 acre-ft. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records of diversion provided by York Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e70	e50	111	202	167	166	1610	477	300	99	65	67
2	e86	e54	109	177	132	159	2030	437	174	144	65	67
3	e84	e350	104	170	134	168	1350	400	165	225	67	125
4	e76	e60	97	160	145	1160	987	378	161	183	68	800
5	e74	e64	109	289	145	2620	865	533	157	126	67	190
6	e68	e74	101	251	161	1220	750	607	152	104	136	108
7	e66	e70	109	213	141	898	660	412	142	102	216	90
8	e64	e72	96	225	150	872	598	367	142	102	101	84
9	e100	e70	89	243	156	752	560	340	318	96	78	123
10	e150	e70	108	218	156	607	918	323	204	96	72	209
11	e64	e72	981	198	146	506	2110	308	164	101	71	107
12	e68	e74	1060	229	150	437	1070	313	139	e85	167	77
13	e70	e130	503	378	224	465	771	480	139	73	88	69
14	e72	e76	338	367	213	441	680	327	130	66	73	64
15	e64	e70	278	311	179	380	625	e290	121	70	74	66
16	e58	e76	249	285	196	327	1000	e270	115	64	69	227
17	e60	e72	348	272	298	791	1640	e260	109	57	172	161
18	e56	e74	333	248	248	1340	937	e250	110	62	309	139
19	e58	e68	253	222	178	714	725	299	118	65	117	113
20	e60	e70	271	210	170	575	642	276	232	140	214	88
21	e60	e70	258	202	186	761	618	241	207	86	195	83
22	e60	e300	230	262	203	1040	2220	221	174	70	186	86
23	e60	e2200	224	252	216	1360	1740	214	119	66	140	82
24	e62	e900	216	219	178	3660	1070	199	104	67	65	78
25	e60	e250	193	214	158	2290	809	189	97	66	64	78
26	e60	170	186	176	186	1550	794	176	94	67	64	170
27	e64	147	166	174	177	1300	738	165	101	69	61	149
28	e64	128	172	172	167	1290	595	163	99	66	63	198
29	e62	118	190	169	---	1180	527	161	101	86	e180	111
30	e58	113	210	162	---	1070	542	157	104	70	75	100
31	e58	---	232	161	---	829	---	163	---	65	67	---
TOTAL	2136	6112	7924	7031	4960	30928	30181	9396	4492	2838	3449	4109
MEAN	68.9	204	256	227	177	998	1006	303	150	91.5	111	137
MAX	150	2200	1060	378	298	3660	2220	607	318	225	309	800
MIN	56	50	89	160	132	159	527	157	94	57	61	64
(†)	28.8	28.0	27.6	27.7	28.0	29.1	28.4	30.6	31.8	32.8	32.1	31.4
MEAN‡	67.3	230	334	275	228	1150	1030	328	165	93.7	94.1	160
CFSM‡	.30	1.04	1.50	1.24	1.03	5.18	4.64	1.48	.74	.42	.42	.72
IN.‡	.35	1.16	1.73	1.43	1.07	5.97	5.18	1.71	.83	.48	.48	.80

† Diversion for municipal supply of city of York, equivalent in cubic feet per second.

‡ Adjusted for diversion and change in reservoir contents.

e Estimated.

CODORUS CREEK BASIN

01575500 CODORUS CREEK NEAR YORK, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	117	147	209	260	326	386	358	264	203	129	107	117
MAX	837	392	584	781	849	998	1006	643	2047	604	457	1172
(WY)	1980	1944	1973	1979	1971	1993	1993	1989	1972	1970	1955	1975
MIN	19.2	28.0	27.8	38.4	84.3	143	102	58.3	31.5	18.1	17.9	21.1
(WY)	1964	1965	1966	1966	1969	1981	1969	1969	1966	1966	1966	1941

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1940 - 1993	
ANNUAL TOTAL	55069		113556			
ANNUAL MEAN	150		311		218	
HIGHEST ANNUAL MEAN	‡180		‡347		466	
LOWEST ANNUAL MEAN					84.3	
HIGHEST DAILY MEAN	2390		3660		16000	
LOWEST DAILY MEAN	46		e50		3.6	
ANNUAL SEVEN-DAY MINIMUM	a59		a59		9.5	
INSTANTANEOUS PEAK FLOW			4380		b30000	
INSTANTANEOUS PEAK STAGE			9.81		c26.36	
INSTANTANEOUS LOW FLOW					d3.0	
ANNUAL RUNOFF (CFSM)	.68		1.40		.98	
ANNUAL RUNOFF (INCHES)	9.23		19.03		13.32	
10 PERCENT EXCEEDS	234		796		446	
50 PERCENT EXCEEDS	111		164		129	
90 PERCENT EXCEEDS	64		66		40	

‡ Adjusted for diversion and change in reservoir contents.

a Computed using estimated daily discharges.

b From rating curve extended above 6,600 ft³/s on basis of slope-area measurement at gage height 20.11 ft.

c From floodmark in gage.

d Result of upstream shutoff.

e Estimated.

CODORUS CREEK BASIN

RESERVOIRS IN CODORUS CREEK BASIN

01574390 LAKE MARBURG.--Lat 39°48'26", long 76°52'58", York County, Hydrologic Unit 02050306, at dam on West Branch Codorus Creek, 0.7 mi upstream from Codorus Creek, and 4.5 mi south of Spring Grove. DRAINAGE AREA, 23.2 mi². PERIOD OF RECORD, October 1972 to current year in reports of Geological Survey; July 1972 to September 1974 in files of P. H. Glatfelter Co., Spring Grove. Records for period December 1966 to June 1972 were lost in the flood of June 1972. GAGE, Nonrecording. Datum of gage is given in feet above sea level.

REMARKS.--Lake is formed by earthfill dam with two bascule spillway gates. Each is 7 ft high and 106.50 ft long. Storage began in December 1966. Elevation of top of gates is 623.00 ft (capacity, 47,680 acre-ft). Top of dam is at elevation 627.00 ft (capacity, 53,210 acre-ft). At the spillway crest, an elevation of 616.00 ft, the capacity is 39,430 acre-ft. The lake is used for water supply and recreation. An average of about 3,380 acre-ft is diverted from Codorus Creek into the lake each year.

COOPERATION.--Records provided by P.H. Glatfelter Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 47,680 acre-ft many days most years, elevation, 623.00 ft; minimum, 32,190 acre-ft, Feb. 13, 14 15, 1989, elevation, 608.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 47,680 acre-ft, Mar. 25-31, Apr. 30, May 11-15, elevation, 623.00 ft; minimum, 34,210 acre-ft, Nov. 22, elevation, 610.90 ft.

01574700 INDIAN ROCK DAM.--Lat 39°55'22", long 76°45'14", York County, Hydrologic Unit 02050306, at dam on Codorus Creek, 0.1 mi upstream from mouth of South Branch Codorus Creek, 0.3 mi west of York Water Co. pumping station, and 3.0 mi southwest of York. DRAINAGE AREA, 93.7 mi². PERIOD OF RECORD, September 1962 to current year in reports of Geological Survey, September 1942 to August 1962 in files of Baltimore District, U.S. Army Corps of Engineers. GAGE, water-stage recorder. Datum of gage is given in feet above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 435.00 ft (capacity, 28,000 acre-ft). Reservoir completed in June 1942; storage began in June 1946. No dead storage. Reservoir is used for flood control. Figures given herein represent total contents. Flood storage is regulated by three vertical-lift tractor gates. Water is stored only during high flows and released when downstream conditions warrant. U.S. Army Corps of Engineers satellite telemeter at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,200 acre-ft, June 23, 1972, elevation, 436.44 ft; minimum, no storage many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 870 acre-ft, Apr. 17, elevation, 390.73 ft; minimum, 9.7 acre-ft, Dec. 31, elevation, 372.22 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)
01574390 LAKE MARBURG				01574700 INDIAN ROCK DAM		
Sept. 30.....	613.36	36,700	--	373.92	14.8	--
Oct. 31.....	611.50	34,820	- 30.6	375.12	25.1	+ 0.17
Nov. 30.....	611.40	34,710	- 1.8	375.77	30.9	+ 0.10
Dec. 31.....	614.44	37,790	+ 50.1	377.30	44.0	+ 0.21
CAL YR 1992.....	--	--	+ 0.9	--	--	+ 0.04
Jan. 31.....	615.62	39,020	+ 20.0	376.54	37.6	- 0.10
Feb. 28.....	616.81	40,300	+ 23.0	376.88	40.5	+ 0.05
Mar. 31.....	623.00	47,680	+120	381.13	138	+ 1.59
Apr. 30.....	623.00	47,680	0	379.86	96.5	- 0.70
May 31.....	622.81	47,430	- 4.1	375.71	30.4	- 1.07
June 30.....	622.08	46,460	- 16.3	375.33	27.0	- 0.06
July 31.....	620.66	44,580	- 30.6	375.23	26.1	- 0.01
Aug. 31.....	619.04	42,670	- 31.1	375.11	25.0	- 0.02
Sept. 30.....	618.37	41,960	- 11.9	376.49	37.2	+ 0.20
WTR YR 1993.....	--	--	+ 7.3	--	--	+ 0.03

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA

LOCATION.--Lat 40°03'16", long 76°31'52", Lancaster County, Hydrologic Unit 02050306, on left bank 420 ft upstream from Chickies Creek, and 1.0 mi downstream from Marietta. Records include flow of Chickies Creek.

DRAINAGE AREA.--25,990 mi², approximately, includes that of Chickies Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 1502: 1937.

GAGE.--Water-stage recorder. Datum of gage is 200.56 ft above sea level.

REMARKS.--Records fair. Flow slightly regulated by 16 flood-control reservoirs which have a combined capacity of 1,599,000 acre-ft. Some diurnal fluctuation below 8,000 ft³/s caused by hydroelectric plant 9.7 mi upstream. National Weather Service satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 58.2 ft, from floodmark, discharge, about 630,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31800	18500	56100	42500	31300	e9000	380000	132000	14700	9030	5000	5010
2	27500	17500	49700	133000	26600	e12000	430000	106000	14500	8840	5860	4720
3	23800	22200	44200	149000	23700	e14000	431000	88600	14400	11800	6200	4910
4	20900	28100	40100	112000	23500	17500	372000	75700	14200	11800	5760	7300
5	18700	33800	36500	88000	22000	50400	304000	67000	14200	11500	5750	8180
6	16900	55400	33100	85400	21500	64200	237000	71500	13800	11600	5540	7960
7	15700	52500	30600	95700	20200	56800	193000	74100	13700	11000	5940	12000
8	14200	48400	28400	97100	18400	48100	168000	72600	13500	11000	5430	12200
9	13400	45000	26600	84600	17300	49500	155000	66200	13800	10100	5160	12000
10	17100	40800	25000	70500	17500	53100	154000	58600	14700	8880	5050	10300
11	18200	36600	28400	59800	17500	52200	216000	52200	15800	7990	4890	9430
12	21500	32600	44000	52600	17200	47900	306000	45100	17400	7680	5820	8220
13	21200	32600	51100	50000	18100	44900	285000	41100	18800	7040	7760	7670
14	22800	48500	42100	52700	18300	37300	227000	35700	18900	6820	7970	7030
15	22300	66700	35500	60900	17800	27800	168000	31600	16500	6440	8040	6590
16	21000	68400	31700	72600	17400	31000	140000	29700	14400	6060	6800	7660
17	19300	58200	31400	67900	17600	31600	186000	27600	12700	6000	6170	7390
18	18200	48700	38800	58300	17100	38800	276000	25400	11600	5750	6610	6980
19	18000	42400	51200	51400	14500	40900	276000	e24500	10800	5660	6830	6810
20	20300	37500	67600	45300	12400	39600	224000	e23000	11300	5620	9280	6240
21	20800	34300	76700	38900	e10300	38700	175000	e22200	13600	5370	8610	6050
22	19500	33800	72900	36300	e11400	41000	173000	e21300	12500	5140	8440	6040
23	18900	58700	74100	36800	e10200	43100	208000	e20600	e12000	5120	7740	5890
24	18100	73700	68400	37700	e9800	74700	195000	20200	e11400	4980	6860	5810
25	17300	82500	58800	38400	e8600	108000	179000	20300	e11700	4810	6260	5730
26	16600	93000	50200	39800	e8400	116000	174000	18900	11400	4720	5940	6630
27	16100	90000	42500	41800	e8200	134000	197000	16900	11500	4730	5810	8220
28	19300	85000	39500	43200	e7400	173000	235000	17300	12100	4700	5770	8950
29	23400	75300	35200	41000	---	240000	219000	16000	10900	4800	5720	10800
30	21900	64600	32500	36700	---	305000	171000	15100	9800	4730	5410	14600
31	20100	---	32400	33800	---	343000	---	14600	---	4880	5040	---
TOTAL	614800	1525300	1375300	1953700	464200	2383100	7054000	1351600	406600	224590	197460	237320
MEAN	19830	50840	44360	63020	16580	76870	235100	43600	13550	7245	6370	7911
MAX	31800	93000	76700	149000	31300	343000	431000	132000	18900	11800	9280	14600
MIN	13400	17500	25000	33800	7400	9000	140000	14600	9800	4700	4890	4720
CFSM	.76	1.96	1.71	2.42	.64	2.96	9.05	1.68	.52	.28	.25	.30
IN.	.88	2.18	1.97	2.80	.66	3.41	10.10	1.93	.58	.32	.28	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1993, BY WATER YEAR (WY)

MEAN	17520	29190	38600	38930	44640	75830	80040	49200	28670	15760	11720	12400
MAX	81330	71930	106800	99470	109300	229100	235100	103400	190700	61480	39700	78650
(WY)	1977	1978	1973	1937	1984	1936	1993	1989	1972	1972	1933	1975
MIN	2699	3041	8147	6635	10730	28120	22450	14240	7993	3957	3627	2296
(WY)	1964	1965	1961	1981	1934	1960	1946	1941	1991	1965	1966	1964

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1932 - 1993

ANNUAL TOTAL	12467490	17787970	36810	1972
ANNUAL MEAN	34060	48730	59900	1926
HIGHEST ANNUAL MEAN			19060	1965
LOWEST ANNUAL MEAN			1040000	Jun 24 1972
HIGHEST DAILY MEAN	169000	Mar 29	431000	Apr 3
LOWEST DAILY MEAN	8930	Jul 5	4700	Jul 28
ANNUAL SEVEN-DAY MINIMUM	9250	Jul 2	4770	Jul 25
INSTANTANEOUS PEAK FLOW			448000	Apr 2
INSTANTANEOUS PEAK STAGE			53.21	Apr 2
INSTANTANEOUS LOW FLOW			4550	Sep 2
ANNUAL RUNOFF (CFSM)	1.31	1.88	b618	Sep 26 1932
ANNUAL RUNOFF (INCHES)	17.84	25.46	19.24	
10 PERCENT EXCEEDS	65800	133000	84000	
50 PERCENT EXCEEDS	28100	21300	21700	
90 PERCENT EXCEEDS	12100	5940	6010	

a From floodmarks.

b York Haven powerplant was shut down to obtain current-meter measurements of low flow.

e Estimated.

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-74, 1976, 1987 to current year.

REMARKS.--Samples collected from bridge on State Highway 30, 1.5 miles downstream from gage.

COOPERATION.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey. Agency analyzing codes: 9813 Pennsylvania Department of Environmental Resources. Suspended-sediment samples analyzed by SRBC.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD (μS/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV											
04...	0950	42011	9813	27800	220	6.9	12.0	1.23	1.23	0.050	0.050
06...	1400	42011	9813	57700	197	6.8	10.0	1.08	1.08	0.040	0.030
07...	1110	42011	9813	53000	216	--	8.0	1.06	1.06	0.040	0.040
08...	0830	42011	9813	48900	--	--	8.0	0.860	0.860	0.050	0.040
09...	1310	42011	9813	44900	183	7.1	8.0	0.790	0.790	0.090	0.070
19...	1135	42011	9813	42600	178	7.3	7.0	0.990	0.990	0.070	0.060
DEC											
08...	1045	42011	9813	28600	221	6.2	4.0	1.21	1.21	0.050	0.050
JAN											
05...	1230	42011	9813	86900	152	7.8	7.5	1.10	1.10	0.130	0.110
06...	1150	42011	9813	84100	160	7.8	5.0	1.23	1.23	0.140	0.130
07...	1200	42011	9813	96700	156	8.0	7.5	1.06	1.06	0.150	0.050
08...	1250	42011	9813	98100	160	7.5	4.0	1.08	1.08	0.060	0.050
27...	1125	42011	9813	40800	237	7.8	2.0	1.32	1.32	0.080	0.080
FEB											
09...	1230	42011	9813	17500	290	7.4	0.0	1.72	1.72	0.310	0.310
MAR											
05...	1330	42011	9813	52300	268	6.3	--	1.94	1.94	0.350	0.300
24...	0945	42011	9813	71500	170	7.1	5.0	2.38	2.38	0.120	0.110
25...	1415	42011	9813	112000	240	7.6	6.0	2.37	2.37	0.060	0.060
26...	1050	42011	9813	115000	220	6.7	--	2.51	2.51	0.080	0.050
27...	1150	42011	9813	134000	232	6.7	7.0	2.13	2.13	0.060	0.030
28...	0945	42011	9813	165000	222	6.8	7.0	1.47	1.47	0.070	0.060
29...	1315	42011	9813	245000	203	7.9	8.0	--	--	0.080	0.020
30...	1010	42011	9813	301000	154	7.6	11.0	1.14	1.14	0.110	0.090
31...	1210	42011	9813	344000	135	7.5	11.0	0.990	0.990	0.130	0.060
APR											
01...	1400	42011	9813	385000	123	7.5	11.0	0.950	0.950	0.160	0.140
02...	1510	42011	9813	440000	126	7.1	11.0	1.01	1.01	0.080	0.070
03...	1300	42011	9813	431000	121	7.2	12.0	1.03	1.03	0.070	0.060
04...	1410	42011	9813	365000	123	7.3	12.0	0.990	0.990	0.070	0.060
05...	1415	42011	9813	297000	136	7.5	7.5	1.08	1.08	0.100	0.040
07...	1105	42011	9813	193000	169	7.5	7.5	1.17	1.17	0.070	0.060
09...	1040	42011	9813	155000	175	7.6	11.0	1.17	1.17	0.050	<0.020
21...	1100	42011	9813	175000	160	7.0	11.0	0.840	0.840	0.070	0.030
29...	1030	42011	9813	223000	162	6.6	12.0	0.700	0.700	0.070	0.020
MAY											
05...	1200	42011	9813	67000	223	7.4	17.0	0.900	0.900	0.020	0.020
12...	1230	42011	9813	44100	204	7.8	23.0	1.06	1.06	<0.020	<0.020
20...	1645	42011	9813	23000	302	8.3	17.0	1.14	1.14	<0.020	<0.020
JUN											
07...	1400	42011	9813	12300	386	8.1	21.0	1.37	1.37	0.030	0.020
16...	1014	1028	9813	14400	374	8.6	25.0	--	--	--	--
a 16...	1015	42011	9813	14400	374	8.6	25.0	0.900	0.900	0.020	<0.020
JUL											
07...	0925	42011	9813	10900	358	7.4	29.0	1.28	1.28	<0.020	<0.020
AUG											
16...	1230	42011	9813	6900	440	7.3	29.0	0.970	0.970	0.030	<0.020
SEP											
23...	1130	42011	9813	5930	469	8.1	19.5	1.03	1.03	0.020	0.020
23...	1135	1028	9813	5930	469	8.1	19.5	--	--	--	--

a Dissolved oxygen (00300) is 7.6 MG/L; Alkalinity, unfiltered water (00410) is 62 MG/L as CaCO₃; Triazine screen (ELISA) as Atrazine (34756) is 0.24 μG/L.

WATER-QUALITY DATA. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
NOV											
04...	0.74	0.53	0.79	0.58	2.0	0.100	0.050	--	4.1	27	2030
06...	0.94	0.17	0.98	0.20	2.1	0.210	0.030	--	3.5	104	16200
07...	0.73	0.16	0.77	0.20	1.8	0.150	0.030	--	3.0	73	10400
08...	0.51	0.16	0.56	0.20	1.4	0.110	0.030	--	3.3	40	5280
09...	0.53	0.24	0.62	0.31	1.4	0.100	0.020	--	3.2	41	4970
19...	0.28	0.21	0.35	0.27	1.3	0.050	0.030	--	2.7	16	1840
DEC											
08...	0.19	0.16	0.24	0.21	1.5	0.040	0.030	0.010	2.1	6	463
JAN											
05...	0.43	0.32	0.56	0.43	1.7	0.070	0.030	--	2.5	48	11300
06...	0.92	0.64	1.1	0.77	2.3	0.190	0.080	0.060	2.9	49	11100
07...	0.67	0.50	0.82	0.55	1.9	0.070	0.020	--	2.8	46	12000
08...	0.85	0.69	0.91	0.74	2.0	0.070	0.020	--	2.7	29	7680
27...	0.32	0.16	0.40	0.24	1.7	0.050	0.020	--	1.9	1	110
FEB											
09...	0.25	0.16	0.56	0.47	2.3	0.040	0.030	--	1.9	5	236
MAR											
05...	1.1	0.42	1.4	0.72	3.4	0.310	0.080	0.030	4.1	156	22000
24...	0.51	0.25	0.63	0.36	3.0	0.160	0.060	0.010	2.4	150	29000
25...	0.98	0.34	1.0	0.40	3.4	0.200	0.040	0.010	3.8	135	40800
26...	0.87	0.44	0.95	0.49	3.5	0.160	0.030	0.010	1.9	98	30400
27...	0.73	0.29	0.79	0.32	2.9	0.130	0.030	0.010	2.7	82	29700
28...	0.68	0.28	0.75	0.34	2.2	0.150	0.030	0.010	2.6	114	58000
29...	0.83	0.33	0.91	0.35	0.91	0.180	0.040	0.010	3.3	202	134000
30...	1.0	0.19	1.1	0.28	2.3	0.260	0.030	0.010	--	262	213000
31...	0.97	0.18	1.1	0.24	2.1	0.250	0.030	0.010	3.5	194	180000
APR											
01...	0.88	0.31	1.0	0.45	2.0	0.220	0.040	0.010	3.5	236	245000
02...	0.98	0.40	1.1	0.47	2.1	0.260	0.030	0.010	3.5	263	312000
03...	0.77	0.33	0.84	0.39	1.9	0.200	0.020	0.010	3.4	214	249000
04...	0.72	0.25	0.79	0.31	1.8	0.180	0.020	0.010	3.2	151	149000
05...	0.39	0.23	0.49	0.27	1.6	0.120	0.020	0.010	2.6	98	78600
07...	0.29	0.16	0.36	0.22	1.5	0.080	0.020	0.010	2.5	86	44800
09...	0.28	--	0.33	0.19	1.5	0.050	0.030	--	2.0	45	18800
21...	0.43	0.36	0.50	0.39	1.3	0.120	0.030	0.010	2.7	91	43000
29...	0.44	0.26	0.51	0.28	1.2	0.170	0.070	0.020	3.3	102	61400
MAY											
05...	0.22	0.18	0.24	0.20	1.1	0.040	0.020	--	2.0	34	6150
12...	0.51	--	0.51	0.23	1.6	0.060	0.020	--	2.8	27	3210
20...	0.42	--	0.42	0.27	1.6	0.030	0.010	--	3.0	49	3040
JUN											
07...	0.35	0.18	0.38	0.20	1.7	0.030	0.020	--	4.7	15	498
16...	--	--	--	--	--	--	--	--	--	14	544
16...	0.53	--	0.55	0.39	1.4	0.020	<0.020	0.010	12	14	544
JUL											
07...	0.39	--	0.39	<0.20	1.7	0.030	0.020	0.010	5.1	6	177
AUG											
16...	0.42	--	0.45	0.23	1.4	0.040	<0.020	<0.020	3.5	1	19
SEP											
23...	0.70	0.52	0.72	0.54	1.7	0.070	0.020	--	4.4	6	96
23...	--	--	--	--	--	--	--	--	--	6	96

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	ALA- CHLOR TOTAL RECOVER (μ G/L) (77825)	ALDRIN, TOTAL (μ G/L) (39330)	ATRA- ZINE WATER REC (μ G/L) (39630)
FEB										
09...	1230	42011	9813	17500	290	7.4	0.0	<0.08	<0.005	<0.2
MAR										
05...	1330	42011	9813	52300	268	6.3	--	<0.08	<0.005	<0.2
30...	1010	42011	9813	301000	154	7.6	11.0	<0.08	<0.005	<0.2
31...	1210	42011	9813	344000	135	7.5	11.0	<0.08	<0.005	<0.2
APR										
05...	1415	42011	9813	297000	136	7.5	7.5	<0.08	<0.005	<0.2
MAY										
20...	1645	42011	9813	23000	302	8.3	17.0	<0.08	<0.005	<0.2
JUN										
07...	1400	42011	9813	12300	386	8.1	21.0	<0.08	<0.005	<0.2
16...	1014	1028	9813	14400	374	8.6	25.0	<0.08	0.050	<0.2
JUL										
07...	0925	42011	9813	10900	358	7.4	29.0	0.11	<0.005	<0.2
SEP										
23...	1135	1028	9813	5930	469	8.1	19.5	<0.08	<0.005	<0.2

DATE	CHLOR- DANE, TOTAL (μ G/L) (39350)	CYAN- AZINE TOTAL (μ G/L) (81757)	DI- ELDRIN TOTAL (μ G/L) (39380)	MALA- THION, TOTAL (μ G/L) (39530)	METOLA- CHLOR WATER WHOLE TOT.REC (μ G/L) (82612)	PRO- PAZINE TOTAL (μ G/L) (39024)	SIMA- ZINE TOTAL (μ G/L) (39055)	TOX- APHENE, TOTAL (μ G/L) (39400)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
FEB										
09...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	5	236
MAR										
05...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	156	22000
30...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	262	213000
31...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	194	180000
APR										
05...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	98	78600
MAY										
20...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	49	3040
JUN										
07...	<0.1	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	15	498
16...	<0.1	<0.40	0.023	<0.20	<0.20	<0.20	<0.20	<1	14	544
JUL										
07...	<0.1	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	6	177
SEP										
23...	<0.1	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	6	96

CONESTOGA RIVER BASIN

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA

LOCATION.--Lat 40°08'41", Long 75°59'20", Lancaster County, Hydrologic Unit 02050306, on left bank 40 ft upstream from bridge on Smoketown Road (Township Route 773), 0.2 mi upstream from small right-bank tributary, and 1.6 mi northwest of Churchtown.

DRAINAGE AREA.--5.82 mi², excluding unnamed right-bank spring tributary 25 ft downstream.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-83-2: 1982(P).

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 410 ft above sea level, from topographic map.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1982, reached a stage of 8.25 ft, from floodmarks, discharge, 1,210 ft³/s, from rating curve extended as explained on next page. Flood of June 1972 reached a stage of about 9.8 ft, discharge not determined, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.96	4.3	5.3	e3.1	e2.6	79	12	4.8	1.0	.44	.48
2	1.1	1.2	4.0	4.8	e2.9	e2.8	39	12	3.6	1.8	.44	.44
3	.98	12	3.7	4.7	e2.8	6.1	25	11	3.5	2.4	.43	.50
4	.90	2.6	3.3	4.7	e3.0	173	20	10	3.3	1.4	.39	7.2
5	.91	2.5	3.5	7.7	e3.1	82	18	10	3.3	1.2	.37	.96
6	.90	4.3	2.7	5.9	3.0	23	16	9.5	3.1	1.1	3.2	.66
7	.90	2.2	2.8	5.5	e2.7	24	14	9.1	2.6	1.5	5.0	.57
8	.89	1.8	2.7	5.7	e2.5	19	13	8.7	2.2	1.1	2.6	8.9
9	5.2	1.7	2.5	5.3	e2.5	15	12	8.1	3.2	.82	2.0	2.1
10	13	1.6	9.1	4.8	e2.7	13	62	7.5	2.2	.92	2.0	1.8
11	3.9	1.6	74	4.7	e2.8	12	37	7.1	2.1	1.1	1.8	.80
12	2.7	1.7	28	5.6	e3.0	11	21	6.9	1.6	1.1	2.0	.60
13	1.9	32	14	11	4.6	e6.2	17	6.6	1.6	1.1	1.8	.53
14	1.6	4.9	11	8.8	3.9	e6.0	15	6.4	1.6	.93	1.7	.48
15	1.5	3.8	9.5	7.8	3.4	e7.0	14	5.9	1.5	.99	1.5	1.7
16	1.4	3.1	8.7	7.2	8.1	e10	45	5.7	1.4	.87	1.5	11
17	1.2	3.0	33	6.8	11	68	25	5.5	1.4	.79	1.5	1.0
18	1.2	2.6	15	6.1	e6.0	47	17	5.0	1.3	.73	1.5	.87
19	1.2	2.3	11	5.7	e4.8	23	16	4.9	1.3	.94	1.3	.75
20	1.2	2.1	12	5.4	e4.1	20	14	4.8	1.6	1.2	2.1	.73
21	1.2	2.2	9.5	5.4	e3.8	31	14	4.2	2.8	.99	4.2	.73
22	1.1	5.1	8.8	7.1	e4.5	33	53	4.1	2.1	.84	1.0	.73
23	1.1	62	8.3	5.9	4.5	47	20	4.1	1.4	.66	.73	.73
24	1.3	9.4	7.4	5.5	e3.4	109	16	4.1	1.3	.59	.73	.73
25	1.4	8.8	6.6	5.3	e3.0	42	14	3.8	1.3	.52	.73	.65
26	1.1	8.5	6.3	4.7	e2.9	31	38	3.8	1.2	.52	.73	11
27	1.1	6.9	5.6	4.4	e2.8	25	22	3.8	1.1	.54	.68	39
28	.99	5.9	5.9	4.2	e2.7	24	17	3.6	1.2	.52	.60	7.0
29	.99	5.2	6.0	e3.5	---	29	15	3.2	1.1	.94	1.1	2.9
30	.99	4.7	6.0	e3.4	---	23	14	3.0	1.1	.63	.61	1.7
31	1.0	---	6.0	e3.3	---	18	---	3.2	---	.55	.49	---
TOTAL	55.95	206.66	331.2	176.2	107.6	982.7	742	197.6	61.8	30.29	45.17	107.24
MEAN	1.80	6.89	10.7	5.68	3.84	31.7	24.7	6.37	2.06	.98	1.46	3.57
MAX	13	62	74	11	11	173	79	12	4.8	2.4	5.0	39
MIN	.89	.96	2.5	3.3	2.5	2.6	12	3.0	1.1	.52	.37	.44
CFSM	.31	1.18	1.84	.98	.66	5.45	4.25	1.10	.35	.17	.25	.61
IN.	.36	1.32	2.12	1.13	.69	6.28	4.74	1.26	.40	.19	.29	.69

e Estimated.

CONESTOGA RIVER BASIN

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1993, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.73	5.68	8.30	6.53	9.63	10.8	10.2	9.19	5.44	6.24	2.75	4.03
MAX	6.54	10.1	27.4	12.1	19.8	31.7	27.7	23.6	20.8	21.0	5.03	20.3
(WY)	1990	1984	1984	1990	1984	1993	1983	1989	1989	1984	1990	1987
MIN	1.07	2.22	2.69	2.56	3.10	3.15	2.12	4.09	1.94	.98	1.46	1.16
(WY)	1987	1983	1990	1985	1992	1985	1985	1991	1985	1993	1993	1986

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1982 - 1993

ANNUAL TOTAL	1529.80			3044.41					
ANNUAL MEAN	4.18			8.34			6.81		
HIGHEST ANNUAL MEAN							12.3		
LOWEST ANNUAL MEAN							3.33		
HIGHEST DAILY MEAN	74	Dec 11		173	Mar 4		259	Sep 8	1987
LOWEST DAILY MEAN	.37	Sep 20		.37	Aug 5		.37	Sep 20	1992a
ANNUAL SEVEN-DAY MINIMUM	.44	Sep 15		.46	Jul 30		.44	Sep 15	1992
INSTANTANEOUS PEAK FLOW				799	Mar 4		b1520	Sep 8	1987
INSTANTANEOUS PEAK STAGE				6.86	Mar 4		8.83	Sep 8	1987
INSTANTANEOUS LOW FLOW				c.13	Jan 30		c.08	Feb 5	1992
ANNUAL RUNOFF (CFSM)	.72			1.43			1.17		
ANNUAL RUNOFF (INCHES)	9.78			19.46			15.91		
10 PERCENT EXCEEDS	7.4			20			13		
50 PERCENT EXCEEDS	2.8			3.4			3.7		
90 PERCENT EXCEEDS	.98			.74			1.1		

^a Also Aug. 5, 1993.^b From rating curve extended above 230 ft³/s on basis of slope-conveyance study and contracted-opening measurement at gage height 8.25 ft.^c Result of freezeup.

CONESTOGA RIVER BASIN

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: August 1982 to September 1983 (discontinued).

INSTRUMENTATION.--Automatic sediment pumping sampler August 1982 to September 1991.

COOPERATION.--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories. Suspended-sediment samples analyzed by U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	ALA- CHLOR TOTAL RECOVER (μG/L) (77825)	ALDRIN, TOTAL (μG/L) (39330)	ATRA- ZINE WATER UNFLTRD REC (μG/L) (39630)	CHLOR- DANE, TOTAL (μG/L) (39350)	
DATE	TIME									
FEB										
09...	1100	5.0	554	8.2	2.0	<0.08	<0.005	0.2	<0.063	
MAR										
04...	1130	34	420	7.4	4.0	<0.08	<0.005	<0.2	<0.063	
04...	1625	760	--	7.6	--	<0.08	<0.005	<0.2	<0.063	
04...	2245	231	172	7.9	1.0	<0.08	<0.005	<0.2	<0.063	
MAY										
20...	1330	5.0	383	7.6	13.0	<0.08	<0.005	0.2	<0.063	
JUN										
07...	1410	2.7	407	8.0	19.0	<0.08	<0.005	<0.2	<0.063	
07...	1411	2.7	--	--	--	<0.08	<0.005	<0.2	<0.063	
JUL										
06...	0930	1.1	474	7.8	24.0	<0.08	0.088	<0.2	<0.063	
06...	0931	1.1	--	--	--	<0.08	0.005	<0.2	<0.063	
SEP										
04...	0130	6.3	400	7.4	25.0	<0.08	<0.005	<0.2	<0.063	
04...	0450	9.5	428	7.2	23.5	<0.08	<0.005	<0.2	<0.063	
04...	0725	21	492	7.3	23.0	<0.08	<0.005	0.5	<0.063	
04...	0726	21	--	--	--	0.08	<0.005	0.4	<0.063	
04...	1600	5.3	382	7.4	25.0	0.08	<0.005	0.4	<0.063	
23...	0950	0.80	465	7.7	15.5	<0.08	0.005	0.3	<0.063	
27...	1435	285	164	6.9	19.0	<0.08	<0.005	<0.2	<0.063	
27...	1453	294	153	7.2	18.5	<0.08	<0.005	<0.2	<0.063	
27...	1605	130	154	7.3	18.0	<0.08	<0.005	<0.2	<0.063	
DATE		CYAN- AZINE TOTAL (μG/L) (81757)	DI- ELDRIN TOTAL (μG/L) (39380)	MALA- THION, TOTAL (μG/L) (39530)	METOLA- CHLOR WATER WHOLE TOT.REC (μG/L) (82612)	PRO- PAZINE TOTAL (μG/L) (39024)	SIMA- ZINE TOTAL (μG/L) (39055)	TOX- APHENE, TOTAL (μG/L) (39400)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
FEB										
09...		<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	9	0.12
MAR										
04...		<0.40	<0.010	<0.20	0.92	<0.20	<0.20	<1	--	--
04...		<0.40	<0.010	<0.20	<0.20	<0.20	0.33	<1	--	--
04...		<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	613	382
MAY										
20...		2.9	<0.010	<0.20	3.3	<0.20	0.37	<1	32	0.43
JUN										
07...		<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	53	0.39
07...		<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	--	--
JUL										
06...		0.94	<0.010	<0.16	0.29	<0.20	<0.20	<1	101	0.30
06...		0.97	<0.010	<0.16	0.24	<0.20	<0.20	<1	--	--
SEP										
04...		<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	669	11
04...		0.64	<0.010	<0.16	0.34	<0.20	<0.20	<1	207	5.3
04...		<0.40	<0.010	<0.16	0.21	<0.20	0.68	<1	594	34
04...		<0.40	<0.010	<0.16	0.40	<0.20	0.46	<1	--	--
04...		<0.40	<0.010	<0.16	<0.20	<0.20	0.46	<1	134	1.9
23...		<0.40	<0.010	<0.16	0.22	<0.20	<0.20	<1	23	0.05
27...		<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	5310	4090
27...		<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	4370	3470
27...		<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1810	635

CONESTOGA RIVER BASIN

01576500 CONESTOGA RIVER AT LANCASTER, PA

LOCATION.--Lat 40°03'00", long 76°16'39", Lancaster County, Hydrologic Unit 02050306, on left bank at Penn Central Railroad bridge, 50 ft downstream from small right-bank tributary, 500 ft downstream from diversion dam at city water plant, and 0.7 mi east of Lancaster.

DRAINAGE AREA.--324 mi².

PERIOD OF RECORD.--October 1928 to March 1932; August, September 1932; April 1933 to current year. Prior to October 1973, published as Conestoga Creek at Lancaster.

REVISED RECORDS.--WSP 1202: Drainage area. WSP 1502: 1943(P). WDR PA-87-2: 1985-86(P) (monthly and yearly summaries) WDR PA-90-2: 1972(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 245.63 ft above sea level. Prior to May 1, 1933, at site 600 ft upstream at different datum, excluding small tributary.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by water plant and mill above station. Diversion upstream for municipal supply of city of Lancaster. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

COOPERATION.--Records of diversion provided by city of Lancaster.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	97	294	348	e270	e210	3490	944	388	142	79	70
2	117	105	286	306	e240	249	3520	883	306	174	81	67
3	110	732	274	287	e230	297	2190	824	283	416	77	76
4	105	477	255	288	276	1200	1690	774	275	228	73	570
5	101	255	249	626	253	4440	1460	826	268	183	74	263
6	99	287	247	593	e230	1660	1300	896	278	164	89	140
7	96	242	231	410	e190	1210	1160	743	259	172	163	100
8	96	196	220	383	e180	1280	1050	661	246	175	128	135
9	134	174	214	416	e180	1150	989	621	289	151	104	521
10	684	152	219	366	e190	976	2300	592	296	138	99	207
11	285	149	2180	339	e200	877	3460	566	251	129	96	160
12	231	152	1440	363	246	771	1630	544	222	124	103	131
13	187	286	643	694	288	e700	1340	560	217	119	145	113
14	158	266	469	728	311	e580	1190	523	211	264	135	110
15	143	191	405	524	273	e550	1110	481	208	261	101	158
16	137	170	380	472	301	e570	1620	460	200	174	96	743
17	120	154	801	449	758	e700	3050	449	193	136	99	401
18	115	147	1010	426	529	2530	1460	429	187	122	105	277
19	115	145	575	388	340	1300	1230	450	180	123	92	224
20	116	140	538	364	328	1090	1110	451	180	148	87	184
21	113	133	530	354	314	1170	1050	441	214	161	178	169
22	111	166	449	446	333	1470	3290	396	281	126	145	187
23	108	2970	428	464	348	1660	1710	375	205	113	102	156
24	105	977	410	386	e240	4890	1290	361	179	105	95	143
25	110	643	351	400	e230	3140	1170	349	164	97	85	138
26	125	497	342	355	e220	2310	1340	331	156	97	81	487
27	111	455	305	331	e220	1930	2140	315	168	98	77	739
28	103	383	325	323	e210	1780	1190	302	175	93	73	1280
29	100	343	363	314	---	1740	1070	292	164	95	71	370
30	97	319	371	292	---	1810	1000	286	156	93	68	266
31	96	---	386	e280	---	1350	---	281	---	84	68	---
TOTAL	4456	11403	15190	12715	7928	45590	51599	16406	6799	4705	3069	8585
MEAN	144	380	490	410	283	1471	1720	529	227	152	99.0	286
MAX	684	2970	2180	728	758	4890	3520	944	388	416	178	1280
MIN	96	97	214	280	180	210	989	281	156	84	68	67
(†)	11.7	10.3	11.3	11.4	13.4	12.0	12.6	14.4	17.4	17.6	16.3	9.1
MEAN‡	156	390	501	421	296	1483	1733	543	244	170	115	295
CFSM‡	.48	1.20	1.55	1.30	.91	4.58	5.35	1.68	.75	.52	.35	.91
IN.‡	.55	1.34	1.79	1.50	.95	5.28	5.97	1.94	.84	.60	.40	1.02

† Diversion for municipal supply of city of Lancaster, equivalent in cubic feet per second.

‡ Adjusted for diversion.

e Estimated.

CONESTOGA RIVER BASIN

01576500 CONESTOGA RIVER AT LANCASTER, PA--Continued

REMARKS.--All figures unadjusted unless otherwise indicated.

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

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	199	268	373	459	548	655	626	461	382	306	241	217
MAX	930	648	1300	1699	1191	1765	1720	1529	3286	944	1427	908
(WY)	1980	1976	1984	1979	1979	1936	1993	1989	1972	1984	1933	1987
MIN	33.2	41.1	71.0	61.3	166	159	166	148	92.0	63.4	30.3	40.9
(WY)	1931	1931	1931	1981	1931	1981	1985	1965	1965	1963	1957	1957

SUMMARY STATISTICS

	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL TOTAL	107442		188445			
ANNUAL MEAN	294	‡304	516	‡529	392	‡404
HIGHEST ANNUAL MEAN					753	1972
LOWEST ANNUAL MEAN					143	1981
HIGHEST DAILY MEAN	3200	Mar 27	4890	Mar 24	47600	Jun 23 1972
LOWEST DAILY MEAN	70	Sep 20	67	Sep 2	7.0	Aug 11 1930
ANNUAL SEVEN-DAY MINIMUM	79	Sep 16	70	Aug 28	20	Aug 9 1930
INSTANTANEOUS PEAK FLOW			5950	Mar 5	a50300	Jun 23 1972
INSTANTANEOUS PEAK STAGE			9.60	Mar 5	b27.90	Jun 23 1972
INSTANTANEOUS LOW FLOW			63	Sep 3		
ANNUAL RUNOFF (CFSM)	.91	‡.94	1.59	‡1.63	1.21	‡1.25
ANNUAL RUNOFF (INCHES)	12.34	‡12.79	21.64	‡22.19	16.44	‡16.93
10 PERCENT EXCEEDS	485		1280		799	
50 PERCENT EXCEEDS	231		280		254	
90 PERCENT EXCEEDS	106		100		84	

‡ Adjusted for diversion.

a From rating curve extended above 13,000 ft³/s on basis of slope-area measurement at gage height 17.50 ft and contracted-opening measurement of peak flow.

b From floodmark.

CONESTOGA RIVER BASIN

01576520 MUDDY RUN AT WEAVERTOWN, PA

LOCATION.--Lat 40°02'51", long 76°09'43", Lancaster County, Hydrologic Unit 02050306, on left bank 200 feet upstream from bridge on North Harvest Road (Township Route 692), 0.9 mi northeast of Weavertown, 1.3 mi south of Mascot, 2.0 mi west of Intercourse, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--6.68 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1992 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 350 ft above sea level, from topographic map.

REMARKS.--Records fair. Several measurements of water temperature were made during the year. Satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	3.3	4.4	3.5	2.1
2	---	---	---	---	---	---	---	---	3.4	4.3	3.4	2.4
3	---	---	---	---	---	---	---	---	3.7	6.4	3.4	2.5
4	---	---	---	---	---	---	---	---	3.8	5.0	3.5	2.6
5	---	---	---	---	---	---	---	---	8.8	4.4	3.4	2.5
6	---	---	---	---	---	---	---	---	5.7	4.3	3.2	2.6
7	---	---	---	---	---	---	---	---	5.2	4.2	3.1	2.8
8	---	---	---	---	---	---	---	---	4.7	4.0	3.1	2.5
9	---	---	---	---	---	---	---	---	4.6	4.1	3.2	2.7
10	---	---	---	---	---	---	---	---	4.3	3.9	3.1	2.8
11	---	---	---	---	---	---	---	---	4.1	4.0	4.3	3.4
12	---	---	---	---	---	---	---	---	4.3	3.9	3.8	3.1
13	---	---	---	---	---	---	---	---	4.3	3.9	3.5	3.0
14	---	---	---	---	---	---	---	---	4.2	5.1	3.4	2.8
15	---	---	---	---	---	---	---	---	4.2	4.3	3.4	2.6
16	---	---	---	---	---	---	---	---	3.9	4.2	3.8	2.2
17	---	---	---	---	---	---	---	---	3.8	5.8	3.8	1.7
18	---	---	---	---	---	---	---	---	3.8	5.9	3.7	1.8
19	---	---	---	---	---	---	---	---	7.5	3.9	3.2	3.0
20	---	---	---	---	---	---	---	---	55	3.8	3.1	2.8
21	---	---	---	---	---	---	---	---	6.2	3.8	2.8	2.5
22	---	---	---	---	---	---	---	---	5.3	4.4	2.8	3.1
23	---	---	---	---	---	---	---	---	4.9	4.2	2.7	3.0
24	---	---	---	---	---	---	---	---	5.1	4.1	3.0	2.1
25	---	---	---	---	---	---	---	---	4.9	3.9	3.3	2.9
26	---	---	---	---	---	---	---	---	4.8	3.8	3.3	9.0
27	---	---	---	---	---	---	---	---	4.6	3.8	3.3	4.7
28	---	---	---	---	---	---	---	---	4.5	3.7	3.2	3.7
29	---	---	---	---	---	---	---	---	4.4	3.6	3.2	3.4
30	---	---	---	---	---	---	---	---	4.7	3.6	3.0	3.6
31	---	---	---	---	---	---	---	---	---	3.7	2.4	---
TOTAL	---	---	---	---	---	---	---	---	192.0	132.4	101.9	89.9
MEAN	---	---	---	---	---	---	---	---	6.40	4.27	3.29	3.00
MAX	---	---	---	---	---	---	---	---	55	6.4	4.3	9.0
MIN	---	---	---	---	---	---	---	---	3.3	3.6	2.4	1.7
CFSM	---	---	---	---	---	---	---	---	.96	.64	.49	.45
IN.	---	---	---	---	---	---	---	---	1.07	.74	.57	.50

CONESTOGA RIVER BASIN

01576520 MUDDY RUN AT WEAVERTOWN, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.5	3.7	5.3	e4.0	e4.0	39	15	11	4.4	4.7	3.9
2	3.5	3.6	3.6	5.1	e4.0	e4.5	25	14	9.0	4.5	4.6	3.8
3	3.5	7.0	3.5	5.1	e3.9	7.1	19	13	8.9	5.9	4.6	5.4
4	3.5	3.8	3.5	5.1	e3.7	59	17	13	11	5.1	4.5	11
5	3.4	3.8	3.6	6.2	e3.6	19	16	14	11	4.5	4.5	4.6
6	3.4	4.3	3.9	5.3	e3.5	12	16	14	11	4.2	7.3	4.2
7	3.4	3.7	3.4	5.2	e3.4	11	15	13	9.8	4.5	5.2	3.9
8	3.4	3.5	3.4	5.4	e3.3	10	15	13	10	4.4	4.5	4.2
9	4.9	3.4	3.2	5.3	e3.2	9.5	14	12	11	4.0	4.0	4.1
10	5.6	3.5	5.6	5.1	e3.2	9.1	43	12	9.9	3.8	4.0	6.5
11	4.6	3.5	16	4.9	e3.2	e9.0	30	12	9.0	3.5	4.7	4.1
12	3.9	3.5	6.7	6.0	e3.4	e8.6	18	12	8.2	3.4	5.0	4.0
13	3.7	12	5.4	7.9	4.6	e7.2	17	12	7.8	3.3	5.1	3.9
14	3.6	4.0	5.1	6.7	4.1	e7.2	16	11	7.6	17	4.4	3.8
15	3.7	3.8	4.8	6.4	3.7	e7.0	16	11	7.5	7.7	4.1	4.8
16	3.6	3.7	4.7	6.1	5.7	e6.8	45	11	6.8	5.9	3.7	7.8
17	3.5	3.5	10	5.8	7.5	24	24	11	6.6	5.9	3.8	4.8
18	3.5	3.5	6.6	5.4	5.7	18	18	11	6.5	5.8	3.7	4.5
19	3.5	3.4	5.8	5.3	4.5	14	17	12	6.1	5.9	3.3	4.2
20	3.5	3.4	6.6	5.2	e4.2	13	16	11	5.9	5.9	12	4.0
21	3.4	3.4	5.8	5.2	e4.2	19	18	11	6.8	5.7	8.8	4.4
22	3.4	4.1	5.8	6.4	e4.7	18	51	10	6.6	5.5	4.6	4.0
23	3.4	17	6.0	5.3	e4.4	25	20	10	5.6	5.4	4.4	4.0
24	3.6	4.9	e5.2	5.2	e4.3	52	18	9.8	5.1	5.3	4.4	3.9
25	3.9	4.8	e5.1	5.1	e4.0	25	17	9.5	4.8	5.3	4.0	4.0
26	3.4	4.3	e4.9	e4.9	e4.0	20	20	9.2	4.7	5.5	3.8	8.9
27	3.4	4.1	e4.8	e4.7	e3.9	19	18	9.0	4.8	5.2	3.8	33
28	3.4	4.1	e5.2	e4.6	e3.8	18	16	8.9	4.5	4.8	6.1	8.6
29	3.4	3.9	5.6	e4.6	---	25	15	8.7	4.5	5.2	5.3	5.9
30	3.4	3.7	6.0	e4.5	---	19	15	8.6	4.5	4.7	4.0	5.4
31	3.5	---	5.8	e4.3	---	17	---	10	---	4.6	4.0	---
TOTAL	113.4	138.7	169.3	167.6	115.7	517.0	644	351.7	226.5	166.8	150.9	179.6
MEAN	3.66	4.62	5.46	5.41	4.13	16.7	21.5	11.3	7.55	5.38	4.87	5.99
MAX	5.6	17	16	7.9	7.5	59	51	15	11	17	12	33
MIN	3.4	3.4	3.2	4.3	3.2	4.0	14	8.6	4.5	3.3	3.3	3.8
CFSM	.55	.69	.82	.81	.62	2.50	3.21	1.70	1.13	.81	.73	.90
IN.	.63	.77	.94	.93	.64	2.88	3.59	1.96	1.26	.93	.84	1.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	3.66	4.62	5.46	5.41	4.13	16.7	21.5	11.3	6.97	4.83	4.08	4.49
MAX	3.66	4.62	5.46	5.41	4.13	16.7	21.5	11.3	7.55	5.38	4.87	5.99
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	3.66	4.62	5.46	5.41	4.13	16.7	21.5	11.3	6.40	4.27	3.29	3.00
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992	1992

SUMMARY STATISTICS

FOR 1993 WATER YEAR

WATER YEARS 1992 - 1993

ANNUAL TOTAL	2941.2											
ANNUAL MEAN	8.06								8.06			
HIGHEST ANNUAL MEAN									8.06			1993
LOWEST ANNUAL MEAN									8.06			1993
HIGHEST DAILY MEAN	59	Mar	4						59	Mar	4	1993
LOWEST DAILY MEAN	3.2	Dec	9						1.7	Sep	17	1992
ANNUAL SEVEN-DAY MINIMUM	3.3	Feb	6						2.4	Sep	15	1992
INSTANTANEOUS PEAK FLOW	226	Mar	4						a350	Jun	20	1992
INSTANTANEOUS PEAK STAGE	4.30	Mar	4						4.80	Jun	20	1992
INSTANTANEOUS LOW FLOW	.43	Feb	1						.43	Feb	1	1993
ANNUAL RUNOFF (CFSM)	1.21								1.21			
ANNUAL RUNOFF (INCHES)	16.38								16.39			
10 PERCENT EXCEEDS	17								15			
50 PERCENT EXCEEDS	5.2								4.6			
90 PERCENT EXCEEDS	3.5								3.3			

a From rating curve extended above 60 ft³/s.

e Estimated.

CONESTOGA RIVER BASIN

01576520 MUDDY RUN AT WEAVERTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1992 to current year.

REMARKS.--Operated as part of the Mill Creek project. The following water-quality data were collected and analyzed by the Pennsylvania Department of Environmental Resources. Samples collected during stormflows were not analyzed for dissolved constituents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N (00623)	PHOS- PHORUS TOTAL (MG/L) AS P (00665)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)
FEB												
23...	1110	3.9	31	12.3	12.1	0.280	0.210	0.98	0.58	0.190	0.100	0.009
MAR												
25...	1020	24	12	15.5	15.2	0.060	0.040	0.71	0.54	0.440	0.350	0.270
APR												
14...	1030	16	<2	17.6	17.6	0.060	0.040	0.30	0.30	0.170	0.150	0.090
MAY												
18...	1245	11	42	13.5	13.6	0.080	0.070	0.54	0.54	0.110	0.013	0.013
JUN												
01...	1050	9.9	38	10.4	10.2	0.170	0.170	1.8	1.2	0.250	0.190	0.002
JUL												
13...	1315	2.3	16	11.0	11.0	0.040	0.040	1.3	0.96	0.150	0.120	0.068
AUG												
12...	1325	3.6	24	8.78	8.70	<0.020	<0.020	0.63	0.54	0.130	0.100	0.020
20...	1900	3.9	204	9.92	--	<0.020	--	1.1	--	0.580	--	--
20...	2000	64	1880	5.32	--	0.050	--	8.7	--	3.08	--	--
20...	2100	75	1220	1.72	--	0.130	--	7.8	--	3.30	--	--
21...	0200	16	138	6.05	--	0.040	--	1.9	--	1.62	--	--
21...	0600	9.9	132	6.53	--	0.050	--	1.9	--	1.02	--	--
28...	2000	5.8	68	10.2	--	<0.020	--	1.3	--	0.390	--	--
28...	2130	13	138	9.20	--	0.070	--	2.0	--	0.960	--	--
28...	2230	20	122	9.68	--	0.040	--	2.5	--	1.26	--	--
29...	0030	12	142	7.26	--	0.070	--	3.0	--	1.68	--	--
SEP												
03...	2230	14	100	10.4	--	0.240	--	2.8	--	0.720	--	--
04...	0130	12	94	6.29	--	0.370	--	3.6	--	1.32	--	--
04...	0400	9.2	78	5.57	--	0.550	--	3.6	--	1.50	--	--
04...	0600	38	363	6.29	--	0.320	--	6.9	--	3.18	--	--
04...	0930	14	156	4.60	--	0.580	--	4.2	--	2.52	--	--
04...	1330	7.1	50	6.05	--	0.630	--	3.6	--	1.62	--	--
15...	0755	2.6	30	10.2	9.70	0.130	0.110	1.0	1.0	0.230	0.174	0.034
27...	0230	3.3	182	5.81	--	0.720	--	3.7	--	2.10	--	--
27...	1230	3.2	76	10.2	--	0.120	--	1.4	--	0.370	--	--
27...	1510	140	4940	1.98	--	2.58	--	12	--	8.69	--	--
27...	1730	124	2110	1.89	--	1.34	--	10	--	4.56	--	--
29...	2000	4.1	42	9.20	--	0.030	--	1.2	--	0.370	--	--

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA
(National water-quality assessment station)

LOCATION.--Lat 40°00'36", long 76°16'39", Lancaster County, Hydrologic Unit 02050306, at bridge on Eshelman Mill Road (Township Route 476), 0.8 mi east of Lyndon, 2.2 mi southeast of Lancaster, and 4.2 mi upstream from mouth.
DRAINAGE AREA.--54.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 250 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	22	25	43	39	e33	388	123	99	39	42	19
2	18	22	25	40	32	e35	239	120	79	44	33	16
3	18	67	26	40	46	e45	155	115	76	56	14	32
4	17	39	27	40	39	242	135	112	77	44	15	128
5	18	29	29	50	37	337	126	114	76	35	15	44
6	17	37	28	46	e35	119	118	116	78	37	46	32
7	17	31	29	41	e33	95	109	107	74	72	51	24
8	17	26	28	43	e32	88	106	102	73	72	22	27
9	32	24	29	43	e32	83	101	102	81	33	19	36
10	67	24	38	41	e34	79	251	110	78	25	16	51
11	29	24	148	39	e35	74	403	108	71	25	16	33
12	29	27	69	47	e37	68	141	104	64	30	21	27
13	22	79	52	67	46	73	122	105	58	15	30	25
14	19	39	46	59	43	169	114	102	57	76	27	25
15	23	30	43	52	40	89	111	108	52	54	30	26
16	18	28	42	49	53	71	320	128	47	8.4	31	81
17	22	28	71	47	78	139	337	126	47	5.6	36	46
18	19	28	77	45	57	259	152	126	44	18	35	36
19	21	27	53	43	43	128	140	130	46	33	30	31
20	23	27	55	43	e33	104	134	128	50	36	69	29
21	22	24	53	43	e32	137	132	125	62	33	87	30
22	27	30	48	51	e43	158	691	120	61	29	34	31
23	20	155	46	46	e40	190	181	118	56	30	29	26
24	24	48	46	43	e37	632	157	117	52	35	26	26
25	38	40	41	43	e35	228	148	115	51	30	26	27
26	25	37	41	41	e34	174	169	111	44	5.9	22	72
27	22	34	e38	41	e34	154	180	109	50	17	25	173
28	21	32	e37	41	e33	150	139	103	45	27	31	148
29	22	30	e40	39	---	193	132	78	45	20	44	47
30	21	28	e44	39	---	175	127	76	44	14	20	39
31	23	---	46	39	---	133	---	86	---	19	19	---
TOTAL	730	1116	1420	1384	1112	4654	5758	3444	1837	1017.9	961	1387
MEAN	23.5	37.2	45.8	44.6	39.7	150	192	111	61.2	32.8	31.0	46.2
MAX	67	155	148	67	78	632	691	130	99	76	87	173
MIN	17	22	25	39	32	33	101	76	44	5.6	14	16
CFSM	.43	.69	.85	.82	.73	2.77	3.54	2.05	1.13	.61	.57	.85
IN.	.50	.77	.97	.95	.76	3.19	3.95	2.36	1.26	.70	.66	.95

SUMMARY STATISTICS

FOR 1993 WATER YEAR

ANNUAL TOTAL	24820.9
ANNUAL MEAN	68.0
HIGHEST DAILY MEAN	691
LOWEST DAILY MEAN	5.6
ANNUAL SEVEN-DAY MINIMUM	17
INSTANTANEOUS PEAK FLOW	1210
INSTANTANEOUS PEAK STAGE	26.64
INSTANTANEOUS LOW FLOW	4.9
ANNUAL RUNOFF (CFSM)	1.25
ANNUAL RUNOFF (INCHES)	17.04
10 PERCENT EXCEEDS	136
50 PERCENT EXCEEDS	43
90 PERCENT EXCEEDS	22

e Estimated.

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1992 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to current year.

TEMPERATURE: April 1993 to current year.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--Interruptions in the daily record were due to malfunctions of the equipment. All water-quality samples were collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122. For a complete list of pesticides analyzed and their corresponding reporting levels, see tables 3, 4, pages 126, 127.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
MAR										
10...	1030	78	682	8.2	--	5.5	--	--	--	300
APR										
07...	0925	110	653	8.4	8.0	9.0	762	11.3	98	300
14...	0945	114	640	8.2	10.0	11.0	761	10.5	95	290
21...	0955	107	697	8.1	18.5	14.5	745	--	--	280
28...	0945	117	630	8.1	12.5	11.5	761	11.7	107	280
MAY										
05...	0935	89	677	8.2	19.0	16.0	761	8.4	85	310
12...	0915	82	690	8.0	23.5	18.5	761	7.6	82	290
19...	0910	107	708	8.1	14.5	14.0	761	8.2	80	310
26...	0930	89	707	8.1	20.0	18.0	758	7.9	84	300
JUN										
02...	1000	80	674	8.0	17.0	15.0	756	8.8	88	280
09...	0915	77	680	8.1	26.0	18.5	755	6.3	68	290
16...	0840	48	701	8.2	21.0	20.0	759	7.7	85	300
23...	1100	58	682	8.3	23.5	21.5	757	8.6	98	280
30...	0915	44	673	8.1	25.0	22.5	755	6.8	79	280
JUL										
07...	0820	77	678	8.0	27.0	25.0	757	6.2	76	290
14...	0950	5.8	744	8.1	27.0	24.5	758	5.9	71	300
21...	0930	33	697	8.1	26.0	21.5	756	7.1	81	290
28...	0930	32	691	8.1	26.5	23.0	754	6.6	78	280
AUG										
04...	0950	15	772	8.1	27.5	23.5	756	6.8	81	280
18...	0915	35	748	8.0	23.5	22.5	758	6.6	77	280
SEP										
01...	1020	19	722	8.3	28.0	24.0	757	6.1	73	260
15...	0950	25	773	8.1	24.5	21.0	759	6.0	68	290
29...	1110	47	460	7.3	14.0	14.0	761	8.1	79	190

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)
MAR										
10...	57	71	29	20	13	0.5	5.1	290	0	240
APR										
07...	100	72	29	15	10	0.4	4.8	240	0	200
14...	93	70	29	15	10	0.4	4.3	250	0	200
21...	72	82	18	7.7	6	0.2	3.6	250	0	210
28...	72	69	27	14	10	0.4	4.5	250	0	200
MAY										
05...	91	75	30	20	12	0.5	4.2	270	0	220
12...	70	69	29	20	13	0.5	4.5	270	0	220
19...	89	74	31	25	15	0.6	4.4	270	0	220
26...	72	72	30	23	14	0.6	4.7	280	0	230
JUN										
02...	81	67	28	21	14	0.5	5.8	250	0	200
09...	85	67	29	23	15	0.6	4.5	250	0	200
16...	80	69	31	23	14	0.6	2.9	270	0	220
23...	56	65	29	23	15	0.6	6.2	270	3.6	220
30...	64	66	29	24	15	0.6	5.4	270	0	220
JUL										
07...	59	65	30	24	15	0.6	6.2	280	0	230
14...	73	69	31	37	21	0.9	6.8	280	0	230
21...	70	66	30	29	18	0.7	6.0	270	0	220
28...	57	64	30	30	18	0.8	5.6	280	0	230
AUG										
04...	59	61	31	43	24	1	7.1	270	0	220
18...	80	66	29	47	26	1	7.2	250	0	200
SEP										
01...	67	60	27	40	24	1	6.2	240	0	190
15...	73	65	30	43	24	1	7.9	260	0	210
29...	50	48	16	14	13	0.4	11	170	0	130

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SULFATE DIS- SOLVED (MG/L AS SO ₄) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO ₂) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO ₃) (71851)
MAR										
10...	43	41	<0.10	6.3	387	412	0.53	81.5	12.0	53
APR										
07...	43	31	<0.10	4.9	383	366	0.52	114	11.0	49
14...	43	29	0.10	4.4	367	369	0.50	113	12.0	53
21...	33	19	0.10	11	336	347	0.46	97.1	11.0	49
28...	34	29	0.10	6.4	382	354	0.52	121	11.0	49
MAY										
05...	43	37	0.10	5.6	386	396	0.52	92.9	11.0	48
12...	43	37	0.10	6.0	387	390	0.53	85.7	10.9	48
19...	45	46	0.40	7.6	413	421	0.56	119	11.9	53
26...	45	42	0.20	7.2	409	412	0.56	98.4	10.9	48
JUN										
02...	42	40	<0.10	7.3	391	377	0.53	84.5	9.92	44
09...	43	40	0.10	7.5	412	380	0.56	85.7	9.93	44
16...	44	44	0.10	6.3	416	395	0.57	53.9	9.56	42
23...	41	43	<0.10	6.5	393	392	0.53	61.5	9.44	42
30...	40	44	0.10	5.8	430	389	0.58	51.1	9.45	42
JUL										
07...	42	42	0.10	6.6	401	389	0.55	83.4	8.25	37
14...	33	59	0.10	6.1	454	414	0.62	7.11	7.96	35
21...	42	48	0.10	6.5	420	399	0.57	37.4	9.06	40
28...	20	50	<0.10	4.7	421	375	0.57	36.4	7.77	34
AUG										
04...	50	67	0.10	4.7	461	433	0.63	18.7	7.97	35
18...	50	70	0.10	6.3	422	431	0.57	39.9	7.16	32
SEP										
01...	47	62	0.10	4.8	403	397	0.55	20.7	7.26	32
15...	50	66	0.10	6.8	433	438	0.59	29.2	9.17	41
29...	29	23	0.20	6.7	254	255	0.35	32.2	5.35	24
DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO ₂) (71856)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH ₄) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR										
10...	0.040	0.13	12.0	0.060	0.08	0.24	0.40	0.30	12	0.130
APR										
07...	0.030	0.10	11.0	0.040	0.05	0.16	0.40	0.20	11	0.110
14...	0.030	0.10	12.0	0.030	0.04	0.37	0.30	0.40	12	0.100
21...	0.010	0.03	11.0	0.020	0.03	--	<0.20	<0.20	--	0.030
28...	0.030	0.10	11.0	0.050	0.06	0.35	0.50	0.40	11	0.130
MAY										
05...	0.050	0.16	11.0	0.060	0.08	0.34	0.40	0.40	11	0.090
12...	0.080	0.26	11.0	0.050	0.06	0.35	0.50	0.40	11	0.120
19...	0.080	0.26	12.0	0.090	0.12	0.71	0.60	0.80	13	0.170
26...	0.060	0.20	11.0	0.050	0.06	0.25	0.30	0.30	11	0.120
JUN										
02...	0.080	0.26	10.0	0.100	0.13	0.50	0.70	0.60	11	0.240
09...	0.070	0.23	10.0	0.070	0.09	0.43	0.60	0.50	10	0.160
16...	0.040	0.13	9.60	0.040	0.05	0.46	0.50	0.50	10	0.190
23...	0.060	0.20	9.50	0.050	0.06	0.35	0.50	0.40	9.9	0.160
30...	0.050	0.16	9.50	0.050	0.06	0.15	0.50	0.20	9.7	0.170
JUL										
07...	0.050	0.16	8.30	0.050	0.06	0.35	0.50	0.40	8.7	0.230
14...	0.040	0.13	8.00	0.050	0.06	0.45	0.50	0.50	8.5	0.200
21...	0.040	0.13	9.10	0.040	0.05	0.36	0.60	0.40	9.5	0.220
28...	0.030	0.10	7.80	0.040	0.05	0.36	0.40	0.40	8.2	0.180
AUG										
04...	0.030	0.10	8.00	0.050	0.06	0.45	0.40	0.50	8.5	0.190
18...	0.040	0.13	7.20	0.070	0.09	0.43	0.60	0.50	7.7	0.210
SEP										
01...	0.040	0.13	7.30	0.070	0.09	0.53	0.70	0.60	7.9	0.230
15...	0.030	0.10	9.20	0.050	0.06	0.55	0.50	0.60	9.8	0.200
29...	0.050	0.16	5.40	0.190	0.24	0.71	1.3	0.90	6.3	0.750

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR										
10...	0.070	0.070	0.21	11	47	1.8	0.7	36	7.6	70
APR										
07...	0.060	0.060	0.18	5	35	12	0.2	57	17	62
14...	0.070	0.060	0.18	5	23	19	0.7	48	15	55
21...	0.030	0.010	0.03	3	9	2.6	0.5	89	26	69
28...	0.080	0.070	0.21	7	27	2.4	0.8	48	15	79
MAY										
05...	0.080	0.060	0.18	15	23	3.6	0.9	85	20	51
12...	0.100	0.090	0.28	9	19	5.3	0.2	41	9.1	78
19...	0.110	0.080	0.25	7	31	4.3	1.1	49	14	85
26...	0.100	0.090	0.28	5	13	6.7	1.0	94	23	65
JUN										
02...	0.120	0.100	0.31	14	14	4.7	1.1	52	11	93
09...	0.090	0.100	0.31	5	13	4.9	1.4	64	13	88
16...	0.170	0.100	0.31	8	10	2.1	0.5	41	5.3	51
23...	0.140	0.130	0.40	13	14	3.1	0.7	23	3.6	92
30...	0.140	0.140	0.43	11	15	2.7	0.7	18	2.1	100
JUL										
07...	0.190	0.160	0.49	16	16	3.1	0.7	31	6.4	80
14...	0.150	0.150	0.46	6	23	2.8	0.6	8	0.13	100
21...	0.200	0.160	0.49	7	17	2.7	0.4	18	1.6	99
28...	0.150	0.130	0.40	11	13	2.7	0.4	9	0.78	89
AUG										
04...	0.180	0.160	0.49	7	16	2.8	0.6	8	0.32	97
18...	0.190	0.180	0.55	10	20	3.4	0.5	18	1.7	91
SEP										
01...	0.220	0.200	0.61	<3	21	5.2	0.4	10	0.51	85
15...	0.180	0.180	0.55	9	21	3.1	0.2	11	0.74	90
29...	0.500	0.480	1.5	160	35	6.2	3.0	74	9.4	98

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ALA- CHLOR, WATER, DISS, REC, ($\mu\text{G/L}$) (46342)	ATRA- ZINE, WATER, DISS, REC, ($\mu\text{G/L}$) (39632)	CHLOR- PYRIFOS DIS- SOLVED ($\mu\text{G/L}$) (38933)	CYANA- ZINE, WATER, DISS, REC, ($\mu\text{G/L}$) (04041)	DCPA WATER FLTRD 0.7 μ GF, REC (82682)	DESETHYL ATRA- ZINE, WATER, DISS, REC, ($\mu\text{G/L}$) (04040)
MAR								
10...	1030	78	<0.013	0.110	<0.007	<0.019	<0.005	0.065
APR								
07...	0925	110	0.015	0.110	<0.007	<0.019	<0.005	0.040
14...	0945	114	0.014	0.120	<0.007	<0.019	<0.005	0.049
21...	0955	107	<0.013	0.110	<0.007	<0.019	<0.005	0.025
28...	0945	117	<0.013	0.110	<0.007	<0.019	<0.005	0.035
MAY								
05...	0935	89	<0.013	0.120	0.010	<0.019	<0.005	0.032
12...	0915	82	<0.013	0.130	<0.007	<0.019	<0.005	0.036
19...	0910	107	<0.013	0.170	<0.007	0.021	<0.005	0.041
26...	0930	89	<0.013	0.130	<0.007	<0.019	<0.005	0.084
JUN								
02...	1000	80	0.160	0.780	0.008	0.050	<0.005	0.046
09...	0915	77	<0.013	0.180	<0.007	<0.019	<0.005	0.120
16...	0840	48	<0.013	0.140	<0.007	<0.019	<0.005	0.076
23...	1100	58	<0.013	0.280	<0.007	0.037	<0.005	0.110
30...	0915	44	<0.013	0.180	<0.007	0.027	<0.005	0.120
JUL								
07...	0820	77	<0.013	0.160	0.010	<0.019	<0.005	0.140
14...	0950	5.8	<0.013	0.140	<0.007	<0.019	<0.005	0.088
21...	0930	33	<0.013	0.160	<0.007	<0.019	<0.005	0.090
28...	0930	32	<0.013	0.130	<0.007	<0.019	<0.005	0.100
AUG								
04...	0950	15	<0.013	0.120	<0.007	<0.019	<0.005	0.083
18...	0915	35	<0.013	0.120	<0.007	<0.019	<0.005	0.076
SEP								
01...	1020	19	<0.013	0.110	<0.007	<0.019	<0.005	0.040
15...	0950	25	<0.013	0.096	<0.007	<0.019	<0.005	0.043
29...	1110	47	<0.013	0.097	<0.007	<0.019	0.007	0.047

DATE	DI- AZINON, DIS- SOLVED ($\mu\text{G/L}$) (39572)	MALA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39532)	METO- LACHLOR WATER DISSOLV ($\mu\text{G/L}$) (39415)	METRI- BUZIN SENCOR WATER DISSOLV ($\mu\text{G/L}$) (82630)	NAPROP- AMIDE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82684)	PRO- METON, WATER, DISS, REC ($\mu\text{G/L}$) (04037)	SI- MAZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04035)	TER- BACIL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82665)
MAR								
10...	<0.012	<0.014	0.051	<0.012	<0.010	0.059	0.059	0.340
APR								
07...	<0.012	<0.014	0.052	<0.012	<0.010	0.064	0.048	<0.030
14...	<0.012	<0.014	0.055	<0.012	<0.010	0.093	0.081	<0.030
21...	<0.012	<0.014	0.049	0.019	<0.010	0.093	0.460	<0.030
28...	<0.012	<0.010	0.063	<0.012	<0.010	0.150	0.350	<0.030
MAY								
05...	<0.012	0.020	0.053	<0.012	0.019	0.130	0.480	<0.030
12...	<0.012	<0.014	0.051	<0.012	<0.010	0.110	0.210	<0.030
19...	<0.012	<0.014	0.110	<0.012	<0.010	0.130	0.890	<0.030
26...	<0.012	<0.014	0.049	<0.012	<0.010	0.094	0.270	<0.030
JUN								
02...	<0.012	<0.014	0.480	<0.012	<0.010	0.260	1.30	<0.030
09...	<0.012	<0.014	0.089	<0.012	<0.010	0.150	0.320	<0.030
16...	<0.012	<0.014	0.035	<0.012	<0.010	0.098	0.460	<0.030
23...	<0.012	<0.014	0.200	<0.012	<0.010	1.40	0.280	<0.030
30...	<0.012	<0.014	0.079	<0.012	<0.010	0.200	0.590	<0.030
JUL								
07...	<0.012	<0.014	0.053	<0.012	<0.010	0.190	0.120	<0.030
14...	<0.012	<0.014	0.035	<0.012	<0.010	0.099	0.340	<0.030
21...	<0.012	<0.014	0.078	<0.012	<0.010	0.095	0.160	<0.030
28...	<0.012	<0.014	0.046	<0.012	<0.010	0.140	0.100	<0.030
AUG								
04...	<0.012	<0.014	0.031	<0.012	<0.010	0.150	0.190	<0.030
18...	<0.012	<0.014	0.040	<0.012	<0.010	0.190	0.130	<0.030
SEP								
01...	<0.012	<0.014	0.057	<0.012	<0.010	0.150	0.870	<0.030
15...	<0.012	<0.014	0.034	<0.012	<0.010	0.100	0.220	<0.030
29...	0.055	<0.014	0.110	<0.012	<0.010	0.087	0.089	<0.030

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- IFIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS03	07-13-93	0950	1.22	766	8.2	24.5	44	3.4	704	734	30
	07-13-93	0955	.23	766	8.2	24.5	16	1.4	972	1050	78

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

SPECIFIC CONDUCTANCE, $\mu\text{S}/\text{CM}$ @ 25 DEGREES CELSIUS, APRIL 1993 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	661	643	650
2	---	---	---	---	---	---	---	---	---	660	653	657
3	---	---	---	---	---	---	---	---	---	654	647	651
4	---	---	---	---	---	---	---	---	---	676	652	662
5	---	---	---	---	---	---	---	---	---	681	672	676
6	---	---	---	---	---	---	---	---	---	681	659	670
7	---	---	---	---	---	---	---	---	---	666	655	661
8	---	---	---	---	---	---	---	---	---	669	657	663
9	---	---	---	---	---	---	---	---	---	673	665	669
10	---	---	---	---	---	---	604	456	550	676	662	669
11	---	---	---	---	---	---	476	412	438	687	668	680
12	---	---	---	---	---	---	566	476	527	703	686	694
13	---	---	---	---	---	---	623	566	595	687	658	676
14	---	---	---	---	---	---	662	622	644	661	655	659
15	---	---	---	---	---	---	681	659	669	658	651	654
16	---	---	---	---	---	---	686	658	678	666	653	660
17	---	---	---	---	---	---	658	613	626	693	658	670
18	---	---	---	---	---	---	658	630	644	704	691	699
19	---	---	---	---	---	---	674	653	663	714	698	706
20	---	---	---	---	---	---	695	671	681	718	710	714
21	---	---	---	---	---	---	702	693	697	720	710	715
22	---	---	---	---	---	---	699	543	604	725	714	719
23	---	---	---	---	---	---	604	575	589	725	689	705
24	---	---	---	---	---	---	631	602	617	705	633	655
25	---	---	---	---	---	---	658	629	642	693	640	670
26	---	---	---	---	---	---	663	648	658	712	692	703
27	---	---	---	---	---	---	649	610	623	714	707	710
28	---	---	---	---	---	---	634	610	622	715	704	709
29	---	---	---	---	---	---	643	629	635	709	693	703
30	---	---	---	---	---	---	649	638	643	693	629	656
31	---	---	---	---	---	---	---	---	---	678	602	667
MONTH	---	---	---	---	---	---	702	412	621	725	602	679

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	669	609	648	731	680	707	778	748	767	---	---	---
2	676	655	669	733	672	716	749	728	737	---	---	---
3	678	647	659	682	646	669	762	742	754	---	---	---
4	680	665	673	730	668	701	771	762	767	663	504	608
5	759	666	715	679	646	666	771	759	766	693	592	638
6	759	713	727	673	645	662	761	654	722	592	535	559
7	730	716	723	680	664	675	750	669	696	567	538	551
8	730	681	704	681	548	632	755	736	746	665	565	620
9	692	670	679	714	644	684	750	693	725	740	665	714
10	714	689	704	735	713	725	694	673	682	722	587	661
11	703	682	691	733	718	728	733	692	714	747	705	720
12	711	698	705	741	717	732	747	731	737	727	698	712
13	718	703	711	753	738	745	759	710	744	735	720	727
14	722	705	715	745	550	700	783	754	769	723	697	705
15	717	696	709	624	512	575	791	766	784	760	667	730
16	704	689	698	559	533	546	773	744	764	696	629	649
17	757	692	738	605	556	573	750	742	746	722	629	668
18	760	732	747	679	605	647	758	746	752	638	605	619
19	754	710	740	705	679	697	761	745	755	605	572	586
20	711	695	704	699	687	694	746	661	731	672	574	604
21	721	681	701	712	693	701	687	641	666	673	630	661
22	712	693	703	728	712	721	684	643	665	685	650	665
23	694	668	683	739	725	733	643	593	618	682	650	666
24	674	654	664	742	731	737	593	573	581	731	676	699
25	764	671	731	744	735	739	604	574	585	709	678	692
26	753	728	742	739	734	736	621	604	615	728	571	661
27	728	701	716	740	715	730	616	607	613	---	---	---
28	712	662	697	715	678	690	---	---	---	---	---	---
29	669	647	658	719	679	697	---	---	---	542	437	486
30	687	644	671	754	706	732	---	---	---	633	506	574
31	---	---	---	781	752	769	---	---	---	---	---	---
MONTH	764	609	701	781	512	692	791	573	711	760	437	647
YEAR	791	412	679									

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

ADDITIONAL REMARKS.--The following pesticide analyses were collected as part of a pilot study of agricultural pesticides. Samples collected by the U.S. Geological Survey and analyzed by the Pennsylvania Department of Environmental Resources.

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	ALA- CHLOR TOTAL RECOVER (μ G/L) (77825)	ALDRIN, TOTAL (μ G/L) (39330)	ATRA- ZINE WATER UNFLTRD REC (μ G/L) (39630)	CHLOR- DANE, TOTAL (μ G/L) (39350)
FEB									
09...	1210	38	844	8.1	1.0	<0.08	<0.050	<0.2	<0.063
MAR									
04...	1045	84	683	7.4	5.0	<0.08	<0.005	<0.2	<0.063
05...	0010	1060	276	7.3	1.5	<0.08	<0.005	<0.2	<0.063
05...	1530	192	410	7.3	3.0	<0.08	<0.005	<0.2	<0.063
MAY									
20...	0910	127	707	7.6	13.5	<0.08	<0.005	<0.2	<0.063
JUN									
07...	1240	76	702	7.8	16.5	<0.08	<0.005	<0.2	<0.063
JUL									
06...	1115	29	690	8.1	25.0	<0.08	0.007	<0.2	<0.063
08...	0230	92	625	8.0	25.5	<0.08	<0.005	<0.2	<0.063
08...	0435	107	612	8.0	25.0	<0.08	--	0.3	<0.063
14...	1533	26	678	7.6	26.0	<0.08	<0.005	<0.2	<0.063
14...	1640	210	595	7.5	25.5	<0.08	<0.005	<0.2	<0.063
14...	1720	298	587	7.3	26.0	<0.08	<0.005	0.3	<0.063
15...	0650	68	548	7.4	24.0	<0.08	<0.005	0.8	<0.063
AUG									
20...	2115	328	442	7.4	22.0	0.09	<0.005	<0.2	<0.063
20...	2150	330	497	7.5	22.0	--	--	--	--
20...	2335	180	447	7.6	22.0	<0.08	0.006	<0.2	<0.063
SEP									
23...	0845	25	742	8.1	14.5	<0.08	<0.005	<0.2	<0.063
27...	1600	144	439	7.2	17.5	<0.08	<0.005	<0.2	<0.063
27...	1742	287	428	7.4	18.0	<0.08	<0.005	<0.2	<0.063
27...	2250	626	422	7.5	18.0	0.11	<0.005	<0.2	<0.063
28...	0700	150	304	7.6	16.0	<0.08	<0.005	<0.2	<0.063
28...	0701	150	--	--	--	<0.08	<0.005	<0.2	<0.063

DATE	CYAN- AZINE TOTAL (μ G/L) (81757)	DI- ELDRIN TOTAL (μ G/L) (39380)	MALA- THION, TOTAL (μ G/L) (39530)	METOLA- CHLOR WATER WHOLE TOT. REC (μ G/L) (82612)	PRO- PAZINE TOTAL (μ G/L) (39024)	SIMA- ZINE TOTAL (μ G/L) (39055)	TOX- APHENE, TOTAL (μ G/L) (39400)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
FEB									
09...	<0.40	<0.100	<0.20	<0.20	<0.20	<0.20	<1	25	2.6
MAR									
04...	<0.40	<0.010	<0.20	<0.20	<0.20	1.9	<1	244	55
05...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	3440	9850
05...	<0.40	<0.010	<0.20	<0.20	<0.20	0.35	<1	242	125
MAY									
20...	<0.40	<0.010	<0.20	0.27	<0.20	0.78	<1	92	32
JUN									
07...	<0.40	<0.010	<0.20	<0.20	<0.20	0.85	<1	26	5.3
JUL									
06...	0.59	0.013	<0.16	0.25	<0.20	0.32	<1	22	1.7
08...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	242	60
08...	<0.40	--	<0.16	<0.20	<0.20	<0.20	<1	242	70
14...	<0.40	<0.010	<0.16	<0.20	<0.20	0.41	<1	181	13
14...	<0.40	<0.010	<0.16	0.28	<0.20	1.3	<1	1630	924
14...	<0.40	<0.010	<0.16	0.73	<0.20	0.73	<1	1250	1010
15...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	228	42
AUG									
20...	<0.40	<0.010	<0.16	0.25	<0.20	<0.20	<1	1390	1230
20...	--	--	--	--	--	--	--	1130	1010
20...	<0.40	<0.010	<0.16	<0.20	<0.20	0.28	<1	375	182
SEP									
23...	<0.40	<0.010	<0.16	<0.20	<0.20	0.32	<1	11	0.74
27...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1020	397
27...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	478	370
27...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1620	2740
28...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	429	174
28...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	--	--

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

ADDITIONAL REMARKS.--The following water-quality data were collected and analyzed by the Pennsylvania Department of Environmental Resources. Samples collected during stormflows were not analyzed for dissolved constituents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB												
23...	1320	50	6	9.40	9.40	0.020	0.020	0.54	0.54	0.080	0.060	0.003
MAR												
25...	1115	214	95	9.68	8.95	0.230	0.150	1.6	0.89	0.900	0.516	0.460
APR												
14...	1120	114	17	11.0	11.1	<0.020	<0.020	0.35	0.26	0.120	0.079	<0.002
MAY												
18...	1345	124	26	12.1	11.6	0.050	0.050	0.36	0.31	0.120	0.110	<0.002
JUN												
01...	1155	106	114	8.71	7.99	0.110	0.080	1.3	0.62	--	0.142	0.002
JUL												
13...	1400	13	6	8.70	8.70	<0.020	<0.020	0.75	0.72	0.210	0.180	0.140
AUG												
12...	1025	21	8	9.24	8.78	0.060	<0.020	0.53	0.51	0.210	0.210	0.150
SEP												
03...	1830	39	1070	5.81	--	0.100	--	6.0	--	1.86	--	--
03...	2230	130	438	5.80	--	0.050	--	2.8	--	0.990	--	--
03...	2330	150	640	5.08	--	0.100	--	3.4	--	1.44	--	--
04...	0500	135	574	5.56	--	0.080	--	4.0	--	1.20	--	--
04...	0630	197	488	6.05	--	0.070	--	3.0	--	1.14	--	--
04...	2030	86	278	5.57	--	0.060	--	2.6	--	0.780	--	--
15...	1400	24	8	8.78	8.78	0.060	0.050	0.62	0.62	0.220	0.211	0.072
27...	0500	52	2270	4.60	--	0.830	--	3.9	--	1.32	--	--
27...	1600	144	1210	5.32	--	1.32	--	11	--	3.30	--	--
27...	2100	524	450	5.57	--	0.460	--	3.6	--	1.56	--	--
27...	2300	626	1170	5.57	--	0.640	--	7.3	--	2.64	--	--

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA

LOCATION.--Lat 39°56'47", long 76°22'05", Lancaster County, Hydrologic Unit 02050306, on left bank on SR 3030, 1,500 ft downstream from Little Conestoga Creek, 1.0 mi west of Conestoga, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--470 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-86-2: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 180.45 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	223	158	423	521	433	378	4900	1330	614	278	181	150
2	203	168	403	468	e360	390	6400	1240	550	314	175	149
3	190	707	373	431	387	452	4260	1160	473	565	176	192
4	181	926	358	421	404	1340	2670	1100	474	437	168	1150
5	171	420	349	585	393	6390	2050	1130	460	324	170	641
6	167	388	349	984	e350	2520	1820	1270	456	299	299	309
7	156	401	326	610	e330	1660	1640	1070	446	304	366	244
8	156	301	317	563	e330	1670	1510	970	430	489	287	232
9	227	268	319	594	e370	1510	1410	919	477	295	228	606
10	822	246	338	551	357	1300	2420	880	484	273	213	462
11	575	235	1760	503	359	1180	5110	849	440	252	206	307
12	347	240	1530	538	365	1040	2370	830	396	248	224	260
13	309	356	938	794	452	e1000	1920	881	374	241	354	231
14	255	496	677	1060	482	e800	1670	806	367	416	289	216
15	229	307	586	783	432	e850	1560	747	359	664	225	213
16	219	265	539	689	447	938	1920	708	350	365	203	934
17	196	248	775	648	925	1410	4390	701	342	286	261	729
18	185	236	1540	619	850	3640	2100	684	329	253	295	486
19	179	233	830	583	582	1940	1750	711	331	263	211	381
20	184	226	736	548	507	1530	1580	702	336	310	271	329
21	182	214	755	528	493	1650	1490	696	365	297	490	310
22	179	232	645	587	520	2030	4830	636	461	265	317	312
23	179	3100	618	683	543	2360	2720	599	374	238	232	292
24	177	1950	597	575	487	6390	1900	586	322	226	205	269
25	218	875	546	551	428	4540	1690	572	306	210	192	259
26	186	723	492	549	418	3140	1730	551	295	210	179	477
27	196	595	470	502	408	2590	2800	531	291	214	172	1030
28	172	543	479	484	393	2370	1710	509	309	207	171	2010
29	166	482	528	471	---	2440	1510	494	316	251	212	647
30	163	450	545	452	---	2670	1410	475	293	216	160	453
31	165	---	556	423	---	2020	---	476	---	196	149	---
TOTAL	7157	15989	19697	18298	12805	64138	75240	24813	11820	9406	7281	14280
MEAN	231	533	635	590	457	2069	2508	800	394	303	235	476
MAX	822	3100	1760	1060	925	6390	6400	1330	614	664	490	2010
MIN	156	158	317	421	330	378	1410	475	291	196	149	149
CFSM	.49	1.13	1.35	1.26	.97	4.40	5.34	1.70	.84	.65	.50	1.01
IN.	.57	1.27	1.56	1.45	1.01	5.08	5.96	1.96	.94	.74	.58	1.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1993, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	341	507	608	672	780	870	825	799	488
MAX	651	717	1086	1119	1264	2069	2508	2148	1277
(WY)	1990	1987	1987	1991	1986	1993	1993	1989	1989
MIN	231	257	276	343	323	366	274	397	223
(WY)	1993	1992	1990	1992	1992	1985	1985	1991	1991

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1985 - 1993

ANNUAL TOTAL	152478	280924	
ANNUAL MEAN	417	770	599
HIGHEST ANNUAL MEAN			770
LOWEST ANNUAL MEAN			389
HIGHEST DAILY MEAN	4450	Mar 27	6400
LOWEST DAILY MEAN	116	Sep 21	149
ANNUAL SEVEN-DAY MINIMUM	133	Sep 16	166
INSTANTANEOUS PEAK FLOW			8250
INSTANTANEOUS PEAK STAGE			8.15
INSTANTANEOUS LOW FLOW			132
ANNUAL RUNOFF (CFSM)	.89		1.64
ANNUAL RUNOFF (INCHES)	12.07		22.23
10 PERCENT EXCEEDS	663		1740
50 PERCENT EXCEEDS	338		453
90 PERCENT EXCEEDS	181		196

e Estimated.

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY RECORDS

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

INSTRUMENTATION.--Automatic pumping sampler used to collect storm-flow nutrient and sediment samples since October 1986.

REMARKS.--Monthly base-flow samples collected from bridge on River Road 1.6 miles downstream from gage.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission (SRBC) and analyzed by the Pennsylvania Department of Environmental Resources. Suspended-sediment samples analyzed by the SRBC.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE FIELD (μ S/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT										
15...	1030	307	572	7.8	14.0	6.29	6.29	0.090	0.080	0.69
NOV										
19...	1030	233	598	6.5	7.0	6.05	6.05	0.190	0.180	0.78
23...	0430	1550	588	7.4	--	7.26	7.26	0.230	0.230	4.2
23...	0630	1950	560	7.6	--	5.80	5.80	0.280	0.280	2.7
23...	0830	1830	552	7.7	--	5.54	5.54	0.340	0.340	1.8
23...	1030	1990	517	7.7	--	7.50	7.50	0.480	0.480	1.9
23...	1230	3070	484	7.7	--	5.32	5.32	0.460	0.460	3.3
DEC										
08...	0930	311	638	6.1	4.0	8.47	8.47	0.160	0.090	0.37
JAN										
05...	1130	633	593	7.9	20.0	8.18	8.18	0.170	0.160	0.65
07...	1055	564	440	7.8	7.0	5.81	5.81	0.440	0.110	0.84
27...	1015	502	600	7.5	3.0	7.26	7.26	0.050	0.050	0.53
FEB										
09...	1100	270	652	7.9	10.0	8.95	8.95	0.140	0.140	0.44
MAR										
04...	1210	940	570	6.6	5.5	7.26	7.26	0.350	0.350	2.0
04...	1345	1400	507	6.0	--	7.02	7.02	0.400	0.370	6.5
04...	1545	1930	496	6.5	--	6.53	6.53	0.520	0.520	4.6
04...	1745	2340	486	6.8	--	6.53	6.53	0.360	0.360	3.3
05...	1015	8100	--	6.1	--	2.64	2.64	1.15	0.950	9.0
05...	1100	8150	200	7.8	--	2.13	2.13	0.920	0.920	9.0
05...	1300	7920	226	7.9	--	2.64	2.64	1.08	0.810	6.0
05...	1500	7100	230	7.9	--	2.64	2.64	0.740	0.660	4.4
05...	1700	6310	240	7.8	--	3.04	3.04	0.860	0.850	3.0
05...	1900	5310	240	7.7	--	3.30	3.30	0.580	0.580	2.9
05...	2100	4470	238	7.6	--	3.96	3.96	0.630	0.560	2.6
05...	2300	3990	235	7.6	--	4.11	4.11	0.520	0.520	2.3
06...	0100	3730	270	7.7	--	6.77	6.77	0.480	0.450	2.3
06...	0500	3290	260	7.8	--	4.84	4.84	0.420	0.420	2.1
06...	0700	3060	270	7.8	--	5.08	5.08	0.560	0.420	1.8
06...	0900	2830	280	7.9	--	5.32	5.32	0.780	0.380	1.3
06...	1100	2600	285	7.9	--	5.57	5.57	0.520	0.520	1.5
06...	1150	2520	320	7.9	4.5	5.32	5.32	0.370	0.340	1.5
06...	1300	2440	328	7.8	--	6.05	6.05	0.420	0.340	1.6
06...	1500	2290	300	7.9	--	6.29	6.29	0.460	0.460	1.3
06...	1700	2190	305	7.9	--	6.53	6.53	0.330	0.330	1.3
06...	1900	2090	320	7.9	--	6.77	6.77	0.310	0.310	1.5
06...	2100	2000	320	7.9	--	7.02	7.02	0.370	0.360	1.4
07...	0100	1900	328	8.0	--	7.50	7.50	0.320	0.310	1.4
07...	1100	1760	360	8.0	--	8.23	8.23	0.210	0.190	1.1
23...	1345	2300	330	7.6	--	8.23	8.23	0.170	0.170	0.87
23...	2215	2960	290	7.7	--	6.53	6.53	0.270	0.230	1.3
24...	0015	3340	258	7.8	--	6.53	6.53	0.260	0.230	1.0
24...	0215	3670	285	7.8	--	6.29	6.29	0.260	0.260	1.0
24...	0415	4120	280	7.8	--	6.53	6.53	0.320	0.300	1.5
24...	0815	6360	280	7.8	--	7.02	7.02	0.270	0.270	1.8
24...	1015	7160	275	7.9	--	7.26	7.26	0.370	0.330	2.0
24...	1415	8000	351	7.6	--	5.08	5.08	0.340	0.090	3.2
24...	1615	8000	323	7.6	--	4.36	4.36	0.420	0.300	3.2
24...	1815	7830	310	7.6	--	4.36	4.36	0.430	0.230	2.1
24...	2015	7530	308	7.8	--	4.36	4.36	0.530	0.260	2.6
24...	2215	7040	312	7.6	--	4.60	4.60	0.370	0.270	2.2
25...	0015	6520	322	7.5	--	4.84	4.84	0.220	0.220	2.5
25...	0215	6100	332	7.5	--	5.08	5.08	0.330	0.250	1.8
25...	0415	5780	340	7.5	--	5.08	5.08	0.270	0.250	1.6
25...	0615	5480	346	7.5	--	5.32	5.32	0.230	0.230	1.7
25...	0815	5130	357	7.6	--	5.56	5.56	0.370	0.210	1.4
25...	1015	4790	365	7.5	--	6.05	6.05	0.350	0.200	1.1
25...	1215	4300	360	7.1	--	6.53	6.53	0.260	--	1.2
25...	1615	3810	395	7.3	--	6.53	6.53	0.180	0.170	1.2
25...	2015	3510	411	7.3	--	7.26	7.26	0.160	0.140	1.1
26...	0015	3370	428	7.1	--	7.74	7.74	0.150	0.140	0.98
26...	0615	3510	448	7.1	--	8.23	8.23	0.230	0.110	0.89
26...	1015	3340	448	7.1	--	8.23	8.23	0.190	0.160	0.91
27...	1035	2590	486	7.3	9.0	8.95	8.95	0.150	0.030	0.75
28...	1105	2370	548	7.9	10.0	8.47	8.47	0.110	0.070	0.67
29...	1120	2440	539	7.9	10.0	7.74	7.74	0.080	0.080	0.68

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, AM- ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)
OCT										
15...	0.69	0.78	0.77	7.1	0.270	0.220	0.190	5.8	7	5.8
NOV										
19...	0.72	0.97	0.90	7.0	0.200	0.160	0.120	4.6	5	3.1
23...	1.4	4.4	1.6	12	1.38	0.320	0.250	13	411	1720
23...	1.4	2.9	1.7	8.7	0.930	0.310	0.260	8.8	286	1510
23...	1.1	2.1	1.5	7.7	0.760	0.390	0.340	7.3	139	687
23...	1.1	2.4	1.6	9.8	0.730	0.420	0.360	8.8	136	731
23...	1.2	3.8	1.7	9.1	1.14	0.380	0.320	8.1	391	3240
DEC										
08...	0.38	0.53	0.47	9.0	0.110	0.090	0.060	2.8	1	0.84
JAN										
05...	0.66	0.82	0.82	9.0	0.130	0.090	0.030	2.9	19	32
07...	0.92	1.3	1.0	7.1	0.240	0.130	0.090	5.2	31	47
27...	0.43	0.58	0.48	7.8	0.070	0.050	0.030	2.5	1	1.4
FEB										
09...	0.44	0.58	0.58	9.5	0.090	0.060	0.020	2.9	3	2.2
MAR										
04...	0.87	2.4	1.2	9.6	0.450	0.190	0.150	5.5	149	378
04...	1.1	6.9	1.5	14	2.10	0.290	0.190	15	1080	4070
04...	0.88	5.2	1.4	12	1.62	0.290	0.210	13	949	4950
04...	1.0	3.7	1.4	10	1.20	0.290	0.210	11	731	4620
05...	1.5	10	2.4	13	3.36	0.290	0.190	20	1980	43200
05...	0.91	10	1.8	12	3.60	0.250	0.010	29	2080	45800
05...	1.2	7.0	2.0	9.7	2.64	0.240	0.150	20	1540	33000
05...	1.3	5.1	2.0	7.8	1.80	0.250	0.170	13	1150	22000
05...	1.1	3.9	2.0	6.9	1.38	0.280	0.180	12	769	13100
05...	1.2	3.5	1.7	6.8	1.32	0.310	0.220	10	605	8670
05...	0.86	3.3	1.4	7.2	1.02	0.320	0.230	6.9	478	5770
05...	0.68	2.8	1.2	7.0	0.980	0.310	0.210	6.9	394	4240
06...	1.1	2.7	1.5	9.5	0.910	0.300	0.230	6.7	330	3320
06...	0.59	2.5	1.0	7.3	0.710	0.270	0.190	5.8	215	1910
06...	0.56	2.4	0.98	7.5	0.660	0.270	0.190	5.5	208	1720
06...	0.77	2.1	1.2	7.4	0.610	0.240	0.180	5.0	190	1450
06...	0.73	2.0	1.2	7.5	0.570	0.240	0.170	4.9	176	1240
06...	1.4	1.9	1.8	7.2	0.500	0.220	0.010	18	192	1310
06...	0.60	2.0	0.94	8.1	0.530	0.220	0.140	4.9	146	962
06...	0.58	1.8	1.0	8.1	0.480	0.220	0.160	3.9	150	927
06...	0.69	1.6	1.0	8.2	0.440	0.210	0.160	3.3	127	751
06...	0.57	1.8	0.88	8.6	0.430	0.210	0.150	4.4	116	655
06...	0.53	1.8	0.89	8.8	0.430	0.210	0.140	4.3	108	583
07...	0.65	1.7	0.96	9.2	0.400	0.200	0.150	3.8	82	421
07...	0.61	1.3	0.80	9.6	0.300	0.170	0.120	4.6	50	238
23...	0.49	1.0	0.66	9.3	0.210	0.120	0.060	1.7	67	416
23...	0.52	1.6	0.75	8.1	0.490	0.220	0.120	3.2	186	1490
24...	0.48	1.3	0.71	7.8	0.460	0.210	0.170	2.6	148	1330
24...	0.42	1.3	0.68	7.6	0.450	0.220	0.150	7.3	132	1310
24...	0.62	1.8	0.92	8.3	0.560	0.250	0.160	5.2	184	2050
24...	0.52	2.1	0.79	9.1	0.820	0.210	0.140	3.7	424	7280
24...	0.51	2.4	0.84	9.6	0.860	0.200	0.130	2.8	550	10600
24...	0.85	3.5	0.94	8.6	1.20	0.220	0.120	3.0	896	19400
24...	1.2	3.6	1.5	8.0	1.26	0.230	0.150	2.9	719	15500
24...	0.68	2.6	0.91	6.9	1.08	0.230	0.120	4.4	640	13500
24...	0.56	3.1	0.82	7.5	0.960	0.240	0.150	4.5	526	10700
24...	0.63	2.6	0.90	7.2	0.960	0.240	0.140	3.9	489	9290
25...	0.63	2.7	0.85	7.5	0.820	0.240	0.130	3.4	406	7150
25...	0.64	2.1	0.89	7.2	0.680	0.240	0.140	3.4	336	5530
25...	0.84	1.8	1.1	6.9	0.660	0.230	0.120	9.2	312	4870
25...	0.55	1.9	0.78	7.2	0.660	0.220	0.130	5.4	266	3940
25...	0.83	1.8	1.0	7.4	0.560	0.210	0.130	5.8	253	3500
25...	0.49	1.5	0.69	7.5	0.530	0.200	0.130	4.7	200	2590
25...	--	1.5	0.59	8.0	0.480	0.160	0.120	5.2	172	2000
25...	0.64	1.4	0.81	7.9	0.470	0.210	0.140	3.9	147	1510
25...	0.58	1.3	0.72	8.6	0.400	0.190	0.130	3.0	120	1140
26...	0.36	1.1	0.50	8.9	0.350	0.160	0.100	3.8	113	1030
26...	0.49	1.1	0.60	9.3	0.370	0.150	0.090	3.4	100	948
26...	0.94	1.1	1.1	9.3	0.330	0.160	0.110	3.2	98	884
27...	0.87	0.90	0.90	9.8	0.270	0.120	0.090	1.9	60	420
28...	0.32	0.78	0.39	9.2	0.190	0.080	0.060	2.0	58	371
29...	0.29	0.76	0.37	8.5	0.190	0.090	0.060	1.7	88	580

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE FIELD (μS/CM) (00094)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
APR										
01...	1130	3990	489	7.7	--	7.74	7.74	0.190	0.190	1.2
01...	1330	5420	474	7.8	--	7.74	7.74	0.170	0.170	1.4
01...	1530	6650	464	7.8	--	7.74	7.74	0.220	0.200	1.3
01...	1730	7290	418	7.8	--	5.32	5.32	0.240	0.220	1.2
01...	1930	7470	342	7.7	--	4.60	4.60	0.260	0.230	1.6
01...	2130	7080	315	7.7	--	4.11	4.11	0.290	0.240	1.4
01...	2330	8150	308	7.6	--	3.87	3.87	0.280	0.230	1.1
02...	0030	5270	388	7.6	--	6.53	6.53	0.190	0.170	1.3
02...	0130	7730	307	7.6	--	4.35	4.35	0.290	0.240	1.5
02...	0530	6450	337	7.6	--	4.84	4.84	0.270	0.240	1.8
02...	0730	6570	354	7.7	--	5.57	5.57	0.270	0.220	1.6
02...	1130	6680	380	7.6	--	5.81	5.81	0.260	0.200	1.7
02...	1530	6840	379	7.6	--	6.05	6.05	0.230	0.190	0.80
02...	1930	6350	361	7.6	--	5.57	5.57	0.210	0.170	1.6
02...	2130	6120	369	7.6	--	5.57	5.57	0.210	0.180	1.7
03...	1045	4540	419	7.7	--	7.50	7.50	0.190	0.170	1.5
03...	1330	4360	435	7.7	--	7.74	7.74	0.210	0.200	0.78
03...	1700	4140	450	7.8	--	7.74	7.74	0.190	0.180	0.98
04...	1300	2560	481	7.7	--	8.47	8.47	0.110	0.110	0.67
21...	1215	1530	605	7.6	14.0	1.56	1.56	0.050	0.050	0.47
29...	1130	1570	496	7.0	14.0	8.23	8.23	0.050	0.040	0.45
MAY										
05...	1015	1110	572	7.6	12.0	9.68	9.68	0.060	0.060	0.39
12...	1100	834	539	7.9	22.0	9.20	9.20	<0.020	<0.020	0.52
20...	1030	723	630	7.8	14.0	10.2	10.2	0.070	0.070	0.34
JUN										
07...	1250	479	649	7.9	20.0	9.92	9.92	0.040	0.030	0.55
16...	1204	379	--	8.4	25.0	--	--	--	--	--
a 16...	1205	379	700	8.4	25.0	9.68	9.68	0.030	0.030	0.60
JUL										
07...	1125	322	613	7.3	30.0	7.26	7.26	<0.020	<0.020	0.72
07...	1130	322	--	7.3	30.0	--	--	--	--	--
AUG										
16...	1100	199	752	7.2	26.0	7.50	7.50	0.030	0.020	0.65
SEP										
23...	1030	313	690	7.9	17.5	7.74	7.74	0.030	0.030	0.79
28...	0315	2810	--	7.4	--	--	--	--	--	--
28...	0515	3680	--	7.0	--	--	--	--	--	--
28...	0715	3440	350	7.2	--	4.84	4.84	0.330	0.230	5.2
28...	0915	2870	340	7.3	--	4.60	4.60	0.460	0.270	4.0
28...	1115	2300	310	7.2	--	4.11	4.11	0.430	0.250	2.5
28...	1315	1890	280	7.3	--	3.63	3.63	0.490	0.280	2.6
28...	1515	1520	270	7.3	--	3.39	3.39	0.520	0.270	2.2
29...	1130	649	290	7.3	--	3.63	3.63	0.330	0.190	1.9

a Dissolved oxygen (00300) is 8.1 MG/L; Alkalinity, unfiltered water (00410) is 172 MG/L as CaCO₃; Triazine screen (ELISA) as Atrazine (34756) is 0.72 μG/L.

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR										
01...	0.55	1.4	0.74	9.1	0.510	0.120	0.070	3.6	265	2850
01...	1.1	1.5	1.3	9.3	0.570	0.120	0.070	3.4	402	5880
01...	1.2	1.5	1.4	9.3	0.500	0.130	0.090	3.8	543	9750
01...	1.2	1.4	1.4	6.7	0.690	0.150	0.090	4.5	653	12900
01...	0.64	1.9	0.87	6.5	0.680	0.200	0.130	6.2	764	15400
01...	0.93	1.7	1.2	5.8	0.770	0.210	0.130	7.2	758	14500
01...	1.2	1.4	1.4	5.3	0.620	0.200	0.140	7.1	596	13100
02...	0.59	1.5	0.76	8.0	0.440	0.140	0.090	4.0	153	2180
02...	1.5	1.7	1.7	6.1	0.670	0.190	0.140	5.1	437	9120
02...	1.6	2.1	1.9	7.0	0.730	0.190	0.140	4.8	293	5100
02...	1.5	1.8	1.7	7.4	0.690	0.190	0.130	4.6	265	4700
02...	1.8	2.0	2.0	7.8	0.390	0.160	0.120	4.9	298	5370
02...	0.44	1.0	0.63	7.1	0.870	0.170	0.110	4.4	373	6890
02...	0.83	1.9	1.0	7.4	0.500	0.140	0.090	4.6	290	4980
02...	0.97	1.9	1.2	7.5	0.570	0.140	0.090	4.2	233	3850
03...	0.83	1.7	1.0	9.2	0.370	0.140	0.080	3.7	115	1410
03...	0.51	0.99	0.71	8.7	0.350	0.130	0.080	3.4	109	1280
03...	0.65	1.2	0.83	8.9	0.280	0.110	0.060	3.3	87	972
04...	0.41	0.78	0.52	9.2	0.190	0.090	0.040	2.6	88	608
21...	0.26	0.52	0.31	2.1	0.120	0.070	0.030	2.2	42	174
29...	0.46	0.50	0.50	8.7	0.140	0.080	0.010	2.7	38	161
MAY										
05...	0.38	0.45	0.44	10	0.090	0.060	0.030	2.8	33	99
12...	--	0.52	0.44	9.7	0.110	0.080	0.040	2.7	16	36
20...	0.29	0.41	0.36	11	0.120	0.090	0.060	2.7	41	80
JUN										
07...	0.43	0.59	0.46	11	0.140	0.130	0.080	2.9	15	19
16...	--	--	--	--	--	--	--	--	13	13
16...	0.50	0.63	0.53	10	0.220	0.080	0.100	8.6	13	13
JUL										
07...	--	0.72	0.42	8.0	0.250	0.240	0.180	3.6	20	17
07...	--	--	--	--	--	--	--	--	--	--
AUG										
16...	0.51	0.68	0.53	8.2	0.260	0.190	0.090	<1.0	28	15
SEP										
23...	0.69	0.82	0.72	8.6	0.250	0.200	0.160	4.4	18	15
28...	--	--	--	--	--	--	--	--	991	7520
28...	--	--	--	--	--	--	--	--	1120	11100
28...	0.91	5.5	1.1	10	0.220	0.250	0.110	6.6	864	8020
28...	1.1	4.4	1.3	9.0	1.56	0.260	0.160	6.7	768	5950
28...	0.82	3.0	1.1	7.1	1.44	0.240	0.170	7.0	652	4050
28...	1.0	3.1	1.3	6.8	1.20	0.280	0.180	7.3	562	2870
28...	0.85	2.7	1.1	6.1	1.01	0.270	0.160	7.3	483	1980
29...	1.0	2.2	1.2	5.8	0.740	0.320	0.190	8.1	271	475

CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	ALA- CHLOR TOTAL RECOVER (μ G/L) (77825)	ALDRIN, TOTAL (μ G/L) (39330)	ATRA- ZINE WATER UNFLTRD REC (μ G/L) (39630)	CHLOR- DANE, TOTAL (μ G/L) (39350)
FEB									
09...	1100	270	652	7.9	10.0	<0.08	<0.005	<0.2	<0.063
MAR									
04...	1210	940	570	6.6	5.5	<0.08	0.10	<0.2	<0.063
05...	1015	8100	274	6.1	--	<0.08	<0.005	<0.2	<0.063
06...	1150	2520	320	7.9	--	<0.08	<0.005	<0.2	<0.063
MAY									
20...	1030	723	630	7.8	14.5	<0.08	<0.005	<0.2	<0.063
JUN									
07...	1250	479	649	7.9	20.0	<0.08	<0.005	0.2	<0.063
16...	1204	379	700	8.4	25.0	0.17	<0.005	0.2	<0.063
JUL									
07...	1125	322	613	7.3	30.0	0.24	<0.005	0.2	<0.063
07...	1130	322	613	7.3	30.0	0.24	<0.005	0.2	<0.063
SEP									
23...	1030	313	690	7.9	17.5	<0.08	<0.005	<0.2	<0.063
28...	0315	2810	380	7.4	--	<0.08	<0.005	<0.2	<0.063
28...	0515	3680	340	7.0	--	<0.08	<0.005	<0.2	<0.063
28...	1115	2300	310	7.2	--	0.14	<0.005	<0.2	<0.063

DATE	CYAN- AZINE TOTAL (μ G/L) (81757)	DI- ELDRIN TOTAL (μ G/L) (39380)	MALA- THION, TOTAL (μ G/L) (39530)	METOLA- CHLOR WATER WHOLE TOT.REC (μ G/L) (82612)	PRO- PAZINE TOTAL (μ G/L) (39024)	SIMA- ZINE TOTAL (μ G/L) (39055)	TOX- APHENE, TOTAL (μ G/L) (39400)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
FEB									
09...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	3	2.2
MAR									
04...	<0.40	0.39	<0.20	<0.20	<0.20	1.7	<1	149	378
05...	<0.40	<0.010	<0.20	<0.20	--	<0.20	<1	1980	43300
06...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	192	1310
MAY									
20...	<0.40	<0.010	<0.20	<0.20	<0.20	0.75	<1	41	80
JUN									
07...	<0.40	<0.010	<0.20	<0.20	0.20	0.45	<1	15	19
16...	<0.40	<0.010	<0.20	<0.20	<0.20	0.46	<1	13	13
JUL									
07...	<0.40	0.010	<0.16	<0.20	<0.20	0.39	<1	20	17
07...	<0.40	<0.010	<0.16	<0.20	<0.20	0.44	<1	--	--
SEP									
23...	<0.40	<0.010	<0.16	0.35	<0.20	<0.20	<1	18	15
28...	<0.40	<0.010	<0.16	0.43	<0.20	<0.20	<1	991	7520
28...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1120	11100
28...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	652	4050

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA

LOCATION.--Lat 39°54'21", long 76°19'43", Lancaster County, Hydrologic Unit 02050306, at bridge on State Highway 324 at Martic Forge, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--148 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1977 to September 1981, February 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 227 ft above sea level, by barometer. February 1977 to September 1981, water-stage recorder at same site, datum 228.50 ft above sea level, by barometer.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	122	e96	894	384	298	129	94	83
2	---	---	---	---	102	e100	778	368	208	134	93	81
3	---	---	---	---	139	e120	532	353	199	158	91	87
4	---	---	---	---	121	855	469	344	196	140	89	242
5	---	---	---	---	115	1590	439	346	194	128	90	129
6	---	---	---	---	e106	420	413	364	192	123	138	95
7	---	---	---	---	e100	312	389	330	185	127	173	87
8	---	---	---	---	e100	299	371	313	184	212	109	93
9	---	---	---	---	e98	270	358	304	192	127	99	108
10	---	---	---	---	e104	243	643	297	195	120	95	132
11	---	---	---	---	e107	232	1130	290	176	117	93	121
12	---	---	---	---	115	212	510	285	168	115	100	88
13	---	---	---	---	144	221	446	308	165	112	252	85
14	---	---	---	---	138	163	415	283	163	277	108	83
15	---	---	---	---	124	e150	398	271	160	369	96	83
16	---	---	---	---	145	e145	768	263	159	139	92	165
17	---	---	---	---	252	522	882	261	155	121	104	130
18	---	---	---	---	183	775	483	254	154	116	138	128
19	---	---	---	---	137	405	439	269	153	116	97	104
20	---	---	---	---	e121	334	411	260	155	157	106	93
21	---	---	---	---	e110	445	396	255	186	118	330	92
22	---	---	---	---	e125	486	1360	239	200	111	116	96
23	---	---	---	---	e115	500	592	231	154	107	97	91
24	---	---	---	---	e110	1480	489	227	143	105	93	88
25	---	---	---	---	e105	798	457	222	140	102	90	87
26	---	---	---	---	e100	594	476	214	138	102	88	120
27	---	---	---	---	e98	521	559	208	140	102	85	464
28	---	---	---	---	e97	498	428	205	136	99	90	498
29	---	---	---	---	---	591	408	200	135	105	126	135
30	---	---	---	---	---	567	397	194	136	101	96	108
31	---	---	---	---	---	448	---	203	---	95	85	---
TOTAL	---	---	---	---	3433	14392	16730	8545	5159	4184	3553	3996
MEAN	---	---	---	---	123	464	558	276	172	135	115	133
MAX	---	---	---	---	252	1590	1360	384	298	369	330	498
MIN	---	---	---	---	97	96	358	194	135	95	85	81
CFSM	---	---	---	---	.83	3.14	3.77	1.86	1.16	.91	.77	.90
IN.	---	---	---	---	.86	3.62	4.21	2.15	1.30	1.05	.89	1.00

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

MEAN	161	142	193	432	258	315	279	204	167	138	114	141
MAX	363	235	336	773	647	616	558	276	266	220	167	403
(WY)	1980	1980	1978	1979	1979	1978	1993	1993	1978	1978	1978	1979
MIN	64.3	73.9	53.6	44.0	118	72.5	80.3	81.6	65.5	65.5	31.8	28.6
(WY)	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981

SUMMARY STATISTICS

FOR PERIOD OF RECORD

ANNUAL MEAN	208	
HIGHEST ANNUAL MEAN	296	1978
LOWEST ANNUAL MEAN	64.5	1981
HIGHEST DAILY MEAN	8590	Jan 26 1978
LOWEST DAILY MEAN	20	Aug 29 1981
ANNUAL SEVEN-DAY MINIMUM	21	Aug 24 1981
INSTANTANEOUS PEAK FLOW	12500	Jan 26 1978
INSTANTANEOUS PEAK STAGE	a16.44	Jan 26 1978
INSTANTANEOUS LOW FLOW	10	Jul 14 1981
ANNUAL RUNOFF (CFSM)	1.41	
ANNUAL RUNOFF (INCHES)	19.10	
10 PERCENT EXCEEDS	338	
50 PERCENT EXCEEDS	147	
90 PERCENT EXCEEDS	58	

a Site and datum then in use.

e Estimated.

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977-81, 1992 to current year.

PERIOD OF DAILY RECORD.--

KJELDAL NITROGEN DISCHARGE: February 1977 to March 1979.

NITRITE PLUS NITRATE DISCHARGE: February 1977 to March 1979.

PHOSPHORUS DISCHARGE: February 1977 to March 1979.

DISSOLVED ORGANIC CARBON DISCHARGE: February 1977 to March 1979.

SUSPENDED ORGANIC CARBON DISCHARGE: February 1977 to March 1979.

SUSPENDED SEDIMENT DISCHARGE: February 1977 to March 1979.

REMARKS.--Also operated as a miscellaneous station.

COOPERATION.--Agency analyzing codes: 9813 - Pennsylvania Department of Environmental Resources. Suspended-sediment samples analyzed by U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	ALA- CHLOR TOTAL RECOVER (μ G/L) (77825)	ALDRIN, TOTAL (μ G/L) (39330)	ATRA- ZINE WATER UNFLTRD REC (μ G/L) (39630)	CHLOR- DANE, TOTAL (μ G/L) (39350)
FEB										
09...	1255	9813	132	501	8.3	0.0	<0.08	<0.005	<0.2	<0.063
MAR										
04...	1325	9813	515	328	7.6	3.0	<0.08	<0.005	<0.2	<0.063
04...	1326	9813	515	--	--	--	<0.08	<0.005	<0.2	<0.063
05...	0530	9813	2460	185	7.6	1.5	<0.08	<0.005	<0.2	<0.063
05...	1615	9813	882	195	7.4	2.0	<0.08	<0.005	<0.2	<0.063
MAY										
20...	1025	9813	255	462	7.9	13.5	<0.08	<0.005	<0.2	<0.063
JUN										
07...	1115	9813	181	473	8.0	16.0	<0.08	<0.005	<0.2	<0.063
JUL										
06...	1215	9813	122	463	8.1	25.5	<0.08	<0.005	<0.2	<0.063
08...	0530	9813	183	462	8.3	26.5	<0.08	<0.005	<0.2	<0.063
08...	1010	9813	302	396	7.7	25.5	0.22	<0.005	1.4	<0.063
14...	1745	9813	181	391	7.9	25.0	<0.08	<0.005	0.2	<0.063
14...	2245	9813	835	268	7.3	24.5	<0.08	<0.005	0.7	<0.063
14...	2246	9813	835	--	--	--	0.08	<0.005	0.9	<0.063
14...	2247	80020	835	--	--	--	0.20	<0.040	1.1	<0.1
15...	1520	9813	325	386	7.4	24.5	<0.08	<0.005	0.2	<0.063
AUG										
13...	0910	9813	375	404	8.2	21.5	0.20	<0.005	<0.2	<0.063
13...	1115	9813	657	287	7.6	20.5	<0.08	<0.005	<0.2	<0.063
13...	1745	9813	185	239	7.7	21.0	<0.08	<0.005	<0.2	<0.063
13...	1746	9813	185	--	--	--	<0.08	<0.005	0.2	<0.063
SEP										
23...	0740	9813	90	474	8.2	15.5	<0.08	<0.005	<0.2	<0.063
23...	0741	9813	90	--	--	--	<0.08	<0.005	<0.2	<0.063
27...	1640	9813	212	--	7.6	--	0.10	0.007	<0.2	<0.063
27...	2025	9813	1700	199	7.4	18.0	<0.08	<0.005	<0.2	<0.063
28...	0740	9813	620	228	7.4	17.0	<0.08	<0.005	<0.2	<0.063

PEQUEA CREEK BASIN

01576787 PEQUEA CREEK AT MARTIC FORGE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	CYAN- AZINE TOTAL (UG/L) (81757)	DI- ELDRIN TOTAL (UG/L) (39380)	MALA- THION, TOTAL (UG/L) (39530)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L) (82612)	PRO- PAZINE TOTAL (UG/L) (39024)	SIMA- ZINE TOTAL (UG/L) (39055)	TOX- APHENE, TOTAL (UG/L) (39400)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
FEB									
09...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	5	1.8
MAR									
04...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	1070	1490
04...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	--	--
05...	<0.40	<0.010	<0.20	<0.20	<0.20	0.27	<1	4210	28000
05...	<0.40	<0.010	<0.20	<0.20	<0.20	0.28	<1	806	1920
MAY									
20...	<0.40	<0.010	<0.20	<0.20	<0.20	0.36	<1	27	19
JUN									
07...	<0.40	<0.010	<0.20	<0.20	<0.20	<0.20	<1	41	20
JUL									
06...	<0.40	<0.010	<0.16	<0.20	<0.20	0.38	<1	18	5.9
08...	<0.40	<0.010	<0.16	<0.20	<0.20	0.46	<1	72	36
08...	<0.40	<0.010	<0.16	<0.20	<0.20	0.55	<1	427	348
14...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	623	304
14...	<0.40	<0.010	<0.16	0.41	<0.20	0.28	<1	2930	6610
14...	<0.40	<0.010	<0.16	0.57	<0.20	0.31	<1	--	--
14...	<0.20	<0.020	--	1.5	<0.10	0.20	<2	--	--
15...	<0.40	<0.010	<0.16	0.47	<0.20	0.51	<1	393	345
AUG									
13...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	541	548
13...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1540	2730
13...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	416	208
13...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	--	--
SEP									
23...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	17	4.1
23...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	--	--
27...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	431	247
27...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	3930	18000
28...	<0.40	<0.010	<0.16	<0.20	<0.20	<0.20	<1	1470	2460

MUDDY CREEK BASIN

01577300 MUDDY CREEK AT MUDDY CREEK FORKS, PA
(National water-quality assessment station)

LOCATION.--Lat 39°48'27", long 76°28'34", York County, Hydrologic Unit 02050306, on right bank on downstream side of highway bridge on SR 2069 at Muddy Creek Forks, and 100 ft downstream from confluence of North and South Forks.

DRAINAGE AREA.--71.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 350 ft above sea level, from topographic map.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	121	51	44	31
2	---	---	---	---	---	---	---	---	88	67	43	30
3	---	---	---	---	---	---	---	---	87	79	40	38
4	---	---	---	---	---	---	---	---	86	59	41	84
5	---	---	---	---	---	---	---	---	85	52	50	41
6	---	---	---	---	---	---	---	---	82	49	91	35
7	---	---	---	---	---	---	---	---	78	51	74	33
8	---	---	---	---	---	---	---	---	80	53	57	43
9	---	---	---	---	---	---	---	---	98	54	50	42
10	---	---	---	---	---	---	---	---	94	56	49	54
11	---	---	---	---	---	---	---	---	78	51	48	34
12	---	---	---	---	---	---	---	---	74	53	65	32
13	---	---	---	---	---	---	---	---	72	51	72	31
14	---	---	---	---	---	---	---	---	70	52	55	30
15	---	---	---	---	---	---	---	---	69	58	48	31
16	---	---	---	---	---	---	---	---	67	52	46	58
17	---	---	---	---	---	---	---	---	64	49	197	73
18	---	---	---	---	---	---	---	---	63	48	108	60
19	---	---	---	---	---	---	---	---	74	50	47	44
20	---	---	---	---	---	---	---	---	93	60	42	37
21	---	---	---	---	---	---	---	---	82	50	43	40
22	---	---	---	---	---	---	---	---	78	47	36	38
23	---	---	---	---	---	---	---	---	64	44	34	36
24	---	---	---	---	---	---	---	---	61	43	34	35
25	---	---	---	---	---	---	---	---	59	44	33	35
26	---	---	---	---	---	---	---	---	57	46	31	67
27	---	---	---	---	---	---	---	---	56	48	29	89
28	---	---	---	---	---	---	---	---	52	43	39	74
29	---	---	---	---	---	---	---	---	52	55	50	48
30	---	---	---	---	---	---	---	---	53	45	33	42
31	---	---	---	---	---	---	---	---	---	44	31	---
TOTAL	---	---	---	---	---	---	---	---	2237	1604	1660	1365
MEAN	---	---	---	---	---	---	---	---	74.6	51.7	53.5	45.5
MAX	---	---	---	---	---	---	---	---	121	79	197	89
MIN	---	---	---	---	---	---	---	---	52	43	29	30
CFSM	---	---	---	---	---	---	---	---	1.04	.72	.74	.63
IN.	---	---	---	---	---	---	---	---	1.16	.83	.86	.71

MUDDY CREEK BASIN

01577300 MUDDY CREEK AT MUDDY CREEK FORKS, PA--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

REMARKS.--All water-quality samples collected and analyzed by the U.S. Geological Survey. Additional sites in the fixed-station network are shown in figure 10, page 122.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 15...	0915	225	123	7.4	14.0	9.5	751	--	--	42
MAY 12...	1205	143	122	8.0	26.0	17.5	761	10.4	108	41
17...	0905	125	121	7.6	18.0	13.0	761	10.3	98	42
JUN 14...	0920	71	125	7.1	19.5	15.5	758	8.9	90	43
JUL 14...	1340	55	116	7.7	30.0	25.5	753	8.7	108	41
AUG 16...	1005	46	124	7.6	28.5	20.5	756	8.7	97	42
SEP 07...	1010	34	132	7.6	23.0	19.0	756	8.7	95	45

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR-BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)
APR 15...	30	9.3	4.6	3.9	16	0.3	1.3	15	0	12
MAY 12...	26	8.7	4.6	3.9	17	0.3	1.2	18	0	15
17...	28	8.9	4.7	4.2	17	0.3	1.2	17	0	14
JUN 14...	26	9.0	4.9	4.5	18	0.3	1.3	21	0	17
JUL 14...	23	8.7	4.6	4.9	20	0.3	1.4	22	0	18
AUG 16...	20	9.2	4.6	5.2	20	0.3	1.7	26	0	22
SEP 07...	21	10	4.8	4.4	17	0.3	1.7	29	0	24

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
APR 15...	7.1	9.3	<0.10	4.8	71	71	0.10	43.1	5.19	23
MAY 12...	5.5	9.6	<0.10	4.6	71	70	0.10	27.4	--	--
17...	4.8	9.5	<0.10	5.2	82	70	0.11	27.7	--	--
JUN 14...	4.0	9.8	<0.10	6.3	68	75	0.09	13.0	--	--
JUL 14...	2.8	9.9	<0.10	6.0	83	71	0.11	12.3	4.89	22
AUG 16...	3.5	9.7	<0.10	5.5	72	72	0.10	8.94	--	--
SEP 07...	4.0	9.6	<0.10	5.5	75	73	0.10	6.89	--	--

MUDDY CREEK BASIN

01577300 MUDDY CREEK AT MUDDY CREEK FORKS, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 15...	0.010	0.03	5.20	0.020	0.03	0.18	<0.20	0.20	5.4	0.020
MAY 12...	<0.010	--	5.20	0.020	0.03	0.28	<0.20	0.30	5.5	0.020
MAY 17...	<0.010	--	5.30	0.020	0.03	0.18	<0.20	0.20	5.5	<0.010
JUN 14...	<0.010	--	5.60	0.020	0.03	--	<0.20	<0.20	--	0.010
JUL 14...	0.010	0.03	4.90	0.020	0.03	--	<0.20	<0.20	--	0.030
AUG 16...	<0.010	--	4.50	0.030	0.04	--	<0.20	<0.20	--	<0.010
SEP 07...	<0.010	--	4.10	0.050	0.06	--	<0.20	<0.20	--	0.030

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 15...	0.030	<0.010	--	12	14	2.4	0.1	7	4.3	100
MAY 12...	<0.010	<0.010	--	16	12	7.2	0.2	12	4.6	93
MAY 17...	<0.010	<0.010	--	16	14	13	0.3	11	3.7	75
JUN 14...	0.010	<0.010	--	21	17	4.5	0.4	15	2.9	92
JUL 14...	<0.010	<0.010	--	26	9	1.2	0.4	6	0.89	100
AUG 16...	0.010	<0.010	--	26	11	1.9	0.3	6	0.75	100
SEP 07...	0.010	0.020	0.06	29	14	1.6	0.3	6	0.55	74

ADDITIONAL REMARKS.--This data set was collected as part of an Ecological Survey of sites in the fixed-station network. Two samples were taken at each site; one from a richest-targeted habitat, and the second from a depositional-targeted habitat. A summary of data collected for the Ecological Survey of sites in the fixed-station network can be found on page 276.

Additional streams were sampled as part of an Ecological Synoptic survey. Only the richest-targeted habitat sample was taken at these sites. The synoptic sites are shown in figure 12, page 278. Data collected at synoptic sites can be found on pages 279-281.

ECOLOGICAL WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	TIME	STREAM VELO- CITY MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	CHLORO-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLORO-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH WEIGHT (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH FREE DRY WEIGHT (G/SQ M) ()
EFS07	06-29-93	1500	1.71	122	7.5	22.0	21	3.1	172	177	5
	06-29-93	1505	.36	125	7.5	22.0	62	3.2	668	728	60

POTOMAC RIVER BASIN

TOWOLOWAY CREEK BASIN

01613050 TOWOLOWAY CREEK NEAR NEEDMORE, PA

LOCATION.--Lat 39°53'54", long 78°07'57", Fulton County, Hydrologic Unit 02070004, on left bank 10 ft downstream from bridge on SR 3008, 0.2 mi upstream from Foster Creek, and 3.5 mi north of Needmore.

DRAINAGE AREA.--10.7 mi².

PERIOD OF RECORD.--Occasional discharge measurements and annual maximums, water years 1963-65. October 1965 to current year.

REVISED RECORDS.--WSP 2103: 1966-68(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 688.94 ft above sea level. Prior to Sept. 2, 1965, crest-stage gage at same site at datum 2.0 ft higher.

REMARKS.--Records poor. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	.70	9.8	47	e12	e2.8	67	27	3.2	.59	.15	.00
2	.72	1.9	8.6	31	e10	e2.8	135	22	2.3	11	.10	.00
3	.66	17	8.1	23	e9.4	e10	121	19	2.3	5.7	.42	.00
4	.59	7.7	6.9	20	e8.5	115	87	18	2.2	3.4	.18	2.3
5	.55	6.1	7.2	28	e8.2	122	60	27	2.6	2.1	.12	.56
6	.43	5.9	6.2	23	e7.6	72	46	17	2.3	1.5	.18	.23
7	.45	4.6	5.9	23	e7.4	59	37	12	1.7	1.1	.64	.13
8	.48	4.0	5.3	22	e7.0	81	31	11	3.1	.90	.32	.67
9	1.1	3.5	4.7	19	e6.3	109	27	11	3.3	.66	.14	.59
10	1.6	3.3	3.8	16	e5.8	98	96	10	2.3	.50	.15	.82
11	1.0	3.1	103	15	e5.6	70	115	9.4	1.8	.34	3.8	.46
12	1.0	6.0	79	17	e5.4	49	88	8.9	1.6	.23	1.1	.24
13	.75	34	54	28	e5.8	43	59	8.9	1.4	.11	.64	.20
14	.65	23	40	33	e5.2	55	45	7.9	1.3	.08	.41	.20
15	.68	16	30	31	e4.8	61	37	7.1	1.1	.05	.25	.16
16	.56	12	28	28	e4.8	36	244	7.0	1.1	.03	.18	.88
17	.41	9.9	78	24	e5.2	e33	133	7.8	.97	.01	.17	1.0
18	.51	8.5	99	19	e5.0	e33	70	7.1	1.0	.00	.11	.67
19	.50	7.4	66	15	e5.0	e32	47	9.9	.74	.00	.08	.51
20	.50	6.6	54	16	e4.0	e30	36	7.0	.76	.03	.06	.33
21	.52	7.8	51	20	e3.7	e35	45	5.9	.76	.04	.06	.33
22	.51	19	43	24	e3.6	63	85	5.1	.78	.08	.03	.50
23	.52	68	36	31	e3.5	170	74	4.7	.54	.02	.00	.49
24	.52	45	31	34	e3.4	225	53	4.4	.40	.00	.00	.39
25	.53	30	27	30	e3.3	113	41	4.0	.28	.00	.00	.44
26	.54	22	e21	26	e3.0	70	77	3.5	.36	.00	.00	2.8
27	.53	18	e18	e21	e2.9	57	85	3.1	1.4	.00	.00	4.9
28	.50	15	e5.0	e8.0	e2.9	66	57	2.9	.68	.00	.00	3.7
29	.52	13	e16	e6.0	---	67	42	2.6	.49	1.0	.00	2.1
30	.50	11	e17	e15	---	64	33	2.4	.56	.38	.00	1.3
31	.64	---	46	e13	---	54	---	2.6	---	.19	.00	---
TOTAL	19.77	430.00	1008.5	706.0	159.3	2097.6	2173	296.2	43.32	30.04	9.29	26.90
MEAN	.64	14.3	32.5	22.8	5.69	67.7	72.4	9.55	1.44	.97	.30	.90
MAX	1.6	68	103	47	12	225	244	27	3.3	11	3.8	4.9
MIN	.41	.70	3.8	6.0	2.9	2.8	27	2.4	.28	.00	.00	.00
CFSM	.06	1.34	3.04	2.13	.53	6.32	6.77	.89	.13	.09	.03	.08
IN.	.07	1.49	3.51	2.45	.55	7.29	7.55	1.03	.15	.10	.03	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1993, BY WATER YEAR (WY)

	MEAN	6.25	10.1	14.8	12.6	21.3	25.9	24.2	17.3	9.96	4.22	2.11	2.78
MAX	37.7	40.7	41.3	33.2	59.5	67.7	72.4	51.5	85.6	39.7	9.93	16.4	
(WY)	1991	1986	1973	1991	1986	1993	1993	1988	1972	1989	1989	1975	
MIN	.13	.65	1.35	.54	3.89	5.44	5.19	3.53	.38	.065	.000	.002	
(WY)	1992	1983	1981	1981	1980	1990	1968	1976	1991	1966	1966	1991	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1966 - 1993
ANNUAL TOTAL	3531.39	6999.92	
ANNUAL MEAN	9.65	19.2	12.5
HIGHEST ANNUAL MEAN			21.5
LOWEST ANNUAL MEAN			5.21
HIGHEST DAILY MEAN	111 Mar 27	244 Apr 16	868 Jun 22 1972
LOWEST DAILY MEAN	e.10 Feb 13	.00 Jul 18 ^a	.00 Jun 25 1966 ^b
ANNUAL SEVEN-DAY MINIMUM	c.14 Feb 8	.00 Aug 23	.00 Jul 1 1966
INSTANTANEOUS PEAK FLOW		742 Apr 16	d1300 Jun 22 1972
INSTANTANEOUS PEAK STAGE		f8.43 Apr 16	9.17 Jun 22 1972
INSTANTANEOUS LOW FLOW		.00 Jul 17 ^g	.00 Jul 18 1991 ^b
ANNUAL RUNOFF (CFSM)	.90	1.79	1.17
ANNUAL RUNOFF (INCHES)	12.28	24.34	15.83
10 PERCENT EXCEEDS	25	60	31
50 PERCENT EXCEEDS	3.9	5.0	4.9
90 PERCENT EXCEEDS	.52	.14	.31

^a Also July 19, 24-28, Aug. 23-Sept. 3.

^b No flow many days throughout period of record.

^c Determined using estimated daily discharges.

^d From rating curve extended above 540 ft³/s on basis of contracted-opening measurement of peak flow.

^e Estimated.

^f Backwater from temporary causeway.

^g July 18-20, 23-29, Aug. 23-Sept. 4.

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 1993

Station name and number	Location and drainage area	Period of Record	Water year 1993 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
SUSQUEHANNA RIVER BASIN								
CHEMUNG RIVER BASIN								
Crooked Creek below Catlin Hollow at Middlebury Center, Pa. (01518420)	Lat 41°50'33", long 77°16'25", Tioga County, Hydrologic Unit 02050104, at single- span bridge on Township Route 586 at Middlebury Center. Drainage area is 74.3 mi ² .	1986-93	3-30-93	46.76	4,620	10-23-90	48.56	7,530
Cowanesque River at Elkland, Pa. (01519200)	Lat 41°59'15", long 77°18'09", Tioga County, Hydrologic Unit 02050104, at single- span steel-truss bridge on State Highway 49 at Elkland. Drainage area is 235 mi ² .	1980-93	3-30-93	25.53	13,000	10-11-90	25.69	13,400
TOWANDA CREEK BASIN								
South Branch Towanda Creek at New Albany, Pa. (01532200)	Lat 41°35'23", long 76°25'58", Bradford County, Hydrologic Unit 02050106, at bridge on Township Route 381, 0.1 mi below French Creek, 0.7 mi above Beaver Run, and 0.8 mi south of New Albany. Drain- age area is 13.3 mi ² .	1963-93	3-30-93	5.28	646	6-22-72	9.86	2,850
TUSCARORA CREEK BASIN								
Tuscarora Creek near Silvara, Pa. (01533250)	Lat 41°42'25", long 76°07'10", Bradford County, Hydrologic Unit 02050106, at single-span bridge on Township Route 510, 1.0 mi northeast of Silvara, 1.1 mi above Mill Creek, and 4.6 mi upstream from mouth. Drainage area is 11.8 mi ² .	1963-93	4-11-93	7.20	700	6-22-72	13.07	1,610
WEST BRANCH SUSQUEHANNA RIVER BASIN								
Wilson Run at Pen- field, Pa. (01542720)	Lat 41°12'58", long 78°35'00", Clearfield County, Hydro- logic Unit 02050201, at wood- en bridge 200 ft north of State Highway 153, 0.7 mi upstream from mouth, and 0.8 mi northwest of Penfield. Drainage area is 8.3 mi ² .	1962-93	3-29-93	3.04	206	3-10-64	4.39	592
First Fork Sinne- mahoning Creek at Wharton, Pa. (01543700)	Lat 41°31'08", long 78°01'40", Potter County, Hydrologic Unit 02050202, 50 ft up- stream from bridge on State Highway 872, and 0.8 mi southwest of Wharton. Drainage area is 182 mi ² .	1968-80* 1982* 1984-93	4-01-93	10.00	5,160	2-14-84	12.16	9,810

* Operated as a low-flow partial-record station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations during water year 1993--Continued

Station name and number	Location and drainage area	Period of Record	Water year 1993 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
SUSQUEHANNA RIVER BASIN--Continued								
WEST BRANCH SUSQUEHANNA RIVER BASIN--Continued								
West Branch Susquehanna River at Lock Haven, Pa. (01545800)	Lat 41°08'17", long 77°26'32", Clinton County, Hydrologic Unit 02050203, on right bank 50 ft downstream from Jay Street bridge, and 2.3 mi upstream from Bald Eagle Creek. Drainage area is 3,345 mi ² .	1975-93	4-01-93	a18.6	e64,000	9-26-75	22.92	91,500
Muncy Creek near Muncy, Pa. (01553005)	Lat 41°12'27", long 76°45'09", Lycoming County, Hydrologic Unit 02050206, 1,900 ft downstream from Little Muncy Creek, 2,300 ft upstream from bridge on State Highway 405, and 2.2 mi east of Muncy. Drainage area is 209 mi ² .	1989-93	4-01-93	13.18	11,600	4-01-93	13.18	11,600
White Deer Hole Creek near Elims- port, Pa. (01553050)	Lat 41°07'08", long 77°04'02", Lycoming County, Hydrologic Unit 02050206, at bridge on SR 2002, 2.5 mi west of Elims- port, and 12.5 mi upstream from mouth. Datum of gage is 650.84 ft above sea level. Drainage area is 18.2 mi ² .	1961-93	4-01-93	b3.53	958	6-22-72	11.83	4,200
JUNIATA RIVER BASIN								
Aughwick Creek near Shirleys- burg, Pa. (01564512)	Lat 40°16'55", long 77°53'27", Huntingdon County, Hydrologic Unit 02050304, on left bank 0.2 mi upstream from Sugar Run, and 1.2 mi southwest of Shirleysburg. Drainage area is 301 mi ² .	1990-93	3-29-93	11.83	8,210	10-24-90	10.65	7,150
Juniata River at Lewistown, Pa. (01564895)	Lat 40°35'40", long 77°34'58", Mifflin County, Hydrologic Unit 02050304, on left bank 1200 ft upstream from bridge on U.S. Highway 103, and 0.4 mi upstream from Kishaco- quillas Creek. Datum of gage is 443.83 ft above sea level. Drainage area is 2519 mi ² .	1989-93	4-17-93	19.97	35,700	4-17-93	19.97	35,700
Kishacoquillas Creek at Reedsville, Pa. (01565000)	Lat 40°39'17", long 77°35'00", Mifflin County, Hydrologic Unit 02050304, on left bank 150 ft downstream from bridge on old U.S. Highway 322, and 1.0 mi southeast of Reedsville. Datum of gage is 551.23 ft above sea level. Drainage area is 164 mi ² .	1940-70 [‡] 1984-85 [‡] 1982-87* 1989-93	4-01-93	9.01	3,560	11-25-50	13.12	c9,830
CONODOGUINET CREEK BASIN								
Newburg Run at Newburg, Pa. (01569340)	Lat 40°07'40", long 77°32'50", Cumberland County, Hydrologic Unit 02050305, at concrete bridge on State Highway 696, 0.4 mi upstream from mouth, and 0.8 mi south of Newburg. Drainage area is 5.29 mi ² .	1964-93	12-17-92	b4.65	478	7-27-69	8.6	5,000

‡ Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

a Peak gage-height from observers staff gage readings during levee construction.

b Using auxilliary gage.

c Flood of 1936 reached a stage of about 14.1 ft, discharge, 11,500 ft³/s; flood of June 23, 1972 reached 16.17 ft from floodmarks, discharge, 16,400 ft³/s.

e Estimated.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

Annual maximum discharge at crest-stage partial-record stations during water year 1993--Continued

Station name and number	Location and drainage area	Period of Record	Water year 1993 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
<u>SUSQUEHANNA RIVER BASIN--Continued</u>								
CONESTOGA RIVER BASIN								
Stony Run at Reamstown, Pa. (01576320)	Lat 40°12'44", long 76°07'30", Lancaster County, Hydrologic Unit 02050306, at single-span bridge on SR 1051, 0.1 mi southeast of U.S. Highway 222, 0.1 mi northwest of Reamstown, and 0.7 mi up- stream from mouth. Drainage area is 3.55 mi ² .	1964-93	11-23-93	4.44	443	6-16-82	7.80	1,220
CONOWINGO CREEK BASIN								
Conowingo Creek near Buck, Pa. (01578200)	Lat 39°50'35", long 76°11'45", Lancaster County, Hydrologic Unit 02050306, at concrete bridge on SR 3008, 2.0 mi upstream from Jackson Run, and 2.5 mi southeast of Buck. Drainage area is 8.71 mi ² .	1963-93	3-04-93	5.09	190	7-01-84	13.50	6,200

d From floodmark; farm pond failure upstream.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1993

Discharge Measurements Made at Miscellaneous Sites during Water Year 1993						
Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SUSQUEHANNA RIVER BASIN						
SUGAR CREEK BASIN						
01531490 Sugar Creek	Susquehanna River	Lat 41°47'27", long 76°27'45", Bradford County, Hydrologic Unit 02050106, at steel-truss bridge in North Towanda, and 0.8 mi upstream from mouth.	188	1989-92	6-21-93	18
					8-11-93	1.8
					9-24-93	4.5
WYALUSING CREEK BASIN						
01532950 Wyalusing Creek	Susquehanna River	Lat 41°41'49", long 76°13'52", Bradford County, Hydrologic Unit 02050106, at concrete bridge on State Highway 706, 2.8 mi north of Wyalusing, and 3.0 mi upstream from mouth.	215	1989-92	7-13-93	18
					8-11-93	7.5
					9-24-93	28
NESCOPECK CREEK BASIN						
01538600 Nescopeck Creek	Susquehanna River	Lat 41°02'46", long 76°13'28", Luzerne County, Hydrologic Unit 02050107, at bridge on State Highway 339, just downstream from railroad bridge at Nescopeck.	171	1949-50 1982-87 1989-91	11-17-92	386
					1-08-93	454
					2-23-93	165
					5-28-93	161
					7-20-93	78
FISHING CREEK BASIN						
01539700 Little Fishing Creek	Fishing Creek	Lat 41°02'25", long 76°29'01", Columbia County, Hydrologic Unit 02050107, 100 ft upstream from covered bridge on Township Route 493, 1.6 mi upstream from mouth, and 2.8 mi northwest of Bloomsburg.	66.5	1991* 1992	11-17-92	92
					1-08-93	191
					6-04-93	10
					7-21-93	4.3
					9-08-93	11
WEST BRANCH SUSQUEHANNA RIVER BASIN						
SINNEMAHONING CREEK BASIN						
01542790 Bennett Branch	Sinnemahoning Creek	Lat 41°20'02", long 78°08'10", Cameron County, Hydrologic Unit 02050202, at bridge on Township Route 343 at Drift- wood and 1000 ft upstream from mouth.	365	1975-92	4-07-93	1,300
					6-30-93	64
BALD EAGLE CREEK BASIN						
01548075 Fishing Creek	Bald Eagle Creek	Lat 41°04'31", long 77°28'40", Clinton County, Hydrologic Unit 02050204, at bridge on SR 2004, 1,700 ft south of Cedar Springs (Hill St.), and 4.5 mi upstream from mouth.	137	1989-92	3-29-93	1,720
					3-29-93	1,740
					5-17-93	170
					6-18-93	59
01548085 Bald Eagle Creek	West Branch Susquehanna River	Lat 41°07'35", long 77°26'00", Clinton County, Hydrologic Unit 02050204, at steel-truss bridge on SR 2012 at Castanea, and 1.8 mi upstream from mouth.	768	1988-89 1991-92	5-17-93	856
					6-18-93	367
					7-28-93	260
PINE CREEK BASIN						
01548248 Pine Creek	West Branch Susquehanna River	Lat 41°44'37", long 77°26'03", Tioga County, Hydrologic Unit 02050205, at concrete bridge on forest road at Ansonia, 1,500 ft upstream from mouth, and 7.0 mi west of Wellsboro.	274	1989-92	3-31-93	5,580
					6-22-93	175
					8-10-93	29
01548351 Marsh Creek	Pine Creek	Lat 41°44'48", long 77°25'40", Tioga County, Hydrologic Unit 02050205, at bridge on State Highway 6 at Ansonia, 1,300 ft upstream from mouth, and 7.0 mi west of Wellsboro.	81.6	1989-92	6-22-93	50
					8-10-93	6.4
					9-22-93	6.9
01549590 Little Pine Creek	Pine Creek	Lat 41°21'06", long 77°21'18", Lycoming County, Hydrologic Unit 02050205, at bridge at Little Pine State Park campground, 0.2 mi downstream from Little Pine Dam, and 3.4 mi upstream from mouth and Waterville.	172	1987-90 1992	12-18-92	479
					1-06-93	945
					6-21-93	100
					7-23-93	12

* Operated as a low-flow partial-record station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1993

Discharge Measurements Made at Miscellaneous Sites during Water Year 1993						
Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SUSQUEHANNA RIVER BASIN--Continued						
WHITE DEER CREEK BASIN						
01553150 White Deer Creek	West Branch Susquehanna River	Lat 41°04'29", long 76°52'22", Union County, Hydrologic Unit 02050206, at concrete bridge on SR 1011 at White Deer, and 0.5 mi upstream from mouth.	46.9	1945 1989-92	3-30-93	1,050
					3-30-93	1,050
					6-18-93	13
					7-27-93	4.5
PENNS CREEK BASIN						
01555207 Middle Creek	Penns Creek	Lat 40°47'27", long 76°55'24", Snyder County, Hydrologic Unit 02050301, at double-span concrete bridge on Creek Road (T-460), 1.8 mi north of Kantz, and 2.2 mi northeast of Freeburg.	155	1989-92	11-23-92	776
					1-11-93	239
					4-01-93	3,570
					4-06-93	735
					5-10-93	324
					5-25-93	101
					7-23-93	22
					9-14-93	17
JUNIATA RIVER BASIN						
01555858 Beaverdam Branch Juniata River	Frankstown Branch Juniata River	Lat 40°25'27", long 78°23'37", Blair County, Hydrologic Unit 02050302, at bridge on Plank Road in Hollidaysburg, 1.5 mi downstream from Blair Gap Run, and 2.2 mi upstream from mouth.	83.0	1982-92	10-08-92	19
					11-18-93	47
					3-25-93	581
					6-07-93	38
					7-27-93	27
01566000 Tuscarora Creek	Juniata River	Lat 40°30'55", long 77°25'10", Juniata County, Hydrologic Unit 02050304, at single-span bridge on SR 3008, 2.0 mi southwest of Port Royal, and 3.5 mi upstream from mouth. Datum of gage is 420.47 ft above sea level.	214	1911-58‡, 1982-91* _a , 1988-90 _b , 1992	10-13-92	23
					3-25-93	2,300
					6-08-93	65
					7-23-93	21
					9-03-93	36
CONODOGUINET CREEK BASIN						
01569500 Conodo- guinet Creek	Susquehanna River	Lat 40°11'59", long 77°21'57", Cumber- land County, Hydrologic Unit 02050305, at bridge on Bridge Road (T-409), 2.6 mi east of Newville.	291	1992	7-21-93	110
01570280 Conodo- guinet Creek	Susquehanna River	Lat 40°16'38", long 76°57'00", Cumber- land County, Hydrologic Unit 02050305, at bridge on Oyster Mill Road at Enola, Enola, 0.2 mi downstream from Holtz Run, and 4.7 mi upstream from mouth.	501	1989-92	3-05-93	5,450
					3-29-93	6,190
					7-14-93	260
CHICKIES CREEK BASIN						
01575900 Chickies Creek	Susquehanna River	Lat 40°03'46", long 76°30'57", Lancaster County, Hydrologic Unit 02050306, at double-span concrete bridge on State Highway 23, 400 feet downstream from Little Chickies Creek, and 1.2 mi East of Marietta.	108	1989-92	3-24-93	1,260
					5-14-93	149
					6-30-93	56
					8-18-93	34
PEQUEA CREEK BASIN						
‡01576787 _c Pequea Creek	Susquehanna River	Lat 39°54'21", long 76°19'43, Lancaster County, Hydrologic Unit 02050306, at bridge on State Highway 324 at Martic Forge, and 3.4 mi upstream from mouth.	148	1977-81‡ 1989-92	1-26-93	124
					3-05-93	2,230
					4-29-93	413
					7-19-93	109
					9-20-93	87
MUDDY CREEK BASIN						
01577500 Muddy Creek	Susquehanna River	Lat 39°46'21", long 76°18'58", York County, Hydrologic Unit 02050306, at bridge on Paper Mill Road (SR 2024), 0.8 mi northeast of Castle Fin, 1.1 mi 1.1 mi east of the intersection of SR 2024 and State Highway 74, and 3.4 mi upstream from mouth.	133	1929-38‡ 1968-71‡ 1983-91* _a 1992	3-24-93	1,500
					6-01-93	267
					7-01-93	117
					8-26-93	74

‡ Operated as a continuous-record gaging station.

* Operated as a low-flow partial-record station.

a Most years during period.

b Operated as a crest-stage partial-record station.

c Also a water-quality station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1993

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
<u>SUSQUEHANNA RIVER BASIN</u> --Continued						
OCTORARO CREEK BASIN						
01578475 Octoraro Creek	Susquehanna River	Lat 39°42'24", long 76°06'56", Cecil County, Hydrologic Unit 02050306, at single-span steel-truss bridge on New Bridge Road, 1.0 mi south of PA-MD state line, 1.3 mi northeast of Rich- ardsmere, and 2.5 mi east of Rock Springs, Md.	177	1989-92	6-01-93 7-06-93 8-25-93	132 57 53
<u>POTOMAC RIVER BASIN</u>						
NORTH BRANCH POTOMAC RIVER BASIN						
WILLS CREEK BASIN						
01600700 Little Wills Creek	Wills Creek	Lat 39°55'35", long 78°39'40", Bedford County, Hydrologic Unit 02070002, at double-span concrete bridge on State Highway 96 at Bard, 2.5 mi upstream from Wolf Camp Run, 9.5 mi upstream from mouth, and 11 mi southwest of Bedford.	10.2	1961-81 ^d 1970-91 ^{*a} 1992	10-08-92 3-30-93 8-19-93 9-07-93	0.22 170 .08 .02
EVITTS CREEK BASIN						
01603500 Evitts Creek	North Branch Potomac River	Lat 39°47'23", long 78°38'48", Bedford County, Hydrologic Unit 02070003, on left bank 2.0 mi upstream from Thomas W. Koon Dam, 3.0 mi south of Center- ville and at mile 16.3.	30.2	1933-82 [‡]	7-15-93 9-08-93	7.2 3.6
LICKING CREEK BASIN						
01613500 Licking Creek	Potomac River	Lat 39°43'23", long 78°03'38", Franklin County, Hydrologic Unit 02070004, at bridge on State Highway 456, 200 feet north of PA-MD state line, 3.0 mi southwest of Sylvan, and 10 mi up- stream from mouth.	158	1930-41 [‡] 1983-91 ^{*a} 1992	10-05-92 3-30-93 6-10-93 7-23-93 9-03-93	24 1,630 54 14 12
MONOCACY RIVER BASIN						
01638950 Rock Creek	Monocacy River	Lat 39°46'20", long 77°12'32", Adams County, Hydrologic Unit 02070009, at double-span concrete bridge on Town- ship Route 411 (Solomon Road), 1.2 mi west of the intersection of State Highway 134 and U.S. Highway 15, and near Barlow.	23.5	1989-92	5-14-93 7-01-93 8-20-93	16 2.1 3.8

[‡] Operated as a continuous-record gaging station.^{*} Operated as a low-flow partial-record station.^a Most years during period.

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

Water-quality partial-record stations are particular sites where chemical-quality, biological, or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are usually collected less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

OCTORARO CREEK BASIN

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
01578340 EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)											
NOV 1992 09...	0915	5.3	230	7.5	3.5	2.1	13.1	110	26	11	9.7
01578343 VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)											
NOV 1992 09...	1130	4.8	308	7.7	5.5	0.80	12.2	120	31	9.7	11
DATE	SODIUM PERCENT (00932)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT IT FIELD (MG/L AS CACO3) (00419)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	
01578340 EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)											
NOV 1992 09...	15	0.4	4.4	56	31	19	<0.10	17	192	0.26	
01578343 VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)											
NOV 1992 09...	16	0.4	4.0	58	25	18	<0.10	12	178	0.24	
DATE	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	NITROGEN DIS-SOLVED (MG/L AS N) (00602)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DIS-SOLVED (MG/L AS P) (00666)	
01578340 EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)											
NOV 1992 09...	8.85	0.050	8.90	0.040	0.26	0.30	0.30	9.2	0.060	0.050	
01578343 VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)											
NOV 1992 09...	7.24	0.060	7.30	0.120	0.28	0.40	0.40	7.7	0.080	0.060	

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

OCTORARO CREEK BASIN--Continued

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	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)	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)
01578340	EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1992 09...	0.030	<10	<1	65	<0.5	<1.0	<5	<3	<10	65
01578343	VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1992 09...	0.060	<10	<1	50	0.6	<1.0	<5	<3	<10	56
DATE	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)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SILVER, DIS- SOLVED (µG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (µG/L AS V) (01085)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
01578340	EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1992 09...	<10	<4	44	<10	<0.1	<10	<1.0	130	<6	4
01578343	VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1992 09...	<10	<4	30	<10	<0.1	<10	1.0	140	<6	10

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

WATER-QUALITY RECORDS FOR THE LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT
SYNOPTIC SURVEY OF ATRAZINE AND NUTRIENTS IN STREAM BASE FLOW

The tables on the next four pages contain data from a synoptic survey of nutrients and the triazine herbicides (as atrazine) in stream and river base flow during the period June 14 to June 21, 1993. The survey was designed to describe the occurrence of the target constituents in three key settings in the Lower Susquehanna River Basin including: (1) an urban/suburban subarea of carbonate bedrock in the Ridge and Valley Physiographic Province (Great Valley Section), (2) an agricultural subarea of crystalline bedrock in the Piedmont Physiographic Province, and (3) an agricultural subarea of sandstone and shale bedrock in the northeastern part of the basin in the Ridge and Valley Physiographic Province (Appalachian Mountains Section). In addition, 8 sites were chosen on the mainstem Susquehanna River and selected major tributaries to determine occurrence of triazine herbicides and to attempt a preliminary mass balance of triazine herbicides within the basin. The map below shows the sites sampled for this synoptic survey. This study was done in conjunction with a nationwide survey of triazine herbicides in base flow by the NAWQA Pesticide National Synthesis, Sacramento, California. The sampling and analysis was done in cooperation with the U. S. Department of Agriculture, Agricultural Research Service, University Park, Pennsylvania. Water samples for analysis of triazine herbicide concentrations were filtered through a glass-fiber filter with openings that are 0.7 microns in size to remove silt, sediment, or particulates. Results are reported as dissolved (DIS) recoverable (REC) concentrations. Analyses of triazine herbicides (as atrazine) in water were performed using an Enzyme Linked Immuno Sorbent Assay (ELISA) by the U. S. Geological Survey's Organic Geochemistry Research Laboratory in Lawrence, Kansas. The Susquehanna River Basin Commission provided assistance by collecting samples from the Susquehanna River at Marietta and the Conestoga River at Conestoga. Samples from the West Branch Susquehanna River at Lewisburg and the Susquehanna River at Danville and Harrisburg were collected by U. S. Geological Survey personnel as splits of water samples collected for the National Stream Quality Accounting Network (NASQAN).

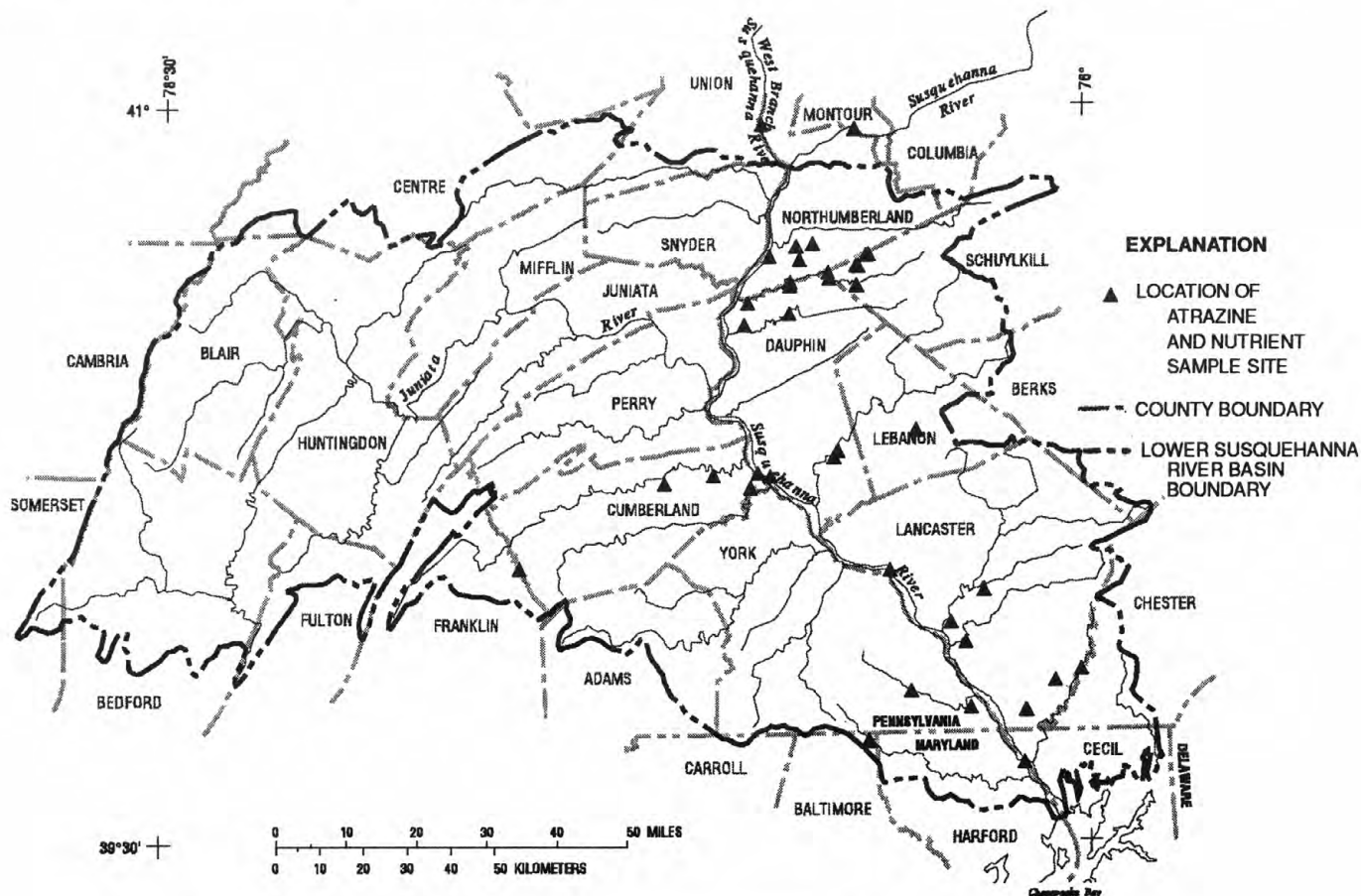


Figure 11. Location of synoptic sample collection sites for atrazine and nutrients in stream base flow.

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SYNOPTIC SURVEY OF ATRAZINE AND NUTRIENTS IN STREAM BASE FLOW

URBAN/SUBURBAN SUBAREA OF CARBONATE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, GREAT VALLEY SECTION

REMARKS--Explanation of column headings--**STATION NUMBER**: 7-digit unique downstream-ordered identifier for site or 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and 2-digit sequence number suffix; $\mu\text{S}/\text{CM}$: microsiemens per centimeter at 25 degrees Celsius; **DEG C**: degrees Celsius; **MM OF HG**: millimeters of mercury; **MG/L**: milligrams per liter; $\mu\text{G}/\text{L}$: micrograms per liter; **FIELD**: indicates measurement at field site, filtered water and fixed-endpoint titration used for alkalinity, bicarbonate, and carbonate.

LOCAL ID	STATION NUMBER	DATE	TIME	STATION NAME
ODS01	400342077315801	06-14-93	0930	MIDDLE SPRING RUN ABOVE BURD RUN BELOW SHIPPENSBURG, PA
ODS02	401404077082201	06-14-93	1230	LETORT SPRING RUN NEAR CARLISLE, PA
ODS03	401505077002601	06-14-93	1430	TRINDLE SPRING RUN AT HOGESTOWN, PA
ODS04	01571490	06-15-93	1220	CEDAR RUN AT EBERLYS MILL, PA
ODS05	402018076272901	06-15-93	0830	QUITTAHILL CREEK NEAR CLEONA, PA
ODS06	401709076404601	06-15-93	1330	SPRING CREEK AT HERSHEY, PA
ODS07	401454076510801	06-15-93	1100	SPRING CREEK AT 19TH STREET AT HARRISBURG, PA

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL ID	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE ($\mu\text{S}/\text{CM}$) (00095)	PH FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BICAR- BONATE FIELD (MG/L AS HCO ₃) (29804)	CAR- BONATE FIELD (MG/L AS CO ₃) (29807)	ALKA- LINITY FIELD (MG/L AS CAO ₃) (39036)
ODS01	19	494	7.9	14.0	749	9.6	190	0	160
ODS02	53	574	8.0	15.5	756	10.6	280	0	230
ODS03	21	611	7.8	15.0	757	10.1	300	0	240
ODS04	13	653	8.1	18.0	754	9.3	264	0	216
ODS05	16	687	7.8	15.0	752	7.3	270	0	220
ODS06	40	548	8.2	20.5	755	9.5	240	0	200
ODS07	5.2	568	8.2	16.0	755	9.6	220	0	180

LOCAL ID	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	TRIAZINE SCREEN (ELISA) WAT, DIS REC, AS ATRAZINE ($\mu\text{G}/\text{L}$) (34756)
ODS01	0.020	8.20	0.040	0.30	<0.20	0.100	0.060	.060	0.59
ODS02	--	--	--	--	--	--	--	--	0.61
ODS03	--	--	--	--	--	--	--	--	0.54
ODS04	0.010	4.50	0.040	<0.20	<0.20	0.020	0.020	0.010	0.44
ODS05	--	--	--	--	--	--	--	--	0.57
ODS06	--	--	--	--	--	--	--	--	0.50
ODS07	0.050	8.80	0.050	0.40	0.30	0.060	0.030	0.030	0.36

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SYNOPTIC SURVEY OF ATRAZINE AND NUTRIENTS IN STREAM BASE FLOW

STATIONS ON THE SUSQUEHANNA RIVER AND MAJOR TRIBUTARIES

LOCAL ID	STATION NUMBER	DATE	TIME	STATION NAME
ODS08	01540500	06-14-93	1315	SUSQUEHANNA RIVER AT DANVILLE, PA
ODS09	01553500	06-15-93	1230	WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA
ODS10	01570500	06-17-93	1210	SUSQUEHANNA RIVER AT HARRISBURG, PA
ODS11	01573560	06-15-93	1515	SWATARA CREEK NEAR HERSHEY, PA
ODS12	01576000	06-16-93	1015	SUSQUEHANNA RIVER AT MARIETTA, PA
ODS13	01576754	06-16-93	1205	CONESTOGA RIVER AT CONESTOGA, PA
ODS14	01576787	06-16-93	1014	PEQUEA CREEK AT MARTIC FORGE, PA
ODS15	393928076103101	06-21-93	1500	SUSQUEHANNA RIVER AT CONOWINGO DAM, MD

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL ID	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- PER ANCE (μ S/CM) (00095)	PH FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BICAR- BONATE FIELD (MG/L AS HCO3) (29804)	CAR- BONATE FIELD (MG/L AS CO3) (29807)	* ALKA- LITY UNFIL- TERED FIELD (MG/L AS CACO3) (00410)	ALKA- LITY FILTERED FIELD (MG/L AS CACO3) (39036)
ODS08	5640	405	8.2	20.0	763	10.0	--	--	--	77
ODS09	3640	375	7.4	23.5	758	8.8	--	--	--	22
ODS10	9960	361	8.5	29.0	752	9.0	64	2	--	57
ODS11	223	373	8.3	22.0	755	8.5	110	0	93	--
ODS12	13300	374	8.6	24.5	--	7.6	--	--	62	--
ODS13	379	700	8.4	25.0	--	8.1	--	--	172	--
ODS14	157	475	7.9	20.5	--	--	--	--	150	--
ODS15	46400	360	7.9	26.5	759	5.0	84	0	--	69

LOCAL ID	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	TRIAZINE SCREEN (ELISA) WAT, DIS REC, AS ATRAZINE (μ G/L) (34756)
ODS08	<0.010	0.620	0.030	<0.20	--	0.010	<0.010	<0.010	<0.10
ODS09	<0.010	0.650	0.050	<0.20	--	<0.010	<0.010	<0.010	<0.10
ODS10	<0.010	0.660	0.020	<0.20	--	<0.010	<0.010	<0.010	0.10
ODS11	--	--	--	--	--	--	--	--	0.52
ODS12	--	--	--	--	--	--	--	--	0.24
ODS13	--	--	--	--	--	--	--	--	0.72
ODS14	--	--	--	--	--	--	--	--	0.31
ODS15	0.030	1.40	0.130	0.30	0.30	0.020	0.010	<0.010	0.29

* The determination of parameter code 00410 was made by Susquehanna River Basin Commission personnel.

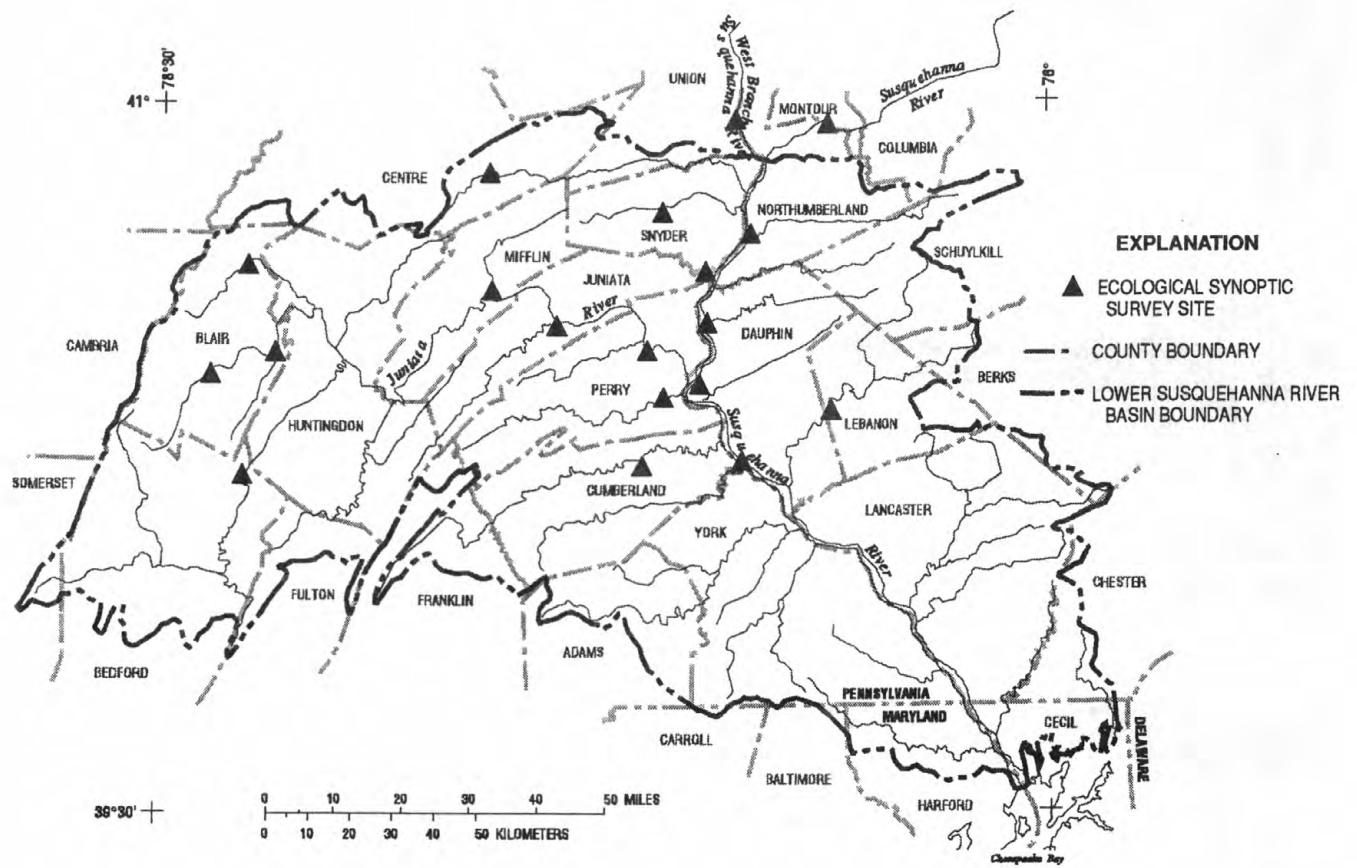


Figure 12. Location of ecological synoptic survey sites.

**Ecological Synoptic Survey
Site Descriptions**

REMARKS.--The following table contains site descriptions and water-quality records from a synoptic survey of stream ecology. The location of these sites is shown in figure 12, page 278. Samples were collected during the period July 14 to August 23, 1993 for characteristics of stream water; periphyton biomass, chlorophyll-A, and chlorophyll-B. Only the richest-targeted habitat sample was taken at these sites and appear on the following two pages. In addition, fish community, macroinvertebrate, and habitat data were collected and will be published at a later date.

<u>Local identifier</u>	<u>Station number</u>	<u>County</u>	<u>Hydrologic unit</u>	<u>Station name and location</u>
ESS01	401254078151401	Bedford	02050303	Raystown Branch Juniata River at Saxton, Pa., lat 40°12'54", long 78°15'54", 400 ft downstream from bridge on SR 913, and 0.5 mi west of Saxton.
ESS02	403936078152101	Blair	02050302	Little Juniata River at Tyrone, Pa., lat 40°39'36", long 78°15'21", just upstream from Hutchinson Run, and 0.4 mi southwest of Tyrone.
ESS03	402549078213001	Blair	02050302	Frankstown Branch Juniata River at Kladderstation, Pa., lat 40°23'43", long 78°24'29", 30 ft upstream of bridge on Township Route 405.
ESS04	402836078103601	Blair	02050302	Clover Creek near Williamsburg, Pa., lat 40°28'36", long 78°10'36", 360 ft upstream from Township Route 454 bridge, and 1.6 mi northeast of Williamsburg.
ESS05	405121077342701	Centre	02050304	Penns Creek at Spring Mills, Pa., lat 40°51'21", long 77°34'27", 80 ft upstream of bridge on SR 45, and 0.1 mi north of Spring Mills.
ESS06	401404077083101	Cumberland	02050305	Letort Spring Run nr Carlisle, Pa., lat 40°14'04", long 77°08'31", 200 ft upstream of bridge on SR 1005, and 2.7 mi northeast of Carlisle.
ESS07	402432076585501	Dauphin	02050301	Powell Creek near Inglenook, Pa., lat 40°24'32", long 76°58'55", 70 ft upstream of flood retention wall along Lehman Road, and 1.2 mi northeast of Inglenook.
ESS08	403213076573801	Dauphin	02050305	Wiconisco Creek at Millersburg, Pa., lat 40°32'13", long 76°57'38", 300 ft upstream from Market Street bridge, and 0.1 mi south of Millersburg.
ESS09	01571000	Dauphin	02050301	Paxton Creek near Penbrook, Pa., lat 40°18'30", long 76°51'00", 50 ft upstream of bridge on North Progress Avenue, and 2.0 mi north of Penbrook.
ESS10	403155077225601	Juniata	02050304	Tuscarora Creek at Port Royal, Pa., lat 40°31'55", long 77°22'56", downstream from Conrail bridge and 0.2 mi east of Port Royal.
ESS11	402108076363701	Lebanon	02050305	Quittapahilla Creek near Palmyra, Pa., lat 40°21'08", long 76°36'37", 350 ft upstream of Valley Glen Road bridge, and 3.2 mi north of Palmyra.
ESS12	403622077335601	Mifflin	02050304	Kishacoquillas Creek at Lewistown, Pa., lat 40°36'22", long 77°33'56", just upstream of Walnut St. Bridge, and 0.8 mi north of Lewistown.
ESS13	01540500	Montour	02050107	Susquehanna River at Danville, Pa., lat 40°57'29", long 76°37'10", 2500 ft downstream from bridge on SR 54, and 0.7 mi south of Danville.
ESS14	404334076501601	Northumberland	02050301	Mahanoy Creek near Herndon, Pa., lat 40°43'34", long 76°50'16", 200 ft upstream of bridge on SR 147, and 1.1 mi north of Herndon.
ESS15	01553500	Northumberland	02050204	West Branch Susquehanna River at Lewisburg, Pa., lat 40°58'05", long 76°52'25", 500 ft downstream of bridge on SR 45 at Lewisburg.
ESS16	402250077045701	Perry	02050305	Sherman Creek near Dellville, Pa., lat 40°22'50", long 77°04'57", 30 ft upstream of bridge on Dellville Road, and 2 mi northeast of Dellville.
ESS17	01567000	Perry	02050304	Juniata River at Newport, Pa., lat 40°28'42", long 77°07'46", 550 ft downstream of bridge on SR 34 at Newport.
ESS18	403847076575201	Snyder	02050301	West Mahantango Creek near Liverpool, Pa., lat 40°38'47", long 76°57'52", just upstream of bridge on old Trail Road (T-347), and 6 mi north of Liverpool.
ESS19	404621077050901	Snyder	02050301	Middle Creek at Paxtonville, Pa., lat 40°46'21", long 77°05'09", 305 ft downstream of bridge on SR 3009, and 0.2 mi northwest of Paxtonville.

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

Ecological Synoptic Survey

REMARKS.--Explanation of column headings--**STATION NUMBER:** 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix; **F/S:** feet per second; **μ S/CM:** microsiemens per centimeter at 25 degrees Celsius; **DEG C:** degrees Celsius; **MG/L:** milligrams per liter; **G/SQ M:** grams per square meter; **MG/M2:** milligrams per square meter; **MM of HG:** millimeters of mercury; **WH FET:** alkalinity, bicarbonate, and carbonate as determined by fixed endpoint titration of unfiltered water at field site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	STATION	NUMBER	DATE	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
BEDFORD COUNTY									
ESS01	401254078155401		07-22-93	1.11	380	8.4	23.0	--	--
BLAIR COUNTY									
ESS02	403936078152101		07-20-93	1.54	423	8.8	25.0	--	--
ESS03	402549078213001		07-21-93	1.65	989	8.4	23.5	--	--
ESS04	402836078103601		07-23-93	1.44	413	8.4	16.5	--	--
CENTRE COUNTY									
ESS05	405121077342701		07-14-93	1.31	465	--	15.0	--	--
CUMBERLAND COUNTY									
ESS06	401404077083101		08-04-93	1.97	649	8.3	16.5	750	12.8
DAUPHIN COUNTY									
ESS07	402432076585501		07-26-93	0.95	75	7.4	22.0	--	--
ESS08	403213076573801		07-27-93	1.01	267	7.5	27.5	--	--
ESS09	01571000		08-02-93	0.83	473	8.1	21.5	--	--
JUNIATA COUNTY									
ESS10	403155077225601		08-09-93	1.55	278	8.6	20.0	--	--
LEBANON COUNTY									
ESS11	402108076363701		08-05-93	1.71	681	8.3	18.5	--	--
MIFFLIN COUNTY									
ESS12	403622077335601		08-16-93	0.99	414	8.6	21.0	748	11.5
MONTGOMERY COUNTY									
ESS13	01540500		08-13-93	1.23	401	9.1	27.0	750	--
NORTHUMBERLAND COUNTY									
ESS14	404334076501601		07-29-93	2.57	865	7.5	24.0	--	--
ESS15	01553500		08-17-93	1.39	370	7.6	24.5	749	--
PERRY COUNTY									
ESS16	402250077045701		08-10-93	1.22	229	8.4	24.0	--	--
ESS17	01567000		08-23-93	1.25	240	9.1	24.0	755	9.8
SNYDER COUNTY									
ESS18	403847076575201		07-15-93	1.66	245	7.7	27.5	--	--
ESS19	404621077050901		08-12-93	1.74	225	--	20.5	--	--

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

Ecological Synoptic Survey - continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL IDENT- I- FIER	DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WH FET (MG/L AS HCO3) (00440)	CAR- BONATE WH FET (MG/L AS CO3) (00445)	ALKA- LINITY WH FET (MG/L AS CACO3) (00410)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)	PERI- PHYTON BIOMASS ASH MASS (G/SQ M) (00572)	PERI- PHYTON BIOMASS TOTAL DRY MASS (G/SQ M) (00573)	PERI- PHYTON BIOMASS ASH-FREE DRY MASS (G/SQ M) ()
BEDFORD COUNTY										
ESS01	07-22-93	--	130	12	126	27	5.4	378	402	24
BLAIR COUNTY										
ESS02	07-20-93	--	88	12	92	42	20	324	335	11
ESS03	07-21-93	--	180	7	164	18	4.4	331	341	10
ESS04	07-23-93	--	190	7	170	49	15	332	347	15
CENTRE COUNTY										
ESS05	07-14-93	--	--	--	--	45	2.8	310	329	19
CUMBERLAND COUNTY										
ESS06	08-04-93	133	270	0	220	68	1.9	545	576	31
DAUPHIN COUNTY										
ESS07	07-26-93	--	22	0	184	30	3.3	324	334	10
ESS08	07-27-93	--	390	0	32	22	4.3	281	293	12
ESS09	08-02-93	--	160	0	128	53	13	409	429	20
JUNIATA COUNTY										
ESS10	08-09-93	--	120	10	112	26	3.5	203	220	17
LEBANON COUNTY										
ESS11	08-05-93	--	220	0	180	44	8.6	419	446	27
MIFFLIN COUNTY										
ESS12	08-16-93	132	180	5	158	223	18	507	560	53
MONTGOMERY COUNTY										
ESS13	08-13-93	--	54	8	58	30	6.8	298	318	20
NORTHUMBERLAND COUNTY										
ESS14	07-29-93	--	31	0	25	5.6	0.8	265	276	11
ESS15	08-17-93	--	44	0	36	20	7.7	316	328	12
PERRY COUNTY										
ESS16	08-10-93	--	100	4	90	31	5.2	353	375	22
ESS17	08-23-93	118	85	10	86	62	3.9	333	357	24
SNYDER COUNTY										
ESS18	07-15-93	--	110	0	94	82	14	254	271	17
ESS19	08-12-93	--	--	--	--	45	5.5	302	318	16

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN NAWQA PROJECT

REMARKS.--The data in the following table are from samples collected by personnel from the Towson Maryland office of the U.S. Geological Survey as part of the National Water-Quality Assessment Program (NAWQA) in the Potomac River Basin, Franklin County, Pennsylvania. An explanation of selected parameter code abbreviations may be found on pages 33-34 or 287-288. Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 80020 - U.S. Geological Survey. The location of these sites can be found on figure 8, page 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DRAIN- AGE AREA (SQ. MI.) (81024)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
01614110 CONOCOCHEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)												
SEP 1993 15...	1100	9.24	1028	80020	750	0.37	628	7.9	23.0	--	7.3	--
01614130 FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)												
SEP 1993 07...	1045	9.35	1028	80020	620	33	560	7.8	14.5	749	10.6	106
01614350 WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)												
SEP 1993 15...	1430	3.59	1028	80020	460	0.94	556	8.1	25.0	--	7.9	--
DATE		HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
01614110 CONOCOCHEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)												
SEP 1993 15...	300	52	69	32	5.7	4	0.1	7.3	307	253	252	33
01614130 FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)												
SEP 1993 07...	280	50	80	20	4.3	3	0.1	2.5	--	188	232	25
01614350 WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)												
SEP 1993 15...	260	33	76	17	6.2	5	0.2	8.3	277	230	227	17

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN NAWQA PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
	01614110	CONOCOCHIEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	15	0.40	6.7	353	352	0.48	0.35	7.01	7.01	0.090	7.10	0.110
	01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	16	0.20	8.9	320	310	0.44	28.5	8.99	8.99	0.010	9.00	0.050
	01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	15	0.20	8.9	317	316	0.43	0.80	6.69	6.69	0.310	7.00	0.110
DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00602)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (MG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (MG/L AS MN) (01056)	ALA- CHLOR, WATER, DISS, REC, (MG/L) (46342)
	01614110	CONOCOCHIEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	1.2	0.99	1.3	1.1	8.4	8.2	0.140	0.080	0.080	11	27	<0.009
	01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	0.15	--	0.2	<0.20	9.2	--	0.030	<0.010	<0.010	<3	5	<0.009
	01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	0.99	0.79	1.1	0.90	8.1	7.9	0.200	0.160	0.150	10	.25	<0.009

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN NAWQA PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	ALPHA BHC DIS- SOLVED ($\mu\text{G/L}$) (34253)	ATRA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 μ GF, REC ($\mu\text{G/L}$) (82673)	BUTYL- ATE, WATER, DISS, REC ($\mu\text{G/L}$) (04028)	CAR- BARYL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82680)	CARBO- FURAN WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82674)	CHLOR- PYRIFOS DIS- SOLVED ($\mu\text{G/L}$) (38933)	CYANA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04041)	DCPA WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04040)	DI- AZINON, DIS- SOLVED ($\mu\text{G/L}$) (39572)	DI- ELDRIN DIS- SOLVED ($\mu\text{G/L}$) (39381)
	01614110	CONOCOCHIEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	<0.007	0.73	<0.013	<0.008	<0.046	<0.013	<0.005	<0.013	<0.004	0.69	<0.008	<0.020
	01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	<0.007	0.36	<0.013	<0.008	<0.046	<0.013	<0.005	<0.013	<0.004	0.21	<0.008	<0.020
	01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	<0.007	0.23	<0.013	<0.008	<0.046	<0.013	<0.005	<0.013	<0.004	0.24	<0.008	<0.020
DATE	2,6-DI- ETHYL ANALINE WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82660)	DIMETH- OATE WATER FLTRD 0.7 μ GG, REC ($\mu\text{G/L}$) (82662)	DISUL- FOTON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82677)	EPTC WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82663)	ETHO- PROP WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82672)	FONOFOS WATER DIS- REC ($\mu\text{G/L}$) (04095)	LINDANE DIS- SOLVED ($\mu\text{G/L}$) (39341)	LIN- URON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82666)	MALA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39532)	METHYL PARA- THION WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82667)	METHYL AZIN- PHOS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82686)
	01614110	CONOCOCHIEAGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	<0.006	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038
	01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	<0.006	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038
	01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	<0.006	<0.024	<0.020	<0.005	<0.013	<0.012	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038

ANALYSIS OF SURFACE-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN NAWQA PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	METO- LACHLOR WATER DISSOLV (μ G/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (μ G/L) (82630)	MOL- INATE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82684)	P, P' DDE DISSOLV (μ G/L) (34653)	PARA- THION, DIS- SOLVED (μ G/L) (39542)	PEB- ULATE WATER FILTRD 0.7 μ GF, REC (μ G/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 μ GF, REC (μ G/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 μ GF, REC (μ G/L) (82687)	PHORATE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82664)	PRO- METON, WATER, DISS, REC (μ G/L) (04037)
01614110	CONOCOCHIEGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	0.089	<0.012	<0.007	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020	0.077
01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	0.041	<0.012	<0.007	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020	0.052
01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	0.010	<0.012	<0.007	<0.010	<0.010	<0.022	<0.009	<0.018	<0.016	<0.020	0.018
DATE	PRON- AMIDE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82676)	PROP- CHLOR, WATER, FLTRD DISS, REC (μ G/L) (04024)	PRO- PANIL WATER FLTRD 0.7 μ GF, REC (μ G/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82685)	SI- MAZINE, WATER, DISS, REC (μ G/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC (μ G/L) (82670)	TER- BACIL WATER FLTRD 0.7 μ GF, REC (μ G/L) (82665)	TER- BUFOS WATER FLTRD 0.7 μ GF, REC (μ G/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 μ GF, REC (μ G/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 μ GF, REC (μ G/L) (82661)
01614110	CONOCOCHIEGUE CREEK TRIBUTARY AT FAYETTEVILLE, PA (LAT 39 54 41N LONG 077 34 18W)										
SEP 1993 15...	<0.009	<0.015	<0.016	<0.010	0.096	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012
01614130	FALLING SPRING AT CHAMBERSBURG, PA (LAT 39 56 21N LONG 077 39 01W)										
SEP 1993 07...	<0.009	<0.015	<0.016	<0.010	0.053	0.005	<0.030	<0.012	<0.008	<0.008	<0.012
01614350	WELSH RUN AT WELSH RUN, PA (LAT 39 46 10N LONG 077 50 30W)										
SEP 1993 15...	<0.009	<0.015	<0.016	<0.010	0.062	<0.015	<0.030	<0.012	<0.008	<0.008	<0.012

WATER RESOURCES DATA - PENNSYLVANIA, 1993

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

NOTES--Historical and current dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

--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 OUTPUTREMARK

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.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
ND	Material specifically analyzed for but not detected.

WATER RESOURCES DATA - PENNSYLVANIA, 1993

SPECIAL NOTES, REMARK CODES AND SELECTED CONSTITUENT DEFINITIONS--Continued

Explanation of selected abbreviations used in constituent definitions in water-quality tables:

COL. PER 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/SQ M	Grams per square meter.
IT	Incremental titration.
µG/L	Micrograms per liter.
µS/CM	Microsiemens per centimeter.
MG/L	Milligrams per liter.
MG/M2	Milligrams per square meter.
PCI/L	Picocuries per liter.
REC	Recoverable.
TOT	Total
WH IT	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	Water filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size.

Agency collection codes (00027):

1028--U.S. Geological Survey.
42011--Susquehanna River Basin Commission.

Agency analyzing codes (00028):

1028--U.S. Geological Survey, National Water-Quality Laboratory, Denver Colorado.
80020--U.S. Geological Survey.
9813--Pennsylvania Department of Environmental Resources.

Sample method code (82398) is an included parameter in some water-quality tables. It is intended to indicate the method used to collect the water sample. The definition of these codes is listed below.

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.

GROUND-WATER-LEVEL AND GROUND-WATER-QUALITY STATION RECORDS

ADAMS COUNTY

395846077040601. Local number, AD 146.

LOCATION.--Lat 39°58'46", long 77°04'06", Hydrologic Unit 02050306, at State Game Land No. 249, and near York Springs.

Owner: U.S. Geological Survey.

AQUIFER.--Gettysburg Formation, Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 17 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pennsylvania Department of Environmental Resources satellite telemeter at station.

DATUM.--Elevation of land surface is 540 ft above sea level, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.

REMARKS.--Water-quality records for 1973-75 are available in files of the District Office.

PERIOD OF RECORD.--January 1968 to current year.

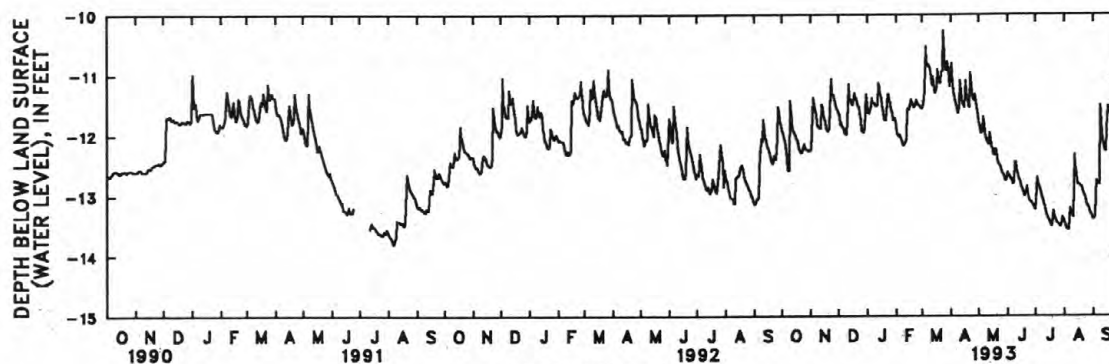
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.87 ft below land-surface datum, June 21, 1972; lowest, 14.02 ft below land-surface datum, July 16-18, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.91	12.23	11.63	11.50	11.82	11.56	10.92	11.77	12.62	13.22	13.41	13.38
2	11.95	12.23	11.66	11.63	11.96	11.54	10.80	11.85	12.66	13.09	13.47	13.38
3	12.02	11.68	11.81	11.64	11.98	11.41	11.15	11.94	12.67	12.70	13.53	13.34
4	12.09	11.37	11.78	11.58	12.01	11.25	11.30	11.96	12.72	12.78	13.55	13.00
5	12.18	11.51	11.85	11.52	11.98	10.53	11.37	11.94	12.71	12.85	13.56	12.75
6	12.22	11.57	11.85	11.38	12.04	10.78	11.45	11.70	12.75	12.87	13.56	12.79
7	12.55	11.66	11.91	11.46	12.05	10.85	11.53	11.82	12.80	12.95	13.21	12.81
8	12.58	11.78	11.97	11.46	12.14	10.82	11.59	11.96	12.78	13.03	13.28	12.81
9	12.57	11.84	11.98	11.47	12.17	10.86	11.63	12.02	12.45	13.06	13.31	11.51
10	11.42	11.86	11.98	11.52	12.14	10.93	11.54	12.10	12.45	13.13	13.33	11.78
11	11.65	11.87	11.52	11.52	12.13	11.13	11.09	12.11	12.58	13.18	13.35	11.97
12	11.76	11.87	11.15	11.50	12.05	11.17	11.27	12.15	12.66	13.25	12.32	12.09
13	11.91	11.48	11.37	11.13	11.59	11.02	11.39	11.96	12.71	13.33	12.51	12.19
14	11.94	11.55	11.41	11.19	11.55	11.24	11.48	12.07	12.75	13.34	12.64	12.25
15	11.96	11.66	11.47	11.32	11.58	11.30	11.50	12.18	12.80	13.38	12.75	12.27
16	12.01	11.72	11.49	11.38	11.52	11.26	11.54	12.23	12.88	13.42	12.81	11.91
17	12.06	11.76	11.44	11.50	11.40	11.18	11.08	12.32	12.91	13.45	12.81	11.53
18	12.09	11.86	11.30	11.63	11.45	10.90	11.29	12.33	12.93	13.50	12.83	11.52
19	12.15	11.91	11.39	11.71	11.48	11.07	11.40	12.22	13.00	13.47	12.84	11.60
20	12.21	11.93	11.38	11.75	11.54	11.14	11.50	12.26	12.97	13.25	12.85	11.66
21	12.26	11.88	11.46	11.75	11.54	11.13	11.54	12.38	12.91	13.30	12.93	11.69
22	12.29	11.55	11.53	11.62	11.50	10.93	10.96	12.45	12.84	13.35	12.96	11.74
23	12.28	11.05	11.53	11.31	11.41	10.93	11.16	12.49	13.00	13.41	12.99	11.77
24	12.24	11.34	11.70	11.32	11.46	10.26	11.31	12.50	13.05	13.44	13.03	11.90
25	12.14	11.31	11.74	11.40	11.50	10.67	11.38	12.56	13.08	13.46	13.11	11.94
26	12.18	11.36	11.92	11.47	11.50	10.90	11.42	12.61	13.10	13.47	13.15	11.62
27	12.23	11.45	11.94	11.59	11.54	10.92	11.32	12.65	13.10	13.48	13.17	11.18
28	12.23	11.51	11.95	11.62	11.55	10.77	11.43	12.66	13.14	13.51	13.23	11.33
29	12.24	11.56	11.87	11.75	---	10.81	11.55	12.74	13.14	13.49	13.28	11.49
30	12.26	11.58	11.61	11.75	---	11.04	11.66	12.75	13.18	13.35	13.31	11.58
31	12.26	---	11.32	11.72	---	11.19	---	12.74	---	13.39	13.34	---
MEAN	12.12	11.66	11.64	11.52	11.74	11.02	11.35	12.24	12.84	13.25	13.11	12.09
MAX	12.58	12.23	11.98	11.75	12.17	11.56	11.66	12.75	13.18	13.51	13.56	13.38
MIN	11.42	11.05	11.15	11.13	11.40	10.26	10.80	11.70	12.45	12.70	12.32	11.18

WTR YR 1993: HIGHEST 10.26, MARCH 24; LOWEST 13.56, AUGUST 5, 6.

Gap Indicates missing record.



3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

BEDFORD COUNTY

400217078281901. Local number, BD 150.

LOCATION.--Lat 40°02'17", long 78°28'19", Hydrologic Unit 02050303, at Bedford.

Owner: U.S. Geological Survey.

AQUIFER.--Onondaga Formation, Middle Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 150 ft, cased to 47 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,160 ft above sea level, from topographic map. Measuring point: Top of casing, 3.1 ft above land-surface datum.

PERIOD OF RECORD.--July 1965 to current year.

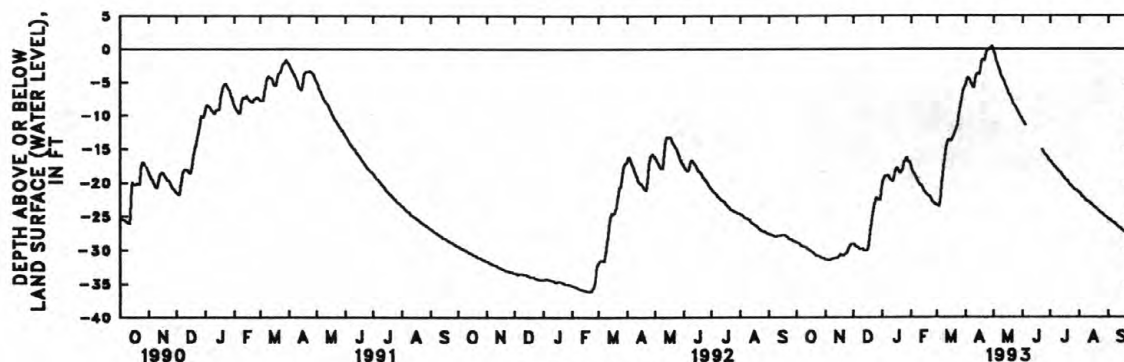
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.02 ft above land-surface datum, July 28, 1989; lowest, 41.42 ft below land-surface datum, Feb. 12, 13, 1966.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-28.83	-31.36	-29.05	-20.19	-17.64	-23.30	-5.23	-0.34	-10.71	-16.85	-21.47	-25.32
2	-28.87	-31.36	-29.12	-19.58	-18.04	-23.36	-4.59	-0.87	-10.95	-16.90	-21.61	-25.41
3	-28.95	-31.39	-29.36	-19.28	-18.23	-23.44	-4.33	-1.44	-11.18	-17.07	-21.83	-25.47
4	-29.06	-31.39	-29.35	-19.04	-18.65	-23.38	-4.41	-1.83	-11.41	-17.28	-21.99	-25.59
5	-29.21	-31.38	-29.51	-19.00	-18.72	-21.78	-4.63	-2.27	---	-17.46	-22.13	-25.73
6	-29.31	-31.35	-29.54	-18.96	-19.14	-20.15	-4.96	-2.69	---	-17.62	-22.21	-25.86
7	-29.38	-31.31	-29.62	-18.88	-19.25	-19.02	-5.29	-3.13	---	-17.80	-22.42	-25.96
8	-29.42	-31.28	-29.78	-19.04	-19.68	-17.66	-5.57	-3.53	---	-17.94	-22.61	-26.02
9	-29.46	-31.28	-29.80	-19.38	-19.92	-16.39	-5.76	-3.90	---	-18.12	-22.71	-26.07
10	-29.53	-31.26	-29.80	-19.59	-20.12	-15.37	-5.72	-4.26	---	-18.28	-22.80	-26.26
11	-29.59	-31.20	-29.76	-19.70	-20.35	-14.30	-4.60	-4.52	---	-18.39	-22.81	-26.42
12	-29.66	-31.17	-29.96	-19.73	-20.36	-14.04	-3.85	-4.74	---	-18.55	-22.91	-26.53
13	-29.82	-31.10	-30.04	-19.46	-20.51	-13.67	-3.69	-5.18	---	-18.78	-23.04	-26.65
14	-29.90	-31.09	-30.06	-18.77	-20.99	-13.57	-3.71	-5.57	---	-18.93	-23.18	-26.72
15	-29.99	-30.91	-30.04	-18.26	-21.22	-13.75	-3.80	-5.95	---	-19.13	-23.29	-26.84
16	-30.09	-30.84	-29.95	-17.85	-21.29	-13.75	-3.78	-6.36	---	-19.29	-23.40	-26.95
17	-30.23	-30.62	-29.60	-17.73	-21.61	-13.58	-2.44	-6.75	---	-19.47	-23.53	-27.03
18	-30.25	-30.63	-28.30	-18.11	-21.69	-13.42	-1.81	-6.90	---	-19.62	-23.68	-27.14
19	-30.42	-30.71	-27.24	-18.40	-21.82	-13.01	-1.57	-7.17	---	-19.70	-23.77	-27.27
20	-30.49	-30.74	-26.13	-18.49	-21.95	-12.57	-1.64	-7.53	---	-19.90	-23.85	-27.33
21	-30.63	-30.67	-25.09	-18.53	-21.97	-12.27	-1.69	-7.89	---	-20.08	-24.04	-27.45
22	-30.71	-30.59	-24.07	-18.34	-22.10	-11.93	-1.18	-8.24	-15.07	-20.23	-24.16	-27.55
23	-30.73	-30.41	-23.42	-17.90	-22.36	-11.54	-0.17	-8.48	-15.39	-20.38	-24.25	-27.64
24	-30.72	-30.37	-22.79	-17.15	-22.70	-10.27	-0.15	-8.62	-15.65	-20.55	-24.39	-27.73
25	-30.84	-30.00	-22.21	-16.83	-22.89	-9.33	-0.12	-8.96	-15.76	-20.69	-24.54	-27.77
26	-30.91	-29.59	-22.20	-16.69	-22.99	-8.53	-0.13	-9.26	-15.92	-20.77	-24.64	-27.83
27	-31.02	-29.29	-22.35	-16.32	-23.13	-7.78	.16	-9.53	-16.05	-20.92	-24.71	-27.88
28	-31.10	-29.10	-22.53	-16.38	-23.26	-7.06	.40	-9.72	-16.20	-21.05	-24.85	-27.97
29	-31.11	-29.04	-22.55	-16.89	---	-6.41	.48	-10.05	-16.43	-21.03	-24.98	-28.04
30	-31.19	-29.05	-22.55	-16.95	---	-5.88	.14	-10.24	-16.63	-21.21	-25.07	-28.14
31	-31.30	---	-21.31	-16.92	---	-5.57	---	-10.35	---	-21.38	-25.16	---
MEAN	-30.09	-30.68	-27.00	-18.33	-20.81	-14.07	-2.79	-6.01	-14.41	-19.21	-23.42	-26.82
MAX	-28.83	-29.04	-21.31	-16.32	-17.64	-5.57	.48	-0.34	-10.71	-16.85	-21.47	-25.32
MIN	-31.30	-31.39	-30.06	-20.19	-23.26	-23.44	-5.76	-10.35	-16.63	-21.38	-25.16	-28.14

WTR YR 1993: HIGHEST +0.48, APRIL 29; LOWEST -31.39, NOVEMBER 3, 4.

Gap Indicates missing record.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

BLAIR COUNTY

402452078271301. Local number, RA 74.

LOCATION.--Lat 40°24'52", long 78°27'13", Hydrologic Unit 02050302, southwest of Duncansville.

Owner: U.S. Geological Survey.

AQUIFER.--Brallier Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 150 ft, cased to 14 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,130 ft above sea level, from topographic map. Measuring point: Top of casing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--August 1969 to current year.

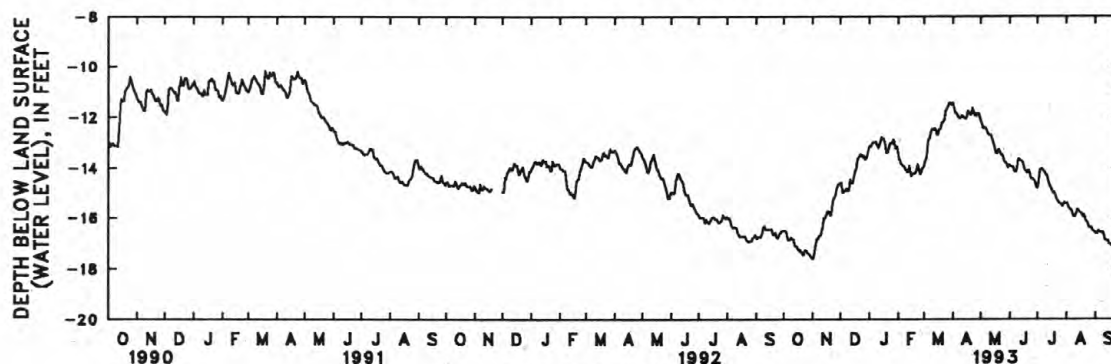
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.65 ft below land-surface datum, May 11, 1989; lowest, 18.65 ft below land-surface datum, Oct. 29, 30, 1969.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.49	17.60	14.59	13.11	13.45	13.92	11.42	12.15	13.86	14.80	15.41	16.57
2	16.49	17.60	14.59	13.13	13.65	13.72	11.60	12.26	13.93	14.70	15.40	16.61
3	16.48	17.34	14.98	13.12	13.65	13.63	11.78	12.36	13.91	14.31	15.54	16.59
4	16.63	17.15	14.98	13.05	13.82	13.53	11.84	12.42	13.94	14.04	15.60	16.51
5	16.78	16.89	14.92	12.96	13.84	12.93	11.86	12.41	13.94	14.04	15.65	16.49
6	16.85	16.81	14.93	12.99	13.89	12.86	11.93	12.41	14.12	14.02	15.66	16.52
7	16.86	16.80	14.81	12.95	13.92	12.81	12.02	12.47	14.14	14.07	15.75	16.55
8	16.83	16.70	14.90	12.94	13.96	12.60	12.04	12.55	14.12	14.12	15.89	16.57
9	16.76	16.69	14.91	13.00	14.08	12.46	12.04	12.62	13.99	14.18	15.94	16.52
10	16.82	16.64	14.89	13.10	14.07	12.46	12.00	12.69	13.62	14.27	15.95	16.58
11	16.83	16.49	14.45	13.17	14.17	12.44	11.95	12.69	13.60	14.31	15.89	16.76
12	16.85	16.35	14.57	13.07	14.13	12.49	11.99	12.68	13.66	14.43	15.74	16.84
13	17.08	15.99	14.61	12.93	13.89	12.43	12.03	12.79	13.70	14.61	15.65	16.89
14	17.10	16.03	14.60	12.76	14.20	12.54	12.05	12.92	13.72	14.65	15.70	16.89
15	17.10	15.92	14.42	12.83	14.33	12.69	12.06	13.03	13.75	14.76	15.74	16.89
16	17.18	15.90	14.19	12.81	14.28	12.65	12.01	13.20	13.91	14.82	15.76	17.01
17	17.26	15.71	14.10	12.85	14.19	12.51	11.75	13.38	14.02	14.93	15.78	17.03
18	17.27	15.71	13.98	13.11	14.23	12.45	11.81	13.41	14.08	15.00	15.87	17.01
19	17.23	15.76	13.63	13.35	14.21	12.42	11.85	13.30	14.12	14.97	15.95	17.08
20	17.33	15.89	13.57	13.38	14.15	12.23	11.91	13.23	14.20	15.09	15.85	17.09
21	17.37	15.86	13.53	13.33	14.09	12.19	11.87	13.30	14.08	15.17	16.00	17.06
22	17.44	15.60	13.44	13.17	13.85	12.17	11.63	13.39	14.07	15.26	16.09	17.14
23	17.41	15.23	13.44	13.03	13.97	12.08	11.76	13.46	14.28	15.32	16.13	17.14
24	17.26	15.22	13.52	12.97	14.14	11.80	11.85	13.44	14.42	15.38	16.16	17.19
25	17.27	15.14	13.56	12.97	14.24	11.68	11.95	13.57	14.43	15.42	16.28	17.19
26	17.28	14.95	13.48	13.01	14.15	11.62	11.95	13.70	14.43	15.45	16.36	17.05
27	17.38	14.74	13.64	12.86	14.00	11.53	11.83	13.77	14.46	15.43	16.35	16.90
28	17.39	14.69	13.62	12.93	13.96	11.44	11.85	13.77	14.52	15.52	16.34	16.65
29	17.44	14.63	13.57	13.19	---	11.41	11.87	13.89	14.63	15.44	16.45	16.55
30	17.51	14.65	13.42	13.20	---	11.45	12.02	13.98	14.72	15.35	16.50	16.49
31	17.57	---	13.29	13.13	---	11.50	---	13.88	---	15.41	16.50	---
MEAN	17.08	16.02	14.17	13.05	14.02	12.41	11.88	13.07	14.08	14.82	15.93	16.81
MAX	17.57	17.60	14.98	13.38	14.33	13.92	12.06	13.98	14.72	15.52	16.50	17.19
MIN	16.48	14.63	13.29	12.76	13.45	11.41	11.42	12.15	13.60	14.02	15.40	16.49

WTR YR 1993: HIGHEST 11.41, MARCH 29; LOWEST 17.60, NOVEMBER 1, 2.

Gap Indicates missing record.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

BRADFORD COUNTY

414330076280501. Local number, BR 92.

LOCATION.--Lat 41°43'30", long 76°28'05", Hydrologic Unit 02050106, at Monroeton.

Owner: U.S. Geological Survey.

AQUIFER.--Lock Haven Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 117 ft, cased to 55 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 750 ft above sea level, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--May 1966 to current year.

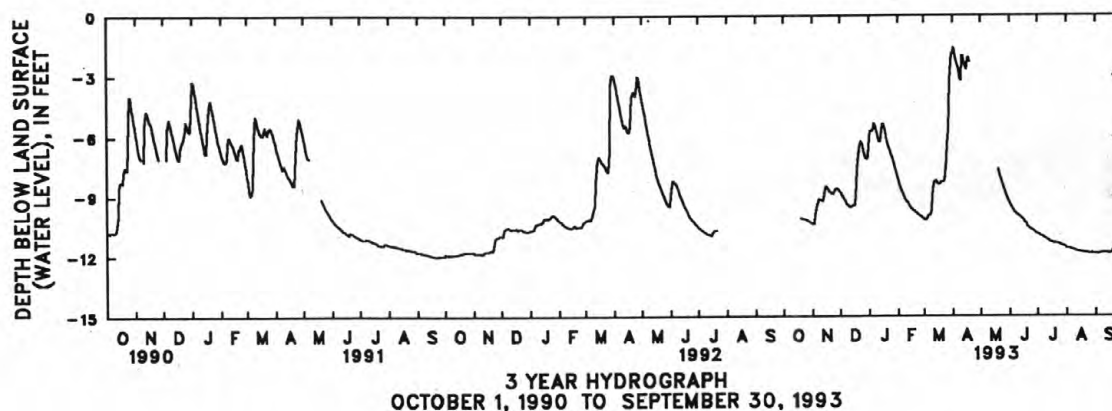
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.33 ft below land-surface datum, Apr. 6, 1984; lowest, 11.99 ft below land-surface datum, Sept. 20, 24, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.36	8.79	6.07	8.15	10.13	1.88	---	9.36	10.88	11.60	11.87
2	---	10.37	8.86	5.73	8.28	10.18	1.60	---	9.46	10.90	11.60	11.87
3	---	10.36	8.98	5.69	8.44	10.18	1.81	---	9.54	10.92	11.61	11.89
4	---	9.91	8.99	5.71	8.57	10.17	2.11	---	9.63	10.96	11.61	11.88
5	---	9.62	9.13	5.64	8.73	10.02	2.32	---	9.69	10.98	11.64	11.87
6	---	9.47	9.16	5.34	8.83	9.97	2.48	---	9.77	11.00	11.63	11.85
7	---	9.27	9.26	5.38	8.93	9.96	2.69	---	9.82	11.04	11.66	11.83
8	---	9.15	9.38	5.53	9.09	9.92	2.92	---	9.88	11.06	11.68	11.83
9	---	9.16	9.44	5.73	9.16	9.74	3.16	---	9.93	11.10	11.69	11.82
10	---	9.17	9.45	5.93	9.25	8.98	3.21	---	9.93	11.14	11.70	11.82
11	---	9.21	9.55	6.13	9.31	8.40	2.03	---	9.98	11.16	11.72	11.83
12	---	9.22	9.54	6.26	9.32	8.32	2.03	---	10.03	11.20	11.74	11.82
13	---	9.14	9.53	6.22	9.46	8.26	2.27	---	10.06	11.23	11.75	11.82
14	---	8.69	9.50	5.67	9.53	8.23	2.44	---	10.11	11.25	11.77	11.83
15	---	8.52	9.45	5.36	9.58	8.32	2.59	---	10.16	11.28	11.78	11.85
16	---	8.51	9.46	5.36	9.64	8.38	2.68	---	10.22	11.30	11.80	11.85
17	---	8.57	9.43	5.52	9.68	8.40	2.20	---	10.29	11.31	11.80	11.84
18	---	8.64	8.45	5.73	9.74	8.39	2.07	---	10.33	11.32	11.79	11.84
19	---	8.73	7.59	5.96	9.75	8.35	2.28	---	10.38	11.34	11.80	11.82
20	10.08	8.78	6.98	6.18	9.80	8.27	---	7.68	10.52	11.31	11.82	11.71
21	10.11	8.82	6.65	6.37	9.82	8.27	---	7.87	10.56	11.34	11.84	11.72
22	10.13	8.86	6.31	6.52	9.87	8.28	---	8.04	10.59	11.35	11.84	11.72
23	10.13	8.87	6.23	6.64	9.92	8.24	---	8.18	10.65	11.35	11.84	11.72
24	10.15	8.82	6.34	6.81	9.97	7.93	---	8.35	10.65	11.37	11.84	11.74
25	10.16	8.71	6.46	6.91	10.01	7.15	---	8.51	10.67	11.38	11.85	11.73
26	10.18	8.63	6.74	7.02	10.03	6.37	---	8.63	10.72	11.44	11.86	11.71
27	10.23	8.60	6.94	7.22	10.07	5.68	---	8.79	10.75	11.46	11.85	11.70
28	10.25	8.62	7.10	7.40	10.11	4.54	---	8.91	10.79	11.47	11.84	11.63
29	10.27	8.67	7.11	7.60	---	3.27	---	9.06	10.83	11.49	11.86	11.58
30	10.31	8.73	7.11	7.73	---	2.36	---	9.16	10.86	11.51	11.87	11.54
31	10.33	---	6.97	7.97	---	1.89	---	9.26	---	11.53	11.87	---
MEAN	10.19	9.07	8.22	6.24	9.39	7.95	2.36	8.54	10.21	11.24	11.76	11.78
MAX	10.33	10.37	9.55	7.97	10.11	10.18	3.21	9.26	10.86	11.53	11.87	11.89
MIN	10.08	8.51	6.23	5.34	8.15	1.89	1.60	7.68	9.36	10.88	11.60	11.54

WTR YR 1993: HIGHEST 1.60, APRIL 2; LOWEST 11.89, SEPTEMBER 3.

Gap indicates missing record.



CAMERON COUNTY

412732078034201. Local number, CM 13.

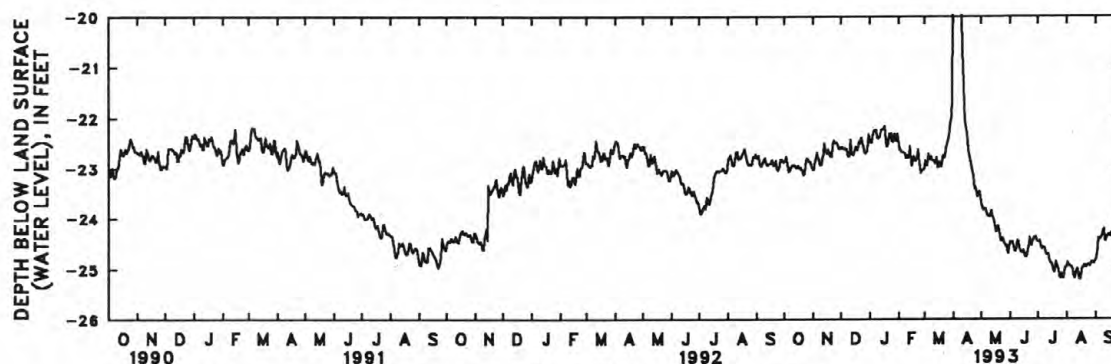
LOCATION.--Lat 41°27'32", long 78°03'42", Hydrologic Unit 02050202, at Sinnemahoning State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.**WELL CHARACTERISTICS.**--Drilled observation well, diameter 6 in., depth 102 ft, cased to 57 ft, open hole.**INSTRUMENTATION.**--Digital recorder with 60-minute recording interval. Pennsylvania Department of Environmental Resources satellite telemeter at station.**DATUM.**--Elevation of land surface is 1,010 ft above sea level, from topographic map. Measuring point: Top of casing, 3.1 ft above land-surface datum.**REMARKS.**--Water level affected by surface-water impounded by George B. Stevenson Dam April 1-8, 1993.**PERIOD OF RECORD.**--October 1967 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 2.69 ft above land-surface datum, April 3, 1993 (see Remarks); lowest, 25.98 ft below land-surface datum, Sept. 10, 1972.WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-22.85	-23.02	-22.57	-22.42	-22.50	-22.98	-15.83	-23.69	-24.46	-24.46	-24.95	-24.80
2	-22.82	-23.02	-22.57	-22.48	-22.62	-22.84	.93	-23.75	-24.48	-24.45	-24.86	-24.78
3	-22.76	-22.83	-22.61	-22.47	-22.61	-22.93	2.69	-23.82	-24.45	-24.43	-24.91	-24.58
4	-22.89	-22.82	-22.61	-22.35	-22.67	-22.93	1.31	-23.82	-24.47	-24.52	-24.92	-24.38
5	-22.99	-22.68	-22.58	-22.24	-22.67	-22.71	-6.90	-23.79	-24.54	-24.59	-24.94	-24.39
6	-23.06	-22.76	-22.62	-22.24	-22.67	-22.80	-12.42	-23.80	-24.64	-24.56	-24.94	-24.40
7	-23.04	-22.82	-22.60	-22.23	-22.68	-22.82	-16.09	-23.89	-24.64	-24.58	-25.01	-24.37
8	-23.00	-22.88	-22.72	-22.23	-22.70	-22.75	-17.88	-23.94	-24.53	-24.57	-25.11	-24.33
9	-22.94	-22.92	-22.76	-22.37	-22.78	-22.83	-19.06	-23.95	-24.43	-24.65	-25.17	-24.24
10	-22.92	-22.91	-22.74	-22.39	-22.73	-22.84	-19.94	-23.96	-24.45	-24.70	-25.12	-24.20
11	-22.95	-22.81	-22.41	-22.38	-22.78	-22.83	-20.66	-23.92	-24.58	-24.70	-25.06	-24.42
12	-22.92	-22.70	-22.62	-22.34	-22.76	-22.89	-21.31	-23.83	-24.64	-24.69	-24.99	-24.44
13	-22.93	-22.49	-22.70	-22.23	-22.55	-22.85	-21.74	-23.94	-24.67	-24.83	-25.02	-24.37
14	-22.98	-22.63	-22.73	-22.21	-22.84	-22.77	-22.06	-24.00	-24.65	-24.85	-25.17	-24.34
15	-22.98	-22.66	-22.70	-22.21	-22.94	-22.97	-22.22	-24.05	-24.62	-24.88	-25.20	-24.30
16	-22.94	-22.69	-22.59	-22.19	-22.90	-22.96	-22.28	-24.18	-24.71	-24.90	-25.20	-24.34
17	-22.98	-22.62	-22.56	-22.15	-22.74	-22.86	-22.62	-24.25	-24.76	-24.99	-25.03	-24.32
18	-23.00	-22.65	-22.63	-22.43	-22.80	-22.96	-22.71	-24.23	-24.75	-25.06	-24.96	-24.28
19	-22.97	-22.74	-22.62	-22.55	-22.85	-22.96	-22.80	-24.14	-24.72	-25.02	-24.96	-24.35
20	-23.04	-22.76	-22.47	-22.55	-22.80	-22.87	-22.88	-24.22	-24.62	-24.84	-24.91	-24.38
21	-23.05	-22.76	-22.51	-22.50	-22.78	-22.73	-23.03	-24.33	-24.51	-24.90	-24.94	-24.31
22	-23.12	-22.54	-22.40	-22.30	-22.62	-22.78	-23.06	-24.42	-24.37	-24.93	-24.96	-24.32
23	-23.10	-22.43	-22.38	-22.30	-22.77	-22.76	-23.29	-24.44	-24.47	-25.01	-24.93	-24.30
24	-22.92	-22.49	-22.54	-22.29	-22.97	-22.59	-23.40	-24.38	-24.53	-25.12	-24.90	-24.32
25	-22.79	-22.47	-22.54	-22.45	-23.09	-22.52	-23.37	-24.44	-24.47	-25.17	-24.90	-24.35
26	-22.79	-22.46	-22.64	-22.47	-23.03	-22.45	-23.49	-24.49	-24.40	-25.18	-24.93	-24.26
27	-22.84	-22.52	-22.69	-22.32	-23.02	-22.35	-23.55	-24.53	-24.37	-25.09	-24.88	-24.11
28	-22.86	-22.58	-22.67	-22.30	-23.01	-22.22	-23.53	-24.52	-24.35	-25.17	-24.84	-23.94
29	-22.86	-22.60	-22.64	-22.44	---	-22.08	-23.45	-24.67	-24.36	-25.17	-24.89	-24.00
30	-22.94	-22.60	-22.47	-22.44	---	-22.00	-23.54	-24.68	-24.42	-24.96	-24.89	-24.03
31	-22.99	---	-22.31	-22.30	---	-21.58	---	-24.55	---	-24.96	-24.86	---
MEAN	-22.94	-22.70	-22.59	-22.35	-22.78	-22.69	-18.61	-24.15	-24.54	-24.84	-24.98	-24.33
MAX	-22.76	-22.43	-22.31	-22.15	-22.50	-21.58	2.69	-23.69	-24.35	-24.43	-24.84	-23.94
MIN	-23.12	-23.02	-22.76	-22.55	-23.09	-22.98	-23.55	-24.68	-24.76	-25.18	-25.20	-24.80

WTR YR 1993: HIGHEST +2.69, APRIL 3; LOWEST -25.20, AUGUST 15, 16.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

CENTRE COUNTY

404518077575501. Local number, CE 118.

LOCATION.--Lat 40°45'18", long 77°57'55", Hydrologic Unit 02050302, at State Game Land No. 176, and near Fairbrook.

Owner: U.S. Geological Survey.

AQUIFER.--Gatesburg Formation, Late Cambrian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 130 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,150 ft above sea level, from topographic map. Measuring point: Top of casing, 2.9 ft above land-surface datum.

PERIOD OF RECORD.--January 1968 to June 1981, July 1984 to current year.

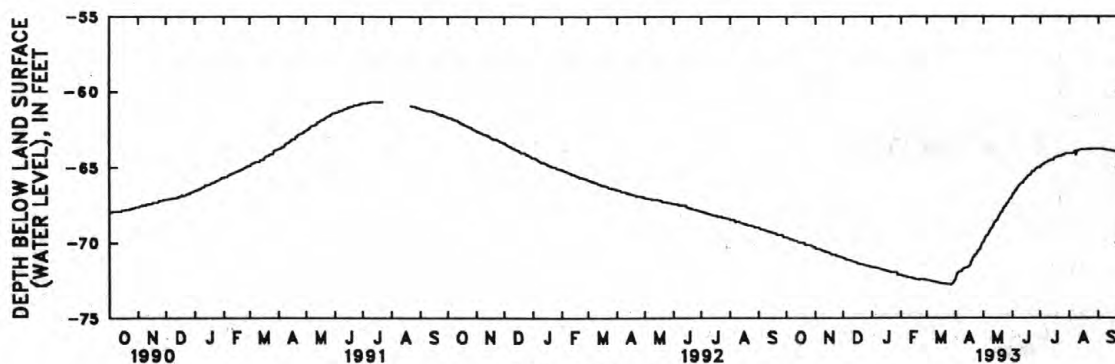
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 51.91 ft below land-surface datum, Sept. 8, 12, 16, 1978; lowest, 80.14 ft below land-surface datum, March 26, 1970.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69.64	70.31	70.97	71.60	72.14	72.47	72.40	69.96	66.81	64.98	64.06	63.77
2	69.65	70.40	71.01	71.60	72.16	72.48	72.15	69.78	66.74	64.84	64.05	63.77
3	69.68	70.39	71.04	71.62	72.17	72.50	72.03	69.68	66.63	64.81	64.05	63.78
4	69.71	70.38	71.08	71.63	72.19	72.51	71.95	69.60	66.53	64.77	64.05	63.78
5	69.74	70.40	71.10	71.65	72.20	72.52	71.91	69.49	66.50	64.74	64.04	63.78
6	69.76	70.42	71.10	71.66	72.22	72.55	71.90	69.45	66.37	64.70	64.04	63.78
7	69.78	70.44	71.11	71.67	72.23	72.56	71.90	69.29	66.31	64.66	63.90	63.79
8	69.79	70.47	71.13	71.69	72.26	72.58	71.77	69.21	66.18	64.63	64.16	63.79
9	69.81	70.50	71.16	71.71	72.28	72.59	71.76	69.10	66.12	64.59	63.90	63.79
10	69.83	70.52	71.17	71.74	72.29	72.59	71.71	69.00	66.05	64.55	63.88	63.85
11	69.85	70.55	71.20	71.75	72.30	72.62	71.67	68.96	66.01	64.52	63.86	63.84
12	69.86	70.58	71.23	71.77	72.31	72.64	71.65	68.77	66.00	64.49	63.83	63.85
13	69.90	70.59	71.25	71.78	72.33	72.64	71.65	68.64	65.86	64.49	63.82	63.85
14	69.95	70.61	71.27	71.79	72.35	72.67	71.63	68.57	65.81	64.49	63.79	63.86
15	69.95	70.62	71.30	71.81	72.37	72.68	71.59	68.48	65.73	64.48	63.79	63.87
16	69.97	70.63	71.32	71.82	72.39	72.69	71.53	68.45	65.67	64.34	63.80	63.89
17	69.97	70.68	71.34	71.85	72.40	72.70	71.45	68.27	65.62	64.32	63.79	63.89
18	69.98	70.71	71.36	71.88	72.43	72.72	71.26	68.15	65.55	64.31	63.79	63.90
19	69.98	70.76	71.39	71.90	72.44	72.73	71.09	68.03	65.51	64.27	63.79	63.92
20	69.98	70.76	71.40	71.91	72.44	72.73	70.95	67.96	65.50	64.22	63.78	63.94
21	70.11	70.77	71.40	71.96	72.45	72.73	70.90	67.94	65.36	64.21	63.77	63.94
22	70.13	70.78	71.44	71.96	72.43	72.74	70.77	67.74	65.27	64.21	63.77	63.95
23	70.13	70.82	71.45	71.96	72.43	72.75	70.76	67.64	65.26	64.21	63.79	63.99
24	70.13	70.86	71.46	71.97	72.43	72.75	70.69	67.51	65.25	64.19	63.78	63.99
25	70.14	70.87	71.48	71.97	72.44	72.77	70.58	67.51	65.20	64.16	63.78	63.99
26	70.15	70.88	71.50	71.97	72.44	72.77	70.47	67.35	65.09	64.13	63.78	63.99
27	70.18	70.90	71.51	71.97	72.45	72.78	70.46	67.30	65.06	64.09	63.78	64.00
28	70.19	70.92	71.53	71.97	72.47	72.77	70.29	67.20	65.01	64.08	63.78	64.01
29	70.22	70.93	71.55	72.14	---	72.72	70.13	67.07	64.99	64.06	63.77	64.01
30	70.25	70.93	71.57	72.14	---	72.65	69.99	67.03	64.99	64.06	63.77	64.05
31	70.28	---	71.58	72.14	---	72.53	---	66.99	---	64.06	63.77	---
MEAN	69.96	70.65	71.30	71.84	72.34	72.65	71.30	68.39	65.77	64.41	63.86	63.89
MAX	70.28	70.93	71.58	72.14	72.47	72.78	72.40	69.96	66.81	64.98	64.16	64.05
MIN	69.64	70.31	70.97	71.60	72.14	72.47	69.99	66.99	64.99	64.06	63.77	63.77

WTR YR 1993: HIGHEST 63.77, AUGUST 21, 22, 29 TO SEPTEMBER 2; LOWEST 72.78, MARCH 27.

Gap indicates missing record.



3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

CLINTON COUNTY

411424077462201. Local number, CN 1.

LOCATION.--Lat 41°14'24", long 77°46'22", Hydrologic Unit 02050203, at Sproul State Forest, and at State Camp.
 Owner: Commonwealth of Pennsylvania.

AQUIFER.--Huntley Mountain Formation, Early Mississippian-Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 78 ft, cased to 38 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval.

DATUM.--Elevation of land surface is 2,050 ft above sea level, from topographic map. Measuring point: Top of platform, 3.2 ft above land-surface datum.

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

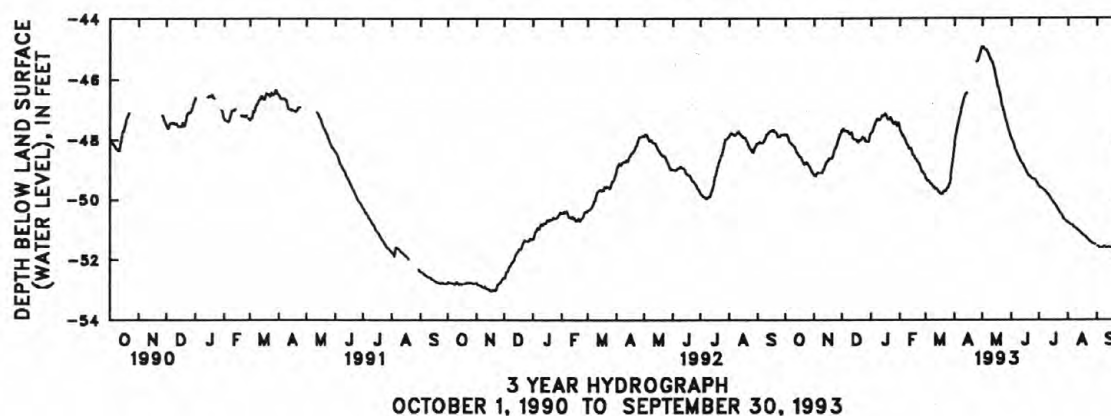
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.00 ft below land-surface datum, Jan. 13, 1951; lowest, 57.24 ft below land-surface datum, Dec. 21, 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.83	49.19	47.67	47.77	47.65	49.28	48.18	44.92	47.97	49.55	50.74	---
2	47.82	49.19	47.62	47.76	47.72	49.30	47.87	44.94	48.02	49.58	50.78	51.55
3	47.86	49.21	47.70	47.68	47.75	49.38	47.73	44.98	48.09	49.60	50.81	51.57
4	47.95	49.13	47.69	47.58	47.86	49.36	47.56	45.00	48.17	49.63	50.83	51.58
5	48.04	49.08	47.70	47.48	47.86	49.39	47.44	45.01	48.27	49.65	50.85	51.60
6	48.09	49.10	47.70	47.43	47.96	49.46	47.28	45.05	48.37	49.67	50.85	51.59
7	48.12	49.11	47.70	47.38	47.97	49.47	47.16	45.13	48.43	49.71	50.91	51.59
8	48.15	49.11	47.78	47.31	48.11	49.50	47.03	45.19	48.50	49.74	50.94	51.57
9	48.19	49.11	47.82	47.34	48.15	49.58	46.90	45.27	48.56	49.77	50.96	51.55
10	48.22	49.08	47.77	47.35	48.21	49.57	46.75	45.35	48.63	49.81	50.98	51.57
11	48.25	49.00	47.76	47.32	48.29	49.64	46.65	45.38	48.71	49.83	51.00	51.59
12	48.29	48.96	47.87	47.29	48.27	49.66	46.55	45.44	48.77	49.80	51.03	51.59
13	48.41	48.82	47.96	47.21	48.28	49.62	46.51	45.57	48.81	49.95	51.05	51.60
14	48.45	48.77	47.99	47.22	48.43	49.70	46.47	45.71	48.84	49.98	51.08	51.57
15	48.49	48.73	47.98	47.19	48.52	49.75	---	45.85	48.93	50.03	51.10	51.59
16	48.53	48.73	48.01	47.15	48.51	49.75	---	46.04	48.99	50.07	51.13	51.59
17	48.58	48.62	48.00	47.16	48.57	49.79	---	46.19	49.04	50.13	51.16	51.59
18	48.59	48.62	48.08	47.27	48.66	49.82	---	46.28	49.10	50.16	51.19	51.59
19	48.67	48.63	48.03	47.33	48.69	49.81	---	46.42	49.17	50.19	51.20	51.61
20	48.70	48.62	48.01	47.33	48.75	49.75	---	46.56	49.21	50.25	51.22	51.62
21	48.78	48.55	48.01	47.33	48.75	49.72	---	46.71	49.20	50.30	51.28	51.63
22	48.82	48.45	47.94	47.27	48.78	49.74	---	46.86	49.25	50.35	51.29	51.65
23	48.79	48.27	47.89	47.33	48.87	49.70	---	46.97	49.28	50.41	51.32	51.65
24	48.75	48.27	47.97	47.37	48.99	49.63	---	47.07	49.30	50.46	51.35	51.67
25	48.79	48.17	47.94	47.46	49.05	49.61	45.40	47.22	49.31	50.50	51.39	51.66
26	48.84	48.07	48.04	47.47	49.09	49.53	45.36	47.34	49.32	50.52	51.41	51.65
27	48.89	47.96	48.06	47.41	49.13	49.41	45.25	47.45	49.34	50.59	51.41	51.64
28	48.93	47.87	48.07	47.41	49.17	49.23	45.15	47.55	49.40	50.65	51.46	51.54
29	49.01	47.81	48.07	47.53	---	48.97	45.04	47.70	49.45	50.65	51.47	51.49
30	49.08	47.74	48.00	47.53	---	48.72	44.93	47.76	49.51	50.71	51.49	51.43
31	49.13	---	47.86	47.44	---	48.51	---	47.85	---	50.74	---	---
MEAN	48.49	48.67	47.89	47.39	48.43	49.50	46.56	46.15	48.86	50.10	51.12	51.59
MAX	49.13	49.21	48.08	47.77	49.17	49.82	48.18	47.85	49.51	50.74	51.49	51.67
MIN	47.82	47.74	47.62	47.15	47.65	48.51	44.93	44.92	47.97	49.55	50.74	51.43

WTR YR 1993: HIGHEST 44.92, MAY 1; LOWEST 51.67, SEPTEMBER 24.

Gap Indicates missing record.



CUMBERLAND COUNTY

400209077183301. Local number, CU 2.

LOCATION.--Lat 40°02'09", long 77°18'33", Hydrologic Unit 02050305, at Michaux State Forest, and at Pine Grove Furnace.

Owner: Commonwealth of Pennsylvania.

AQUIFER.--Metarhyolite, Precambrian age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 37 ft, cased to 19 ft.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 955 ft above sea level, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

REMARKS.--Additional data for Cumberland County for the 1993 water year including precipitation records, streamflow records, and ground-water levels for 10 wells may be found in Water-Resources Investigation Report 94-4059, "Water and Sediment Budgets for the Stormwater-Drainage Channel at the Navy Ship Parts Control Center near Mechanicsburg, Pennsylvania, Water Year 1993", by L.A. Reed, R.R. Durlin, and J.K. Bender. Ordering information may be found on page 1.

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

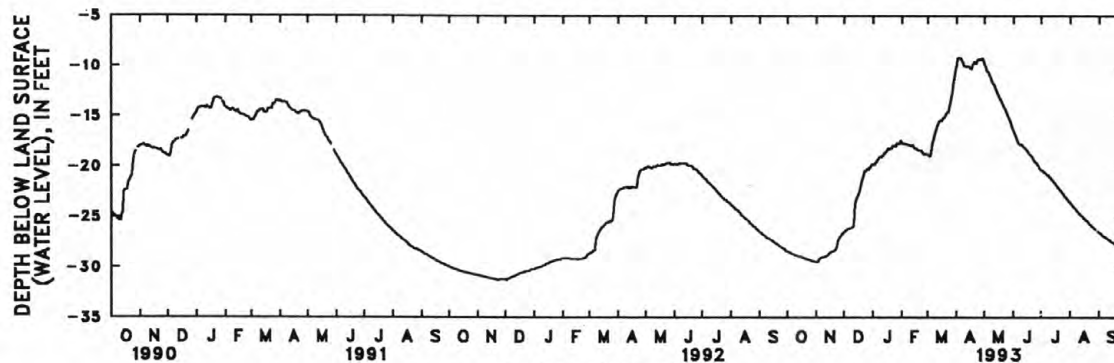
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.15 ft below land-surface datum, Apr. 3, 1993; lowest, 33.50 ft below land-surface datum, Feb. 3, 1955.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.41	29.48	26.45	19.81	17.70	18.81	9.86	9.79	16.49	20.35	23.55	26.49
2	28.44	29.49	26.35	19.82	17.77	18.84	9.23	10.13	16.66	20.38	23.67	26.57
3	28.50	29.46	26.28	19.73	17.69	18.95	9.15	10.34	16.86	20.46	23.79	26.65
4	28.55	29.19	26.24	19.58	17.79	18.94	9.16	10.49	17.11	20.56	23.91	26.72
5	28.60	29.09	26.15	19.43	17.74	18.20	9.18	10.64	17.36	20.63	24.01	26.81
6	28.64	29.04	26.13	19.36	17.80	17.63	9.35	10.82	17.57	20.71	24.12	26.88
7	28.67	29.00	26.03	19.22	17.81	17.34	9.56	11.07	17.73	20.79	24.24	26.95
8	28.71	28.97	26.03	19.04	17.87	16.95	9.74	11.28	17.86	20.87	24.35	27.02
9	28.75	28.95	26.02	19.04	17.92	16.60	9.96	11.52	17.86	20.96	24.46	27.07
10	28.77	28.92	25.97	19.03	17.91	16.33	9.98	11.72	17.85	21.05	24.55	27.15
11	28.81	28.88	25.79	18.94	17.97	15.86	10.05	11.82	17.97	21.14	24.64	27.21
12	28.84	28.82	24.66	18.82	17.94	15.79	10.00	12.00	18.08	21.25	24.72	27.28
13	28.88	28.77	23.66	18.64	17.92	15.56	10.00	12.29	18.17	21.39	24.82	27.35
14	28.92	28.70	23.27	18.60	18.14	15.43	10.05	12.53	18.24	21.48	24.92	27.40
15	28.93	28.61	23.01	18.50	18.22	15.51	10.15	12.75	18.36	21.59	25.02	27.49
16	28.98	28.55	22.84	18.35	18.20	15.43	10.24	12.98	18.50	21.71	25.09	27.53
17	29.02	28.48	22.69	18.20	18.24	15.26	10.33	13.22	18.60	21.85	25.20	27.58
18	29.04	28.42	22.16	18.28	18.33	15.16	9.87	13.32	18.69	21.95	25.28	27.64
19	29.09	28.39	21.75	18.29	18.38	15.11	9.74	13.55	18.84	22.05	25.37	27.70
20	29.13	28.34	21.34	18.21	18.39	14.96	9.57	13.75	18.94	22.18	25.46	27.73
21	29.17	28.28	21.10	18.19	18.39	14.72	9.66	13.98	19.01	22.30	25.56	27.78
22	29.19	28.21	20.72	17.98	18.42	14.63	9.76	14.16	19.21	22.40	25.66	27.83
23	29.21	27.93	20.44	18.03	18.55	14.59	9.35	14.31	19.39	22.53	25.74	27.88
24	29.24	27.46	20.46	17.95	18.69	14.18	9.35	14.50	19.50	22.66	25.83	27.94
25	29.27	27.18	20.37	18.02	18.78	13.66	9.29	14.74	19.58	22.78	25.93	27.97
26	29.31	27.01	20.27	17.95	18.74	13.18	9.35	14.97	19.70	22.89	26.01	28.01
27	29.33	26.87	20.28	17.72	18.78	12.66	9.34	15.22	19.81	23.01	26.08	28.02
28	29.38	26.75	20.14	17.73	18.81	12.08	9.22	15.44	19.94	23.10	26.18	28.03
29	29.37	26.64	20.06	17.76	---	11.48	9.23	15.77	20.08	23.19	---	28.01
30	29.40	26.56	19.92	17.68	---	10.84	9.51	15.99	20.22	23.32	---	28.02
31	29.44	---	19.77	17.47	---	10.37	---	16.16	---	23.44	26.39	---
MEAN	28.97	28.35	23.11	18.56	18.17	15.32	9.64	12.94	18.47	21.77	24.98	27.42
MAX	29.44	29.49	26.45	19.82	18.81	18.95	10.33	16.16	20.22	23.44	26.39	28.03
MIN	28.41	26.56	19.77	17.47	17.69	10.37	9.15	9.79	16.49	20.35	23.55	26.49

WTR YR 1993: HIGHEST 9.15, APRIL 3; LOWEST 29.49, NOVEMBER 2.

Gap indicates missing record.



3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

DAUPHIN COUNTY

402118076462201. Local number, DA 350.

LOCATION.--Lat 40°21'18", long 76°46'22", Hydrologic Unit 02050305, at R. D. 1, Linglestown.

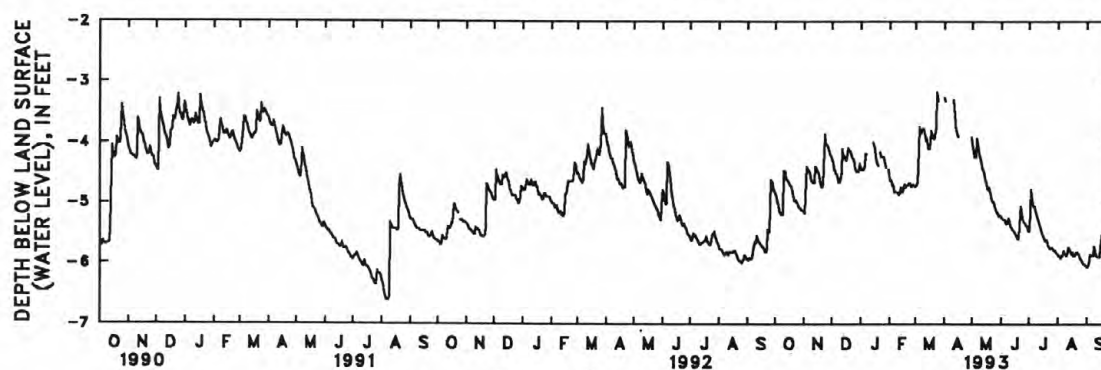
Owner: William R. Miller.

AQUIFER.--Hamburg sequence, Early-Middle Ordovician age.**WELL CHARACTERISTICS.**--Drilled unused well, diameter 6 in., depth 225 ft, cased to 19 ft, open hole.**INSTRUMENTATION.**--Pennsylvania Department of Environmental Resources satellite telemeter at station.**DATUM.**--Elevation of land surface is 450 ft above sea level, from topographic map. Measuring point: Top of casing, 1.3 ft above land-surface datum.**PERIOD OF RECORD.**--September 1964 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 1.15 ft below land-surface datum, June 22, 1972; lowest, 6.95 ft below land-surface datum, Sept. 11, 1966.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.84	5.15	4.27	4.43	4.61	4.72	3.26	4.02	5.24	5.48	5.86	6.06
2	4.90	5.17	4.31	4.45	4.63	4.72	3.31	4.13	5.26	5.43	5.88	6.06
3	4.98	4.65	4.45	4.45	4.62	4.66	---	4.20	5.28	4.78	5.88	6.02
4	5.04	4.39	4.43	4.43	4.72	4.42	---	4.24	5.28	4.88	5.92	5.94
5	5.12	4.43	4.51	4.39	4.69	3.74	---	4.23	5.28	5.02	5.88	5.86
6	5.16	4.45	4.51	4.17	4.82	3.80	---	3.93	5.34	5.06	5.88	5.88
7	5.18	4.49	4.58	4.18	4.81	3.84	---	4.04	5.35	5.06	5.80	5.88
8	5.20	4.55	4.66	---	4.83	3.77	---	4.10	5.32	5.14	5.84	5.88
9	5.19	4.63	4.66	---	4.83	3.77	---	4.19	5.26	5.20	5.86	5.72
10	4.46	4.65	4.62	---	4.82	3.77	---	4.26	5.32	5.26	5.88	5.80
11	4.46	4.67	4.48	---	4.87	3.91	3.30	4.32	5.39	5.30	5.86	5.86
12	4.50	4.67	4.10	---	4.83	3.97	3.54	4.43	5.42	5.36	5.74	5.88
13	4.60	4.39	4.20	---	4.74	3.92	3.69	4.43	5.45	5.42	5.74	5.90
14	4.61	4.41	4.21	3.99	4.83	4.05	3.79	4.52	5.47	5.46	5.80	5.90
15	4.63	4.45	4.25	4.03	4.82	4.10	3.86	4.60	5.48	5.50	5.82	5.90
16	4.69	4.47	4.29	4.09	4.75	4.08	3.90	4.67	5.53	5.54	5.86	5.74
17	4.71	4.51	4.25	4.22	4.69	3.98	---	4.76	5.54	5.59	5.82	5.56
18	4.73	4.63	4.09	4.31	4.75	3.80	---	4.78	5.56	5.64	5.88	5.52
19	4.77	4.71	4.12	4.36	4.71	3.89	---	4.74	5.60	5.62	5.88	5.54
20	4.83	4.74	4.13	4.37	4.71	3.93	---	4.82	5.58	5.63	5.86	5.56
21	4.93	4.71	4.15	---	4.71	3.94	---	4.88	5.20	5.68	5.82	5.56
22	4.97	4.40	4.22	4.15	4.67	3.89	---	4.94	5.06	5.72	5.82	5.54
23	4.95	3.86	4.26	4.23	4.67	3.75	---	4.98	5.19	5.74	5.85	5.54
24	4.97	4.02	4.28	4.23	4.73	3.17	---	4.98	5.24	5.76	5.86	5.62
25	5.03	4.03	4.34	4.22	4.73	3.32	---	5.06	5.31	5.76	5.90	5.62
26	5.05	4.04	4.42	4.23	4.69	---	---	5.10	5.33	5.74	5.94	5.40
27	5.09	4.10	4.48	4.30	4.71	---	---	5.16	5.34	5.76	5.95	5.27
28	5.09	4.14	4.48	4.40	4.73	---	---	5.16	5.38	5.80	6.00	5.18
29	5.12	4.19	4.48	---	---	---	---	5.22	5.38	5.78	6.02	5.20
30	5.13	4.21	4.44	---	---	---	3.91	5.22	5.44	5.82	6.02	5.22
31	5.13	---	4.34	4.43	---	---	---	5.20	---	5.84	6.04	---
MEAN	4.91	4.46	4.36	4.28	4.74	3.96	3.62	4.62	5.36	5.48	5.88	5.69
MAX	5.20	5.17	4.66	4.45	4.87	4.72	3.91	5.22	5.60	5.84	6.04	6.06
MIN	4.46	3.86	4.09	3.99	4.61	3.17	3.26	3.93	5.06	4.78	5.74	5.18

WTR YR 1993: HIGHEST 3.17, MARCH 24; LOWEST 6.06, SEPTEMBER 1, 2.

Gap Indicates missing record.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

FRANKLIN COUNTY

394731077411701. Local number, FR 332.

LOCATION.--Lat 39°47'31", long 77°41'17", Hydrologic Unit 02070004, near Greencastle.

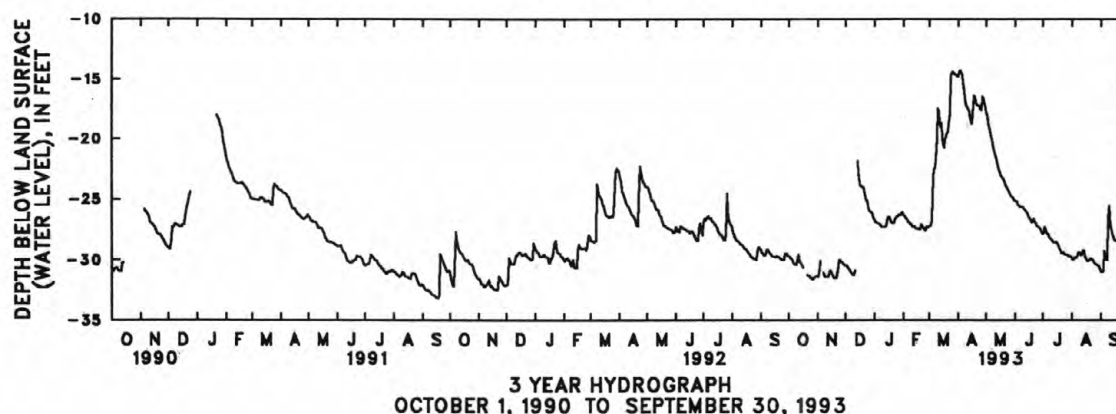
Owner: Borough of Greencastle.

AQUIFER.--Stonehenge Formation, Early Ordovician age.**WELL CHARACTERISTICS.**--Drilled unused well, diameter 8 in., depth 296 ft, cased to 92 ft, open hole.**INSTRUMENTATION.**--Pennsylvania Department of Environmental Resources satellite telemeter at station.**DATUM.**--Elevation of land surface is 730 ft above sea level, from topographic map. Measuring point: Top of casing, 1.2 ft above land-surface datum.**PERIOD OF RECORD.**--March 1975 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 12.30 ft below land-surface datum, Sept. 27, 1975; lowest, 36.68 ft below land-surface datum, Sept. 6, 1976.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.67	31.38	30.45	26.71	26.31	27.24	14.79	17.78	25.15	27.86	29.83	30.89
2	29.75	31.35	30.45	26.85	26.37	27.24	14.34	18.14	25.17	27.82	29.96	31.00
3	29.85	30.75	30.56	26.94	26.37	27.08	14.28	18.68	25.18	27.31	29.90	31.00
4	29.91	30.07	30.67	26.97	26.60	26.69	14.38	18.94	25.37	27.47	29.78	30.81
5	30.09	---	30.79	26.97	26.67	23.15	14.71	19.26	25.51	27.74	29.78	29.24
6	30.24	---	30.87	27.03	26.80	22.60	15.25	19.62	25.61	27.89	29.80	29.66
7	30.36	31.06	31.04	27.09	26.89	22.36	16.02	20.06	25.63	27.92	29.57	30.00
8	30.40	31.22	31.15	27.19	26.95	21.68	16.55	20.44	25.61	28.15	29.35	30.00
9	30.40	31.37	31.23	27.27	27.07	19.94	17.02	20.75	25.63	28.26	29.34	26.60
10	30.07	31.37	31.23	27.28	27.13	17.45	17.31	21.11	25.69	28.29	29.49	25.57
11	29.53	31.42	30.92	27.31	27.26	17.76	17.39	21.34	25.79	28.41	29.58	26.46
12	29.77	31.42	---	27.31	27.26	18.77	17.61	21.65	25.90	28.58	29.51	27.25
13	30.20	31.30	---	27.27	27.24	19.02	17.83	22.03	26.02	28.58	29.16	27.62
14	30.22	30.85	21.87	26.89	27.38	18.70	18.28	22.36	26.15	28.57	29.26	27.94
15	30.32	30.93	22.79	26.58	27.46	19.95	18.61	22.61	26.39	28.51	29.66	28.18
16	30.60	30.96	23.72	26.45	27.46	20.61	18.75	22.84	26.52	28.58	29.83	28.34
17	---	31.21	23.93	26.47	27.43	20.75	17.22	23.05	26.62	28.64	29.99	28.37
18	---	31.38	23.89	26.79	27.48	20.02	16.39	23.15	26.76	28.92	30.06	28.38
19	---	31.49	24.00	26.92	27.48	19.87	16.54	23.30	26.89	29.04	30.03	28.41
20	---	31.48	24.00	26.95	27.11	19.53	16.94	23.44	26.73	29.27	29.96	28.48
21	31.26	31.47	24.34	26.98	27.07	19.45	17.20	23.64	26.62	29.43	29.86	28.52
22	31.28	31.18	24.85	26.97	27.26	18.71	17.20	23.86	26.85	29.39	29.87	28.58
23	31.32	30.50	25.13	26.60	27.41	17.94	17.21	24.00	26.99	29.36	29.98	28.65
24	31.44	30.00	25.15	26.58	27.57	14.75	17.32	24.10	27.12	29.51	30.05	28.77
25	31.46	30.03	25.60	26.45	27.59	14.40	17.53	24.32	27.22	29.56	30.20	28.89
26	31.62	30.13	25.84	26.43	27.25	14.36	17.66	24.42	27.30	29.54	30.30	28.80
27	31.64	30.18	26.03	26.28	27.29	14.47	16.50	24.66	27.36	29.56	30.33	28.04
28	31.44	30.27	26.06	26.35	27.33	14.56	16.62	24.78	27.46	29.63	30.38	27.55
29	31.39	30.35	26.12	26.32	---	14.60	16.97	24.86	27.58	29.72	30.44	27.97
30	31.36	30.43	26.30	26.12	---	14.71	17.37	24.89	27.74	29.64	30.52	28.04
31	31.33	---	26.57	26.06	---	14.79	---	25.09	---	29.70	30.69	---
MEAN	30.63	30.91	27.09	26.79	27.12	19.46	16.73	22.23	26.35	28.74	29.89	28.60
MAX	31.64	31.49	31.23	27.31	27.59	27.24	18.75	25.09	27.74	29.72	30.69	31.00
MIN	29.53	30.00	21.87	26.06	26.31	14.36	14.28	17.78	25.15	27.31	29.16	25.57

WTR YR 1993: HIGHEST 14.28, APRIL 3; LOWEST 31.64, OCTOBER 27.

Gap indicates missing record.



FULTON COUNTY

400302078090401. Local number, FU 93.

LOCATION.--Lat 40°03'02", long 78°09'04", Hydrologic Unit 02050304, at Buchanan State Forest, and near Wells Tannery.

Owner: Commonwealth of Pennsylvania.

AQUIFER.--Pocono Formation, Early Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 191 ft, cased to 45 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,180 ft above sea level, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--July 1965 to current year.

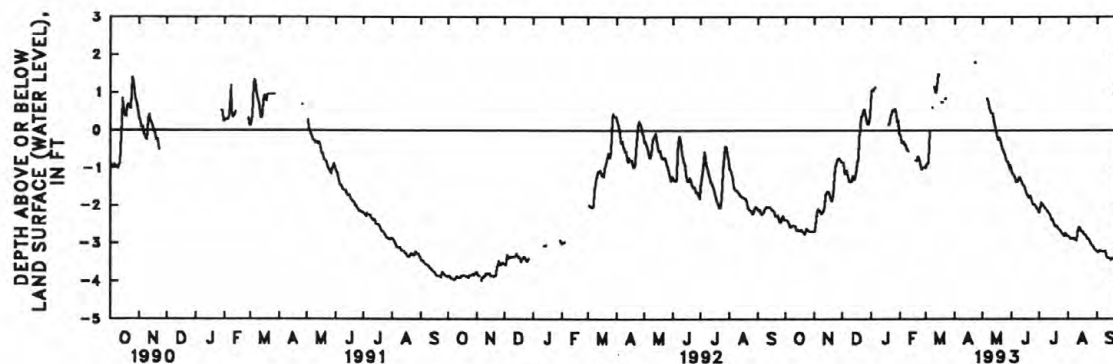
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.00 ft above land-surface datum, Feb. 22, 1971; lowest, 4.46 ft below land-surface datum, Sept. 12, 1966.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-2.40	-2.70	-0.85	.99	-0.13	-1.00	---	---	-1.06	-2.19	-2.81	-3.23
2	-2.39	-2.65	-0.87	1.06	-0.15	-0.90	---	---	-1.17	-2.10	-2.82	-3.24
3	-2.42	-2.39	-1.03	1.04	-0.31	-0.90	---	---	-1.19	-1.93	-2.87	-3.22
4	-2.47	-2.19	-1.17	1.09	-0.33	-0.82	---	---	-1.24	-1.95	-2.88	-3.18
5	-2.51	-2.09	-1.12	1.13	-0.29	0.00	---	---	-1.25	-1.99	-2.88	-3.21
6	-2.58	-2.14	-1.06	---	-0.39	---	---	.83	-1.38	-2.02	-2.87	-3.21
7	-2.58	-2.16	-1.24	---	-0.35	---	---	.75	-1.39	-2.06	-2.87	-3.22
8	-2.55	-2.20	-1.31	---	-0.51	.60	---	.64	-1.34	-2.09	-2.92	-3.23
9	-2.54	-2.23	-1.38	---	-0.49	---	---	.58	-1.25	-2.13	-2.91	-3.21
10	-2.55	-2.19	-1.38	---	-0.56	1.15	---	.47	-1.25	-2.17	-2.93	-3.21
11	-2.57	-2.17	-1.36	---	---	1.00	---	.46	-1.32	-2.21	-2.75	-3.32
12	-2.57	-2.02	-1.21	---	---	1.00	---	.44	-1.40	-2.23	-2.61	-3.36
13	-2.67	-1.76	-1.21	---	---	1.14	---	.28	-1.45	-2.33	-2.58	-3.40
14	-2.67	-1.66	-1.31	---	---	1.48	---	.15	-1.49	-2.40	-2.64	-3.40
15	-2.65	-1.64	-1.25	---	---	1.48	---	.04	-1.50	-2.36	-2.68	-3.40
16	-2.69	-1.64	-1.06	---	---	---	---	-0.08	-1.63	-2.44	-2.70	-3.44
17	-2.69	-1.68	-0.86	---	---	---	---	-0.21	-1.69	-2.49	-2.71	-3.43
18	-2.66	-1.77	-0.76	---	-.79	.74	---	-0.26	-1.73	-2.56	-2.76	-3.40
19	-2.70	-1.86	-0.21	---	-.81	.74	---	-0.19	-1.77	-2.54	-2.78	-3.40
20	-2.71	-1.89	.07	.15	-.73	---	---	-0.28	-1.80	-2.56	-2.79	-3.42
21	-2.74	-1.76	.37	.20	-.70	---	---	-0.37	-1.75	-2.60	-2.86	-3.39
22	-2.76	-1.49	.39	.37	-.76	.83	---	-0.46	-1.82	-2.63	-2.88	-3.41
23	-2.69	-1.01	.51	.43	-.88	---	1.80	-0.54	-1.93	-2.66	-2.89	-3.39
24	-2.62	-0.95	.56	.54	-1.02	---	---	-0.58	-1.98	-2.68	-2.92	-3.43
25	-2.67	-0.83	.50	.51	-1.02	---	---	-0.66	-1.97	-2.73	-2.99	-3.42
26	-2.67	-0.76	.40	.52	-.98	---	---	-0.77	-1.97	-2.76	-3.04	-3.34
27	-2.71	-0.75	.22	.58	-.97	---	---	-0.82	-2.01	-2.76	-3.06	-3.28
28	-2.70	-0.76	.17	.45	-1.00	---	---	-0.82	-2.06	-2.82	-3.09	-3.19
29	-2.70	-0.80	.17	.23	---	---	---	-0.94	-2.10	-2.73	-3.14	-3.20
30	-2.69	-0.85	.23	.27	---	---	---	-1.02	-2.14	-2.77	-3.17	-3.19
31	-2.70	---	.40	-0.05	---	---	---	-0.93	---	-2.81	-3.18	---
MEAN	-2.62	-1.70	-0.54	.56	-0.63	.44	1.80	-0.17	-1.60	-2.41	-2.87	-3.31
MAX	-2.39	-0.75	.56	1.13	-0.13	-1.48	1.80	.83	-1.06	-1.93	-2.58	-3.18
MIN	-2.76	-2.70	-1.38	-0.05	-1.02	-1.00	1.80	-1.02	-2.14	-2.82	-3.18	-3.44

WTR YR 1993: HIGHEST 1.80, APRIL 23; LOWEST -3.44 SEPTEMBER 16.

Gap indicates missing record.



3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

HUNTINGDON COUNTY

401843078075401. Local number, HU 301.

LOCATION.--Lat 40°18'43", long 78°07'54", Hydrologic Unit 02050303, at Trough Creek State Park, and near Newburg.
 Owner: U.S. Geological Survey.

AQUIFER.--Pocono Formation, Early Mississippian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 105 ft, cased to 18 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pennsylvania Department of Environmental Resources satellite telemeter at station.

DATUM.--Elevation of land surface is 970 ft above sea level, from topographic map. Measuring point: Top of casing, 3.6 ft above land-surface datum.

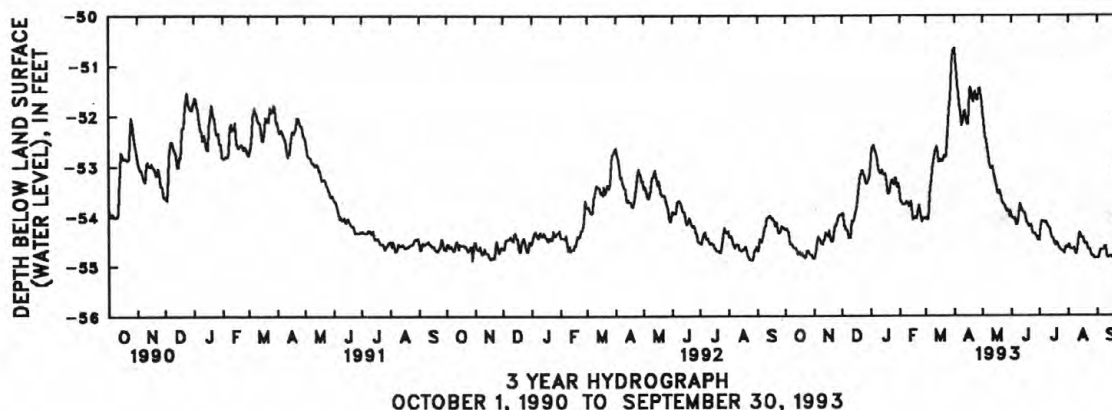
PERIOD OF RECORD.--August 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.82 ft below land-surface datum, June 23, 1972; lowest, 55.96 ft below land-surface datum, Aug. 28, 30, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54.26	54.84	53.94	52.81	53.60	54.02	50.64	51.92	53.98	54.48	54.61	54.83
2	54.24	54.80	53.95	52.66	53.71	54.01	50.88	52.10	54.02	54.32	54.57	54.85
3	54.26	54.64	54.19	52.61	53.70	54.06	51.18	52.28	54.02	54.12	54.65	54.77
4	54.32	54.50	54.17	52.58	53.76	54.05	51.39	52.42	54.06	54.08	54.65	54.71
5	54.43	54.40	54.26	52.68	53.75	53.61	51.55	52.48	54.02	54.09	54.65	54.67
6	54.55	54.42	54.25	52.72	53.75	53.42	51.76	52.60	54.16	54.10	54.65	54.67
7	54.55	54.47	54.31	52.75	53.76	53.28	51.93	52.76	54.16	54.12	54.63	54.67
8	54.56	54.51	54.42	52.89	53.69	53.06	52.06	52.88	54.10	54.10	54.71	54.65
9	54.61	54.54	54.42	53.03	53.74	52.90	52.18	52.96	53.95	54.14	54.75	54.61
10	54.63	54.55	54.42	53.09	53.72	52.81	52.08	53.04	53.74	54.18	54.73	54.61
11	54.63	54.48	54.08	53.14	53.80	52.67	51.93	53.02	53.80	54.22	54.63	54.75
12	54.63	54.46	54.12	53.14	53.76	52.68	51.90	53.00	53.86	54.22	54.39	54.81
13	54.66	54.32	54.10	53.06	53.70	52.60	52.01	53.12	53.90	54.35	54.33	54.83
14	54.75	54.37	54.04	53.16	53.94	52.74	52.10	53.24	53.92	54.41	54.37	54.81
15	54.75	54.34	53.94	53.16	54.06	52.91	52.16	53.30	53.92	54.42	54.41	54.79
16	54.71	54.39	53.84	53.13	54.05	52.89	52.16	53.42	54.04	54.46	54.43	54.81
17	54.77	54.28	53.77	53.21	54.00	52.86	51.51	53.52	54.10	54.52	54.43	54.83
18	54.77	54.40	53.53	53.44	54.04	52.90	51.42	53.54	54.12	54.58	54.51	54.79
19	54.73	54.49	53.40	53.54	54.04	52.90	51.50	53.48	54.16	54.52	54.55	54.79
20	54.79	54.50	53.18	53.54	53.94	52.86	51.64	53.54	54.20	54.54	54.53	54.81
21	54.79	54.47	53.18	53.50	53.86	52.78	51.72	53.62	54.16	54.58	54.55	54.76
22	54.83	54.33	53.08	53.36	53.77	52.82	51.56	53.70	54.16	54.60	54.65	54.79
23	54.81	54.18	53.08	53.28	53.89	52.78	51.50	53.74	54.30	54.65	54.65	54.73
24	54.69	54.18	53.17	53.26	54.02	52.51	51.64	53.74	54.34	54.67	54.65	54.79
25	54.68	54.14	53.18	53.33	54.10	52.12	51.68	53.80	54.34	54.69	54.72	54.79
26	54.70	54.05	53.29	53.36	54.02	51.88	51.67	53.86	54.34	54.71	54.79	54.66
27	54.75	53.97	53.34	53.22	54.03	51.66	51.47	53.90	54.38	54.69	54.79	54.57
28	54.77	53.97	53.32	53.24	54.05	51.37	51.44	53.86	54.40	54.74	54.79	54.39
29	54.77	53.96	53.26	53.40	---	50.98	51.52	53.94	54.44	54.63	54.85	54.39
30	54.83	53.97	53.22	53.42	---	50.71	51.72	54.00	54.48	54.61	54.85	54.39
31	54.85	---	53.14	53.34	---	50.68	---	53.88	---	54.63	54.83	---
MEAN	54.65	54.36	53.73	53.13	53.87	52.69	51.66	53.25	54.12	54.42	54.62	54.71
MAX	54.85	54.84	54.42	53.54	54.10	54.06	52.18	54.00	54.48	54.74	54.85	54.85
MIN	54.24	53.96	53.08	52.58	53.60	50.68	50.64	51.92	53.74	54.08	54.33	54.39

WTR YR 1993: HIGHEST 50.64, APRIL 1; LOWEST 54.85, OCTOBER 31, AUGUST 29, 30, SEPTEMBER 2.



JUNIATA COUNTY

402411077374801. Local number, JU 351.

LOCATION.--Lat 40°24'11", long 77°37'48", Hydrologic Unit 02050304, at State Game Land No. 215, and near Reeds Gap.

Owner: U.S. Geological Survey.

AQUIFER.--Brallier and Harrell Formations, undivided, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 110 ft, cased to 18 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 635 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.

REMARKS.--This well shows significant response to Earth tide effects.

PERIOD OF RECORD.--June 1968 to current year.

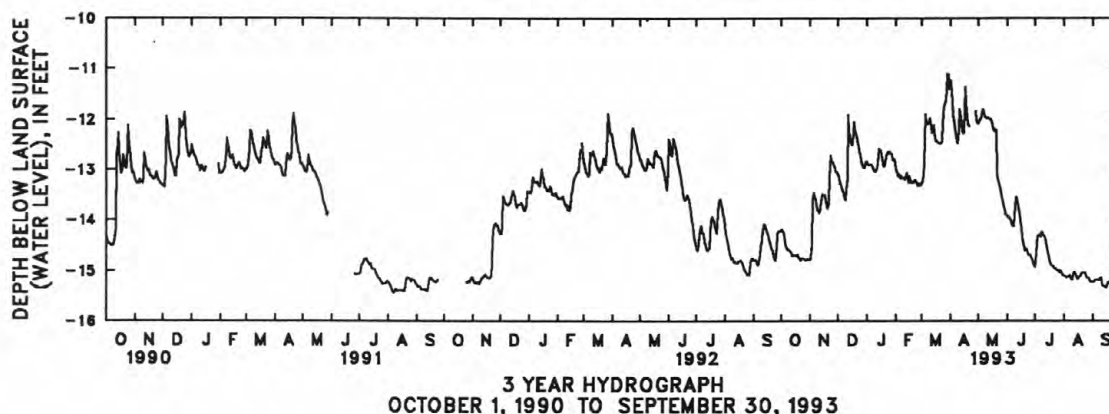
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.11 ft below land-surface datum, March 29, 30, 1993; lowest, 15.44 ft below land-surface datum, Oct. 8, 10, 1983, Aug. 7, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.18	14.78	13.10	12.84	12.97	13.27	11.23	12.07	13.91	14.92	15.10	15.22
2	14.20	14.75	13.13	12.90	13.03	13.27	11.27	12.02	13.95	14.82	15.10	15.22
3	14.23	14.49	13.29	12.91	13.04	13.12	11.64	11.98	13.94	14.48	15.12	15.20
4	14.31	13.59	13.27	12.89	13.13	12.87	11.91	11.98	13.98	14.33	15.13	15.17
5	14.42	13.47	13.38	12.89	13.09	11.90	12.06	11.85	14.00	14.30	15.12	15.17
6	14.52	13.54	13.40	12.90	13.17	12.06	12.20	11.79	14.09	14.29	15.11	15.18
7	14.55	13.60	13.48	12.92	13.11	12.09	12.34	11.87	14.12	14.33	15.08	15.19
8	14.59	13.71	13.57	12.97	13.17	12.07	12.42	11.93	14.13	14.24	15.14	15.18
9	14.58	13.79	13.60	13.02	13.17	12.03	12.46	11.95	13.92	14.25	15.17	15.15
10	14.61	13.82	13.40	13.03	13.15	11.97	12.22	11.97	13.56	14.30	15.17	15.13
11	14.63	13.86	13.18	13.02	13.20	12.13	11.79	11.96	13.54	14.32	15.07	15.24
12	14.64	13.77	11.91	12.97	13.11	12.26	11.95	11.97	13.64	14.36	15.02	15.30
13	14.70	13.64	12.24	12.86	13.06	12.19	12.08	11.98	13.76	14.50	15.04	15.32
14	14.71	13.49	12.35	12.58	13.20	12.11	12.21	11.98	13.87	14.57	15.09	15.32
15	14.69	13.52	12.45	12.60	13.26	12.28	12.28	12.01	14.01	14.66	15.14	15.34
16	14.69	13.52	12.51	12.61	13.12	12.43	12.24	12.10	14.18	14.74	15.16	15.33
17	14.71	13.50	12.46	12.71	13.22	12.41	11.37	12.17	14.32	14.82	15.14	15.25
18	14.71	13.61	12.05	12.86	13.26	12.44	11.71	12.23	14.43	14.89	15.11	15.23
19	14.68	13.71	12.17	12.94	13.24	12.46	11.94	12.19	14.54	14.90	15.10	15.25
20	14.74	13.77	12.27	12.94	13.27	12.47	12.08	12.21	14.60	14.90	15.05	15.21
21	14.75	13.66	12.33	12.85	13.25	12.48	12.12	13.07	14.58	14.93	15.04	15.21
22	14.79	13.15	12.46	12.73	13.20	12.47	---	13.18	14.57	14.94	15.04	15.16
23	14.76	12.72	12.53	12.65	13.23	12.44	---	13.28	14.66	14.94	15.04	15.13
24	14.75	12.82	12.68	12.64	13.28	12.06	---	13.34	14.69	14.97	15.04	15.16
25	14.77	12.85	12.68	12.68	13.32	11.72	---	13.43	14.68	15.00	15.08	15.16
26	14.77	12.88	12.84	12.64	13.28	11.71	---	13.54	14.69	15.00	15.13	14.90
27	14.79	12.94	12.91	12.68	13.31	11.62	---	13.62	14.73	14.98	15.13	14.66
28	14.78	13.00	12.95	12.68	13.31	11.42	11.83	13.69	14.78	15.03	15.15	14.28
29	14.77	13.05	12.96	12.81	---	11.11	12.00	13.79	14.84	15.00	15.20	14.15
30	14.78	13.05	12.92	12.80	---	11.11	12.07	13.88	14.88	15.05	15.22	14.17
31	14.78	---	12.84	12.79	---	11.40	---	13.90	---	15.09	15.21	---
MEAN	14.63	13.54	12.82	12.82	13.18	12.17	11.98	12.55	14.25	14.70	15.11	15.09
MAX	14.79	14.78	13.60	13.03	13.32	13.27	12.46	13.90	14.88	15.09	15.22	15.34
MIN	14.18	12.72	11.91	12.58	12.97	11.11	11.23	11.79	13.54	14.24	15.02	14.15

WTR YR 1993: HIGHEST 11.11, MARCH 29, 30; LOWEST 15.34, SEPTEMBER 15.

Gap Indicates missing record.



LANCASTER COUNTY

400506076235201. Local number, LN 514.

LOCATION.--Lat 40°05'06", long 76°23'52", Hydrologic Unit 02050306, near Landisville.

Owner: Benjamin Landis.

AQUIFER.--Kinzers Formation, Early Cambrian age.

WELL CHARACTERISTICS.--Drilled unused well, diameter 6 in., depth 260 ft, casing information not available.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 415 ft above sea level, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.

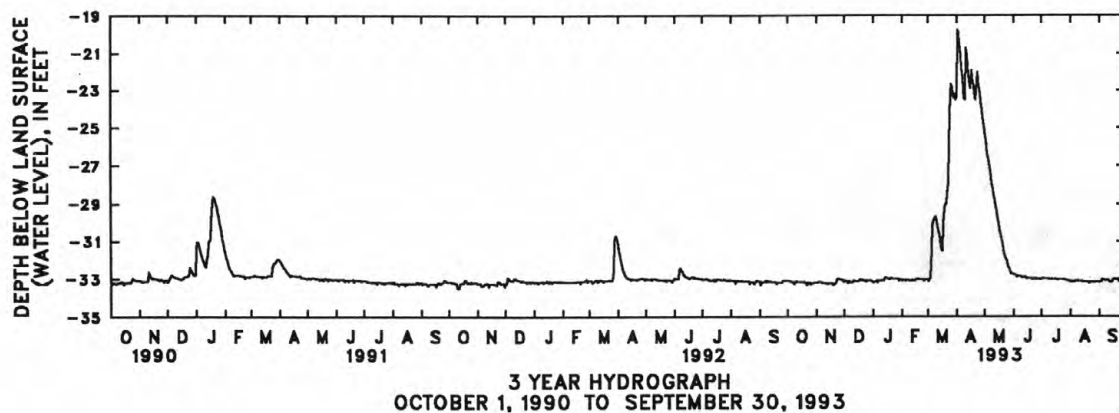
PERIOD OF RECORD.--January 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.92 ft below land-surface datum, Mar. 28, 1978; lowest, 35.47 ft below land-surface datum, Nov. 15, 1967.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.12	33.19	33.17	33.19	33.09	33.05	23.36	25.23	32.75	33.03	33.17	33.20
2	33.12	33.20	33.12	33.15	33.06	33.13	19.77	25.63	32.78	33.01	33.14	33.17
3	33.13	33.16	33.14	33.15	33.06	33.02	19.95	26.00	32.81	32.98	33.15	33.16
4	33.13	33.16	33.14	33.15	33.07	32.96	20.51	26.34	32.82	33.02	33.14	33.05
5	33.16	33.18	33.22	33.12	33.12	31.49	21.11	26.61	32.91	33.02	33.18	33.05
6	33.16	33.18	33.14	33.20	33.08	30.12	21.78	26.90	32.85	33.01	33.17	33.08
7	33.16	33.22	33.16	33.11	33.08	29.91	22.34	27.27	32.86	33.00	33.11	33.09
8	33.26	33.21	33.19	33.11	33.08	29.81	22.93	27.59	32.87	32.99	33.12	33.11
9	33.18	33.22	33.19	33.12	33.10	29.69	23.42	27.92	32.88	33.00	33.14	33.08
10	33.14	33.22	33.15	33.12	33.09	29.79	23.50	28.25	32.92	33.05	33.13	33.08
11	33.15	33.23	33.09	33.10	33.10	30.15	20.72	28.52	32.92	33.03	33.13	33.12
12	33.15	33.26	33.11	33.10	33.08	30.42	21.16	28.82	32.90	33.02	33.14	33.13
13	33.17	33.23	33.13	33.06	33.11	30.47	21.70	29.13	32.91	33.03	33.14	33.20
14	33.18	33.27	33.13	32.95	33.10	30.86	22.21	29.44	32.93	33.03	33.15	33.15
15	33.18	33.26	33.13	32.96	33.11	31.21	22.69	29.75	32.99	33.05	33.16	33.15
16	33.18	33.23	33.14	32.98	33.07	31.47	22.92	30.07	32.97	33.02	33.17	33.04
17	33.18	33.23	33.12	32.99	33.02	31.52	21.94	30.38	32.98	33.03	33.16	33.02
18	33.18	33.24	33.05	33.05	33.02	30.03	22.33	30.64	32.98	33.07	33.15	33.03
19	33.18	33.34	33.04	33.04	33.04	29.25	22.73	30.88	32.99	33.05	33.16	33.05
20	33.19	33.26	33.09	32.96	33.04	29.05	23.14	31.12	32.99	33.04	33.15	33.07
21	33.19	33.26	33.07	32.97	33.03	28.99	23.51	31.39	33.03	33.04	33.22	33.08
22	33.35	33.24	33.09	33.00	33.04	28.46	23.00	31.64	32.98	33.04	33.18	33.10
23	33.20	33.03	33.09	32.99	33.04	27.97	22.03	31.84	33.05	33.04	33.15	33.16
24	33.21	33.00	33.15	33.00	33.05	25.83	22.46	31.93	32.99	33.04	33.20	33.12
25	33.22	33.01	33.10	33.00	33.12	23.19	22.82	32.10	32.98	33.05	33.17	33.13
26	33.31	33.03	33.12	33.00	33.05	22.67	23.18	32.28	33.03	33.07	33.16	33.09
27	33.23	33.04	33.12	33.01	33.05	22.88	23.63	32.42	33.00	33.06	33.19	33.09
28	33.22	33.08	33.12	33.01	33.05	23.23	24.08	32.51	33.00	33.07	33.18	33.03
29	33.21	33.08	33.12	33.10	---	23.41	24.46	32.73	33.05	33.11	33.17	33.01
30	33.20	33.10	33.11	33.03	---	23.22	24.86	32.70	33.02	33.12	33.18	33.04
31	33.19	---	33.13	33.03	---	23.50	---	32.72	---	33.13	33.16	---
MEAN	33.19	33.18	33.12	33.06	33.07	28.73	22.47	29.70	32.94	33.04	33.16	33.10
MAX	33.35	33.34	33.22	33.20	33.12	33.13	24.86	32.73	33.05	33.13	33.22	33.20
MIN	33.12	33.00	33.04	32.95	33.02	22.67	19.77	25.23	32.75	32.98	33.11	33.01

WTR YR 1993: HIGHEST 19.77, APRIL 2; LOWEST 33.35, OCTOBER 22.



LANCASTER COUNTY

401149076105501. Local number, LN 1669.

LOCATION.--Lat 40°11'49", long 76°10'55", Hydrologic Unit 02050306, 1.6 mi north of Ephrata.

Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 11 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 358 ft above sea level. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--January 1985 to September 1993 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.29 ft below land-surface datum, May 18, 1988; lowest, 19.61 ft below land-surface datum, Aug. 18, 1989.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	16.42					---			---	19.40
2		18.77	---					---			---	---
3		18.79	---					15.19			---	---
4		17.86	---					15.25			---	---
5		17.60	---					15.37			---	---
6		17.58	---					15.44			---	---
7		17.60	---					15.55			---	---
8		17.72	---					15.67			---	---
9		17.82	---					15.81			---	---
10		17.86	---					15.96			---	---
11		17.91	---					16.13			---	---
12		17.91	---					16.28			---	---
13		17.88	---					16.44			18.95	---
14		17.97	---					16.56			19.01	18.57
15		18.09	---					16.71			19.01	18.63
16		18.12	---					16.84			19.03	18.34
17		18.15	---					16.97			19.08	17.87
18		18.21	---					17.10			19.14	17.39
19		18.27	---					17.19			19.18	17.52
20		18.29	---					17.26			19.21	17.71
21		18.29	---					17.32			19.18	17.73
22		18.23	---					17.39			19.07	17.81
23		17.32	---					17.45			19.08	17.88
24		14.55	---					17.50			19.19	18.04
25		14.71	---					17.53			19.28	18.10
26		15.17	---					17.56			19.30	18.06
27		15.60	---					17.60			19.30	17.25
28		15.87	---					17.60			19.33	16.02
29		16.11	---					---			19.35	16.16
30		16.30	---					---			19.37	---
31		---	---					---			19.39	---
MEAN		17.40	16.42					16.60			19.18	17.79
MAX		18.79	16.42					17.60			19.39	19.40
MIN		14.55	16.42					15.19			18.95	16.02

WTR YR 1993: HIGHEST 14.55, NOVEMBER 24; LOWEST 19.40, SEPTEMBER 1.

LANCASTER COUNTY

401149076105501. Local number, LN 1669--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.**COOPERATION.**--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.**PERIOD OF RECORD.**--January 1985 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1315	676	7.2	12.5	6.50
DEC					
01...	1200	678	7.0	11.5	--
08...	1430	664	7.0	11.5	7.40
JAN					
25...	1325	654	7.2	11.0	8.80
FEB					
25...	1400	688	7.3	11.0	8.30
MAR					
31...	1330	695	7.4	12.0	12.0
APR					
30...	1410	720	7.1	12.5	14.0
MAY					
28...	1415	732	--	13.5	14.0
JUL					
29...	1350	730	7.2	13.0	12.0
SEP					
01...	1515	722	7.4	13.5	12.0
30...	1345	719	7.5	12.5	14.0

LANCASTER COUNTY

401148076110301. Local number, LN 1673.

LOCATION.--Lat 40°11'48", long 76°11'03", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.

Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 46 ft, cased to 14 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 382 ft above sea level. Measuring point: Top of shelter platform, 2.2 ft above land-surface datum.

PERIOD OF RECORD.--November 1984 to September 1993 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.21 ft below land-surface datum, May 6, 1989; lowest, 11.90 ft below land-surface datum, Sept. 16, 17, 18, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.64	---	9.98	---	10.04			8.95	10.30	10.76	10.75	10.78
2	10.64	10.81	10.01	---	10.05			9.30	10.31	10.80	10.75	10.73
3	10.64	10.67	10.05	---	10.05			9.49	10.32	10.62	10.75	10.73
4	10.65	10.43	10.06	10.00	10.07			9.61	10.33	10.45	10.76	10.72
5	10.65	10.50	10.08	9.96	10.08			9.68	10.34	10.52	10.76	10.67
6	10.65	10.42	10.08	9.81	10.09			9.74	10.35	10.55	10.76	10.70
7	10.65	10.44	10.11	9.81	10.10			9.80	10.36	10.57	10.76	10.70
8	10.65	10.48	10.13	9.81	10.11			9.83	10.37	10.60	10.76	10.71
9	10.63	10.50	---	9.82	10.12			9.85	10.37	10.61	10.76	10.70
10	10.49	10.53	---	9.82	10.13			9.88	10.35	10.63	10.76	10.67
11	10.52	10.55	---	9.83	10.14			9.90	10.38	10.65	10.77	10.70
12	10.56	10.56	---	9.83	10.14			9.92	10.40	10.66	10.77	10.71
13	10.60	10.54	---	9.83	10.15			9.95	10.42	10.68	10.77	10.71
14	10.61	10.54	---	9.66	10.16			9.96	10.43	10.68	10.77	10.72
15	10.63	10.57	---	9.62	10.17			9.97	10.45	10.65	10.77	10.72
16	10.64	10.58	---	9.56	10.16			9.97	10.48	10.64	10.78	10.49
17	10.65	10.59	---	9.55	10.00			9.98	10.49	10.67	10.78	10.60
18	10.65	10.63	---	9.59	10.04			10.00	10.50	10.68	10.78	10.64
19	10.66	10.65	---	9.63	10.06			10.02	10.52	10.69	10.78	10.66
20	10.67	10.66	---	9.69	10.08			10.04	10.53	10.69	10.78	10.67
21	10.68	10.66	---	9.74	10.08			10.06	10.53	10.70	10.78	10.67
22	10.70	9.77	---	9.80	10.08			10.08	10.49	10.70	10.79	10.68
23	10.71	---	---	9.85	10.08			10.10	10.53	10.71	10.79	10.69
24	10.72	---	---	9.90	10.11			10.12	10.55	10.72	10.79	10.69
25	10.73	---	---	---	---			---	---	---	10.79	10.69
26	10.74	---	---	9.95	---			---	---	---	10.79	10.51
27	10.75	---	---	9.94	---			---	---	---	10.79	10.39
28	10.75	---	---	9.95	---			10.20	---	---	10.79	9.96
29	10.76	---	---	9.98	---			10.25	---	10.74	10.79	10.06
30	10.77	---	---	9.99	---			10.28	10.66	10.74	10.79	---
31	10.77	---	---	10.00	---			10.29	---	10.75	10.80	---
MEAN	10.66	10.53	10.06	9.81	10.10			9.90	10.43	10.66	10.77	10.62
MAX	10.77	10.81	10.13	10.00	10.17			10.29	10.66	10.80	10.80	10.78
MIN	10.49	9.77	9.98	9.55	10.00			8.95	10.30	10.45	10.75	9.96

WTR YR 1993: HIGHEST 8.95, MAY 1; LOWEST 10.81, NOVEMBER 2.

LANCASTER COUNTY

401148076110301. Local number, LN 1673--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.**COOPERATION.**--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.**PERIOD OF RECORD.**--November 1984 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1100	1050	7.3	12.0	47.0
DEC					
01...	1330	1050	7.0	12.0	44.0
08...	1410	1070	7.0	12.0	47.0
JAN					
25...	1300	--	7.2	--	53.0
FEB					
25...	1345	1100	7.3	11.0	53.0
MAR					
31...	1500	1060	7.3	11.5	53.0
APR					
30...	1330	994	7.3	11.5	44.0
MAY					
28...	1430	955	--	12.0	42.0
JUN					
30...	1150	958	--	11.5	42.0
JUL					
29...	1235	971	7.3	11.5	36.0
SEP					
01...	1415	940	7.3	12.5	41.0
30...	1300	951	7.4	11.5	39.0

LANCASTER COUNTY

401152076110101. Local number, LN 1676.

LOCATION.--Lat 40°11'52", long 76°11'01", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.

Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 40 ft, cased to 9 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 367 ft above sea level. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--April 1985 to September 1993 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.05 ft below land-surface datum, May 8, 1989; lowest, 24.83 ft below land-surface datum, Sept. 17, 18, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL)(FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.42	---	23.31	---	23.67	24.18	19.97	20.76	23.44	24.01	---	24.74
2	24.42	24.45	23.37	---	23.70	24.20	19.05	21.05	23.48	24.00	---	24.58
3	24.43	24.13	23.45	---	23.71	24.20	18.32	21.32	23.52	23.98	---	24.61
4	24.43	24.29	23.48	23.48	23.74	24.17	18.70	21.56	23.55	23.91	---	24.54
5	24.44	24.35	23.53	23.40	23.75	22.10	19.31	21.70	23.58	23.91	---	24.46
6	24.44	24.31	23.56	23.30	23.75	20.09	19.84	21.82	23.60	23.92	---	24.52
7	24.44	24.31	23.59	23.30	23.75	19.78	20.21	21.95	23.64	23.94	---	24.54
8	24.44	24.31	23.63	23.30	23.81	20.20	20.55	22.10	23.66	23.92	---	24.54
9	24.44	24.32	---	23.30	23.83	20.70	20.77	22.21	23.66	23.90	---	24.35
10	23.99	24.33	---	23.30	23.85	21.16	20.77	22.33	23.67	23.87	24.69	24.42
11	24.03	24.34	---	23.30	23.86	21.69	20.28	22.42	23.71	23.90	24.70	24.46
12	24.06	24.34	---	23.31	23.86	21.97	19.67	22.53	23.74	24.03	24.71	24.49
13	24.08	24.34	---	23.29	23.88	22.04	19.73	22.62	23.76	24.08	24.71	24.52
14	24.14	24.34	---	23.12	23.91	22.09	20.10	22.71	23.78	24.11	24.71	24.54
15	24.19	24.35	---	23.07	23.93	22.13	20.39	22.77	23.81	24.11	24.71	24.55
16	24.24	24.35	---	23.03	23.93	22.15	20.50	22.86	23.83	24.11	24.72	24.36
17	24.28	24.35	---	22.99	23.81	22.16	19.92	22.92	23.84	24.11	24.73	24.04
18	24.34	24.36	---	23.03	23.79	22.01	19.46	22.98	23.86	24.13	24.74	24.13
19	24.39	24.36	---	23.08	23.79	21.04	19.63	23.04	23.88	24.15	24.74	24.22
20	24.43	24.36	---	23.12	23.80	21.18	20.03	23.09	23.90	24.18	24.75	24.29
21	24.46	24.36	---	23.18	---	21.40	20.25	23.19	23.91	24.21	24.73	24.29
22	24.49	24.36	---	23.22	---	21.37	20.13	23.23	23.91	24.23	24.75	24.32
23	24.51	22.41	---	23.26	---	21.10	19.28	23.28	23.93	24.24	24.76	24.36
24	24.51	21.61	---	23.30	---	20.29	19.39	23.32	23.95	24.27	24.77	24.38
25	24.52	22.73	---	23.35	24.14	17.70	19.78	23.37	23.98	24.28	24.77	24.38
26	24.52	22.38	---	23.41	24.16	17.33	19.95	23.40	24.00	24.28	24.74	24.38
27	24.52	22.73	---	23.48	24.16	18.14	19.83	---	24.02	24.31	24.74	24.01
28	24.53	22.94	---	23.54	24.17	19.02	19.78	23.36	24.02	24.33	24.73	23.24
29	24.53	23.12	---	23.59	---	19.80	20.08	23.39	24.03	24.34	24.77	23.44
30	24.55	23.26	---	23.61	---	19.99	20.44	23.41	24.00	---	24.77	---
31	24.55	---	---	23.62	---	19.99	---	23.43	---	---	24.77	---
MEAN	24.38	23.87	23.49	23.30	23.86	21.14	19.87	22.60	23.79	24.10	24.74	24.33
MAX	24.55	24.45	23.63	23.62	24.17	24.20	20.77	23.43	24.03	24.34	24.77	24.74
MIN	23.99	21.61	23.31	22.99	23.67	17.33	18.32	20.76	23.44	23.87	24.69	23.24

WTR YR 1993: HIGHEST 17.33, MARCH 26; LOWEST 24.77, AUGUST 24-25, 29-31.

LANCASTER COUNTY

401152076110101. Local number, LN 1676--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.**COOPERATION.**--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.**PERIOD OF RECORD.**--April 1985 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1250	1360	7.0	12.0	50.0
DEC					
01...	1340	1350	6.9	11.5	40.0
08...	1345	1350	7.0	11.5	54.0
JAN					
25...	1240	1320	7.0	11.5	55.0
FEB					
25...	1355	1340	7.0	11.0	54.0
MAR					
31...	1400	1050	7.1	11.5	56.0
APR					
30...	1310	1060	7.3	11.0	56.0
MAY					
28...	1445	1210	--	12.0	55.0
JUN					
30...	1245	--	--	--	60.0
JUL					
29...	1300	1340	6.9	11.5	50.0
SEP					
01...	1435	1280	6.9	13.5	54.0
30...	1240	1280	7.1	11.5	56.0

LANCASTER COUNTY

401156076110501. Local number, LN 1677.

LOCATION.--Lat 40°11'56", long 76°11'05", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.

Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 50 ft, casing 30 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 377 ft above sea level. Measuring point: Top of shelter platform, 1.4 ft above land-surface datum.

PERIOD OF RECORD.--April 1985 to September 1993 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.04 ft below land-surface datum, May 7, 1989; lowest, 32.99 ft below land-surface datum, Sept. 17, 18, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.01	---	32.34	30.24	29.90			---	29.89	31.02	31.79	32.10
2	32.03	32.20	32.43	30.28	29.91			---	29.95	31.04	31.82	---
3	32.06	31.87	32.54	30.33	29.92			---	30.00	30.96	31.85	---
4	32.08	31.80	32.59	30.37	29.95			---	30.05	30.87	31.85	---
5	32.10	31.82	32.66	30.37	30.00			---	30.10	30.93	31.88	---
6	32.11	31.81	32.71	30.24	30.05			---	30.16	30.97	31.89	---
7	32.12	31.85	32.76	30.21	30.10			---	30.22	31.01	31.89	---
8	32.13	31.87	32.80	30.19	30.14			---	30.26	31.03	31.90	---
9	32.14	31.88	32.84	30.18	30.20			---	30.29	31.03	31.94	---
10	31.86	31.90	32.84	30.19	30.25			---	30.31	31.05	31.96	---
11	31.80	31.91	32.80	30.19	30.29			---	30.35	31.07	31.98	---
12	31.85	31.92	32.33	30.20	30.33			---	30.40	31.19	31.99	---
13	31.89	31.91	32.16	30.19	30.36			---	30.44	31.27	32.00	---
14	31.92	31.91	32.12	30.19	30.39			---	30.49	31.30	31.99	---
15	31.95	31.93	32.11	29.79	30.42			---	30.52	31.24	32.01	---
16	31.97	31.94	32.12	---	30.42			---	30.55	31.28	32.03	---
17	31.98	31.95	32.13	---	30.40			---	30.60	31.33	32.04	---
18	32.01	31.96	31.64	---	30.45			---	30.63	31.39	32.04	---
19	32.03	31.97	31.25	---	30.52			28.99	30.66	31.42	32.04	---
20	32.06	31.97	31.24	---	30.56			29.11	30.71	31.46	32.04	---
21	32.09	31.97	31.34	---	30.62			29.19	30.74	31.49	32.04	---
22	32.11	31.96	31.44	---	30.67			29.28	30.75	31.52	32.04	---
23	32.14	---	31.54	---	30.73			29.36	30.77	31.55	32.05	---
24	32.14	---	31.62	---	30.78			29.42	30.82	31.59	32.04	---
25	32.15	---	31.72	---	---			---	30.86	---	32.05	---
26	32.16	---	31.80	30.08	---			---	30.90	---	32.05	---
27	32.17	---	31.90	30.07	---			---	30.93	---	32.05	---
28	32.18	---	31.96	30.04	---			29.68	30.97	---	32.05	---
29	32.18	---	32.04	29.91	---			29.75	30.98	31.73	32.06	---
30	32.19	---	32.09	29.87	---			29.81	31.00	31.75	32.06	---
31	32.20	---	32.18	29.88	---			29.86	---	31.77	32.10	---
MEAN	32.06	31.92	32.13	30.14	30.31			29.45	30.51	31.27	31.98	32.10
MAX	32.20	32.20	32.84	30.37	30.78			29.86	31.00	31.77	32.10	32.10
MIN	31.80	31.80	31.24	29.79	29.90			28.99	29.89	30.87	31.79	32.10

WTR YR 1993: HIGHEST 28.99, MAY 19; LOWEST 32.84, DECEMBER 9-10.

LANCASTER COUNTY

401156076110501. Local number, LN 1677--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.**COOPERATION.**--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.**PERIOD OF RECORD.**--April 1985 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1230	755	7.2	11.5	19.0
DEC					
01...	1310	850	7.1	10.5	25.0
08...	1315	810	7.1	10.5	24.0
JAN					
25...	1100	831	7.3	10.5	24.0
FEB					
25...	1330	768	7.5	10.5	21.0
MAR					
31...	1200	877	7.3	12.5	24.0
APR					
30...	1430	779	7.3	12.5	22.0
MAY					
28...	1130	900	--	12.0	26.0
JUN					
30...	1225	806	--	11.5	23.0
JUL					
29...	1100	787	7.1	12.0	18.0
SEP					
01...	1240	739	7.1	15.0	20.0
30...	1000	765	7.3	11.0	20.0

LANCASTER COUNTY

401152076105701. Local number, LN 1679.

LOCATION.--Lat 40°11'52", long 76°10'57", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.

Owner: U.S. Geological Survey.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian Age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 60 ft, cased to 13 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 364 ft above sea level. Measuring point: Top of shelter platform, 2.6 ft above land-surface datum.

PERIOD OF RECORD.--March 1986 to September 1993 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.35 ft below land-surface datum, Mar. 24, 1993; lowest, 21.55 ft below land-surface datum, Sept. 3, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.16	---	20.04	---	20.15	20.44	17.17	17.86	19.99	20.56	21.03	21.21
2	21.17	21.30	20.05	---	20.17	20.46	16.44	18.07	20.02	20.57	21.04	21.28
3	21.19	21.22	20.12	---	20.18	20.45	16.31	18.28	20.05	20.35	21.04	21.30
4	21.21	20.89	20.16	20.06	20.21	20.40	16.65	18.45	20.08	20.38	21.05	20.94
5	21.22	20.97	20.21	20.04	20.21	19.10	16.91	18.54	20.11	20.44	21.05	21.11
6	21.22	20.94	20.22	19.88	20.23	17.38	17.13	18.68	20.14	20.47	21.06	21.17
7	21.23	20.98	20.24	19.88	20.25	17.15	17.49	18.82	20.17	20.49	21.07	21.21
8	21.24	21.02	20.29	19.88	20.27	17.30	17.77	18.95	20.19	20.49	21.07	21.22
9	21.24	21.05	20.30	19.87	20.29	17.94	17.94	19.04	20.20	20.47	21.08	20.92
10	20.92	21.06	20.31	19.90	20.30	18.33	17.91	19.13	20.21	20.45	21.09	20.98
11	20.92	21.08	20.13	19.91	20.32	18.66	17.45	19.19	20.25	20.46	21.09	21.03
12	20.97	21.08	19.90	19.91	20.33	18.85	17.18	19.25	20.27	20.61	21.10	21.07
13	21.02	21.06	19.86	19.88	20.33	19.10	17.37	19.29	20.29	20.65	21.11	21.11
14	21.05	21.07	19.84	19.72	20.35	19.25	17.60	19.34	20.31	20.64	21.11	21.14
15	21.07	21.09	19.85	19.68	20.36	19.31	17.76	19.37	20.33	20.65	21.12	21.15
16	21.10	21.10	19.87	19.64	20.37	19.30	17.75	19.41	20.36	20.68	21.13	20.72
17	21.11	21.11	19.84	19.63	20.18	18.68	17.38	19.45	20.37	20.71	21.13	20.70
18	21.13	21.12	19.45	19.68	20.22	17.90	17.12	19.49	20.38	20.74	21.14	20.79
19	21.14	21.14	19.32	19.71	20.24	17.96	17.15	19.54	20.40	20.77	21.14	20.88
20	21.16	21.15	19.35	19.77	20.25	18.09	17.45	19.59	20.43	20.80	21.15	20.95
21	21.18	21.15	19.45	19.80	20.28	18.09	17.55	19.63	20.44	20.82	21.16	20.98
22	21.20	21.14	19.53	19.85	20.31	17.86	17.43	19.67	20.42	20.85	21.16	21.02
23	21.22	20.23	19.62	19.90	20.34	17.17	16.98	19.71	20.45	20.87	21.17	21.04
24	21.24	19.08	19.70	19.95	20.38	15.35	17.02	19.75	20.49	20.90	21.17	21.06
25	21.25	19.27	19.75	---	20.39	---	---	---	---	---	21.18	21.06
26	21.26	19.48	19.83	20.02	20.39	---	---	---	---	---	21.19	20.83
27	21.27	19.67	19.87	20.01	20.40	---	---	---	---	---	21.19	20.68
28	21.28	19.82	19.89	20.02	20.42	---	---	19.90	---	---	21.20	20.00
29	21.29	19.92	19.92	20.06	---	---	---	19.92	---	21.00	21.21	20.15
30	21.30	20.00	19.96	20.08	---	---	17.67	19.95	20.59	21.02	21.22	---
31	21.30	---	20.01	20.09	---	17.40	---	19.97	---	21.02	---	---
MEAN	21.17	20.70	19.90	19.88	20.29	18.48	17.30	19.22	20.28	20.66	21.12	20.96
MAX	21.30	21.30	20.31	20.09	20.42	20.46	17.94	19.97	20.59	21.02	21.22	21.30
MIN	20.92	19.08	19.32	19.63	20.15	15.35	16.31	17.86	19.99	20.35	21.03	20.00

WTR YR 1993: HIGHEST 15.35, MARCH 24; LOWEST 21.30, OCTOBER 30, 31, NOVEMBER 2, SEPTEMBER 3.

LANCASTER COUNTY

401152076105701. Local number, LN 1679--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped.**COOPERATION.**--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.**PERIOD OF RECORD.**--March 1986 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1215	778	7.2	12.0	23.0
DEC					
01...	1235	783	7.1	11.5	23.0
08...	1305	795	7.1	11.5	24.0
JAN					
25...	1215	787	7.2	11.5	25.0
FEB					
25...	1240	792	7.3	13.5	28.0
MAR					
31...	1245	757	7.2	11.5	23.0
APR					
30...	1300	727	7.3	11.5	24.0
MAY					
28...	1210	714	--	12.0	19.0
JUN					
30...	1330	711	--	12.0	21.0
JUL					
29...	1200	770	7.0	12.5	20.0
SEP					
01...	1300	900	7.0	13.0	38.0
30...	1145	914	7.1	11.5	30.0

LANCASTER COUNTY

401152076105301. Local number, LN SP 61.

LOCATION.--Lat 40°11'52", long 76°10'53", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.

Owner: Aaron Stauffer.

AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

DATUM.--Elevation of land surface is 340 ft above sea level, from topographic map.

REMARKS.--Abandoned spring once used for domestic supply.

COOPERATION.--Chemical samples analyzed by Pennsylvania Department of Environmental Resources, Bureau of Laboratories.

PERIOD OF RECORD.--September 1984 to September 1993 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
OCT					
23...	1200	709	6.7	11.5	16.0
DEC					
01...	1220	761	7.0	11.0	21.0
08...	1240	747	7.0	10.5	19.0
JAN					
25...	1155	760	7.0	10.5	20.0
FEB					
25...	1120	744	7.0	10.5	18.0
MAR					
31...	1430	818	7.0	11.5	30.0
APR					
30...	1240	764	7.3	12.0	26.0
MAY					
28...	1145	718	--	11.5	20.0
JUN					
30...	1240	593	--	11.5	18.0
JUL					
29...	1120	706	7.0	12.5	16.0
SEP					
01...	1330	696	7.0	12.5	19.0
30...	1135	717	7.1	11.5	19.0

LUZERNE COUNTY

411800076162501. Local number, LU 243.

LOCATION.--Lat 41°18'00", long 76°16'25", Hydrologic Unit 02050107, at Ricketts Glen Park, and near Red Rock.
 Owner: Commonwealth of Pennsylvania.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 160 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,266 ft above sea level. Measuring point: Top of casing, 2.2 ft above land-surface datum.

REMARKS.--Well levels effected by nearby intermittent pumpage.

PERIOD OF RECORD.--November 1948 to July 1950, July 1955 to current year.

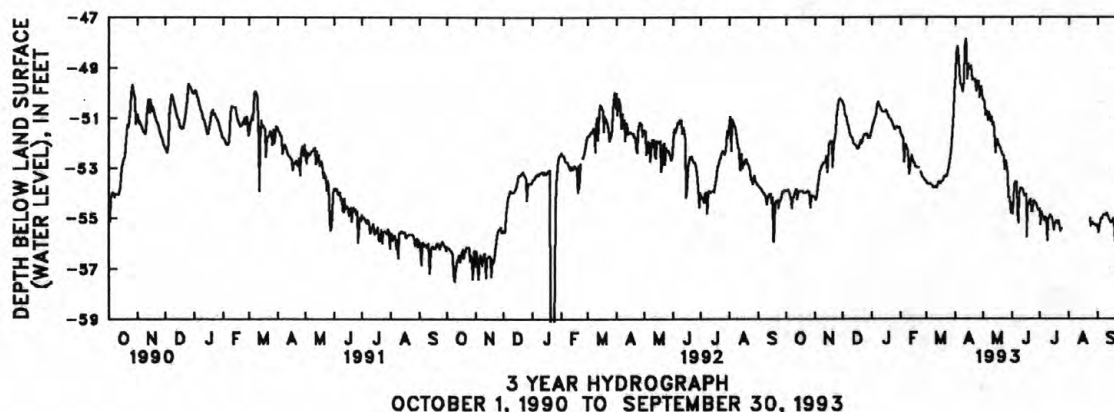
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.08 ft below land-surface datum, Mar. 31, 1950; lowest, 64.76 ft below land-surface datum, Jan. 24, 1992 (due to pumping near well).

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.87	54.19	50.39	51.42	51.59	53.55	49.31	50.23	54.40	54.61	---	55.32
2	53.89	54.25	50.50	51.24	51.67	53.60	48.44	50.34	54.81	55.25	---	55.54
3	53.86	54.09	50.81	51.16	51.68	53.63	48.15	50.86	53.65	54.73	---	55.29
4	53.95	53.72	50.86	51.03	51.83	53.63	48.33	50.71	53.58	54.92	---	55.13
5	54.10	53.38	51.00	50.92	52.75	53.60	49.09	50.71	53.54	54.94	---	55.00
6	54.17	53.15	51.21	50.75	52.03	53.65	49.57	51.08	53.56	55.09	---	55.03
7	54.58	53.02	51.32	50.49	52.05	53.68	49.68	50.78	54.76	54.93	---	54.88
8	54.15	52.91	51.49	50.35	52.21	53.75	49.76	50.86	55.16	54.99	---	54.85
9	54.15	52.88	51.70	50.44	52.27	53.79	49.93	51.13	53.98	55.88	---	54.86
10	53.96	52.80	51.72	50.55	53.22	53.73	49.55	50.93	53.77	55.06	---	54.89
11	53.87	52.73	51.78	50.61	53.05	53.70	48.15	51.26	53.78	54.97	---	54.79
12	53.84	52.76	51.96	50.72	52.65	53.77	47.89	51.17	53.83	54.87	---	54.86
13	54.23	52.51	52.02	50.74	52.47	53.67	48.21	51.49	53.91	54.94	---	55.00
14	53.91	53.14	52.06	50.75	52.66	53.52	49.43	52.37	54.10	54.96	---	55.04
15	53.95	52.85	52.08	50.73	52.79	53.61	48.85	51.88	54.06	55.12	---	55.16
16	53.89	52.08	52.15	50.66	52.75	53.61	49.05	51.82	54.03	55.45	---	55.16
17	53.91	51.94	52.21	50.71	52.94	53.54	48.99	52.01	55.74	55.21	---	55.11
18	53.91	51.90	52.15	50.86	52.93	53.53	48.92	52.12	54.56	55.15	---	54.99
19	53.92	51.91	52.01	50.95	52.96	53.48	49.47	52.14	54.36	55.09	---	55.14
20	53.99	52.94	51.85	51.00	52.96	53.33	49.42	52.35	54.29	55.23	---	55.90
21	53.97	52.04	52.00	51.03	52.97	53.29	49.42	52.37	54.23	55.09	---	55.21
22	53.98	51.88	51.79	51.08	---	53.35	49.44	52.46	54.74	55.18	---	55.17
23	53.96	51.52	51.70	51.20	53.14	53.31	49.90	52.50	54.73	55.50	---	55.20
24	53.90	51.00	51.64	51.26	53.29	53.14	49.50	53.05	54.30	55.40	54.99	55.16
25	53.93	50.58	51.65	51.37	53.36	52.92	49.55	52.70	54.28	---	55.31	55.26
26	53.95	50.34	51.59	51.44	53.39	52.71	49.53	52.82	54.40	---	55.15	55.16
27	54.56	50.23	51.62	51.35	53.46	52.34	50.15	53.24	54.38	---	55.17	55.06
28	54.07	50.21	51.78	51.33	53.50	52.01	49.82	54.16	54.54	---	55.26	54.72
29	54.10	50.25	51.78	51.36	---	51.54	49.74	54.15	54.67	---	55.21	54.39
30	54.13	50.30	51.78	51.34	---	50.80	50.23	54.51	54.63	---	55.29	54.20
31	54.10	---	51.63	51.35	---	49.96	---	54.78	---	---	55.25	---
MEAN	54.02	52.25	51.62	50.97	52.69	53.15	49.25	52.03	54.29	55.11	55.20	55.05
MAX	54.58	54.25	52.21	51.44	53.50	53.79	50.23	54.78	55.74	55.88	55.31	55.90
MIN	53.84	50.21	50.39	50.35	51.59	49.96	47.89	50.23	53.54	54.61	54.99	54.20

WTR YR 1993: HIGHEST 47.89, APRIL 12; LOWEST 55.90, SEPTEMBER 20.

Gap Indicates missing record.



LYCOMING COUNTY

412427076594401. Local number, LY 112.

LOCATION.--Lat 41°24'27", long 76°59'44", Hydrologic Unit 02050206, at State Game Land No. 133, and near Trout Run.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 23 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,400 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 3.1 ft above land-surface datum.

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

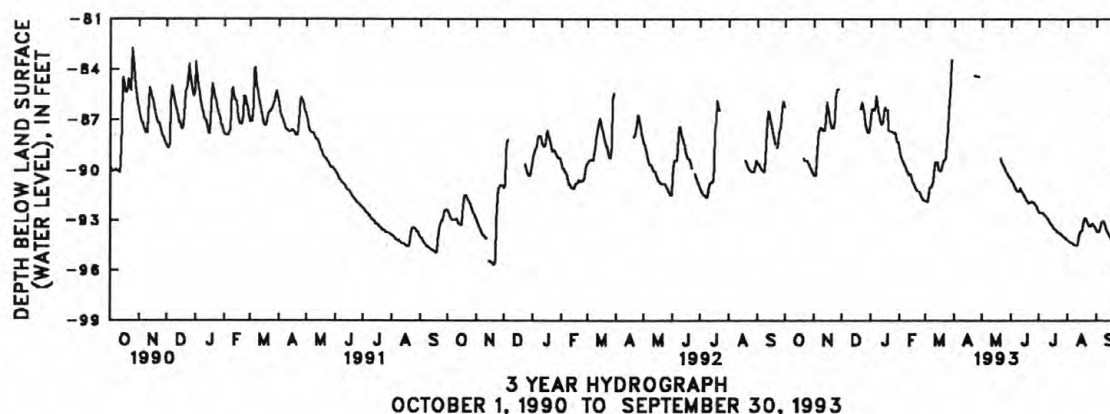
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 76.10 ft below land-surface datum, June 23, 1972; lowest, 95.63 ft below land-surface datum, November 20, 1991 (may have been affected by pumping during well test).

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	90.25	---	86.82	88.78	91.83	---	---	90.53	92.46	94.16	93.57
2	---	90.30	---	86.43	89.08	91.86	---	---	90.63	92.52	94.20	93.66
3	---	90.27	---	86.34	89.16	91.87	---	---	90.71	92.55	94.26	93.69
4	---	89.43	---	86.41	89.40	91.77	---	---	90.83	92.53	94.30	93.69
5	---	88.24	---	86.41	89.41	91.14	---	---	90.92	92.54	94.34	93.57
6	---	87.73	---	86.12	89.64	90.99	---	---	91.08	92.57	94.34	93.22
7	---	87.60	---	85.58	89.68	90.97	---	---	91.18	92.64	94.39	93.06
8	---	87.46	---	85.95	89.87	90.90	---	---	91.24	92.70	94.46	93.03
9	---	87.49	---	86.41	90.03	90.64	---	---	91.26	92.77	94.50	93.04
10	---	87.54	---	86.76	90.12	90.13	---	---	91.21	92.85	94.51	93.18
11	---	87.64	---	87.05	90.26	89.48	---	---	91.07	92.90	94.50	93.35
12	---	87.65	---	87.24	90.27	89.51	---	---	91.22	93.01	94.42	93.50
13	---	87.52	---	87.24	90.19	89.50	---	---	91.33	93.14	94.03	93.65
14	---	86.39	---	87.12	90.53	89.52	---	---	91.40	93.20	93.75	93.73
15	---	85.98	---	86.51	90.73	89.91	---	---	91.52	93.28	93.66	93.85
16	---	86.24	---	86.29	90.73	89.99	---	---	91.63	93.34	93.63	93.98
17	---	86.52	---	86.42	90.87	90.03	---	---	91.73	93.43	93.58	94.06
18	---	87.00	---	86.41	91.02	90.00	---	---	91.83	93.52	93.19	94.15
19	---	87.35	---	86.42	91.13	89.78	---	---	91.91	93.53	92.95	94.20
20	---	87.50	---	87.59	91.21	89.52	---	---	91.99	93.61	92.84	94.25
21	89.29	87.50	86.35	87.68	91.22	89.37	---	89.31	91.94	93.68	92.92	94.25
22	89.43	87.50	85.98	87.68	---	89.39	---	89.49	91.88	93.73	93.04	94.30
23	89.44	87.03	86.04	87.69	91.29	89.23	84.38	89.59	91.86	93.72	93.15	94.31
24	89.41	85.74	86.53	87.68	91.51	88.22	84.38	89.67	91.91	93.77	93.25	94.34
25	89.45	85.28	86.67	87.77	91.64	87.63	84.40	89.85	91.94	93.82	93.34	94.34
26	89.55	85.19	87.18	87.78	91.70	86.43	84.40	89.97	91.97	93.86	93.34	94.33
27	89.74	85.16	87.48	87.73	91.77	85.49	84.40	90.09	92.03	93.90	93.23	94.30
28	89.81	---	87.66	87.85	91.83	84.75	---	90.14	92.11	93.97	93.19	93.72
29	89.92	---	87.75	88.24	---	83.46	---	90.30	92.24	94.02	93.26	92.50
30	90.05	---	87.76	88.34	---	---	---	90.40	92.35	94.05	93.34	92.06
31	90.18	---	87.60	88.34	---	---	---	90.40	---	94.13	93.42	---
MEAN	89.66	87.39	87.00	87.04	90.48	89.42	84.39	89.93	91.52	93.28	93.73	93.70
MAX	90.18	90.30	87.76	88.34	91.83	91.87	84.40	90.40	92.35	94.13	94.51	94.34
MIN	89.29	85.16	85.98	85.58	88.78	83.46	84.38	89.31	90.53	92.46	92.84	92.06

WTR YR 1993: HIGHEST 83.46, MARCH 29; LOWEST 94.51, AUGUST 10.

Gap indicates missing record.



MIFFLIN COUNTY

404140077354001. Local number, MF 344.

LOCATION.--Lat 40°41'40", long 77°35'48", Hydrologic Unit 02050304, at Roseann.

Owner: Ira Huron.

AQUIFER.--Bellefonte Formation, Early-Middle Ordovician age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 42 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 800 ft above sea level. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.

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

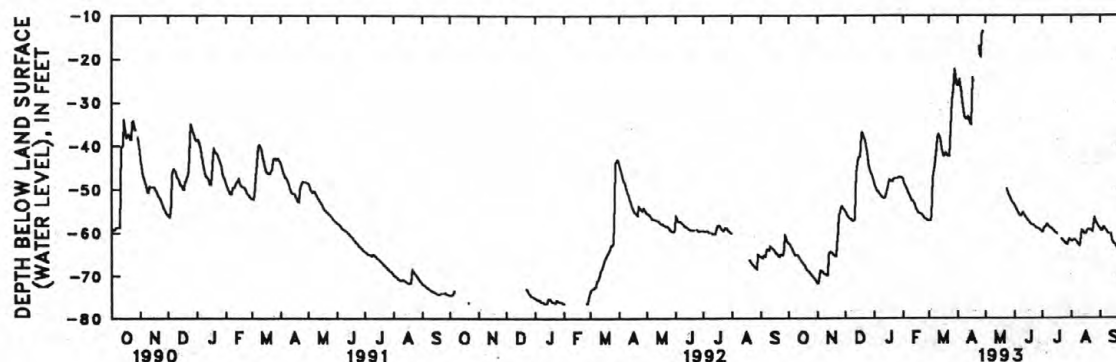
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.54 ft below land-surface datum, Apr. 28, 1993; lowest, 77.13 ft below land-surface datum, Oct. 11, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.41	71.61	55.02	48.47	47.51	57.09	26.09	---	53.59	59.67	61.84	59.02
2	62.60	71.65	55.29	49.18	48.32	57.12	25.78	---	54.00	59.70	61.92	59.36
3	62.89	69.92	55.97	49.85	48.73	56.93	24.42	---	54.41	58.72	61.59	59.43
4	63.38	68.60	56.01	50.24	49.22	56.00	25.98	---	54.75	58.73	61.44	59.17
5	63.88	68.78	56.43	50.29	49.53	47.39	27.78	---	55.16	58.33	61.68	58.52
6	64.35	68.82	56.55	50.61	50.25	46.40	29.63	---	55.55	58.00	61.85	58.81
7	64.77	69.10	56.65	50.93	50.61	44.72	31.66	---	55.83	58.14	62.16	59.21
8	65.12	69.33	57.02	51.22	51.14	43.05	32.82	---	56.01	58.36	62.50	59.53
9	65.19	69.49	57.16	51.50	51.60	40.35	33.42	---	55.80	58.69	62.77	59.86
10	65.02	69.55	57.14	51.82	52.29	38.21	33.69	---	55.22	58.92	62.95	60.13
11	65.24	69.70	56.73	51.89	52.48	37.24	33.67	---	55.62	59.00	62.26	60.14
12	65.50	69.70	50.48	51.91	52.69	37.74	33.21	---	55.96	59.11	59.35	60.14
13	65.96	64.99	46.30	51.60	52.99	37.88	33.54	---	56.28	59.38	59.45	60.14
14	66.18	64.46	43.89	50.64	53.72	39.38	34.24	---	56.57	59.61	59.77	61.70
15	66.49	64.35	42.67	49.97	54.44	40.53	34.89	---	56.92	59.82	60.10	62.06
16	66.85	64.51	42.51	48.67	54.49	41.73	35.07	---	57.21	59.99	60.11	62.41
17	67.22	64.68	42.50	47.57	54.97	42.35	24.18	---	57.45	60.14	60.12	62.63
18	67.39	64.98	37.57	47.77	55.30	42.19	24.99	---	57.70	---	59.40	62.81
19	67.86	65.16	36.75	48.05	55.41	41.43	---	---	57.95	---	59.16	63.14
20	68.11	65.29	37.41	48.04	55.49	41.55	---	---	58.03	---	59.25	63.57
21	68.54	65.29	38.10	48.00	55.54	42.10	---	---	58.04	---	59.13	63.86
22	68.76	62.71	38.79	47.50	55.69	42.36	---	---	58.23	61.39	59.28	64.17
23	68.88	59.50	39.81	47.30	56.04	42.31	---	---	58.54	61.72	59.52	64.33
24	69.17	55.97	41.27	47.26	56.46	39.27	16.97	50.01	58.69	61.98	59.72	64.77
25	69.50	55.10	42.43	47.31	56.63	32.80	18.69	50.63	58.77	62.17	58.36	64.96
26	69.81	54.18	44.01	47.32	56.72	29.64	19.39	51.14	58.90	62.32	56.29	61.40
27	70.12	53.66	45.17	47.12	56.88	26.96	14.39	51.64	58.96	62.57	56.90	60.45
28	70.40	53.96	45.95	47.09	57.04	24.92	13.54	52.12	59.14	62.73	57.51	55.87
29	70.69	54.28	46.43	47.16	---	22.21	---	52.66	59.29	62.10	57.98	56.10
30	70.96	54.52	46.83	47.17	---	23.73	---	53.03	59.46	61.42	58.34	56.49
31	71.35	---	47.35	47.16	---	25.51	---	53.14	---	61.68	58.65	---
MEAN	66.92	64.13	47.62	49.05	53.29	40.04	27.31	51.80	56.93	60.16	60.04	60.81
MAX	71.35	71.65	57.16	51.91	57.04	57.12	35.07	53.14	59.46	62.73	62.95	64.96
MIN	62.41	53.66	36.75	47.09	47.51	22.21	13.54	50.01	53.59	58.00	56.29	55.87

WTR YR 1993: HIGHEST 13.54, APRIL 28; LOWEST 71.65, NOVEMBER 2.

Gap Indicates missing record.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

PERRY COUNTY

402339077074502. Local number, PE 518.

LOCATION.--Lat 40°23'39", long 77°07'45", Hydrologic Unit 02050305, at State Game Land No. 256, and near Mecks Corner.

Owner: U.S. Geological Survey.

AQUIFER.--Shermans Ridge member of Mahantango Formation, Middle Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 138 ft, cased to 17 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 590 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 3.0 ft above land-surface datum.

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

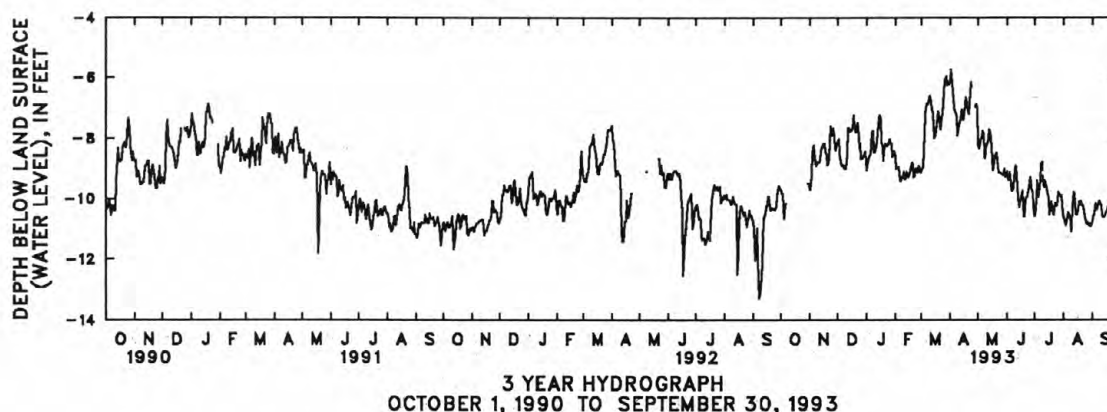
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.74 ft below land-surface datum, April 2, 1993; lowest, 19.51 ft below land-surface datum, Aug. 19, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.70	9.70	8.13	9.03	8.57	9.06	6.11	8.21	9.07	10.58	10.64	10.77
2	9.83	9.70	8.02	8.87	8.99	9.00	5.74	8.31	9.32	10.56	10.65	10.63
3	9.82	9.23	8.46	8.68	8.96	8.92	6.19	8.19	9.37	10.02	10.83	10.52
4	10.66	8.48	8.64	8.60	8.95	8.41	6.47	8.04	9.11	9.37	10.87	10.29
5	10.44	8.24	8.86	8.50	8.93	7.25	6.99	7.95	9.25	9.94	10.63	10.15
6	10.17	8.44	8.90	8.24	9.37	6.98	7.07	7.75	9.72	9.82	10.46	10.36
7	---	8.78	8.86	7.81	9.39	6.83	7.20	7.83	9.73	9.37	10.56	10.29
8	---	8.90	8.97	7.74	9.25	6.89	7.27	8.55	9.63	8.84	10.56	10.09
9	---	8.85	9.00	8.45	9.28	6.71	7.90	8.63	9.27	8.77	11.09	10.08
10	---	8.77	8.97	8.43	9.09	6.61	7.68	8.18	8.90	9.36	10.92	10.21
11	---	8.78	8.51	8.35	9.34	6.77	7.54	8.22	8.95	9.61	10.28	10.19
12	---	8.73	7.69	8.13	9.31	7.05	7.40	8.02	9.54	9.37	9.78	10.53
13	---	8.41	7.65	7.79	9.09	7.00	7.17	7.71	9.99	9.55	9.83	10.63
14	---	8.28	7.77	7.37	9.24	7.53	7.05	7.78	10.29	9.65	10.50	10.62
15	---	8.23	7.74	7.24	9.27	7.99	7.40	7.98	10.11	9.80	10.53	10.55
16	---	8.18	7.72	7.34	9.23	7.88	7.35	8.63	9.94	9.94	10.53	10.46
17	---	8.18	7.65	8.10	9.04	7.72	6.91	9.03	9.85	10.53	10.36	10.42
18	---	8.44	7.24	8.28	8.95	7.53	6.65	8.80	9.74	10.21	10.10	10.26
19	---	8.52	7.63	8.71	8.78	7.11	6.87	8.56	10.60	10.09	10.21	10.32
20	---	8.86	7.79	8.40	8.87	7.16	7.05	8.51	10.60	10.36	10.08	10.50
21	---	8.78	7.76	8.17	9.27	7.61	7.20	8.47	10.00	10.49	10.22	10.44
22	---	8.60	7.49	8.19	9.22	7.70	6.85	8.71	9.97	10.54	10.22	10.34
23	---	7.61	7.63	8.25	8.97	7.27	6.15	9.12	9.89	10.14	10.29	10.31
24	---	7.91	8.32	8.21	9.01	7.21	6.31	9.10	9.68	10.23	10.57	10.35
25	---	7.91	8.15	8.20	9.13	6.53	---	9.14	9.63	10.22	10.67	10.50
26	---	7.66	8.66	8.02	8.90	6.10	---	9.14	9.27	10.03	10.83	10.24
27	---	7.94	8.66	8.16	8.96	6.01	---	9.18	9.46	9.77	10.77	9.61
28	---	8.31	8.63	8.16	9.13	5.96	6.96	9.20	9.78	9.86	10.88	9.49
29	---	8.39	8.55	8.59	---	6.25	6.88	9.00	9.76	9.92	10.82	9.50
30	9.49	8.13	8.49	8.48	---	6.15	7.01	9.26	10.26	9.88	10.92	9.59
31	9.49	---	8.43	8.40	---	6.22	---	9.22	---	10.24	10.89	---
MEAN	9.95	8.50	8.22	8.22	9.09	7.21	6.94	8.53	9.69	9.91	10.53	10.27
MAX	10.66	9.70	9.00	9.03	9.39	9.06	7.90	9.26	10.60	10.58	11.09	10.77
MIN	9.49	7.61	7.24	7.24	8.57	5.96	5.74	7.71	8.90	8.77	9.78	9.49

WTR YR 1993: HIGHEST 5.74, APRIL 2; LOWEST 11.09, AUGUST 9.

Gap Indicates missing record.



POTTER COUNTY

414640077493801. Local number, PO 72.

LOCATION.--Lat 41°46'40", long 77°49'38", Hydrologic Unit 02050205, at Denton Hill State Park, and near Walton.
 Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 110 ft, cased to 21 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 15-minute recording interval.

DATUM.--Elevation of land surface is 1,810 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 1.8 ft above land-surface datum.

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

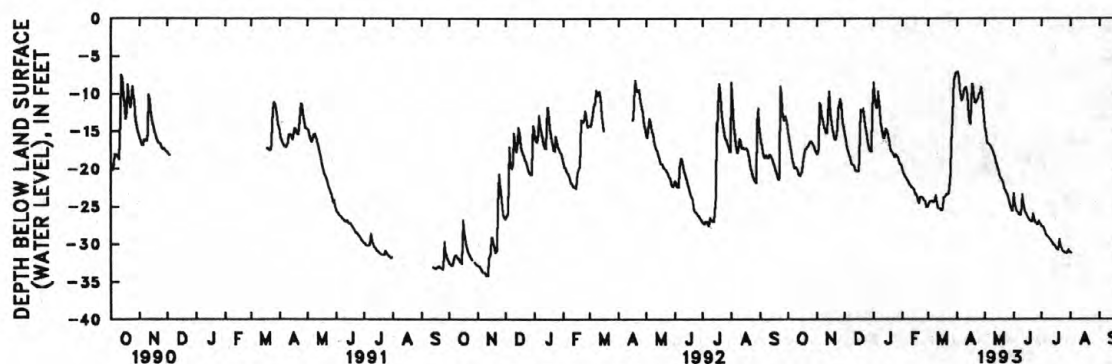
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.20 ft below land-surface datum, Mar. 23, 1968; lowest, 39.12 ft below land-surface datum, Dec. 11, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.15	18.05	15.25	8.47	20.01	24.87	7.07	14.39	23.25	27.53	31.12	
2	16.01	18.06	15.93	9.85	20.42	24.65	7.05	15.22	24.29	27.62	31.13	
3	16.79	17.23	16.80	11.30	20.62	24.27	7.93	16.00	25.10	27.69	---	
4	17.60	11.21	17.21	11.91	20.96	24.27	9.30	16.62	25.51	27.92	---	
5	18.29	11.58	17.75	11.89	21.06	24.23	10.36	16.65	25.59	28.36	---	
6	18.88	12.74	18.14	9.69	21.34	24.37	10.86	16.75	25.77	28.72	---	
7	19.42	13.41	18.53	10.49	21.49	24.38	10.55	16.95	26.03	28.94	---	
8	19.88	13.90	19.05	11.95	21.77	24.25	9.82	17.08	26.12	29.04	---	
9	19.94	14.39	19.41	13.77	22.10	23.50	9.34	17.32	26.09	29.21	---	
10	19.83	14.85	19.47	14.69	22.22	23.98	9.09	17.68	23.45	29.36	---	
11	20.13	15.25	19.60	15.32	22.46	25.01	9.06	18.03	24.28	29.51	---	
12	20.51	15.28	20.01	15.91	22.52	25.21	10.14	18.43	25.03	29.68	---	
13	20.83	12.80	20.26	15.91	22.57	25.21	11.49	19.02	25.62	29.95	---	
14	20.96	9.65	20.32	14.69	22.85	25.22	12.89	19.51	25.89	30.06	---	
15	20.78	11.09	20.32	14.75	23.35	25.47	13.91	19.89	26.12	30.14	---	
16	20.40	12.63	20.30	15.09	23.36	25.47	13.96	20.41	26.36	30.33	---	
17	19.19	13.85	18.58	15.71	23.57	25.15	8.65	20.87	26.57	30.53	---	
18	18.25	14.70	12.10	16.56	24.08	23.87	8.68	21.24	26.76	30.72	---	
19	17.64	15.40	12.31	17.18	24.55	23.70	10.01	21.34	26.87	30.76	---	
20	17.40	15.98	12.40	17.58	23.96	23.65	11.09	21.66	26.95	29.39	---	
21	17.28	16.14	12.00	17.77	23.70	23.39	11.22	22.06	26.95	29.88	---	
22	17.04	15.82	13.32	17.92	23.69	23.37	11.03	22.54	25.98	30.24	---	
23	16.96	14.68	14.25	18.39	23.82	23.25	10.75	22.87	26.54	30.68	---	
24	16.63	12.03	15.17	18.50	24.06	22.56	10.47	23.03	26.97	30.87	---	
25	16.34	11.39	15.65	18.09	24.21	20.49	9.94	23.32	27.16	31.05	---	
26	16.38	10.74	16.60	18.22	24.32	16.77	9.86	23.82	27.29	31.10	---	
27	16.60	11.47	17.20	18.40	25.04	13.36	9.07	24.42	27.41	31.15	---	
28	16.81	12.75	17.55	18.62	25.08	10.16	10.04	24.77	26.92	31.23	---	
29	17.08	13.86	17.68	19.14	---	8.28	11.52	25.16	27.07	31.16	---	
30	17.46	14.56	17.67	19.36	---	7.47	13.17	25.53	27.27	30.73	---	
31	17.78	---	12.23	19.41	---	7.19	---	25.56	---	31.01	---	
MEAN	18.20	13.85	16.87	15.37	22.83	21.52	10.28	20.26	26.04	29.82	31.13	
MAX	20.96	18.06	20.32	19.41	25.08	25.47	13.96	25.56	27.41	31.23	31.13	
MIN	15.15	9.65	12.00	8.47	20.01	7.19	7.05	14.39	23.25	27.53	31.12	

WTR YR 1993: HIGHEST 7.05, APRIL 2; LOWEST 31.23, JULY 28.

Gap indicates missing record.



3 YEAR HYDROGRAPH
 OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

SNYDER COUNTY

403939076591001. Local number, SN 130.

LOCATION.--Lat 40°39'39", long 76°59'10", Hydrologic Unit 02050301, at State Game Land No. 194, and at Meiserville.

Owner: U.S. Geological Survey.

AQUIFER.--Irish Valley member of Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 740 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.

PERIOD OF RECORD.--June 1968 to current year.

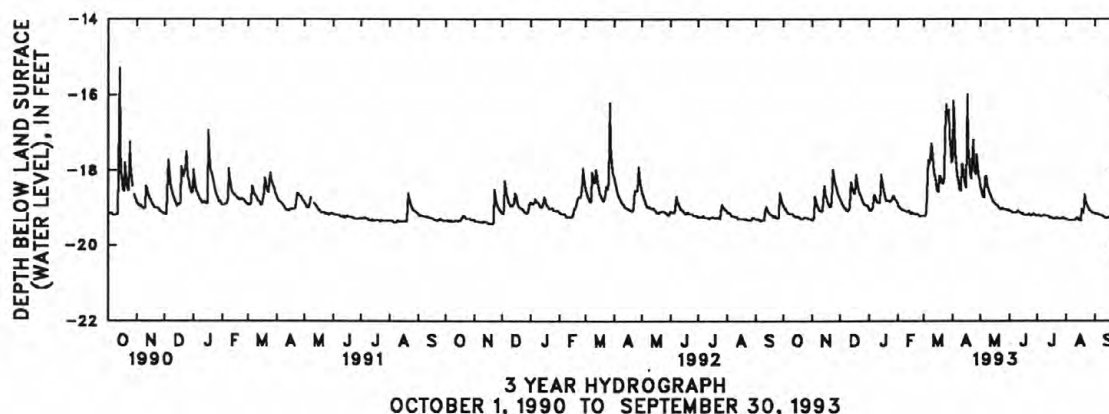
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.45 ft below land-surface datum, Sept. 26, 1975; lowest, 19.57 ft below land-surface datum, Nov. 23, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.96	19.32	18.77	19.02	18.91	19.21	17.67	18.44	19.08	19.21	19.30	19.16
2	19.00	19.32	18.82	19.07	18.97	19.22	16.16	18.56	19.10	19.20	19.31	19.17
3	19.03	19.27	18.90	19.07	18.98	19.20	16.83	18.65	19.11	19.19	19.32	19.17
4	19.08	18.71	18.92	19.05	19.02	19.12	17.52	18.70	19.12	19.21	19.32	19.16
5	19.12	18.80	18.98	18.99	19.02	18.15	17.89	18.72	19.12	19.23	19.32	19.18
6	19.14	18.91	19.00	18.76	19.06	17.72	18.13	18.19	19.13	19.22	19.32	19.19
7	19.16	18.98	19.03	18.66	19.06	17.81	18.30	18.15	19.13	19.21	19.32	19.20
8	19.17	19.03	19.08	18.72	19.07	17.66	18.42	18.29	19.13	19.20	19.33	19.21
9	19.16	19.08	19.09	18.81	19.09	17.28	18.51	18.42	19.12	19.21	19.33	19.21
10	19.17	19.07	19.06	18.85	19.09	17.43	18.53	18.52	19.08	19.21	19.33	19.21
11	19.18	19.09	19.00	18.86	19.11	17.84	17.82	18.60	19.11	19.22	19.31	19.24
12	19.20	19.08	18.60	18.87	19.10	18.07	17.84	18.66	19.13	19.22	19.30	19.27
13	19.23	18.80	18.32	18.85	19.07	18.10	18.10	18.73	19.15	19.23	19.27	19.28
14	19.23	18.42	18.45	18.11	19.13	18.30	18.27	18.80	19.16	19.26	19.30	19.28
15	19.24	18.59	18.54	18.27	19.16	18.48	18.40	18.84	19.15	19.25	19.32	19.27
16	19.23	18.69	18.62	18.40	19.13	18.57	18.45	18.88	19.18	19.26	19.33	19.27
17	19.25	18.78	18.62	18.53	19.15	18.57	15.99	18.91	19.19	19.28	19.34	19.24
18	19.26	18.88	18.11	18.67	19.17	18.14	17.33	18.93	19.20	19.29	19.04	19.23
19	19.26	18.93	18.27	18.77	19.17	18.14	17.80	18.94	19.19	19.28	19.14	19.22
20	19.29	18.98	18.44	18.82	19.18	18.27	18.07	18.97	19.20	19.28	19.15	19.24
21	19.30	18.96	18.56	18.81	19.17	18.36	18.22	19.00	19.19	19.29	18.65	19.24
22	19.29	18.82	18.63	18.81	19.17	18.36	17.82	19.02	19.17	19.27	18.79	19.25
23	19.28	17.97	18.68	18.84	19.18	18.19	17.18	19.04	19.20	19.28	18.86	19.20
24	19.26	18.10	18.78	18.84	19.21	17.00	17.72	19.01	19.21	19.28	18.93	19.24
25	19.26	18.30	18.80	18.82	19.23	16.26	18.00	19.02	19.20	19.29	18.99	19.24
26	19.27	18.38	18.88	18.78	19.22	16.55	18.10	19.04	19.19	19.29	19.04	19.18
27	19.28	18.48	18.92	18.69	19.22	16.57	17.58	19.05	19.16	19.28	19.07	18.85
28	19.29	18.58	18.93	18.69	19.22	16.40	17.90	19.05	19.18	19.30	19.09	18.37
29	19.30	18.66	18.94	18.78	---	17.09	18.11	19.06	19.20	19.26	19.12	18.56
30	19.30	18.71	18.94	18.81	---	17.47	18.29	19.08	19.21	19.28	19.14	18.69
31	19.31	---	18.95	18.82	---	17.77	---	19.06	---	19.29	19.15	---
MEAN	19.21	18.79	18.76	18.77	19.12	17.91	17.83	18.78	19.16	19.25	19.18	19.14
MAX	19.31	19.32	19.09	19.07	19.23	19.22	18.53	19.08	19.21	19.30	19.34	19.28
MIN	18.96	17.97	18.11	18.11	18.91	16.26	15.99	18.15	19.08	19.19	18.65	18.37

WTR YR 1993: HIGHEST 15.99, APRIL 17; LOWEST 19.34, AUGUST 17.

Gap Indicates missing record.



SULLIVAN COUNTY

413026076352901. Local number, SU 34.

LOCATION.--Lat 41°30'26", long 76°35'29", Hydrologic Unit 02050206, near Forksville.

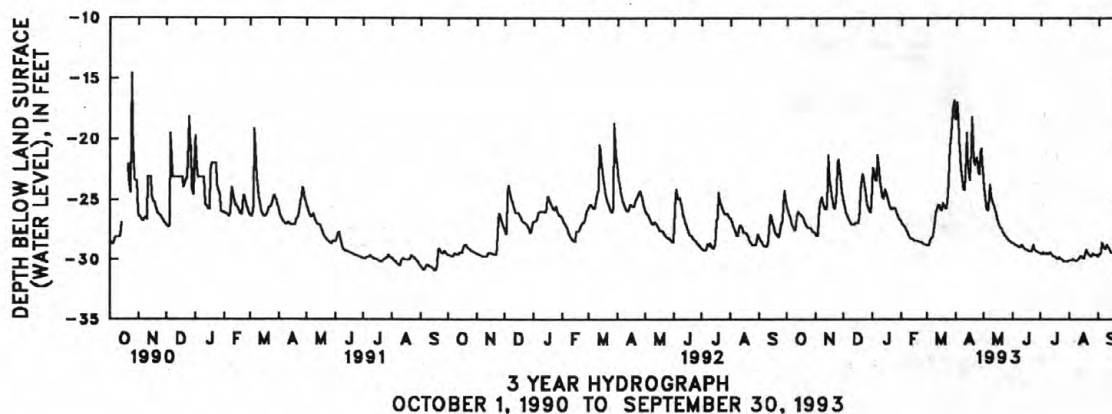
Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.**WELL CHARACTERISTICS.**--Drilled observation well, diameter 6 in., depth 50 ft, cased to 34 ft, open hole.**INSTRUMENTATION.**--Digital recorder with 60-minute recording interval. Pennsylvania Department of Environmental Resources satellite telemeter at station.**DATUM.**--Elevation of land surface is 1,060 ft above sea level, from topographic map. Measuring point: Top of casing, 1.7 ft above land-surface datum.**PERIOD OF RECORD.**--April 1965 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 7.42 ft below land-surface datum, June 23, 1972; lowest, 31.12 ft below land-surface datum, Sept. 4, 1966.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.67	27.91	25.25	22.31	26.83	28.77	18.35	24.07	28.56	29.47	30.03	29.69
2	25.97	27.97	25.57	22.47	26.97	28.77	16.97	24.83	28.59	29.51	30.03	29.51
3	26.17	27.97	25.94	23.07	27.05	28.77	18.17	25.37	28.69	29.51	30.03	29.51
4	26.37	26.45	26.15	23.37	27.11	28.45	20.07	25.73	28.73	29.37	29.97	29.37
5	26.69	25.27	26.31	23.39	27.21	28.19	21.39	25.85	28.77	29.45	29.93	28.57
6	26.97	25.05	26.47	21.25	27.37	28.14	22.45	25.69	28.81	29.51	30.01	28.69
7	27.15	24.78	26.65	21.75	27.53	28.03	23.19	23.76	28.87	29.51	30.09	28.95
8	27.35	25.03	26.81	22.51	27.73	27.50	23.69	24.17	28.93	29.39	30.09	29.09
9	27.49	25.33	26.97	23.41	27.93	26.73	24.09	24.69	28.93	29.51	30.01	29.03
10	27.43	25.55	27.03	24.13	28.07	26.00	24.17	25.05	28.76	29.49	29.97	28.71
11	26.46	25.74	27.03	24.63	28.19	25.75	22.93	25.27	28.74	29.35	29.97	28.81
12	26.10	25.78	27.03	24.85	28.23	25.55	19.49	25.53	28.90	29.47	29.79	28.91
13	25.99	25.38	26.89	24.85	28.23	25.41	21.05	25.81	29.00	29.57	29.65	29.09
14	26.13	21.26	26.87	24.13	28.27	25.45	22.23	26.15	29.08	29.65	29.73	29.25
15	26.17	22.30	26.87	24.29	28.39	25.73	23.01	26.47	29.14	29.69	29.83	29.40
16	26.23	23.28	26.87	24.51	28.39	25.85	23.31	26.75	29.14	29.73	29.89	29.41
17	26.33	24.02	26.87	24.81	28.39	25.77	20.89	26.99	29.21	29.79	29.87	29.37
18	26.45	24.63	25.94	25.17	28.39	25.21	18.17	27.15	29.25	29.85	29.47	29.37
19	26.59	25.13	24.21	25.43	28.43	25.45	20.29	27.27	29.29	29.91	29.13	29.31
20	26.75	25.52	23.21	25.59	28.47	25.57	21.81	27.41	29.31	29.91	29.31	29.35
21	26.98	25.71	22.85	25.73	28.51	25.69	22.11	27.59	29.27	29.79	29.45	29.47
22	27.12	25.56	23.25	25.75	28.51	25.64	21.71	27.73	28.97	29.85	29.55	29.51
23	27.22	24.35	23.69	25.67	28.51	24.60	21.49	27.89	28.71	29.93	29.63	29.53
24	27.30	21.95	24.41	25.71	28.59	23.43	22.09	27.99	28.95	29.99	29.73	29.55
25	27.30	21.65	24.83	25.67	28.67	20.47	22.67	28.08	29.13	30.05	29.73	29.53
26	27.30	22.25	25.33	25.83	28.69	20.27	22.87	28.20	29.23	30.13	29.45	29.55
27	27.38	23.07	25.61	26.05	28.71	18.81	21.08	28.30	29.27	30.15	29.50	29.37
28	27.52	23.73	25.85	26.25	28.74	17.69	20.75	28.38	29.33	30.15	29.59	28.87
29	27.66	24.35	25.99	26.45	---	17.17	21.98	28.46	29.37	30.15	29.57	27.51
30	27.68	24.81	26.03	26.59	---	16.81	23.11	28.52	29.41	30.15	29.57	27.59
31	27.77	---	25.21	26.65	---	18.34	---	28.56	---	30.09	29.69	---
MEAN	26.83	24.73	25.74	24.59	28.08	24.65	21.52	26.57	29.01	29.74	29.75	29.13
MAX	27.77	27.97	27.03	26.65	28.74	28.77	24.17	28.56	29.41	30.15	30.09	29.69
MIN	25.67	21.26	22.85	21.25	26.83	16.81	16.97	23.76	28.56	29.35	29.13	27.51

WTR YR 1993: HIGHEST 16.81, MARCH 30; LOWEST 30.15, JULY 27-30.

Gap Indicates missing record.



SUSQUEHANNA COUNTY

415323077451301. Local number, SQ 61.

LOCATION.--Lat 41°53'23", long 75°45'13", Hydrologic Unit 02050101, at State Game Land No. 175, and at New Milford.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 175 ft, cased to 80 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. U.S. Geological Survey satellite telemeter at station.

DATUM.--Elevation of land surface is 1,270 ft above sea level, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.

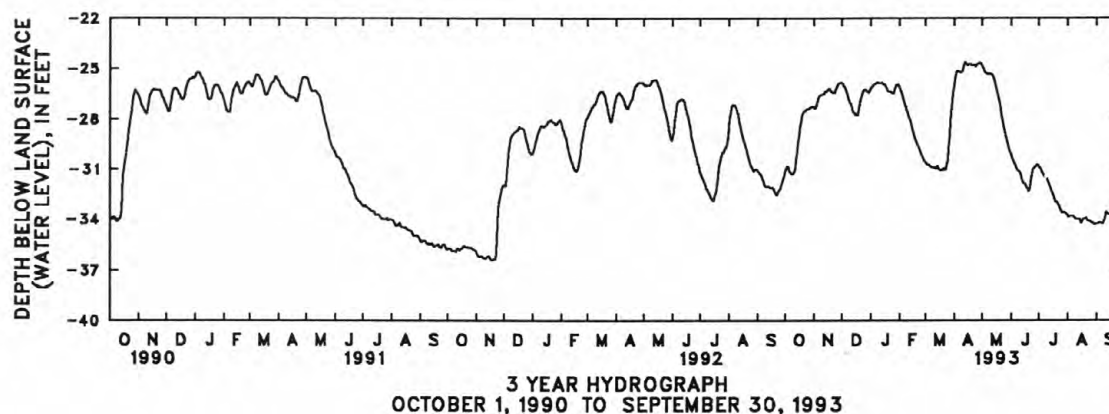
PERIOD OF RECORD.--July 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.49 ft below land-surface datum, Apr. 3, 1978; lowest, 37.24 ft below land-surface datum, Aug. 30, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.03	27.29	25.88	26.20	26.10	30.57	26.04	24.82	30.09	30.81	33.76	34.25
2	30.98	27.35	25.91	26.11	26.24	30.60	25.64	24.94	30.27	30.92	33.86	34.25
3	30.83	27.30	26.04	26.05	26.33	30.72	25.29	25.08	30.44	30.95	33.81	34.23
4	30.84	27.15	26.06	25.98	26.57	30.71	25.13	25.20	30.58	31.07	33.78	34.17
5	30.94	26.89	26.22	25.91	26.73	30.73	25.15	25.27	30.66	31.22	33.82	34.17
6	31.19	26.69	26.35	25.91	26.98	30.79	25.20	25.30	30.83	31.31	33.79	34.22
7	31.24	26.63	26.54	25.88	27.10	30.88	25.22	25.32	30.95	31.45	33.78	34.27
8	31.28	26.58	26.79	25.83	27.30	30.89	25.23	25.30	31.06	31.41	33.88	34.26
9	31.29	26.56	26.98	25.83	27.45	30.88	25.22	25.29	31.12	31.49	33.96	34.15
10	31.25	26.54	27.03	25.87	27.63	30.91	25.13	25.34	31.15	31.62	34.01	33.97
11	31.11	26.50	27.14	25.86	27.88	30.93	24.93	25.33	31.26	31.76	33.97	33.71
12	30.90	26.50	27.31	25.86	27.99	30.95	24.68	25.36	31.50	31.92	33.97	33.58
13	30.40	26.38	27.52	25.83	28.11	30.88	24.62	25.50	31.70	32.05	33.97	33.69
14	29.91	26.40	27.62	25.91	28.43	30.81	24.70	25.65	31.82	32.19	34.00	33.68
15	29.44	26.33	27.67	25.94	28.65	30.96	24.76	25.85	31.86	32.34	34.16	33.68
16	29.02	26.30	27.77	25.93	28.72	31.01	24.78	26.12	31.91	32.48	34.23	33.74
17	28.53	26.20	27.76	26.00	29.01	31.03	24.74	26.41	32.03	32.64	34.09	33.77
18	28.23	26.22	27.71	26.15	29.16	31.05	24.71	26.61	32.12	32.85	33.98	33.78
19	27.90	26.31	27.47	26.26	29.31	31.05	24.73	26.86	32.19	32.95	33.96	33.65
20	27.72	26.39	27.09	26.34	29.50	31.00	24.78	27.13	32.31	32.99	33.94	33.57
21	27.59	26.43	26.85	26.34	29.55	30.96	24.81	27.43	32.15	33.01	33.92	33.50
22	27.54	26.43	26.63	26.34	29.67	31.01	24.76	27.76	31.79	33.11	34.01	33.52
23	27.50	26.43	26.45	26.42	29.81	30.98	24.77	28.09	31.32	33.19	34.08	33.57
24	27.42	26.33	26.29	26.43	30.02	30.78	24.87	28.39	31.08	33.37	34.10	33.58
25	27.38	26.14	26.29	26.46	30.15	30.45	24.79	28.69	31.00	33.48	34.10	33.61
26	27.38	26.02	26.23	26.45	30.25	29.75	24.72	28.95	30.90	33.61	34.13	33.64
27	27.34	25.91	26.29	26.26	30.38	28.91	24.69	29.18	30.84	33.56	34.17	33.52
28	27.31	25.88	26.36	26.05	30.53	28.21	24.65	29.38	30.80	33.60	34.16	33.12
29	27.26	25.86	26.41	25.99	---	27.55	24.65	29.65	30.71	33.58	34.27	32.70
30	27.24	25.84	26.42	25.97	---	26.91	24.71	29.85	30.72	33.64	34.29	32.49
31	27.27	---	26.33	25.94	---	26.42	---	29.96	---	33.67	34.28	---
MEAN	29.20	26.46	26.76	26.07	28.41	30.30	24.94	26.77	31.24	32.39	34.01	33.73
MAX	31.29	27.35	27.77	26.46	30.53	31.05	26.04	29.96	32.31	33.67	34.29	34.27
MIN	27.24	25.84	25.88	25.83	26.10	26.42	24.62	24.82	30.09	30.81	33.76	32.49

WTR YR 1993: HIGHEST 24.62, APRIL 13; LOWEST 34.29, AUGUST 30.



TIOGA COUNTY

414513077333701. Local number, TI 100.

LOCATION.--Lat 41°45'13", long 77°33'37", Hydrologic Unit 02050205, at State Game Land No. 208, and at Gaines.

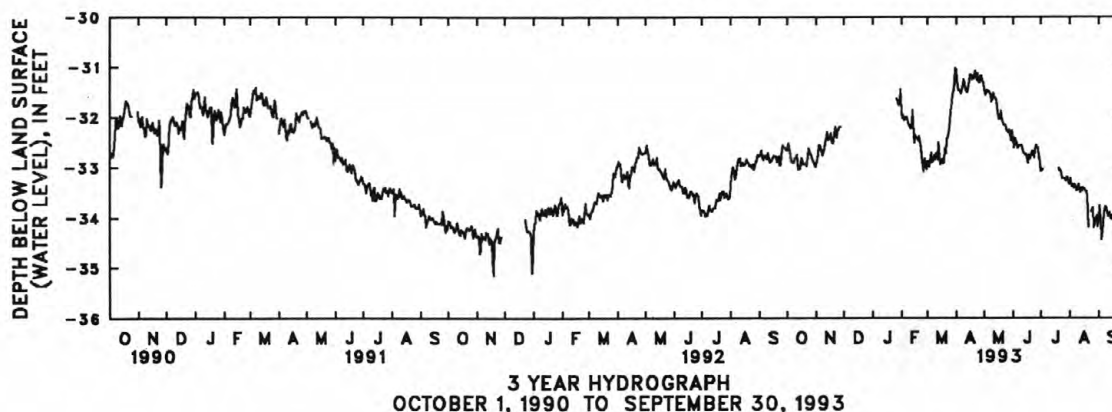
Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.**WELL CHARACTERISTICS.**--Drilled observation well, diameter 6 in., depth 77 ft, cased to 67 ft, open hole.**INSTRUMENTATION.**--Continuous strip-chart recorder.**DATUM.**--Elevation of land surface is 1,310 ft above sea level, from topographic map. Measuring point: Top of casing, 4.0 ft above land-surface datum.**REMARKS.**--Water-quality records for 1973-75 are available in files of District Office.**PERIOD OF RECORD.**--July 1972 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 31.02 ft below land-surface datum, Mar. 27, 1978, Mar. 31, 1993; lowest, 35.88 ft below land-surface datum, Oct. 11, 1988.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.65	32.92		---	31.89	32.87	31.05	31.44	32.41	33.08	33.33	34.02
2	32.52	32.89		---	32.01	32.88	31.28	31.56	32.60	33.06	33.21	33.76
3	32.60	32.74		---	31.94	32.98	31.47	31.52	32.42	33.04	33.38	34.01
4	32.75	32.55		---	32.06	32.87	31.46	31.45	32.45	---	33.32	34.42
5	32.87	32.56		---	32.04	32.71	31.48	31.49	32.48	---	33.40	34.35
6	32.87	32.62		---	31.99	32.90	31.53	31.48	32.62	---	33.33	34.13
7	32.91	32.71		---	31.99	32.87	31.42	31.51	32.58	---	33.36	33.89
8	32.91	32.76		---	32.10	32.76	31.38	31.54	32.55	---	33.45	33.77
9	32.80	32.71		---	32.15	32.85	31.25	31.69	32.55	---	33.44	33.78
10	32.82	32.62		---	32.18	32.72	31.33	31.63	32.55	---	33.34	33.87
11	32.74	32.50		---	32.23	32.76	31.45	31.51	32.61	---	33.33	33.96
12	32.87	32.39		---	32.14	32.85	31.48	31.62	32.71	---	33.49	33.95
13	33.04	32.29		---	31.85	32.51	31.50	31.61	32.72	---	33.40	33.88
14	33.02	32.45		---	32.35	32.79	31.42	31.65	32.74	---	33.46	33.99
15	33.02	32.41		---	32.50	32.93	31.29	31.78	32.73	---	33.39	34.02
16	32.81	32.41		---	32.35	32.85	31.15	31.98	32.85	---	33.41	33.93
17	32.85	32.31		---	32.40	32.83	31.16	32.03	32.91	---	33.43	33.95
18	32.93	32.47		---	32.40	32.92	31.25	32.03	32.75	---	33.46	34.02
19	32.92	32.52		---	32.46	32.89	31.18	31.87	32.83	---	33.46	34.01
20	32.93	32.45		---	32.38	32.62	31.24	32.06	32.81	33.01	33.56	33.92
21	32.91	32.25		---	32.47	32.72	31.07	32.08	32.70	33.06	34.17	---
22	32.97	32.18		---	32.60	32.44	31.13	32.15	32.67	33.05	---	33.89
23	32.78	32.40		---	32.77	32.37	31.26	32.16	32.74	33.11	---	33.89
24	32.62	32.29		---	32.97	32.33	31.13	32.15	32.80	33.21	33.87	33.88
25	32.69	32.24		---	33.08	32.09	31.29	32.27	32.66	33.21	33.83	33.98
26	32.72	32.18		---	32.82	31.88	31.31	32.28	32.55	33.21	33.80	33.77
27	32.78	32.19		31.63	32.96	31.70	31.17	32.32	32.61	33.21	34.18	33.76
28	32.84	---		31.69	33.03	31.54	31.18	32.25	32.60	33.26	34.11	33.68
29	32.88	---		31.75	---	31.51	31.28	32.41	32.82	33.19	34.02	33.67
30	32.92	---		31.71	---	31.32	31.31	32.46	32.79	33.20	33.95	33.74
31	32.98	---		31.44	---	31.02	---	32.26	---	33.31	34.17	---
MEAN	32.84	32.48		31.64	32.36	32.49	31.30	31.88	32.66	33.15	33.59	33.93
MAX	33.04	32.92		31.75	33.08	32.98	31.53	32.46	32.91	33.31	34.18	34.42
MIN	32.52	32.18		31.44	31.85	31.02	31.05	31.44	32.41	33.01	33.21	33.67

WTR YR 1993: HIGHEST 31.02, MARCH 31; LOWEST 34.42, SEPTEMBER 4.

Gap Indicates missing record.



UNION COUNTY

405928077115501. Local number, UN 51.

LOCATION.--Lat 40°59'28", long 77°11'55", Hydrologic Unit 02050206, at Raymond B. Winter Park, and 5.5 mi east of Livonia.

Owner: U.S. Geological Survey.

AQUIFER.--Reedsville Formation, Late Ordovician age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 115 ft, cased to 91 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pennsylvania Department of Environmental Resources satellite telemeter at station.

DATUM.--Elevation of land surface is 1,550 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.

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

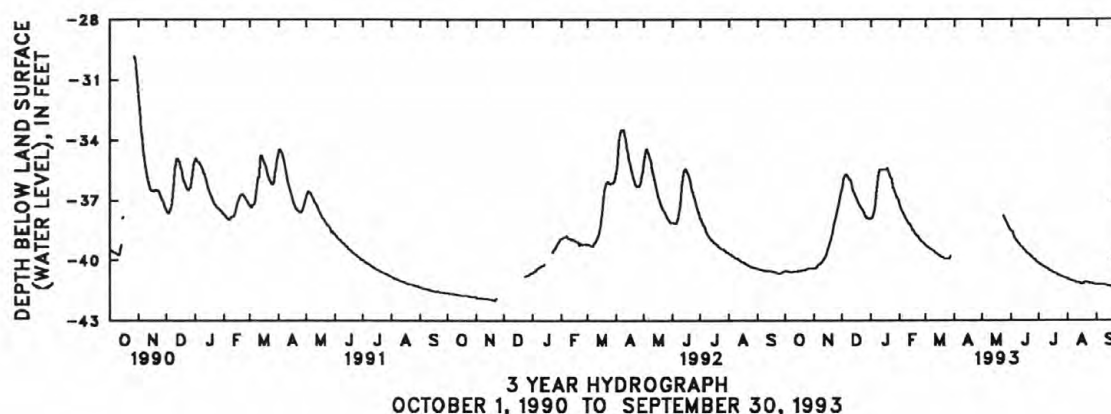
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.26 ft below land-surface datum, Apr. 10, 1978; lowest, 42.24 ft below land-surface datum, Jan. 29 to Feb. 1, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40.53	40.41	36.45	37.91	37.23	39.21		---	38.54	40.15	40.92	41.22
2	40.53	40.41	36.08	37.89	37.32	39.25		---	38.57	40.17	40.96	41.23
3	40.53	40.38	35.85	37.84	37.41	39.31		---	38.60	40.20	40.98	41.23
4	40.55	40.33	35.82	37.71	37.55	39.31		---	38.79	40.24	41.00	41.23
5	40.57	40.25	35.73	37.45	37.61	39.37		---	38.87	40.27	41.02	41.22
6	40.58	40.21	35.73	37.17	37.75	39.42		---	38.95	40.30	41.03	41.22
7	40.58	40.17	35.76	36.71	37.80	39.44		---	39.01	40.33	41.06	41.21
8	40.58	40.13	35.88	36.24	37.94	39.47		---	39.06	40.36	41.07	41.21
9	40.57	40.11	35.97	35.86	38.00	39.53		---	39.12	40.39	41.08	41.22
10	40.57	40.07	35.98	35.51	38.09	39.53		---	39.19	40.41	41.11	41.23
11	40.55	39.99	36.16	35.47	38.17	39.59		---	39.26	40.44	41.11	41.26
12	40.55	39.93	36.34	35.46	38.18	39.63		---	39.31	40.48	41.12	41.26
13	40.55	39.83	36.49	35.46	38.25	39.63		---	39.36	40.51	41.14	41.27
14	40.56	39.73	36.61	35.46	38.40	39.71		---	39.41	40.53	41.15	41.28
15	40.53	39.59	36.71	35.46	38.49	39.74		---	39.47	40.57	41.17	41.30
16	40.52	39.46	36.83	35.46	38.49	39.75		---	39.53	40.60	41.19	41.30
17	40.52	39.31	36.89	35.46	38.59	39.80		---	39.57	40.63	41.19	41.32
18	40.51	39.15	37.09	35.46	38.67	39.84		---	39.63	40.64	41.15	41.33
19	40.50	39.00	37.15	35.40	38.71	39.85		---	39.67	40.65	41.12	41.35
20	40.50	38.81	37.27	35.55	38.78	39.86		---	39.70	40.68	41.10	41.35
21	40.49	38.59	37.33	35.65	38.79	39.89		---	39.73	40.71	41.10	41.36
22	40.50	38.32	37.41	35.79	38.87	39.92		---	39.79	40.73	41.10	41.37
23	40.46	38.04	37.47	35.91	38.94	39.92		---	39.84	40.76	41.12	41.38
24	40.43	37.91	37.61	35.95	39.01	39.93		37.77	39.89	40.78	41.13	41.39
25	40.43	37.66	37.63	36.35	39.06	39.93		37.90	39.92	40.80	41.15	41.39
26	40.41	37.45	37.81	36.42	39.10	39.92		38.00	39.95	40.82	41.15	41.39
27	40.41	37.25	37.85	36.57	39.14	39.88		38.10	39.99	40.84	41.16	41.39
28	40.41	37.04	37.89	36.66	39.18	39.81		38.19	40.03	40.87	41.18	41.36
29	40.41	36.83	37.90	36.85	---	39.61		38.30	40.07	40.86	41.19	41.31
30	40.41	36.58	37.91	36.89	---	39.49		38.38	40.11	40.88	41.20	41.28
31	40.41	---	37.90	36.94	---	39.48		38.45	---	40.90	41.22	---
MEAN	40.50	39.10	36.82	36.29	38.34	39.65		38.14	39.43	40.56	41.11	41.30
MAX	40.58	40.41	37.91	37.91	39.18	39.93		38.45	40.11	40.90	41.22	41.39
MIN	40.41	36.58	35.73	35.40	37.23	39.21		37.77	38.54	40.15	40.92	41.21

WTR YR 1993: HIGHEST 35.40, JANUARY 19; LOWEST 41.39, SEPTEMBER 24-27.

Gap indicates missing record.



YORK COUNTY

400320076451501. Local number, YO 180.

LOCATION.--Lat 40°03'20", long 76°45'15", Hydrologic Unit 02050306, near Zions View.

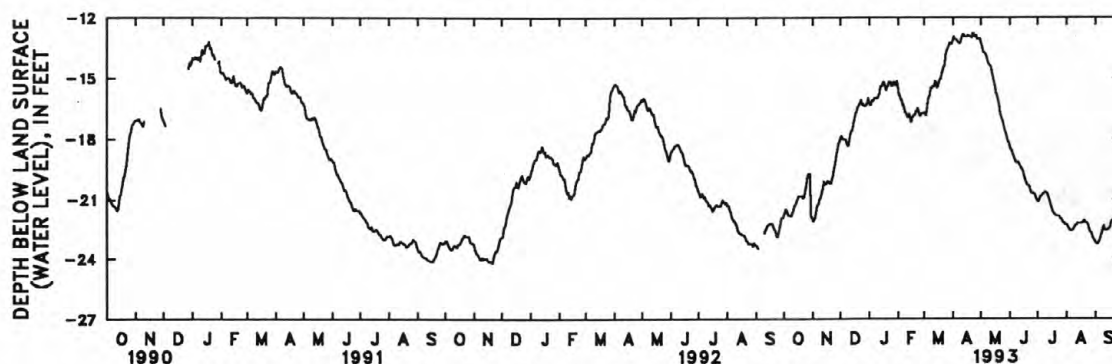
Owner: New York Wire Cloth Company.

AQUIFER.--New Oxford Formation, Late Triassic age.**WELL CHARACTERISTICS.**--Drilled unused well, diameter 8 in., depth 490 ft, casing information not available.**INSTRUMENTATION.**--Continuous strip-chart recorder.**DATUM.**--Elevation of land surface is 360 ft above sea level, from topographic map. Measuring point: Top of casing at land-surface datum.**REMARKS.**--This well shows significant response to Earth tide effects.**PERIOD OF RECORD.**--March 1962 to current year.**EXTREMES FOR PERIOD OF RECORD.**--Highest water level, 12.77 ft below land-surface datum, Apr. 23, 1993; lowest, 37.55 ft below land-surface datum, Nov. 3, 4, 1963.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.76	22.02	17.93	16.24	15.61	16.70	13.05	13.26	18.37	21.08	22.27	23.17
2	21.63	22.09	17.86	16.34	15.86	16.72	12.93	13.44	18.54	21.10	22.30	23.23
3	21.50	21.97	18.02	16.29	15.83	16.82	13.08	13.63	18.59	21.00	22.45	23.25
4	21.55	21.86	17.96	16.11	16.09	16.64	13.11	13.72	18.70	20.87	22.49	23.21
5	21.69	21.49	18.03	16.13	16.05	16.12	13.14	13.76	18.79	20.83	22.58	23.16
6	21.81	21.28	18.02	16.08	16.36	15.98	13.18	13.80	18.99	20.80	22.58	23.02
7	21.80	21.23	18.08	15.97	16.33	15.86	13.26	13.93	19.10	20.74	22.55	22.83
8	21.85	21.06	18.26	15.97	16.57	15.48	13.28	14.11	19.16	20.66	22.54	22.70
9	21.81	20.96	18.34	16.03	16.71	15.50	13.26	14.22	19.14	20.63	22.44	22.51
10	21.72	20.84	18.27	15.98	16.76	15.41	13.02	14.35	19.14	20.66	22.35	22.34
11	21.54	20.62	17.84	15.88	16.94	15.37	12.90	14.38	19.22	20.71	22.31	22.49
12	21.33	20.43	17.68	15.73	16.93	15.41	12.83	14.47	19.33	20.79	22.28	22.55
13	21.33	20.08	17.61	15.42	16.78	15.16	12.89	14.72	19.43	20.97	22.23	22.56
14	21.21	20.26	17.52	15.41	17.07	15.27	12.95	14.96	19.49	21.08	22.22	22.53
15	21.09	20.19	17.27	15.32	17.18	15.47	12.95	15.15	19.56	21.24	22.20	22.49
16	20.92	20.23	17.01	15.19	17.04	15.39	12.93	15.41	19.77	21.41	22.20	22.51
17	20.83	20.06	16.81	15.21	16.87	15.18	12.87	15.69	19.93	21.55	22.21	22.39
18	20.83	20.06	16.68	15.49	16.82	15.11	12.91	15.86	20.04	21.72	22.18	22.19
19	20.81	20.16	16.53	15.60	16.81	15.04	12.93	16.01	20.16	21.75	22.14	22.10
20	20.83	20.18	16.39	15.43	16.71	14.82	12.95	16.27	20.29	21.81	22.06	22.08
21	20.87	20.16	16.34	15.39	16.66	14.59	13.00	16.51	20.32	21.82	22.14	21.97
22	20.92	19.97	16.20	15.20	16.50	14.48	12.79	16.76	20.30	21.82	22.19	21.98
23	20.84	19.76	16.08	15.20	16.58	14.36	12.77	16.95	20.52	21.82	22.19	21.97
24	20.59	19.45	16.31	15.18	16.79	13.92	12.94	17.05	20.64	21.85	22.25	22.07
25	20.28	19.23	16.28	15.38	16.86	13.68	12.87	17.24	20.68	21.92	22.41	22.09
26	19.99	18.95	16.35	15.37	16.76	13.58	12.87	17.48	20.67	22.00	22.59	21.90
27	19.74	18.61	16.39	15.18	16.75	13.44	13.07	17.65	20.72	22.00	22.66	21.81
28	19.73	18.44	16.37	15.18	16.75	13.31	13.06	17.74	20.76	22.12	22.72	21.76
29	19.72	18.27	16.30	15.36	---	13.26	13.03	18.00	20.85	22.17	22.89	21.72
30	21.81	18.12	16.13	15.35	---	13.31	13.08	18.15	20.97	22.21	23.00	21.69
31	21.91	---	15.97	15.16	---	13.32	---	18.15	---	22.27	23.04	---
MEAN	21.10	20.27	17.12	15.61	16.61	14.99	13.00	15.57	19.74	21.40	22.41	22.41
MAX	21.91	22.09	18.34	16.34	17.18	16.82	13.28	18.15	20.97	22.27	23.04	23.25
MIN	19.72	18.12	15.97	15.16	15.61	13.26	12.77	13.26	18.37	20.63	22.06	21.69

WTR YR 1993: HIGHEST 12.77, APRIL 23; LOWEST 23.25, SEPTEMBER 3.

Gap Indicates missing record.

3 YEAR HYDROGRAPH
OCTOBER 1, 1990 TO SEPTEMBER 30, 1993

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

The following tables contain water-level and water-quality records from a network of 29 privately-owned wells used to supply water to rural homes and businesses. The network was established as part of the National Water-Quality Assessment (NAWQA) project in the Lower Susquehanna River Basin.

The network represents a subarea of the Lower Susquehanna River Basin in the Appalachian Mountains Section of the Ridge and Valley Physiographic Province. The subarea is limited to areas underlain by shale and sandstone (siliciclastic rocks) and includes formations of Mississippian and Devonian Age. The subarea is bounded on the east by the Pottsville Formation of Pennsylvanian Age and on the west by limestone-bearing rocks of the Keyser and Tonoloway Formations or the Keyser through Mifflintown Formations. The part of the subarea in central Juniata County is bounded on the west by the Juniata River. The network is located in areas adjacent to the Susquehanna River Valley in Dauphin, Juniata, Lebanon, Northumberland, Perry, Schuylkill, and Snyder counties. The well network represents both forested and agricultural settings. Waters from the wells were sampled to assess the status of ground-water quality. The sampling is termed a Study-Unit Survey for the NAWQA program.

Samples were tested for physical characteristics, nutrients, major and minor elements, 60 Volatile Organic Chemicals (VOCs), and 88 pesticides (pesticide schedule A and B). Many of the constituents were not detected in water from any of the 29 wells. Tables listing all of the VOC and pesticide analytes and their detection levels precede the water-quality table. The concentrations of VOCs and pesticides detected in one or more of the wells are included in the water-quality table. Only those compounds with detectable concentrations are listed in the table of water-quality data. Water-level records are presented first followed by the water-quality data.

The shaded portion of the following figure shows the sampling subarea in the shale and sandstone bedrock areas of the Ridge and Valley Physiographic Province, Appalachian Mountain Section.

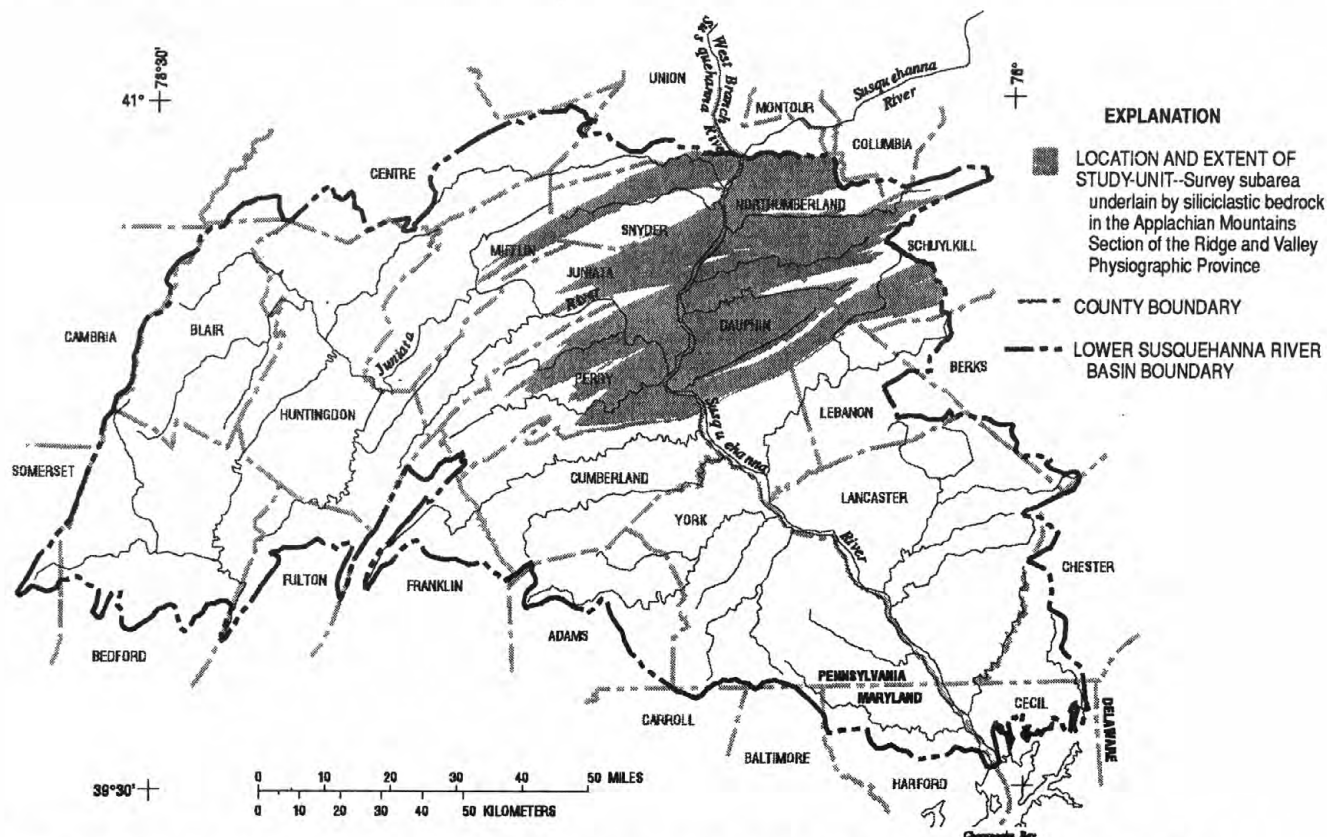


Figure 13. Location and extent of the study-unit survey subarea underlain by shale and sandstone bedrock in the Ridge and Valley Physiographic Province, Appalachian Mountains Section, Lower Susquehanna River Basin.

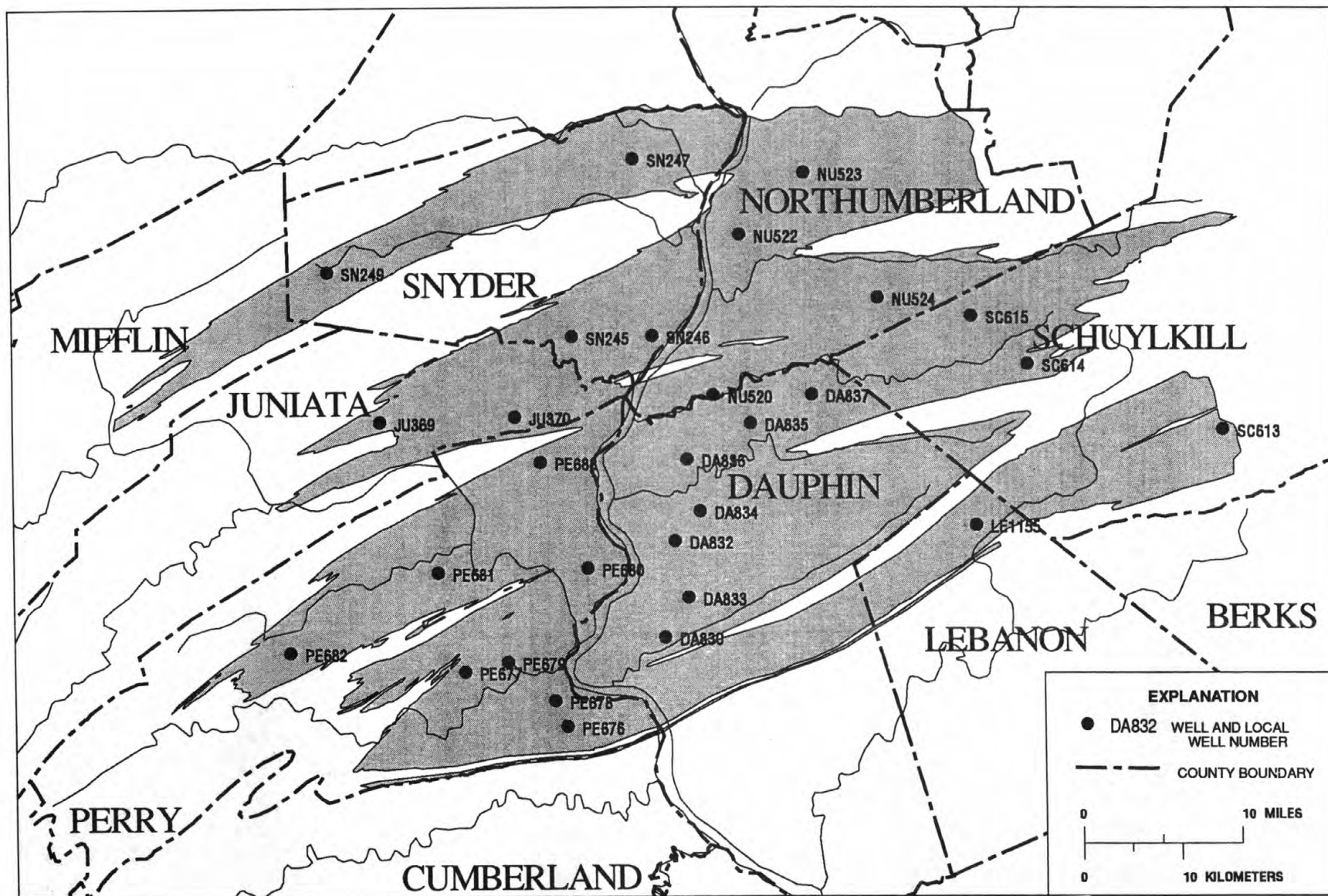


Figure 14. Location and local well number of wells sampled in a subarea of shale and sandstone bedrock in the Ridge and Valley Physiographic Province, Appalachian Mountains Section, Lower Susquehanna River Basin.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTION.

GROUND-WATER LEVELS IN WELLS

The following table contains ground-water-level records from a network of 29 privately-owned wells used to supply water to rural homes and businesses. The network was established as part of the National Water-Quality Assessment (NAWQA) project in the Lower Susquehanna River Basin.

The well network represents a subarea of the Lower Susquehanna River Basin in the Appalachian Mountains Section of the Ridge and Valley Physiographic Province. The subarea is limited to areas underlain by shale and sandstone (siliclastic rocks) and includes formations of Mississippian and Devonian Age. The subarea is bounded on the east by the Pottsville Formation of Pennsylvanian Age and on the west by limestone-bearing rocks of the Keyser and Tonoloway Formations or the Keyser through Mifflintown Formations. The part of the subarea in central Juniata County is bounded on the west by the Juniata River. The network is in areas adjacent to the Susquehanna River Valley in Dauphin, Juniata, Lebanon, Northumberland, Perry, Schuylkill, and Snyder Counties. The well network represents both forested and agricultural settings. The wells also were sampled to assess the status of ground-water quality. The sampling is termed a Study-Unit Survey for the NAWQA program. Water-quality data follows the water-level table.

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. **AQUIFER CODE**: 331MSSPU, Mississippian, upper; 341BVMR, Beaverdam Run Member of Catskill Formation; 341HRRL, Harrell Shale; 341IRVL, Irish Valley Member of Catskill Formation; 341SMCK, Sherman Creek Member of Catskill Formation; 341SMLR, Sawmill Run Member of Catskill Formation; 341TMRK, Trimmer's Rock Formation; 344HMLN, Hamilton Group; 344SMRG, Sherman Ridge Member of Mahantango Formation. **ELEVATION OF LAND SURFACE**: land-surface at well site, in feet above sea level. **SOURCE OF DEPTH DATA**: D, Driller; O, Owner. **WATER LEVEL METHOD**: T, electric tape; S, steel tape.

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	ELEV. OF LAND SURFACE DATUM (FEET ABOVE NGVD) (72000)	DEPTH OF WELL (TOTAL FEET) (72008)	SOURCE OF DEPTH DATA	AQUIFER CODE	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL FEET) (72019)	WATER-LEVEL METHOD
DAUPHIN COUNTY									
402444076542501	DA830	Dauphin	640	160	D	331MSSPU	05-03-93	6.1	T
							06-07-93	13.3	T
							08-09-93	20.28	S
402955076533301	DA832	Halifax	610	80	D	341TMRK	06-16-93	33.1	T
							08-02-93	33.30	S
402652076524001	DA833	Halifax	590	200	D	341SMCK	06-11-93	75.5	T
							08-03-93	76.40	S
403131076514401	DA834	Halifax	780	200	D	341SMCK	06-09-93	37.3	T
							08-02-93	41.10	S
403613076475801	DA835	Gratz	695	150	O	331MSSPU	05-07-93	55.4	T
							06-02-93	58.6	T
							08-03-93	60.18	S
403418076523501	DA836	Millersburg	670	120	D	331MSSPU	05-10-93	35.5	T
							05-28-93	36.8	T
							08-09-93	38.7	T
403745076433201	DA837	Gratz	730	200	D	331MSSPU	05-05-93	27.6	T
							06-02-93	32.3	T
							07-29-93	29.90	S
JUNIATA COUNTY									
403628077144601	JU369	Mifflintown	625	125	O	344SMRG	06-01-93	17.30	S
							06-08-93	20.4	T
							08-10-93	19.82	S
403640077045901	JU370	Millerstown	620	150	O	341HRRL	06-08-93	12.40	S
							06-15-93	12.9	T
							08-05-93	13.51	S
LEBANON COUNTY									
403045076313101	LE1155	Jonestown	660	96	D	341SMCK	05-18-93	34.30	S
							06-04-93	37.4	T
							07-28-93	38.92	S
NORTHUMBERLAND COUNTY									
403745076510901	NU520	Dalmatia	530	155	D	341SMLR	05-14-93	10.7	T
							06-09-93	15.3	T
							07-29-93	12.47	S

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

GROUND-WATER LEVELS IN WELLS--Continued

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	ELEV. OF LAND SURFACE DATUM (FEET ABOVE NGVD) (72000)	DEPTH OF WELL (TOTAL FEET) (72008)	SOURCE OF DEPTH DATA	AQUIFER CODE	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL FEET) (72019)	WATER-LEVEL METHOD
NORTHUMBERLAND COUNTY--Continued									
404623076483601	NU522	Sunbury	630	201	D	341IRVL	05-10-93	62.2	T
							06-04-93	64.2	T
							07-29-93	75.0	T
404922076435201	NU523	Sunbury	630	100	D	344HMLN	05-12-93	32.7	T
							05-26-93	33.1	T
							07-29-93	37.8	T
404255076384001	NU524	Rebuck	810	205	D	341IRVL	06-17-93	67.8	T
							06-22-93	67.8	T
							08-09-93	54.7	T
PERRY COUNTY									
402000077013701	PE676	Marysville	610	120	D	341SMCK	05-26-93	28.50	S
							06-11-93	29.8	T
							08-11-93	30.08	S
402259077085401	PE677	Shermans Dale	650	165	D	344SMRG	05-19-93	42.20	S
							06-07-93	45.4	T
							08-03-93	45.8	T
402123077022701	PE678	Duncannon	475	140	O	331MSSPU	06-08-93	41.80	S
							06-11-93	47.1	T
							08-11-93	42.11	S
402429077054601	PE679	Duncannon	695	200	D	341TMRK	05-19-93	44.90	S
							06-07-93	42.3	T
							08-03-93	46.6	T
402830076595501	PE680	Duncannon	660	200	D	344SMRG	06-04-93	23.30	S
							06-10-93	26.2	T
							08-04-93	32.48	S
402819077104701	PE681	Newport	635	100	O	341SMCK	06-15-93	15.3	T
							08-04-93	14.10	S
402405077213001	PE682	Elliotsburg	825	140	O	344SMRG	06-04-93	64.80	S
							06-10-93	66.0	T
							08-09-93	68.96	S
403417077031301	PE683	Millerstown	680	173	D	341TMRK	05-19-93	40.00	S
							06-09-93	40.5	T
							08-11-93	41.3	T
SCHUYLKILL COUNTY									
403533076135101	SC613	Schuylkill Haven	820	200	D	341BVMR	04-30-93	41.3	T
							07-26-93	53.5	T
403913076275501	SC614	Hegins	880	120	D	331MSSPU	05-07-93	24.8	T
							06-02-93	24.8	T
							07-26-93	25.30	S
404152076315401	SC615	Pitman	830	180	D	341IRVL	05-12-93	34.8	T
							06-02-93	34.3	T
							08-02-93	38.7	T
SNYDER COUNTY									
404057077004901	SN245	Pleasant Mills	740	100	D	341IRVL	06-02-93	26.7	T
							06-14-93	26.7	T
							08-10-93	36.2	T
404059076545801	SN246	Port Trevorton	610	200	D	341IRVL	06-03-93	41.10	S
							06-14-93	42.9	T
							08-05-93	50.8	T
405037076561101	SN247	Middleburg	670	199	D	341IRVL	06-08-93	34.8	T
							08-02-93	49.3	T
404435077182801	SN249	McClure	780	114	D	341TMRK	06-01-93	17.40	S
							06-08-93	19.2	T
							08-04-93	22.5	T

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

GROUND-WATER QUALITY IN WELLS

TABLE 3.--PESTICIDE SCHEDULE A.

REMARKS.--Water from each of the 29 wells in this study was tested for pesticide schedule A. The table below lists the 47 pesticides on this schedule, the unit of measure (micrograms per liter, $\mu\text{G/L}$), the U.S. Geological Survey National Water Information System parameter code, and the method detection level. Pesticide schedule A includes selected pesticides and metabolites that are efficiently partitioned from a water sample by solid-phase extraction and are sufficiently volatile and thermally stable for analysis by gas chromatography. Samples are filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Each sample was analyzed for all of the compounds in this schedule. **Only pesticide compounds measured at or above the detection level in one or more wells are listed in the water-quality table following the schedule lists.**

ALACHLOR ($\mu\text{G/L}$) (46342)	ALPHA BHC ($\mu\text{G/L}$) (34253)	ATRAZINE ($\mu\text{G/L}$) (39632)	BENFLURALIN ($\mu\text{G/L}$) (82673)	BUTYLATE ($\mu\text{G/L}$) (04028)	CARBARYL ($\mu\text{G/L}$) (82680)
<0.013	<0.010	<0.017	<0.013	<0.008	<0.050
CARBOFURAN ($\mu\text{G/L}$) (82674)	CHLOR- PYRIFOS ($\mu\text{G/L}$) (38933)	CYANAZINE ($\mu\text{G/L}$) (04041)	DCPA ($\mu\text{G/L}$) (82682)	DESETHYL ATRAZINE ($\mu\text{G/L}$) (04040)	DIAZINON ($\mu\text{G/L}$) (39572)
<0.019	<0.007	<0.019	<0.005	<0.02	<0.012
DIELDRIN ($\mu\text{G/L}$) (39381)	DIETHYL- ANALINE-2,6 ($\mu\text{G/L}$) (82660)	DIMETHOATE ($\mu\text{G/L}$) (82662)	DISULFOTON ($\mu\text{G/L}$) (82677)	EPTC ($\mu\text{G/L}$) (82668)	ETHAL- FLURALIN ($\mu\text{G/L}$) (82663)
<0.02	<0.009	<0.035	<0.02	<0.01	<0.019
ETHOPROP ($\mu\text{G/L}$) (82672)	FONOFOS ($\mu\text{G/L}$) (04095)	LINDANE ($\mu\text{G/L}$) (39341)	LINURON ($\mu\text{G/L}$) (82666)	MALATHION ($\mu\text{G/L}$) (39532)	METHYL AZINPHOS ($\mu\text{G/L}$) (82686)
<0.017	<0.012	<0.039	<0.039	<0.014	<0.055
METHYL PARATHION ($\mu\text{G/L}$) (82667)	METOLACHLOR ($\mu\text{G/L}$) (39415)	METRIBUZIN ($\mu\text{G/L}$) (82630)	MOLINATE ($\mu\text{G/L}$) (82671)	NAPROP- AMIDE ($\mu\text{G/L}$) (82684)	P, P-DDE ($\mu\text{G/L}$) (34653)
<0.051	<0.009	<0.012	<0.010	<0.01	<0.02
PARATHION ($\mu\text{G/L}$) (39542)	PEBULATE ($\mu\text{G/L}$) (82669)	PENDI- METHALIN ($\mu\text{G/L}$) (82683)	PERMETHRIN- CIS ($\mu\text{G/L}$) (82687)	PHORATE ($\mu\text{G/L}$) (82664)	PROMETON ($\mu\text{G/L}$) (04037)
<0.032	<0.010	<0.026	<0.023	<0.02	<0.010
PRONAMIDE ($\mu\text{G/L}$) (82676)	PROPACHLOR ($\mu\text{G/L}$) (04024)	PROPANIL ($\mu\text{G/L}$) (82679)	PROPARGITE ($\mu\text{G/L}$) (82685)	SIMAZINE ($\mu\text{G/L}$) (04035)	TEBUTHIURON ($\mu\text{G/L}$) (82670)
<0.013	<0.022	<0.023	<0.01	<0.010	<0.022
TERBACIL ($\mu\text{G/L}$) (82665)	TERBUFOS ($\mu\text{G/L}$) (82675)	THIOBENCARB ($\mu\text{G/L}$) (82681)	TRIALATE ($\mu\text{G/L}$) (82678)	TRIFLURALIN ($\mu\text{G/L}$) (82661)	
<0.03	<0.017	<0.012	<0.008	<0.017	

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES**LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT**

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

GROUND-WATER QUALITY IN WELLS**TABLE 4.--PESTICIDE SCHEDULE B.**

REMARKS.--Water from each of the 29 wells in this study was tested for pesticide schedule B. Pesticide schedule B includes chlorophenoxy-acid herbicides, carbamate pesticides, and selected other pesticides and herbicides that are effeciently partitioned from a water sample by solid-phase extraction for analysis by high performance liquid chromatography. Water samples are filtered through a glass-fiber membrane filter with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Results for schedule B were not available at the time of publication of this volume.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN MAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

GROUND-WATER QUALITY IN WELLS

TABLE 5.--VOLATILE ORGANIC CHEMICAL SCHEDULE.

REMARKS.--Water from each of the 29 wells in this study was tested for a schedule of 60 Volatile Organic Chemicals. The table below lists the compounds on the schedule, the unit of measure (micrograms per liter, $\mu\text{G/L}$), the U.S. Geological Survey National Water Information System parameter code, and the reporting level. Each sample was analyzed for all of the compounds in this schedule. **Only compounds measured at or above the reporting level for one or more wells are listed in the water-quality table following the schedule lists.**

BENZENE ($\mu\text{G/L}$) (34030)	BENZENE, O-CHLORO ($\mu\text{G/L}$) (34536)	BENZENE, 1,2,4,- TRICHLORO ($\mu\text{G/L}$) (34551)	BENZENE, 1,3- DICHLORO ($\mu\text{G/L}$) (34566)	BENZENE, 1,4- DICHLORO ($\mu\text{G/L}$) (34571)	BENZENE, ISOPROPYL ($\mu\text{G/L}$) (77223)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BENZENE N-PROPYL ($\mu\text{G/L}$) (77224)	BENZENE, N-BUTYL ($\mu\text{G/L}$) (77342)	BENZENE, SEC-BUTYL ($\mu\text{G/L}$) (77350)	BENZENE, TERT-BUTYL ($\mu\text{G/L}$) (77353)	BROMO- BENZENE ($\mu\text{G/L}$) (81555)	BROMOFORM ($\mu\text{G/L}$) (32104)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CARBONTETRA- CHLORIDE ($\mu\text{G/L}$) (32102)	CHLORODIBROMO- METHANE ($\mu\text{G/L}$) (32105)	CHLORO- BENZENE ($\mu\text{G/L}$) (34301)	CHLORO- ETHANE ($\mu\text{G/L}$) (34311)	CHLOROFORM ($\mu\text{G/L}$) (32106)	DIBROMOCHLORO- PROPANE ($\mu\text{G/L}$) (82625)
<0.2	<0.2	<0.2	<0.2	<0.2	<1.00
DIBROMO- ETHANE-1,2 ($\mu\text{G/L}$) (77651)	DIBROMO- METHANE ($\mu\text{G/L}$) (30217)	DICHLORODI- FLUOROMETHANE ($\mu\text{G/L}$) (34668)	DICHLORO- BROMOMETHANE ($\mu\text{G/L}$) (32101)	DICHLORO- ETHANE-1,1 ($\mu\text{G/L}$) (34496)	DICHLORO- ETHANE-1,2 ($\mu\text{G/L}$) (32103)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DICHLORO- ETHENE-CIS-1,2 ($\mu\text{G/L}$) (77093)	DICHLORO- ETHENE-TRANS-1,2 ($\mu\text{G/L}$) (34546)	DICHLORO- ETHYLENE-1,1 ($\mu\text{G/L}$) (34501)	DICHLORO- PROPANE-1,2 ($\mu\text{G/L}$) (34541)	DICHLORO- PROPANE-1,3 ($\mu\text{G/L}$) (77173)	DICHLORO- PROPANE-2,2 ($\mu\text{G/L}$) (77170)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DICHLORO- PROPENE-1,1 ($\mu\text{G/L}$) (77168)	DICHLORO- PROPENE-CIS-1,2 ($\mu\text{G/L}$) (34704)	DICHLOROPROPENE- TRANS-1,3 ($\mu\text{G/L}$) (34699)	ETHANE,1,1,2,2,- TETRACHLORO ($\mu\text{G/L}$) (34516)	ETHANE,1,1,1,2- TETRACHLORO ($\mu\text{G/L}$) (77562)	ETHYLBENZENE ($\mu\text{G/L}$) (34371)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
FREON 113 ($\mu\text{G/L}$) (77652)	HEXACHLORO- BUTADIENE ($\mu\text{G/L}$) (39702)	MESITYLENE ($\mu\text{G/L}$) (77226)	METHANE, BROMOCHLORO ($\mu\text{G/L}$) (77297)	METHYL- CHLORIDE ($\mu\text{G/L}$) (34418)	METHYL- BROMIDE ($\mu\text{G/L}$) (34413)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
METHYLENE CHLORIDE ($\mu\text{G/L}$) (34423)	METHYL ETHER, TERT-BUTYL ($\mu\text{G/L}$) (78032)	NAPHTHALENE ($\mu\text{G/L}$) (34696)	O-CHLORO- TOLUENE ($\mu\text{G/L}$) (77275)	P-ISOPROPYL TOLUENE ($\mu\text{G/L}$) (77356)	PSEUDOCUMENE ($\mu\text{G/L}$) (77222)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
STYRENE ($\mu\text{G/L}$) (77128)	TETRACHLORO- ETHYLENE ($\mu\text{G/L}$) (34475)	TOLUENE ($\mu\text{G/L}$) (34010)	TOLUENE, P-CHLORO ($\mu\text{G/L}$) (77277)	TRICHLOROFLUORO- METHANE ($\mu\text{G/L}$) (34488)	TRICHLORO- BENZENE-1,2,3 ($\mu\text{G/L}$) (77613)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TRICHLORO- ETHANE-1,1,1 ($\mu\text{G/L}$) (34506)	TRICHLORO- ETHANE-1,1,2 ($\mu\text{G/L}$) (34511)	TRICHLORO- PROPANE-1,2,3 ($\mu\text{G/L}$) (77443)	TRICHLORO- ETHYLENE ($\mu\text{G/L}$) (39180)	VINYL- CHLORIDE ($\mu\text{G/L}$) (39175)	XYLENE ($\mu\text{G/L}$) (81551)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

GROUND-WATER QUALITY IN WELLS

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; **G/M:** gallons per minute; **µS/CM:** microsiemens per centimeter at 25 degrees Celsius; **DEG.C:** degrees Celsius; **MG/L:** milligrams per liter; **µG/L:** micrograms per liter; **COLS. PER 100 ML:** colonies per 100 milliliters; **WH IT:** alkalinity, bicarbonate and carbonate as determined by incremental titration of unfiltered water at field site; **PCI/L:** picocuries per liter; **2 SIGMA:** counting statistic that represents error in the reported radon, uranium, or tritium value caused by variation in sample counting, background radiation, volume of sample, and decay since sample was collected.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	DATE	TIME	WATER-LEVEL BELOW LAND SURFACE (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEVATION OF LAND SURFACE (FEET) (72000)	FLOW RATE, INSTANTANEOUS (G/M) (00059)	SPECIFIC CONDUCTANCE (µS/CM) (00095)
DAUPHIN COUNTY									
402444076542501	DA830	Dauphin	08-09-93	1020	20.28	160	640	7.7	123
402955076533301	DA832	Halifax	08-02-93	0910	33.30	80	610	4.4	118
402652076524001	DA833	Halifax	08-03-93	1340	76.40	200	590	3.5	170
403131076514401	DA834	Halifax	08-02-93	1330	41.10	200	780	4.0	64
403613076475801	DA835	Gratz	08-03-93	0920	60.18	150	695	7.5	370
403418076523501	DA836	Millersburg	08-09-93	1250	38.7	120	670	3.8	332
403745076433201	DA837	Gratz	07-29-93	1330	29.90	200	730	10	269
JUNIATA COUNTY									
403628077144601	JU369	Mifflintown	08-10-93	0930	19.82	125	625	4.3	159
403640077045901	JU370	Millerstown	08-05-93	1000	13.51	150	620	7.4	190
LEBANON COUNTY									
403045076313101	LE1155	Jonestown	07-28-93	1010	38.92	96	660	4.3	19
NORTHUMBERLAND COUNTY									
403745076510901	NU520	Dalmatia	07-29-93	0920	12.47	155	530	7.7	165
404623076483601	NU522	Sunbury	07-29-93	0910	75.0	201	630	6.7	142
404922076435201	NU523	Sunbury	07-29-93	1240	37.8	100	630	5.3	161
404255076384001	NU524	Rebuck	08-09-93	0900	54.7	205	810	8.6	110
PERRY COUNTY									
402000077013701	PE676	Marysville	08-11-93	0920	30.08	120	610	6.8	112
402259077085401	PE677	Shermans Dale	08-03-93	0900	45.8	165	650	3.8	182
402123077022701	PE678	Duncannon	08-11-93	1440	42.11	140	475	5.5	169
402429077054601	PE679	Duncannon	08-03-93	1220	46.6	200	695	8.6	227
402830076595501	PE680	Duncannon	08-04-93	1310	32.48	200	660	6.0	212
402819077104701	PE681	Newport	08-04-93	0900	14.10	100	635	5.3	163
402405077213001	PE682	Elliottsburg	08-09-93	1350	68.96	140	825	13	139
403417077031301	PE683	Millerstown	08-11-93	1000	41.3	173	680	5.0	118
SCHUYLKILL COUNTY									
403533076135101	SC613	Schuykill Haven	07-26-93	1030	53.5	200	820	8.0	217
403913076275501	SC614	Hegins	07-26-93	1100	25.30	120	880	5.0	256
404152076315401	SC615	Pitman	08-02-93	0940	38.7	180	830	4.6	208
SNYDER COUNTY									
404057077004901	SN245	Pleasant Mills	08-10-93	0850	36.2	100	740	3.9	85
404059076545801	SN246	Port Trevorton	08-05-93	1340	50.8	200	610	5.0	169
405037076561101	SN247	Middleburg	08-02-93	1410	49.3	199	670	5.9	129
404435077182801	SN249	McClure	08-04-93	0940	22.5	114	780	6.6	423

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG.C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, TOTAL (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, (COLS. PER 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
DAUPHIN COUNTY										
DA830	6.8	12.5	.3	<1	<1	<1	51	51	15	3.4
DA832	6.9	13.5	<.1	>80	<1	K 12	48	0	5.3	8.5
DA833	7.2	12.5	5.2	<1	>60	K 4	67	21	11	9.6
DA834	6.5	12.5	6.3	K 10	<1	K 6	26	0	4.9	3.3
DA835	7.7	12.5	4.8	K 16	<1	<1	170	61	58	5.1
DA836	7.0	12.5	7.8	<1	<1	<1	140	76	50	4.7
DA837	8.1	12.0	6.8	K 6	<1	K 2	110	39	39	4.1
JUNIATA COUNTY										
JU369	7.2	12.5	.4	<1	<1	K 14	64	3	19	4.1
JU370	7.4	12.5	.1	K 2	<1	<1	80	12	22	6.1
LERANON COUNTY										
LE1155	6.0	12.0	9.8	<1	<1	<1	6	0	1.1	0.72
NORTHUMBERLAND COUNTY										
NU520	7.6	13.5	1.2	K 8	<1	K 2	72	7	16	7.9
NU522	7.0	12.5	3.1	>80	K 8	>100	52	8	10	6.6
NU523	7.2	12.0	.2	<1	<1	<1	66	4	17	5.6
NU524	6.4	11.5	.1	25	<1	<1	34	0	4.6	5.5
PERRY COUNTY										
PE676	7.3	12.0	4.5	<1	<1	22	51	1	10	6.2
PE677	7.8	12.5	.1	K 2	<1	<1	82	0	27	3.6
PE678	6.4	12.0	8.2	>80	<1	>100	64	32	19	4.0
PE679	7.1	12.5	.2	33	<1	28	93	19	24	8.0
PE680	7.4	13.0	<.1	34	<1	>100	84	0	25	5.2
PE681	7.2	12.5	.3	44	K 3	>100	59	0	13	6.5
PE682	7.6	11.5	4.9	<1	<1	<1	59	4	20	2.3
PE683	7.0	12.0	.7	<1	<1	K 1	53	0	12	5.6
SCHUYLKILL COUNTY										
SC613	7.9	12.0	.1	<1	<1	>100	93	20	24	8.1
SC614	8.0	12.5	7.3	<1	<1	<1	110	66	39	2.7
SC615	7.4	12.0	1.1	K 4	<1	K 1	78	27	16	9.3
SNYDER COUNTY										
SN245	6.2	12.0	.1	K 7	<1	K 8	31	0	2.7	5.8
SN246	7.6	12.0	.6	K 2	<1	<1	63	0	13	7.3
SN247	7.4	12.0	<.1	<1	<1	<1	51	0	11	5.7
SN249	7.4	12.0	<.1	K 2	<1	<1	210	60	61	13

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WH IT (MG/L AS HCO3) (00450)	CAR- BONATE WH IT (MG/L AS CO3) (00447)	ALKA- LINITY WH IT (MG/L AS CACO3) (00419)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
DAUPHIN COUNTY										
DA830	2.6	1.5	73	0	59	2.6	1.1	.2	.020	7.1
DA832	6.6	.7	69	0	56	3.6	2.8	.2	.040	19
DA833	6.6	1.2	56	0	46	6.1	3.9	.1	.020	18
DA834	6.1	.6	42	0	34	2.0	.8	.1	.010	10
DA835	8.2	.6	123	0	101	22	16	.1	.040	16
DA836	6.9	2.8	82	0	67	17	13	<.1	.010	19
DA837	6.2	.3	88	0	72	7.7	8.5	<.1	.020	19
JUNIATA COUNTY										
JU369	5.2	.4	74	0	60	11	2.0	.2	.010	14
JU370	7.5	.3	81	0	67	27	.7	.2	<.010	18
LEBANON COUNTY										
LE1155	1.1	.5	6	0	5	2.9	.9	<.1	.020	7.8
NORTHUMBERLAND COUNTY										
NU520	6.0	.6	78	0	64	9.2	1.3	<.1	.010	18
NU522	7.3	.5	53	0	43	13	3.1	<.1	.010	19
NU523	6.4	.2	74	0	61	16	2.7	<.1	.010	21
NU524	7.0	.5	63	0	51	5.8	.6	.2	.030	29
PERRY COUNTY										
PE676	3.4	.8	59	0	49	5.1	.9	.1	.010	8.4
PE677	5.8	.7	104	0	85	7.5	.8	.1	.010	17
PE678	4.6	.6	37	0	31	3.0	5.9	.1	.010	21
PE679	7.9	.7	91	0	75	8.5	18	.2	.050	18
PE680	8.2	.6	122	0	100	5.1	.6	.1	.060	26
PE681	9.0	.6	87	0	71	7.2	2.5	.2	.030	25
PE682	3.8	.4	67	0	55	9.5	.6	.1	<.010	14
PE683	7.0	.5	69	0	57	3.4	.7	.2	<.010	22
SCHUYLKILL COUNTY										
SC613	5.9	.3	87	0	71	11	5.8	<.1	.010	12
SC614	5.7	.4	51	0	42	22	25	<.1	.020	14
SC615	6.5	.6	61	0	50	18	7.2	.1	.040	14
SNYDER COUNTY										
SN245	5.7	.7	53	0	43	2.0	.5	.2	.020	24
SN246	9.2	.5	91	0	75	8.5	2.3	.3	.020	16
SN247	6.3	.6	70	0	57	8.0	.9	.2	.030	18
SN249	6.1	.6	178	0	146	63	6.5	.2	.030	16

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	IRON, DIS- SOLVED (µG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µG/L) AS MN) (01056)
DAUPHIN COUNTY										
DA830	64	70	<.010	.050	.030	<.20	<.010	.010	810	140
DA832	70	83	<.010	<.050	.020	<.20	.060	<.010	810	280
DA833	103	112	<.010	6.10	.040	<.20	.120	.110	<3	5
DA834	40	50	<.010	.064	.010	<.20	.050	.040	7	<1
DA835	247	229	<.010	8.90	.020	.20	.040	.040	3	<1
DA836	216	212	<.010	13.0	.020	5.5	.100	.040	<3	<1
DA837	182	170	<.010	8.90	.020	<.20	.060	.030	<3	<1
JUNIATA COUNTY										
JU369	97	97	<.010	1.10	<.010	<.20	<.010	<.010	20	44
JU370	120	123	<.010	<.050	.070	<.20	<.010	.010	36	95
LEBANON COUNTY										
LE1155	18	19	<.010	<.050	.020	<.20	<.010	.010	<3	<1
NORTHUMBERLAND COUNTY										
NU520	100	106	<.010	1.60	.010	<.20	.090	.050	9	<1
NU522	94	97	<.010	2.40	.020	<.20	.090	.070	<3	14
NU523	109	107	<.010	.180	.130	<.20	.060	.040	20	110
NU524	74	90	<.010	<.050	.030	<.20	.180	.020	4400	1300
PERRY COUNTY										
PE676	64	66	<.010	.160	.020	<.20	.010	<.010	10	1
PE677	107	114	<.010	<.050	.020	<.20	.020	.010	49	46
PE678	130	117	<.010	9.00	.020	<.20	.050	.050	<3	<1
PE679	127	131	<.010	.097	.020	<.20	.010	<.010	230	250
PE680	132	137	<.010	<.050	.190	<.20	<.010	.010	1700	200
PE681	112	109	<.010	<.050	.040	<.20	.040	.050	310	400
PE682	90	84	<.010	.130	.020	<.20	.020	.030	<3	<1
PE683	80	87	<.010	.068	.030	<.20	.010	.030	110	140
SCHUYLKILL COUNTY										
SC613	121	125	.820	3.00	.030	<.20	.020	<.010	<3	92
SC614	185	162	.010	6.20	.020	<.20	.050	.040	<3	<1
SC615	117	125	<.010	5.00	.020	<.20	.040	.020	<3	2
SNYDER COUNTY										
SN245	58	71	<.010	<.050	.020	<.20	.230	.120	2700	710
SN246	99	103	<.010	.083	.050	<.20	<.010	<.010	110	100
SN247	80	86	<.010	<.050	.040	<.20	.080	.050	450	160
SN249	251	256	.020	.160	.130	<.20	<.010	.010	18	210

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	RADON- 222 TOTAL (PCI/L) (82307)	RADON- 222 2 SIGMA TOTAL (PCI/L) (76002)	URANIUM NATURAL DIS- SOLVED (μ G/L AS U) (22703)	URANIUM NATURAL 2 SIGMA DIS- SOLVED (μ G/L) (75900)	H-2/ H-1 STABLE ISOTOPE RATIO PER MIL (82085)	O-18/ O-16 STABLE ISOTOPE RATIO PER MIL (82082)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM 2 SIGMA (PCI/L) (75985)
DAUPHIN COUNTY								
DA830	1000	53	<1.0	.11	--	--	30	2.0
DA832	830	46	<1.0	.27	-53.0	-8.52	8.0	1.0
DA833	3100	51	2.4	.77	--	--	--	--
DA834	2800	55	1.2	.45	--	--	--	--
DA835	2100	49	4.5	1.36	--	--	--	--
DA836	2000	60	<1.0	.38	--	--	--	--
DA837	2100	73	<1.0	.38	--	--	--	--
JUNIATA COUNTY								
JU369	730	54	<1.0	.11	--	--	--	--
JU370	320	46	<1.0	.19	--	--	47	3.0
LEBANON COUNTY								
LE1155	2600	49	<1.0	.11	-47.8	-8.14	--	--
NORTHUMBERLAND COUNTY								
NU520	4600	83	<1.0	.25	-53.7	-8.81	35	3.0
NU522	2500	80	<1.0	.13	--	--	--	--
NU523	370	65	<1.0	.09	-55.4	-8.98	37	3.0
NU524	470	51	<1.0	.10	--	--	--	--
PERRY COUNTY								
PE676	1300	56	<1.0	.16	--	--	--	--
PE677	740	51	1.1	.41	--	--	6.0	1.0
PE678	2200	60	<1.0	.12	--	--	--	--
PE679	590	51	<1.0	.17	--	--	18	1.0
PE680	310	57	<1.0	.30	--	--	10	1.0
PE681	670	49	1.1	.43	-53.7	-8.67	13	1.0
PE682	1400	54	<1.0	.15	--	--	--	--
PE683	360	51	<1.0	.10	--	--	11	1.0
SCHUYLKILL COUNTY								
SC613	940	78	<1.0	.25	--	--	--	--
SC614	3300	91	2.7	.86	--	--	--	--
SC615	2100	54	<1.0	.26	-53.4	-8.73	--	--
SNYDER COUNTY								
SN245	430	51	<1.0	.10	--	--	20	2.0
SN246	560	45	<1.0	.23	-55.4	-8.84	--	--
SN247	330	38	<1.0	.18	--	--	12	1.0
SN249	330	46	1.3	.48	--	--	57	3.0

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF SHALE AND SANDSTONE BEDROCK IN THE RIDGE AND VALLEY PHYSIOGRAPHIC PROVINCE, APPALACHIAN MOUNTAINS SECTIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	* METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)	ATRA- ZINE (µG/L) (39632)	DEETHYL ATRA- ZINE (µG/L) (04040)
DAUPHIN COUNTY				
DA830	.1	>.01	<.006	<.020
DA832	.2	.01	<.006	<.020
DA833	.2	.05	<.006	<.020
DA834	.1	.01	<.006	<.020
DA835	.2	.07	<.006	<.020
DA836	.2	.13	.010	.030
DA837	.2	.08	<.006	<.020
JUNIATA COUNTY				
JU369	.1	.01	<.006	<.020
JU370	<.1	.01	<.006	<.020
LEBANON COUNTY				
LE1155	.4	.01	<.006	<.020
NORTHUMBERLAND COUNTY				
NU520	.1	.03	<.006	<.020
NU522	.1	.03	<.006	<.020
NU523	<.1	.01	<.006	<.020
NU524	<.1	<.01	<.006	<.020
PERRY COUNTY				
PE676	.1	<.01	<.006	<.020
PE677	<.1	<.01	<.006	<.020
PE678	.2	.09	<.006	<.020
PE679	<.1	.01	<.006	<.020
PE680	<.1	.03	<.006	<.020
PE681	.1	.01	<.006	<.020
PE682	<.1	.01	<.006	<.020
PE683	<.1	<.01	<.006	<.020
SCHUYLKILL COUNTY				
SC613	.1	.02	<.006	<.020
SC614	.1	.07	<.006	<.020
SC615	.2	.05	<.006	<.020
SNYDER COUNTY				
SN245	<.1	.02	<.006	<.020
SN246	<.1	.01	<.006	<.020
SN247	<.1	.01	<.006	<.020
SN249	.2	.04	<.006	<.020

* 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, concentration, 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.

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

The following tables contain water-level and water-quality records from a network of 30 privately-owned wells used to supply water to rural homes and businesses. The network was established as part of The National Water-Quality Assessment (NAWQA) Project in the Lower Susquehanna River Basin.

Waters from the wells were sampled to assess the status of ground-water quality in a subarea of the Piedmont Physiographic Province underlain by carbonate bedrock where the primary land use is agriculture. The sampling is termed a Land-Use Survey for the NAWQA program.

Samples were tested for physical characteristics, nutrients, major and minor elements, 60 Volatile Organic Chemicals (VOCs), and 88 pesticides (pesticide schedules A and B). Water from one Lancaster County well, Local Well Number LN 2024, was not tested for pesticide schedule B. Many constituents were not detected at any of the 30 wells. Tables listing all of the VOC and pesticide analytes and their detection levels precede the water-quality table. The concentrations of VOCs and pesticides detected in one or more wells are included in the water-quality table. Only those compounds with detectable concentrations are listed in the table of water-quality data. Water-level records are presented first followed by the water-quality table,

The shaded portion of the following figure shows the sampling subarea in the carbonate bedrock area of the Piedmont Physiographic Province.

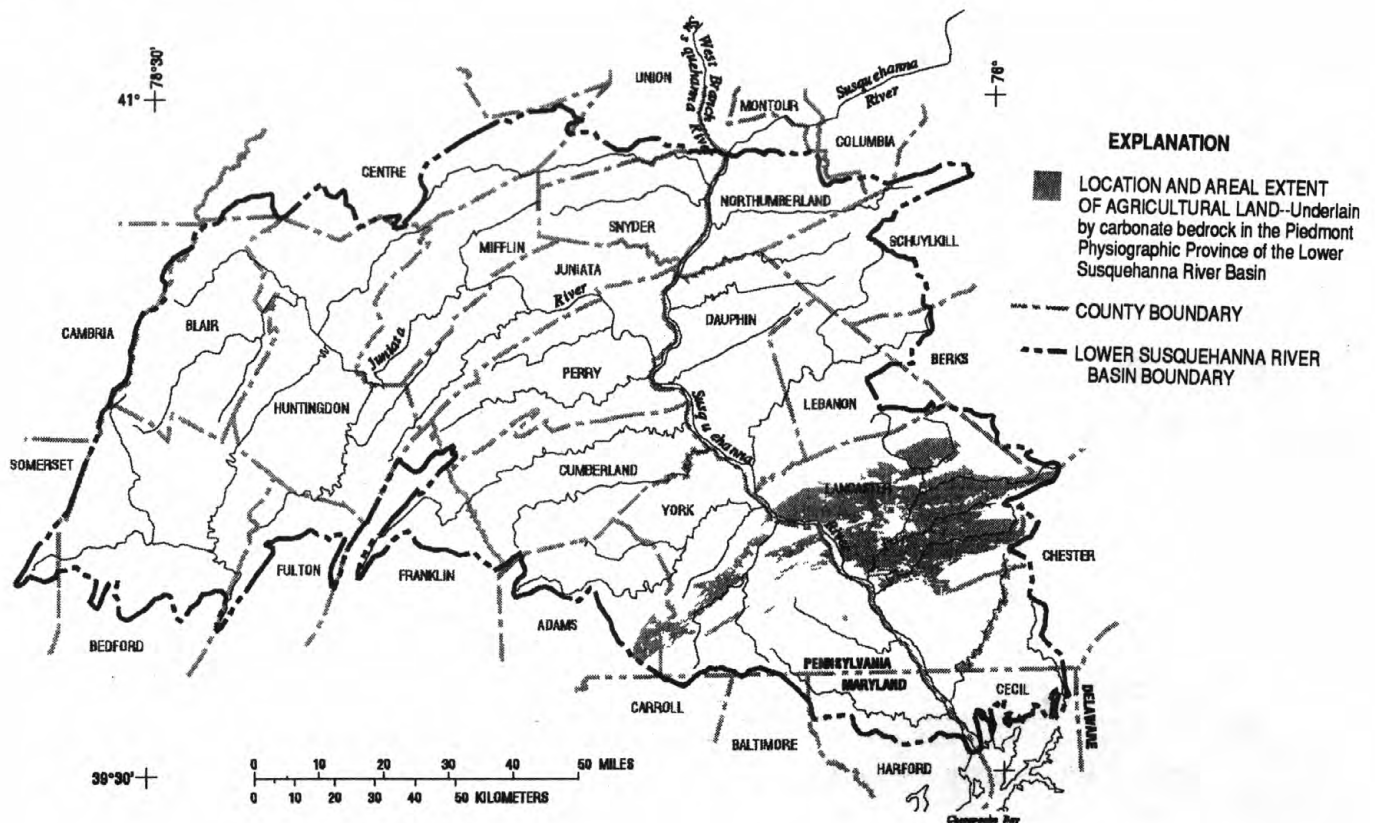


Figure 15. Location and areal extent of the agricultural land underlain by carbonate bedrock in the Piedmont Physiographic Province of the Lower Susquehanna River Basin.

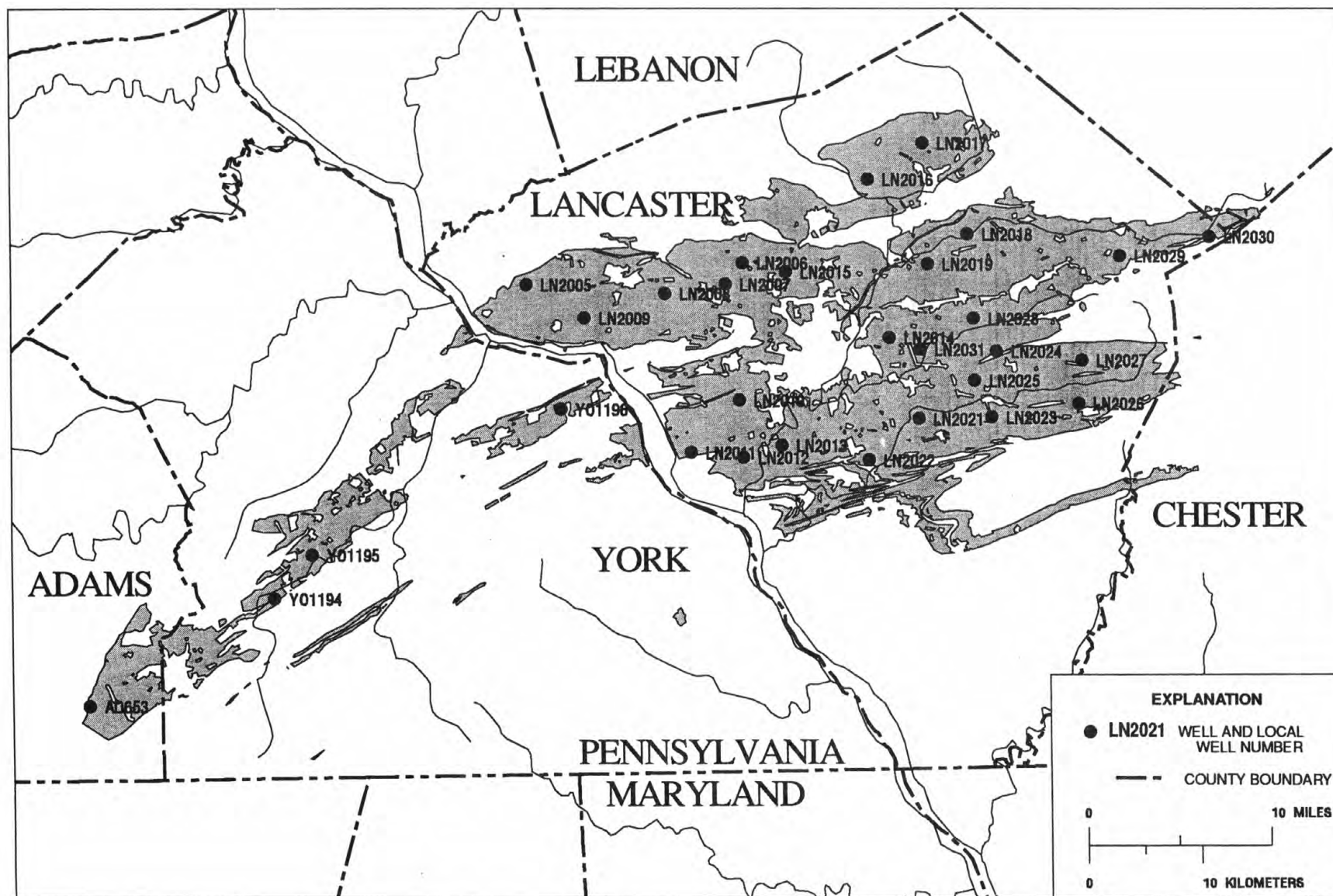


Figure 16. Location and local well number of wells sampled in agricultural land underlain by carbonate bedrock in the Piedmont Physiographic Province of the Lower Susquehanna River Basin.

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

GROUND-WATER LEVELS IN WELLS

The following table contains ground-water-level records from a network of 30 privately-owned wells used to supply water to rural homes and businesses. The network was established as part of The National Water-Quality Assessment (NAWQA) Project in the Lower Susquehanna River Basin.

The wells were sampled to assess the status of ground-water quality in areas of agricultural land use underlain by carbonate bedrock in the Piedmont Physiographic Province. The sampling is thus termed a Land-Use Survey for the NAWQA program. Water-quality data follows the water-level table.

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. GEOLOGIC UNIT CODE: 367CNSG, Conestoga Formation; 367EPLR, Epler Formation; 367SNNG, Stonehenge Formation; 371MLBC, Millbach Formation; 371SZCK, Snitz Creek Formation; 374ZKCR, Zooks Corner Formation; 377KZRS, Kinzers Formation; 377VNTG, Vintage Formation. ELEVATION OF LAND SURFACE: land-surface at well site, in feet above sea level. SOURCE OF DEPTH DATA: D, Driller; O, Owner. WATER LEVEL METHOD: T, electric tape; S, steel tape.

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	AQUIFER CODE	ELEV. OF LAND SURFACE DATUM (FEET ABOVE NGVD) (72000)	DEPTH OF WELL (TOTAL FEET) (72008)	SOURCE OF DEPTH DATA	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL FEET) (72019)	WATER-LEVEL METHOD
ADAMS COUNTY									
394643077043101	AD653	Littlestown	377LDGR	600	150	D	05-20-93 07-08-93	13.20 15.3	S T
LANCASTER COUNTY									
400629076365201	LN2005	Elizabethtown	371MLBC	390	100	D	03-12-93 05-19-93 07-20-93	7.5 7.6 10.04	T T S
400722076231601	LN2006	Manheim	367EPLR	400	125	D	05-24-93 07-12-93	28.1 36.11	T S
400623076242302	LN2007	Manheim	374ZKCR	410	150	D	03-01-93 05-17-93 07-19-93	9.8 7.4 9.45	T T S
400558076281201	LN2008	Mount Joy	371MLBC	370	175	D	05-14-93 07-13-93	48.7 70.4	T T
400452076331601	LN2009	Marietta	371SZCK	420	175	D	03-01-93 05-19-93 07-13-93	29.4 29.4 29.03	T T S
400052076233701	LN2010	Lancaster	367CNSG	360	175	D	03-03-93 05-14-93 07-13-93	41.00 32.1 33.22	S T S
395825076264301	LN2011	Washington Boro	367CNSG	390	200	D	03-28-93 05-21-93 07-13-93	31.7 29.8 35.7	T T T
395809076232501	LN2012	Millersville	367CNSG	370	175	D	05-21-93 07-14-93	84.30 84.44	S S
395841076210001	LN2013	Millersville	367CNSG	380	150	D	03-29-93 05-27-93 07-19-93	47.3 52.9 54.65	T T S
400343076140701	LN2014	Lancaster	377LDGR	380	195	D	04-15-93 05-25-93 07-21-93	16.3 21.1 24.67	T T S
400655076203401	LN2015	Lititz	367SNNG	370	150	D	03-22-93 07-21-93	37.1 50.49	T S
401114076151601	LN2016	Lititz	367EPLR	390	122	D	03-24-93 07-21-93	38.4 56.3	T T
401254076114701	LN2017	Ephrata	367EPLR	410	160	D	03-07-93 05-17-93 07-14-93	42.60 44.5 56.3	S T T
400834076090701	LN2018	Ephrata	367SNNG	340	160	D	03-08-93 05-18-93 07-14-93	31.2 33.1 36.7	T T T

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES
LOWER SUSQUEHANNA RIVER BASIN MAWQA PROJECT
 SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE
GROUND-WATER LEVELS IN WELLS--Continued

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	AQUIFER CODE	ELEV. OF LAND SURFACE DATUM (FEET ABOVE NGVD) (72000)	DEPTH OF WELL (TOTAL FEET) (72008)	SOURCE OF DEPTH DATA	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL FEET) (72019)	WATER-LEVEL METHOD
LANCASTER COUNTY--Continued									
400711076113801	LN2019	Leola	367EPLR	340	200	D	03-08-93 05-27-93 07-15-93	36.4 37.5 47.00	T T S
395951076122301	LN2021	Strasburg	367CNSG	370	150	D	03-29-93 06-03-93 07-28-93	27.3 22.1 28.2	T T T
395756076153301	LN2022	Willow Street	377VNTG	370	75	D	03-24-93 05-21-93 07-15-93	21.4 19.7 21.94	T T S
395952076074901	LN2023	Ronks	367CNSG	410	175	D	05-21-93 07-20-93	14.7 14.80	T S
400259076072501	LN2024	Ronks	377KZRS	380	150	D	06-22-93 07-20-93	10.8 11.1	T T
400137076085201	LN2025	Ronks	377LDGR	400	200	D	04-15-93 05-20-93 07-21-93	10.0 13.8 20.0	T T T
400026076021901	LN2026	Gap	377VNTG	450	175	D	05-18-93 07-15-93	31.9 41.3	T T
400229076020301	LN2027	Kinzer	377LDGR	460	175	D	03-24-93 05-18-93 07-15-93	38.0 34.5 38.1	T T T
400434076085001	LN2028	Leola	377LDGR	390	200	D	04-13-93 05-24-93 07-22-93	2.6 4.6 6.8	T T T
400724075593201	LN2029	Goodville	377LDGR	490	140	D	06-03-93 07-19-93	29.5 40.6	T T
400814075535401	LN2030	Morgantown	377VNTG	535	97	D	05-25-93 07-19-93	19.4 22.7	T T
400308076121401	LN2031	Bird-In-Hand	374ZKCR	420	150	D	07-28-93	72.0	T
YORK COUNTY									
395143076525201	YO1194	Spring Grove	377KZRS	500	140	O	05-14-93 07-12-93	17.7 29.0	T T
395346076502901	YO1195	Spring Grove	377KZRS	500	160	D	05-14-93 07-12-93	22.25 26.4	S T
400033076344901	YO1196	York	367CNSG	360	200	D	02-25-93 05-19-93 07-12-93	24.0 15.5 26.18	T T S

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

GROUND-WATER QUALITY IN WELLS

TABLE 3.--PESTICIDE SCHEDULE A.

REMARKS.--Water from each of the 30 wells in this study was tested for pesticide schedule A. The table below lists the 47 pesticides on this schedule, the unit of measure (micrograms per liter, $\mu\text{G/L}$), the U.S. Geological Survey National Water Information System parameter code, and the method detection level. Pesticide schedule A includes selected pesticides and metabolites that are efficiently partitioned from a water sample by solid-phase extraction and are sufficiently volatile and thermally stable for analysis by gas chromatography. Samples are filtered through a glass-fiber filter membrane with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Each sample was analyzed for all of the compounds in this schedule. **Only pesticide compounds measured at or above the detection level in one or more wells are listed in the water-quality table following the schedule lists.**

ALACHLOR ($\mu\text{G/L}$) (46342)	ALPHA BHC ($\mu\text{G/L}$) (34253)	ATRAZINE ($\mu\text{G/L}$) (39632)	BENFLURALIN ($\mu\text{G/L}$) (82673)	BUTYLATE ($\mu\text{G/L}$) (04028)	CARBARYL ($\mu\text{G/L}$) (82680)
<0.013	<0.010	<0.017	<0.013	<0.008	<0.050
CARBOFURAN ($\mu\text{G/L}$) (82674)	CHLOR- PYRIFOS ($\mu\text{G/L}$) (38933)	CYANAZINE ($\mu\text{G/L}$) (04041)	DCPA ($\mu\text{G/L}$) 82682	DESETHYL ATRAZINE ($\mu\text{G/L}$) (04040)	DIAZINON ($\mu\text{G/L}$) (39572)
<0.019	<0.007	<0.019	<0.005	<0.02	<0.012
DIELDRIN ($\mu\text{G/L}$) (39381)	DIETHYL- ANALINE-2,6 ($\mu\text{G/L}$) (82660)	DIMETHOATE ($\mu\text{G/L}$) (82662)	DISULFOTON ($\mu\text{G/L}$) (82677)	EPTC ($\mu\text{G/L}$) (82668)	ETHAL- FLURALIN ($\mu\text{G/L}$) (82663)
<0.02	<0.009	<0.035	<0.02	<0.01	<0.019
ETHOPROP ($\mu\text{G/L}$) (82672)	FONOFOS ($\mu\text{G/L}$) (04095)	LINDANE ($\mu\text{G/L}$) (39341)	LINURON ($\mu\text{G/L}$) (82666)	MALATHION ($\mu\text{G/L}$) (39532)	METHYL AZINPHOS ($\mu\text{G/L}$) (82686)
<0.017	<0.012	<0.039	<0.039	<0.014	<0.055
METHYL PARATHION ($\mu\text{G/L}$) (82667)	METOLACHLOR ($\mu\text{G/L}$) (39415)	METRIBUZIN ($\mu\text{G/L}$) (82630)	MOLINATE ($\mu\text{G/L}$) (82671)	NAPROP- AMIDE ($\mu\text{G/L}$) (82684)	P, P-DDE ($\mu\text{G/L}$) (34653)
<0.051	<0.009	<0.012	<0.010	<0.01	<0.02
PARATHION ($\mu\text{G/L}$) (39542)	PEBULATE ($\mu\text{G/L}$) (82669)	PENDI- METHALIN ($\mu\text{G/L}$) (82683)	PERMETHRIN- CIS ($\mu\text{G/L}$) (82687)	PHORATE ($\mu\text{G/L}$) (82664)	PROMETON ($\mu\text{G/L}$) (04037)
<0.032	<0.010	<0.026	<0.023	<0.02	<0.010
PRONAMIDE ($\mu\text{G/L}$) (82676)	PROPACHLOR ($\mu\text{G/L}$) (04024)	PROPANIL ($\mu\text{G/L}$) (82679)	PROPARGITE ($\mu\text{G/L}$) (82685)	SIMAZINE ($\mu\text{G/L}$) (04035)	TEBUTHIURON ($\mu\text{G/L}$) (82670)
<0.013	<0.022	<0.023	<0.01	<0.010	<0.022
TERBACIL ($\mu\text{G/L}$) (82665)	TERBUFOS ($\mu\text{G/L}$) (82675)	THIOBENCARB ($\mu\text{G/L}$) (82681)	TRIALATE ($\mu\text{G/L}$) (82678)	TRIFLURALIN ($\mu\text{G/L}$) (82661)	
<0.03	<0.017	<0.012	<0.008	<0.017	

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES**LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT****SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE****GROUND-WATER QUALITY IN WELLS****TABLE 4.--PESTICIDE SCHEDULE B.**

REMARKS.--Water from each of the 30 wells in this study was tested for 2 pesticide schedules A and B except for Lancaster County Well LN 2024 which was not tested for Schedule B. Pesticide schedule B includes chlorophenoxy acid herbicides, carbamate pesticides, and selected other pesticides and herbicides that are effeciently partitioned from a water sample by solid-phase extraction for analysis by high performance liquid chromatography. Water samples are filtered through a glass-fibre filter membrane with openings that are 0.7 microns in size to remove sediment and microorganisms. Therefore, this schedule is suitable for compounds dissolved in water. Results for schedule B were not available at the time of publication of this volume.

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN MAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

GROUND-WATER QUALITY IN WELLS

TABLE 5.--VOLATILE ORGANIC CHEMICAL SCHEDULE.

REMARKS.--Water from each of the 30 wells in this study was tested for a schedule of 60 Volatile Organic Chemicals. The table below lists the compounds on the schedule, the unit of measure (micrograms per liter, $\mu\text{G/L}$), the U.S. Geological Survey National Water Information System parameter code, and the reporting level. Each sample was analyzed for all of the compounds in this schedule. **Only compounds measured at or above the reporting level for one or more wells are listed in the water-quality data table following the schedule lists.**

BENZENE ($\mu\text{G/L}$) (34030)	BENZENE, O-CHLORO ($\mu\text{G/L}$) (34536)	BENZENE, 1,2,4,- TRICHLORO ($\mu\text{G/L}$) (34551)	BENZENE, 1,3- DICHLORO ($\mu\text{G/L}$) (34566)	BENZENE, 1,4- DICHLORO ($\mu\text{G/L}$) (34571)	BENZENE, ISOPROPYL ($\mu\text{G/L}$) (77223)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
BENZENE N-PROPYL ($\mu\text{G/L}$) (77224)	BENZENE, N-BUTYL ($\mu\text{G/L}$) (77342)	BENZENE, SEC-BUTYL ($\mu\text{G/L}$) (77350)	BENZENE, TERT-BUTYL ($\mu\text{G/L}$) (77353)	BROMO- BENZENE ($\mu\text{G/L}$) (81555)	BROMOFORM ($\mu\text{G/L}$) (32104)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
CARBONTETRA- CHLORIDE ($\mu\text{G/L}$) (32102)	CHLORODIBROMO- METHANE ($\mu\text{G/L}$) (32105)	CHLORO- BENZENE ($\mu\text{G/L}$) (34301)	CHLORO- ETHANE ($\mu\text{G/L}$) (34311)	CHLOROFORM ($\mu\text{G/L}$) (32106)	DIBROMOCHLORO- PROPANE ($\mu\text{G/L}$) (82625)
<0.2	<0.2	<0.2	<0.2	<0.2	<1.00
DIBROMO- ETHANE-1,2 ($\mu\text{G/L}$) (77651)	DIBROMO- METHANE ($\mu\text{G/L}$) (30217)	DICHLORODI- FLUOROMETHANE ($\mu\text{G/L}$) (34668)	DICHLORO- BROMOMETHANE ($\mu\text{G/L}$) (32101)	DICHLORO- ETHANE-1,1 ($\mu\text{G/L}$) (34496)	DICHLORO- ETHANE-1,2 ($\mu\text{G/L}$) (32103)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DICHLORO- ETHENE-CIS-1,2 ($\mu\text{G/L}$) (77093)	DICHLORO- ETHENE-TRANS-1,2 ($\mu\text{G/L}$) (34546)	DICHLORO- ETHYLENE-1,1 ($\mu\text{G/L}$) (34501)	DICHLORO- PROPANE-1,2 ($\mu\text{G/L}$) (34541)	DICHLORO- PROPANE-1,3 ($\mu\text{G/L}$) (77173)	DICHLORO- PROPANE-2,2 ($\mu\text{G/L}$) (77170)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DICHLORO- PROPENE-1,1 ($\mu\text{G/L}$) (77168)	DICHLORO- PROPENE-CIS-1,2 ($\mu\text{G/L}$) (34704)	DICHLOROPROPENE- TRANS-1,3 ($\mu\text{G/L}$) (34699)	ETHANE, 1,1,2,2,- TETRACHLORO ($\mu\text{G/L}$) (34516)	ETHANE, 1,1,1,2,- TETRACHLORO ($\mu\text{G/L}$) (77562)	ETHYLBENZENE ($\mu\text{G/L}$) (34371)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
FREON 113 ($\mu\text{G/L}$) (77652)	HEXACHLORO- BUTADIENE ($\mu\text{G/L}$) (39702)	MESITYLENE ($\mu\text{G/L}$) (77226)	METHANE, BROMOCHLORO ($\mu\text{G/L}$) (77297)	METHYL- CHLORIDE ($\mu\text{G/L}$) (34418)	METHYL- BROMIDE ($\mu\text{G/L}$) (34413)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
METHYLENE CHLORIDE ($\mu\text{G/L}$) (34423)	METHYL ETHER, TERT-BUTYL ($\mu\text{G/L}$) (78032)	NAPHTHALENE ($\mu\text{G/L}$) (34696)	O-CHLORO- TOLUENE ($\mu\text{G/L}$) (77275)	P-ISOPROPYL TOLUENE ($\mu\text{G/L}$) (77356)	PSEUDOCUMENE ($\mu\text{G/L}$) (77222)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
STYRENE ($\mu\text{G/L}$) (77128)	TETRACHLORO- ETHYLENE ($\mu\text{G/L}$) (34475)	TOLUENE ($\mu\text{G/L}$) (34010)	TOLUENE, P-CHLORO ($\mu\text{G/L}$) (77277)	TRICHLOROFLUORO- METHANE ($\mu\text{G/L}$) (34488)	TRICHLORO- BENZENE-1,2,3 ($\mu\text{G/L}$) (77613)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TRICHLORO- ETHANE-1,1,1 ($\mu\text{G/L}$) (34506)	TRICHLORO- ETHANE-1,1,2 ($\mu\text{G/L}$) (34511)	TRICHLORO- PROPANE-1,2,3 ($\mu\text{G/L}$) (77443)	TRICHLORO- ETHYLENE ($\mu\text{G/L}$) (39180)	VINYL- CHLORIDE ($\mu\text{G/L}$) (39175)	XYLENE ($\mu\text{G/L}$) (81551)
<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

GROUND-WATER QUALITY IN WELLS

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; G/M: gallons per minute; μS/CM: microsiemens per centimeter at 25 degrees Celsius; DEG.C: degrees Celsius; MG/L: milligrams per liter; μG/L: micrograms per liter; COLS. PER 100 ML: colonies per 100 milliliters; WH IT: alkalinity, bicarbonate, and carbonate as determined by incremental titration of unfiltered water at field site; PCI/L: picocuries per liter; 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.

NOTE: Well LN 2024 was not tested for Schedule B.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	DATE	TIME	WATER-LEVEL BELOW LAND SURFACE (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEVATION OF LAND SURFACE (FEET) (72000)	FLOW RATE, INSTANTANEOUS (G/M) (00059)	SPECIFIC CONDUCTANCE (μS/CM) (00095)
ADAMS COUNTY									
394643077043101	AD 653	Littlestown	07-08-93	1030	15.3	150	600	4.9	433
LANCASTER COUNTY									
400629076365201	LN2005	Elizabethtown	07-20-93	0930	10.04	100	390	5.0	870
400722076231601	LN2006	Manheim	07-12-93	1400	36.11	125	400	3.6	625
400623076242302	LN2007	Manheim	07-19-93	1430	9.45	150	410	8.6	616
400558076281201	LN2008	Mount Joy	07-13-93	0930	70.4	175	370	5.5	498
400452076331601	LN2009	Marietta	07-13-93	0930	29.03	175	420	4.0	737
400052076233701	LN2010	Lancaster	07-13-93	1400	33.22	175	360	8.6	448
395825076264301	LN2011	Washington Boro	07-13-93	1430	35.7	200	390	8.8	714
395809076232501	LN2012	Millersville	07-14-93	0940	84.44	175	370	4.3	608
395841076210001	LN2013	Millersville	07-19-93	0930	54.65	150	380	4.5	960
400343076140701	LN2014	Lancaster	07-21-93	1400	24.67	195	380	6.2	777
400655076203401	LN2015	Lititz	07-21-93	0920	50.49	150	370	4.0	642
401114076151601	LN2016	Lititz	07-21-93	1310	56.3	122	390	6.4	607
401254076114701	LN2017	Ephrata	07-14-93	0910	56.3	160	410	9.2	694
400834076090701	LN2018	Ephrata	07-14-93	1400	36.7	160	340	6.3	791
400711076113801	LN2019	Leola	07-15-93	0920	47.00	200	340	5.7	676
395951076122301	LN2021	Strasburg	07-28-93	0830	28.2	150	370	8.0	840
395756076153301	LN2022	Willow Street	07-15-93	1400	21.94	75	370	6.0	634
395952076074901	LN2023	Ronks	07-20-93	1430	14.80	175	410	3.7	353
400259076072501	LN2024	Ronks	07-20-93	0920	11.1	150	380	4.0	598
400137076085201	LN2025	Ronks	07-21-93	0910	20.0	200	400	11	718
400026076021901	LN2026	Gap	07-15-93	0900	41.3	175	450	4.3	802
400229076020301	LN2027	Kinzer	07-15-93	1410	38.1	175	460	6.3	607
400434076085001	LN2028	Leola	07-22-93	1150	6.8	200	390	7.8	791
400724075593201	LN2029	Goodville	07-19-93	0920	40.6	140	490	8.8	669
400814075535401	LN2030	Morgantown	07-19-93	1300	22.7	97	535	7.9	392
400308076121401	LN2031	Bird-In-Hand	07-28-93	1250	72.0	150	420	4.2	724
YORK COUNTY									
395143076525201	YO1194	Spring Grove	07-12-93	1000	29.0	140	500	9.6	340
395346076502901	YO1195	Spring Grove	07-12-93	1430	26.4	160	500	3.2	303
400033076344901	YO1196	York	07-12-93	0930	26.18	200	360	3.8	666

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN MAWA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG.C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, TOTAL (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, (COLS. PER 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
ADAMS COUNTY										
AD653	7.6	13.0	6.8	<1	<1	24	210	52	73	6.8
LANCASTER COUNTY										
LN2005	7.2	13.5	.4	>80	>60	K 8	350	130	110	19
LN2006	7.5	13.0	9.4	<1	<1	K 4	310	110	95	17
LN2007	7.5	12.5	.3	<1	<1	<1	320	69	62	39
LN2008	7.5	13.0	5.7	<1	<1	<1	250	71	77	14
LN2009	7.4	13.5	3.9	48	<1	K 1	360	150	74	43
LN2010	7.7	12.5	6.2	K 4	<1	<1	220	72	66	13
LN2011	7.5	12.5	9.7	<1	<1	K 3	340	180	89	28
LN2012	7.2	14.0	10.6	K 2	<1	<1	260	120	76	16
LN2013	7.2	13.5	6.2	<1	<1	<1	450	250	140	25
LN2014	7.4	13.5	7.6	K 6	<1	<1	370	110	75	45
LN2015	7.5	13.0	.9	K 16	<1	K 10	320	70	72	34
LN2016	7.1	13.5	3.0	K 2	<1	<1	300	39	90	19
LN2017	7.2	12.0	6.8	K 12	<1	K 1	370	110	110	24
LN2018	7.1	12.0	3.4	K 9	<1	K 1	360	82	120	14
LN2019	7.3	13.5	.1	<1	<1	<1	350	84	84	35
LN2021	7.0	13.0	8.7	K 3	<1	<1	390	180	120	22
LN2022	7.3	13.0	5.3	K 1	<1	K 1	300	100	85	21
LN2023	7.9	13.5	.1	K 18	<1	>100	170	28	37	20
LN2024	7.3	13.5	3.4	28	<1	54	290	93	67	30
LN2025	7.3	12.5	3.3	<1	<1	<1	380	110	73	47
LN2026	7.2	13.0	4.7	>80	K 2	21	340	100	73	39
LN2027	7.5	13.5	9.3	K 1	<1	33	290	53	60	34
LN2028	7.2	12.5	4.1	>80	>60	K 2	390	120	83	45
LN2029	7.2	12.5	8.9	<1	<1	<1	330	65	69	39
LN2030	7.5	11.5	6.9	K 2	<1	<1	190	42	39	23
LN2031	7.1	12.5	9.1	<1	<1	<1	340	150	67	43
YORK COUNTY										
YO1194	7.3	13.0	6.2	<1	<1	<1	140	53	49	5.4
YO1195	7.7	13.0	8.0	<1	<1	K 2	140	54	41	8.0
YO1196	7.3	16.5	.1	<1	<1	<1	350	82	86	32

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN MAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WH IT (MG/L AS HCO3) (00450)	CAR- BONATE WH IT (MG/L AS CO3) (00447)	ALKA- LINITY WH IT (MG/L AS CACO3) (00419)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
ADAMS COUNTY										
AD653	3.4	.60	195	0	160	15	21	<.10	.040	11
LANCASTER COUNTY										
LN2005	23	7.1	268	0	220	27	61	<.1	.030	9.0
LN2006	3.5	2	234	0	192	34	12	.1	.030	8.0
LN2007	5.2	1.9	309	0	253	59	15	1.3	.030	11
LN2008	2.9	1	217	0	178	11	9.6	.1	.020	7.0
LN2009	3.4	4.7	258	0	211	52	16	.5	.030	13
LN2010	3.8	1.1	178	0	146	24	6.9	.2	.020	11
LN2011	5.3	3.3	195	0	160	79	21	.3	.040	10
LN2012	15	1.4	164	0	134	35	38	<.1	.030	11
LN2013	12	5.1	251	0	206	130	72	.1	.050	11
LN2014	12	2.2	315	0	258	42	23	<.1	.040	9.1
LN2015	6.8	1.7	300	0	246	58	20	.5	.030	8.3
LN2016	4.2	1.5	323	0	265	10	8.6	<.1	.030	9.7
LN2017	4.6	2.3	316	0	259	28	13	<.1	.030	8.9
LN2018	18	2.7	338	0	277	34	37	<.1	.030	10
LN2019	4.5	1.3	329	0	270	78	15	.2	.030	9.7
LN2021	13	3.2	256	0	210	80	61	.2	.040	11
LN2022	11	2.3	237	0	194	41	28	.1	.050	11
LN2023	1.7	1.2	176	0	144	29	3.9	.1	.020	7.8
LN2024	5.4	1.6	242	0	198	41	19	<.1	.030	8.0
LN2025	3.6	1.8	326	0	267	45	15	<.1	.030	8.8
LN2026	47	2.1	295	0	242	40	69	<.1	.030	7.5
LN2027	13	.6	292	0	239	18	24	<.1	.030	7.2
LN2028	7.2	3.3	337	0	276	43	21	.1	.040	8.6
LN2029	8.8	1.6	327	0	268	32	15	<.1	.040	11
LN2030	3.6	3.4	183	0	150	10	10	<.1	.030	8.4
LN2031	7.5	2.7	243	0	199	93	18	.1	.020	9.0
YORK COUNTY										
YO1194	6.0	1.6	112	0	92	19	14	<.1	.020	17
YO1195	2.9	2.	99	0	81	11	8.6	<.1	.020	7.4
YO1196	11	2.7	323	0	265	55	38	.2	.040	12

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN MAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)
ADAMS COUNTY										
AD653	291	254	<.010	6.4	.010	<.20	.010	.010	<3	<1
LANCASTER COUNTY										
LN2005	539	494	<.010	24	.120	1.10	.130	<.010	4	95
LN2006	395	387	<.010	22	.030	<.20	<.010	.010	6	<1
LN2007	342	343	.020	.26	.040	<.20	<.010	<.010	4	<1
LN2008	278	288	<.010	13	.310	.30	<.010	<.010	38	23
LN2009	440	443	.070	25	.010	<.20	<.010	<.010	<3	<1
LN2010	272	271	<.010	13	.020	<.20	.020	<.010	<3	<1
LN2011	444	425	<.010	21	.020	<.20	<.010	<.010	<3	<1
LN2012	387	353	<.010	18	.020	<.20	.010	<.010	<3	<1
LN2013	628	573	<.010	12	.020	<.20	<.010	<.010	<3	<1
LN2014	456	444	<.010	18	<.010	<.20	<.010	<.010	3	<1
LN2015	371	360	<.010	2	<.010	<.20	<.010	<.010	4	<1
LN2016	337	339	<.010	8.4	<.010	<.20	<.010	<.010	<3	<1
LN2017	405	413	<.010	15	.020	<.20	<.010	<.010	<3	<1
LN2018	452	445	<.010	10	.030	<.20	.020	.010	<3	<1
LN2019	406	390	.010	.17	.020	<.20	<.010	<.010	5	<1
LN2021	635	493	<.010	13	.020	<.20	<.010	<.010	4	<1
LN2022	362	366	<.010	11	.040	<.20	.020	.010	<3	<1
LN2023	185	191	<.010	.41	<.010	<.20	<.010	<.010	4	3
LN2024	346	340	<.010	11	<.010	<.20	.020	.020	<3	<1
LN2025	423	413	<.010	13	.010	<.20	<.010	<.010	<3	<1
LN2026	480	471	.010	11	.460	.60	.020	.010	<3	52
LN2027	342	329	<.010	6.8	.020	<.20	<.010	<.010	<3	<1
LN2028	472	465	<.010	20	.020	<.20	.030	.020	<3	1
LN2029	388	379	<.010	9.5	.020	<.20	<.010	<.010	<3	<1
LN2030	224	220	<.010	7.3	.020	<.20	<.010	.010	<3	<1
LN2031	438	422	<.010	14	.020	.40	<.010	<.010	8	<1
YORK COUNTY										
YO1194	230	216	<.010	11	.010	<.20	<.010	.020	4	<1
YO1195	169	171	<.010	9.4	.050	<.20	.020	.020	6	<1
YO1196	430	397	<.010	.2	.020	<.20	<.010	<.010	6	<1

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	RADON- 222 TOTAL (PCI/L) (82307)	RADON- 222 2 SIGMA TOTAL (PCI/L) (76002)	URANIUM NATURAL DIS- SOLVED (μG/L AS U) (22703)	URANIUM NATURAL 2 SIGMA DIS- SOLVED (μG/L) (75900)	H-2/ H-1 STABLE ISOTOPE RATIO PER MIL (82085)	O-18/ O-16 STABLE ISOTOPE RATIO PER MIL (82082)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM 2 SIGMA TOTAL (PCI/L) (75985)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	*METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
ADAMS COUNTY										
AD653	860	31	<1.0	.18	--	--	--	--	.1	.08
LANCASTER COUNTY										
LN2005	820	31	1.2	.43	--	--	--	--	2.4	.17
LN2006	690	27	<1.0	.22	--	--	--	--	.6	.21
LN2007	2600	60	3.4	1.05	--	--	26	2.0	.2	.01
LN2008	770	31	<1.0	.24	--	--	--	--	.3	.15
LN2009	850	29	3.6	1.13	--	--	--	--	.4	.22
LN2010	1200	30	1.2	.43	--	--	--	--	.1	.14
LN2011	680	30	<1.0	.27	--	--	--	--	.5	.20
LN2012	500	30	<1.0	.17	--	--	--	--	.2	.19
LN2013	1600	33	2.8	.88	--	--	--	--	.7	.12
LN2014	290	31	<1.0	.29	--	--	--	--	.3	.16
LN2015	660	35	4.1	1.26	--	--	9.0	1.0	.2	.03
LN2016	1200	36	<1.0	.22	--	--	--	--	.2	.08
LN2017	390	31	<1.0	.33	-46.5	-7.56	--	--	.4	.13
LN2018	750	29	<1.0	.30	--	--	--	--	.5	.12
LN2019	1050	39	9.8	2.81	--	--	40	3.0	.4	.01
LN2021	900	36	<1.0	.32	--	--	--	--	.4	.13
LN2022	1400	38	<1.0	.32	--	--	--	--	.3	.10
LN2023	2700	40	13	3.79	-48.2	-8.12	18	1.0	.1	.01
LN2024	530	29	1.7	.56	-47.4	-8.06	--	--	.2	.11
LN2025	760	35	3.0	.96	--	--	--	--	.3	.13
LN2026	760	55	<1.0	.17	--	--	--	--	.6	.15
LN2027	280	52	<1.0	.17	--	--	--	--	.3	.08
LN2028	630	38	<1.0	.30	-44.7	-7.48	--	--	.4	.15
LN2029	330	27	<1.0	.23	-44.3	-7.61	--	--	.3	.10
LN2030	430	28	<1.0	.14	--	--	--	--	.1	.09
LN2031	440	33	<1.0	.18	-42.8	-7.21	--	--	.5	.15
YORK COUNTY										
YO1194	1200	29	<1.0	.14	-49.4	-8.04	--	--	.2	.12
YO1195	1900	31	<1.0	.23	--	--	--	--	.2	.10
YO1196	1300	31	6.7	1.95	-49.3	-8.17	35	3.0	.5	.02

* 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, concentration, 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.

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	ALA- CHLOR, ($\mu\text{G/L}$) (46342)	ATRA- ZINE, ($\mu\text{G/L}$) (39632)	CYANA- ZINE, ($\mu\text{G/L}$) (04041)	DEETHYL ATRA- ZINE, ($\mu\text{G/L}$) (04040)	METO- LACHLOR ($\mu\text{G/L}$) (39415)	PEB- ULATE ($\mu\text{G/L}$) (82669)	PRO- METON, ($\mu\text{G/L}$) (04037)	SI- MAZINE, ($\mu\text{G/L}$) (04035)
ADAMS COUNTY								
AD653	<.009	<.017	<.013	<.020	<.009	<.009	<.009	<.010
LANCASTER COUNTY								
LN2005	<.009	.570	<.013	.250	.021	<.009	<.009	.011
LN2006	.052	.720	<.013	.290	.013	.052	.270	<.010
LN2007	<.009	<.017	<.013	<.020	<.009	<.009	<.009	<.010
LN2008	<.009	.590	<.013	.210	.026	<.009	<.009	<.010
LN2009	<.009	.370	<.013	.540	<.009	<.009	<.009	<.010
LN2010	<.009	.062	<.013	.130	<.009	<.009	<.009	<.010
LN2011	<.009	<.017	<.013	<.020	<.009	<.009	<.009	<.010
LN2012	<.009	.031	<.013	.320	<.009	<.009	.026	<.010
LN2013	.011	.068	<.013	.099	<.009	<.009	.150	<.010
LN2014	.050	.470	.085	.098	5.000	<.009	.012	.042
LN2015	<.009	.023	<.013	<.020	<.009	<.009	.063	.015
LN2016	<.009	.140	<.013	.220	<.009	<.009	.008	.020
LN2017	.010	.360	<.013	.200	<.009	<.009	.011	.099
LN2018	.010	.230	<.013	.140	<.009	<.009	.150	.020
LN2019	<.009	<.017	<.013	<.020	<.009	<.009	<.008	<.010
LN2021	<.009	.400	<.013	.120	.011	<.009	.058	<.010
LN2022	<.009	.049	<.013	.048	<.009	<.009	<.008	<.010
LN2023	<.009	<.017	<.013	<.020	<.009	<.009	<.008	<.010
LN2024	<.009	.051	<.013	.066	<.009	<.009	<.008	.011
LN2025	<.009	.035	<.013	.065	<.009	<.009	<.008	<.010
LN2026	<.009	.045	<.013	.096	<.009	<.009	.025	<.010
LN2027	<.009	.066	<.013	.076	<.009	<.009	.320	.051
LN2028	<.009	.092	<.013	.071	<.009	<.009	.017	.008
LN2029	<.009	.150	<.013	.120	<.009	<.009	.045	<.010
LN2030	<.009	.098	<.013	.076	<.009	<.009	<.008	.013
LN2031	<.009	.099	<.013	.160	<.009	<.009	<.008	.130
YORK COUNTY								
YO1194	<.009	.021	<.013	.030	.021	<.009	<.008	<.010
YO1195	<.009	.039	<.013	.040	<.009	<.009	.037	<.010
YO1196	<.009	<.017	<.013	<.020	<.009	<.009	<.008	<.010

GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

SUBAREA OF CARBONATE BEDROCK IN THE PIEDMONT PHYSIOGRAPHIC PROVINCE

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL WELL NUMBER	CARBON- TETRA- CHLO- RIDE TOTAL ($\mu\text{G/L}$) (32102)	DI- CHLORO- DI- FLUORO- METHANE TOTAL ($\mu\text{G/L}$) (34668)	METHYL- ENE CHLO- RIDE TOTAL ($\mu\text{G/L}$) (34423)	METHYL ETHER TERT- BUTYL ($\mu\text{G/L}$) (78032)	1,1,1- TRI- CHLORO- ETHANE ($\mu\text{G/L}$) (34506)	XYLENE ($\mu\text{G/L}$) (81551)
ADAMS COUNTY						
AD653	<.2	<.2	<.2	<.2	<.2	<.2
LANCASTER COUNTY						
LN2005	<.2	<.2	<.2	.5	<.2	<.2
LN2006	<.2	<.2	<.2	<.2	<.2	<.2
LN2007	<.2	<.2	<.2	<.2	<.2	<.2
LN2008	<.2	<.2	<.2	<.2	<.2	.3
LN2009	<.2	<.2	<.2	<.2	<.2	<.2
LN2010	<.2	<.2	<.2	<.2	<.2	<.2
LN2011	<.2	<.2	<.2	<.2	<.2	<.2
LN2012	<.2	<.2	<.2	<.2	<.2	<.2
LN2013	<.2	<.2	<.2	<.2	<.2	<.2
LN2014	<.2	<.2	<.2	<.2	<.2	<.2
LN2015	<.2	<.2	<.2	<.2	<.2	<.2
LN2016	<.2	.6	.5	<.2	<.2	<.2
LN2017	<.2	<.2	<.2	<.2	<.2	<.2
LN2018	<.2	<.2	<.2	<.2	<.2	<.2
LN2019	<.2	<.2	<.2	<.2	<.2	<.2
LN2021	<.2	<.2	<.2	<.2	.4	<.2
LN2022	<.2	<.2	<.2	<.2	<.2	<.2
LN2023	<.2	<.2	<.2	<.2	<.2	<.2
LN2024	.5	<.2	<.2	<.2	<.2	<.2
LN2025	<.2	<.2	<.2	<.2	<.2	<.2
LN2026	<.2	<.2	<.2	<.2	<.2	<.2
LN2027	<.2	<.2	<.2	.5	<.2	<.2
LN2028	<.2	<.2	<.2	<.2	<.2	<.2
LN2029	<.2	<.2	<.2	.3	<.2	<.2
LN2030	<.2	<.2	<.2	<.2	<.2	<.2
LN2031	<.2	<.2	<.2	<.2	<.2	<.2
YORK COUNTY						
YO1194	<.2	<.2	<.2	<.2	<.2	<.2
YO1195	<.2	<.2	<.2	.3	<.2	<.2
YO1196	<.2	<.2	<.2	<.2	<.2	<.2

ANALYSIS OF GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN--NAWQA PROJECT

REMARKS.--Samples collected by Maryland U.S. Geological Survey as part of The National Water-Quality Assessment Project (NAWQA) in the Potomac River Basin, Franklin County. An explanation of selected parameter code abbreviations may be found on pages 34-34. Agency collection code: 1028 - U.S. Geological Survey. Agency analyzing code: 80020 - U.S. Geological Survey. Sampling method code: 4040 - using submersible pump. The location of these sites can be found on figure 8, page 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL ID	STATION NUMBER	DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)	SAMPLING METHOD, CODES (82398)	DEPTH TO TOP OF SAMPLE INTERVAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	
FR 537	394416077393401	06-02-93	1100	1028	80020	21.09	65.00	65	4040	20	640	
FR 807	394822077420801	06-23-93	0900	1028	80020	53.57	--	255	4040	--	680	
FR 808	395652077372001	07-12-93	0830	1028	80020	36.30	--	85	4040	--	680	
FR 809	394828077545701	06-01-93	1602	1028	80020	26.98	--	139	4040	105	575	
FR 810	400846077455901	07-12-93	1300	1028	80020	47.74	--	90	4040	--	860	
FR 811	395001077493501	07-13-93	0700	1028	80020	42.90	--	75	4040	--	530	
LOCAL ID	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	FLOW RATE, INSTANTANEOUS (G/M) (00059)	SPECIFIC CONDUCTANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)
FR 537	60	4.0	684	6.7	12.0	747	8.6	82	350	120	11	3.3
FR 807	150	6.0	635	6.9	12.5	746	--	--	300	100	12	6.3
FR 808	70	3.5	698	6.6	13.5	742	7.6	75	370	130	10	3.0
FR 809	110	5.0	613	7.2	12.0	744	7.6	72	310	96	18	6.2
FR 810	70	4.0	684	7.2	13.0	736	7.6	75	350	94	27	8.1
FR 811	45	4.0	696	6.7	13.0	750	9.0	87	320	110	12	15
LOCAL ID	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE WATER WHOLE FIELD (MG/L AS HCO3) (00450)	ALKALINITY WATER WHOLE FIELD (MG/L AS CaCO3) (00419)	ALKALINITY LAB (MG/L AS CaCO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
FR 537	2	0.1	1.4	344	282	273	29	13	0.20	0.030	10	408
FR 807	4	0.2	1.5	295	242	161	20	18	0.30	0.020	9.6	378
FR 808	2	0.1	1.1	386	316	308	24	9.4	0.20	0.030	9.2	411
FR 809	4	0.2	1.6	295	242	210	14	17	0.10	0.030	9.8	351
FR 810	5	0.2	1.2	357	293	293	30	14	0.30	0.020	9.6	393
FR 811	9	0.4	4.4	340	279	272	11	24	<0.10	0.050	11	400

ANALYSIS OF GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN--NAWQA PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL ID	FONOFOS WATER DISS REC ($\mu\text{G/L}$) (04095)	LINDANE DIS- SOLVED ($\mu\text{G/L}$) (39341)	LIN- URON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82666)	MALA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39532)	METHYL PARA- THION WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82667)	METHYL AZIN- PHOS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82686)	METO- LACHLOR WATER DISSOLV ($\mu\text{G/L}$) (39415)	METRI- BUZIN WATER DISSOLV ($\mu\text{G/L}$) (82630)	MOL- INATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82684)	P, P' DDE DISSOLV ($\mu\text{G/L}$) (34653)	PARA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39542)
FR 537	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038	0.040	<0.012	<0.007	<0.010	<0.010	<0.022
FR 807	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038	0.007	<0.012	<0.007	<0.010	<0.010	<0.022
FR 808	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038	<0.009	<0.012	<0.007	<0.010	<0.010	<0.022
FR 809	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038	<0.009	<0.012	<0.007	<0.010	<0.010	<0.022
FR 810	<0.008	<0.011	<0.039	<0.010	<0.035	<0.038	<0.009	<0.012	<0.007	<0.010	<0.010	<0.022
FR 811	--	--	--	--	--	--	--	--	--	--	--	--
LOCAL ID	PEB- ULATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82669)	PENDI- METH- ALIN WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82683)	PER- METHRIN CIS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82687)	PHORATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82664)	PRO- METON, WATER, DISS, REC ($\mu\text{G/L}$) (04037)	PRON- AMIDE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82676)	PROP- CHLOR, WATER, DISS, REC ($\mu\text{G/L}$) (04024)	PRO- PANIL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82679)	PRO- PARGITE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82685)	SI- MAZINE, WATER, DISS, REC ($\mu\text{G/L}$) (04035)	TEBU- THIURON WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82670)	TER- BACIL WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82665)
FR 537	<0.009	<0.018	<0.016	<0.020	0.038	<0.009	<0.015	<0.016	<0.010	0.16	<0.015	<0.030
FR 807	<0.009	<0.018	<0.016	<0.020	0.034	<0.009	<0.015	<0.016	<0.010	0.21	<0.015	<0.030
FR 808	<0.009	<0.018	<0.016	<0.020	<0.008	<0.009	<0.015	<0.016	<0.010	0.015	<0.015	<0.030
FR 809	<0.009	<0.018	<0.016	<0.020	0.008	<0.009	<0.015	<0.016	<0.010	0.069	<0.015	<0.030
FR 810	<0.009	<0.018	<0.016	<0.020	0.010	<0.009	<0.015	<0.016	<0.010	<0.010	<0.015	<0.030
FR 811	--	--	--	--	--	--	--	--	--	--	--	--
LOCAL ID	TER- BUFOS WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82675)	THIO- BENCARB WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82681)	TRIAL- LATE WATER FLTRD 0.7 μ GF, REC ($\mu\text{G/L}$) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82661)	BRO- MACIL, WATER, DISS, REC ($\mu\text{G/L}$) (04029)	2,4,5-T DIS- SOLVED ($\mu\text{G/L}$) (39742)	2,4-D, DIS- SOLVED ($\mu\text{G/L}$) (39732)	SILVEX, DIS- SOLVED ($\mu\text{G/L}$) (39762)	BENZENE TOTAL ($\mu\text{G/L}$) (34030)	BENZENE O- CHLORO- WATER UNFLTRD REC ($\mu\text{G/L}$) (34536)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC ($\mu\text{G/L}$) (34551)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC ($\mu\text{G/L}$) (34566)
FR 537	<0.012	<0.008	<0.008	<0.012	<0.05	<0.05	<0.05	<0.05	<0.2	<3.0	<0.20	<3.0
FR 807	<0.012	<0.008	<0.008	<0.012	--	--	--	--	<0.2	<0.20	<0.20	<0.20
FR 808	<0.012	<0.008	<0.008	<0.012	<0.05	<0.05	<0.05	<0.05	<0.2	<0.20	<0.20	<0.20
FR 809	<0.012	<0.008	<0.008	<0.012	<0.05	<0.05	<0.05	<0.05	--	--	--	--
FR 810	<0.012	<0.008	<0.008	<0.012	<0.05	<0.05	<0.05	<0.05	<0.2	<0.20	<0.20	<0.20
FR 811	--	--	--	--	--	--	--	--	<0.2	<0.20	<0.20	<0.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

[illegible][illegible]

ANALYSIS OF GROUND-WATER SAMPLES COLLECTED AT SPECIAL-STUDY SITES

POTOMAC RIVER BASIN--NAWQA PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

LOCAL ID	MESIT- YLENE WATER UNFLTRD REC (μ G/L) (77226)	METHANE BROMO- WAT UNFLTRD REC (μ G/L) (77297)	METHYL- CHLO- RIDE TOTAL (μ G/L) (34418)	METHYL- BROMIDE TOTAL (μ G/L) (34413)	METHYL- ENE CHLO- RIDE TOTAL (μ G/L) (34423)	METHYL ETHER TERT- BUTYL WAT UNF REC (μ G/L) (78032)	NAPHTH- ALENE TOTAL (μ G/L) (34696)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (μ G/L) (77275)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (μ G/L) (77356)	PSEUDO- CUMENE WATER UNFLTRD REC (μ G/L) (77222)	STYRENE TOTAL (μ G/L) (77128)
FR 537	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<3.0	<0.20	<0.2
FR 807	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2
FR 808	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2
FR 809	--	--	--	--	--	--	--	--	--	--	--
FR 810	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2
FR 811	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.2
LOCAL ID	TETRA- CHLORO- ETHYL- ENE TOTAL (μ G/L) (34475)	TOLUENE TOTAL (μ G/L) (34010)	TOLUENE P-CHLOR WATER UNFLTRD REC (μ G/L) (77277)	TRI- CHLORO- FLUORO- METHANE TOTAL (μ G/L) (34488)	1,2,3- TRI- CHLORO- BENZENE WAT, WH REC (μ G/L) (77613)	1,1,1- TRI- CHLORO- ETHANE TOTAL (μ G/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (μ G/L) (34511)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (μ G/L) (77443)	TRI- CHLORO- ETHYL- ENE TOTAL (μ G/L) (39180)	VINYL CHLO- RIDE TOTAL (μ G/L) (39175)	XYLENE WATER UNFLTRD REC (μ G/L) (81551)
FR 537	<0.2	<0.2	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20
FR 807	<0.2	<0.2	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20
FR 808	<0.2	<0.2	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20
FR 809	--	--	--	--	--	--	--	--	--	--	--
FR 810	<0.2	<0.2	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20
FR 811	<0.2	<0.2	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.



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