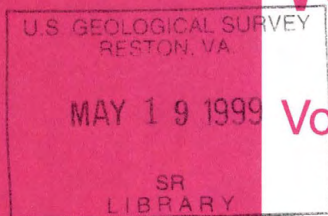


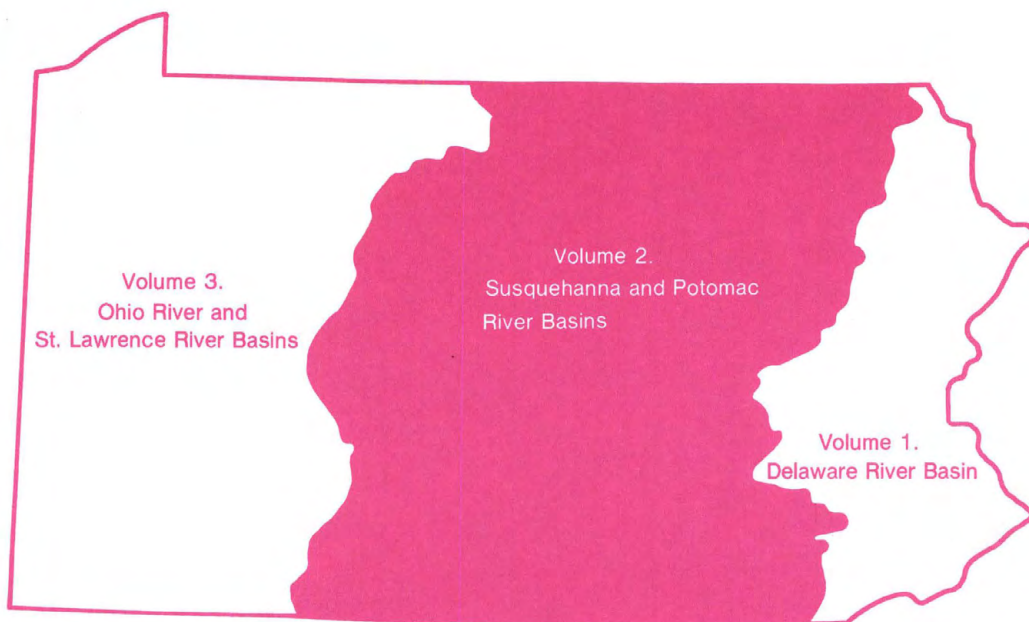
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Water Resources Data Pennsylvania Water Year 1997



Volume 2. Susquehanna and Potomac River Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-97-2

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



CALENDAR FOR WATER YEAR 1997

1996

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2	1	2	3	4	5	6	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

1997

JANUARY							FEBRUARY							MARCH						
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5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	29
														30	31					

APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29	30				25	26	27	28	29	30	31	29	30					

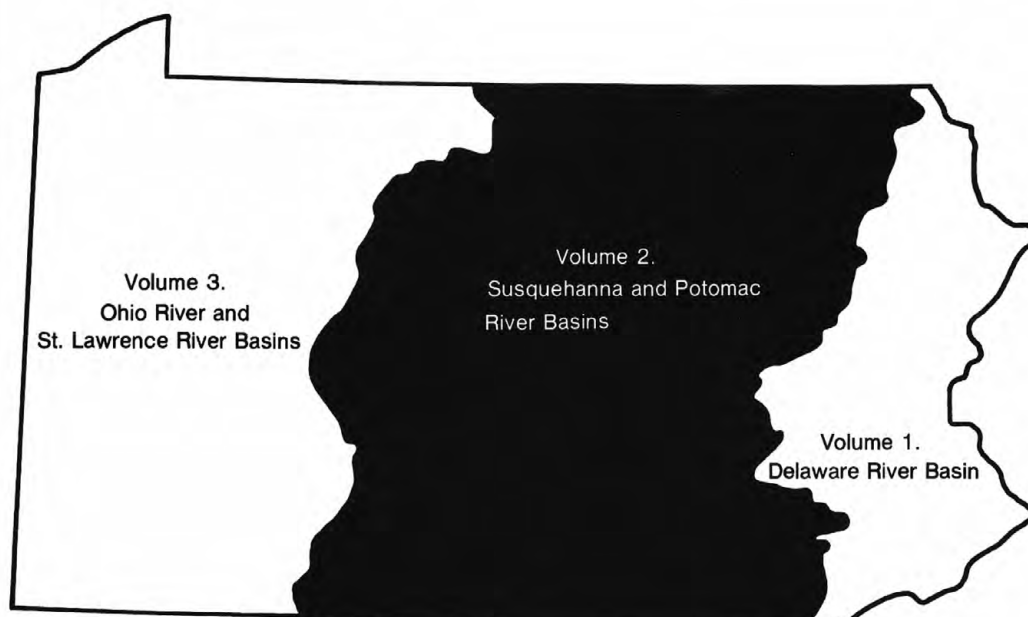
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Water Resources Data Pennsylvania Water Year 1997

Volume 2. Susquehanna and Potomac River Basins

by R.R. Durlin and W.P. Schaffstall



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-97-2

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

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

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Lemoyne, Pennsylvania 17043-1586

1998

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 River and St. Lawrence River Basins

Volume 2 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of Gary N. Paulachok, District Chief, Pennsylvania District; Robert A. Hainly, Assistant District Chief for Hydrologic Surveillance and Data Management; Randall R. Durlin, Chief of the Hydrologic Surveillance Program, Lemoyne District Office, and William P. Schaffstall, Chief, Williamsport Project Office. It is the product of a team effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized 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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13. ABSTRACT (Maximum 200 words) Water resources data for the 1997 water year for Pennsylvania consist of records of discharge and water quality of streams; contents and elevations of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, Volume 2, contains (1) discharge records for 85 continuous-record streamflow-gaging stations and 17 partial-record stations, and 22 special study and miscellaneous streamflow sites; (2) elevation and contents records for 12 lakes and reservoirs; (3) water-quality records for 14 gaging stations and 63 ungaged streamsites; and (4) water-level records for 30 ground-water network observation wells and water-quality analyses of ground water from 8 wells. Site locations are shown in figures throughout the report. Additional water data collected at various sites not involved in the systematic data-collection program are also presented. These data together with the data in Volumes 1 and 3, represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Pennsylvania.				
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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

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	Station number	Page
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CHEMUNG RIVER BASIN		
Tioga River near Mansfield (d).....	01516350	38
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Tioga River at Tioga (d)	01518000	42
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Driftwood Branch Sinnemahoning Creek:		
North Creek:		
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

NORTH ATLANTIC SLOPE BASINS--Continued

	Station number	Page
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Spring Creek at Houserville (d)	01546400	104
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Spring Creek at Milesburg (d)	01547100	108
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Bald Eagle Creek at Blanchard (d)	01547500	112
Marsh Creek at Blanchard (d)	01547700	114
Beech Creek at Monument (d)	01547950	116
Pine Creek at Cedar Run (d)	01548500	118
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Blockhouse Creek near English Center (d)	01549500	120
Pine Creek below Little Pine Creek near Waterville (d)	01549700	122
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West Branch Susquehanna River at Williamsport (d)	01551500	126
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Dunning Creek:		
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Dunning Creek at Belden (d)	01560000	176
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Sherman Creek:		
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Conodoguinet Creek:		
Letort Spring Run near Carlisle (d)	01569800	194
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

NORTH ATLANTIC SLOPE BASINS--Continued

	Station number	Page
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North Fork Unnamed Tributary to Big Spring Run near Lampeter (d,c)	015765265	300
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GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME
(Letters after local well number designate type of data: (l) water level, (c) chemical)

GROUND WATER RECORDS

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ADAMS COUNTY	
Well 395846077040601 Local number AD 146 (l)	397
BEDFORD COUNTY	
Well 400217078281901 Local number BD 150 (l)	398
BLAIR COUNTY	
Well 402452078271301 Local number BA 74 (l)	399
BRADFORD COUNTY	
Well 414330076280501 Local number BR 92 (l)	400
CAMERON COUNTY	
Well 412732078034201 Local number CM 13 (l)	401
CENTRE COUNTY	
Well 404518077575501 Local number CE 118 (l)	402
CLINTON COUNTY	
Well 411424077462201 Local number CN 1 (l)	403
CUMBERLAND COUNTY	
Well 400209077183301 Local number CU 2 (l)	404
DAUPHIN COUNTY	
Well 402118076462201 Local number DA 350 (l)	405
FRANKLIN COUNTY	
Well 394731077411701 Local number FR 332 (l)	406
HUNTINGDON COUNTY	
Well 401843078075401 Local number HU 301 (l)	407
JUNIATA COUNTY	
Well 402411077374801 Local number JU 351 (l)	408
LANCASTER COUNTY	
Well 400506076235201 Local number LN 514 (l)	409
Well 395947076145901 Local number LN 2037 (l,c)	410
Well 395947076145902 Local number LN 2038 (l,c)	412
Well 395947076145903 Local number LN 2039 (l,c)	414
Well 395947076145904 Local number LN 2040 (l,c)	416
Well 395957076155201 Local number LN 2041 (l,c)	418
Well 395957076155202 Local number LN 2042 (l,c)	420
Well 395957076155203 Local number LN 2043 (l,c)	422
Well 395957076155204 Local number LN 2044 (l,c)	424
LUZERNE COUNTY	
Well 411756076162701 Local number LU 294 (l)	426
LYCOMING COUNTY	
Well 412427076594401 Local number LY 112 (l)	427
MIFFLIN COUNTY	
Well 404140077354001 Local number MF 344 (l)	428
POTTER COUNTY	
Well 414640077493801 Local number PO 72 (l)	429
SNYDER COUNTY	
Well 403939076591001 Local number SN 130 (l)	430
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DISCONTINUED CONTINUOUS-RECORD 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.

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
Applemans Run above Light Street	01539200	1.72	1972-74
Applemans Run below Light Street	01539210	1.99	1972-74
Aughwick Creek near Orbisonia	01564000	174	1930-38
Bachman Run at Annville	01573095	7.3	1993-95
Bald Eagle Creek near Beech Creek Station	01548005*	562	1910-95
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
Bobs Creek near Pavia	01559795	16.6	1993-94
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
Cedar Run at Eberlys Mill	01571490	12.6	1993-95
Clark Creek near Carsonville	01568500	22.5	1937-96
Cocolamus Creek near Millerstown	01566500	57.2	1931-58
Codorus Creek at Pleasureville	01575585	267	1985-90

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
Codorus Creek near York	01575500*	222	1940-96
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 Chillisquaque Creek near Washingtonville	01553600	9.48	1960-78
East Branch Codorus Creek tributary near Winterstown	01574800	5.17	1969-75
East Mahantango Creek at Klingerstown	01555400	44.7	1992-94
Elk Run near Mainesburg	01517000	10.2	1955-78
Fishing Creek at Bloomsburg	01540000	355	1914-28
Great Trough Creek near Marklesburg	01562500	84.6	1930-57
Hunter Drift discharge near Antrim	01548418	mine discharge	1978-81
Kishacoquillas Creek at Lumber City	01564997	57.4	1993-94
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
Little Conestoga Creek near Churchtown	01576085	5.82	1982-95
Little Conestoga Creek, Site 3A, near Morgantown	0157608335	1.42	1984-91
Little Fishing Creek at Eysers Grove	01539500	56.5	1941-58

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
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
Moshannon Creek at Oceola Mills	01542000	68.8	1941-93
Muddy Creek at Castle Fin	01577500	133	1929-38, 1968-71
Muddy Creek at Muddy Creek Forks	01577300	71.9	1993-94
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 1992-95
Pequea Creek at Martic Forge	01576787	148	1977-81, 1993-95
Pequea Creek tributary near Mt. Nebo	01576788	0.20	1979-86
Pine Creek near Waterville	01549000	750	1909-20
Quittapahilla Creek near Bellegrove	01573160	74.2	1976-94

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

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
Raystown Branch Juniata River near Huntingdon	01563000 ^a	957	1947-71
Sand Spring Run near White Deer	01553130	4.93	1968-81
Schell Run at Tyrone	01557100	1.68	1958-62
Shamokin Creek near Shamokin	01554500	54.2	1938-93
Shaver Creek near Petersburg	01558500	46.4	1930-38
Solomon Creek at Wilkes-Barre	01537500	15.7	1940-90
South Branch Codorus Creek near York	01575000	117	1928-95
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
Susquehanna River near McCall's Ferry	01577000	26,800	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
Toby Creek at Luzerne	01537000	32.4	1941-93
Trexler Run near Ringtown	01540200	1.77	1963-81

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

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued			
Tuscarora Creek near Port Royal	01566000*	214	1911-58
West Branch Susquehanna River at Karthaus	01542500*	1,462	1940-95
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

DISCONTINUED CONTINUOUS-RECORD 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 3 or more years of record for one constituent, 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).

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
Bachman Run at Annville	01573095	7.3	SC ^a , Temp ^a	1994-95
Bald Eagle Creek at Blanchard	01547500	339	Temp Temp ^c Temp ^a Sed	1957 1967-81 1982-85 1956-58
Bald Eagle Creek below Spring Creek at Milesburg	01547200	265	Temp Temp ^c Sed	1956-58 1967-68 1956-58
Bald Eagle Creek near Milesburg	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 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

^aMax, Min, Mean values.

^bMost years.

^cMax, Min values.

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

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued				
Bobs Creek near Pavia	01559795	16.6	SC ^a , Temp ^a	1994-95
Cedar Run at Eberlys Mill	01571490	12.6	SC ^a , Temp ^a	1993-95
Conestoga River at Lancaster	01576500	324	SC	1948-50, 1964-70, 1974-75
			Temp	1948-50, 1959-70, 1974-75
			Sed	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
Cowanesque River near Lawrenceville	01520000	298	Temp ^a	1972-86
East Mahantango Creek at Klingerstown	01555400	44.7	SC ^a , Temp ^a	1993-95
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

^aMax, Min, Mean values.^bMost years.^cMax, Min values.

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

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued				
Kishacoquillas Creek at Lumber City	01564997	57.4	SC ^a , Temp ^a	1994-95
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
Muddy Creek at Muddy Creek Forks	01577300	71.9	SC ^a , Temp ^a	1993-95
Raystown Branch Juniata River below Raystown 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*	11,220	SC Temp Sed	1946-52, 1963-76 1948-53, 1957-70, 1975-76 1974-76
Susquehanna River at Falls	01534090	9,440	SC Temp	1945-51 1947-53
Susquehanna River at Harrisburg	01570500*	24,100	SC ^a , pH ^a , Temp ^a , DO ^a Sed	1974-79 1964-81 ^b
Susquehanna River at Towanda	01531500	7,797	Sed	1951-54
Swatara Creek above Hwy bridge 895 at Pine Grove	01571919	72.6	SC Temp Sed	1983-84 1982-84 1982-84

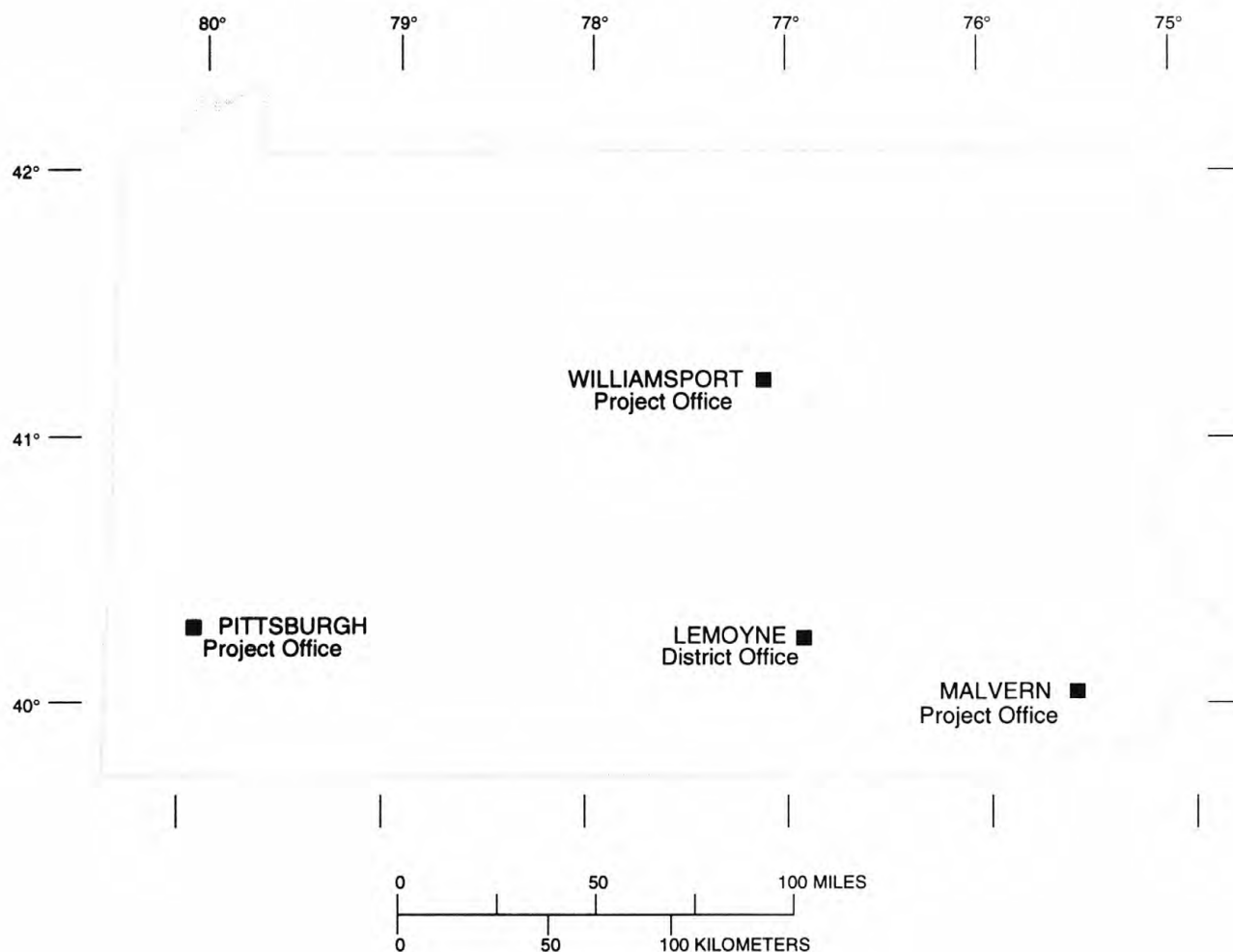
^aMax, Min, Mean values.^bMost years.^cMax, Min values.

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

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
SUSQUEHANNA RIVER BASIN--Continued				
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
West Branch Susquehanna River at Bower	01541000	315	Sed	1964-67
West Branch Susquehanna River at Lewisburg	01553500*	6,847	SC, Temp Sed	1944-53 ^b , 1957-58, 1975-76 1975-76
West Branch Susquehanna River at Lock Haven	01545800	3,337	SC pH Temp	1946-51, 1959, 1964-72 1963-72 1946-51, 1958-72
West Branch Susquehanna River at Renovo	01545500	2,975	SC ^a pH ^a Temp ^a DO	1967-88 ^b 1975-78
West Branch Susquehanna River at Williamsport	01551500	5,682	SC ^a pH ^a Temp ^a	1980-88 ^b
Wilson Creek above Sand Run near Antrim	01548408	12.6	Sed	1978-82

^aMax, Min, Mean values.^bMost years.

PENNSYLVANIA DISTRICT OFFICE LOCATIONS AND ADDRESSES



District and Project Offices:
U.S. Geological Survey
Water Resources Division
 840 Market Street
 Lemoyne, PA 17043-1586
 (717) 730-6900
 FAX (717) 730-6997

Williamsport Project Office:
U.S. Geological Survey
Water Resources Division
 439 Hepburn Street
 Williamsport, PA 17701
 (717) 323-7127
 Williamsport, PA 17703
 FAX (717) 323-2137

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

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

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, municipal, and Federal agencies, collects a large amount of data pertaining to the water resources of Pennsylvania each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, 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, contains: (1) discharge records for 85 continuous-record streamflow-gaging stations, 17 partial-record stations, and 22 special study and miscellaneous streamflow sites; (2) elevation and contents records for 12 lakes and reservoirs; (3) water-quality records for 14 streamflow gaging stations and 63 partial-record and project stations; and (4) water-level records for 30 ground-water network observation wells and water-quality analyses of ground water from 8 wells. Additional water data collected at various sites not involved in the systematic data-collection program may also be presented.

Publications similar to this report are published annually by the Geological Survey for all States. For the purpose of archiving, these official reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report PA-97-2." These water-data reports, beginning with the 1971 water year, are for sale as paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

Prior to the introduction of this series and for several years concurrent with it, water-resources data for Pennsylvania were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage, and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States," which was released in numbered parts as determined by natural drainage basins. For the 1961-70 water years, 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 the U.S. Geological Survey, Information Services, Box 25286, Denver, CO 80225.

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

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 acknowledged in station manuscripts. Organizations that assisted in collecting data for this report through cooperative agreements with the Survey are listed below.

The Commonwealth of Pennsylvania, Department of Environmental Protection, James M. Seif, Secretary, through the following:
Office of Water Management, Hugh V. Archer, Deputy Secretary;
Bureau of Water Supply Management, Glenn E. Maurer, Director;
Bureau of Water Quality Protection, Daniel B. Drawbaugh, Director;
Bureau of Watershed Conservation, Stuart Gansell, Director;
Office of Mineral Resources Management, Robert C. Dolence, Deputy Secretary;
Bureau of Mining and Reclamation, Roderick A. Fletcher, Director.
Office of Management and Technical Services, Kenwood Giffhorn, Deputy Secretary;
Bureau of Laboratories, Floyd D. Kefford, Director.

City of Sunbury, David Persing, Mayor.
City of Williamsport, Phillip Preziosi, Mayor.
Franklin County Watershed Association, Mark Dubin, Director.

COOPERATION--Continued

Letort Regional Authority, Brian Fischbach, Executive Director.
Luzerne County Emergency Management Agency, James M. Siracuse, Director.
New Oxford Municipal Authority, Earl E. Mummert, Chairman.
Susquehanna River Basin Commission, Paul O. Swartz, Executive Director.
Town of Bloomsburg, Daniel J. Bauman, Mayor.
Union County Commissioners, Ruth W. Zimmerman, Chairman.
University Area Joint Authority, Cory R. Miller, Executive Director.

Federal Energy Regulatory Commission Licensees:

Susquehanna Electric Company.
Safe Harbor Water Power Corporation.

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

Corps of Engineers, U.S. Army, Baltimore District, in collecting records for 30 streamflow-gaging stations, 11 reservoir stations, and 7 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 southern New York to the Chesapeake Bay in Maryland. At the point where the river enters Maryland, it drains 27,215 mi² (square miles). Most of this area, 20,962 mi², is in central Pennsylvania. Streams in the basin are located in the Appalachian Plateau, Valley and Ridge, and Piedmont Physiographic Provinces. The underlying geology includes rocks of Precambrian to Triassic age.

Precipitation and Streamflow

Data from 32 selected National Oceanic and Atmospheric Administration climatological sites located in the Susquehanna River Basin in Pennsylvania, indicate the annual precipitation for the Susquehanna River Basin in central Pennsylvania was normal. The basin generally received below normal precipitation for the months of February, April, June and July. The greatest deficit basinwide, with an average of 1.86 inches below normal, occurred in April. The basin generally received above normal precipitation for the months of October, December, March and September. The greatest surplus basinwide, with an average of 2.26 inches above normal, occurred in December.

As an example, the 1997 monthly precipitation was compared with the 1961-90 mean monthly precipitation recorded at Lancaster and Williamsport, Pennsylvania (fig. 1). The precipitation data are from the National Oceanic and Atmospheric Administration (U.S. Department of Commerce, 1996-97) and National Weather Service records.

Annual streamflow for Susquehanna River Basin streams was generally above normal during the 1997 water year. Two U.S. Geological Survey streamflow-gaging stations within the basin were selected as indicators of streamflow conditions basinwide. Figure 2 compares the 1997 water year monthly and annual mean streamflows with the median of the monthly and annual mean streamflows for 1961 through 1990 at two sites. The 1997 water year annual mean streamflow was 120 percent of the 1961-90 median of the mean annual streamflows in the West Branch Susquehanna River at Williamsport, and 134 percent of the 1961-90 median of the mean annual streamflows in the Conestoga River at Lancaster.

Monthly streamflows were above normal in the West Branch Susquehanna and Conestoga Rivers for the first half of the year (October through March) and below normal for the remainder of the year, with the exception of the months of June and August in the West Branch Susquehanna River and the month of June in the Conestoga River (fig. 2). Streamflow during December was 131 and 458 percent above the median of the monthly mean at Williamsport and Lancaster, respectively. This is related to the above normal precipitation which occurred basinwide in December (fig. 1). Basinwide, the highest ever mean streamflows for the month of December were recorded. For the month of November, the highest ever mean streamflows were recorded at sites in Centre, Cumberland, Lancaster, Tioga, Wyoming, and York Counties. In the month of April, the lowest ever mean discharges were recorded at three streamgages with at least twenty years of record. At one unregulated, longterm streamflow-gaging station with 14 years of record, a highest ever annual mean streamflow was recorded.

A drought watch for the entire Susquehanna River Basin was declared on July 17, 1997 by the Susquehanna River Basin Commission. The Pennsylvania Department of Environmental Protection also declared a drought watch for 34 counties in the Pennsylvania portion of the Susquehanna basin (Obleski, 1997). The drought watch continued through the end of the 1997 water year.

Reservoirs

The combined storage of 12 major reservoirs in the Susquehanna River Basin within Pennsylvania decreased from 709,009 acre-feet (47.3 percent of total combined capacity) on September 30, 1996, to 635,870 acre-feet (42.5 percent of total combined capacity) on September 30, 1997. Maximum and minimum storage in individual reservoirs varies throughout the year depending on the purpose and capacity of each reservoir.

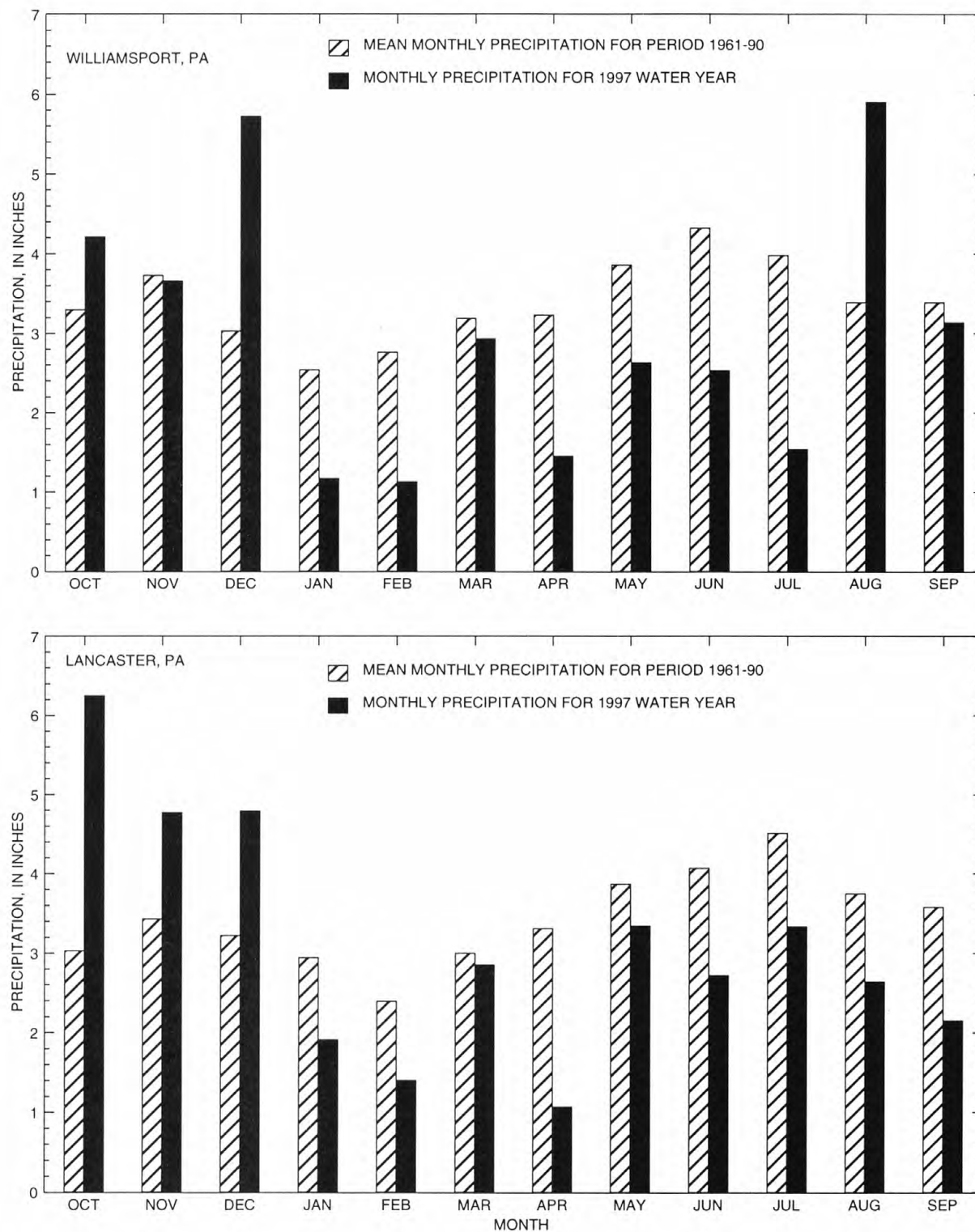


Figure 1.--Comparison of monthly precipitation at two National Oceanic and Atmospheric Administration (NOAA) climatological stations during the 1997 water year and mean monthly precipitation for the period 1961 through 1990.

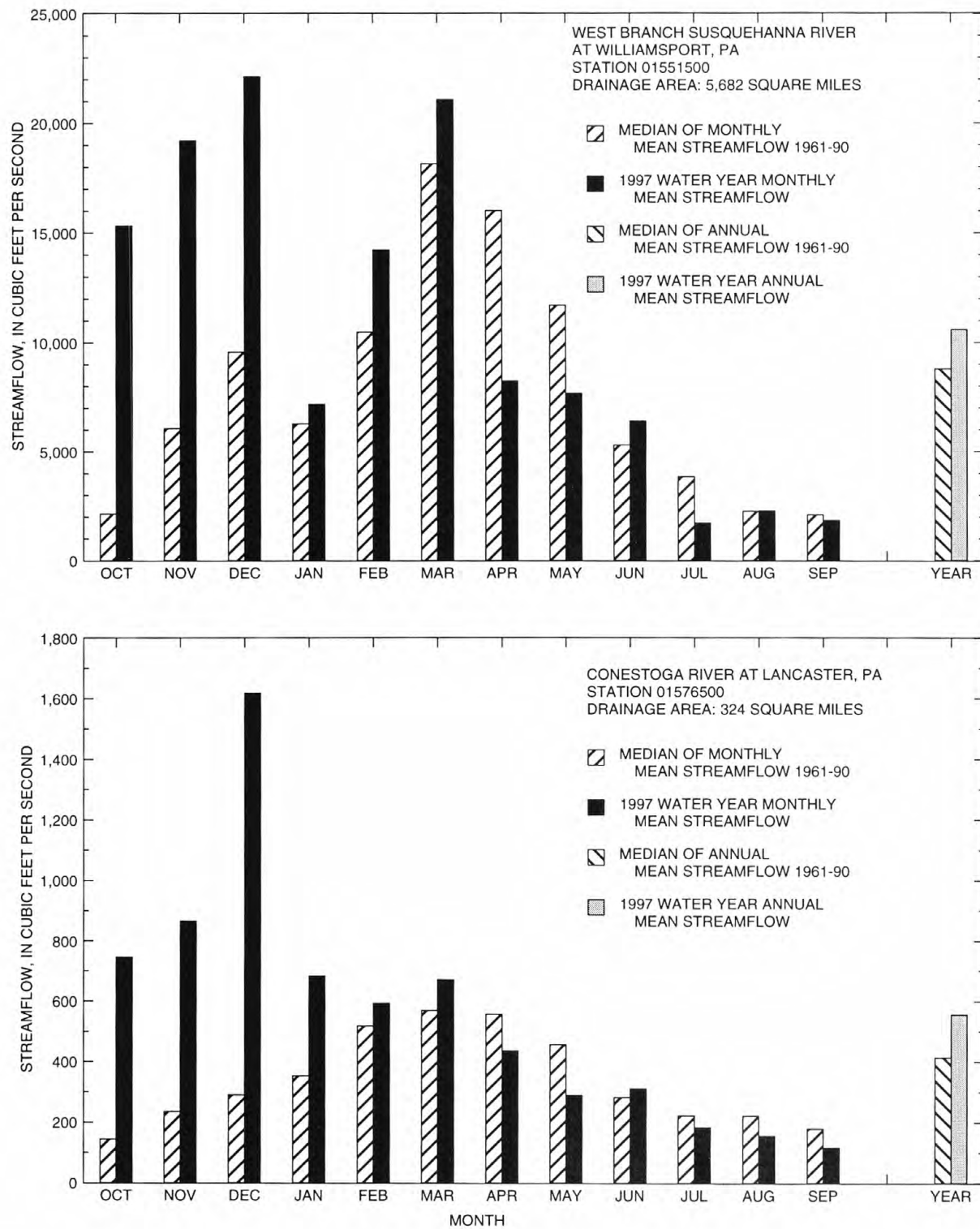


Figure 2.--Comparison of streamflow at two long-term streamflow-gaging stations during the 1997 water year and the median monthly and annual mean streamflow for the period 1961 through 1990.

Ground Water

Ground-water levels, which were normal to much above normal throughout all of the Susquehanna River Basin during the winter, spring and summer seasons during the 1996 water year (Durlin and Schaffstall, 1997), continued through the fall and winter seasons of the 1997 water year. The relation between the 1997 water year and long-term seasonal ground-water levels is shown in figure 3. Ground-water levels during the water year generally reflected the seasonal precipitation variations (fig. 1). Ground-water levels were above normal or much above normal at 21 of 22 observation wells within the basin during the fall season. During the winter season, all reported observation wells had water levels that were normal, above normal, or much above normal. During the spring season, 15 of the 22 observation wells were normal, above normal, or much above normal. During the summer season 18 of the 22 observation wells were normal, above normal, or much above normal. The gradual trend of falling ground-water levels in the Susquehanna River Basin from the fall season through the summer season is indicated by the observation that 95 percent of the wells had ground-water levels above normal in the fall season and by summer, slightly more than 70 percent were at normal water levels.

References

- Durlin, R. R., and Shaffstall W. P., 1997, Water resources data, Pennsylvania, water year 1996: U.S. Geological Survey Water-Data Report PA-96-2, 310 p.
- U.S. Department of Commerce, 1996-97, Climatological Data for Pennsylvania, Volume 101-102: National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service.
- Obleski, Susan, Drought Watch Declared for the Entire Susquehanna River Basin: Susquehanna River Basin Commission [news release on line] (Harrisburg, Pennsylvania, July 17, 1997, accessed 10 March 1998) available at <http://www.srbcc.net/drought2.htm>; Internet.

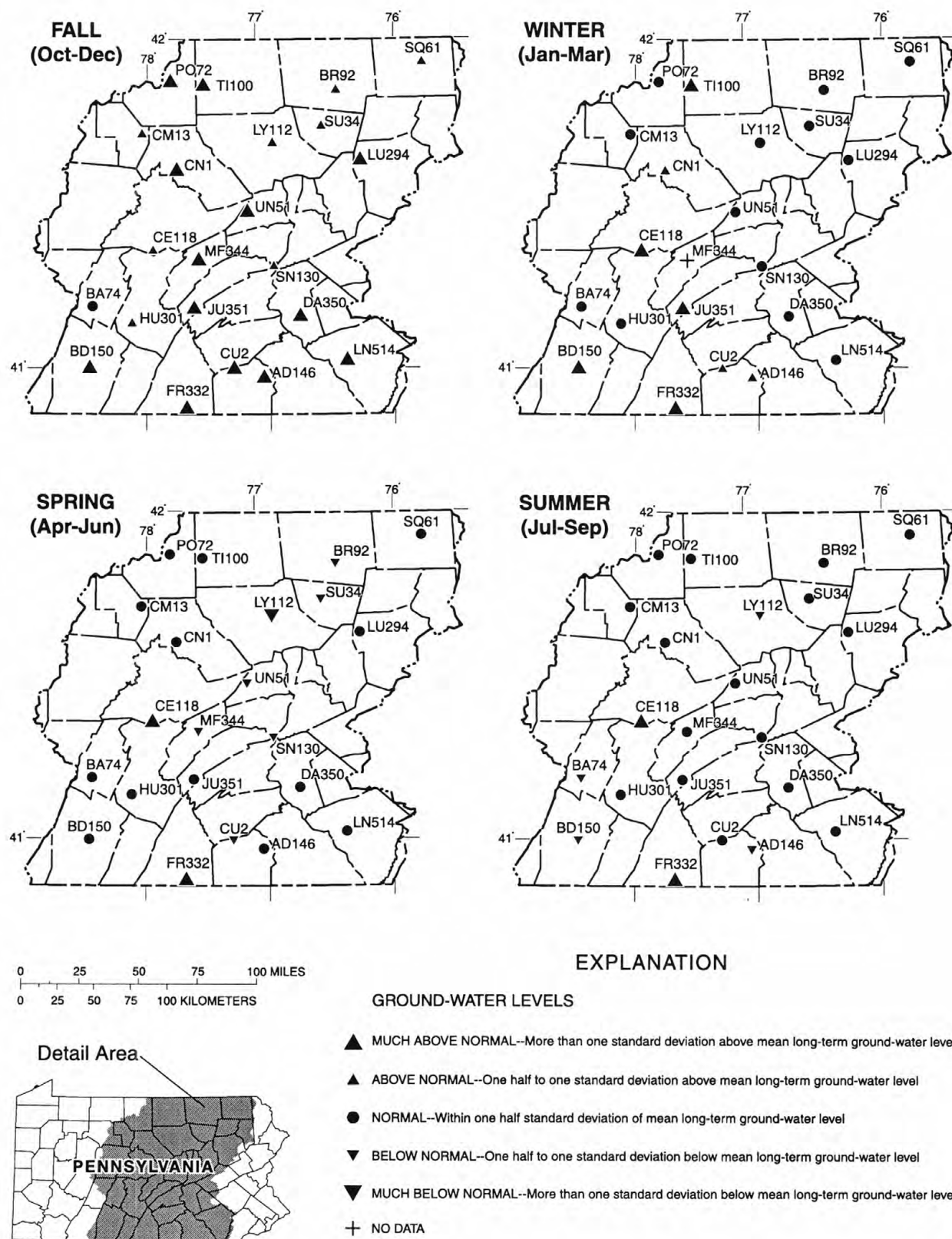


Figure 3.--Relation between 1997 seasonal mean ground-water levels and long-term mean ground-water levels.

SPECIAL NETWORKS AND PROGRAMS

The **Hydrologic Bench-Mark Network** is a network of 50 sites in small drainage basins throughout the country that provide consistent data on hydrology, 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. In 1997, the water quality component of the Bench-Mark Network has been temporarily suspended.

The **National Stream-Quality Accounting Network** (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. There are no stations in the Susquehanna or Potomac River Basins in Pennsylvania currently participating in this program.

The **National Atmospheric Deposition Program/National Trends Network** (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives; (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred, and (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in year 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at [<http://nadp.nrel.colostate.edu/NADP>].

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

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

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

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 1997 water year that began October 1, 1996, and ended September 30, 1997. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of these stations and wells are shown in figures throughout the report. The following sections of the introductory text are presented to provide users with a more detailed explanation of how 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 a streamsite or a well, is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Pennsylvania, for some miscellaneous surface-water sites where only random water-quality samples or discharge measurements are made.

Downstream-Order System

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

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

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote the degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 4 below.

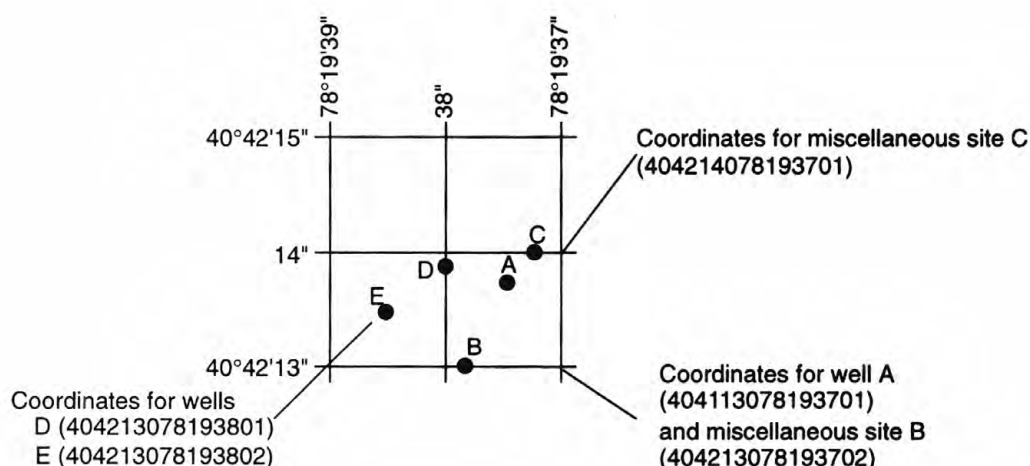


Figure 4.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

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 5-8.

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 relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with 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 transmit the data via satellite to ground receiving stations. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and the U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI's), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

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

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

For some gaging stations, there are periods when no gage-height data are collected or when the recorded gage height is so imprecise or incorrect that it cannot be used to compute daily mean discharge or end-of-day contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be

estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "*Data Presentation*" (REMARKS paragraph) and "*Identifying Estimated Daily Discharge*."

Data Presentation

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

Station manuscript

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

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

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

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

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

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

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

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

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

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

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

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "*Revised Records*" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if 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 PEAK DISCHARGES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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

Statistics of monthly mean data

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

Summary statistics

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

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

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

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

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

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

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

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

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

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

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 or from the World Wide Web at [<http://www.pah20.er.usgs.gov/>] (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. Runoff figures may be omitted if there is extensive regulation or diversion. Data reports may use any of the following units of measurements in presenting annual runoff data:

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

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

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest 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. 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 Hydrologic Surveillance Program (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 5-7.

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 detailed in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These references are listed in the PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. These methods are consistent with ASTM standards and generally follow ISO standards. Also, detailed information on collecting, treating, and shipping samples may be obtained from the U.S. Geological Survey District Office.

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

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

For chemical-quality stations equipped with digital monitors, the 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 at the address 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. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system 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:

Remark Codes

PRINTED OUTPUT

REMARK

E,e	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
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
V	Analyte was detected in both the environmental sample and the associated blanks.

Water quality-control data

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Records of Ground-Water Levels

Ground-water level data from an observation well network and from ground-water projects are published herein. Locations of observation wells in the basic network are shown in figures 5 and 7. Ground-water data are grouped by counties, arranged in alphabetical order, and are listed on page x. Those with an (l) following the well number have water-level data published in the report. Miscellaneous or short-term ground-water data collection projects are published following the basic network data.

Data Collection and Computation

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

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

Water-level records are obtained from direct measurements with a steel tape, from the graph 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 (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels for most wells, especially historical network wells, are reported in feet above or below land surface datum. For some short term project wells the water levels may be reported as elevation (feet above sea level) for convenience of the project work. Water levels are reported daily for all wells equipped with recording gages.

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

Data Presentation

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

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

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

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

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

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

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

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

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

Data table of water-levels

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

Records of Ground-Water Quality

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

Data Collection and Computation

The records of ground-water quality in this report 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 previous years.

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

Data Presentation

Ground-water-quality data 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 USGS WATER DATA

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

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page.)

For most streamgages, "*real-time*" streamflow conditions are available on the World Wide Web (WWW) Pennsylvania District Home Page at [<http://www.pah2o.er.usgs.gov/>]. Daily streamflow values for the period of record, annual peak stream discharges, and streamflow conditions for surrounding states may also be obtained at this WWW address.

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

DEFINITION OF TERMS

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

Cubic foot per second (CFS) (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 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 mm 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 noncontributing areas, within the area unless otherwise noted.

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).

The **Hydrologic Bench-Mark Network** is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the 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 (UG/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.

The **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.

The **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 national or regional water-quality planning and management. The 284 sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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

The **National Water-Quality Assessment 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 **North American Vertical Datum of 1988** (NAVD of 1988) is a geodetic datum derived from the releveling of about 131,000 miles of existing first-order leveling lines to strengthen the network in the conterminous United States. The releveling was correlated with the total network and adjusted by the least squares method. The adjusted network includes about 600,000 permanent benchmarks. The assumption of zero NGVD as being mean sea level at the 26 appointed tide stations produced a distortion in the network. To remove this distortion in the network, a definition that could be reproduced readily at any location was established. This definition is an equipotential surface, that is, the surface represented by a constant value of the acceleration due to gravity.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per 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's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET.

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 collected 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:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - .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 the number of cells per milliliter (cells/mL) of sample.

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

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

Milligrams of carbon per area or volume per unit time [mg C/(m²•time)] for periphyton and macrophytes and [mg C/(m³•time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O/(m²•time)] for periphyton and macrophytes and [mg O/(m³•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, unless otherwise noted in the GAGE paragraph, "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) x discharge (ft³/s) x 0.0027.

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

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

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

7-day 10-year low flow (Q7,10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in 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 (in acres) outlined on the latest USGS topographic map as the boundary of the lake and measured by a planimeter. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimeted. All areas shown are those for the stage when the planimeted 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 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 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 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:

Kingdon	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
<u>Genus</u>	<u>Hexagenia</u>
<u>Species</u>	<u>Hexagenia limbata</u>

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 other medium.

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

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

The **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, 1997, is called the "*1997 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, Branch of Information Services, Box 25286, Federal Center, 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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SUSQUEHANNA RIVER BASIN

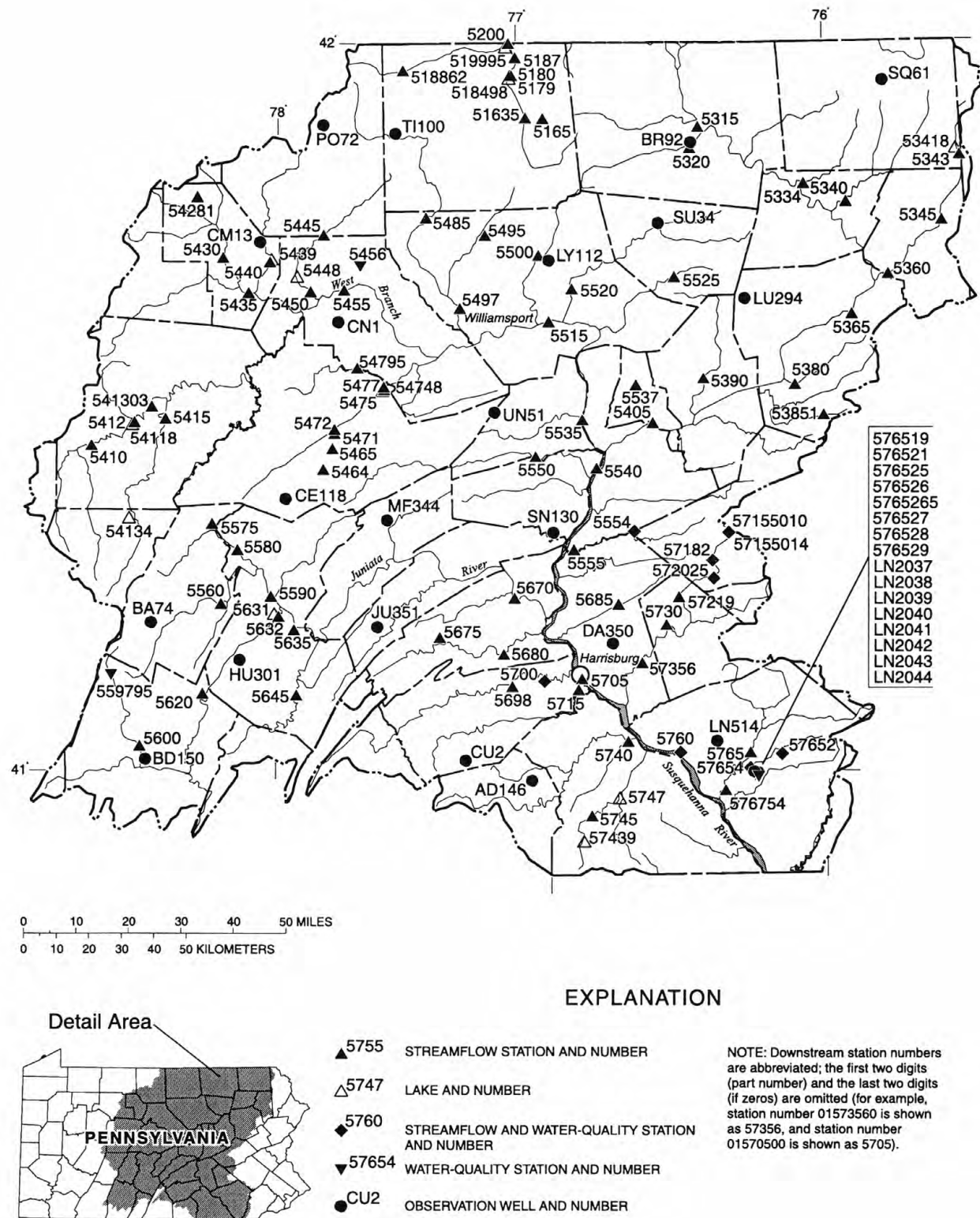


Figure 5.--Location of continuous-record data-collection stations and network observation wells, Susquehanna River Basin.

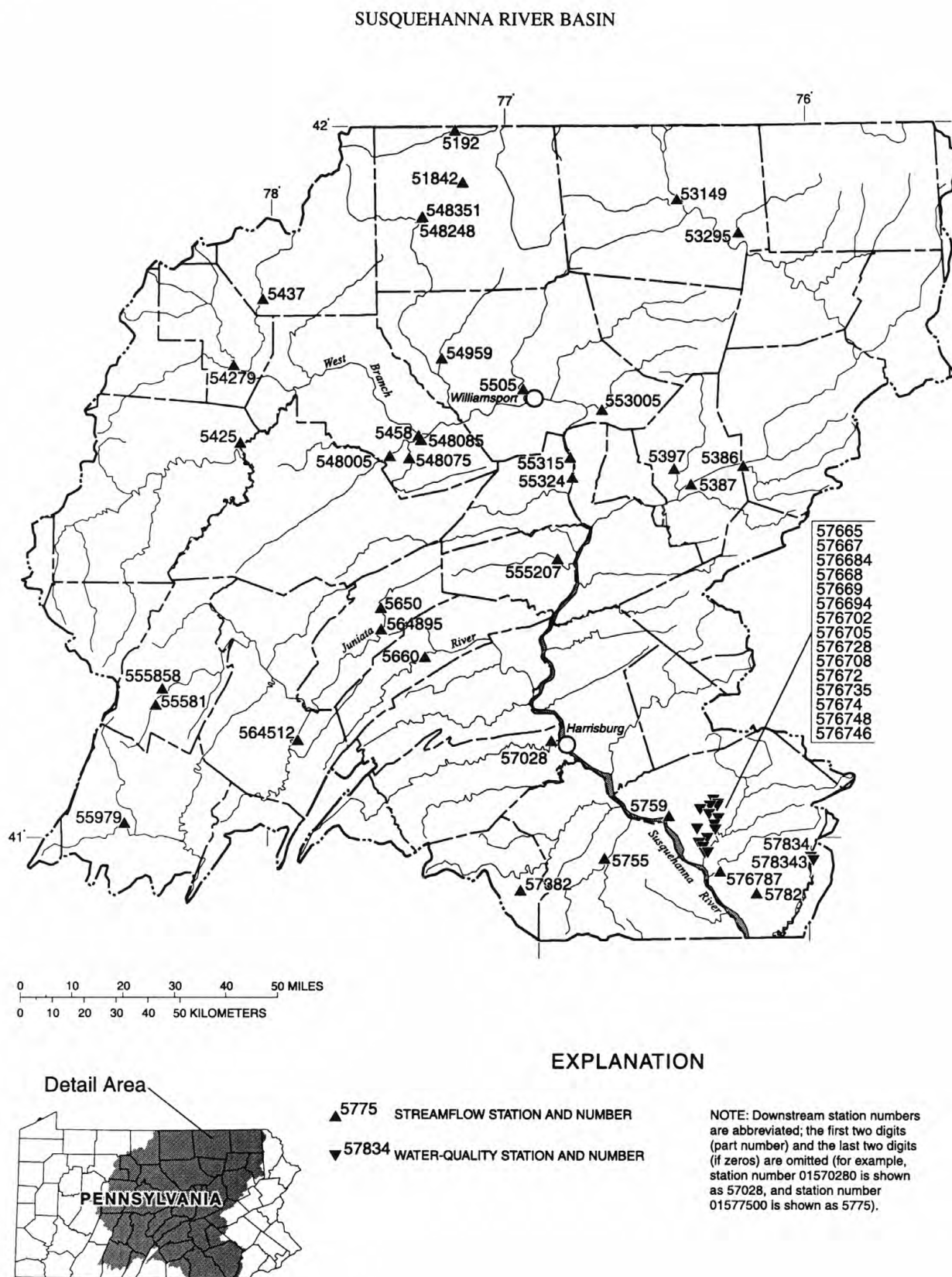


Figure 6.--Location of partial-record data-collection stations, Susquehanna River Basin.

POTOMAC RIVER BASIN

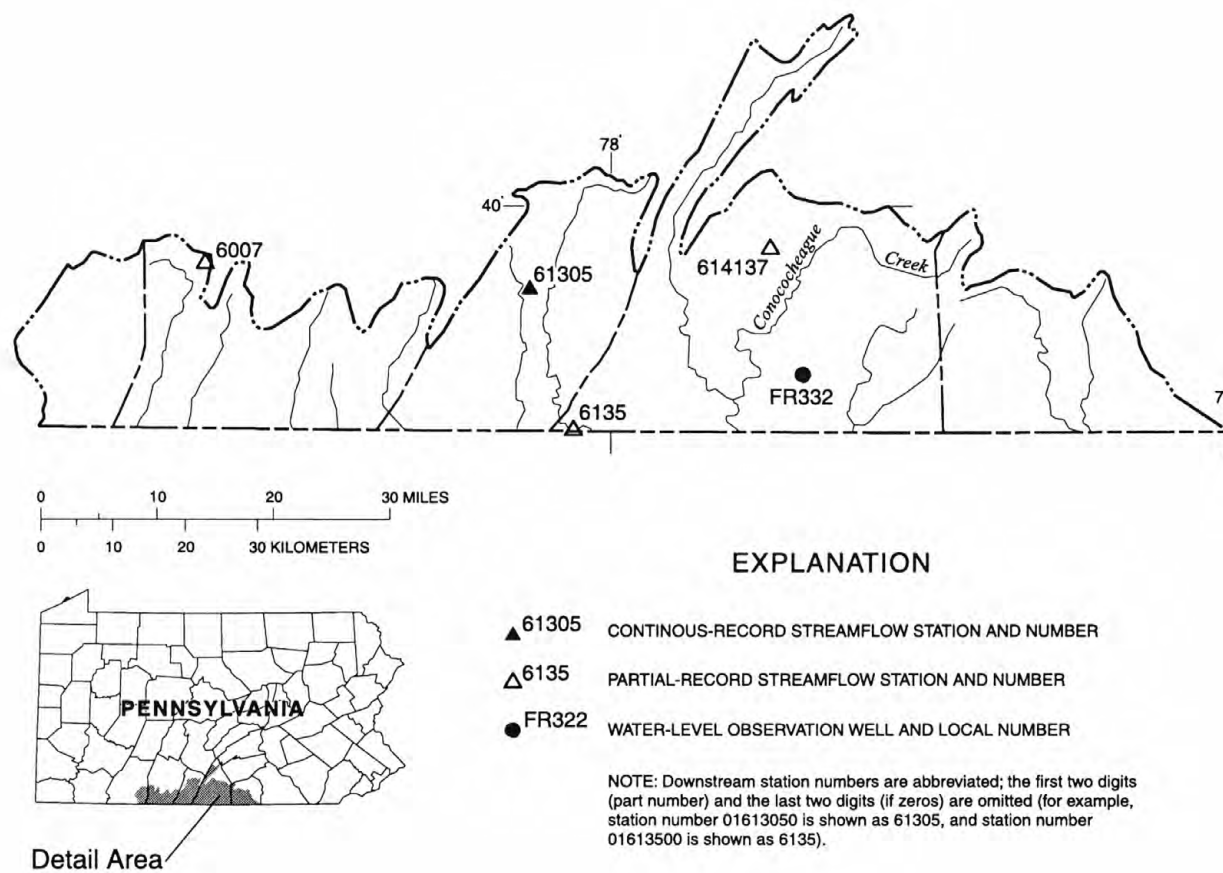


Figure 7.--Location of continuous- and partial-record data-collection stations, Potomac River Basin.

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

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

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

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

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

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

where:

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

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

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

PRINTED OUTPUT

REMARK

E,e	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
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
V	Analyte was detected in both the environmental sample and the associated blanks.

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

(71999) SAMPLE PURPOSE CODES:

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

(84164) SAMPLER TYPE: (partial list)

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

(82398) SAMPLE METHOD CODES:

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

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

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

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

(00027) AGENCY COLLECTING SAMPLE CODES:

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

(00028) AGENCY ANALYZING SAMPLE CODES:

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

SURFACE-WATER 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 fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1800	6,140	14.41	Dec. 2	0130	*13,200	*16.50
Nov. 8	1315	7,920	15.05	Dec. 13	2015	3,370	13.11

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	173	979	e230	e90	390	394	111	95	36	15	38
2	143	157	5620	e250	e95	552	363	109	124	35	15	37
3	133	145	1360	e250	e100	453	386	140	241	34	15	33
4	117	134	836	e220	e110	361	345	185	140	32	17	31
5	105	125	596	e200	e150	453	295	144	114	29	20	27
6	95	119	501	e190	e210	1450	269	165	103	27	18	25
7	88	116	409	145	e150	736	243	173	97	27	17	23
8	82	3800	346	131	e130	557	204	152	92	28	16	23
9	79	3780	297	e100	e110	e400	181	148	84	32	15	22
10	80	1430	253	e100	e100	e340	164	156	79	41	14	22
11	73	844	238	e90	e110	e340	154	146	70	34	14	87
12	67	580	341	e85	e100	291	151	134	60	28	23	104
13	62	441	1650	e80	e85	e260	187	129	57	25	39	72
14	59	366	1420	e75	e75	289	160	125	55	23	48	53
15	56	303	773	e80	e90	377	141	121	51	22	28	45
16	53	256	594	e85	e80	e300	136	118	47	21	24	39
17	51	235	518	e90	e85	e240	132	115	47	20	26	36
18	51	237	423	e85	129	e230	133	111	50	20	43	37
19	3120	283	363	e85	268	206	129	194	69	20	34	34
20	3810	243	e250	e100	239	e200	127	287	54	19	27	32
21	1730	206	e210	e95	306	e200	123	159	46	19	35	32
22	944	184	e200	e100	949	e270	118	136	41	22	38	31
23	615	167	e200	e95	577	e210	115	124	37	20	37	29
24	650	158	417	e110	369	e170	116	116	38	21	31	27
25	436	164	402	e120	253	e170	111	127	43	22	26	26
26	340	539	261	e110	236	567	106	158	112	20	26	25
27	280	320	234	e100	567	362	101	122	81	19	24	25
28	284	221	236	e90	e460	334	133	109	55	18	67	24
29	269	222	257	e100	---	332	133	102	43	18	54	242
30	226	207	247	e95	---	326	117	99	38	17	39	140
31	198	---	200	e85	---	426	---	98	---	16	32	---
TOTAL	14467	16155	20631	3771	6223	11792	5467	4313	2263	765	877	1421
MEAN	467	539	666	122	222	380	182	139	75.4	24.7	28.3	47.4
MAX	3810	3800	5620	250	949	1450	394	287	241	41	67	242
MIN	51	116	200	75	75	170	101	98	37	16	14	22
CFSM	3.05	3.52	4.35	.80	1.45	2.49	1.19	.91	.49	.16	.18	.31
IN.	3.52	3.93	5.02	.92	1.51	2.87	1.33	1.05	.55	.19	.21	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	148	218	240	224	248	419	510	246	165	81.4	84.8	56.8										
MAX	653	620	666	943	682	832	1969	630	550	375	839	196										
(WY)	1991	1978	1997	1996	1996	1978	1993	1978	1989	1994	1994	1996										
MIN	13.3	26.9	50.5	36.2	57.2	148	156	84.4	25.1	18.2	16.4	12.6										
(WY)	1983	1983	1989	1981	1987	1981	1988	1987	1991	1993	1995	1980										

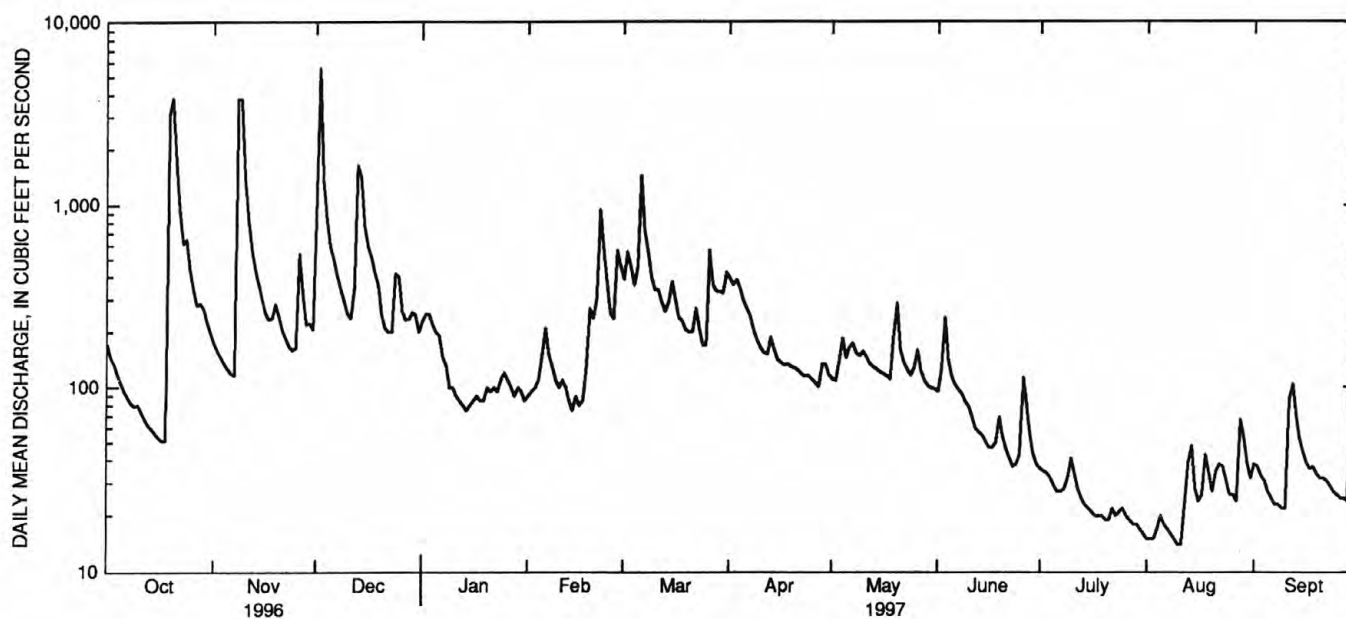
e Estimated.

CHEMUNG RIVER BASIN

01516350 TIOGA RIVER NEAR MANSFIELD, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1976 - 1997	
ANNUAL TOTAL	148112		88145		219	
ANNUAL MEAN	405		241		131	
HIGHEST ANNUAL MEAN					388	
LOWEST ANNUAL MEAN					131	
HIGHEST DAILY MEAN	e12000	Jan 19	5620	Dec 2	12200	Aug 18 1994
LOWEST DAILY MEAN	17	Sep 4	14	Aug 10,11	9.1	Sep 8 1995
ANNUAL SEVEN-DAY MINIMUM	a20	Aug 31	16	Jul 29	9.9	Sep 10 1991
INSTANTANEOUS PEAK FLOW			13200	Dec 2	b38900	Jan 19 1996
INSTANTANEOUS PEAK STAGE			16.50	Dec 2	c18.87	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.64		1.58		1.43	
ANNUAL RUNOFF (INCHES)	36.01		21.43		19.48	
10 PERCENT EXCEEDS	774		430		473	
50 PERCENT EXCEEDS	177		117		98	
90 PERCENT EXCEEDS	36		24		23	

- a Computed using estimated daily discharges.
b From rating curve extended above 16,000 ft³/s.
c From floodmark.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 280 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Oct. 19	1445	588	4.87	Dec. 2	0015	*1,100	*6.10
Oct. 20	0600	505	4.62	Feb. 5	Unknown	Ice jam	4.37
Nov. 8	1315	652	5.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e15	127	e12	e4.2	e14	25	4.5	3.6	1.4	.62	1.3
2	8.6	e13	205	e13	e4.4	e17	26	8.0	6.9	1.4	.60	1.3
3	7.4	e12	54	e13	e4.6	e16	24	e10	8.7	1.4	.59	1.7
4	5.4	11	40	e11	e5.0	e18	21	e7.5	5.2	1.2	.76	1.5
5	4.8	9.8	e34	e10	e40	e25	17	e7.0	4.2	1.1	1.0	1.3
6	4.2	8.8	e23	e9.0	e19	e36	16	e8.5	3.9	1.0	.86	1.2
7	3.8	8.5	e19	e7.0	e10	e26	14	e7.0	3.8	.91	.81	1.1
8	3.5	190	e17	e6.0	e6.0	e23	12	6.6	3.5	.91	.74	1.1
9	3.3	145	e15	e5.0	e5.0	e18	9.7	6.8	2.9	2.6	.71	1.1
10	3.3	66	e14	e5.5	e4.6	e18	8.5	6.6	2.6	3.0	.61	1.2
11	3.1	43	e13	e5.0	e5.0	e16	8.0	6.1	2.2	1.5	.60	3.9
12	2.8	e30	e34	e4.4	e4.6	e14	9.1	5.6	2.0	1.3	.61	2.9
13	2.7	e25	92	e4.2	e4.8	e13	11	5.3	2.0	1.1	2.0	1.9
14	2.5	e20	64	e4.0	e4.2	e17	8.9	4.9	1.9	1.0	1.6	1.5
15	2.4	e16	43	e4.0	e5.5	e19	7.5	4.5	1.6	.86	1.2	1.4
16	2.4	e14	40	e4.8	e4.4	e15	6.2	4.2	1.5	.80	1.2	1.3
17	2.3	e13	36	e4.4	e4.0	e14	6.5	4.2	1.8	.76	1.4	1.2
18	2.4	e12	e20	e4.0	e8.0	e11	7.6	4.1	2.2	.77	2.5	1.6
19	222	19	e18	e3.8	e17	e10	7.9	6.8	2.4	1.2	1.5	1.4
20	265	14	e16	e4.0	e14	e9.0	7.5	9.3	1.7	.91	1.3	1.3
21	101	e11	e14	e4.4	e20	e9.0	6.1	5.9	1.6	.80	1.5	1.6
22	62	e10	e13	e4.8	e23	e8.5	5.5	5.2	1.4	1.3	1.5	1.3
23	e46	e9.5	e13	e5.0	e20	e8.0	5.6	4.8	1.3	1.1	1.4	1.2
24	e38	e9.5	e14	e4.4	e18	e7.5	6.1	4.5	2.1	1.1	1.3	1.2
25	e32	15	e14	e5.5	e15	e9.5	5.3	5.6	2.0	1.1	1.3	1.2
26	e25	39	e12	e4.8	e14	32	4.8	6.0	6.4	.97	1.3	1.2
27	e21	e16	e11	e4.2	e15	19	4.4	4.6	3.4	.84	1.2	1.2
28	e21	e14	e12	e4.6	e15	17	6.6	4.1	2.1	.86	2.0	1.1
29	e19	e13	e14	e4.2	---	18	5.7	3.8	1.6	.86	1.6	9.7
30	e17	e12	e17	e4.2	---	18	4.7	3.7	1.4	.75	1.4	3.9
31	e16	---	e13	e3.8	---	26	---	3.8	---	.69	1.3	---
TOTAL	960.9	834.1	1071	184.0	314.3	521.5	308.2	179.5	87.9	35.49	37.01	54.8
MEAN	31.0	27.8	34.5	5.94	11.2	16.8	10.3	5.79	2.93	1.14	1.19	1.83
MAX	265	190	205	13	40	36	26	10	8.7	3.0	2.5	9.7
MIN	2.3	8.5	11	3.8	4.0	7.5	4.4	3.7	1.3	.69	.59	1.1
CFSM	2.54	2.28	2.83	.49	.92	1.38	.84	.47	.24	.09	.10	.15
IN.	2.93	2.54	3.27	.56	.96	1.59	.94	.55	.27	.11	.11	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1997, BY WATER YEAR (WY)

MEAN	6.77	11.1	14.7	12.2	16.6	29.2	28.7	14.2	9.58	3.20	3.09	2.91
MAX	51.0	45.4	42.7	52.4	52.4	60.4	118	42.7	114	19.9	55.2	44.4
(WY)	1956	1978	1974	1996	1984	1964	1993	1989	1972	1994	1994	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

e Estimated.

CHEMUNG RIVER BASIN

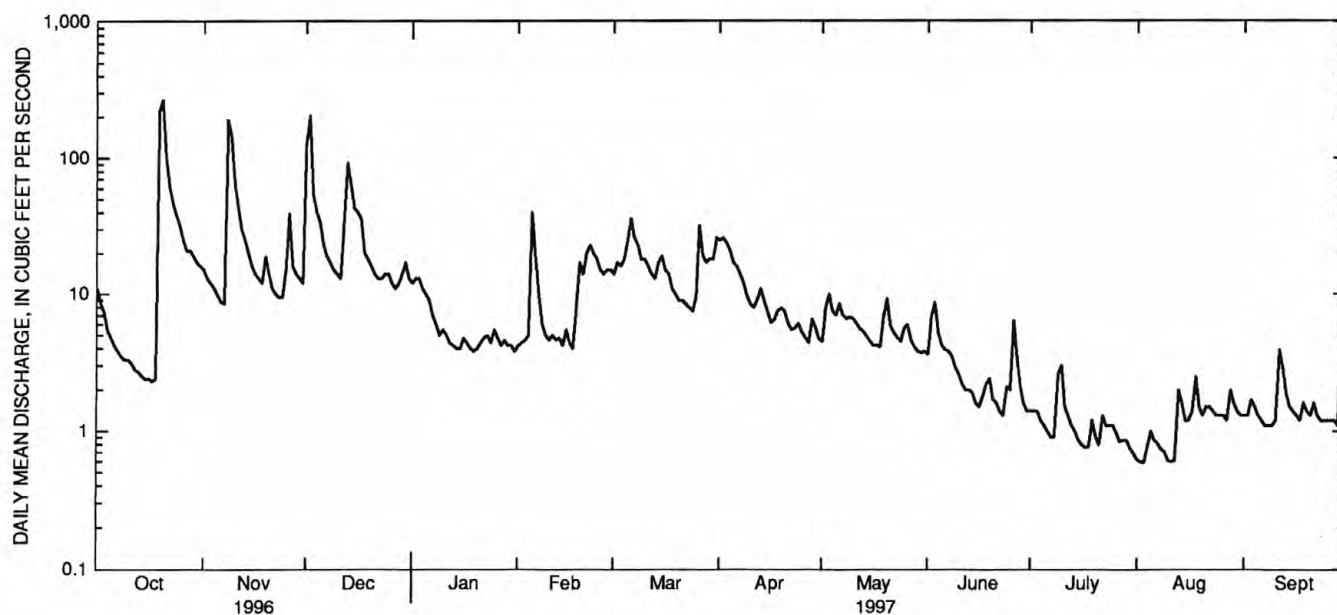
01516500 COREY CREEK NEAR MAINESBURG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1954 - 1997
ANNUAL TOTAL	8071.67	4588.70	
ANNUAL MEAN	22.1	12.6	12.7
HIGHEST ANNUAL MEAN			24.9
LOWEST ANNUAL MEAN			4.82
HIGHEST DAILY MEAN	e1000 Jan 19	265 Oct 20	1910 Jun 22 1972
LOWEST DAILY MEAN	.56 Aug 22	.59 Aug 3	.00 Many days
ANNUAL SEVEN-DAY MINIMUM	.63 Aug 20	.70 Jul 29	.00 Aug 17 1959
INSTANTANEOUS PEAK FLOW		1100 Dec 2	a5580 Jun 23 1972
INSTANTANEOUS PEAK STAGE		6.10 Dec 2	b10.44 Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.81	1.03	1.04
ANNUAL RUNOFF (INCHES)	24.61	13.99	14.11
10 PERCENT EXCEEDS	44	23	28
50 PERCENT EXCEEDS	12	5.3	4.4
90 PERCENT EXCEEDS	.95	1.1	.50

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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Discharges include flow diverted from Crooked Creek into Tioga River since Oct. 1, 1977. Flow regulated since November 1979 by Tioga Dam (station 01517900). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	330	1130	375	188	1570	932	172	218	64	44	63
2	271	330	5260	300	195	1510	746	184	532	84	44	63
3	271	320	4860	441	198	1460	784	184	913	67	44	63
4	236	296	3470	583	206	1120	738	190	538	56	44	60
5	190	272	1430	477	532	1320	642	201	341	48	40	51
6	174	219	1020	472	528	3050	607	226	248	48	36	51
7	164	187	1020	452	294	1720	545	261	248	48	36	51
8	144	674	730	322	263	1170	466	260	233	49	36	41
9	134	1990	611	262	209	1000	366	260	189	90	36	31
10	115	4740	593	257	187	847	426	242	128	188	36	32
11	115	5790	596	257	173	779	495	240	83	175	36	33
12	115	5340	1080	255	168	624	491	246	92	135	39	65
13	115	4110	2330	248	153	499	488	234	102	96	38	125
14	114	3330	4140	245	146	507	396	191	106	72	37	144
15	113	3190	2300	236	150	719	169	155	106	50	37	124
16	103	2000	1360	227	154	686	141	155	105	42	37	72
17	83	308	1200	225	149	332	225	155	105	42	37	55
18	83	487	973	212	246	400	180	155	115	42	37	55
19	3380	e620	839	203	638	545	148	290	125	42	60	54
20	6300	528	691	194	946	536	120	738	126	42	116	45
21	5810	427	500	198	619	494	121	450	119	43	98	39
22	3460	468	463	208	1150	536	121	250	112	43	67	39
23	1610	487	505	232	1130	591	137	223	90	43	67	39
24	1310	501	548	246	777	591	160	240	69	43	67	39
25	1080	473	651	415	620	443	161	265	69	43	59	39
26	689	1280	909	414	545	1150	151	308	168	43	42	39
27	561	968	673	286	1260	802	142	305	216	43	42	39
28	562	572	573	327	1690	563	142	245	159	44	42	39
29	542	636	699	256	---	706	146	203	84	44	41	204
30	546	456	820	200	---	852	155	165	53	44	55	451
31	399	---	710	188	---	1000	---	166	---	44	63	---
TOTAL	29052	41329	42684	9213	13514	28122	10541	7559	5792	1957	1513	2245
MEAN	937	1378	1377	297	483	907	351	244	193	63.1	48.8	74.8
MAX	6300	5790	5260	583	1690	3050	932	738	913	188	116	451
MIN	83	187	463	188	146	332	120	155	53	42	36	31

e Estimated.

CHEMUNG RIVER BASIN

01518000 TIOGA RIVER AT TIOGA, PA--Continued

REMARKS.--The data in the first set of statistics (1978-97) 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 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

MEAN	291	461	525	493	541	933	1096	526	375	164	179	113
MAX	1454	1684	1377	1709	1716	2161	4544	1433	1404	682	1747	386
(WY)	1991	1978	1997	1996	1981	1979	1993	1989	1989	1994	1994	1996
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1978 - 1997

ANNUAL TOTAL	296125	193521	
ANNUAL MEAN	809	530	474
HIGHEST ANNUAL MEAN			862
LOWEST ANNUAL MEAN			256
HIGHEST DAILY MEAN	6300	Oct 20	8360
LOWEST DAILY MEAN	42	Sep 3-6, 8	16
ANNUAL SEVEN-DAY MINIMUM	42	Sep 2	16
INSTANTANEOUS PEAK FLOW		6430	14300
INSTANTANEOUS PEAK STAGE		7.01	8.84
INSTANTANEOUS LOW FLOW			a.00
10 PERCENT EXCEEDS	2110	1130	1080
50 PERCENT EXCEEDS	356	227	188
90 PERCENT EXCEEDS	60	43	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

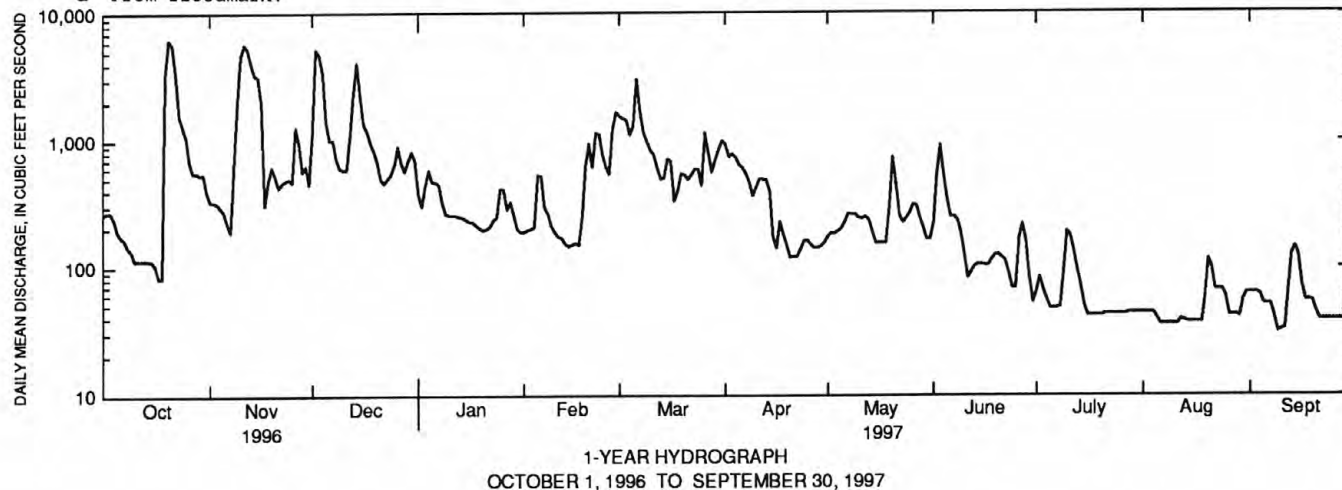
ANNUAL MEAN	331	
HIGHEST ANNUAL MEAN	583	1972
LOWEST ANNUAL MEAN	138	1965
HIGHEST DAILY MEAN	26900	Jun 23 1972
LOWEST DAILY MEAN	5.0	Sep 11 1964
ANNUAL SEVEN-DAY MINIMUM	5.3	Sep 8 1964
INSTANTANEOUS PEAK FLOW	c59000	Jun 22 1972
INSTANTANEOUS PEAK STAGE	d19.70	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.5	Aug 10, 11 1955
ANNUAL RUNOFF (CFSM)	1.17	
ANNUAL RUNOFF (INCHES)	15.95	
10 PERCENT EXCEEDS	780	
50 PERCENT EXCEEDS	130	
90 PERCENT EXCEEDS	23	

a Result of shutoff at Tioga Dam.

b Also Aug. 29, 1980.

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

d From floodmark.



CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA

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 poor. Flow regulated since November 1979 by Tioga Dam (station 01517900) and Hammond Dam (station 01518498). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	275	343	1200	463	214	1860	1150	200	e260	66	46	68
2	277	343	6540	362	221	1800	902	214	535	98	46	67
3	283	332	5520	503	228	1780	918	219	1050	77	46	69
4	251	311	4080	659	235	1330	876	228	621	69	46	67
5	210	286	1730	576	585	1460	741	233	406	57	43	56
6	190	245	1190	539	678	3820	700	258	289	57	37	54
7	184	210	1170	520	346	2220	626	299	281	57	37	53
8	162	2250	880	384	317	1410	532	294	267	62	37	48
9	154	2970	698	305	251	1220	413	293	224	123	37	37
10	130	5270	675	301	225	1020	460	278	e150	220	37	37
11	131	6320	668	e300	207	905	537	269	e95	194	37	40
12	131	5960	1220	e290	202	748	534	274	e100	158	39	63
13	130	e4800	2860	e280	189	571	538	263	e110	114	43	121
14	130	3690	5020	279	176	586	456	226	e120	87	40	156
15	130	3530	2820	e270	177	821	235	182	e120	61	40	144
16	124	2470	1690	259	183	823	155	179	e120	51	40	83
17	99	355	1450	e260	179	423	273	179	119	49	40	60
18	100	554	1170	e250	268	443	226	179	131	49	42	59
19	2340	686	987	e240	650	622	197	286	152	48	54	e55
20	7160	666	820	e230	1220	615	162	762	144	46	112	e48
21	6260	487	594	226	749	570	159	511	136	47	112	e43
22	3900	521	532	236	1320	659	157	292	127	50	72	e43
23	1670	527	580	266	1400	688	166	253	110	48	68	43
24	1310	546	664	298	880	682	193	263	92	50	68	43
25	1090	530	742	432	717	513	192	286	86	49	64	43
26	724	1420	1030	517	596	1300	184	329	205	48	46	43
27	557	1230	799	315	1440	1020	171	329	269	47	46	43
28	568	658	654	360	2000	654	182	275	210	49	46	43
29	534	710	812	302	---	804	182	230	107	48	46	196
30	541	562	951	231	---	985	187	190	63	46	54	458
31	428	---	845	214	---	1190	---	189	---	46	65	---
TOTAL	30173	48782	50591	10667	15853	33542	12404	8462	6699	2271	1586	2383
MEAN	973	1626	1632	344	566	1082	413	273	223	73.3	51.2	79.4
MAX	7160	6320	6540	659	2000	3820	1150	762	1050	220	112	458
MIN	99	210	532	214	176	423	155	179	63	46	37	37

e Estimated.

CHEMUNG RIVER BASIN

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

MEAN	289	455	571	471	652	945	1317	592	438	191	202	119
MAX	1515	1626	1632	1975	1837	2009	5667	1723	1619	697	1836	368
(WY)	1991	1997	1997	1996	1981	1994	1993	1989	1989	1994	1994	1996
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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1980 - 1997	
ANNUAL TOTAL	335818		223413		518	
ANNUAL MEAN	918		612		842	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					310	
HIGHEST DAILY MEAN	7160	Oct 20	7160	Oct 20	7210	Apr 27 1993
LOWEST DAILY MEAN	52	Aug 26-Sep 6	37	Aug 6a	16	Aug 26-28 1980
ANNUAL SEVEN-DAY MINIMUM	52	Aug 26	37	Aug 6	21	Jan 23 1981
INSTANTANEOUS PEAK FLOW			b7620	Oct 19	b11200	Aug 18 1994
INSTANTANEOUS PEAK STAGE			14.04	Oct 19	15.42	Aug 18 1994
10 PERCENT EXCEEDS	2420		1310		1200	
50 PERCENT EXCEEDS	383		263		204	
90 PERCENT EXCEEDS	67		47		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

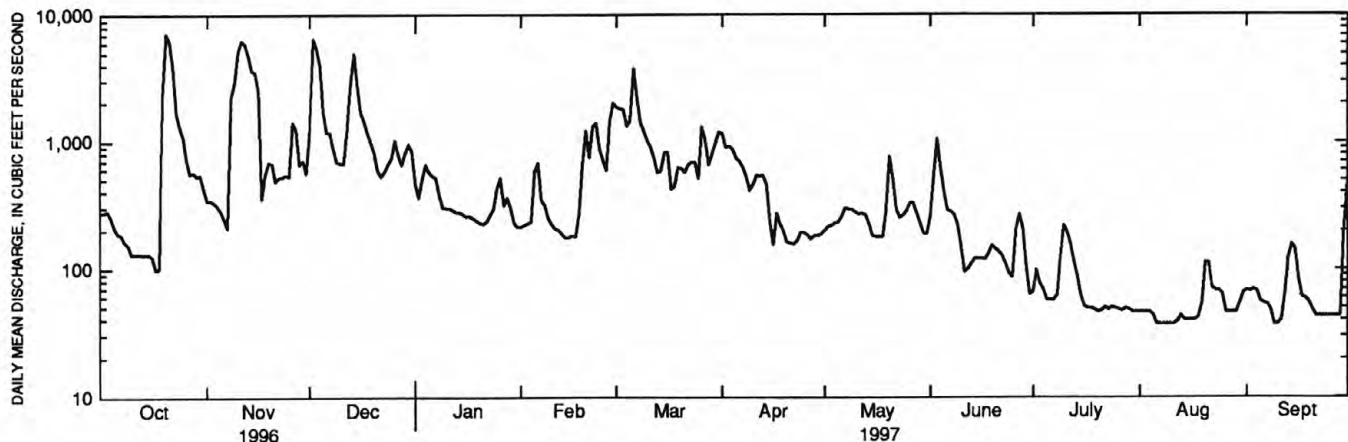
ANNUAL MEAN	643
HIGHEST ANNUAL MEAN	955
LOWEST ANNUAL MEAN	429
HIGHEST DAILY MEAN	8510
LOWEST DAILY MEAN	28
ANNUAL SEVEN-DAY MINIMUM	32
INSTANTANEOUS PEAK FLOW	cd17900
INSTANTANEOUS PEAK STAGE	f17.20
INSTANTANEOUS LOW FLOW	26
ANNUAL RUNOFF (CFSM)	1.44
ANNUAL RUNOFF (INCHES)	19.59
10 PERCENT EXCEEDS	1520
50 PERCENT EXCEEDS	232
90 PERCENT EXCEEDS	69

a Also Aug. 7-11, Sept. 9, 10.

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

d Gage height 16.70 ft.

f Backwater from ice.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1600	2,840	4.86	Nov. 8	2300	3,870	5.71
Nov. 8	1200	*6,470	*7.51	Feb. 27	Unknown	Ice jam	4.16

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	110	469	e100	e44	353	264	46	181	20	6.0	7.5
2	51	97	e600	e110	e50	630	224	42	335	23	5.7	6.5
3	45	89	325	120	e60	393	193	56	554	19	5.4	8.2
4	35	82	286	96	e90	342	167	57	320	15	14	7.5
5	29	73	243	e95	228	472	144	44	230	14	24	5.9
6	25	65	224	e80	194	853	127	49	164	e11	14	5.4
7	22	63	196	e70	130	449	110	44	123	10	9.1	5.2
8	20	2300	170	e65	101	e340	92	41	98	20	7.0	5.5
9	19	2080	141	e62	e85	e270	81	42	76	134	6.1	5.4
10	21	1100	120	e65	e80	e230	72	44	59	70	5.3	6.5
11	19	707	155	e60	e75	e210	68	42	48	34	5.1	41
12	17	491	272	e55	e70	e180	122	38	41	25	4.8	57
13	15	351	764	e52	e65	e150	147	37	40	20	13	29
14	13	278	539	e50	e62	e160	100	35	34	16	9.9	21
15	12	215	384	e48	e60	e170	84	34	28	14	18	16
16	12	171	313	e60	e57	e140	77	34	24	12	63	12
17	11	150	271	e55	e55	e130	104	32	40	9.9	55	15
18	12	146	e210	e50	e60	e140	106	30	106	8.9	60	20
19	1350	123	e170	e48	e300	e150	97	64	93	12	31	12
20	1500	91	e150	e50	e200	e140	95	92	72	9.0	23	10
21	1290	81	e140	e50	e500	136	82	55	85	8.1	26	9.0
22	776	e80	e120	e48	e600	408	77	54	50	15	28	7.9
23	491	e75	128	e46	e320	222	75	48	39	11	25	7.4
24	337	e75	239	e46	e230	187	70	44	50	17	19	7.4
25	247	128	171	e44	e160	193	63	47	39	13	15	7.1
26	186	498	e130	e42	e150	679	57	45	69	10	13	7.4
27	147	e240	120	e40	e650	323	52	37	44	8.6	11	7.0
28	e130	e220	128	e40	e380	289	73	32	31	12	9.8	6.9
29	119	213	147	e40	---	324	61	29	25	14	9.3	161
30	187	195	124	e38	---	305	51	29	21	8.2	8.7	185
31	151	---	103	e40	---	334	---	33	---	6.7	7.5	---
TOTAL	7357	10587	7552	1865	5056	9302	3135	1356	3119	620.4	551.7	702.7
MEAN	237	353	244	60.2	181	300	105	43.7	104	20.0	17.8	23.4
MAX	1500	2300	764	120	650	853	264	92	554	134	63	185
MIN	11	63	103	38	44	130	51	29	21	6.7	4.8	5.2
CF5M	2.62	3.90	2.69	.66	1.99	3.31	1.15	.48	1.15	.22	.20	.26
IN.	3.02	4.35	3.10	.77	2.08	3.82	1.29	.56	1.28	.25	.23	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

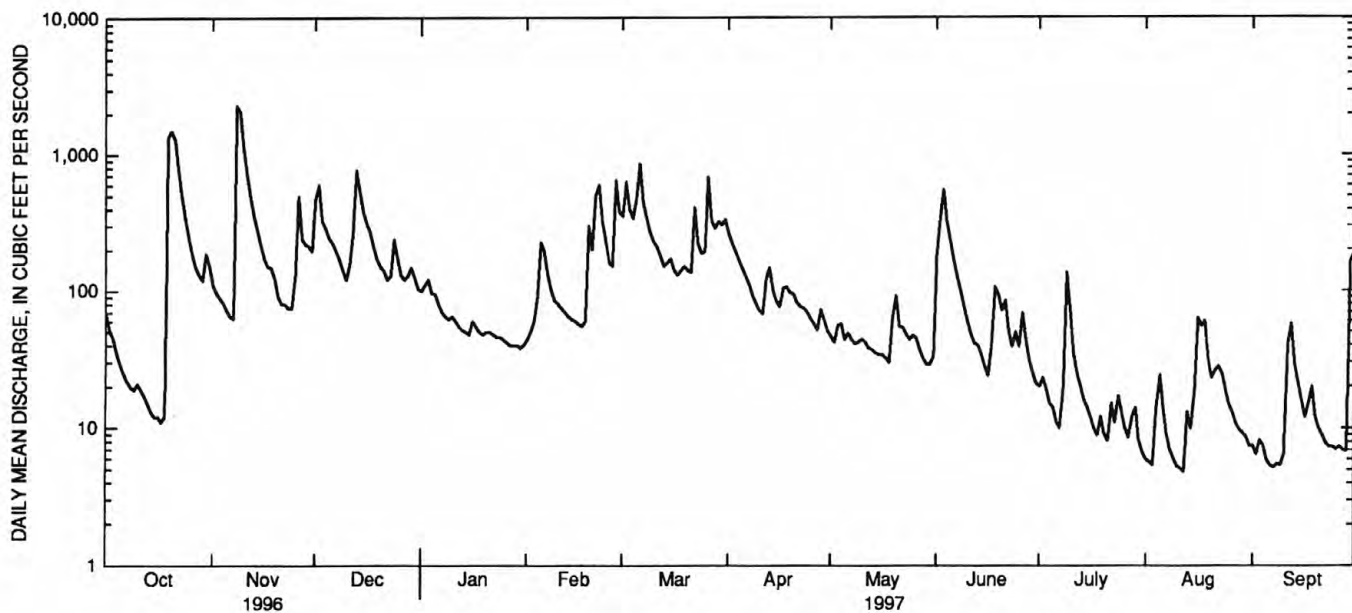
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	65.3	112	126	111	133	194	243	118	66.9	36.6	51.7	26.7			
MAX	323	353	278	444	281	300	618	382	361	153	372	111			
(WY)	1991	1997	1991	1996	1984	1997	1993	1996	1989	1984	1994	1992			
MIN	4.36	13.1	13.1	13.6	21.4	91.2	91.3	17.3	7.11	3.19	4.30	2.39			
(WY)	1992	1992	1989	1989	1987	1990	1988	1985	1991	1993	1991	1991			

e Estimated.

01518862 COWANESQUE RIVER AT WESTFIELD, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1983 - 1997	
ANNUAL TOTAL	78813.6		51203.8		107	
ANNUAL MEAN	215		140		177	
HIGHEST ANNUAL MEAN					177	
LOWEST ANNUAL MEAN					61.6	
HIGHEST DAILY MEAN	e5400	Jan 19	2300	Nov 8	e5400	Jan 19 1996
LOWEST DAILY MEAN	e1.6	Sep 4	4.8	Aug 12	.53	Sep 16 1991
ANNUAL SEVEN-DAY MINIMUM	a1.9	Aug 29	5.9	Sep 4	.78	Sep 10 1991
INSTANTANEOUS PEAK FLOW			b6470	Nov 8	b13000	Jan 19 1996
INSTANTANEOUS PEAK STAGE			7.51	Nov 8	c11.10	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.38		1.55		1.18	
ANNUAL RUNOFF (INCHES)	32.36		21.02		16.07	
10 PERCENT EXCEEDS	505		324		253	
50 PERCENT EXCEEDS	78		62		43	
90 PERCENT EXCEEDS	5.6		9.6		5.4	

- a Computed using estimated daily discharges.
b From rating curve extended above 4,000 ft³/s.
c From floodmark.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 fair except those for estimated daily discharges, which are poor. Flow regulated since December 1979 by Cowanesque Dam (station 01519995). Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	336	623	197	106	1610	674	180	135	83	26	26
2	122	165	2720	209	129	2040	549	104	686	142	26	24
3	70	137	1000	e330	88	1120	550	144	1880	86	26	27
4	71	222	750	e330	114	748	404	119	838	45	26	26
5	71	176	635	e330	203	953	396	119	485	32	26	24
6	62	93	580	e290	266	2260	391	119	302	30	26	24
7	41	172	475	224	235	1780	235	119	262	31	24	26
8	41	472	486	126	166	1020	115	132	235	31	24	26
9	43	767	406	125	135	753	85	143	157	152	24	24
10	44	3890	278	136	123	697	85	106	155	285	24	25
11	43	4070	432	178	107	640	85	106	139	156	25	26
12	42	3920	916	176	88	465	85	106	118	132	26	26
13	43	3780	2070	132	88	330	87	106	128	94	26	26
14	46	3640	2520	109	86	380	88	106	112	52	26	26
15	47	3480	1160	96	111	462	88	106	81	34	26	24
16	47	1610	719	76	103	385	112	70	61	26	26	24
17	47	448	599	72	88	288	198	49	61	26	26	24
18	48	522	536	101	166	279	270	49	190	26	26	23
19	1040	562	467	119	815	423	250	51	338	26	26	23
20	1810	452	282	91	1580	425	273	150	160	26	26	23
21	3050	273	164	74	786	366	276	220	106	26	26	23
22	2060	232	164	128	1330	603	216	159	106	26	26	23
23	980	198	285	151	1060	733	151	139	106	26	26	23
24	685	180	441	165	677	434	149	126	191	26	26	22
25	395	204	491	183	448	329	194	119	201	26	26	21
26	329	983	357	221	318	1090	183	119	387	26	26	21
27	334	994	286	195	1790	1130	146	119	335	26	26	20
28	271	479	331	172	2050	649	171	97	108	26	27	21
29	248	479	357	136	---	675	231	89	34	26	27	24
30	227	479	432	85	---	893	203	76	34	26	26	24
31	271	---	339	68	---	1000	---	78	---	26	26	---
TOTAL	12788	33415	21301	5025	13256	24960	6940	3525	8131	1801	799	719
MEAN	413	1114	687	162	473	805	231	114	271	58.1	25.8	24.0
MAX	3050	4070	2720	330	2050	2260	674	220	1880	285	27	27
MIN	41	93	164	68	86	279	85	49	34	26	24	20

e Estimated.

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

MEAN	173	289	349	277	399	626	736	368	250	96.6	113	84.2
MAX	1122	1114	864	1198	1027	1527	2773	1115	1222	462	889	315
(WY)	1991	1997	1991	1996	1981	1994	1993	1996	1989	1984	1994	1992
MIN	13.9	14.3	35.9	23.3	57.6	158	231	48.9	17.4	14.1	11.9	5.09
(WY)	1989	1992	1990	1981	1980	1981	1997	1985	1991	1991	1983	1980

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1980 - 1997	
ANNUAL TOTAL	203011		132660			
ANNUAL MEAN	555		363		312	
HIGHEST ANNUAL MEAN					498	
LOWEST ANNUAL MEAN					194	
HIGHEST DAILY MEAN	5840	Jan 23	4070	Nov 11	5840	Jan 23 1996
LOWEST DAILY MEAN	13	Aug 30, 31	20	Sep 27	3.4	Sep 13 1980
ANNUAL SEVEN-DAY MINIMUM	14	Aug 25	22	Sep 22	3.9	Sep 10 1980
INSTANTANEOUS PEAK FLOW			4200	Nov 10	6580	Jan 23 1996
INSTANTANEOUS PEAK STAGE			11.31	Nov 10	12.41	Jan 23 1996
10 PERCENT EXCEEDS	1610		902		778	
50 PERCENT EXCEEDS	233		139		106	
90 PERCENT EXCEEDS	18		26		17	

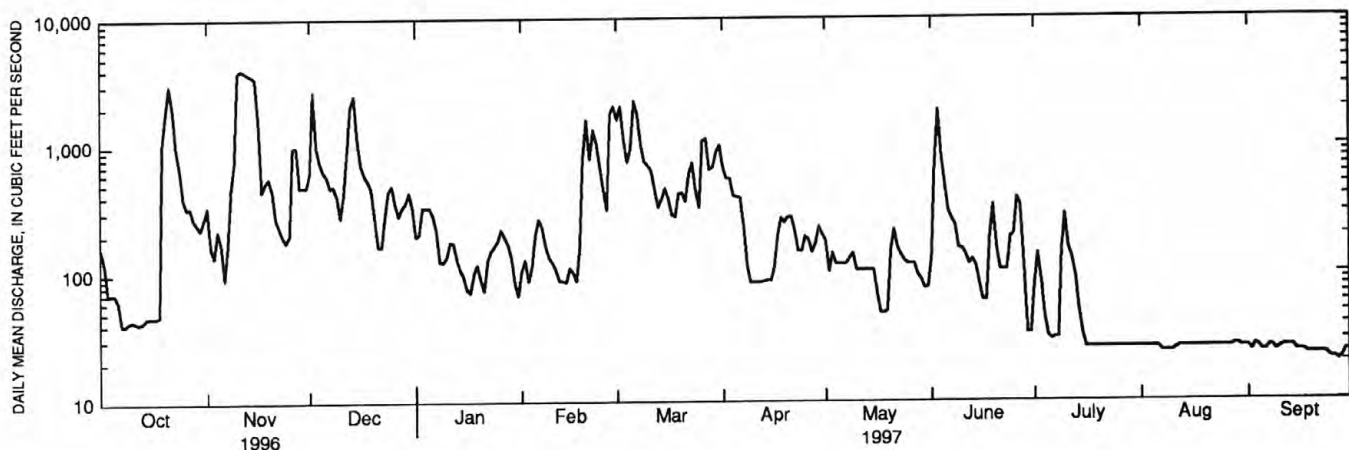
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	

- 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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 (U.S. Army Corps of Engineers datum).
 REMARKS.--Reservoir is formed by rolled earth and rockfill dam. Flood flows are routed to Hammond Lake through a connecting channel with weir at elevation 1,101.0 ft and to Hammond Dam spillway with crest at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation 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. Satellite and landline telemetry at station.
 COOPERATION.--Records provided by U.S. Army Corps of Engineers.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,090 acre-ft, Apr. 3, 1993, elevation, 1,123.21 ft; minimum, 2,210 acre-ft, Oct. 25, 1980, elevation, 1,060.05 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,280 acre-ft, Nov. 9, elevation, 1,105.44 ft; minimum, 7,060 acre-ft, Apr. 15, elevation, 1,075.36 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 (U.S. Army Corps of Engineers datum).
 REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,131.0 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. Satellite and landline telemetry at station.
 COOPERATION.--Records provided by U.S. Army Corps of Engineers.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 50,650 acre-ft, Apr. 3, 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, 26,220 acre-ft, Nov. 9, elevation, 1,105.45 ft; minimum, 6,410 acre-ft, Mar. 27, elevation, 1,082.28 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 (U.S. Army Corps of Engineers datum).
 REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,117.0 ft. Storage began in December 1979. Capacity at elevation 1,117.0 ft is 89,110 acre-ft. Recreation lake elevation is 1,080.0 ft since May 1990, capacity 32,600 acre-ft. Reservoir is used for flood control, recreation, and water supply. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. Satellite and landline telemetry at station.
 COOPERATION.--Records provided by U.S. Army Corps of Engineers.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 84,560 acre-ft, Apr. 2, 1993, elevation, 1,114.78 ft; minimum, 65 acre-ft, June 23, 1980, elevation, 1,011.50 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,320 acre-ft, Nov. 10, elevation, 1,101.20 ft; minimum, 22,660 acre-ft, Oct. 18, elevation, 1,069.84 ft.

CHEMUNG RIVER BASIN

Reservoirs in Chemung River basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent (in ft ³ /s)
<u>01517900 Tioqa Lake</u>				<u>01518498 Hammond Lake</u>		
Sept. 30.....	1,081.43	9,710	--	1,086.15	8,940	--
Oct. 31.....	1,081.44	9,720	+ 0.2	1,086.74	9,300	+ 5.9
Nov. 30.....	1,083.56	10,780	+ 17.8	1,087.09	9,530	+ 3.9
Dec. 31.....	1,083.01	10,500	- 4.6	1,087.06	9,500	- 0.5
CAL YR 1996.....	--	--	+ 1.1	--	--	+ 0.8
Jan. 31.....	1,081.65	9,820	- 11.1	1,085.73	8,650	- 13.8
Feb. 28.....	1,080.93	9,470	- 6.3	1,086.08	8,900	+ 4.5
Mar. 31.....	1,077.96	8,140	- 21.6	1,082.70	6,660	- 36.4
Apr. 30.....	1,079.98	9,040	+ 15.1	1,084.70	7,910	+ 21.0
May 31.....	1,081.27	9,630	+ 9.6	1,086.62	9,230	+ 21.5
June 30.....	1,081.21	9,600	- 0.5	1,086.53	9,170	- 1.0
July 31.....	1,081.06	9,530	- 1.1	1,086.41	9,100	- 1.1
Aug. 31.....	1,081.44	9,720	+ 3.1	1,086.41	9,100	0
Sept. 30.....	1,081.64	9,810	+ 1.5	1,086.17	8,950	- 2.5
WTR YR 1997.....	--	--	+ 0.1	--	--	0
<u>01519995 Cowanesque Lake</u>						
Sept. 30.....	1,070.06	22,850	--			
Oct. 31.....	1,076.37	28,770	+ 96.3			
Nov. 30.....	1,077.12	29,520	+ 12.6			
Dec. 31.....	1,080.08	32,680	+ 51.4			
CAL YR 1996.....	--	--	- 0.1			
Jan. 31.....	1,080.11	32,710	+ 0.5			
Feb. 28.....	1,079.69	32,260	- 8.1			
Mar. 31.....	1,077.09	29,490	- 45.0			
Apr. 30.....	1,080.13	32,730	+ 54.4			
May 31.....	1,080.27	32,870	+ 2.3			
June 30.....	1,080.24	32,840	- 0.5			
July 31.....	1,080.30	32,900	+ 1.0			
Aug. 31.....	1,080.35	32,950	+ 0.8			
Sept. 30.....	1,080.54	33,140	+ 3.2			
WTR YR 1997.....	--	--	+ 14.2			

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.

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 good except those for estimated daily discharges, which are poor. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 68,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	1945	*116,000	*18.11	Dec. 14	1215	72,800	13.20
Dec. 2	2400	111,000	17.63				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9410	e7500	17800	15400	5180	41400	34000	11700	6220	2780	1090	1290
2	6930	e7000	85700	12700	5260	34000	31400	10000	8810	2470	1040	1320
3	5490	e6300	96100	12200	5320	36900	29300	9530	13900	2300	1000	1310
4	4680	e6000	69200	14600	5280	32300	27700	12600	14100	2200	973	1260
5	e4100	e5600	52500	16300	5840	26700	28200	15000	10000	2060	978	1100
6	e3800	5110	37600	17000	8100	41500	26500	13900	7830	2100	929	1040
7	e3400	4850	31900	16600	8760	45800	23800	12700	6580	2060	898	992
8	3200	10500	27800	15100	8480	34400	21300	11900	6300	2020	873	948
9	3030	95100	23100	12600	e7000	25900	18200	11200	5850	2100	855	907
10	2930	89600	19900	e11000	e6000	21400	15500	10500	5120	3160	820	876
11	2830	67300	17700	e11000	5460	20200	13700	11300	4610	4110	801	891
12	2950	52600	18300	e10000	5270	18700	12600	12100	4110	3270	766	911
13	3070	e39000	30000	e9000	e5000	16000	12500	11100	4050	2790	878	1000
14	2990	30700	67700	e8500	e4800	13900	13300	10400	4740	2460	932	1100
15	2810	24400	53700	e8000	4670	13700	12600	9760	4300	2120	1080	1150
16	2690	21000	40100	e8000	4790	14200	11400	8920	3790	1870	1060	1140
17	2580	16300	34900	e7000	4760	13000	10200	8310	3480	1730	1100	1100
18	2480	13300	31300	e5200	4650	11600	9910	7950	3340	1600	1120	1050
19	5540	13700	28100	e5000	5570	11200	9690	9080	4310	1510	1120	971
20	40100	15900	24600	e4600	11700	11300	9320	22800	5640	1430	1110	944
21	35300	16500	20600	e5400	14900	11100	9260	23600	4620	1410	1090	987
22	30700	14500	17500	e5700	23800	11300	9020	18300	4170	1470	1090	947
23	20700	12900	16000	e5900	36000	15000	8870	14300	3890	1470	1100	923
24	16800	11900	16400	e5900	32300	14500	8420	12200	3470	1470	1050	914
25	13700	11300	20600	e6500	24400	12200	7830	10800	3540	1490	1060	866
26	10800	15800	22600	e7000	17900	13300	7290	10000	4160	1480	1020	864
27	8720	26500	19800	e6900	19000	23100	6900	9380	3990	1420	982	857
28	e7900	23600	16900	e6500	46800	22200	7210	8450	4870	1330	1000	840
29	e7700	18800	16000	e5600	---	22200	10900	7560	3940	1290	1080	970
30	e7600	16500	17200	e5500	---	25600	12700	6840	3290	1300	1120	1450
31	e7500	---	17600	e5600	---	29900	---	6250	---	1190	1270	---
TOTAL	282430	700060	1009200	286300	336990	684500	459520	358430	167020	61460	31285	30918
MEAN	9111	23340	32550	9235	12040	22080	15320	11560	5567	1983	1009	1031
MAX	40100	95100	96100	17000	46800	45800	34000	23600	14100	4110	1270	1450
MIN	2480	4850	16000	4600	4650	11100	6900	6250	3290	1190	766	840
CFSM	1.17	2.99	4.18	1.18	1.54	2.83	1.96	1.48	.71	.25	.13	.13
1N.	1.35	3.34	4.81	1.37	1.61	3.27	2.19	1.71	.80	.29	.15	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	5456	9637	11260	10480	11690	23600	25300	13180	7060	4044	3037	3269
MEAN	5456	9637	11260	10480	11690	23600	25300	13180	7060	4044	3037	3269
MAX	31270	28940	32550	31200	35700	60780	76640	34770	41150	23840	16210	23200
(WY)	1978	1928	1997	1996	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

e Estimated.

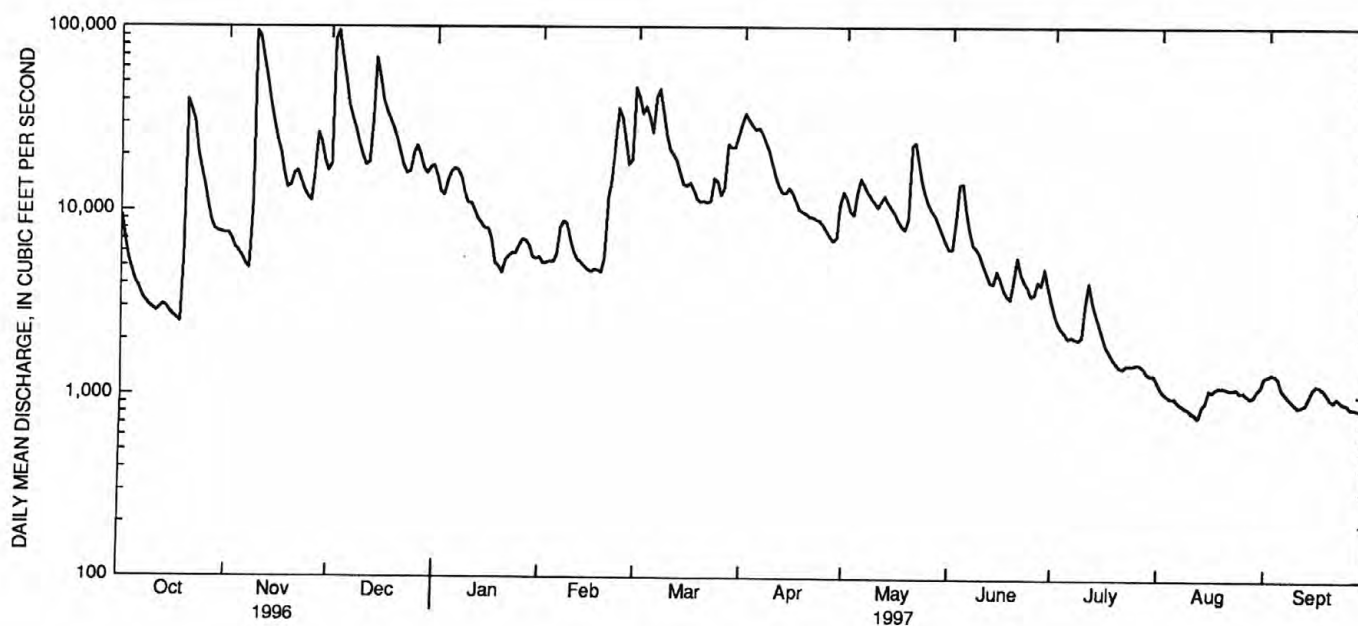
SUSQUEHANNA RIVER BASIN

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	6207470		4408113		10650	
ANNUAL MEAN	16960		12080		16610	
HIGHEST ANNUAL MEAN					5104	
LOWEST ANNUAL MEAN					283000	
HIGHEST DAILY MEAN	174000	Jan 20	96100	Dec 3	340	Jun 23 1972
LOWEST DAILY MEAN	1520	Sep 6	766	Aug 12	348	Sep 23 1964
ANNUAL SEVEN-DAY MINIMUM	1620	Sep 3	842	Aug 7	334	Sep 18 1964
INSTANTANEOUS PEAK FLOW			116000	Nov 9	a320000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			18.11	Nov 9	b33.43	Jun 24 1972
INSTANTANEOUS LOW FLOW					334	Sep 23,24 1964
ANNUAL RUNOFF (CFSM)	2.18		1.55		1.37	
ANNUAL RUNOFF (INCHES)	29.62		21.03		18.56	
10 PERCENT EXCEEDS	39300		28100		25900	
50 PERCENT EXCEEDS	8870		7830		5490	
90 PERCENT EXCEEDS	3130		1050		1260	

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

b From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA

LOCATION.--Lat 41°42'25", long 76°29'06", Bradford County, Hydrologic Unit 02050106, on left bank on Township Route 406, 0.8 mi southwest of Monroeton, and 1.0 mi upstream from South Branch Towanda Creek.

DRAINAGE AREA.--215 mi².

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

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

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

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

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

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 19	1645	7,740	11.90	Dec. 2	0345	*15,100	*13.85
Nov. 9	0015	8,560	12.16	Dec. 13	2015	7,520	11.83

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e260	e380	1230	e280	99	517	554	100	112	49	18	120
2	e210	e320	8020	282	97	585	619	98	161	46	17	90
3	e180	e290	1730	307	106	598	686	136	444	43	17	72
4	e130	e260	1070	310	123	492	616	249	278	40	19	65
5	e120	e230	799	291	e500	495	511	177	204	36	25	54
6	e100	e210	737	328	411	1610	444	168	166	34	23	47
7	e95	e210	671	256	250	928	381	186	144	32	21	43
8	e85	1720	565	e190	180	705	317	160	127	34	19	40
9	e80	4390	488	e180	e160	568	272	158	111	42	18	37
10	e80	1670	412	e190	e150	490	238	168	94	78	17	37
11	e75	e1200	375	e160	e140	439	214	151	81	49	17	54
12	e70	e950	618	e150	e110	357	200	132	74	39	32	86
13	e65	e650	4210	e140	e100	293	236	126	71	34	73	71
14	e60	e550	2940	e130	e110	339	214	121	68	31	111	57
15	e60	e480	1430	e140	114	567	176	109	58	29	52	49
16	e60	e420	1080	e130	e100	385	157	100	52	28	39	44
17	e55	e360	931	e130	e95	318	150	92	49	25	36	41
18	e60	e340	789	e120	e120	303	150	88	49	24	55	42
19	3020	e360	682	e120	355	282	142	179	55	25	52	42
20	4870	e320	570	e140	511	288	138	463	58	24	41	39
21	1920	e260	476	e150	472	269	131	283	57	22	67	37
22	e1300	e240	e420	e130	1340	350	122	224	48	23	91	35
23	e950	e220	386	e130	989	323	118	192	43	26	65	34
24	e850	e210	628	e120	684	262	114	169	55	24	51	33
25	e750	e200	733	e120	489	251	106	181	66	25	46	31
26	e600	e420	501	e130	406	694	98	273	243	25	48	30
27	e550	e340	445	e110	560	567	89	196	166	24	43	29
28	e500	e270	423	e130	683	475	116	158	91	22	209	32
29	e480	e260	444	e120	---	439	143	137	67	22	133	75
30	e420	e250	467	e110	---	403	114	124	55	20	83	117
31	e400	---	365	e100	---	548	---	122	---	19	68	---
TOTAL	18455	17980	34635	5324	9454	15140	7566	5220	3347	994	1606	1583
MEAN	595	599	1117	172	338	488	252	168	112	32.1	51.8	52.8
MAX	4870	4390	8020	328	1340	1610	686	463	444	78	209	120
MIN	55	200	365	100	95	251	89	88	43	19	17	29
CFSM	2.77	2.79	5.20	.80	1.57	2.27	1.17	.78	.52	.15	.24	.25
IN.	3.19	3.11	5.99	.92	1.64	2.62	1.31	.90	.58	.17	.28	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	152	281	315	284	341	656	624	370	187	96.3	83.5	83.6
MAX	1092	1326	1117	1542	1169	2287	1838	1262	1922	1376	986	950
(WY)	1991	1927	1997	1996	1984	1936	1993	1946	1972	1915	1915	1975
MIN	6.46	7.84	16.8	10.1	40.4	135	110	54.5	16.0	7.72	3.71	1.76
(WY)	1965	1931	1932	1931	1931	1965	1946	1926	1991	1955	1966	1964

e Estimated.

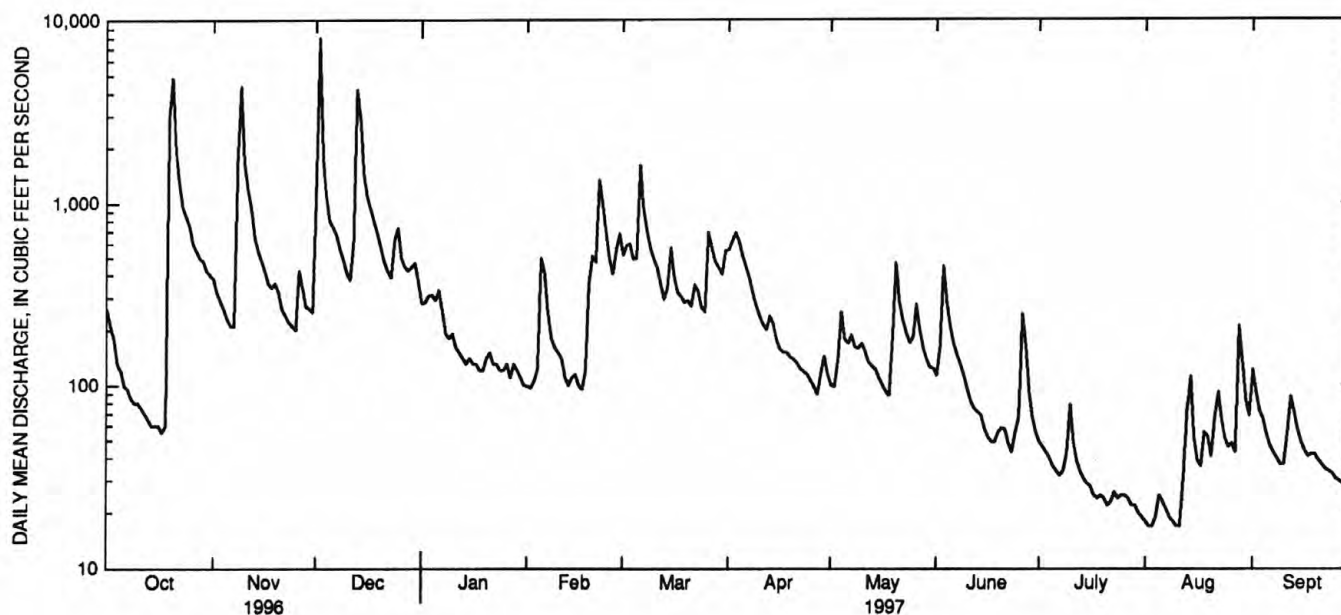
TOWANDA CREEK BASIN

01532000 TOWANDA CREEK NEAR MONROETON, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	191935		121304		288	
ANNUAL MEAN	524		332		502	1978
HIGHEST ANNUAL MEAN					111	1965
LOWEST ANNUAL MEAN					28700	Jun 22 1972
HIGHEST DAILY MEAN	28000	Jan 19	8020	Dec 2	.70	Sep 21 1932
LOWEST DAILY MEAN	20	Sep 4	17	Aug 2,3,10,11	.87	Sep 16 1932
ANNUAL SEVEN-DAY MINIMUM	23	Aug 31	19	Jul 29		
INSTANTANEOUS PEAK FLOW			15100	Dec 2	74000	Jun 22 1972
INSTANTANEOUS PEAK STAGE			13.85	Dec 2	a20.86	Jan 19 1996
INSTANTANEOUS LOW FLOW					.70	Sep 15 1932 ^b
ANNUAL RUNOFF (CFSM)	2.44		1.55		1.34	
ANNUAL RUNOFF (INCHES)	33.21		20.99		18.22	
10 PERCENT EXCEEDS	951		658		661	
50 PERCENT EXCEEDS	210		143		116	
90 PERCENT EXCEEDS	50		34		14	

a From floodmark.

b Also Sept. 17, 21, 22, 1932.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Flow slightly regulated by 7 flood-control reservoirs which have a combined capacity of 356,800 acre-ft. Satellite and landline telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 70,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	0300	*128,000	*28.29	Dec. 14	2030	86,200	23.98
Dec. 3	0500	126,000	28.06				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10900	8490	18600	18000	e5500	47500	37900	12200	6300	3070	1310	1800
2	8540	7930	79500	14400	e5700	38900	37000	10200	7240	2700	1230	1800
3	6750	7220	117000	12800	e5800	39900	34800	9350	11400	2470	1170	1730
4	5530	6680	83400	14600	e5800	37600	32600	11300	16500	2380	1130	1660
5	4780	6290	63600	17300	e6500	31600	32100	15400	11300	2220	1120	1530
6	4300	6010	46700	18600	e9000	37700	30700	15300	8620	2140	1100	1370
7	3890	5640	38300	18300	e9500	53400	27900	13200	7360	2160	1030	1290
8	3580	e6500	33500	16700	e9000	42500	24700	12200	6670	2130	987	1220
9	3410	e82000	28400	14000	e7500	31700	21100	11500	6500	2140	977	1130
10	3250	113000	23800	e11000	e6500	25600	17500	10700	5770	2360	920	1070
11	3120	78700	20600	e11000	e5600	22900	14900	10800	5120	3960	871	1140
12	3060	63100	20600	e10000	e5500	21500	13300	12000	4610	3680	867	1380
13	3220	46700	30300	e9500	e5500	18400	12600	11400	4170	3020	956	1390
14	3260	36800	75400	e9000	e5000	15500	13500	10300	4620	2680	1230	1390
15	3080	29300	70300	e8600	e5000	14900	13100	9710	4770	2410	1260	1420
16	2950	24300	51400	e8300	e4900	15500	11800	9010	4210	2140	1310	1440
17	2840	20100	43800	e7500	e4900	14400	10400	8390	3800	1940	1280	1410
18	2720	14700	38900	e6000	e5000	12600	9770	8010	3530	1820	1370	1390
19	4570	14300	34600	e5500	e6000	11500	9640	8050	3660	1710	1390	1320
20	39500	16600	30400	e5600	9350	11500	9270	17900	5250	1620	1380	1230
21	44300	18000	25300	e5900	16400	11400	9150	27600	5390	1530	1400	1160
22	37100	16300	20900	e6400	21800	11300	9050	21800	4420	1510	1400	1170
23	27400	14000	18400	e6500	36700	13900	8770	16100	4170	1550	1400	1150
24	20200	12500	18300	e6500	38200	16000	8590	12900	3780	1580	1380	1120
25	17100	11500	22600	e7500	29800	13500	8190	11100	3660	1580	1310	1090
26	13500	13700	25700	e8000	21600	13300	7740	10200	4080	1580	1310	1050
27	10600	26700	24000	e7500	17600	22600	7390	9510	4160	1580	1240	1020
28	9270	28400	19800	e7000	39800	25800	7190	8720	4630	1530	1360	990
29	9100	22300	18100	e6400	---	24500	9210	8010	4510	1430	1650	1060
30	8940	18800	19000	e6000	---	26900	12100	7270	3640	1390	1640	1310
31	8550	---	19700	e6000	---	31400	---	6710	---	1390	1520	---
TOTAL	329310	776560	1180900	310400	349450	755700	501960	366840	173840	65400	38498	39230
MEAN	10620	25890	38090	10010	12480	24380	16730	11830	5795	2110	1242	1308
MAX	44300	113000	117000	18600	39800	53400	37900	27600	16500	3960	1650	1800
MIN	2720	5640	18100	5500	4900	11300	7190	6710	3530	1390	867	990
CFSM	1.22	2.97	4.37	1.15	1.43	2.80	1.92	1.36	.66	.24	.14	.15
IN.	1.40	3.31	5.04	1.32	1.49	3.22	2.14	1.56	.74	.28	.16	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1997, BY WATER YEAR (WY)

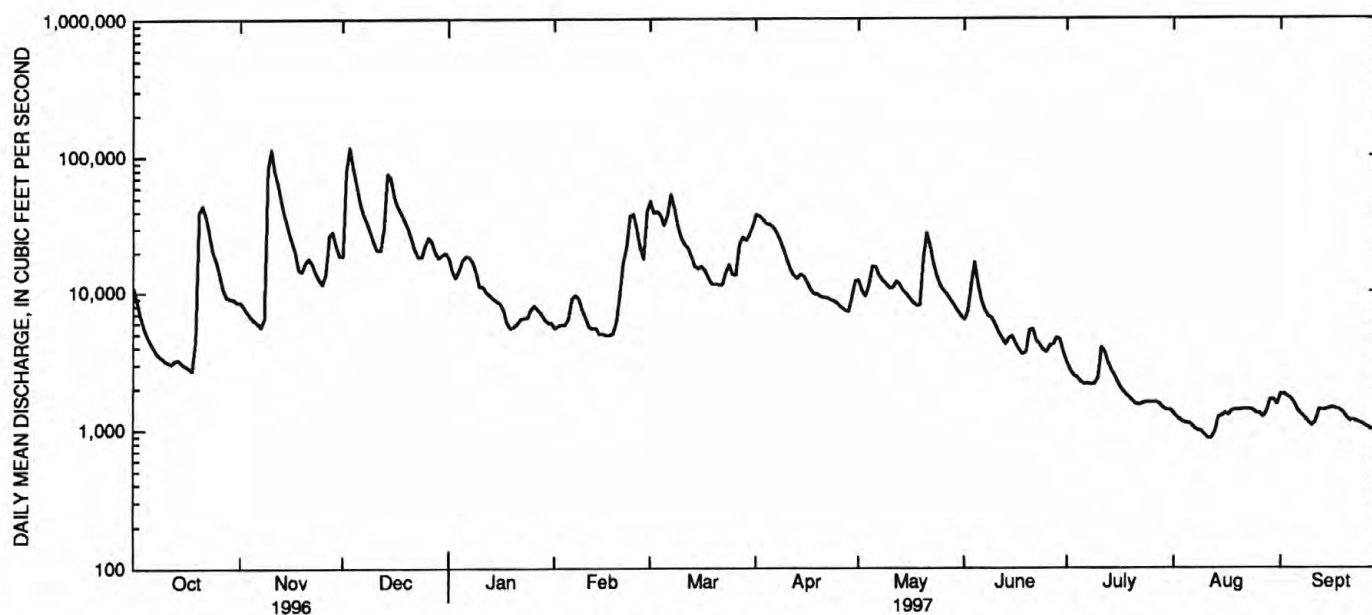
MEAN	8291	12250	14800	12140	13970	24570	28460	14110	7172	3822	3576	3804
MAX	35100	25890	38090	33960	36100	48830	86470	33200	21470	8275	17530	24900
(WY)	1978	1997	1997	1996	1981	1979	1993	1996	1989	1994	1994	1977
MIN	1045	2858	4440	2168	2702	9955	9638	4027	2298	1100	1139	882
(WY)	1983	1983	1990	1981	1980	1981	1981	1985	1991	1991	1995	1995

e Estimated.

SUSQUEHANNA RIVER BASIN

01533400 SUSQUEHANNA RIVER AT MESHOPPEN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1977 - 1997	
ANNUAL TOTAL	7018560		4888088		12230	
ANNUAL MEAN	19180		13390		18930	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1985	
HIGHEST DAILY MEAN	216000	Jan 20	117000	Dec 3	216000	Jan 20 1996
LOWEST DAILY MEAN	1720	Sep 6, 7	867	Aug 12	557	Aug 31 1995
ANNUAL SEVEN-DAY MINIMUM	1810	Sep 4	944	Aug 7	593	Aug 29 1995
INSTANTANEOUS PEAK FLOW			128000	Nov 10	226000	Jan 20 1996
INSTANTANEOUS PEAK STAGE			28.29	Nov 10	36.34	Jan 20 1996
ANNUAL RUNOFF (CFSM)	2.20		1.54		1.40	
ANNUAL RUNOFF (INCHES)	29.94		20.85		19.05	
10 PERCENT EXCEEDS	46700		32300		29000	
50 PERCENT EXCEEDS	9580		8300		6430	
90 PERCENT EXCEEDS	3480		1320		1470	



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.

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). WDR PA-96-2: 1947(M), 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 610.10 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 Oct. 1 to Jan. 23, which are fair and those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Nov. 9	0515	*15.100	*11.94	Dec. 2	1030	7.760	8.53

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	317	1370	e850	e270	564	1280	230	230	73	30	80
2	216	295	5750	855	e270	646	1270	302	277	73	30	78
3	196	310	3320	875	e280	787	1600	414	650	91	29	61
4	174	294	2270	963	e300	680	1620	1200	403	85	30	51
5	153	269	1770	903	e600	667	1280	751	302	71	32	46
6	141	251	1750	927	e800	1850	1090	633	249	64	33	43
7	132	252	1730	824	e500	1350	957	625	218	58	32	42
8	130	1470	1560	719	e400	1060	801	502	202	57	30	41
9	160	9790	1330	640	e340	887	681	489	191	58	30	40
10	190	3390	1100	674	e290	805	590	611	168	79	29	40
11	197	2210	983	e600	e270	737	525	528	149	75	29	58
12	162	1680	1650	e480	e250	629	486	443	140	62	31	109
13	143	1320	2380	e440	e230	529	575	410	141	56	39	91
14	140	1130	4100	e400	e230	544	512	388	147	52	75	71
15	131	952	3240	e340	e250	835	429	344	130	49	64	66
16	123	815	2830	e380	e240	716	385	314	115	46	50	60
17	122	729	2700	e420	e230	557	375	315	108	47	47	53
18	112	691	2380	e360	e220	557	371	306	118	46	67	51
19	475	945	2080	e320	e360	516	356	467	134	42	62	49
20	2380	892	1770	e280	1010	496	337	1130	122	40	53	48
21	1370	740	1380	e260	761	482	313	741	109	38	73	45
22	1050	650	1260	e270	1460	688	287	584	102	38	79	44
23	820	584	1160	e290	1140	643	272	502	95	40	85	42
24	719	532	1300	e400	836	502	259	435	95	41	72	41
25	584	520	1650	e500	639	468	236	441	110	39	59	39
26	479	986	1250	e600	571	955	218	526	113	37	53	39
27	411	1050	1110	e380	630	904	203	399	126	36	49	39
28	410	773	1040	e340	699	761	260	331	106	35	74	38
29	483	699	1050	e300	---	736	326	285	91	33	104	46
30	396	658	1240	e280	---	778	266	258	81	32	84	48
31	360	---	e1000	e280	---	1170	---	250	---	30	68	---
TOTAL	12822	35194	59503	16150	14076	23499	18160	15154	5222	1623	1622	1599
MEAN	414	1173	1919	521	503	758	605	489	174	52.4	52.3	53.3
MAX	2380	9790	5750	963	1460	1850	1620	1200	650	91	104	109
MIN	112	251	983	260	220	468	203	230	81	30	29	38
CFSM	1.08	3.06	5.01	1.36	1.31	1.98	1.58	1.28	.45	.14	.14	.14
IN.	1.25	3.42	5.78	1.57	1.37	2.28	1.76	1.47	.51	.16	.16	.16

MEAN	318	549	628	553	646	1167	1117	637	340	211	173	195
MAX	1772	1934	1919	1978	1682	2910	3202	1806	1939	1007	841	1130
(WY)	1956	1973	1997	1979	1925	1936	1993	1989	1972	1947	1994	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

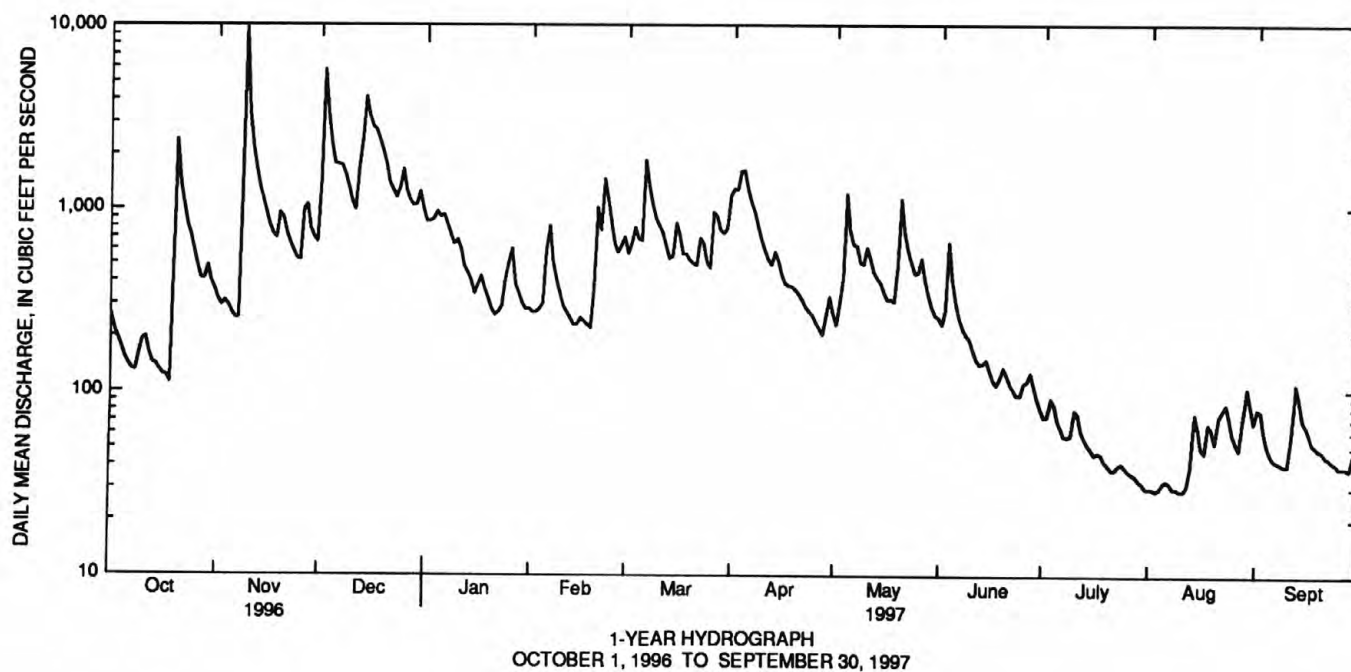
e Estimated.

TUNKHANNOCK CREEK BASIN

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	327568		204624		542	
ANNUAL MEAN	895		561		220	
HIGHEST ANNUAL MEAN					897	
LOWEST ANNUAL MEAN					220	
HIGHEST DAILY MEAN	e14000	Jan 19	9790	Nov 9	22700	Apr 16 1983
LOWEST DAILY MEAN	40	Sep 16	29	Aug 3,10,11	6.9	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	51	Aug 31	30	Jul 30	7.9	Sep 18 1964
INSTANTANEOUS PEAK FLOW			15100	Nov 9	a30300	Jan 19 1996
INSTANTANEOUS PEAK STAGE			11.94	Nov 9	19.99	Jan 19 1996
INSTANTANEOUS LOW FLOW					6.2	Sep 24 1964
ANNUAL RUNOFF (CFSM)	2.34		1.46		1.42	
ANNUAL RUNOFF (INCHES)	31.82		19.87		19.24	
10 PERCENT EXCEEDS	2000		1270		1240	
50 PERCENT EXCEEDS	492		320		260	
90 PERCENT EXCEEDS	120		43		50	

a From computation of slope-area measurement of peak flow.
e 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 (U.S. Army Corps of Engineers datum).

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,440 acre-ft, Nov. 9, elevation, 1,587.86 ft; minimum, 372 acre-ft, Aug. 12, 13, elevation, 1,572.32 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
Sept. 30	1,573.47	479	--
Oct. 31	1,573.66	497	+ 0.3
Nov. 30	1,573.93	523	+ 0.4
Dec. 31	1,575.01	635	+ 1.8
CAL YR 1996	--	--	+ 0.3
Jan. 31	1,573.13	446	- 3.1
Feb. 28	1,574.86	619	+ 3.1
Mar. 31	1,575.98	742	+ 2.0
Apr. 30	1,573.97	527	- 3.6
May 31	1,573.29	461	- 1.1
June 30	1,572.65	402	- 1.0
July 31	1,572.40	379	- 0.4
Aug. 31	1,572.57	394	+ 0.2
Sept. 30	1,572.60	397	+ 0.1
WTR YR 1997	--	--	- 0.1

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 poor. Flow regulated since December 1959 by Stillwater Dam (station 01534180). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	53	96	123	32	115	180	53	38	6.9	3.8	6.0
2	32	47	225	107	32	108	172	54	41	8.5	3.5	5.5
3	28	43	478	109	32	135	177	72	65	11	3.3	5.0
4	24	40	417	125	32	124	218	111	58	9.8	3.1	4.3
5	21	38	331	121	38	105	234	85	46	8.2	3.3	3.8
6	19	35	238	119	49	171	223	73	43	7.2	3.4	3.6
7	18	34	178	107	48	211	190	94	39	6.5	3.3	3.6
8	17	50	147	80	43	180	148	108	34	6.0	3.1	3.7
9	21	227	122	e75	36	134	115	95	29	5.9	3.0	3.5
10	27	636	107	e70	32	110	88	208	25	6.3	2.8	3.3
11	31	595	92	e60	30	103	61	162	21	6.1	2.7	5.8
12	30	363	99	e55	30	89	44	120	19	5.9	2.7	11
13	27	149	140	52	e29	73	36	95	17	5.2	3.5	12
14	25	145	300	50	28	69	37	79	16	4.9	5.8	9.5
15	22	114	409	45	e28	72	82	69	15	4.8	6.0	6.8
16	20	75	338	e48	e27	70	169	62	13	4.7	5.6	5.7
17	19	75	277	e48	e27	60	97	59	12	4.7	5.5	5.0
18	18	76	315	e42	e26	58	66	57	13	4.5	5.8	4.8
19	28	113	298	e40	e27	56	58	59	13	4.3	5.5	4.7
20	161	197	235	e38	e48	56	57	87	13	4.0	5.2	4.5
21	309	187	171	e36	78	55	56	102	11	3.8	6.7	4.4
22	267	111	139	e35	179	67	52	98	11	4.1	8.6	4.2
23	203	76	112	e38	296	79	48	88	11	4.1	9.3	4.1
24	150	66	109	e42	280	68	46	78	10	4.1	7.1	4.1
25	117	63	158	e44	168	59	43	70	11	4.2	5.8	4.0
26	96	91	212	48	111	103	41	68	14	3.9	5.2	3.9
27	78	142	193	44	104	149	39	65	14	3.9	4.8	3.8
28	72	127	145	40	127	128	48	58	11	4.5	7.2	3.7
29	78	94	114	e38	---	119	65	50	9.6	4.8	8.8	4.3
30	71	79	170	34	---	123	60	54	8.1	4.6	7.7	4.9
31	60	---	174	33	---	154	---	46	---	4.2	6.2	---
TOTAL	2128	4141	6539	1946	2017	3203	2950	2579	680.7	171.6	158.3	153.5
MEAN	68.6	138	211	62.8	72.0	103	98.3	83.2	22.7	5.54	5.11	5.12
MAX	309	636	478	125	296	211	234	208	65	11	9.3	12
MIN	17	34	92	33	26	55	36	46	8.1	3.8	2.7	3.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 1997, BY WATER YEAR (WY)

	MEAN	48.4	77.2	87.9	70.3	77.6	131	171	85.2	52.8	26.9	19.8	28.1
MAX	239	264	234	209	245	261	517	232	205	123	122	221	
(WY)	1978	1973	1974	1996	1981	1979	1993	1989	1989	1973	1994	1977	
MIN	2.45	2.48	25.3	9.64	13.2	40.5	58.8	31.5	11.1	4.67	2.92	1.17	
(WY)	1965	1965	1990	1981	1980	1993	1968	1982	1980	1991	1980	1980	

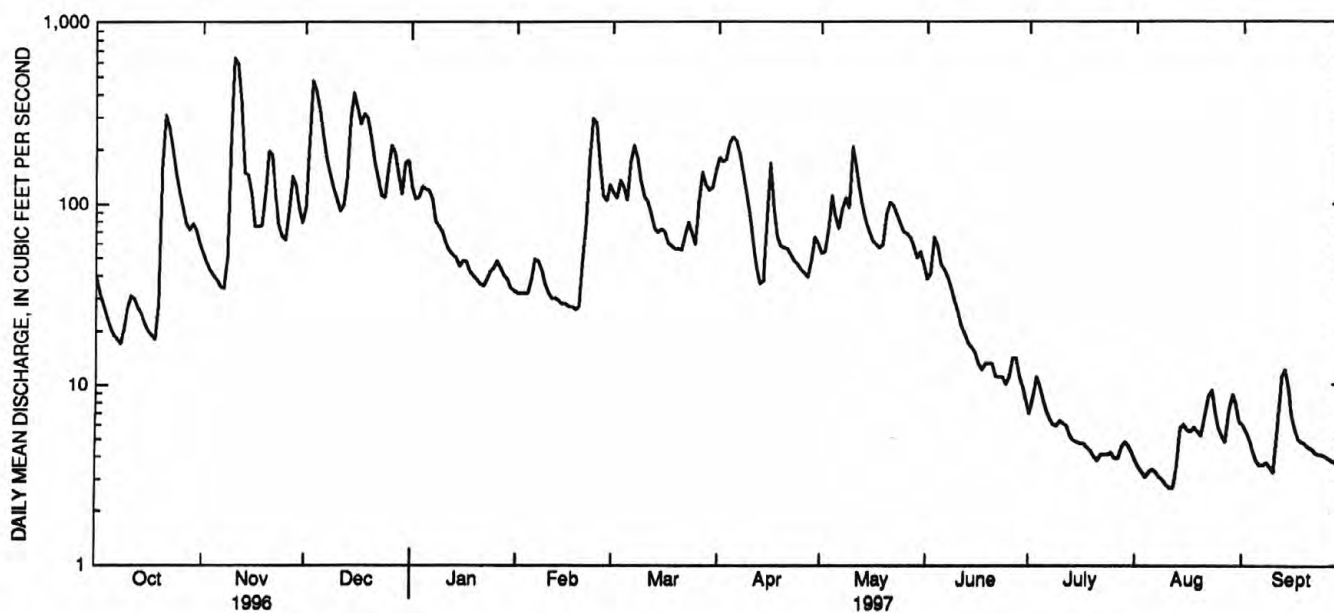
e Estimated.

LACKAWANNA RIVER BASIN

01534300 LACKAWANNA RIVER NEAR FOREST CITY, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1959 - 1997	
ANNUAL TOTAL	41238.9		26667.1		72.8	
ANNUAL MEAN	113		73.1		112	
HIGHEST ANNUAL MEAN					1973	
LOWEST ANNUAL MEAN					36.3	
HIGHEST DAILY MEAN	968	Jan 22	636	Nov 10	1160	Apr 4 1993
LOWEST DAILY MEAN	8.4	Aug 22	2.7	Aug 11, 12	a.00	Jul 21 1978
ANNUAL SEVEN-DAY MINIMUM	9.6	Aug 17	3.0	Aug 6	.43	Sep 11 1980
INSTANTANEOUS PEAK FLOW			705	Nov 10	bc1390	Jan 22 1959
INSTANTANEOUS PEAK STAGE			4.44	Nov 10	6.41	Jan 22 1959
INSTANTANEOUS LOW FLOW					a.00	Jul 21 1978
10 PERCENT EXCEEDS	270		175		172	
50 PERCENT EXCEEDS	71		46		39	
90 PERCENT EXCEEDS	18		4.3		7.1	

a Result of shutoff at Stillwater Dam.

b From rating curve extended above 930 ft³/s.c Instantaneous peak since regulation, 1,020 ft³/s, Feb. 26, 1975, gage height, 4.85 ft.

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Regulation at low flow by mine pumps upstream from station. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 17 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	149	415	289	87	260	463	134	136	41	29	38
2	74	137	1220	262	83	283	446	132	162	46	28	32
3	69	126	968	271	82	307	534	195	223	47	27	30
4	62	117	775	283	79	282	643	287	181	43	27	29
5	58	109	618	276	158	262	587	229	153	40	28	28
6	55	103	549	268	149	494	520	217	141	38	28	28
7	53	99	464	239	127	443	446	222	130	37	27	27
8	57	661	420	208	113	385	371	226	121	36	27	27
9	73	1790	365	185	99	321	311	223	109	37	26	27
10	72	1290	319	189	87	284	264	338	96	38	26	26
11	73	1020	297	173	84	264	224	299	85	36	26	57
12	67	695	427	e140	81	233	204	249	80	35	27	55
13	63	403	752	138	76	206	212	219	76	35	44	42
14	60	367	1010	131	76	206	188	200	73	34	35	38
15	56	320	909	118	79	225	188	184	66	33	32	35
16	54	246	770	e140	74	204	291	175	61	34	35	32
17	53	231	720	e120	73	182	226	169	69	32	33	31
18	51	232	751	e110	73	178	190	162	63	31	47	30
19	331	313	696	100	119	171	178	254	60	31	33	29
20	679	346	566	102	203	173	171	450	56	30	35	29
21	574	340	443	100	232	166	160	331	53	30	46	29
22	502	260	381	103	537	235	151	302	50	30	38	28
23	399	212	339	134	577	218	143	264	48	30	37	28
24	339	193	388	115	499	195	135	232	51	31	35	27
25	272	192	456	141	355	182	128	232	49	30	33	27
26	229	270	442	132	275	342	122	229	56	30	32	27
27	202	288	413	107	271	348	114	203	54	29	31	27
28	200	262	354	109	287	317	146	185	47	30	34	26
29	201	221	333	91	---	307	153	169	44	30	34	29
30	185	205	369	84	---	311	144	162	42	30	33	29
31	166	---	361	89	---	476	---	155	---	29	32	---
TOTAL	5415	11197	17290	4947	5035	8460	8053	7028	2635	1063	1005	947
MEAN	175	373	558	160	180	273	268	227	87.8	34.3	32.4	31.6
MAX	679	1790	1220	289	577	494	643	450	223	47	47	57
MIN	51	99	297	84	73	166	114	132	42	29	26	26

e Estimated.

LACKAWANNA RIVER BASIN

01534500 LACKAWANNA RIVER AT ARCHBALD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	128	203	233	188	215	362	430	262	162	90.3	69.6	82.1
MAX	578	661	581	541	598	741	1111	610	605	278	234	377
(WY)	1978	1973	1974	1996	1981	1977	1993	1989	1972	1984	1994	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 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1960 - 1997	
ANNUAL TOTAL	104371		73075			
ANNUAL MEAN	285		200		202	
HIGHEST ANNUAL MEAN					313	
LOWEST ANNUAL MEAN					101	
HIGHEST DAILY MEAN	2850		Jan 19		3250	
LOWEST DAILY MEAN	26		Sep 16		13	
ANNUAL SEVEN-DAY MINIMUM	31		Sep 10		14	
INSTANTANEOUS PEAK FLOW			3050		b7190	
INSTANTANEOUS PEAK STAGE			6.43		9.32	
10 PERCENT EXCEEDS	679		444		459	
50 PERCENT EXCEEDS	193		140		121	
90 PERCENT EXCEEDS	52		30		35	

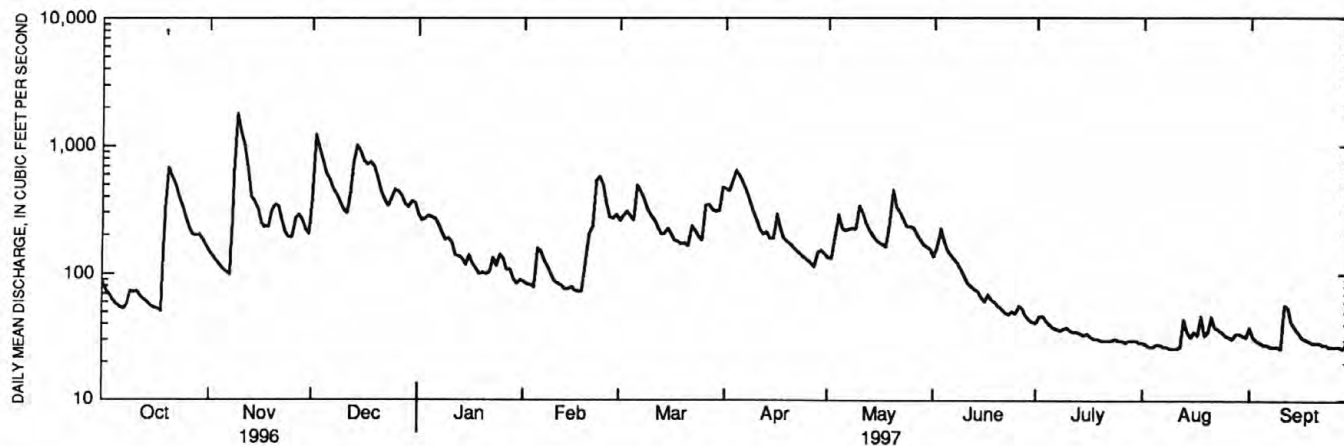
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1959, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	b9510	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	

a Also Aug. 10, 11, Sept. 10, 28.

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

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.--No estimated daily discharges. Records good. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 33 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	318	892	682	218	511	1300	338	220	75	39	154
2	149	291	3570	599	209	524	1160	308	248	135	34	76
3	143	271	2270	606	219	625	1400	510	407	119	35	66
4	130	254	1660	628	212	593	1810	806	329	90	40	57
5	122	240	1320	597	584	546	1690	606	262	79	46	54
6	118	229	1310	570	501	1170	1420	551	225	76	46	47
7	115	220	1170	499	370	1070	1200	525	205	76	36	51
8	134	2040	1150	423	310	848	964	483	190	79	36	49
9	189	6780	987	370	266	727	797	475	180	73	32	47
10	173	3130	824	395	232	635	679	586	163	78	29	45
11	156	2140	765	359	219	579	582	549	150	70	40	209
12	152	1570	1130	273	215	514	542	466	140	63	102	206
13	160	1080	1880	269	193	431	647	411	148	58	182	111
14	146	913	3050	261	203	465	536	373	146	57	123	90
15	121	794	2230	231	215	759	448	340	122	57	61	80
16	115	642	1850	437	194	614	514	313	117	55	70	72
17	114	572	1750	366	178	509	486	300	123	55	75	66
18	112	559	1860	241	170	479	428	285	127	54	164	67
19	1360	713	1680	235	214	451	394	392	128	52	78	60
20	3630	706	1410	254	600	448	370	766	109	46	146	57
21	1670	663	1110	258	555	429	345	552	101	47	200	67
22	1170	550	946	244	1180	534	321	478	129	53	96	55
23	894	457	845	308	1210	514	306	423	107	48	93	52
24	795	414	1040	281	979	436	325	377	139	72	75	53
25	630	402	1440	378	751	393	290	403	112	53	67	51
26	517	548	1150	390	590	918	260	435	98	46	64	49
27	437	589	1040	273	547	883	242	363	110	40	59	46
28	478	500	907	310	569	754	368	312	93	42	112	45
29	485	427	855	265	---	710	369	277	83	45	80	81
30	410	393	898	219	---	703	323	253	79	40	65	68
31	364	---	834	226	---	1200	---	247	---	42	56	---
TOTAL	15355	28405	43823	11447	11903	19972	20516	13503	4790	1975	2381	2231
MEAN	495	947	1414	369	425	644	684	436	160	63.7	76.8	74.4
MAX	3630	6780	3570	682	1210	1200	1810	806	407	135	200	209
MIN	112	220	765	219	170	393	242	247	79	40	29	45

LACKAWANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	272	423	506	430	498	812	949	614	350	190	146	178
MAX	1276	1223	1414	1521	1198	1767	2712	1658	1488	566	432	978
(WY)	1978	1973	1997	1996	1981	1977	1993	1989	1972	1984	1994	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 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1960 - 1997

ANNUAL TOTAL	254560	176301	
ANNUAL MEAN	696	483	
HIGHEST ANNUAL MEAN			447
LOWEST ANNUAL MEAN			712
HIGHEST DAILY MEAN	10700	Jan 19	194
LOWEST DAILY MEAN	68	Sep 16	196
ANNUAL SEVEN-DAY MINIMUM	80	Aug 31	29
INSTANTANEOUS PEAK FLOW			10700
INSTANTANEOUS PEAK STAGE			26
INSTANTANEOUS LOW FLOW			29
10 PERCENT EXCEEDS	1650		29
50 PERCENT EXCEEDS	393		4
90 PERCENT EXCEEDS	122		9

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

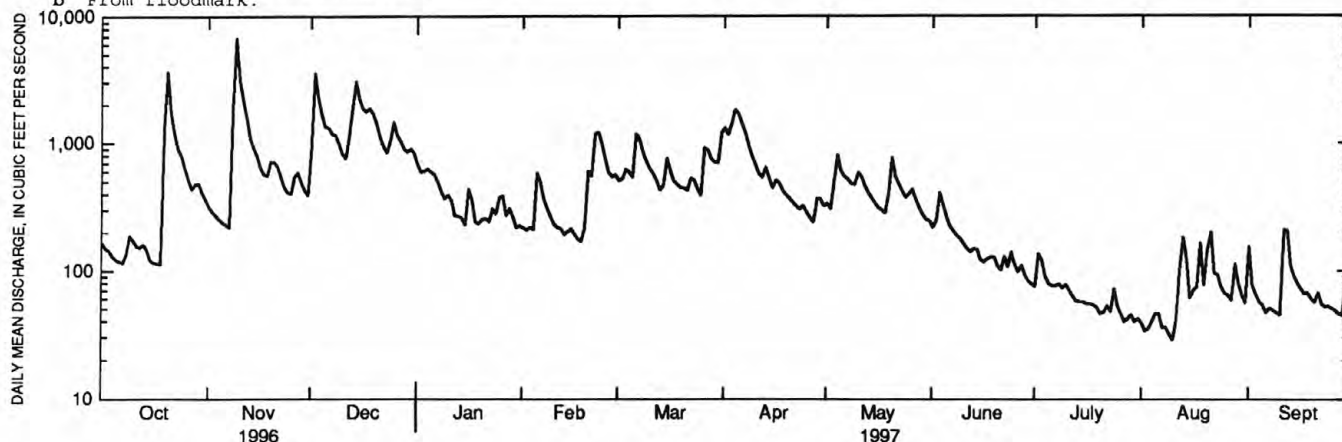
SUMMARY STATISTICS

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	

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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

SUSQUEHANNA RIVER BASIN

01536500 SUSQUEHANNA RIVER AT WILKES-BARRE, PA

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

DRAINAGE AREA.--9,960 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 512.07 ft above sea level, using NAVD 1988 datum. See WSP 1722 for history of changes prior to Mar. 23, 1949. May 23, 1949 to Sept. 30, 1996, at site 800 ft downstream.

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 82,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10	1100	*128,000	*23.57	Dec. 15	0115	94,000	19.07
Dec. 3	1230	127,000	23.41				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13100	10500	22700	23000	e7000	52700	41300	15200	7740	4130	1860	2150
2	11500	10200	68700	19800	e7500	45100	42200	13800	7650	3700	1820	2280
3	8940	9340	124000	17300	e7500	42000	41000	12500	11700	3360	1720	2240
4	7170	8540	99000	17600	e7500	42800	39700	14700	18100	3070	1660	2080
5	6110	7960	74300	20200	e8000	37300	37900	18000	16100	2920	1640	2010
6	5470	7560	57500	22000	e10000	39000	36700	19400	12000	2740	1620	1900
7	5000	7190	46000	22100	e12000	58100	34000	17700	9760	2720	1600	1780
8	4610	9340	40400	20800	e12000	50600	30300	16000	8580	2730	1560	1680
9	4500	68400	35200	18500	e10000	38800	26800	15200	8080	2680	1540	1630
10	4370	123000	29600	e16000	e9000	31500	22800	14700	7380	2660	1510	1560
11	4160	92600	25800	e14000	e8000	27300	19400	14100	6430	2990	1490	1790
12	3970	73000	25600	e13000	e7500	25800	17400	14700	5770	4640	1560	2280
13	3940	55900	31700	e12000	e6500	23100	16700	14900	5310	4010	1650	2340
14	4100	43400	78000	e11000	e6500	20100	16700	13600	5060	3530	1750	2100
15	3970	35400	86700	e10000	e6000	19700	16700	12700	5710	3190	1840	1980
16	3780	29200	64600	e11000	e6500	19700	15700	11800	5320	2860	1890	1940
17	3620	25400	53700	e10000	e6500	18800	14200	10800	4810	2550	1960	1890
18	3480	19900	48300	e9500	e6500	17200	13000	10100	4590	2380	1950	1840
19	5810	17800	43000	e8000	e7000	15600	12500	9970	4450	2220	1890	1790
20	35900	19300	38400	e7500	e10000	15100	12200	14100	4900	2100	1960	1740
21	54100	20900	32400	e7000	18300	15100	11700	29800	6500	2040	2180	1670
22	43300	20400	27200	e7500	24400	15000	11500	26800	5950	1980	2060	1580
23	35200	17900	23800	e8000	39300	16300	11200	20800	5200	1990	2000	1590
24	25300	16100	23000	e8500	44600	19400	10900	16800	5040	2070	1990	1560
25	22300	14800	27400	e9500	37100	17900	10400	14800	4710	2120	1880	1500
26	18200	15000	30000	e10000	28700	16800	9780	13700	4580	2050	1820	1490
27	14800	25000	29800	e9500	22700	22900	9180	12600	5170	2020	1720	1470
28	12800	32400	25800	e9000	33300	30100	9120	11500	4820	2010	1790	1440
29	11900	27200	23000	e8500	---	28200	9900	10300	5580	1930	1910	1520
30	11700	22700	23300	e8000	---	29400	13700	9210	4890	1810	2170	1570
31	11100	---	24000	e7500	---	34500	---	8410	---	1880	2080	---
TOTAL	404200	886330	1382900	396300	409900	885900	614580	458690	211880	83080	56070	54390
MEAN	13040	29540	44610	12780	14640	28580	20490	14800	7063	2680	1809	1813
MAX	54100	123000	124000	23000	44600	58100	42200	29800	18100	4640	2180	2340
MIN	3480	7190	22700	7000	6000	15000	9120	8410	4450	1810	1490	1440
CFSM	1.31	2.97	4.48	1.28	1.47	2.87	2.06	1.49	.71	.27	.18	.18
IN.	1.51	3.31	5.17	1.48	1.53	3.31	2.30	1.71	.79	.31	.21	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1997, BY WATER YEAR (WY)

	MEAN	7007	11350	14090	13790	14690	30270	31210	16450	8932	5334	4009	4267
	MAX	39860	32130	44610	40740	43030	80560	100000	39590	54330	29010	19560	28680
	(WY)	1978	1928	1997	1996	1976	1936	1993	1943	1972	1902	1994	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

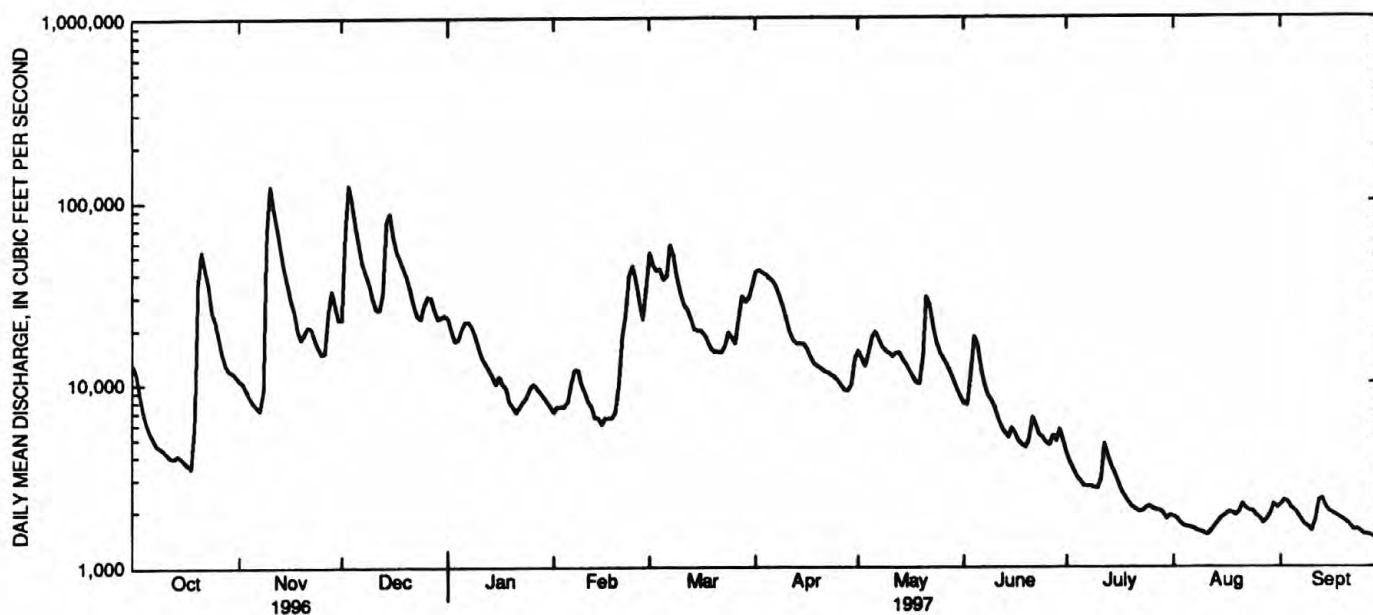
e Estimated.

SUSQUEHANNA RIVER BASIN

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

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1899 - 1997	
ANNUAL TOTAL	8077320		5844220		13460	
ANNUAL MEAN	22070		16010		21990	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	210000	Jan 20	124000	Dec 3	329000	Jun 24 1972
LOWEST DAILY MEAN	1950	Sep 6	1440	Sep 28	532	Sep 27 1964
ANNUAL SEVEN-DAY MINIMUM	2150	Sep 4	1510	Sep 24	546	Sep 21 1964
INSTANTANEOUS PEAK FLOW			128000	Nov 10	a345000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			23.57	Nov 10	b40.91	Jun 24 1972
INSTANTANEOUS LOW FLOW					528	Sep 27 1964
ANNUAL RUNOFF (CFSM)	2.22		1.61		1.35	
ANNUAL RUNOFF (INCHES)	30.17		21.83		18.36	
10 PERCENT EXCEEDS	53800		38100		32300	
50 PERCENT EXCEEDS	12100		10100		7100	
90 PERCENT EXCEEDS	4230		1850		1660	

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



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 580 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1430	1,290	5.94	Dec. 2	0430	1,030	5.33
Nov. 9	0200	*2,100	*7.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	58	142	104	e48	60	140	37	36	18	8.4	89
2	18	54	657	98	e48	72	155	37	41	31	8.3	37
3	18	49	293	101	e50	72	200	58	74	34	8.1	25
4	17	46	217	e95	53	67	185	96	49	18	9.3	20
5	16	43	172	e90	144	72	153	57	39	14	11	16
6	15	40	195	e95	97	169	140	51	35	13	11	14
7	15	39	188	e85	73	112	121	49	32	13	9.4	13
8	17	417	193	e75	64	99	103	45	31	12	8.4	13
9	40	1130	162	e65	e55	89	92	50	30	13	7.9	12
10	32	390	138	e70	e55	87	81	48	28	27	7.4	11
11	27	256	139	e55	e55	84	73	43	27	15	7.5	62
12	21	194	240	e50	e42	75	74	40	24	12	7.7	85
13	22	156	301	e55	e46	67	98	39	34	12	18	37
14	23	132	387	e50	e46	76	72	38	31	11	21	28
15	19	113	301	e46	e44	114	62	39	25	10	11	23
16	18	98	275	e55	e40	e80	57	36	22	9.4	16	20
17	18	89	253	e46	e38	e70	55	34	21	9.2	31	19
18	19	85	218	e42	e40	71	54	33	23	11	88	16
19	685	98	201	e42	64	66	51	40	34	22	23	14
20	456	83	e170	e46	91	66	48	104	24	11	23	14
21	254	72	e140	e60	78	63	45	57	22	9.2	87	14
22	205	66	e120	e50	120	69	43	46	21	11	30	12
23	158	60	119	e55	90	60	41	42	26	11	20	12
24	160	55	168	e70	e70	53	41	39	24	18	15	12
25	121	53	193	e90	e60	50	38	53	39	16	14	11
26	98	86	138	e95	e60	104	36	80	25	11	13	10
27	85	82	127	e70	70	81	34	51	25	10	12	10
28	91	61	118	e60	67	67	58	44	21	10	21	9.5
29	89	56	145	e55	---	66	47	41	19	10	23	19
30	73	55	163	e50	---	64	39	39	18	8.7	16	18
31	65	---	125	e48	---	139	---	38	---	8.3	12	---
TOTAL	2915	4216	6398	2068	1808	2484	2436	1504	900	438.8	598.4	695.5
MEAN	94.0	141	206	66.7	64.6	80.1	81.2	48.5	30.0	14.2	19.3	23.2
MAX	685	1130	657	104	144	169	200	104	74	34	88	89
MIN	15	39	118	42	38	50	34	33	18	8.3	7.4	9.5
CFSM	2.15	3.21	4.71	1.52	1.47	1.83	1.85	1.11	.68	.32	.44	.53
IN.	2.48	3.58	5.43	1.76	1.54	2.11	2.07	1.28	.76	.37	.51	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1997, BY WATER YEAR (WY)

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
MEAN	39.2	62.1	75.8	71.0	82.8	118	116	87.3	49.3	35.6	25.1	26.9
MAX	202	203	206	284	284	327	362	243	248	172	149	161
(WY)	1956	1927	1997	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

e Estimated.

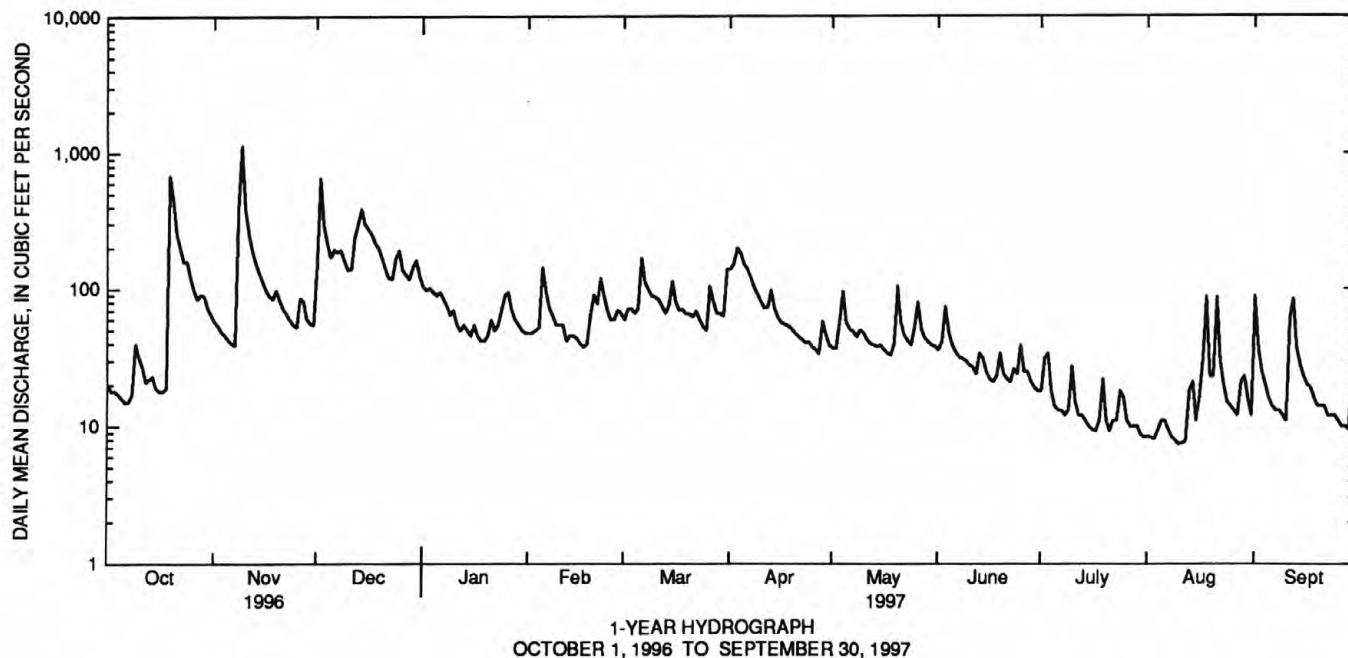
WAPWALLOPEN CREEK BASIN

01538000 WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1920 - 1997	
ANNUAL TOTAL	41758		26461.7		65.6	
ANNUAL MEAN	114		72.5		30.9	
HIGHEST ANNUAL MEAN					108	
LOWEST ANNUAL MEAN					30.9	
HIGHEST DAILY MEAN	e2200	Jan 19	1130	Nov 9	e2200	Jan 19 1996
LOWEST DAILY MEAN	10	Sep 3	7.4	Aug 10	1.5	Aug 31 1953
ANNUAL SEVEN-DAY MINIMUM	11	Aug 31	8.5	Aug 6	1.8	Aug 27 1953
INSTANTANEOUS PEAK FLOW			2100	Nov 9	a5410	Jun 22 1972
INSTANTANEOUS PEAK STAGE			7.40	Nov 9	11.04	Jun 22 1972
INSTANTANEOUS LOW FLOW					1.1	Aug 4 1955
ANNUAL RUNOFF (CFSM)	2.60		1.66		1.50	
ANNUAL RUNOFF (INCHES)	35.47		22.47		20.36	
10 PERCENT EXCEEDS	216		154		139	
50 PERCENT EXCEEDS	76		49		41	
90 PERCENT EXCEEDS	18		12		8.8	

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

e Estimated.



NESCOPECK CREEK BASIN

01538510 LITTLE NESCOPECK CREEK TRIBUTARY NEAR FREELAND, PA

LOCATION.--Lat 41°00'19", long 75°59'39", Luzerne County, Hydrologic Unit 02050107, on left bank 60 ft downstream from Jeddo Tunnel outlet, 0.3 mi upstream from confluence with Little Nescopeck Creek, and 5.0 mi west of Freeland.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD.--December 1973 to October 1979, October 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,040 ft above sea level, from topographic map.

REMARKS.--Records good. Outflow is from mine drainage tunnels and is regulated by mining activity. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 482 ft³/s, Nov. 9, gage height, 3.61 ft; minimum discharge, 21 ft³/s, Aug. 12, 13, 15.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 482 ft³/s, Nov. 9, 1996, gage height, 3.61 ft; minimum discharge, 20 ft³/s, Aug. 15, 16, 1977, Oct. 13, 1995.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

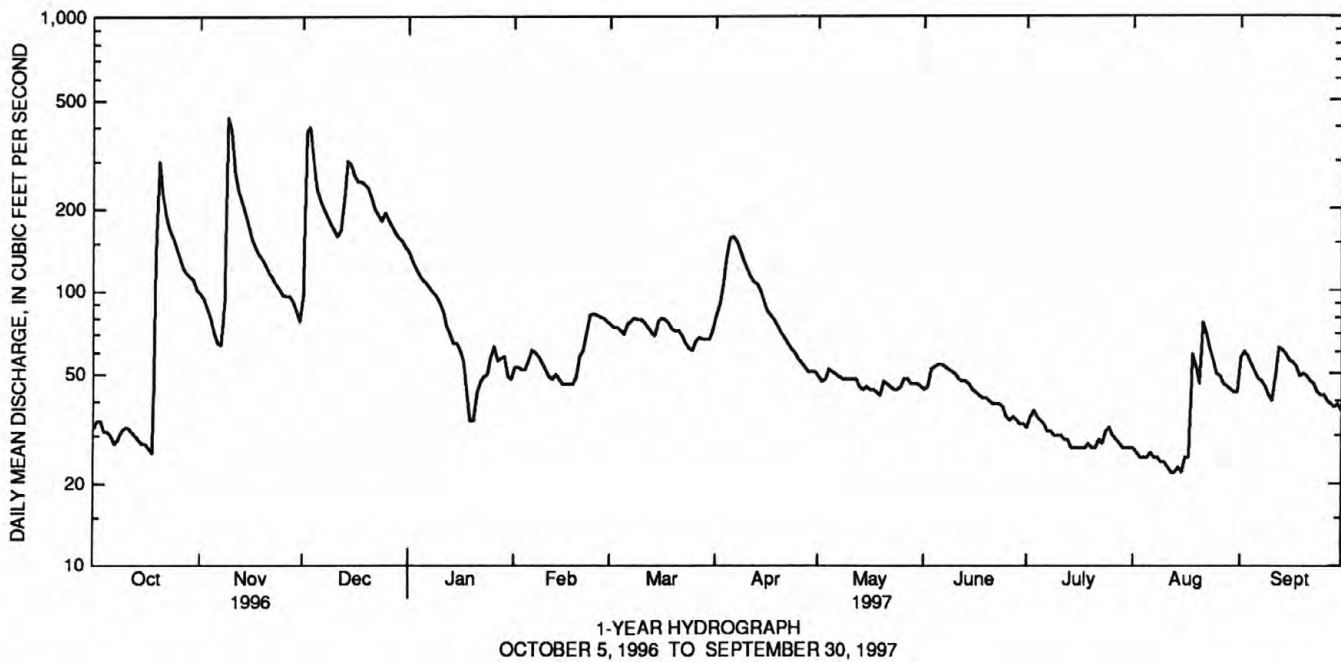
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	98	96	e140	53	76	82	49	44	32	27	57
2	34	94	386	130	53	74	89	47	45	35	26	60
3	34	87	401	122	52	74	105	48	52	37	25	58
4	31	80	300	115	52	72	134	52	53	35	25	54
5	31	71	239	110	56	70	156	51	54	34	25	51
6	30	65	216	107	61	76	158	50	54	33	26	48
7	28	64	201	103	60	78	152	49	53	31	25	47
8	29	91	189	99	58	80	141	48	52	31	25	45
9	31	435	177	96	55	79	130	48	51	30	24	42
10	32	391	168	91	52	79	121	48	50	30	24	40
11	32	275	159	e85	49	77	113	48	48	30	23	49
12	31	236	167	e75	48	74	108	48	47	29	22	62
13	30	213	213	e70	50	71	106	45	47	29	22	61
14	29	194	301	e65	48	69	100	44	46	27	23	59
15	28	174	292	e65	46	78	92	45	44	27	22	56
16	28	156	266	61	46	80	85	44	43	27	25	55
17	27	145	254	56	46	79	82	44	42	27	25	53
18	26	137	253	43	46	77	79	43	41	27	59	49
19	142	132	247	34	49	73	75	42	41	28	53	50
20	300	125	e240	34	58	72	71	47	40	27	46	49
21	224	117	e220	43	61	72	68	46	39	27	77	47
22	190	112	e200	47	71	69	65	45	39	29	70	46
23	168	106	190	49	82	65	62	44	39	28	62	43
24	158	102	181	50	83	62	60	44	38	31	56	42
25	145	97	194	58	82	61	57	45	35	32	50	42
26	133	96	183	63	81	66	55	48	34	30	49	40
27	122	96	173	56	80	68	53	48	35	29	46	39
28	116	92	164	57	78	67	51	46	34	28	45	38
29	113	85	157	58	---	67	51	46	33	27	44	39
30	110	78	153	49	---	67	51	46	33	27	43	37
31	101	---	145	48	---	73	---	45	---	27	43	---
TOTAL	2565	4244	6725	2279	1656	2245	2752	1443	1306	921	1157	1458
MEAN	82.7	141	217	73.5	59.1	72.4	91.7	46.5	43.5	29.7	37.3	48.6
MAX	300	435	401	140	83	80	158	52	54	37	77	62
MIN	26	64	96	34	46	61	51	42	33	27	22	37

e Estimated.

NESCOPECK CREEK BASIN

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01538510 LITTLE NESCOPECK CREEK TRIBUTARY NEAR FREELAND, PA--Continued



FISHING CREEK BASIN

01539000 FISHING CREEK NEAR BLOOMSBURG, PA

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

DRAINAGE AREA.--274 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 poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,000 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Oct. 19	2000	5,370	6.83	Dec. 13	2330	12,600	10.01
Dec. 2	0730	*12,700	*10.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	277	1930	622	276	666	711	344	183	66	26	104
2	143	255	9890	598	274	715	670	338	196	70	24	88
3	136	236	3930	589	298	786	675	471	296	80	23	79
4	129	219	2120	563	312	707	673	1000	252	71	24	70
5	122	206	1420	534	e800	678	628	757	208	64	28	63
6	117	197	1350	536	733	1470	585	680	184	e60	29	59
7	113	191	1160	471	573	1210	546	607	170	e50	26	56
8	111	475	963	417	500	967	490	528	166	e44	25	53
9	119	3450	844	e360	e420	817	443	505	157	e48	24	51
10	123	1980	740	e380	e360	737	405	486	147	e48	22	49
11	121	1240	683	e340	e360	680	376	433	135	e50	21	165
12	113	897	822	e290	e300	597	359	387	127	e46	21	261
13	107	717	4980	e300	e280	528	512	365	144	e44	24	240
14	106	608	8110	e290	e280	641	435	340	137	e38	42	201
15	104	520	3470	e270	e300	1180	374	314	125	e34	34	173
16	97	454	2120	e260	e270	925	e340	288	110	e30	35	153
17	93	411	1590	e260	e260	787	329	270	104	e27	46	139
18	90	385	1300	e240	e270	724	315	254	104	e30	211	129
19	2240	387	1090	e240	405	655	299	279	130	42	136	121
20	3150	359	924	e250	665	613	286	454	118	38	110	111
21	1480	323	758	e280	625	568	270	329	101	33	269	103
22	992	297	694	e260	1350	568	253	284	90	31	191	92
23	755	275	639	266	1480	533	244	259	85	30	137	82
24	718	255	743	262	1020	472	241	239	82	47	105	77
25	584	243	1060	448	794	443	226	245	87	50	87	73
26	492	318	832	472	685	785	214	307	87	42	88	70
27	428	344	762	343	668	754	199	247	85	37	80	65
28	403	279	712	335	743	713	441	215	79	37	84	61
29	387	266	739	e300	---	702	468	198	73	33	94	83
30	340	259	799	e280	---	675	375	191	69	30	82	85
31	307	---	690	282	---	729	---	196	---	28	75	---
TOTAL	14377	16323	57864	11338	15301	23025	12382	11810	4031	1378	2223	3156
MEAN	464	544	1867	366	546	743	413	381	134	44.5	71.7	105
MAX	3150	3450	9890	622	1480	1470	711	1000	296	80	269	261
MIN	90	191	639	240	260	443	199	191	69	27	21	49
CFSM	1.69	1.99	6.81	1.33	1.99	2.71	1.51	1.39	.49	.16	.26	.38
IN.	1.95	2.22	7.86	1.54	2.08	3.13	1.68	1.60	.55	.19	.30	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

MEAN	295	473	621	498	561	894	905	619	335	204	160	211
MAX	1589	995	1867	1509	1456	1680	2518	1712	2230	835	525	1286
(WY)	1977	1946	1997	1979	1981	1977	1993	1989	1972	1947	1994	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

e Estimated.

FISHING CREEK BASIN

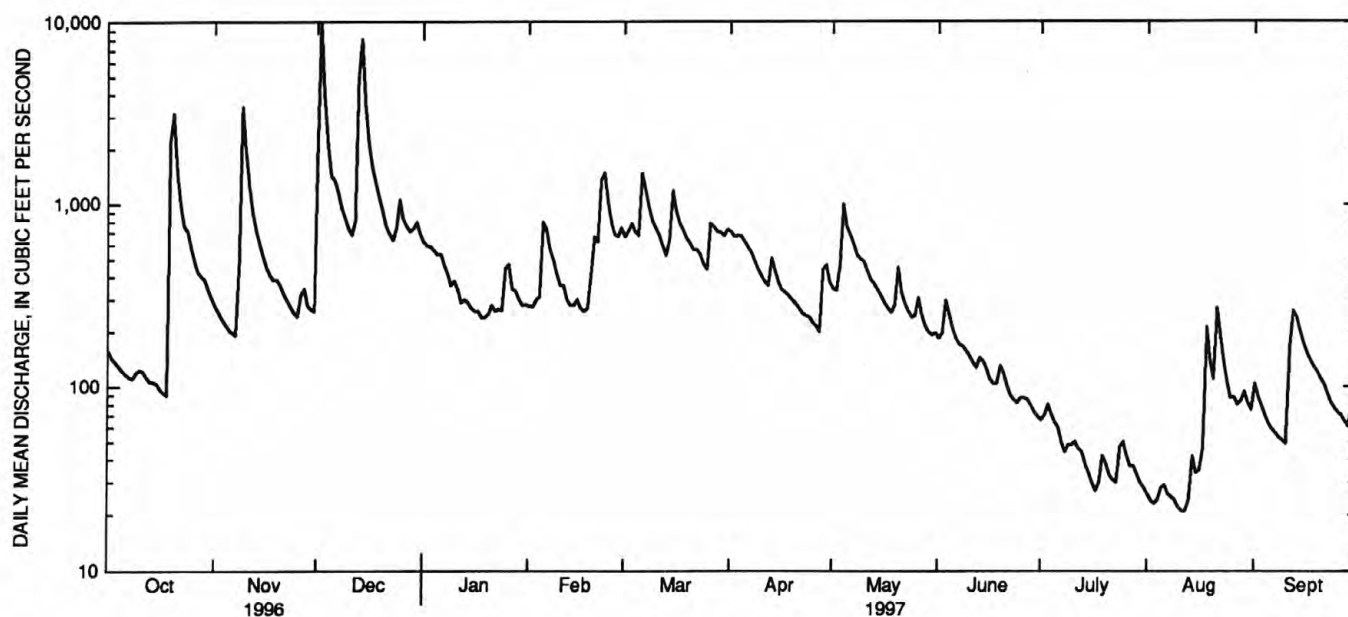
75

01539000 FISHING CREEK NEAR BLOOMSBURG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1938 - 1997	
ANNUAL TOTAL	252299		173208		481	
ANNUAL MEAN	689		475		739	
HIGHEST ANNUAL MEAN					229	
LOWEST ANNUAL MEAN					1960	
HIGHEST DAILY MEAN	9890	Dec 2	9890	Dec 2	18500	Jun 23 1972
LOWEST DAILY MEAN	70	Sep 4	21	Aug 11,12	8.4	Sep 12 1964
ANNUAL SEVEN-DAY MINIMUM	75	Aug 31	23	Aug 7	8.7	Sep 12 1964
INSTANTANEOUS PEAK FLOW			12700	Dec 2	a30900	Jun 22 1972
INSTANTANEOUS PEAK STAGE			10.05	Dec 2	b15.18	Jun 22 1972
INSTANTANEOUS LOW FLOW					7.6	Jul 19 1939
ANNUAL RUNOFF (CFSM)	2.52		1.73		1.75	
ANNUAL RUNOFF (INCHES)	34.25		23.52		23.83	
10 PERCENT EXCEEDS	1510		826		1080	
50 PERCENT EXCEEDS	324		279		271	
90 PERCENT EXCEEDS	110		47		54	

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

b From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA

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.

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 poor. Flow slightly regulated by 8 flood-control reservoirs which have a combined capacity of 368,800 acre-ft. Satellite telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9590	12000	24500	25200	8540	47600	39400	14700	9070	4890	1830	2730
2	13100	11500	56300	23000	8630	48200	43600	15500	8650	4420	1820	3010
3	11000	10900	116000	19900	8680	41700	42800	13900	9760	4220	1780	2750
4	8760	9970	120000	18300	8840	42800	41600	15300	14600	3760	1730	2590
5	7260	9190	88700	19600	11400	40300	40100	17400	19300	3380	1740	2390
6	6350	8630	70000	22000	13000	38400	39100	20100	15300	3180	1740	2270
7	5780	8200	54800	22800	13800	52500	36900	20100	11900	2990	1670	2180
8	5370	8790	46500	22100	14000	58300	33400	17900	9910	2910	1590	2050
9	5260	44300	40700	20300	13500	45900	29700	16700	8650	2920	1520	1960
10	5190	113000	34800	18000	12100	36000	25500	16100	8200	2940	1460	1850
11	4990	113000	30000	16200	10300	30300	21800	15400	7560	2920	1420	2320
12	4690	84800	28300	e15000	9250	27500	19200	14800	6740	3150	1420	3310
13	4480	67100	37100	e15000	8640	25500	18300	15700	6390	4510	1500	3420
14	4450	50900	72400	e14000	7970	22800	17500	15200	5950	4070	1690	3170
15	4510	40900	99000	e12000	7960	23100	17500	14200	5590	3590	1760	2800
16	4430	33600	81700	e11000	7790	22500	16900	13200	5910	3260	1910	2550
17	4230	28600	63400	e12000	7880	21600	15800	12300	5600	2970	2200	2440
18	4080	24600	55200	e9500	7540	20000	14400	11400	5200	2710	3350	2380
19	12800	20000	48900	e9000	7690	18000	13400	11000	5150	2680	3280	2270
20	30900	19500	43400	e8000	9360	16600	13000	12300	4870	2470	2640	2210
21	59400	21000	37400	e7500	14000	16300	12500	22300	5190	2230	3860	2140
22	49700	21800	31500	e7500	22700	16200	12100	30600	6450	2240	3670	2010
23	41100	20000	27200	e8500	e30000	16200	11900	25300	5830	2240	2910	1890
24	33200	17700	25100	e9500	e41000	18300	11600	20400	5200	2350	2630	1860
25	26400	16200	28400	e10000	e40000	19600	11300	17400	5310	2420	2460	1840
26	22600	15700	31200	e11000	e30000	18700	10600	16200	4970	2290	2360	1770
27	18700	18700	32300	13000	26400	19900	9940	14700	4820	2190	2190	1720
28	15700	30500	30000	11200	23600	28300	9960	13400	5230	2170	2130	1670
29	14200	30300	26200	e11000	---	30000	10300	12000	4950	2140	2250	1760
30	13300	25400	25300	10300	---	29100	11400	10900	5490	2020	2230	1880
31	12900	---	25400	8920	---	33000	---	9910	---	1900	2400	---
TOTAL	464420	936780	1531700	441320	424570	925200	651500	496310	227740	92130	67140	69190
MEAN	14980	31230	49410	14240	15160	29850	21720	16010	7591	2972	2166	2306
MAX	59400	113000	120000	25200	41000	58300	43600	30600	19300	4890	3860	3420
MIN	4080	8200	24500	7500	7540	16200	9940	9910	4820	1900	1420	1670
CFSM	1.34	2.78	4.40	1.27	1.35	2.66	1.94	1.43	.68	.26	.19	.21
IN.	1.54	3.11	5.08	1.46	1.41	3.07	2.16	1.65	.76	.31	.22	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1997, BY WATER YEAR (WY)

	MEAN	7879	13120	16210	15960	16740	32630	35080	19420	10530	6259	4658	5110
MAX	43890	38540	49410	44410	46420	91900	106900	44980	62370	28490	23110	30900	
(WY)	1978	1927	1997	1996	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	

e Estimated.

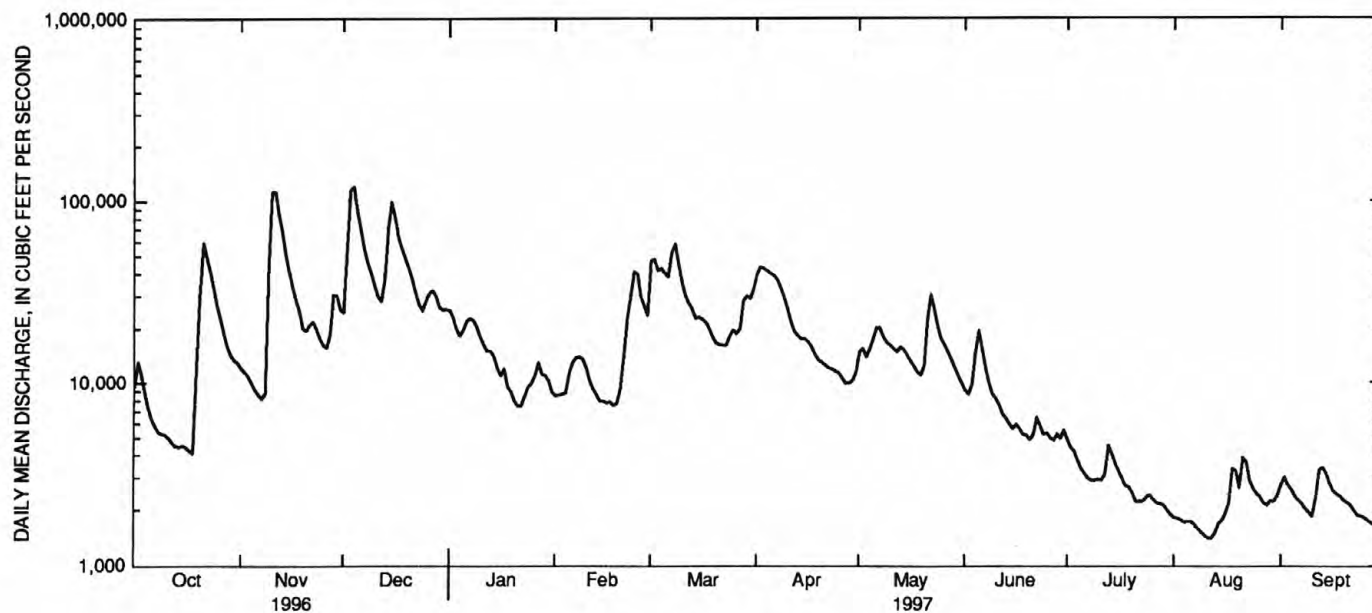
SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1905 - 1997	
ANNUAL TOTAL	9055530		6328000		15290	
ANNUAL MEAN	24740		17340		24670	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	205000	Jan 21	120000	Dec 4	335000	Jun 25 1972
LOWEST DAILY MEAN	2640	Sep 6, 7	1420	Aug 11, 12	558	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	2750	Sep 6	1510	Aug 7	579	Sep 21 1964
INSTANTANEOUS PEAK FLOW			130000	Dec 3	a363000	Jun 25 1972
INSTANTANEOUS PEAK STAGE			19.06	Dec 3	b32.32	Jun 24 1972
INSTANTANEOUS LOW FLOW					508	Sep 27 1964
ANNUAL RUNOFF (CFSM)	2.21		1.55		1.36	
ANNUAL RUNOFF (INCHES)	30.02		20.98		18.51	
10 PERCENT EXCEEDS	58200		40500		36100	
50 PERCENT EXCEEDS	14000		11900		8430	
90 PERCENT EXCEEDS	4700		2190		2110	

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

b Backwater from West Branch Susquehanna River.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,400 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Nov. 8	2300	*6.000	*10.93	May 26	0530	5.450	10.59

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	657	425	2010	660	e440	784	877	321	766	138	61	98
2	544	395	2920	700	e420	1310	746	301	1220	173	59	90
3	493	366	1860	742	e450	1310	665	360	1110	155	58	85
4	416	335	1470	688	500	1130	607	492	834	132	58	81
5	363	316	1150	767	e2200	1380	549	381	684	120	65	75
6	328	304	999	828	e1700	2530	508	356	571	113	72	73
7	305	302	860	681	1240	1820	466	336	495	108	65	69
8	288	2960	790	604	978	1420	416	304	441	105	59	67
9	277	4970	706	552	803	1200	401	313	383	103	54	67
10	280	2940	627	e520	679	1480	379	327	339	103	52	70
11	256	1850	848	e450	587	1320	356	322	306	96	51	195
12	229	1310	3640	e370	e500	1110	364	290	282	90	54	187
13	215	999	3490	e350	e420	914	563	276	391	86	313	123
14	205	817	2530	e340	e400	1830	473	260	517	83	246	97
15	195	684	1750	e330	e400	2450	395	250	339	81	124	86
16	188	599	1330	e330	e390	1580	364	243	274	141	191	78
17	185	545	1090	e340	e360	1210	355	228	426	106	319	74
18	195	529	908	e300	e350	1020	353	218	417	84	481	74
19	2170	527	774	e290	e830	862	334	427	542	77	315	71
20	3070	474	e620	e300	2830	744	312	942	363	71	243	123
21	1820	427	e500	e310	2620	655	294	669	291	68	540	158
22	1280	397	e480	e320	3620	613	285	511	253	68	329	102
23	981	370	e490	e350	2310	536	293	431	224	86	259	85
24	796	348	657	e400	1520	476	325	379	199	106	194	79
25	654	350	791	e450	e1000	443	282	1920	183	89	158	73
26	554	e850	e540	e440	e840	2500	259	4480	176	87	143	70
27	489	783	e520	e420	959	1730	242	2180	181	81	126	66
28	562	614	e560	e420	930	1200	420	1260	163	75	170	64
29	680	568	761	e400	---	1060	427	907	147	76	179	1150
30	536	546	e890	e450	---	1100	350	744	136	78	124	623
31	476	---	745	e450	---	1050	---	634	---	67	108	---
TOTAL	19687	26900	37306	14552	30276	38767	12660	21062	12653	3046	5270	4353
MEAN	635	897	1203	469	1081	1251	422	679	422	98.3	170	145
MAX	3070	4970	3640	828	3620	2530	877	4480	1220	173	540	1150
MIN	185	302	480	290	350	443	242	218	136	67	51	64
CFSM	2.02	2.85	3.82	1.49	3.43	3.97	1.34	2.16	1.34	.31	.54	.46
IN.	2.32	3.18	4.41	1.72	3.58	4.58	1.50	2.49	1.49	.36	.62	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	256	436	632	713	814	1225	934	654	401	280	205	195
MAX	915	1579	1958	2136	1924	3369	2080	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

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

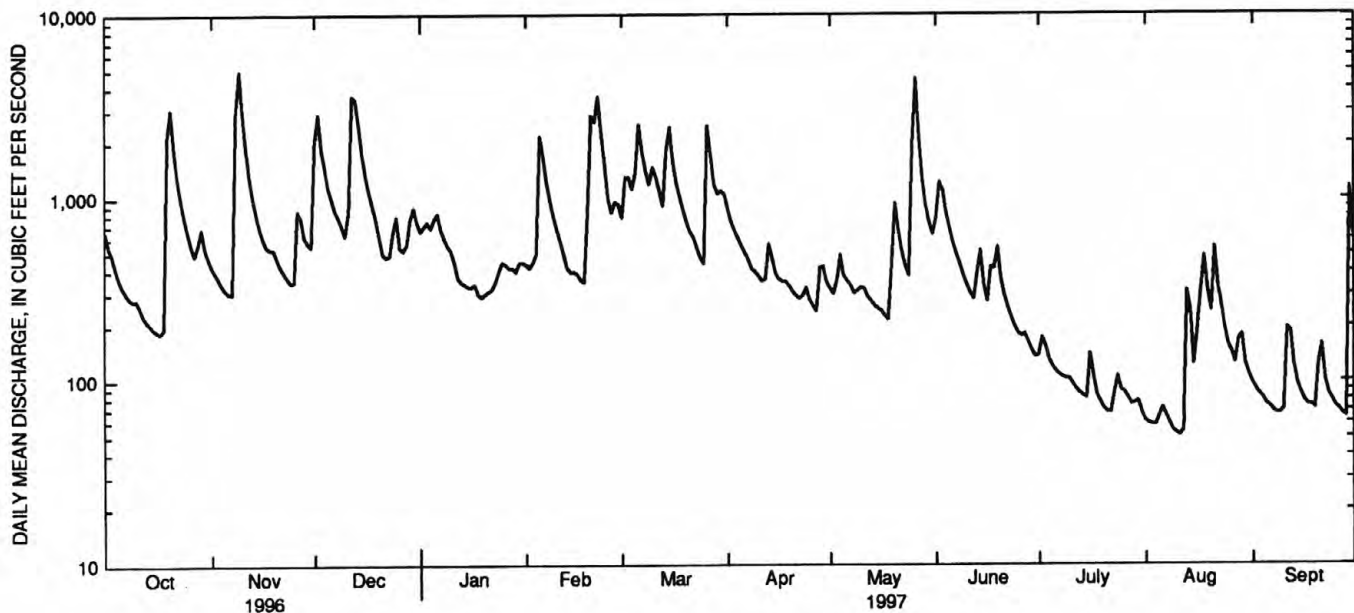
01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	327180		226532		561	
ANNUAL MEAN	894		621		294	
HIGHEST ANNUAL MEAN					955	
LOWEST ANNUAL MEAN					294	
HIGHEST DAILY MEAN	13700	Jul 19	4970	Nov 9	23200	Jun 23 1972
LOWEST DAILY MEAN	89	Jul 13	51	Aug 11	16	Aug 29 1939 ^a
ANNUAL SEVEN-DAY MINIMUM	106	Jul 7	58	Aug 6	17	Aug 28 1939
INSTANTANEOUS PEAK FLOW			6000	Nov 8	b31500	Mar 18 1936
INSTANTANEOUS PEAK STAGE			10.93	Nov 8	c19.74	Mar 18 1936
INSTANTANEOUS LOW FLOW					14	Aug 29 1939
ANNUAL RUNOFF (CFSM)	2.84		1.97		1.78	
ANNUAL RUNOFF (INCHES)	38.64		26.75		24.19	
10 PERCENT EXCEEDS	1940		1320		1310	
50 PERCENT EXCEEDS	500		400		287	
90 PERCENT EXCEEDS	164		81		61	

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

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

c From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.--Records fair except those below 100 ft³/s and those for estimated daily discharges, which are poor. Flow regulated since November 1965 by Curwensville Dam (station 01541180). Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	829	545	e1500	792	696	1180	1120	e210	822	241	e85	165
2	820	504	e3000	721	665	1200	924	e200	1350	207	e65	137
3	523	453	e2700	808	716	1640	753	e240	1470	150	e65	136
4	481	e400	e1800	840	710	1580	718	388	975	149	e70	91
5	481	e380	e1400	828	1630	1510	648	700	883	148	e75	68
6	417	e360	e1100	974	2460	2550	575	482	687	146	e70	67
7	363	e350	e920	840	1890	2560	556	349	597	143	e65	67
8	386	e1000	e900	714	1320	1870	479	392	532	142	e65	68
9	356	e3800	e860	665	1020	1410	448	374	408	140	e65	67
10	313	4390	e740	e550	785	1520	452	276	352	139	e60	70
11	297	3740	e800	e500	725	1620	413	327	427	138	e60	201
12	282	e2300	e2600	477	653	1440	396	327	385	136	e65	297
13	250	e1500	e4100	387	571	1150	467	278	423	124	259	219
14	220	e1100	3930	371	440	1820	595	278	573	92	341	150
15	190	e850	2630	372	416	3010	551	277	458	74	173	86
16	196	e780	1670	375	478	2080	478	332	317	78	139	64
17	209	696	1270	382	478	1510	425	356	445	110	359	90
18	210	604	1040	347	566	1270	394	353	518	135	600	134
19	1660	640	985	321	846	1100	396	668	534	134	384	124
20	2930	658	800	320	2910	886	354	913	483	134	471	169
21	2840	621	516	322	2740	828	331	593	356	123	552	219
22	2060	514	431	406	3230	701	330	546	291	108	331	152
23	1290	403	606	453	3460	627	290	523	288	108	272	134
24	1020	407	733	649	2690	626	316	474	245	107	272	134
25	762	474	949	680	1580	554	e230	1200	223	106	242	93
26	666	850	818	725	1160	2030	e200	4950	222	106	165	75
27	631	1030	606	741	1080	2620	e190	3330	220	105	146	79
28	565	788	642	671	1220	1620	e230	1470	219	105	146	80
29	799	669	777	831	---	1140	e230	1170	217	105	147	1160
30	736	e620	1060	823	---	1230	e210	862	215	105	184	792
31	599	---	945	759	---	1340	---	744	---	105	209	---
TOTAL	23381	31426	42828	18644	37135	46222	13699	23582	15135	3943	6202	5388
MEAN	754	1048	1382	601	1326	1491	457	761	505	127	200	180
MAX	2930	4390	4100	974	3460	3010	1120	4950	1470	241	600	1160
MIN	190	350	431	320	416	554	190	200	215	74	60	64

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	359	650	881	743	966	1338	1131	751	506	426	255	307
MAX	950	1516	1865	1749	1847	2532	2911	1593	2074	1650	765	1460
(WY)	1980	1986	1973	1996	1986	1979	1993	1966	1972	1977	1977	1996
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1966 - 1997

ANNUAL TOTAL	389605	267585	
ANNUAL MEAN	1064	733	691
HIGHEST ANNUAL MEAN			905
LOWEST ANNUAL MEAN			452
HIGHEST DAILY MEAN	5730	Jan 23	4950 May 26
LOWEST DAILY MEAN	90	Jul 13	e60 Aug 10,11
ANNUAL SEVEN-DAY MINIMUM	92	Jul 7	a64 Aug 6
INSTANTANEOUS PEAK FLOW			5390 May 26
INSTANTANEOUS PEAK STAGE			8.23 May 26
10 PERCENT EXCEEDS	2700		1620
50 PERCENT EXCEEDS	646		481
90 PERCENT EXCEEDS	194		107

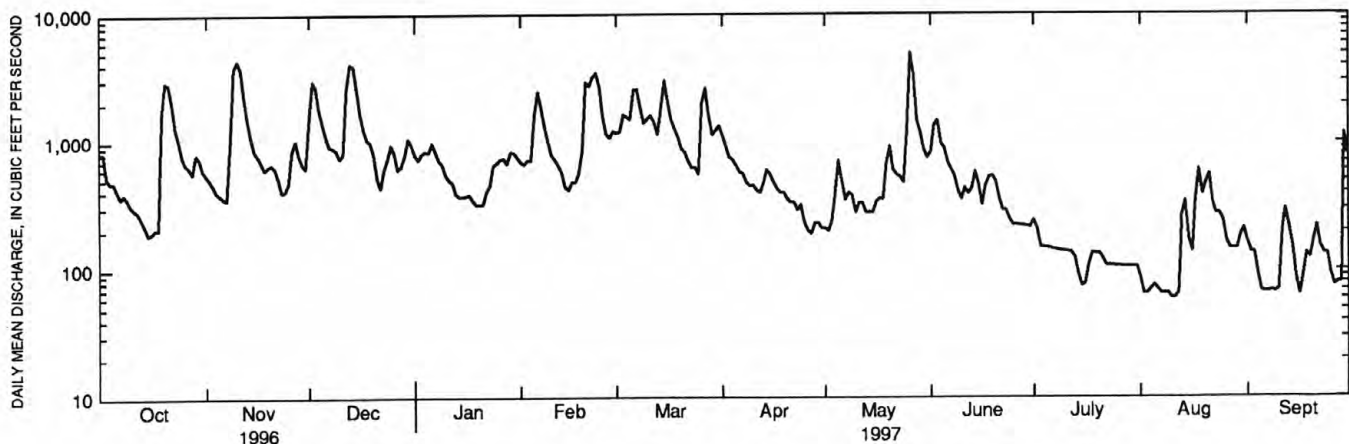
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1965, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	

a Computed using estimated daily discharges.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1060	707	2010	e1000	e940	1800	1460	267	1120	252	109	197
2	1050	643	3990	e940	e900	2010	1220	263	1680	292	84	152
3	773	572	3570	e1000	e960	2350	1000	302	2000	194	84	151
4	628	520	2460	e1100	e900	2220	937	476	1390	178	92	130
5	607	500	1930	e1100	e2200	2110	868	809	1200	170	94	90
6	552	477	1570	e1300	3100	3620	768	611	982	166	86	88
7	468	461	1350	1100	2390	3490	718	478	801	e160	84	87
8	483	2190	1240	928	1680	2640	638	470	707	e160	79	87
9	452	4880	1120	854	1300	1990	582	510	561	e160	78	87
10	422	4930	956	761	1020	2040	572	392	428	185	79	107
11	390	4280	1020	e760	907	2160	538	411	494	176	80	315
12	370	3190	3420	e640	837	1850	526	432	489	165	81	339
13	342	e2000	4920	e520	e680	1550	599	371	457	155	293	249
14	312	1440	4670	e500	e650	2360	709	365	672	127	437	179
15	279	1110	3500	e500	507	3890	680	362	564	99	226	129
16	265	995	2290	e500	e550	2890	582	386	379	100	166	101
17	285	893	1790	e500	e560	2050	532	420	473	109	424	109
18	312	781	1430	e460	e600	1740	491	418	642	151	900	145
19	2560	781	1300	e430	987	1490	488	741	603	152	503	141
20	4110	788	1080	e430	3380	1240	458	1130	573	152	480	254
21	3670	716	782	e430	3550	1110	422	727	427	150	754	281
22	2750	621	e600	e540	4430	991	420	664	323	126	417	196
23	1790	471	e800	e600	4360	845	400	623	315	132	312	170
24	1420	470	e1000	e840	3530	813	395	583	281	132	301	166
25	1100	507	e1300	e900	2230	744	360	1150	246	132	280	131
26	917	951	e1100	e960	1620	2500	238	4900	238	129	204	107
27	856	1260	e780	e980	1620	3340	234	3810	237	125	167	107
28	820	949	e840	e880	1920	2200	290	1870	233	127	170	167
29	970	818	e1000	e1100	---	1600	295	1430	227	122	165	1680
30	977	795	e1400	e1100	---	1570	275	1110	226	116	176	874
31	800	---	e1200	e1000	---	1700	---	935	---	116	218	---
TOTAL	31790	39696	56418	24653	48308	62903	17695	27416	18968	4710	7623	7016
MEAN	1025	1323	1820	795	1725	2029	590	884	632	152	246	234
MAX	4110	4930	4920	1300	4430	3890	1460	4900	2000	292	900	1680
MIN	265	461	600	430	507	744	234	263	226	99	78	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1997, BY WATER YEAR (WY)

	414	887	1096	963	1272	1704	1521	930	714	559	351	348
MEAN												
MAX	1264	2008	1944	2092	2302	3377	3648	1831	1663	1497	1084	1819
(WY)	1980	1987	1991	1996	1986	1979	1993	1989	1989	1996	1984	1996
MIN	97.0	181	262	302	392	647	590	307	160	131	98.7	78.1
(WY)	1983	1992	1990	1981	1980	1990	1997	1986	1991	1988	1988	1995

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

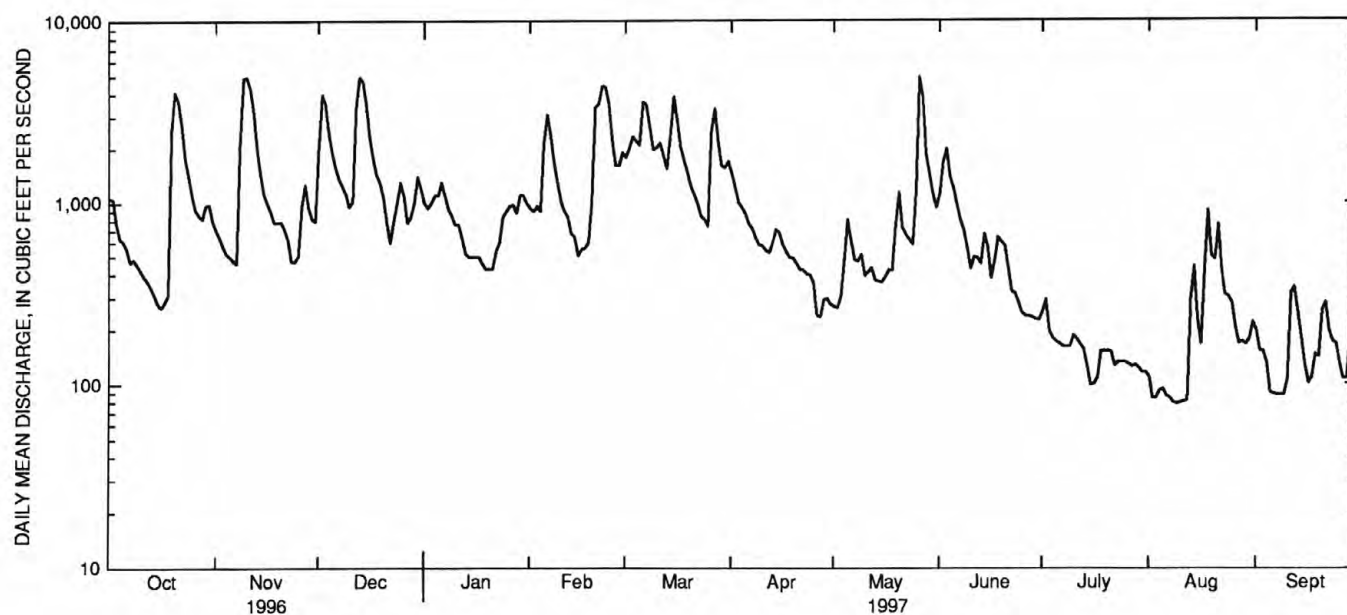
01541303 WEST BRANCH SUSQUEHANNA RIVER AT HYDE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1979 - 1997	
ANNUAL TOTAL	495653		347196		894	
ANNUAL MEAN	1354		951		611	
HIGHEST ANNUAL MEAN					1146	
LOWEST ANNUAL MEAN					611	
HIGHEST DAILY MEAN	5690	Jan 23	4930	Nov 10	6850	Mar 8 1979
LOWEST DAILY MEAN	156	Sep 1	78	Aug 9	46	Sep 14 1982
ANNUAL SEVEN-DAY MINIMUM	189	Jul 7	81	Aug 6	53	Oct 6 1983
INSTANTANEOUS PEAK FLOW			c5200	Nov 10	b7630	Jan 19 1996
INSTANTANEOUS PEAK STAGE			a10.77	Feb 5	a11.45	Feb 18 1981
10 PERCENT EXCEEDS	3610		2210		2130	
50 PERCENT EXCEEDS	848		607		534	
90 PERCENT EXCEEDS	284		132		132	

a Backwater from ice.

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

c At gage height, 9.23 ft.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 25 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	671	536	1290	694	e430	981	1040	289	803	154	67	97
2	580	498	2930	686	e410	1250	875	279	1190	162	64	90
3	531	445	2070	739	e420	1480	781	307	1380	170	61	86
4	462	409	1630	687	e460	1220	715	358	1010	150	65	81
5	402	388	1370	678	e2900	1340	650	314	848	133	67	77
6	370	376	1210	719	e1200	2510	602	296	709	124	65	73
7	347	374	1050	627	e1000	2050	556	288	620	118	64	69
8	326	2770	943	552	e850	1650	498	274	561	114	60	69
9	312	5470	841	513	e750	1470	473	280	493	109	56	68
10	306	3240	752	e480	e700	1590	448	290	430	108	53	69
11	292	2270	804	e420	e650	1570	417	287	386	103	55	141
12	261	1750	2680	e380	e550	1340	424	270	360	100	58	195
13	244	1400	2940	e330	e420	1130	576	255	384	96	160	142
14	231	1160	2870	e320	e380	1610	538	244	491	89	170	110
15	217	948	2120	e310	e360	2650	439	235	389	89	149	94
16	207	809	1720	e340	e350	1820	401	233	322	106	109	86
17	200	724	1460	e310	e340	1480	388	228	418	101	204	81
18	206	678	1260	e270	e320	1300	383	215	456	88	294	81
19	2730	656	1070	e280	e600	1130	368	327	485	83	297	77
20	4540	589	e850	e300	2460	975	346	948	387	78	216	94
21	2880	521	e680	e310	2430	854	327	759	316	75	367	132
22	1990	471	e660	e310	3680	794	317	548	276	75	322	103
23	1550	430	e640	e360	2840	704	321	469	247	90	220	90
24	1250	401	714	e400	1990	624	325	415	223	113	169	81
25	997	391	781	e440	1530	575	299	1290	206	105	140	74
26	831	646	e610	e420	1250	2080	279	4250	195	95	125	71
27	718	668	e540	e410	1150	1810	263	2420	194	88	114	67
28	721	525	e560	e410	1160	1320	324	1590	189	85	117	67
29	817	485	e700	e390	---	1220	365	1210	169	85	153	1240
30	688	474	908	e440	---	1310	320	983	153	78	125	770
31	598	---	779	e440	---	1200	---	822	---	77	106	---
TOTAL	26475	30502	39432	13965	31580	43037	14058	20973	14290	3241	4292	4575
MEAN	854	1017	1272	450	1128	1388	469	677	476	105	138	153
MAX	4540	5470	2940	739	3680	2650	1040	4250	1380	170	367	1240
MIN	200	374	540	270	320	575	263	215	153	75	53	67

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541500 CLEARFIELD CREEK AT DIMELING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	278	466	645	637	839	1310	1064	737	450	307	207	247
MAX	1024	1132	1693	1549	1708	2578	2786	1800	2522	1189	635	1393
(WY)	1980	1986	1973	1996	1976	1979	1993	1978	1972	1977	1984	1996
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1961 - 1997

ANNUAL TOTAL	358035	246420	
ANNUAL MEAN	978	675	598
HIGHEST ANNUAL MEAN			866
LOWEST ANNUAL MEAN			350
HIGHEST DAILY MEAN	10300	Jan 20	5470
LOWEST DAILY MEAN	81	Jul 13	53
ANNUAL SEVEN-DAY MINIMUM	99	Jul 7	59
INSTANTANEOUS PEAK FLOW			5980
INSTANTANEOUS PEAK STAGE			b10.04
10 PERCENT EXCEEDS	2180		1560
50 PERCENT EXCEEDS	588		415
90 PERCENT EXCEEDS	190		86

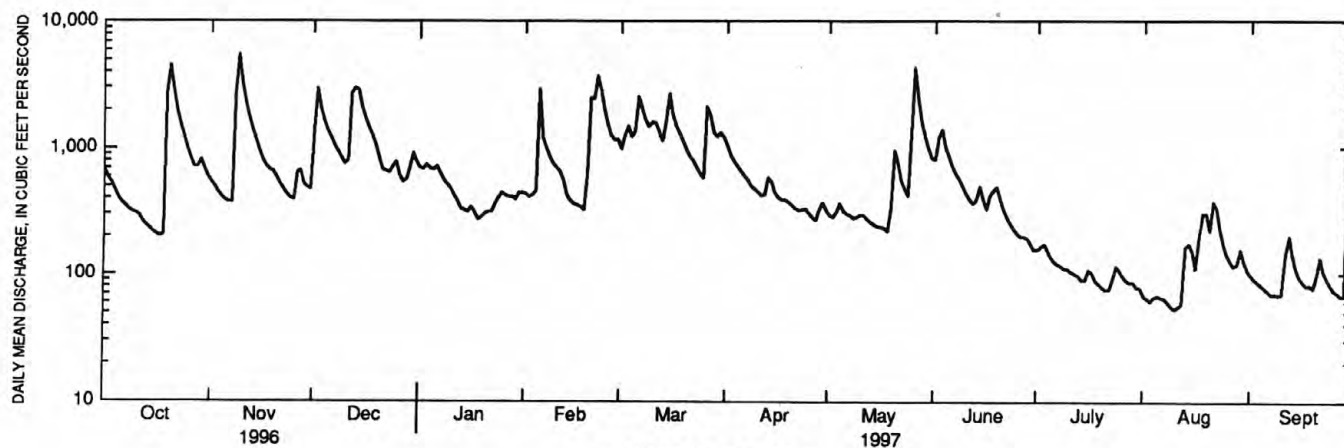
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	a30600	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	

- a From rating curve extended above 15,000 ft³/s.
b Backwater from ice.
c From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01542810 WALDY RUN NEAR EMPORIUM, PA

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

DRAINAGE AREA.--5.24 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 poor. Several measurements of water temperature were made during the year.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1730	188	4.78	Feb. 22	1415	135	4.58
Nov. 8	1930	*233	*4.94	Feb. 27	2345	132	4.57
Dec. 2	0245	104	4.44	Mar. 6	0745	118	4.51

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	18	38	9.1	e3.2	45	17	14	7.3	3.7	.94	.68
2	6.9	13	80	8.8	e3.2	69	14	10	9.9	3.9	.82	.62
3	4.8	9.4	37	8.3	e3.1	59	11	11	17	3.3	.77	.70
4	3.4	7.0	21	7.2	e3.4	31	9.2	13	18	2.8	1.1	.56
5	2.7	5.6	14	8.6	e20	24	7.5	15	14	2.3	.97	.47
6	2.3	4.7	11	9.6	18	97	6.6	16	9.8	1.8	.70	.43
7	2.1	4.4	8.9	10	12	49	5.6	13	7.3	1.7	.61	.43
8	1.9	106	7.3	9.3	9.2	28	4.7	12	5.6	1.5	.55	.43
9	1.8	126	6.0	8.4	e7.0	19	4.0	11	4.4	2.0	.49	.43
10	1.8	43	4.8	e7.0	e5.5	18	3.6	9.4	3.6	1.6	.48	.52
11	1.4	24	5.4	e6.0	e4.8	17	3.3	7.6	2.9	1.3	.56	1.1
12	1.2	16	14	e5.5	e4.4	15	6.7	6.9	3.2	1.1	.55	.94
13	1.1	11	53	e5.0	e5.5	12	17	6.0	3.5	1.0	2.4	.61
14	1.1	8.5	54	e4.8	e4.0	21	20	5.3	2.8	.95	1.2	.50
15	1.0	6.7	29	e4.6	e3.4	32	15	4.9	2.0	1.8	2.6	.47
16	.99	5.6	19	e4.6	e3.0	21	12	4.3	2.0	1.9	3.0	.47
17	.99	5.1	14	e4.4	e2.9	15	10	3.9	6.8	1.3	4.3	.47
18	2.2	5.1	10	e4.2	e3.4	11	8.6	3.9	11	3.5	3.3	.60
19	111	5.1	7.8	e4.0	e10	9.1	7.4	15	17	3.6	2.2	.46
20	97	4.9	e6.0	e4.2	e20	9.7	6.1	34	12	2.4	2.2	.50
21	39	4.7	e5.0	e3.6	41	10	5.4	27	8.3	2.0	2.2	.50
22	29	4.3	4.3	e3.6	115	18	5.2	17	5.8	2.2	2.0	.38
23	24	3.8	4.1	e4.0	60	24	5.6	12	4.1	1.8	2.0	.36
24	17	3.6	7.4	e3.8	29	19	5.3	9.1	3.9	2.3	1.7	.35
25	11	4.8	12	e4.0	18	16	5.2	9.4	3.2	1.7	1.5	.32
26	8.0	20	14	e4.4	14	67	5.1	8.1	3.9	1.5	1.3	.32
27	6.4	28	12	e4.0	62	47	5.4	7.2	2.7	1.4	1.2	.30
28	6.1	20	10	e3.8	93	30	13	6.8	2.2	1.9	1.1	.29
29	5.2	14	9.9	e3.6	---	25	19	6.2	2.0	1.5	.91	3.3
30	11	11	9.6	e3.4	---	22	17	5.7	1.8	1.2	.77	1.9
31	20	---	10	e3.3	---	20	---	5.6	---	1.0	.71	---
TOTAL	432.38	543.3	538.5	175.1	578.0	899.8	275.5	330.3	198.0	61.95	45.13	19.41
MEAN	13.9	18.1	17.4	5.65	20.6	29.0	9.18	10.7	6.60	2.00	1.46	.65
MAX	111	126	80	10	115	97	20	34	18	3.9	4.3	3.3
MIN	.99	3.6	4.1	3.3	2.9	9.1	3.3	3.9	1.8	.95	.48	.29
CFSM	2.66	3.46	3.32	1.08	3.94	5.54	1.75	2.03	1.26	.38	.28	.12
IN.	3.07	3.86	3.82	1.24	4.10	6.39	1.96	2.34	1.41	.44	.32	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	
MEAN	4.90	9.74	11.3	8.32	11.1	18.0	17.1	11.0	6.66	2.98	2.68	3.58																							
MAX	22.1	29.3	27.8	23.8	30.7	33.0	48.3	25.0	31.0	10.2	25.8	15.7																							
(WY)	1982	1986	1973	1996	1976	1979	1970	1984	1972	1994	1994	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																							

e Estimated.

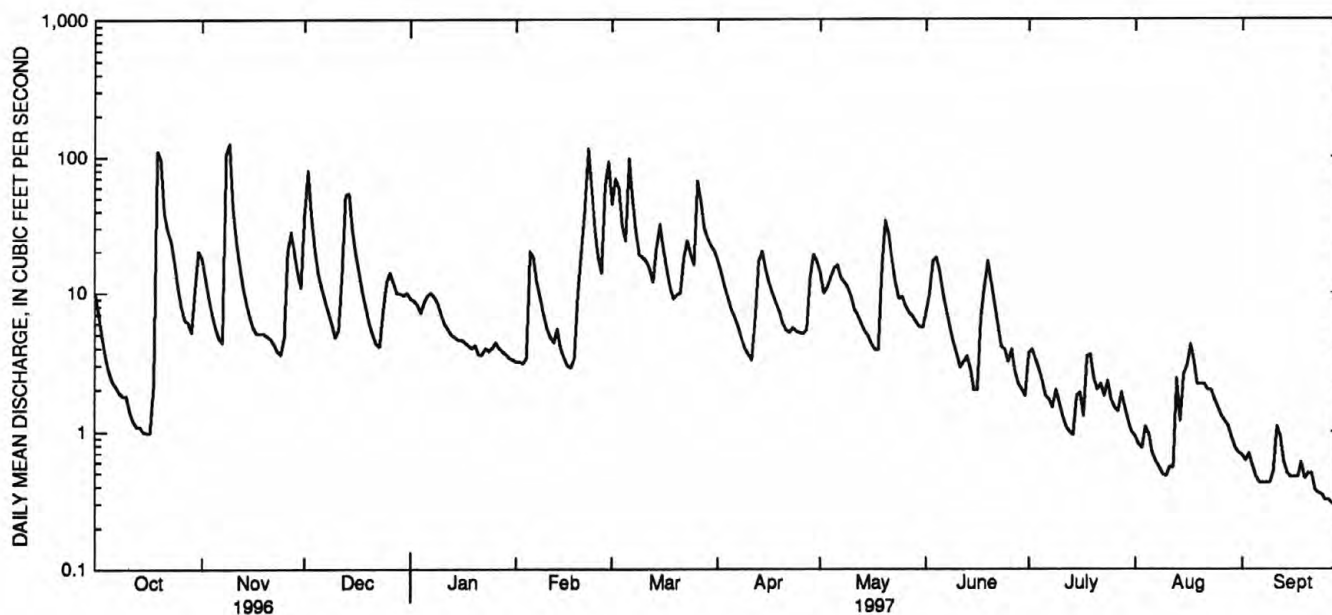
WEST BRANCH SUSQUEHANNA RIVER BASIN

01542810 WALDY RUN NEAR EMPORIUM, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	4550.25		4097.37		8.94	
ANNUAL MEAN	12.4		11.2		5.11	
HIGHEST ANNUAL MEAN					14.5	
LOWEST ANNUAL MEAN					5.11	
HIGHEST DAILY MEAN	e300	Jan 19	126	Nov 9	e300	Jan 19 1996
LOWEST DAILY MEAN	.26	Sep 3	.29	Sep 28	.00	Sep 14 1964
ANNUAL SEVEN-DAY MINIMUM	.36	Aug 29	.33	Sep 22	.01	Sep 13 1964
INSTANTANEOUS PEAK FLOW			a233	Nov 8	a828	Sep 28 1967
INSTANTANEOUS PEAK STAGE			4.94	Nov 8	6.32	Sep 28 1967
INSTANTANEOUS LOW FLOW					.00	Sep 14 1964
ANNUAL RUNOFF (CFSM)	2.37		2.14		1.71	
ANNUAL RUNOFF (INCHES)	32.30		29.09		23.18	
10 PERCENT EXCEEDS	30		24		21	
50 PERCENT EXCEEDS	5.2		5.3		3.6	
90 PERCENT EXCEEDS	.69		.80		.46	

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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2030	5,250	4.30	Nov. 8	2330	*9,010	*6.22

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	540	544	1240	556	e170	2050	941	597	616	229	34	e39
2	403	496	2890	530	e160	2340	797	522	726	280	31	e37
3	331	429	1890	531	e160	2220	683	544	1040	209	29	41
4	260	358	1310	469	e180	1610	591	665	1050	166	30	39
5	217	315	942	472	e1200	1300	502	591	862	139	55	31
6	189	286	778	501	e950	3590	449	664	658	117	46	27
7	171	275	622	457	e650	2530	400	611	512	104	33	25
8	158	3640	528	e420	e500	1660	345	555	415	97	27	24
9	152	5830	452	e380	e400	1200	312	550	340	101	23	24
10	149	2540	376	e400	e340	1110	281	501	283	159	21	24
11	133	1530	351	e320	e300	973	260	438	240	99	19	87
12	114	1070	611	e240	e270	832	314	388	212	80	21	121
13	104	796	1430	e230	e250	712	754	359	262	69	64	78
14	100	620	2050	e210	e240	1020	726	321	227	62	110	57
15	91	497	1540	e190	e220	1540	670	298	173	58	51	46
16	87	418	1130	e240	e200	1220	604	270	146	126	119	40
17	85	374	880	e200	e180	964	577	247	304	77	232	37
18	86	359	682	e200	e210	810	517	230	369	63	203	43
19	3090	354	e500	e210	e340	694	450	513	485	131	124	43
20	3780	330	e380	e220	e1300	668	392	938	392	78	96	39
21	2130	309	e320	e190	1670	625	348	926	331	60	138	45
22	1550	289	e300	e190	4080	821	326	769	266	73	137	40
23	1220	264	315	e210	2900	874	356	619	213	71	115	33
24	949	248	415	e200	1680	818	383	513	181	110	98	30
25	696	268	507	e210	1160	746	332	547	198	90	81	29
26	527	779	465	e230	896	2170	314	609	245	74	72	27
27	423	990	465	e210	1810	1950	301	501	200	64	65	26
28	399	914	470	e200	2920	1440	506	457	154	57	e58	25
29	374	771	550	e190	---	1250	603	417	131	67	e50	197
30	463	633	621	e180	---	1160	618	395	115	49	e44	162
31	589	---	618	e170	---	1110	---	364	---	39	e41	---
TOTAL	19560	26526	25628	9156	25336	42007	14652	15919	11346	3198	2267	1516
MEAN	631	884	827	295	905	1355	488	514	378	103	73.1	50.5
MAX	3780	5830	2890	556	4080	3590	941	938	1050	280	232	197
MIN	85	248	300	170	160	625	260	230	115	39	19	24
CFSM	2.32	3.25	3.04	1.09	3.33	4.98	1.80	1.89	1.39	.38	.27	.19
IN.	2.68	3.63	3.51	1.25	3.47	5.75	2.00	2.18	1.55	.44	.31	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
MEAN	195	411	496	510	548	1004	911	634	333	170	121	128
MAX	838	1918	1394	2027	2047	3366	2310	1758	1783	1308	1294	743
(WY)	1918	1951	1928	1937	1918	1936	1940	1953	1972	1942	1994	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

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

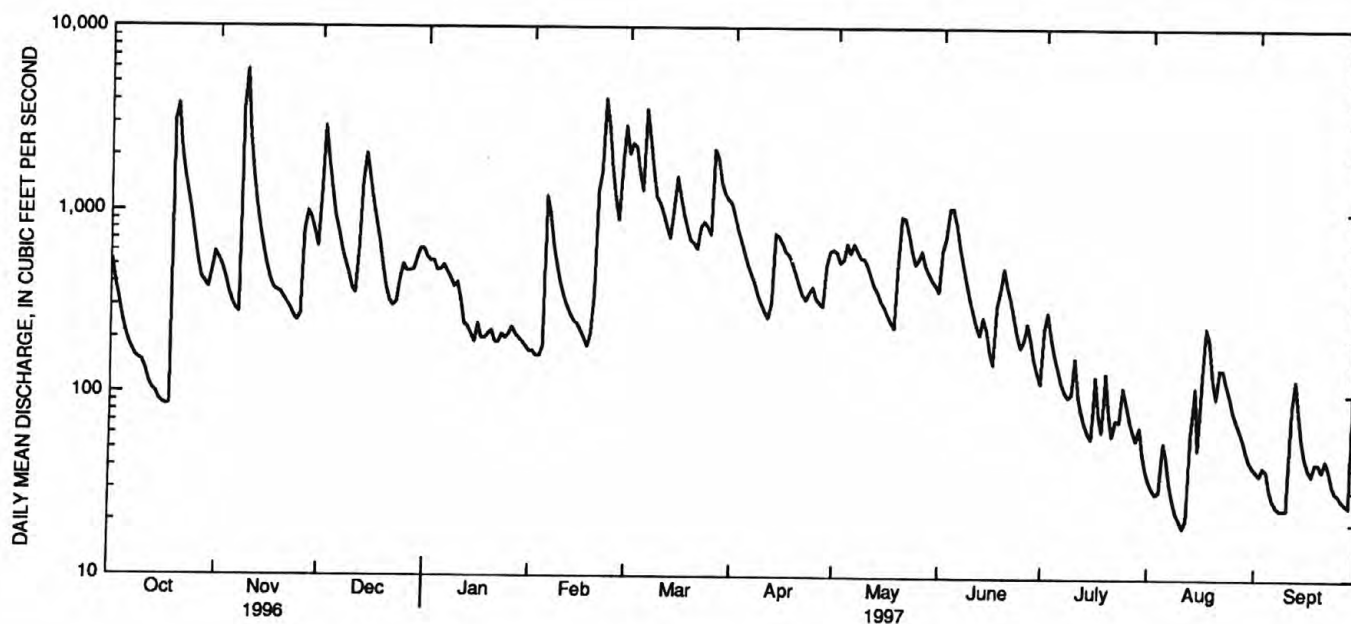
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	227610		197111		455	
ANNUAL MEAN	622		540		235	
HIGHEST ANNUAL MEAN					735	
LOWEST ANNUAL MEAN					235	
HIGHEST DAILY MEAN	e13000	Jan 19	5830	Nov 9	18600	Jun 23 1972
LOWEST DAILY MEAN	12	Sep 3,4	19	Aug 11	.40	Sep 13 1930
ANNUAL SEVEN-DAY MINIMUM	17	Aug 31	27	Aug 6	.87	Aug 28 1939
INSTANTANEOUS PEAK FLOW			9010	Nov 8	a47800	Jul 18 1942
INSTANTANEOUS PEAK STAGE			6.22	Nov 8	b14.70	Jul 18 1942
INSTANTANEOUS LOW FLOW					.40	Sep 12 1930c
ANNUAL RUNOFF (CFSM)	2.29		1.99		1.67	
ANNUAL RUNOFF (INCHES)	31.13		26.96		22.70	
10 PERCENT EXCEEDS	1460		1220		1100	
50 PERCENT EXCEEDS	356		331		206	
90 PERCENT EXCEEDS	45		46		27	

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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 8,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0030	12,100	8.56	Feb. 22	1630	11,000	8.14
Nov. 8	2330	*17,300	*10.45	Mar. 6	0900	9,500	7.56
Feb. 5	1900	ice jam	9.66				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	1270	2750	1350	e600	5260	2300	1220	2080	340	65	114
2	952	1180	7210	1320	e630	5780	1930	1120	2310	719	58	105
3	823	1070	5090	1380	e630	5540	1680	1120	3020	520	55	96
4	675	941	3570	1270	e660	4140	1480	1430	2830	386	56	98
5	571	844	2630	1220	e2000	3270	1270	1230	2330	320	103	83
6	505	776	2220	1340	e1800	8250	1130	1320	1830	272	125	71
7	462	737	1830	1180	e1500	6630	1020	1300	1440	238	84	64
8	433	6750	1570	1110	e1200	4500	883	1160	1170	220	62	62
9	414	13500	1340	e1000	e1000	3260	808	1170	956	221	52	61
10	399	7090	1140	e850	e850	3000	737	1100	799	297	44	62
11	377	4400	1050	e750	e750	2670	674	998	681	252	47	153
12	331	3070	1890	e700	e700	2270	684	888	600	196	58	348
13	299	2310	3860	e600	e650	1950	1570	835	654	172	261	211
14	283	1850	5490	e570	e600	2510	1470	755	606	154	434	162
15	264	1500	4180	e550	e580	4180	1340	709	489	146	200	130
16	246	1270	3130	e590	e550	3320	1240	653	420	186	e340	111
17	239	1120	2470	e600	e530	2660	1210	608	555	171	e1100	97
18	243	1050	2000	e570	e500	2260	1130	571	693	142	e900	115
19	6540	1020	1630	e500	e650	1930	1000	959	1070	181	469	117
20	10100	927	e1200	e460	e2500	1730	893	2060	766	156	303	117
21	6460	838	e950	e500	3890	1570	801	1980	633	119	449	220
22	4580	769	e900	e550	9990	1780	749	1700	525	124	404	179
23	3420	702	e900	e600	7800	1790	803	1410	445	153	326	131
24	2660	656	1130	e650	4790	1650	859	1200	381	174	269	110
25	2040	662	1440	e700	3210	1520	756	1280	384	179	224	95
26	1600	1610	1200	e670	2460	4770	703	1840	422	152	204	86
27	1290	2090	1180	e650	3990	4750	652	1460	417	134	187	82
28	1200	1910	1210	e630	6840	3560	1000	1320	330	116	169	76
29	1200	1720	1340	e610	---	3020	1290	1200	280	116	159	527
30	1160	1500	1540	e570	---	2880	1250	1130	246	103	142	618
31	1450	---	1450	e580	---	2630	---	1020	---	78	123	---
TOTAL	52426	65132	69490	24620	61850	105030	33312	36746	29362	6737	7472	4501
MEAN	1691	2171	2242	794	2209	3388	1110	1185	979	217	241	150
MAX	10100	13500	7210	1380	9990	8250	2300	2060	3020	719	1100	618
MIN	239	656	900	460	500	1520	652	571	246	78	44	61
CFSM	2.47	3.17	3.27	1.16	3.22	4.95	1.62	1.73	1.43	.32	.35	.22
IN.	2.85	3.54	3.77	1.34	3.36	5.70	1.81	2.00	1.59	.37	.41	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

	486	985	1299	1252	1459	2493	2321	1610	857	436	313	332
MEAN	486	985	1299	1252	1459	2493	2321	1610	857	436	313	332
MAX	2186	4836	2883	4349	3732	5608	5500	3771	4066	2134	2596	1706
(WY)	1991	1951	1973	1952	1976	1945	1940	1953	1972	1992	1994	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

e Estimated.

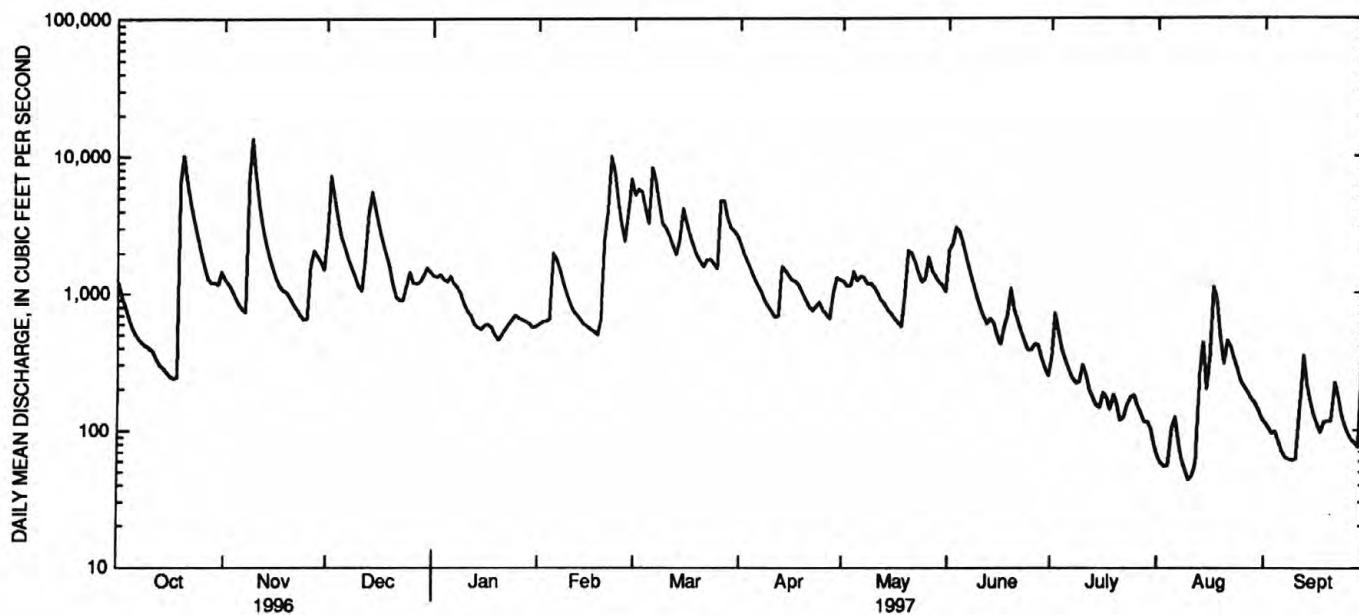
WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHOING CREEK AT SINNEMAHOING, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1939 - 1997	
ANNUAL TOTAL	592877		496678		1152	
ANNUAL MEAN	1620		1361		710	
HIGHEST ANNUAL MEAN					1798	
LOWEST ANNUAL MEAN					1939	
HIGHEST DAILY MEAN	e25000	Jan 19	13500	Nov 9	44000	Jun 23 1972
LOWEST DAILY MEAN	31	Sep 3	44	Aug 10	1.4	Sep 3 1939
ANNUAL SEVEN-DAY MINIMUM	41	Aug 31	67	Aug 6	4.2	Aug 29 1939
INSTANTANEOUS PEAK FLOW			17300	Nov 8	a60800	Jun 23 1972
INSTANTANEOUS PEAK STAGE			10.45	Nov 8	21.78	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.2	Sep 4 1939
ANNUAL RUNOFF (CFSM)	2.36		1.99		1.68	
ANNUAL RUNOFF (INCHES)	32.20		26.97		22.84	
10 PERCENT EXCEEDS	4050		3160		2790	
50 PERCENT EXCEEDS	946		838		570	
90 PERCENT EXCEEDS	143		121		74	

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

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Flow regulated since Jan. 31, 1956 by George B. Stevenson Dam (station 01543900). Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	795	374	890	570	202	2140	1130	379	335	104	36	61
2	518	353	2400	533	202	1910	917	358	338	104	30	52
3	430	285	2110	533	202	2170	775	373	422	126	20	49
4	336	206	1380	447	170	1680	615	389	474	115	20	48
5	275	184	984	407	317	1240	539	367	497	73	52	42
6	239	251	748	434	412	2190	483	398	469	59	52	31
7	222	287	666	429	403	2650	406	424	380	58	31	30
8	228	1520	535	419	361	1680	328	408	312	57	30	30
9	240	837	444	381	305	1110	301	442	275	57	30	29
10	239	4240	372	410	270	941	294	423	233	124	22	29
11	171	4310	360	357	240	768	267	359	200	101	17	30
12	140	3550	412	253	240	672	283	314	170	69	17	297
13	121	1930	1110	221	214	566	439	305	176	69	74	181
14	93	680	2470	215	206	650	523	273	175	60	75	49
15	83	486	1950	184	211	873	545	255	137	54	74	90
16	105	461	1310	387	204	805	539	236	116	55	62	100
17	105	398	978	216	161	630	509	206	118	55	154	90
18	112	368	763	e68	150	570	487	191	144	42	230	99
19	1180	388	552	e67	245	500	417	286	202	62	136	74
20	3070	353	459	94	870	474	358	584	189	62	98	65
21	2820	320	400	171	1170	468	315	692	161	44	127	65
22	1990	304	340	210	2890	579	299	652	136	37	120	65
23	1450	286	334	199	3210	757	299	571	112	49	111	65
24	1050	259	334	198	1890	767	291	421	102	77	95	47
25	785	283	384	181	1110	718	265	434	123	79	89	35
26	593	505	438	203	867	1550	242	474	127	57	70	35
27	508	817	486	199	1080	1980	221	389	133	39	61	35
28	413	934	518	183	2040	1550	285	363	127	39	61	34
29	368	807	489	191	---	1290	319	332	112	54	61	185
30	368	659	505	166	---	1430	359	319	104	37	61	176
31	371	---	597	185	---	1370	---	284	---	23	61	---
TOTAL	19418	26635	25718	8711	19842	36678	13050	11901	6599	2041	2177	2218
MEAN	626	888	830	281	709	1183	435	384	220	65.8	70.2	73.9
MAX	3070	4310	2470	570	3210	2650	1130	692	497	126	230	297
MIN	83	184	334	67	150	468	221	191	102	23	17	29

e Estimated

WEST BRANCH SUSQUEHANNA RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	225	401	479	370	469	826	888	516	276	169	125	143
MAX	1033	1162	1051	1131	1452	1820	2300	1037	1334	808	977	837
(WY)	1991	1986	1991	1996	1981	1964	1993	1984	1989	1992	1994	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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1956 - 1997

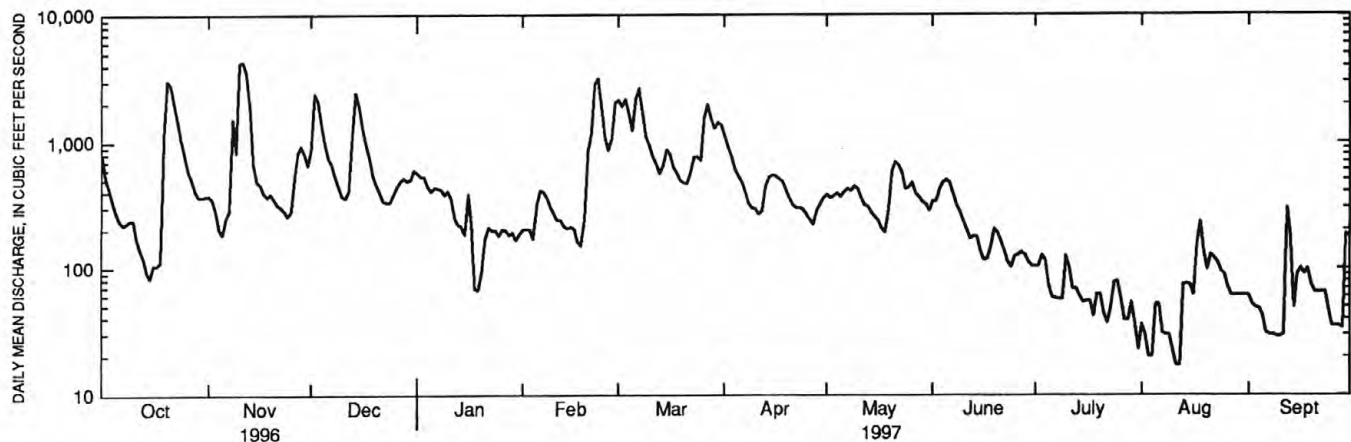
ANNUAL TOTAL	228073	174988	
ANNUAL MEAN	623	479	407
HIGHEST ANNUAL MEAN			640
LOWEST ANNUAL MEAN			260
HIGHEST DAILY MEAN	4730	Jan 22	4310
LOWEST DAILY MEAN	16	Sep 5	17
ANNUAL SEVEN-DAY MINIMUM	19	Aug 18	28
INSTANTANEOUS PEAK FLOW			4800
INSTANTANEOUS PEAK STAGE			3.94
10 PERCENT EXCEEDS	1610		1120
50 PERCENT EXCEEDS	361		294
90 PERCENT EXCEEDS	49		53

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	



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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. Satellite and landline telemetry at station.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,400 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Nov. 8	1700	*7.960	*9.86	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	479	218	628	210	e75	974	597	141	197	53	19	17
2	383	210	1670	214	e80	984	491	142	194	59	18	17
3	314	196	1430	222	e85	1130	419	170	211	49	18	22
4	251	179	905	202	e95	916	362	185	229	43	33	18
5	209	166	621	207	e190	715	313	187	249	39	58	14
6	177	155	501	201	e170	1720	279	227	239	35	37	13
7	157	154	395	189	e150	1480	253	232	215	34	28	12
8	142	4290	329	e170	e120	983	221	238	191	34	23	12
9	131	5540	277	e160	e100	671	198	249	168	34	20	12
10	120	2390	231	e170	e90	549	179	242	148	44	18	13
11	105	1210	209	e150	e85	457	165	220	131	32	20	79
12	93	771	219	e130	e85	388	174	202	121	28	21	71
13	88	551	958	e120	e80	341	219	185	118	25	e38	53
14	84	431	1670	e110	e75	356	198	169	111	24	e70	43
15	81	347	1240	e90	e95	381	199	158	94	22	e42	37
16	78	293	784	e100	e90	337	204	144	84	21	e32	33
17	76	256	581	e95	e85	304	212	133	98	19	e75	30
18	75	237	450	e80	e80	282	208	123	94	18	e110	36
19	863	221	366	e85	e110	257	198	187	95	15	81	27
20	2030	200	301	e90	e350	253	183	271	77	12	73	25
21	1670	181	243	e95	e500	243	167	326	69	11	79	25
22	1160	169	e210	e85	e1600	301	158	338	63	22	74	21
23	855	156	193	e95	1410	329	150	313	58	18	62	19
24	641	148	220	e85	914	345	142	278	66	e26	51	20
25	484	153	234	e90	626	341	128	287	65	22	45	18
26	384	289	236	e90	486	533	116	265	77	26	41	17
27	321	372	259	e80	579	647	109	233	65	25	38	16
28	302	426	275	e80	955	656	151	216	55	29	39	15
29	264	412	271	e75	---	712	140	207	49	36	45	82
30	255	363	248	e70	---	768	138	199	45	26	37	64
31	236	---	229	e75	---	730	---	183	---	21	29	---
TOTAL	12508	20684	16383	3915	9360	19083	6671	6650	3676	902	1374	881
MEAN	403	689	528	126	334	616	222	215	123	29.1	44.3	29.4
MAX	2030	5540	1670	222	1600	1720	597	338	249	59	110	82
MIN	75	148	193	70	75	243	109	123	45	11	18	12
CFSM	2.97	5.07	3.89	.93	2.46	4.53	1.64	1.58	.90	.21	.33	.22
IN.	3.42	5.66	4.48	1.07	2.56	5.22	1.82	1.82	1.01	.25	.38	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

MEAN	113	217	250	220	256	489	507	323	165	85.8	59.8	64.9
MAX	700	868	552	663	800	1055	1303	721	797	436	581	699
(WY)	1991	1951	1973	1952	1981	1945	1993	1946	1972	1992	1994	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

e Estimated.

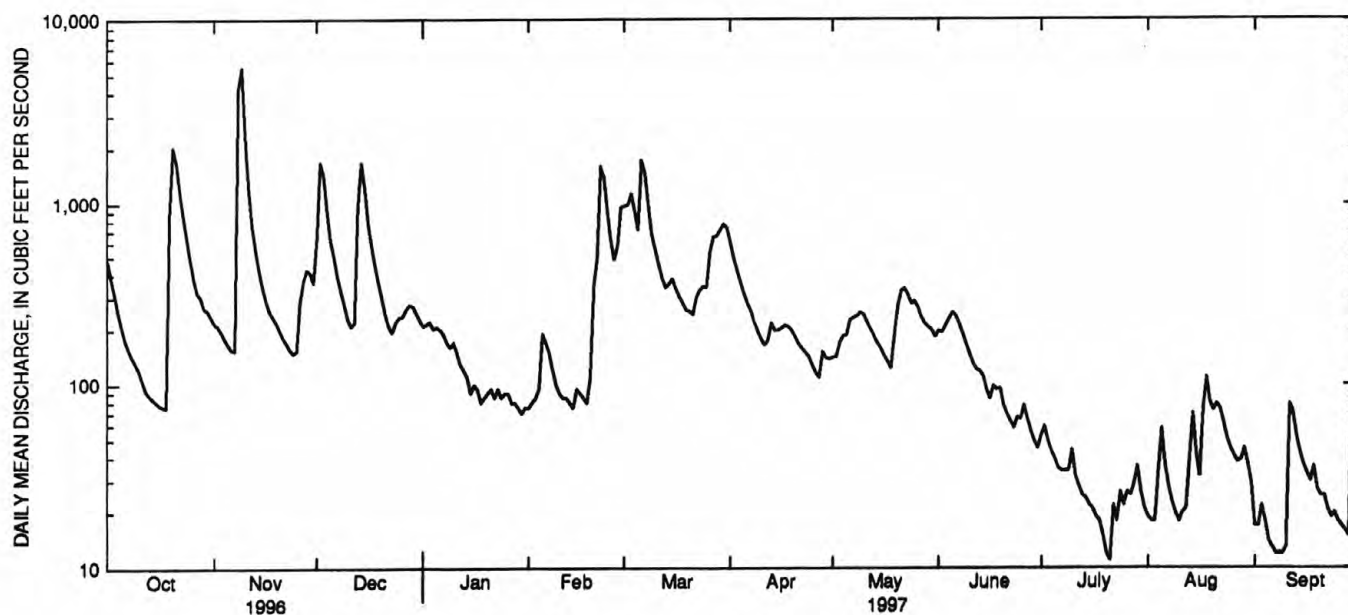
WEST BRANCH SUSQUEHANNA RIVER BASIN

01544500 KETTLE CREEK AT CROSS FORK, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	139505.3		102087		229	
ANNUAL MEAN	381		280		125	
HIGHEST ANNUAL MEAN					351	
LOWEST ANNUAL MEAN					125	
HIGHEST DAILY MEAN	5540	Nov 9	5540	Nov 9	10500	Jun 23 1972
LOWEST DAILY MEAN	8.5	Sep 3	11	Jul 21	1.2	Sep 2-4 1971
ANNUAL SEVEN-DAY MINIMUM	11	Aug 28	13	Sep 4	1.4	Sep 1 1971
INSTANTANEOUS PEAK FLOW			7960	Nov 8	a14300	Jun 23 1972
INSTANTANEOUS PEAK STAGE			9.86	Nov 8	b11.76	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.80		2.06		1.68	
ANNUAL RUNOFF (INCHES)	38.16		27.92		22.88	
10 PERCENT EXCEEDS	916		633		544	
50 PERCENT EXCEEDS	210		158		110	
90 PERCENT EXCEEDS	30		24		17	

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

b From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	307	693	364	e130	1570	987	222	300	73	31	41
2	526	284	1970	382	e140	1510	763	223	311	84	24	35
3	439	270	1970	377	e140	1720	655	248	302	71	22	35
4	330	254	1370	347	e130	1460	596	315	310	53	20	35
5	280	244	999	340	197	1090	497	302	349	53	29	35
6	236	214	791	341	254	2140	459	327	359	52	53	35
7	211	204	669	330	237	2260	335	366	324	46	43	34
8	217	1250	563	316	226	1520	264	355	284	43	33	33
9	179	1300	449	302	e210	1170	312	367	247	46	23	33
10	158	4340	373	339	e190	911	282	365	213	48	18	28
11	134	4100	366	322	184	777	235	327	180	48	19	51
12	117	4000	389	e200	192	634	269	300	167	45	25	142
13	118	e2200	1150	e190	e170	544	325	275	175	38	90	99
14	117	1010	2270	e190	e160	580	308	254	161	34	114	80
15	169	574	1830	e190	e160	635	292	237	125	33	59	69
16	241	441	1280	e190	e170	553	320	208	106	33	47	58
17	194	433	1020	e180	e140	475	328	186	129	26	121	49
18	108	373	702	e170	e130	461	332	172	138	17	232	61
19	e1200	357	598	e160	e140	431	318	249	135	23	142	58
20	e2600	343	510	e150	542	402	282	378	105	26	112	53
21	2630	240	368	e150	840	401	248	465	89	28	89	54
22	1770	207	342	e150	2100	456	239	489	89	37	91	44
23	1230	288	358	e160	2180	595	231	460	78	50	88	35
24	979	285	356	e150	1500	626	213	404	79	52	73	35
25	730	283	388	e150	1080	606	201	437	96	50	64	35
26	570	401	366	e150	837	934	169	430	78	45	51	35
27	499	513	391	e140	845	1230	146	348	85	38	37	35
28	414	636	437	e140	1390	1190	212	344	76	36	43	34
29	392	686	437	e130	---	1130	224	328	54	34	46	74
30	367	627	404	e130	---	1160	207	324	56	34	46	131
31	346	---	391	e130	---	1160	---	285	---	34	46	---
TOTAL	18177	26664	24200	6960	14614	30331	10249	9990	5200	1330	1931	1576
MEAN	586	889	781	225	522	978	342	322	173	42.9	62.3	52.5
MAX	2630	4340	2270	382	2180	2260	987	489	359	84	232	142
MIN	108	204	342	130	130	401	146	172	54	17	18	28

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545000 KETTLE CREEK NEAR WESTPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	204	370	433	342	452	745	810	479	283	155	108	129
MAX	1096	1060	954	857	1330	1739	2453	920	1279	677	927	1058
(WY)	1991	1971	1973	1979	1981	1979	1993	1996	1972	1972	1994	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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1962 - 1997

ANNUAL TOTAL	206935	151222	
ANNUAL MEAN	565	414	375
HIGHEST ANNUAL MEAN			575
LOWEST ANNUAL MEAN			240
HIGHEST DAILY MEAN	4710	Jan 22	4340 Nov 10
LOWEST DAILY MEAN	22	Sep 1-3	17 Jul 18
ANNUAL SEVEN-DAY MINIMUM	23	Aug 29	27 Jul 15
INSTANTANEOUS PEAK FLOW			4420 Nov 10
INSTANTANEOUS PEAK STAGE			7.93 Nov 10
INSTANTANEOUS LOW FLOW			3.0 Dec 6 1964
10 PERCENT EXCEEDS	1450	1080	881
50 PERCENT EXCEEDS	336	240	184
90 PERCENT EXCEEDS	46	36	32

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

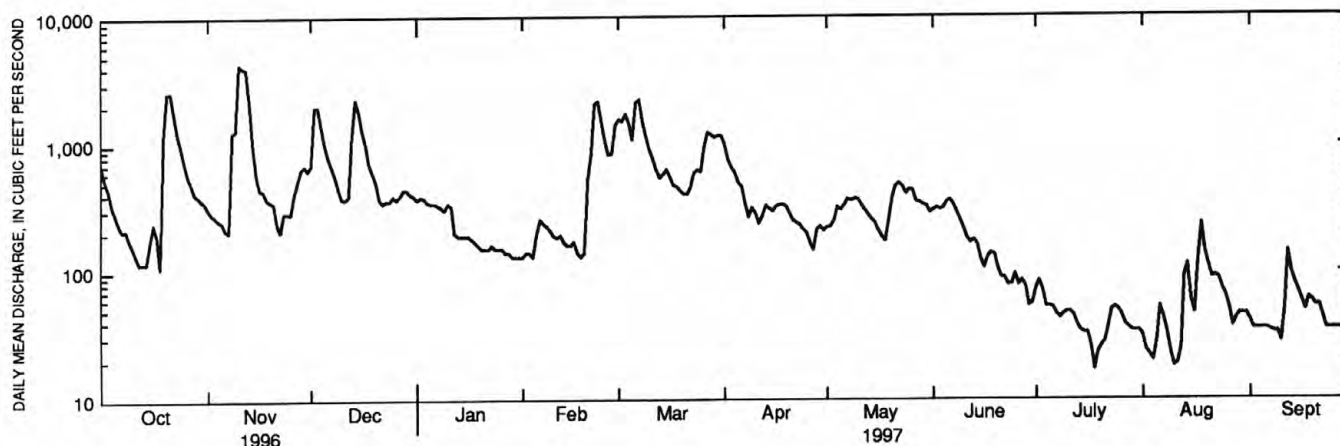
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	247	373	297	387	837	1066	541	204	131	120	72.8
MAX	709	647	708	564	713	1373	1496	1103	631	318	276	177
(WY)	1956	1960	1957	1959	1961	1955	1958	1960	1960	1958	1956	1958
MIN	23.7	41.3	27.0	27.6	127	394	411	151	63.9	25.1	16.9	24.3
(WY)	1958	1961	1961	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	a7970	Mar 8 1956
INSTANTANEOUS PEAK STAGE	b13.31	Jan 22 1959
INSTANTANEOUS LOW FLOW	8.9	Sep 9,10 1957
ANNUAL RUNOFF (CFSM)	1.60	
ANNUAL RUNOFF (INCHES)	21.69	
10 PERCENT EXCEEDS	942	
50 PERCENT EXCEEDS	160	
90 PERCENT EXCEEDS	26	

a Gage height 10.48 ft.

b Backwater from ice.

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA

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

DRAINAGE AREA.--2,975 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 poor. Flow slightly regulated by 4 flood-control reservoirs which have a combined capacity of 316,000 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7350	4990	6330	6100	e2800	16000	10100	3380	5920	1240	534	778
2	5540	4600	20700	5700	e3000	15200	8590	3210	6670	1700	510	779
3	5000	4230	21400	5740	e3000	17200	7400	3200	9400	1830	498	732
4	4150	3840	16100	5650	e3200	15100	6610	3950	9090	1470	471	648
5	3530	3470	12100	5380	e4000	12300	5850	3900	7830	1190	498	627
6	3200	3280	10300	5700	e9000	21000	5340	4240	6810	1030	607	600
7	2940	3270	8680	5550	e8000	24300	4860	4290	5790	929	620	543
8	2730	15100	7630	5120	7310	18100	4260	3880	4940	872	512	513
9	2600	41300	6700	4740	6040	13900	3980	3850	4330	899	465	502
10	2500	35800	5890	4720	5240	11900	3710	3960	3680	932	435	509
11	2360	27800	5350	4530	4610	11500	3480	3610	3210	1080	424	602
12	2030	22400	7300	3560	4270	10200	3340	3310	2990	892	441	1030
13	1940	e15000	17700	2930	3870	8830	4430	3240	3070	765	884	1560
14	1790	10200	26400	2860	3360	8550	4850	3010	2960	774	1530	1150
15	1690	7930	21800	e2700	3480	15200	4670	2850	2970	724	1610	917
16	1700	6690	16100	e2800	3280	14700	4400	2690	2610	734	1140	819
17	1630	5980	12600	e2900	3040	11500	4150	2570	2360	731	1580	722
18	1470	5450	10300	e2600	2860	9850	4030	2520	2830	671	3050	685
19	10600	5150	8560	e2500	3280	8760	3750	2770	4020	667	3200	664
20	34600	4880	7330	e2500	e8000	7840	3510	5180	3610	702	2070	678
21	29400	4410	6100	e2600	14400	7150	3230	6730	2980	649	2090	779
22	21400	3980	5190	e2700	26900	7050	3030	5880	2510	637	2650	954
23	15500	3700	4910	e2900	29100	7290	3050	5230	2100	688	2060	908
24	12100	3390	5040	e3200	21000	6850	3110	4620	1880	808	1580	767
25	9600	3290	6090	e3600	15000	6440	2910	4460	1790	864	1340	670
26	7710	4370	5830	e3400	11300	11000	2750	9350	1710	797	1210	630
27	6460	6530	5460	e3200	10800	17900	2430	13700	1740	719	1060	606
28	5840	6720	5240	e3000	16500	15000	2630	9240	1550	659	942	552
29	5760	6130	5470	e2900	---	12100	3500	7030	1320	620	860	860
30	5540	5540	6130	e2800	---	11700	3460	6200	1230	612	834	4410
31	5620	---	6430	e2700	---	11100	---	5490	---	585	827	---
TOTAL	224280	279420	311160	117280	236640	385510	131410	147540	113900	27470	36532	26194
MEAN	7235	9314	10040	3783	8451	12440	4380	4759	3797	886	1178	873
MAX	34600	41300	26400	6100	29100	24300	10100	13700	9400	1830	3200	4410
MIN	1470	3270	4910	2500	2800	6440	2430	2520	1230	585	424	502
CF5M	2.43	3.13	3.37	1.27	2.84	4.18	1.47	1.60	1.28	.30	.40	.29
IN.	2.80	3.49	3.89	1.47	2.96	4.82	1.64	1.84	1.42	.34	.46	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1908 - 1997, BY WATER YEAR (WY)

	MEAN	2225	3898	5052	5722	6227	11000	9880	7094	3966	2145	1418	1489
MAX	10330	16700	13570	19060	16640	34360	25010	16670	18840	8100	7826	9220	
(WY)	1912	1951	1928	1937	1915	1936	1940	1919	1972	1928	1994	1975	
MIN	139	174	307	196	1078	3141	2456	1436	843	368	166	166	
(WY)	1931	1931	1931	1931	1934	1969	1925	1941	1991	1965	1930	1908	

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

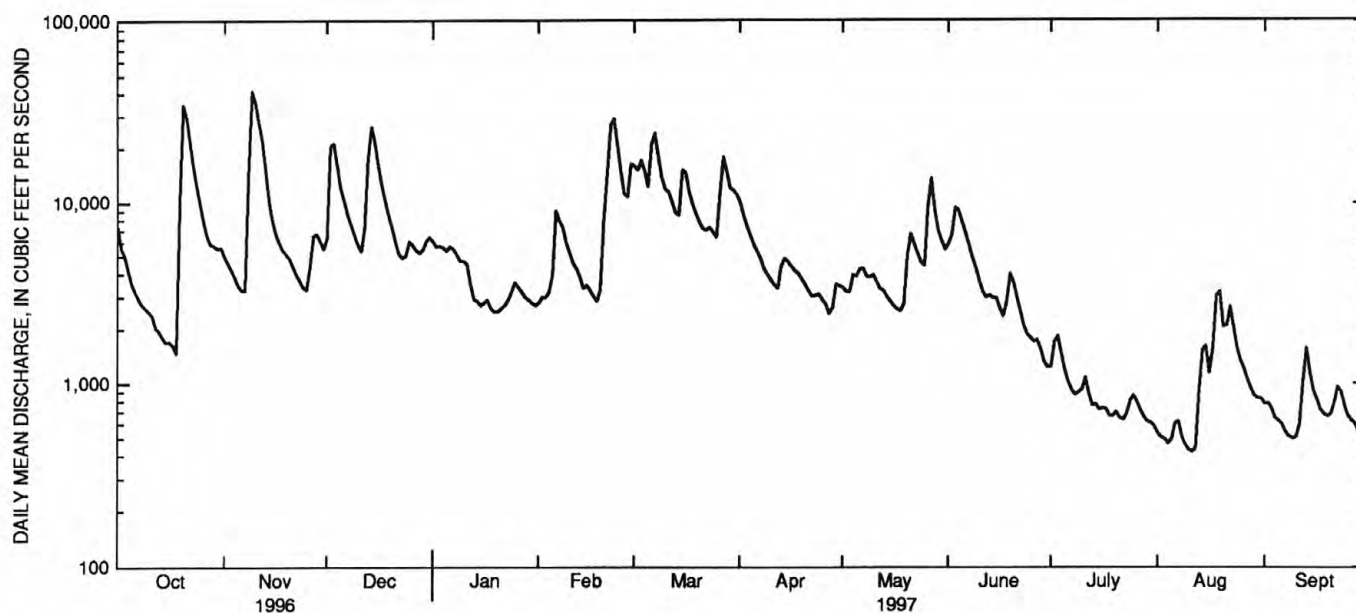
01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1908 - 1997	
ANNUAL TOTAL	2653540		2037336		5003	
ANNUAL MEAN	7250		5582		7683	
HIGHEST ANNUAL MEAN					2579	
LOWEST ANNUAL MEAN					1951	
HIGHEST DAILY MEAN	e50000	Jan 20	41300	Nov 9	201000	Mar 18 1936
LOWEST DAILY MEAN	557	Sep 3	424	Aug 11	80	Dec 6 1908
ANNUAL SEVEN-DAY MINIMUM	697	Aug 31	501	Aug 6	104	Aug 29 1939
INSTANTANEOUS PEAK FLOW			43800	Nov 9	a236000	Mar 18 1936
INSTANTANEOUS PEAK STAGE			11.86	Nov 9	b29.39	Mar 18 1936
INSTANTANEOUS LOW FLOW					80	Dec 6 1908
ANNUAL RUNOFF (CFSM)	2.44		1.88		1.68	
ANNUAL RUNOFF (INCHES)	33.18		25.48		22.85	
10 PERCENT EXCEEDS	18500		13000		11800	
50 PERCENT EXCEEDS	5250		3610		2780	
90 PERCENT EXCEEDS	1200		696		480	

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

b From floodmark in gage.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA
(Hydrologic Benchmark Station)

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

DRAINAGE AREA.--46.2 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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 460 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1245	724	3.59	Dec. 2	1330	460	3.10
Nov. 8	1515	*2,320	*5.53	Dec. 14	0430	500	3.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	70	156	80	36	285	159	42	58	15	4.5	15
2	138	65	439	80	33	298	139	42	67	16	4.2	14
3	112	60	389	83	31	304	125	60	77	14	3.9	15
4	90	54	298	77	30	271	114	67	72	12	6.6	12
5	74	51	227	81	46	240	102	68	73	11	11	11
6	65	48	188	79	39	406	93	81	71	10	7.6	9.8
7	58	49	154	75	35	388	85	80	66	9.7	6.1	9.6
8	53	1110	129	72	34	314	76	79	59	9.6	4.9	8.9
9	51	1510	110	72	e31	244	68	79	54	13	4.2	9.1
10	48	719	94	75	e30	203	60	76	48	14	3.8	10
11	42	429	86	e55	e29	171	55	70	44	9.6	4.0	40
12	37	300	95	e45	e29	139	58	65	41	8.4	7.0	34
13	35	223	300	e35	e28	118	67	60	41	7.8	66	22
14	33	177	480	e30	e26	121	56	56	41	7.4	26	18
15	31	143	370	e28	e26	119	51	52	33	7.4	12	17
16	29	119	285	e32	e27	104	49	49	29	7.2	26	15
17	28	106	225	e36	e28	96	50	46	33	6.7	48	15
18	30	97	180	e32	e28	91	49	43	34	6.9	76	22
19	348	90	147	e30	46	85	48	61	32	7.7	39	15
20	673	80	121	e28	90	83	46	70	26	5.9	33	16
21	570	72	101	e26	120	80	44	68	25	5.5	40	15
22	378	67	88	e27	289	96	42	69	22	7.5	46	13
23	267	61	81	e30	314	91	41	67	19	8.1	44	12
24	212	57	96	e38	262	93	40	62	24	14	36	12
25	169	59	99	e42	208	95	37	74	22	8.9	32	12
26	136	97	93	44	171	168	34	75	21	7.6	29	11
27	114	101	95	38	206	185	33	67	18	7.0	25	11
28	106	106	96	e32	276	192	51	63	15	7.1	23	10
29	93	105	97	e29	---	193	44	62	14	7.7	21	54
30	86	99	90	e30	---	184	42	61	13	5.7	18	35
31	78	---	84	38	---	180	---	59	---	5.2	16	---
TOTAL	4356	6324	5493	1499	2548	5637	1958	1973	1192	283.6	723.8	513.4
MEAN	141	211	177	48.4	91.0	182	65.3	63.6	39.7	9.15	23.3	17.1
MAX	673	1510	480	83	314	406	159	81	77	16	76	54
MIN	28	48	81	26	26	80	33	42	13	5.2	3.8	8.9
CFSM	3.04	4.56	3.84	1.05	1.97	3.94	1.41	1.38	.86	.20	.51	.37
IN.	3.51	5.09	4.42	1.21	2.05	4.54	1.58	1.59	.96	.23	.58	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1997, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	41.6	78.4	85.1	64.9	88.6	137	158	97.5	62.8	36.2	23.9	25.2																					
MAX	181	211	194	164	250	349	447	204	303	162	244	211																					
(WY)	1991	1997	1973	1996	1984	1979	1993	1996	1972	1992	1994	1975																					
MIN	4.05	10.9	9.59	8.25	19.6	44.7	60.9	31.9	9.09	4.64	3.21	3.16																					
(WY)	1983	1992	1965	1981	1987	1969	1988	1985	1991	1966	1966	1995																					

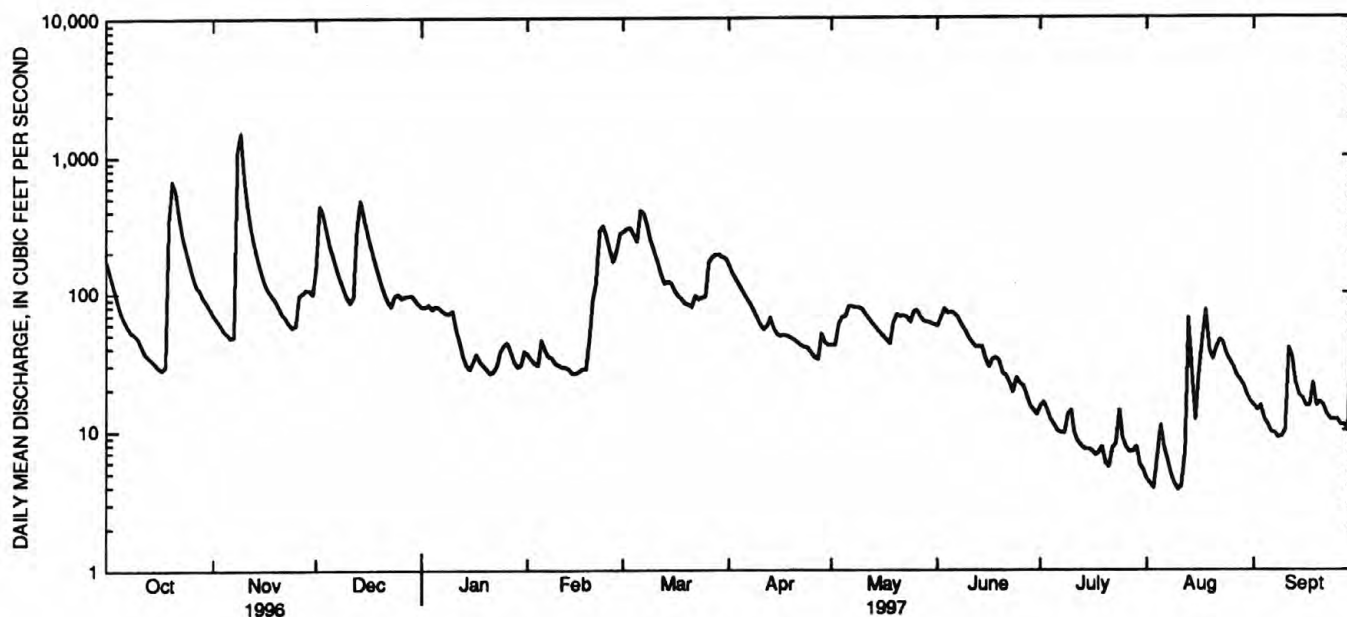
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued
(Hydrologic Benchmark Station)

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1965 - 1997	
ANNUAL TOTAL	44528.2		32500.8		75.5	
ANNUAL MEAN	122		89.0		118	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					1966	
HIGHEST DAILY MEAN	1510	Nov 9	1510	Nov 9	3310	Jun 23 1972
LOWEST DAILY MEAN	3.1	Sep 3	3.8	Aug 10	1.1	Aug 22 1988
ANNUAL SEVEN-DAY MINIMUM	3.8	Aug 29	5.4	Aug 6	1.4	Aug 16 1988
INSTANTANEOUS PEAK FLOW			a2320	Nov 8	a5370	Jun 23 1972
INSTANTANEOUS PEAK STAGE			5.53	Nov 8	7.98	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.0	Aug 22 1988
ANNUAL RUNOFF (CFSM)	2.63		1.93		1.63	
ANNUAL RUNOFF (INCHES)	35.85		26.17		22.21	
10 PERCENT EXCEEDS	300		204		172	
50 PERCENT EXCEEDS	73		51		42	
90 PERCENT EXCEEDS	10		9.8		6.9	

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



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued
(Hydrologic Benchmark Station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1981.

REMARKS.--Additional data are available and may be obtained from the District Office in Troy, NY for the following dates: Apr. 3, 25; June 26; July 9, 19, 23, 24; Aug. 5, 11, 13, 14, 16; Sept. 3, 11, 12, 17, 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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 LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
MAY 1997									
28...	1100	1028	83613	64	38	6.9	12.0	8.5	3.6
AUG									
21...	0920	1028	83613	40	44	7.5	16.5	14.0	4.3

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 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 AS (MG/L) (70300)
MAY 1997									
28...	.95	.70	.60	6.8	7.5	1.1	<.10	4.0	29
AUG									
21...	1.1	.90	.80	9.3	6.2	.20	<.10	4.3	25

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)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)
MAY 1997									
28...	<.010	.150	<.020	<.20	<.010	<.010	<.010	6.0	2.0
AUG									
21...	<.010	.360	<.020	<.20	.020	<.010	<.010	13	4.0

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546400 SPRING CREEK AT HOUSERVILLE, PA

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

DRAINAGE AREA.--58.5 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 except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 230 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1730	*748	*6.79	Feb. 5	0630	304	4.80
Oct. 28	1145	291	4.73	Mar. 5	2030	237	4.44
Nov. 8	2130	554	5.94	May 19	2230	237	4.44
Dec. 2	0200	662	6.42	June 18	2115	390	5.21
Dec. 13	1800	599	6.14	Aug. 4	1800	230	4.55
Dec. 24	1815	232	4.41	Sept. 29	0245	412	5.31

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	129	263	106	59	84	97	51	68	41	25	31
2	136	117	575	106	67	101	89	49	88	41	24	31
3	125	104	399	107	77	89	84	60	86	39	24	30
4	109	93	317	100	73	91	e85	53	76	38	58	29
5	99	90	261	99	236	122	e80	49	70	37	39	28
6	92	87	247	92	132	188	e80	51	68	37	30	28
7	87	87	210	87	106	153	e75	48	66	36	27	32
8	85	301	183	83	96	142	e75	48	64	35	26	42
9	83	433	163	82	88	125	e70	54	62	38	24	42
10	79	332	143	82	83	145	e70	49	60	35	24	46
11	74	276	164	79	79	127	e65	48	58	32	28	68
12	71	231	223	74	74	107	e70	48	60	32	26	47
13	70	199	465	71	69	98	e75	48	64	31	70	44
14	67	177	506	68	68	151	e70	46	55	31	36	43
15	65	152	415	67	67	171	e60	47	54	30	43	43
16	65	132	349	71	64	140	e65	46	53	30	45	41
17	63	122	303	65	63	132	63	45	e60	29	42	42
18	106	116	260	e60	84	134	62	45	98	28	56	41
19	639	110	235	59	113	128	61	74	70	28	39	41
20	693	101	199	57	121	120	59	70	56	27	66	44
21	588	94	171	56	123	114	57	59	54	27	58	42
22	498	89	160	57	164	110	57	58	52	27	46	42
23	441	86	151	63	142	101	56	57	51	54	41	41
24	411	84	176	60	126	96	55	57	47	35	39	41
25	339	83	154	73	109	92	54	123	46	30	38	41
26	295	108	128	65	103	164	53	106	47	29	36	40
27	229	84	122	62	99	117	53	90	44	34	35	40
28	234	78	120	64	89	112	60	84	43	28	54	47
29	200	76	138	59	---	110	53	77	42	27	36	139
30	176	77	127	57	---	105	52	74	41	26	34	54
31	148	---	114	57	---	108	---	71	---	25	32	---
TOTAL	6522	4248	7441	2288	2774	3777	2005	1885	1803	1017	1201	1320
MEAN	210	142	240	73.8	99.1	122	66.8	60.8	60.1	32.8	38.7	44.0
MAX	693	433	575	107	236	188	97	123	98	54	70	139
MIN	63	76	114	56	59	84	52	45	41	25	24	28
CFSM	3.60	2.42	4.10	1.26	1.69	2.08	1.14	1.04	1.03	.56	.66	.75
IN.	4.15	2.70	4.73	1.45	1.76	2.40	1.27	1.20	1.15	.65	.76	.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1997, BY WATER YEAR (WY)

	MEAN	47.8	55.4	78.2	72.7	73.8	112	122	78.1	59.0	44.6	36.1	42.9
MAX	210	142	240	191	117	263	404	126	142	94.1	59.8	192	
(WY)	1997	1997	1997	1996	1996	1994	1993	1989	1989	1989	1994	1996	
MIN	18.2	26.4	29.1	34.6	32.2	54.0	49.8	49.6	35.1	26.9	22.1	18.1	
(WY)	1993	1992	1989	1992	1992	1990	1995	1995	1991	1988	1995	1995	

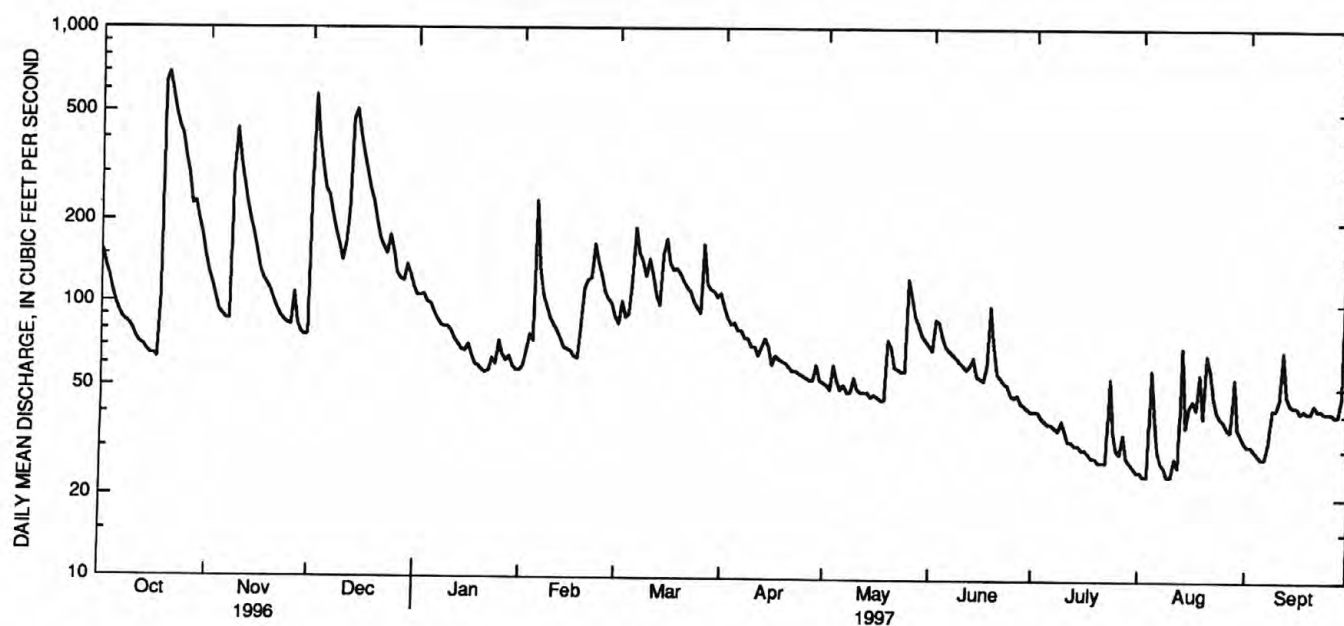
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01546400 SPRING CREEK AT HOUSEVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1985 - 1997	
ANNUAL TOTAL	49753		36281		69.2	
ANNUAL MEAN	136		99.4		42.4	
HIGHEST ANNUAL MEAN					99.4	
LOWEST ANNUAL MEAN					42.4	
HIGHEST DAILY MEAN	1130	Jan 19	693	Oct 20	1130	Jan 19 1996
LOWEST DAILY MEAN	32	Jan 16	24	Aug 2, 3, 9, 10	14	Oct 16 1993
ANNUAL SEVEN-DAY MINIMUM	a33	Jan 10	26	Jul 28	15	Oct 22 1993b
INSTANTANEOUS PEAK FLOW			748	Oct 19	2370	Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.79	Oct 19	10.05	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.32		1.70		1.18	
ANNUAL RUNOFF (INCHES)	31.64		23.07		16.08	
10 PERCENT EXCEEDS	273		179		122	
50 PERCENT EXCEEDS	100		70		50	
90 PERCENT EXCEEDS	50		33		24	

a Computed using estimated daily discharges.

b Also Sept. 6, 1995.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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. Nonrecording gage Mar. 6 to Sept. 30, 1995.

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2100	*820	*4.11	Dec. 13	2130	580	3.72
Nov. 9	0100	481	3.53	Sept. 29	0530	429	3.42
Dec. 2	0600	697	3.92				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	164	204	152	104	134	146	84	100	76	55	63
2	174	157	575	153	109	147	138	83	119	75	55	64
3	167	150	371	153	124	138	132	94	117	73	55	62
4	156	143	302	147	123	138	129	90	105	73	85	60
5	148	138	260	146	227	147	126	83	98	71	87	59
6	142	135	248	141	182	208	124	83	96	71	63	60
7	138	135	225	135	157	182	121	82	94	71	58	59
8	135	235	207	132	148	176	116	80	91	70	57	58
9	133	389	194	132	140	166	113	87	92	70	55	57
10	129	298	179	131	134	174	111	82	88	73	54	58
11	122	258	183	126	127	169	110	78	85	68	55	93
12	118	231	228	121	124	153	114	79	87	69	59	69
13	116	211	389	117	118	145	118	79	102	69	107	60
14	112	199	480	115	119	170	108	77	86	68	74	58
15	114	185	386	114	e110	195	104	77	82	67	62	57
16	109	173	332	118	e110	175	103	75	81	66	95	55
17	105	165	297	e110	108	172	102	75	87	64	79	53
18	108	162	271	e110	115	172	101	75	102	62	100	55
19	552	157	246	e100	157	170	99	93	132	58	76	54
20	717	149	223	e100	168	166	97	114	90	59	99	55
21	517	143	203	e100	162	161	95	87	84	59	109	56
22	394	137	193	e100	191	159	94	85	83	59	82	54
23	326	133	187	e110	178	150	94	83	84	90	75	51
24	307	130	198	110	167	145	91	83	79	73	72	51
25	256	128	191	116	156	141	89	142	78	64	71	51
26	228	149	171	120	151	185	88	150	78	61	68	51
27	212	129	166	116	148	161	87	126	76	65	67	52
28	212	119	164	110	139	156	98	118	76	60	93	54
29	198	116	171	106	---	156	88	111	74	59	71	196
30	185	115	170	106	---	150	85	107	74	57	67	88
31	172	---	159	106	---	152	---	102	---	56	65	---
TOTAL	6687	5133	7773	3753	3996	5013	3221	2864	2720	2076	2270	1913
MEAN	216	171	251	121	143	162	107	92.4	90.7	67.0	73.2	63.8
MAX	717	389	575	153	227	208	146	150	132	90	109	196
MIN	105	115	159	100	104	134	85	75	74	56	54	51
CFSM	2.47	1.96	2.88	1.39	1.64	1.85	1.23	1.06	1.04	.77	.84	.73
IN.	2.85	2.19	3.32	1.60	1.70	2.14	1.37	1.22	1.16	.89	.97	.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

MEAN	60.4	68.7	85.2	91.8	109	150	155	121	98.4	71.0	60.3	57.7
MAX	216	206	251	224	257	335	475	257	369	216	137	208
(WY)	1997	1978	1997	1996	1984	1994	1993	1978	1972	1972	1984	1996
MIN	26.1	26.0	22.8	23.3	38.1	36.5	49.6	50.5	41.1	28.0	24.4	24.9
(WY)	1964	1966	1966	1966	1963	1969	1969	1969	1965	1965	1966	1965

e Estimated.

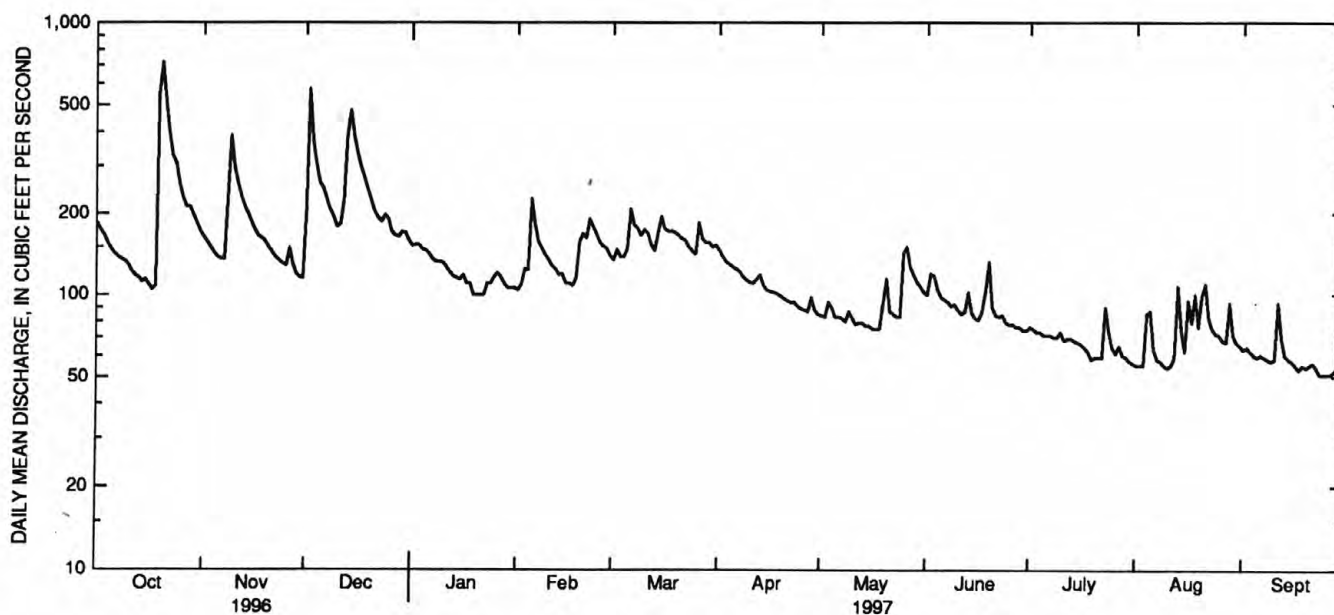
WEST BRANCH SUSQUEHANNA RIVER BASIN
01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	59952		47419		93.9	
ANNUAL MEAN	164		130		43.5	
HIGHEST ANNUAL MEAN					161	
LOWEST ANNUAL MEAN					1978	
HIGHEST DAILY MEAN	1350	Jan 19	717	Oct 20	2910	Jun 23 1972
LOWEST DAILY MEAN	53	Jan 16	51	Sep 23	20	Dec 20,30 1963 ^a
ANNUAL SEVEN-DAY MINIMUM	55	Jan 11	52	Sep 22	21	Jan 28 1966
INSTANTANEOUS PEAK FLOW			820	Oct 19	b5410	Jun 23 1972
INSTANTANEOUS PEAK STAGE			4.11	Oct 19	c7.47	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.88		1.49		1.08	
ANNUAL RUNOFF (INCHES)	25.58		20.23		14.63	
10 PERCENT EXCEEDS	276		201		166	
50 PERCENT EXCEEDS	142		111		73	
90 PERCENT EXCEEDS	73		60		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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 570 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2200	*1,310	*6.39	Dec. 13	2100	1,000	5.72
Dec. 2	0545	1,160	6.08				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e360	e320	e500	325	241	301	317	208	229	182	155	156
2	e350	e300	1010	328	249	323	301	206	257	181	154	158
3	e330	e290	704	327	265	300	287	221	252	177	152	156
4	e310	e280	576	317	268	306	281	217	234	176	173	153
5	e300	e270	504	316	414	317	275	204	222	174	195	152
6	e290	e260	482	307	359	425	282	206	218	174	162	151
7	e280	e260	442	298	325	394	267	210	217	174	158	151
8	e270	e460	e400	291	312	384	262	204	214	173	155	152
9	e270	e700	e360	290	300	362	253	211	211	170	153	150
10	e260	e600	e340	289	285	360	250	205	204	169	151	156
11	e260	e500	e340	280	280	343	250	196	201	167	152	194
12	e250	e460	e440	272	277	332	258	197	212	169	157	169
13	e250	428	e750	266	264	317	275	200	248	168	212	157
14	e240	404	885	263	267	355	249	192	214	164	180	154
15	e240	377	724	260	265	391	243	193	e190	167	165	152
16	e240	e360	626	263	256	362	239	187	e180	172	192	151
17	e230	e350	562	255	248	358	238	189	e190	163	184	151
18	e250	341	507	249	255	356	237	193	219	156	221	150
19	e1000	333	475	246	309	345	231	215	297	152	185	148
20	e1200	323	435	246	345	339	230	236	223	152	206	150
21	e900	313	401	246	355	333	225	203	213	156	223	149
22	e700	304	386	251	412	336	225	202	207	158	189	147
23	e600	296	374	258	396	327	228	200	205	200	182	145
24	e530	291	392	252	369	312	220	199	197	184	176	143
25	e480	289	378	264	344	306	213	281	191	170	171	143
26	e440	319	348	260	333	386	216	303	189	164	166	141
27	e410	290	341	248	327	337	217	270	184	166	165	141
28	e400	276	340	253	311	333	230	257	184	161	186	149
29	e380	271	353	246	---	331	217	245	185	158	167	333
30	e370	270	349	242	---	321	211	240	184	155	162	198
31	e350	---	335	241	---	326	---	233	---	156	159	---
TOTAL	12740	10535	15059	8449	8631	10618	7427	6723	6371	5208	5408	4800
MEAN	411	351	486	273	308	343	248	217	212	168	174	160
MAX	1200	700	1010	328	414	425	317	303	297	200	223	333
MIN	230	260	335	241	241	300	211	187	180	152	151	141
CFSM	2.89	2.47	3.42	1.92	2.17	2.41	1.74	1.53	1.50	1.18	1.23	1.13
IN.	3.34	2.76	3.95	2.21	2.26	2.78	1.95	1.76	1.67	1.36	1.42	1.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1997, BY WATER YEAR (WY)

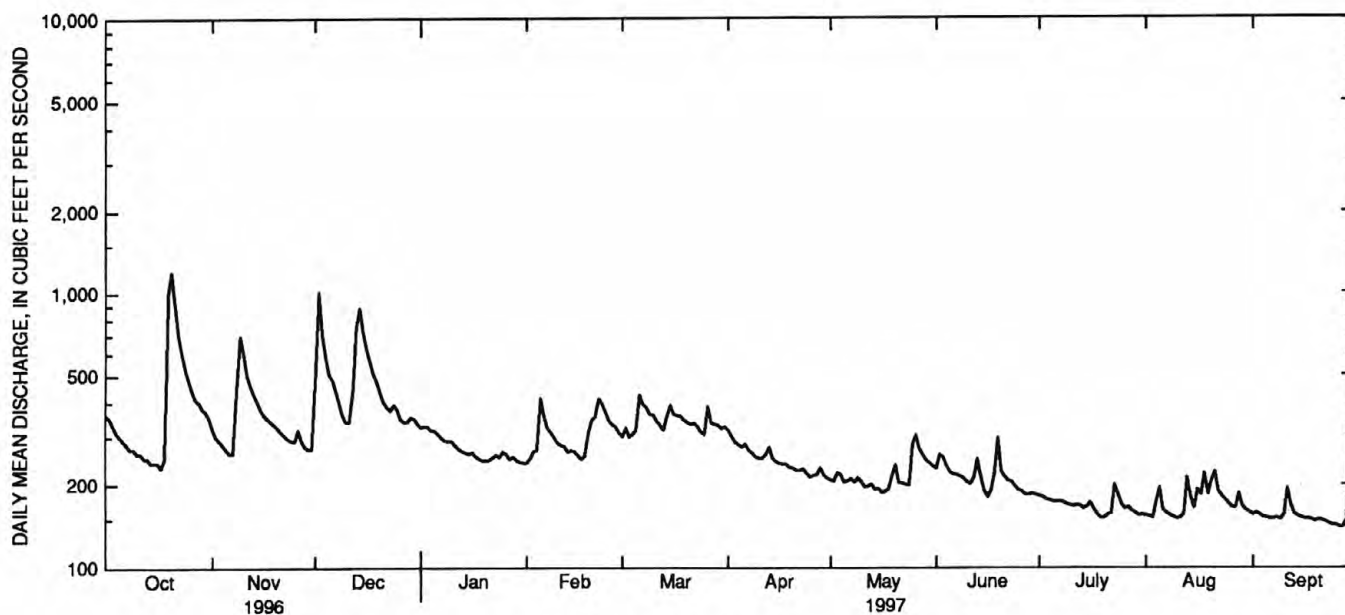
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	177	193	230	229	270	333	340	264	243	192	169	163																			
MAX	411	421	486	455	500	617	825	507	729	434	357	388																			
(WY)	1967	1978	1997	1996	1984	1994	1993	1978	1972	1972	1984	1996																			
MIN	102	117	131	122	128	104	149	147	123	118	110	108																			
(WY)	1970	1972	1983	1981	1969	1969	1969	1969	1969	1969	1968	1969																			

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01547100 SPRING CREEK AT MILESBERG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1967 - 1997	
ANNUAL TOTAL	122361		101969		234	
ANNUAL MEAN	334		279		128	
HIGHEST ANNUAL MEAN					350	
LOWEST ANNUAL MEAN					128	
HIGHEST DAILY MEAN	2240	Jan 19	e1200	Oct 20	6000	Jun 23 1972
LOWEST DAILY MEAN	149	Jan 16	141	Sep 26,27	82	Mar 24 1969
ANNUAL SEVEN-DAY MINIMUM	151	Jan 11	144	Sep 21	87	Mar 18 1969
INSTANTANEOUS PEAK FLOW			1310	Oct 19	a8170	Jun 23 1972
INSTANTANEOUS PEAK STAGE			6.39	Oct 19	b13.20	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.35		1.97		1.65	
ANNUAL RUNOFF (INCHES)	32.06		26.71		22.37	
10 PERCENT EXCEEDS	507		400		367	
50 PERCENT EXCEEDS	299		251		192	
90 PERCENT EXCEEDS	180		156		130	

- a From rating curve extended above 900 ft³/s on basis of flow-over-dam measurement of peak flow.
b From peak-stage indicator.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBURG, PA

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

DRAINAGE AREA.--265 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.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,700 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 19	1945	5,700	6.12	Dec. 2	0200	5,270	5.85
Nov. 8	2015	*7,870	*7.32	Dec. 13	1600	4,580	5.39

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	721	474	1530	541	311	566	551	283	384	209	154	163
2	615	455	3690	548	327	751	493	278	533	216	152	163
3	547	434	1660	565	360	670	456	340	526	207	150	160
4	481	412	1170	520	393	664	438	366	453	197	170	155
5	439	397	934	506	e900	772	417	306	410	193	216	153
6	411	385	878	486	e900	1590	417	310	380	191	174	153
7	393	388	781	449	738	1150	393	310	357	190	163	152
8	378	3970	701	424	625	927	373	294	335	188	157	153
9	373	3660	643	405	545	775	359	319	315	185	153	151
10	364	1610	579	446	487	789	348	315	291	183	152	159
11	338	1130	620	386	463	732	341	288	275	179	153	232
12	320	893	1100	364	439	647	356	281	289	180	159	218
13	311	755	3210	357	387	589	439	284	367	178	246	177
14	301	672	2430	355	390	1020	366	270	295	173	228	165
15	295	596	1530	345	411	1260	339	265	263	176	180	160
16	288	545	1180	366	366	929	325	253	246	185	207	157
17	281	512	997	334	354	816	328	250	261	172	214	155
18	312	498	858	315	364	808	327	251	432	162	283	154
19	4420	483	769	307	693	746	320	321	696	156	214	151
20	3610	452	668	309	e1200	700	313	599	353	155	252	154
21	2000	427	568	315	1420	656	301	403	298	157	365	152
22	1370	405	563	319	2010	651	299	364	271	159	236	150
23	1070	387	550	338	1300	592	304	335	257	214	211	148
24	916	376	597	332	944	541	293	315	240	222	195	145
25	769	371	600	344	749	516	277	927	228	186	187	144
26	673	508	502	339	659	1300	274	1190	225	174	179	142
27	610	430	489	315	641	1030	270	734	218	172	176	141
28	632	377	498	325	609	831	347	572	212	168	199	150
29	604	371	593	315	---	728	322	482	210	161	185	774
30	546	373	638	306	---	648	289	445	207	158	173	301
31	504	---	570	307	---	616	---	404	---	156	167	---
TOTAL	24892	22746	32096	11883	18985	25010	10675	12354	9827	5602	6050	5532
MEAN	803	758	1035	383	678	807	356	399	328	181	195	184
MAX	4420	3970	3690	565	2010	1590	551	1190	696	222	365	774
MIN	281	371	489	306	311	516	270	250	207	155	150	141
CFSM	3.03	2.86	3.91	1.45	2.56	3.04	1.34	1.50	1.24	.68	.74	.70
IN.	3.49	3.19	4.51	1.67	2.67	3.51	1.50	1.73	1.38	.79	.85	.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1997, BY WATER YEAR (WY)

MEAN	266	336	413	381	531	768	702	498	361	250	217	216
MAX	950	811	1035	1049	1227	1489	2001	1162	1689	804	643	986
(WY)	1977	1978	1997	1996	1984	1994	1993	1978	1972	1972	1956	1996
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

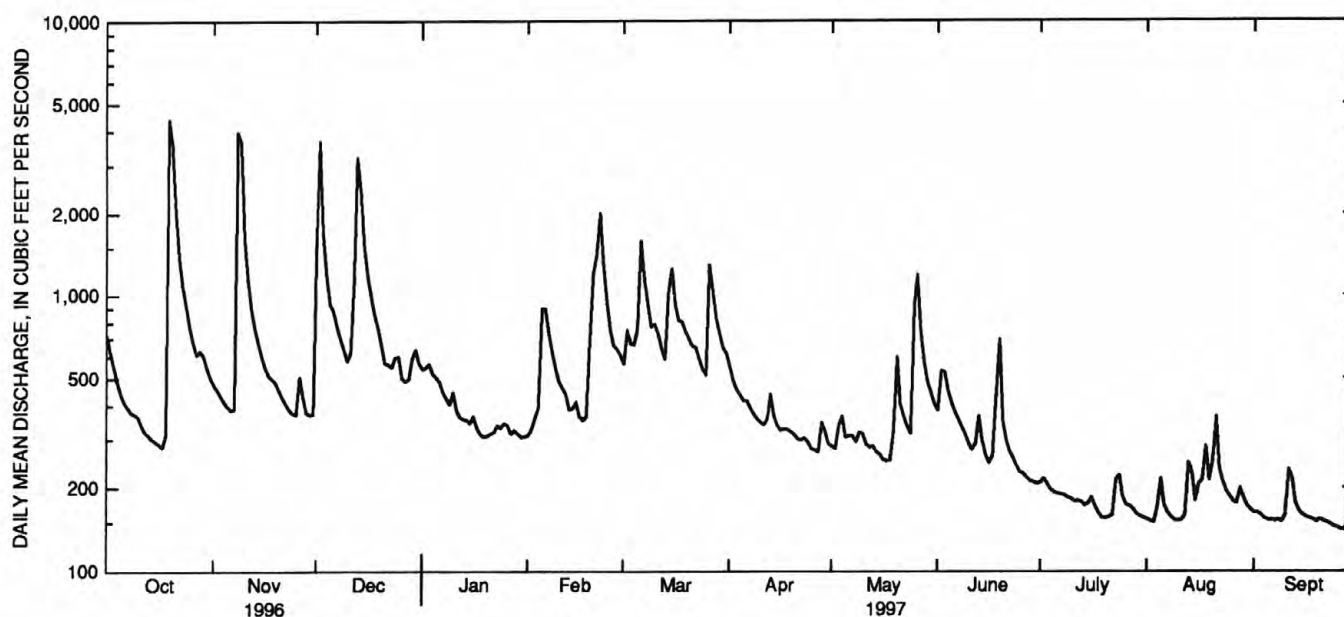
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBERG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1956 - 1997	
ANNUAL TOTAL	248316		185652		411	
ANNUAL MEAN	678		509		638	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					213	
HIGHEST DAILY MEAN	8350	Jan 19	4420	Oct 19	15000	Jun 23 1972
LOWEST DAILY MEAN	177	Sep 3	141	Sep 27	79	Sep 11 1965
ANNUAL SEVEN-DAY MINIMUM	187	Aug 28	146	Sep 22	80	Sep 17 1965
INSTANTANEOUS PEAK FLOW			7870	Nov 8	a21300	Jun 23 1972
INSTANTANEOUS PEAK STAGE			7.32	Nov 8	b11.67	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.56		1.92		1.55	
ANNUAL RUNOFF (INCHES)	34.86		26.06		21.06	
10 PERCENT EXCEEDS	1310		906		796	
50 PERCENT EXCEEDS	456		364		265	
90 PERCENT EXCEEDS	223		161		134	

a From rating curve extended above 9,000 ft³/s.
b From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	725	522	1090	617	323	997	471	215	479	235	178	178
2	661	462	702	559	309	847	421	230	618	235	178	178
3	577	427	1970	528	309	755	421	266	600	233	178	178
4	485	427	2510	551	419	681	421	264	479	231	178	178
5	427	427	2790	564	972	744	421	264	479	223	178	178
6	427	427	2540	564	1150	1450	421	247	447	207	178	178
7	427	427	1440	537	853	1610	354	208	405	207	178	178
8	427	456	832	485	717	1180	299	200	378	207	178	178
9	427	38	743	455	585	861	277	200	362	207	178	178
10	411	1420	662	436	537	629	277	200	362	207	178	178
11	363	2450	618	433	485	507	277	200	330	198	178	196
12	332	2870	1160	411	485	514	280	189	319	182	178	228
13	332	3030	894	394	428	518	280	178	473	182	178	231
14	332	3010	1230	364	394	596	277	175	387	182	178	231
15	303	1830	2120	347	394	750	279	173	311	182	178	209
16	286	954	2480	347	394	653	249	158	309	182	196	178
17	286	879	2500	347	418	564	231	149	309	182	262	178
18	335	812	2430	347	794	620	231	149	309	182	312	178
19	624	841	1380	347	1320	722	220	168	494	182	281	178
20	741	755	754	347	2020	684	211	238	405	182	257	178
21	1690	703	572	347	2160	638	211	248	378	182	432	178
22	2480	702	548	347	1760	605	195	249	332	182	342	178
23	2760	649	564	347	1740	568	172	252	317	193	234	178
24	2900	633	644	347	1960	517	172	294	309	245	211	178
25	3120	629	689	347	2020	474	172	764	288	181	211	178
26	2530	787	585	347	1890	768	172	1380	260	178	211	178
27	1330	748	528	347	1480	854	173	819	251	178	211	178
28	794	635	528	347	1340	724	175	562	235	178	211	179
29	676	499	574	347	---	630	194	522	235	178	330	824
30	611	399	739	347	---	577	219	498	235	178	272	455
31	532	---	729	347	---	529	---	479	---	178	197	---
TOTAL	28351	28848	37545	12797	27656	22766	8173	10138	11095	6079	6840	6469
MEAN	915	962	1211	413	988	734	272	327	370	196	221	216
MAX	3120	3030	2790	617	2160	1610	471	1380	618	245	432	824
MIN	286	38	528	347	309	474	172	149	235	178	178	178

WEST BRANCH SUSQUEHANNA RIVER BASIN

01547500 BALD EAGLE CREEK AT BLANCHARD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	439	586	603	526	637	725	683	574	458	339	273	330
MAX	1012	1291	1211	1213	1450	1664	2095	1328	1184	1580	867	1097
(WY)	1980	1978	1997	1996	1984	1979	1993	1978	1972	1972	1984	1996
MIN	165	188	204	133	275	238	208	203	195	162	140	120
(WY)	1983	1988	1990	1981	1993	1990	1976	1995	1991	1991	1995	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1971 - 1997

ANNUAL TOTAL	284419	206757	
ANNUAL MEAN	777	566	513
HIGHEST ANNUAL MEAN			764
LOWEST ANNUAL MEAN			333
HIGHEST DAILY MEAN	3140	Jan 23	4730
LOWEST DAILY MEAN	38	Nov 9	5.3
ANNUAL SEVEN-DAY MINIMUM	211	Aug 27	71
INSTANTANEOUS PEAK FLOW			b4890
INSTANTANEOUS PEAK STAGE			9.37
INSTANTANEOUS LOW FLOW			c.00
10 PERCENT EXCEEDS	1980	1270	1050
50 PERCENT EXCEEDS	504	363	337
90 PERCENT EXCEEDS	240	178	168

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

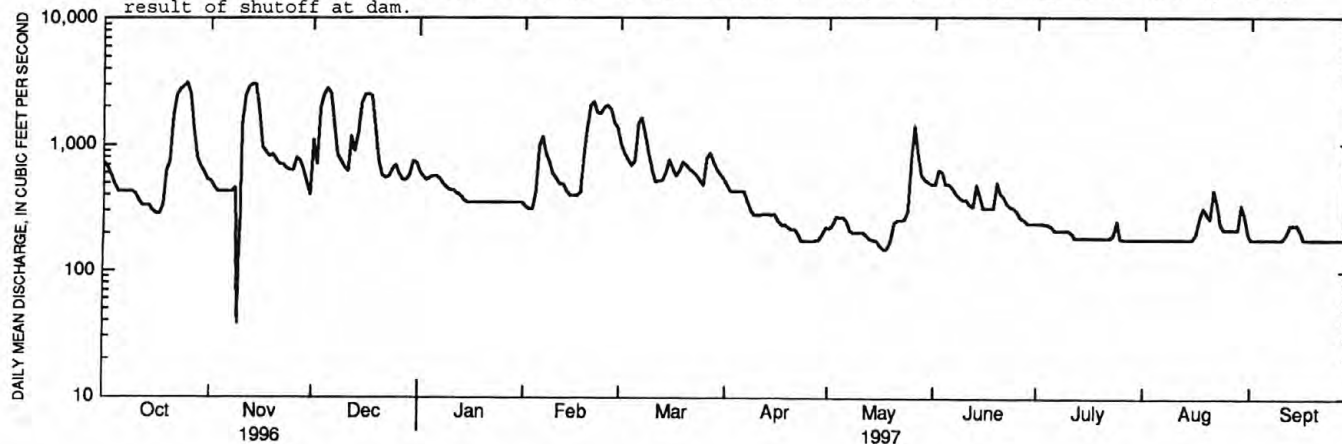
WATER YEARS 1954 - 1970

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
INSTANTANEOUS LOW FLOW	.00	Jun 16 1970c
ANNUAL RUNOFF (CFSM)	1.16	
ANNUAL RUNOFF (INCHES)	15.82	
10 PERCENT EXCEEDS	834	
50 PERCENT EXCEEDS	235	
90 PERCENT EXCEEDS	124	

a Also Mar. 31 and Apr. 1.

b From rating curve extended above 4,100 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.

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1530	1,260	4.65	Dec. 2	0230	*1,770	*5.10
Nov. 8	2230	1,440	4.84	Dec. 13	1700	1,130	4.50

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	51	324	72	23	69	71	24	39	8.6	1.8	2.2
2	70	48	1090	74	25	84	60	23	58	9.5	1.8	2.1
3	56	44	460	74	29	73	54	32	61	8.6	1.7	1.9
4	44	40	266	66	32	73	50	35	61	7.0	1.7	1.8
5	36	37	172	62	118	119	46	34	60	5.5	3.7	1.7
6	31	37	144	55	e110	394	44	37	54	4.7	2.3	1.7
7	27	41	112	49	e100	280	41	35	47	4.3	2.1	1.7
8	24	705	93	44	e80	200	38	34	42	4.0	1.8	1.7
9	24	988	79	e40	68	140	36	36	37	4.1	1.6	1.7
10	22	455	68	e42	59	120	33	35	32	4.3	1.6	2.1
11	19	252	86	e34	53	98	31	32	29	3.4	1.8	31
12	16	162	158	e30	49	79	34	30	30	2.9	4.3	19
13	15	115	793	e29	e42	68	38	30	38	2.7	14	11
14	15	91	693	e28	e40	94	32	28	27	2.5	12	7.9
15	15	73	382	e27	e38	125	30	27	22	2.8	4.4	5.8
16	15	62	241	e29	e34	113	29	25	20	8.0	4.3	4.1
17	14	56	171	e24	e32	109	29	24	22	4.4	12	3.3
18	18	54	125	e22	e32	110	29	23	20	2.8	24	3.0
19	881	51	99	e22	e90	105	29	29	23	2.2	11	2.7
20	791	45	78	e22	164	105	29	38	17	2.0	12	3.2
21	483	40	63	e23	221	100	27	31	16	1.9	22	4.0
22	281	36	e55	e23	403	95	27	32	14	1.8	12	2.8
23	184	33	53	26	310	81	27	31	13	5.7	8.6	2.5
24	135	30	62	24	203	72	26	31	12	19	6.4	2.4
25	103	30	58	26	136	68	24	44	12	8.0	4.7	2.2
26	83	50	49	25	105	242	22	52	11	5.3	4.0	2.0
27	71	37	48	22	93	221	21	49	10	3.7	3.4	1.9
28	76	32	52	23	78	179	29	50	8.7	3.0	3.2	2.1
29	67	34	67	21	---	137	25	47	7.8	2.6	3.0	69
30	62	34	73	19	---	106	24	46	7.4	2.3	2.5	25
31	56	---	73	22	---	90	---	42	---	1.9	2.2	---
TOTAL	3820	3763	6287	1099	2767	3949	1035	1066	850.9	149.5	191.9	223.5
MEAN	123	125	203	35.5	98.8	127	34.5	34.4	28.4	4.82	6.19	7.45
MAX	881	988	1090	74	403	394	71	52	61	19	24	69
MIN	14	30	48	19	23	68	21	23	7.4	1.8	1.6	1.7
CFSM	2.79	2.84	4.60	.80	2.24	2.89	.78	.78	.64	.11	.14	.17
IN.	3.22	3.17	5.30	.93	2.33	3.33	.87	.90	.72	.13	.16	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1997, BY WATER YEAR (WY)

	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
MEAN	29.5	53.5	71.1	55.8	86.6	135	113	72.1	47.5	22.5	17.2	18.0
MAX	154	151	252	193	267	283	337	171	344	170	77.6	110
(WY)	1991	1978	1973	1996	1984	1994	1993	1978	1972	1972	1994	1996
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

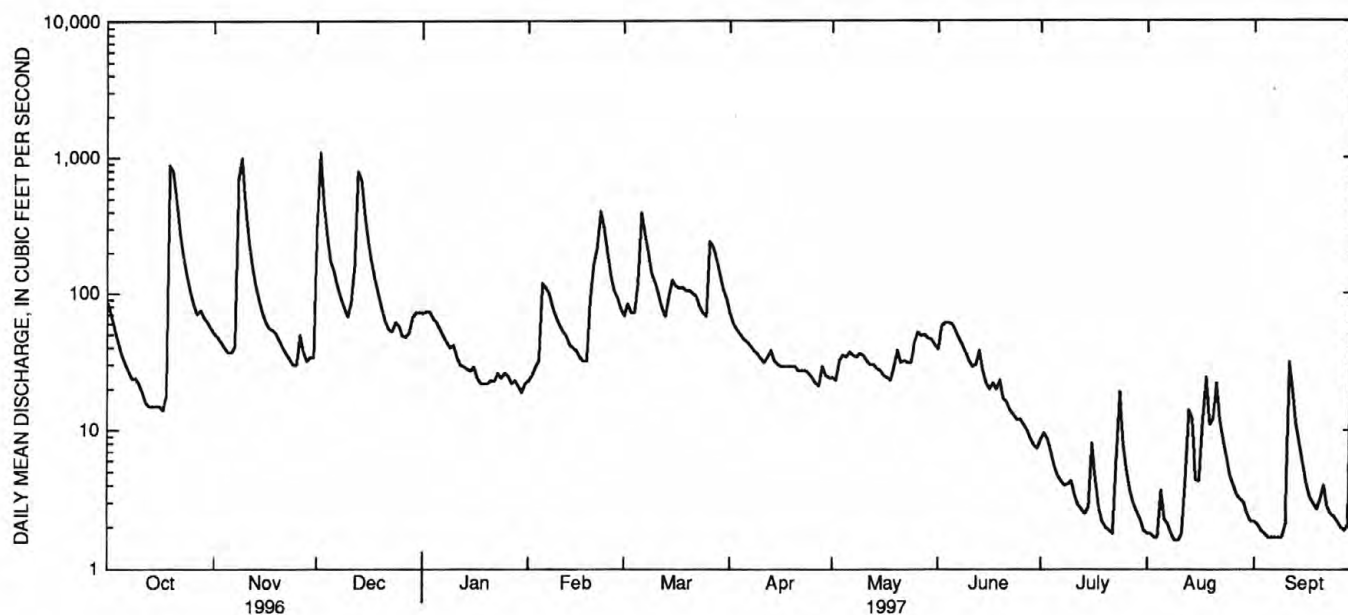
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01547700 MARSH CREEK AT BLANCHARD, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1956 - 1997	
ANNUAL TOTAL	37468.1		25201.8		60.0	
ANNUAL MEAN	102		69.0		102	
HIGHEST ANNUAL MEAN					28.6	
LOWEST ANNUAL MEAN					3800	
HIGHEST DAILY MEAN	e2200	Jan 19	1090	Dec 2	3800	Jun 23 1972
LOWEST DAILY MEAN	2.5	Sep 3	1.6	Aug 9,10	.00	Aug 30 1996
ANNUAL SEVEN-DAY MINIMUM	3.4	Aug 29	1.7	Sep 3	.07	Aug 27 1966
INSTANTANEOUS PEAK FLOW			1770	Dec 2	a6900	Jun 18 1984
INSTANTANEOUS PEAK STAGE			5.10	Dec 2	7.85	Jun 18 1984
ANNUAL RUNOFF (CFSM)	2.32		1.57		1.36	
ANNUAL RUNOFF (INCHES)	31.61		21.26		18.48	
10 PERCENT EXCEEDS	238		135		142	
50 PERCENT EXCEEDS	51		32		26	
90 PERCENT EXCEEDS	11		2.7		4.0	

a From rating curve extended above 4,900 ft³/s.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0945	1,850	8.75	Dec. 2	0500	1,590	8.43
Nov. 8	2230	*3,190	*10.26	Dec. 13	2300	1,780	8.66

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	412	261	514	289	e95	587	487	149	261	75	24	30
2	365	244	1470	296	e100	636	427	148	317	80	e22	29
3	323	225	1240	306	e110	612	390	184	331	69	e21	27
4	278	206	1010	288	e120	568	363	228	298	60	e24	25
5	246	193	797	285	e340	552	332	207	298	55	32	24
6	221	182	699	277	e320	936	308	223	290	50	27	e22
7	204	182	599	254	e260	892	287	220	272	48	e22	e21
8	191	1590	531	239	e240	807	261	214	251	48	e20	e20
9	182	2580	463	235	e220	696	247	219	228	48	e19	e22
10	173	1590	398	242	e210	643	228	215	208	50	e18	27
11	154	1120	381	225	e190	582	212	200	189	44	e20	93
12	140	864	528	e200	e170	508	214	189	176	40	e24	87
13	132	709	1250	e180	e160	444	240	183	190	38	74	49
14	125	608	1680	e160	e170	478	207	172	166	36	75	39
15	118	526	1310	e150	e150	503	189	164	145	38	35	34
16	112	454	1020	e160	e140	445	179	156	132	83	33	32
17	107	402	831	e140	e130	422	176	147	145	45	65	30
18	113	374	696	e130	e140	428	175	142	154	37	171	29
19	1250	349	603	e130	e170	422	171	172	221	35	e95	27
20	1800	311	522	e150	373	413	164	244	150	32	e110	32
21	1500	279	441	e170	485	408	157	196	129	30	e160	36
22	1110	253	390	e150	1150	427	151	195	116	30	e100	29
23	834	229	355	e160	1190	399	150	195	105	42	e70	26
24	666	213	382	e140	963	374	149	193	97	69	e60	26
25	537	205	375	e150	771	364	138	250	93	46	e50	24
26	447	274	318	e130	658	681	129	336	86	38	e46	24
27	385	235	298	e110	630	707	122	299	83	34	e42	e22
28	380	208	301	e120	625	692	176	301	75	32	39	e21
29	351	204	318	e95	---	650	161	295	69	30	37	219
30	313	206	326	e85	---	596	147	292	64	27	34	120
31	284	---	300	e90	---	557	---	273	---	25	32	---
TOTAL	13453	15276	20346	5736	10280	17429	6737	6601	5339	1414	1601	1246
MEAN	434	509	656	185	367	562	225	213	178	45.6	51.6	41.5
MAX	1800	2580	1680	306	1190	936	487	336	331	83	171	219
MIN	107	182	298	85	95	364	122	142	64	25	18	20
CFSM	2.86	3.35	4.32	1.22	2.42	3.70	1.48	1.40	1.17	.30	.34	.27
IN.	3.29	3.74	4.98	1.40	2.52	4.27	1.65	1.62	1.31	.35	.39	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

MEAN	157	267	321	249	334	489	498	328	260	164	97.9	111
MAX	620	673	656	585	809	949	1353	709	895	621	410	509
(WY)	1991	1971	1997	1979	1981	1979	1993	1978	1972	1994	1975	
MIN	21.8	41.2	71.6	54.9	73.8	167	213	112	48.0	27.8	17.8	19.1
(WY)	1992	1992	1990	1981	1980	1969	1988	1976	1991	1991	1991	1995

e Estimated.

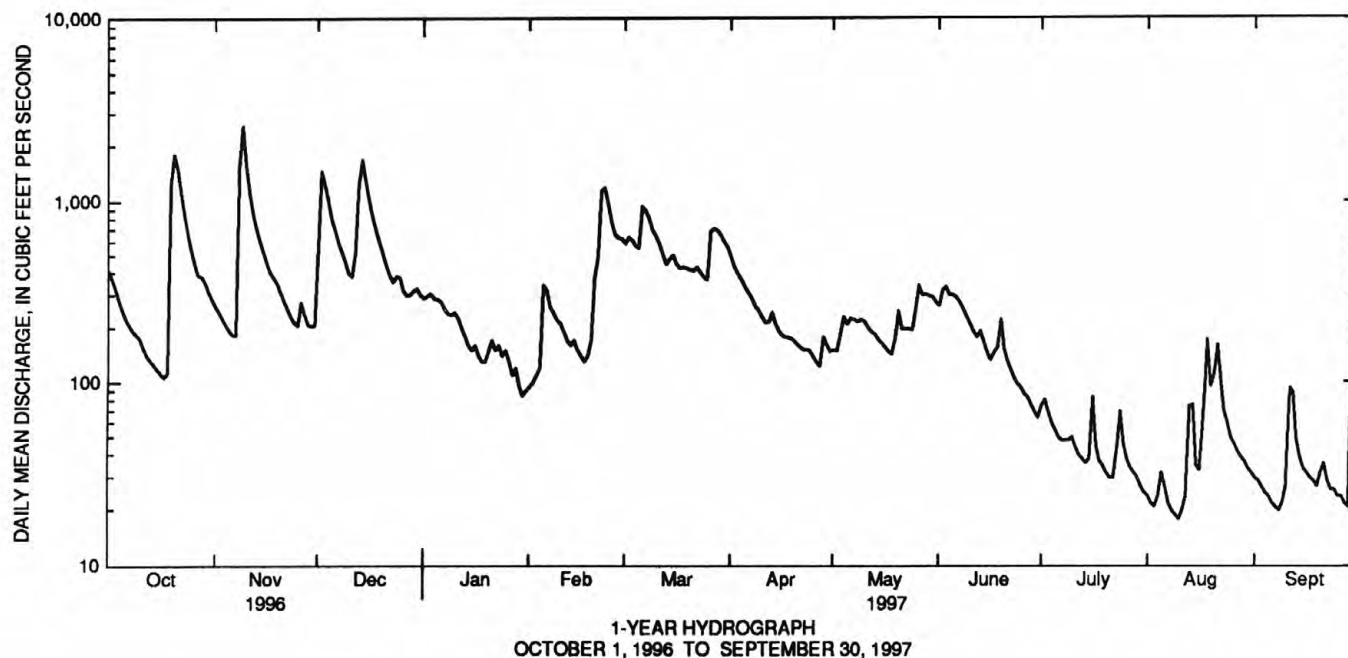
WEST BRANCH SUSQUEHANNA RIVER BASIN
01547950 BEECH CREEK AT MONUMENT, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	141666		105458			
ANNUAL MEAN	387		289		273	
HIGHEST ANNUAL MEAN					385	
LOWEST ANNUAL MEAN					172	
HIGHEST DAILY MEAN	2690	Jan 20	2580	Nov 9	7490	Jun 23 1972
LOWEST DAILY MEAN	26	Sep 3	e18	Aug 10	8.3	Sep 9 1991
ANNUAL SEVEN-DAY MINIMUM	30	Aug 28	a21	Aug 6	9.9	Aug 29 1991
INSTANTANEOUS PEAK FLOW			b3190	Nov 8	b9740	Jun 23 1972
INSTANTANEOUS PEAK STAGE			10.26	Nov 8	15.22	Jun 23 1972
ANNUAL RUNOFF (CFSM)	2.55		1.90		1.79	
ANNUAL RUNOFF (INCHES)	34.67		25.81		24.36	
10 PERCENT EXCEEDS	937		646		590	
50 PERCENT EXCEEDS	271		193		170	
90 PERCENT EXCEEDS	59		31		42	

a Computed using estimated daily discharges.

b 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

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 and those for period of partially closed intake, Sept. 4-30, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1400	7,750	6.27	Dec. 2	0330	8,430	6.49
Nov. 8	1900	*23,600	*10.10	Feb. 21	Unknown	Unknown	Ice jam

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	728	1830	976	e380	3130	2260	434	647	168	75	124
2	917	679	6420	1010	e390	3350	1890	420	720	180	71	115
3	743	644	4610	1020	e400	3450	1620	479	1450	181	68	112
4	588	588	3410	982	e420	2980	1420	676	1410	160	79	130
5	484	542	2490	926	e500	2500	1240	577	1350	143	125	117
6	411	507	2090	969	e700	5020	1120	646	1160	134	110	108
7	359	490	1730	815	e600	4200	1020	751	970	124	85	104
8	325	11200	1470	716	e500	3310	888	692	824	121	75	99
9	306	17500	1260	e700	e420	2540	782	716	685	137	67	97
10	285	8250	1070	e700	e390	2140	700	714	571	327	62	89
11	257	4930	955	e600	e380	1890	638	667	488	207	60	152
12	231	3450	1130	e480	e360	1540	590	605	429	164	64	345
13	208	2560	2880	e460	e340	1300	884	567	393	147	118	235
14	188	2010	4630	e420	e320	1280	741	519	380	134	166	191
15	175	1620	3810	e380	e400	1460	665	483	323	126	115	174
16	168	1350	2960	e400	e360	1230	643	452	280	119	101	159
17	163	1180	2360	e400	e380	1060	651	418	274	113	233	146
18	155	1090	1930	e320	e440	1040	700	392	306	113	326	144
19	2960	1040	1600	e340	e640	1010	655	551	441	136	234	143
20	7490	932	1340	e380	e1200	1060	626	889	316	129	163	126
21	6400	825	1070	e400	e2200	982	574	747	276	101	183	119
22	4750	744	1050	e440	e4400	1360	543	739	253	110	211	113
23	3410	670	922	e420	4240	1310	519	704	226	127	199	104
24	2550	623	1110	e440	3130	1230	500	658	209	127	176	99
25	1930	616	1390	e460	2270	1210	464	671	229	140	149	96
26	1480	1370	1090	e460	1830	2300	437	746	256	118	135	93
27	1170	1370	1080	e420	2640	2260	397	599	294	104	126	89
28	1040	1270	1100	e420	3370	2330	503	531	226	100	146	86
29	957	1310	1160	e400	---	2440	522	486	195	102	185	260
30	837	1250	1250	e380	---	2670	451	468	179	99	144	374
31	886	---	1090	e380	---	2650	---	453	---	82	127	---
TOTAL	43013	71338	62287	17614	33600	66232	24643	18450	15760	4273	4178	4343
MEAN	1388	2378	2009	568	1200	2137	821	595	525	138	135	145
MAX	7490	17500	6420	1020	4400	5020	2260	889	1450	327	326	374
MIN	155	490	922	320	320	982	397	392	82	82	60	86
CFSM	2.30	3.94	3.33	.94	1.99	3.54	1.36	.99	.87	.23	.22	.24
IN.	2.65	4.39	3.84	1.08	2.07	4.08	1.52	1.14	.97	.26	.26	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1997, BY WATER YEAR (WY)

MEAN	372	765	848	826	903	1870	1977	1251	623	286	227	209
MAX	2910	3077	2260	2741	3090	6362	5678	3580	3601	1160	2712	2458
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	1928	1994	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

e Estimated.

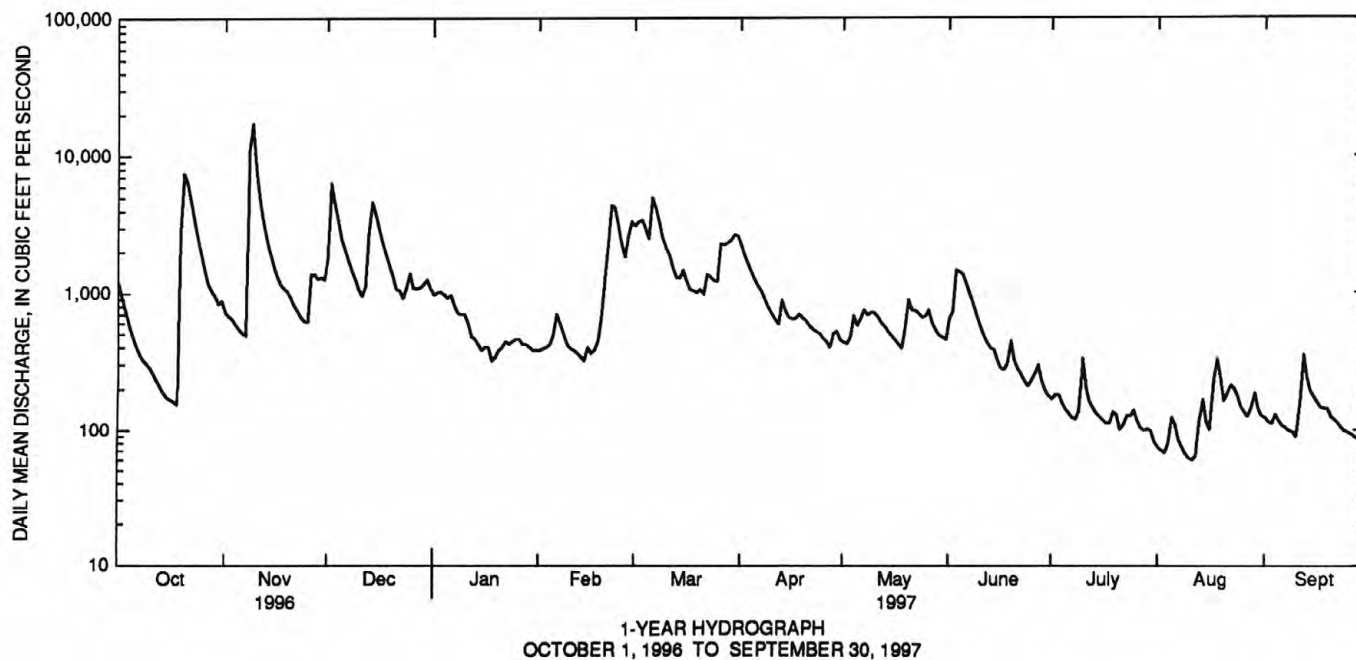
WEST BRANCH SUSQUEHANNA RIVER BASIN

01548500 PINE CREEK AT CEDAR RUN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1919 - 1997	
ANNUAL TOTAL	496754		365731		846	
ANNUAL MEAN	1357		1002		1400	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1941	
HIGHEST DAILY MEAN	17500	Nov 9	17500	Nov 9	42600	Jun 23 1972
LOWEST DAILY MEAN	53	Sep 2-4	60	Aug 11	8.0	Sep 2 1939
ANNUAL SEVEN-DAY MINIMUM	58	Aug 30	75	Aug 6	11	Aug 28 1939
INSTANTANEOUS PEAK FLOW			23600	Nov 8	a66000	Jun 23 1972
INSTANTANEOUS PEAK STAGE			10.10	Nov 8	b16.00	Jun 23 1972
INSTANTANEOUS LOW FLOW					8.0	Sep 1,2 1939
ANNUAL RUNOFF (CFSM)	2.25		1.66		1.40	
ANNUAL RUNOFF (INCHES)	30.59		22.53		19.02	
10 PERCENT EXCEEDS	3260		2460		2040	
50 PERCENT EXCEEDS	680		522		400	
90 PERCENT EXCEEDS	125		116		65	

a From rating curve extended above 16,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark.



WEST BRANCH SUISSEHANNA 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 poor. 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.

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

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 19	1745	1,430	5.21	Dec. 2	0230	*3,160	*7.04
Nov. 8	2400	1,130	4.77				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	53	317	54	e23	129	100	28	30	5.0	e3.0	9.6
2	56	48	1180	57	e22	171	88	28	34	5.5	e2.8	6.6
3	47	44	414	61	e22	159	78	50	46	5.2	e2.5	7.1
4	39	40	245	56	e22	134	69	55	33	4.8	e3.6	5.8
5	34	38	162	62	e100	141	62	51	29	4.6	6.4	4.5
6	30	36	133	59	72	390	58	57	26	4.4	2.7	3.7
7	28	36	106	50	36	245	53	52	25	4.4	1.8	3.4
8	26	417	87	47	e25	182	48	47	23	4.5	1.3	3.0
9	24	703	73	46	e23	131	44	46	22	4.8	1.1	2.9
10	23	371	63	49	e22	115	40	43	20	7.9	.86	3.4
11	20	229	61	e44	e21	97	38	39	19	5.2	.83	67
12	18	153	97	e38	e20	77	38	36	19	5.0	1.9	47
13	17	114	371	e36	e19	63	43	34	19	4.8	57	32
14	16	91	426	e32	e18	78	37	31	20	4.7	24	26
15	15	74	274	e32	e18	e90	32	30	18	4.6	8.8	22
16	14	64	187	e36	e17	e70	31	28	16	e3.8	9.8	19
17	14	59	141	e29	e17	e63	30	26	17	e3.6	20	17
18	14	57	111	e27	e18	65	30	24	18	4.7	48	19
19	593	57	94	e26	e21	64	29	46	19	5.8	20	15
20	593	51	e70	e28	e100	63	27	71	15	5.2	17	14
21	360	46	e65	e30	e140	59	25	42	12	4.7	30	13
22	236	42	e60	e27	e340	78	24	38	11	4.8	21	10
23	187	39	55	e27	247	62	24	36	12	4.9	17	9.2
24	219	37	87	e25	159	56	25	33	8.4	5.7	13	8.4
25	146	38	80	e27	110	56	22	44	7.8	5.3	10	7.7
26	116	70	62	e29	91	157	21	47	7.3	5.2	9.0	7.3
27	95	52	61	e26	151	111	20	37	7.6	5.1	7.8	6.4
28	90	44	63	e25	148	112	37	34	6.2	4.9	7.0	6.0
29	76	46	74	e24	---	114	31	32	5.2	5.0	6.6	141
30	66	45	69	e24	---	106	27	32	4.8	4.7	6.1	52
31	59	---	61	e24	---	117	---	31	---	e3.8	5.4	---
TOTAL	3340	3194	5349	1157	2022	3555	1231	1228	550.3	152.6	366.29	589.0
MEAN	108	106	173	37.3	72.2	115	41.0	39.6	18.3	4.92	11.8	19.6
MAX	593	703	1180	62	340	390	100	71	46	7.9	57	141
MIN	14	36	55	24	17	56	20	24	4.8	3.6	.83	2.9
CFSM	2.86	2.82	4.58	.99	1.92	3.04	1.09	1.05	.49	.13	.31	.52
IN.	3.30	3.15	5.28	1.14	2.00	3.51	1.21	1.21	.54	.15	.36	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

MEAN	34.0	62.3	68.4	56.0	67.7	124	125	78.6	41.9	19.0	15.2	16.0
MAX	194	195	184	182	268	260	429	211	303	74.7	204	115
(WY)	1991	1978	1974	1996	1981	1945	1993	1946	1972	1990	1994	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

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

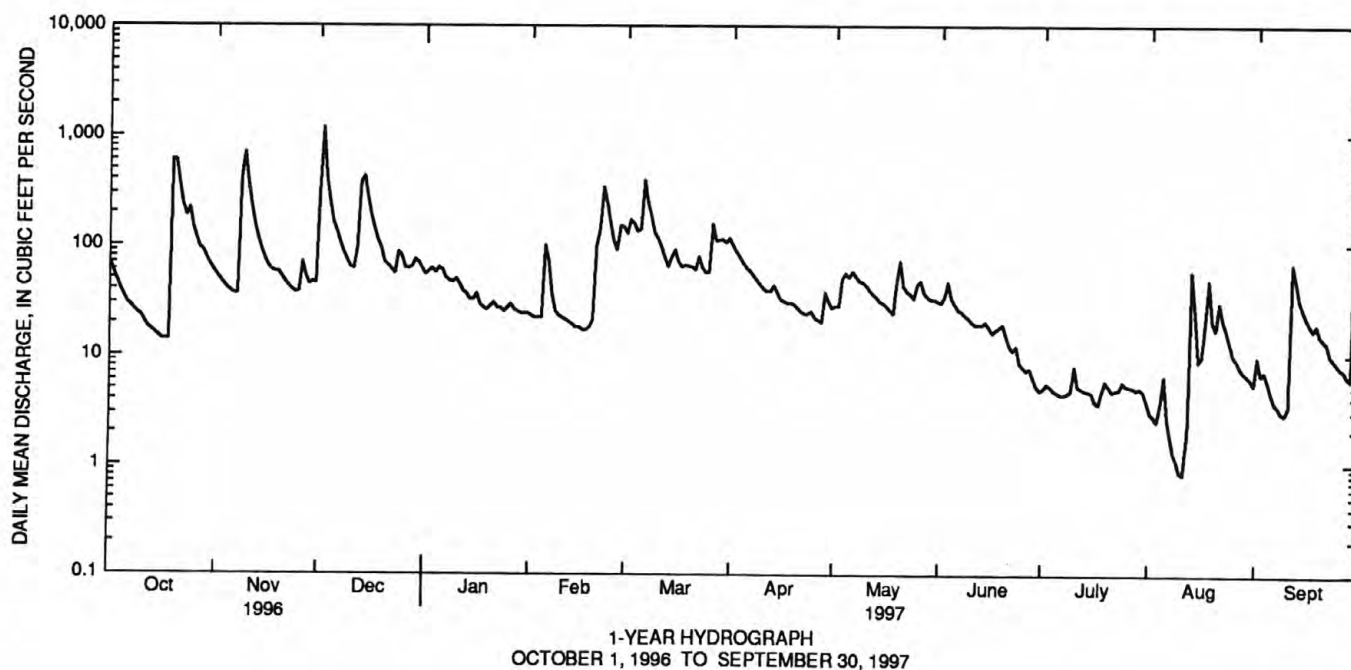
01549500 BLOCKHOUSE CREEK NEAR ENGLISH CENTER, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	33764.7		22734.19		59.0	
ANNUAL MEAN	92.3		62.3		104	
HIGHEST ANNUAL MEAN					26.3	
LOWEST ANNUAL MEAN					1978	
HIGHEST DAILY MEAN	e2000	Jan 19	1180	Dec 2	3180	Jun 22 1972
LOWEST DAILY MEAN	2.3	Sep 2-4	.83	Aug 11	.00	Aug 6 1962a
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 29	1.5	Aug 6	.19	Aug 29 1962
INSTANTANEOUS PEAK FLOW			3160	Dec 2	b6260	Jun 23 1972
INSTANTANEOUS PEAK STAGE			7.04	Dec 2	9.34	Jun 23 1972
INSTANTANEOUS LOW FLOW					.00	Aug 6,7 1962a
ANNUAL RUNOFF (CFSM)	2.45		1.65		1.56	
ANNUAL RUNOFF (INCHES)	33.32		22.43		21.25	
10 PERCENT EXCEEDS	224		136		133	
50 PERCENT EXCEEDS	45		32		27	
90 PERCENT EXCEEDS	6.1		5.0		3.9	

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 good except those for estimated daily discharges, which are poor. Flood flows subject to regulation by Little Pine Dam 8.5 mi upstream, capacity 24,900 acre-ft. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 9,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2400	14,700	7.82	Feb. 20	Unknown	Unknown	Ice jam
Nov. 8	2200	*34,000	*11.49	Feb. 22	2315	Unknown	Unknown
Dec. 2	Unknown	Unknown	Unknown	Mar. 6	1245	Unknown	Unknown
Dec. 14	0445	9,380	6.45				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	1210	e2400	1530	e600	e5300	e3500	686	827	269	109	185
2	1520	1100	e10000	1500	e600	e5200	e3000	674	1070	270	101	178
3	1250	1040	e8000	1530	e620	e5700	e2600	717	1660	285	95	172
4	1030	948	6950	1520	e650	e5000	e2300	1040	1810	261	106	167
5	857	873	4270	1410	e800	e4200	e2000	990	1770	229	138	174
6	742	813	3430	1480	e1200	e8000	e1800	1000	1590	210	171	155
7	e660	787	2850	1320	e950	e7600	e1600	1180	1370	197	149	144
8	e600	13300	2370	e1100	e850	e5900	e1500	1100	1190	187	119	136
9	545	27500	2020	e1100	e750	e4600	e1300	1100	1050	188	104	152
10	516	14300	1730	e1000	e700	e3800	e1200	1100	900	281	93	195
11	471	9050	1550	e950	e650	e3400	e1100	1050	788	339	88	289
12	427	5910	1670	e750	e650	e2800	e1000	958	709	234	106	431
13	391	3960	3940	e700	e600	e2400	e1200	901	667	198	238	488
14	357	3090	8790	e650	e550	e2300	e1200	847	638	184	439	372
15	336	2490	6790	e600	e750	e2600	e1000	780	564	172	267	314
16	318	2060	5040	e640	e600	e2300	e1000	734	486	161	214	274
17	303	1800	3910	e500	e600	e2000	e920	685	465	155	284	236
18	301	1650	3160	e520	e700	e2000	956	647	480	156	596	212
19	3680	1580	2540	e600	e1000	e1900	934	727	582	142	492	203
20	13600	1440	2090	e600	e1700	e1900	902	1270	554	167	326	209
21	10800	1290	1660	e650	e3400	e1800	842	1190	441	149	334	207
22	8150	1160	e1500	e700	e7500	e2100	793	1110	414	136	370	195
23	5380	1060	e1400	e650	e7000	e2300	763	1080	367	158	368	168
24	4140	991	e1600	e670	e5700	e2200	749	1010	337	194	308	142
25	3110	976	2100	e700	e4200	e2100	706	1010	342	184	268	139
26	2400	1530	1710	e700	e3400	e3400	660	1210	342	182	230	140
27	1940	2010	1630	e650	e3700	e3900	615	1040	403	158	210	137
28	1710	e1800	1650	e650	e5700	e3900	688	927	359	145	196	136
29	1640	e1900	1700	e610	---	e3800	843	863	305	143	234	369
30	1410	e1800	1860	e600	---	e4000	729	823	277	136	231	759
31	1400	---	1660	e590	---	e3900	---	806	---	128	195	---
TOTAL	71894	109418	101970	27170	56120	112300	38400	29255	22757	5998	7179	7078
MEAN	2319	3647	3289	876	2004	3623	1280	944	759	193	232	236
MAX	13600	27500	10000	1530	7500	8000	3500	1270	1810	339	596	759
MIN	301	787	1400	500	550	1800	615	647	277	128	88	136
CFSM	2.46	3.86	3.48	.93	2.12	3.84	1.36	1.00	.80	.20	.25	.25
IN.	2.83	4.31	4.02	1.07	2.21	4.43	1.51	1.15	.90	.24	.28	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1997, BY WATER YEAR (WY)

	718	1317	1536	1270	1678	2926	3262	1861	1153	538	429	438
MEAN	718	1317	1536	1270	1678	2926	3262	1861	1153	538	429	438
MAX	4597	4337	3860	4114	5148	6840	9683	3919	6070	2423	4096	4053
(WY)	1991	1978	1974	1996	1981	1964	1993	1960	1972	1972	1994	1975
MIN	46.7	66.3	107	93.7	410	850	1171	446	153	73.4	51.7	30.4
(WY)	1964	1965	1961	1961	1987	1969	1988	1985	1991	1964	1966	1964

e Estimated.

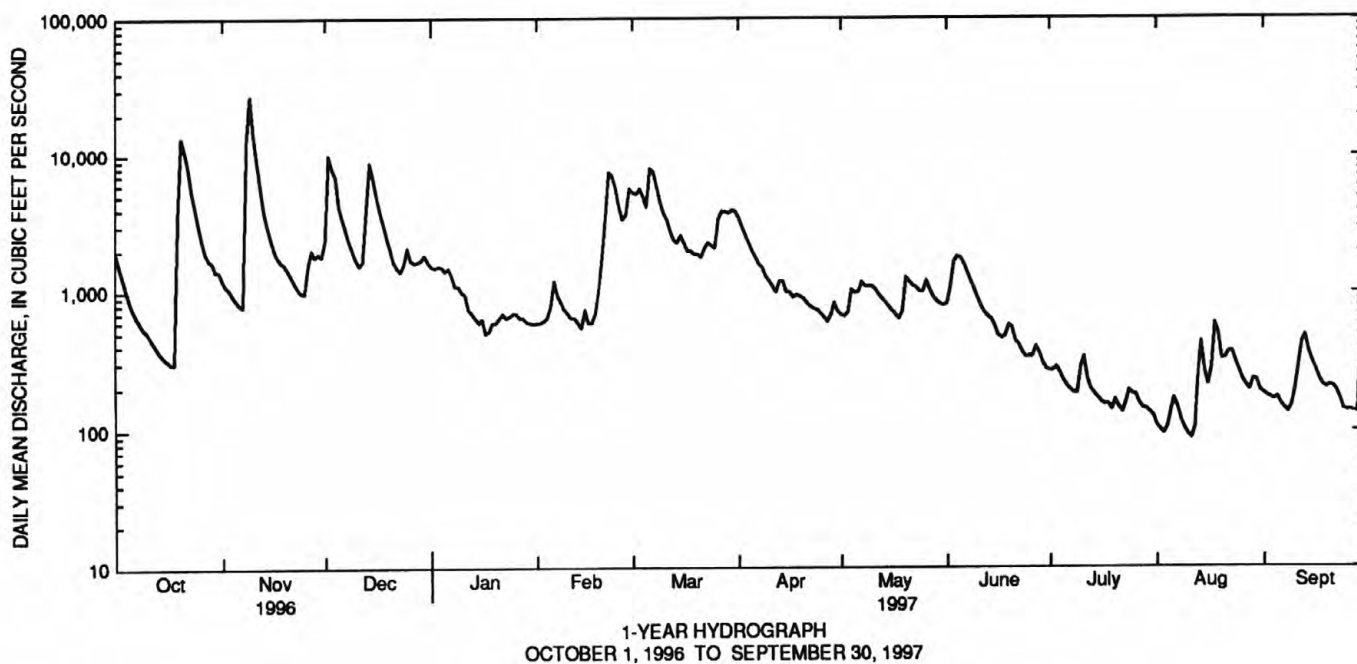
WEST BRANCH SUSQUEHANNA RIVER BASIN

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1958 - 1997	
ANNUAL TOTAL	797684		589539		1424	
ANNUAL MEAN	2179		1615		2379	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					739	
HIGHEST DAILY MEAN	27500	Nov 9	27500	Nov 9	75000	Jun 23 1972
LOWEST DAILY MEAN	72	Sep 3	88	Aug 11	25	Sep 25-27 1964
ANNUAL SEVEN-DAY MINIMUM	82	Aug 31	116	Jul 30	26	Sep 21 1964
INSTANTANEOUS PEAK FLOW			a34000	Nov 8	a104000	Jun 23 1972
INSTANTANEOUS PEAK STAGE			11.49	Nov 8	b22.76	Jun 23 1972
INSTANTANEOUS LOW FLOW					25	Sep 25-27 1964
ANNUAL RUNOFF (CFSM)	2.31		1.71		1.51	
ANNUAL RUNOFF (INCHES)	31.43		23.23		20.50	
10 PERCENT EXCEEDS	5370		3900		3400	
50 PERCENT EXCEEDS	1100		843		680	
90 PERCENT EXCEEDS	213		172		116	

a From rating curve extended above 22,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark.



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 good except those for periods June 10-24 and July 6 to Sept. 30, which are fair, and those for estimated daily discharges and the period June 25 to July 5, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1730	6,210	9.12	Dec. 2	0430	*11,000	*12.25
Nov. 9	0030	5,520	8.62	Dec. 13	2145	4,420	7.77

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	411	282	1570	293	110	701	538	136	145	33	16	68
2	340	254	6480	295	108	895	505	136	149	33	15	68
3	296	232	2240	315	107	895	482	202	245	33	13	64
4	249	209	1330	314	108	719	423	302	190	33	29	63
5	217	195	931	320	162	638	375	238	154	34	39	56
6	194	178	792	348	188	1970	346	243	139	30	32	49
7	177	173	644	280	158	1210	318	258	128	27	29	43
8	163	1540	534	236	e140	922	279	226	121	31	25	40
9	156	3600	454	221	e120	717	249	220	114	33	21	37
10	145	1830	386	237	e110	621	227	212	107	70	17	41
11	133	1180	352	214	e110	558	211	195	103	56	15	167
12	122	843	503	e190	e100	451	205	179	100	42	23	194
13	115	642	2400	e180	e96	372	252	171	99	33	90	128
14	110	521	2720	170	e95	445	215	160	108	28	114	103
15	105	428	1520	e165	e90	610	186	150	95	24	70	91
16	100	364	1090	172	e86	467	172	140	86	21	59	81
17	96	325	884	144	e85	395	165	132	82	18	59	75
18	94	308	727	e140	e90	381	160	125	82	21	105	76
19	2650	311	610	e130	e110	358	155	188	91	27	88	75
20	3070	279	506	e150	e370	366	150	386	84	26	72	71
21	1810	244	389	162	e460	336	142	238	76	24	93	69
22	1320	220	378	143	e1800	440	134	204	71	24	101	64
23	959	201	350	142	e1200	382	130	187	71	24	89	60
24	1140	187	451	129	793	326	130	174	64	35	76	56
25	773	181	549	138	569	312	120	190	56	36	67	52
26	610	362	393	156	480	818	115	276	44	36	63	51
27	502	313	364	129	710	652	109	201	47	34	57	47
28	473	239	362	126	899	647	164	173	45	31	53	44
29	432	235	404	e110	---	643	172	158	39	28	53	234
30	368	230	423	e110	---	587	144	153	34	23	50	173
31	323	---	353	112	---	619	---	151	---	20	47	---
TOTAL	17653	16106	31089	5971	9454	19453	6973	6104	2969	968	1680	2440
MEAN	569	537	1003	193	338	628	232	197	99.0	31.2	54.2	81.3
MAX	3070	3600	6480	348	1800	1970	538	386	245	70	114	234
MIN	94	173	350	110	85	312	109	125	34	18	13	37
CFSM	3.29	3.10	5.80	1.11	1.95	3.63	1.34	1.14	.57	.18	.31	.47
IN.	3.80	3.46	6.69	1.28	2.03	4.18	1.50	1.31	.64	.21	.36	.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	161	303	311	269	292	592	629	390	207	114	89.3	101
MAX	983	1044	1003	1095	1082	1788	1783	979	1488	674	812	776
(WY)	1991	1927	1997	1996	1981	1936	1993	1919	1972	1915	1994	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

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01550000 LYCOMING CREEK NEAR TROUT RUN, PA--Continued

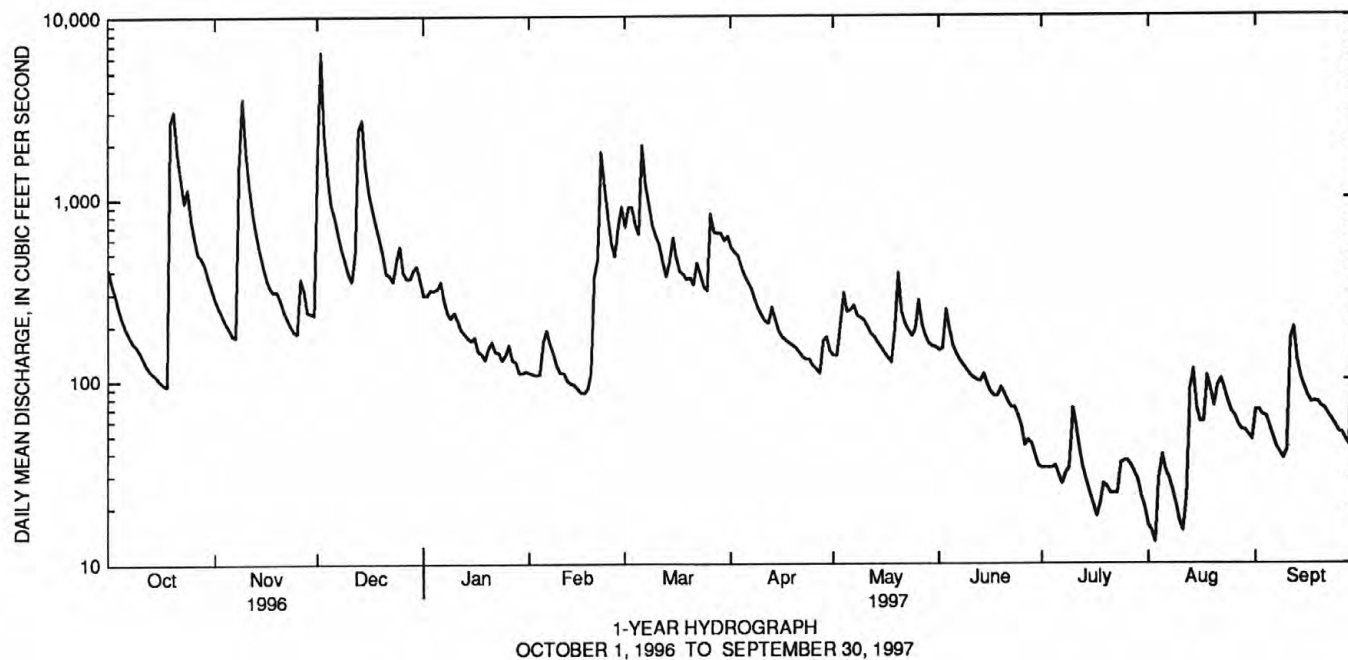
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	203456		120860		288	
ANNUAL MEAN	556		331		491	
HIGHEST ANNUAL MEAN					124	
LOWEST ANNUAL MEAN					e15000	
HIGHEST DAILY MEAN	e15000	Jan 19	6480	Dec 2	e15000	Jan 19 1996
LOWEST DAILY MEAN	14	Sep 3,4	13	Aug 3	4.0	Sep 19-24 1936a
ANNUAL SEVEN-DAY MINIMUM	17	Aug 29	21	Jul 29	4.1	Sep 18 1936
INSTANTANEOUS PEAK FLOW			b11000	Dec 2	b32000	Jan 19 1996
INSTANTANEOUS PEAK STAGE			12.25	Dec 2	c22.68	Jan 19 1996
INSTANTANEOUS LOW FLOW					3.2	Sep 27 1936
ANNUAL RUNOFF (CFSM)	3.21		1.91		1.66	
ANNUAL RUNOFF (INCHES)	43.75		25.99		22.59	
10 PERCENT EXCEEDS	1350		713		667	
50 PERCENT EXCEEDS	259		165		140	
90 PERCENT EXCEEDS	49		34		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, which are poor. Flow slightly regulated by 6 flood-control reservoirs which have a combined capacity of 440,200 acre-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 32.4 ft, June 1, 1889, discharge, about 252,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15500	10200	12900	11900	e5500	27500	18500	5940	8260	2360	1090	1780
2	12400	9290	55400	11200	e5800	25000	16200	5590	9590	2380	e1000	1700
3	10500	8580	53200	11000	e5800	27600	14300	5950	11700	2730	e960	1580
4	9190	7990	40100	11100	e5700	26700	13000	6860	14000	2850	e1000	1480
5	7820	7380	30100	10700	e7000	22800	11800	7550	12800	2460	1110	1360
6	6900	6870	24600	10500	10900	29600	10900	7370	11600	2160	1070	1290
7	6300	6640	20800	10400	14600	43700	10000	7790	10300	1960	1090	1240
8	5850	11700	17000	9740	12900	36100	8980	7590	9000	1820	1140	1170
9	5510	95500	14700	9090	10800	27700	8220	7200	8000	1730	1050	1100
10	5290	80000	13100	8800	9300	22200	7670	7120	7140	1740	945	1140
11	4940	56100	11800	e8500	8290	19800	7210	7000	6250	1960	913	2240
12	4560	42600	12000	e7500	7630	18200	6830	6480	5600	1970	1010	2720
13	4110	33600	23700	e6500	7080	15600	7060	6060	5600	1760	1310	2810
14	3900	24600	53300	e5700	6450	14600	8300	5860	5680	1540	2250	3080
15	3650	19200	47900	e5500	6010	17900	8090	5440	5220	1460	2720	2610
16	3440	14700	36800	e5500	6100	22600	7690	5070	4900	1380	2630	2120
17	3360	13000	29000	e5300	5700	19300	7320	4790	4460	1380	2540	1860
18	3340	11900	24200	e5000	5400	16400	7050	4580	4230	1330	4250	1710
19	12800	11200	20000	e4600	6200	15100	6850	4670	5150	1370	5650	1570
20	60700	10600	16100	e4000	9800	14000	6530	6090	6460	1290	4990	1540
21	64500	9730	13600	e4200	20300	13100	6180	8880	5540	1250	4100	1520
22	48800	8950	11700	e5000	33200	12600	5760	9440	e4600	1260	4150	1520
23	35800	8270	10900	e5500	50400	13200	5450	8450	e4100	1300	4320	1630
24	28800	7680	10600	e5500	40800	12800	5430	7780	e3600	1780	3570	1660
25	23800	7250	12300	e6000	30100	12100	5390	7400	3340	1740	2910	1490
26	19700	7900	12300	e6200	23200	14000	5060	9270	3220	1570	2540	1340
27	16000	10800	11500	e6000	19500	24500	4750	15700	3070	1550	2290	1250
28	13100	11700	11100	e5700	24100	26500	4820	15300	3040	1400	2120	1210
29	12200	11400	11100	e5500	---	22400	5260	11400	2790	1300	1910	2670
30	11400	10600	11900	e5300	---	20300	6010	9810	2500	1200	1940	4430
31	10800	---	12200	e5100	---	19600	---	9080	---	1130	1810	---
TOTAL	474960	575930	685900	222530	398560	653500	246610	237510	191740	53110	70378	54820
MEAN	15320	19200	22130	7178	14230	21080	8220	7662	6391	1713	2270	1827
MAX	64500	95500	55400	11900	50400	43700	18500	15700	14000	2850	5650	4430
MIN	3340	6640	10600	4000	5400	12100	4750	4580	2500	1130	913	1100
CFSM	2.70	3.38	3.89	1.26	2.51	3.71	1.45	1.35	1.12	.30	.40	.32
IN.	3.11	3.77	4.49	1.46	2.61	4.28	1.61	1.55	1.26	.35	.46	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 1997, BY WATER YEAR (WY)

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
MEAN	4243	7086	8952	9732	10580	20110	18330	12350	7178	4109	2882	2776
MAX	20850	28330	24140	30210	29100	62970	51090	32030	37400	20080	16450	20280
(WY)	1991	1951	1928	1937	1981	1936	1993	1919	1972	1902	1994	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

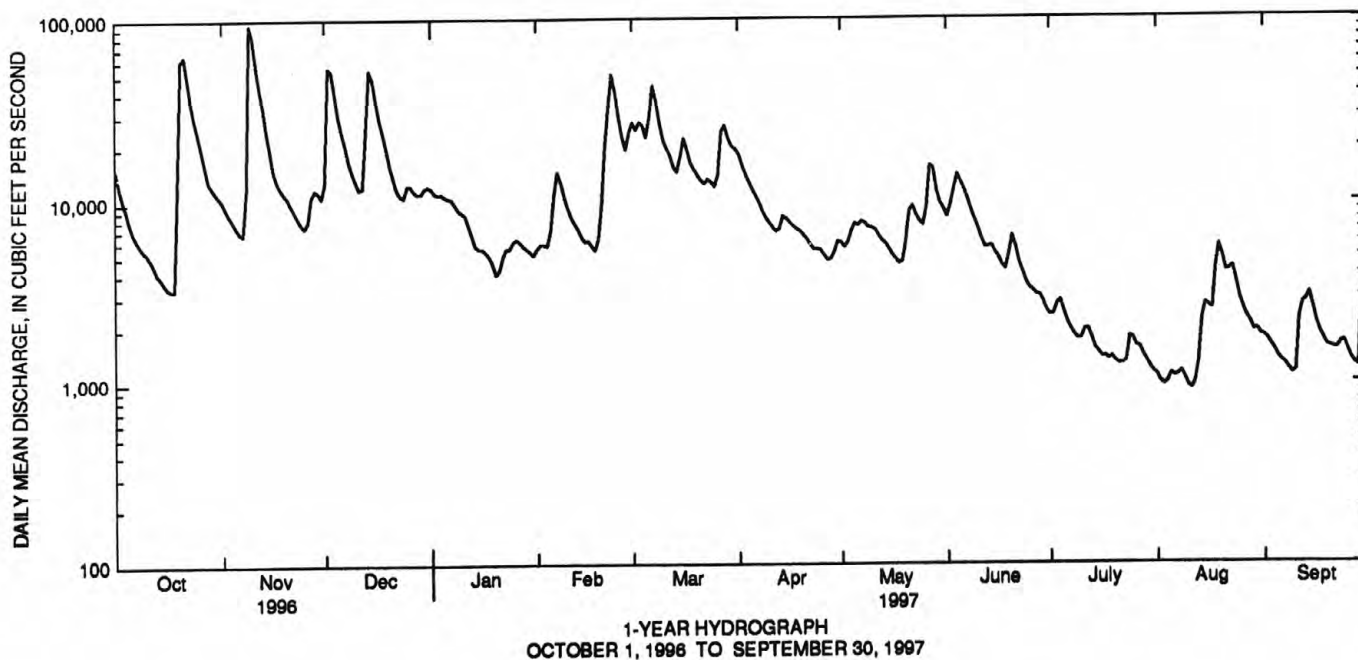
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1895 - 1997	
ANNUAL TOTAL	5389620		3865548		9027	
ANNUAL MEAN	14730		10590		14010	1928
HIGHEST ANNUAL MEAN					5357	1934
LOWEST ANNUAL MEAN					240000	Jun 23 1972
HIGHEST DAILY MEAN	180000	Jan 20	95500	Nov 9	251	Sep 13 1932
LOWEST DAILY MEAN	1310	Sep 4	913	Aug 11	328	Nov 25 1930
ANNUAL SEVEN-DAY MINIMUM	1490	Aug 31	1030	Aug 6	a279000	Jun 23 1972
INSTANTANEOUS PEAK FLOW			108000	Nov 9	34.75	Jun 23 1972
INSTANTANEOUS PEAK STAGE			19.18	Nov 9	162	Sep 17 1943
INSTANTANEOUS LOW FLOW					1.59	
ANNUAL RUNOFF (CFSM)	2.59		1.86		21.59	
ANNUAL RUNOFF (INCHES)	35.29		25.31		21000	
10 PERCENT EXCEEDS	36300		23900		5060	
50 PERCENT EXCEEDS	10600		7000		1060	
90 PERCENT EXCEEDS	2540		1490			

a From rating curve extended above 210,000 ft³/s on basis of slope-area measurement at gage height 33.57 ft.



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 poor. Several measurements of water temperature were made during the year. Satellite telemetry 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 6,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	2015	9,180	8.92	Dec. 2	0630	*16,700	*11.19
Nov. 9	0530	8,000	8.46	Dec. 13	2245	10,900	9.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	688	819	3420	830	e300	1300	1210	390	336	114	43	195
2	572	743	11900	789	e290	1380	1110	411	336	106	41	288
3	498	679	4700	797	e320	1510	1380	549	590	104	39	217
4	437	617	3030	808	e360	1270	1420	1190	590	96	48	180
5	384	569	2220	750	e600	1150	1220	943	449	93	66	153
6	347	534	1900	742	e1000	2780	1060	807	391	87	57	134
7	317	524	1650	643	724	2310	951	793	361	84	60	119
8	297	1650	1370	544	533	1770	810	e680	334	82	56	109
9	288	6700	1180	494	e420	1450	701	e640	318	86	50	103
10	288	4180	1010	e530	e360	1270	629	622	293	86	45	101
11	275	3000	898	e460	e340	1170	571	571	266	92	42	145
12	248	2340	1130	e460	e320	999	544	516	243	91	41	344
13	232	1900	4970	e440	e300	838	706	487	234	80	89	337
14	211	1590	6610	e420	e290	905	647	471	245	72	344	245
15	204	1350	3650	e400	e280	1560	538	442	264	66	203	198
16	189	1170	2740	e440	e270	1250	489	405	216	62	135	168
17	179	1060	2420	e400	e270	1000	461	379	195	59	115	147
18	174	1000	2170	e380	e280	968	453	361	190	60	279	137
19	3680	995	1810	e360	e320	873	436	382	206	61	310	129
20	6950	988	1510	e380	e750	852	422	723	221	54	196	124
21	4210	861	1290	e420	938	804	402	596	194	52	199	119
22	3220	770	1150	e400	3430	921	378	483	163	50	269	109
23	2380	700	994	e400	3190	937	364	437	153	50	258	99
24	2270	648	1160	e380	2100	761	360	403	151	57	208	92
25	1850	620	2090	e380	1500	703	347	400	172	56	159	86
26	1520	1090	1450	e400	1240	1380	321	569	238	57	133	83
27	1290	1440	1230	e340	1260	1450	302	492	195	59	118	78
28	1170	1060	1130	e380	1580	1220	421	410	166	57	112	77
29	1200	994	1110	e340	---	1120	505	367	140	52	133	197
30	1040	930	1240	e320	---	1070	427	346	123	47	154	259
31	933	---	1020	e320	---	1140	---	347	---	45	128	---
TOTAL	37541	41521	74152	15147	23565	38111	19585	16612	7973	2217	4130	4772
MEAN	1211	1384	2392	489	842	1229	653	536	266	71.5	133	159
MAX	6950	6700	11900	830	3430	2780	1420	1190	590	114	344	344
MIN	174	524	898	320	270	703	302	346	123	45	39	77
CFSM	2.73	3.12	5.40	1.10	1.90	2.78	1.47	1.21	.60	.16	.30	.36
IN.	3.15	3.49	6.23	1.27	1.98	3.20	1.64	1.39	.67	.19	.35	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1997, BY WATER YEAR (WY)

	484	872	907	767	817	1481	1581	968	513	283	274	268
MAX	2512	2856	3033	3070	2961	4490	4236	2694	4327	1206	1797	1503
(WY)	1991	1951	1974	1996	1981	1936	1993	1946	1972	1928	1994	1933
MIN	20.2	28.4	80.5	34.1	108	449	363	220	92.4	41.6	31.5	13.8
(WY)	1965	1965	1931	1931	1931	1969	1946	1941	1991	1962	1964	1964

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN
01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

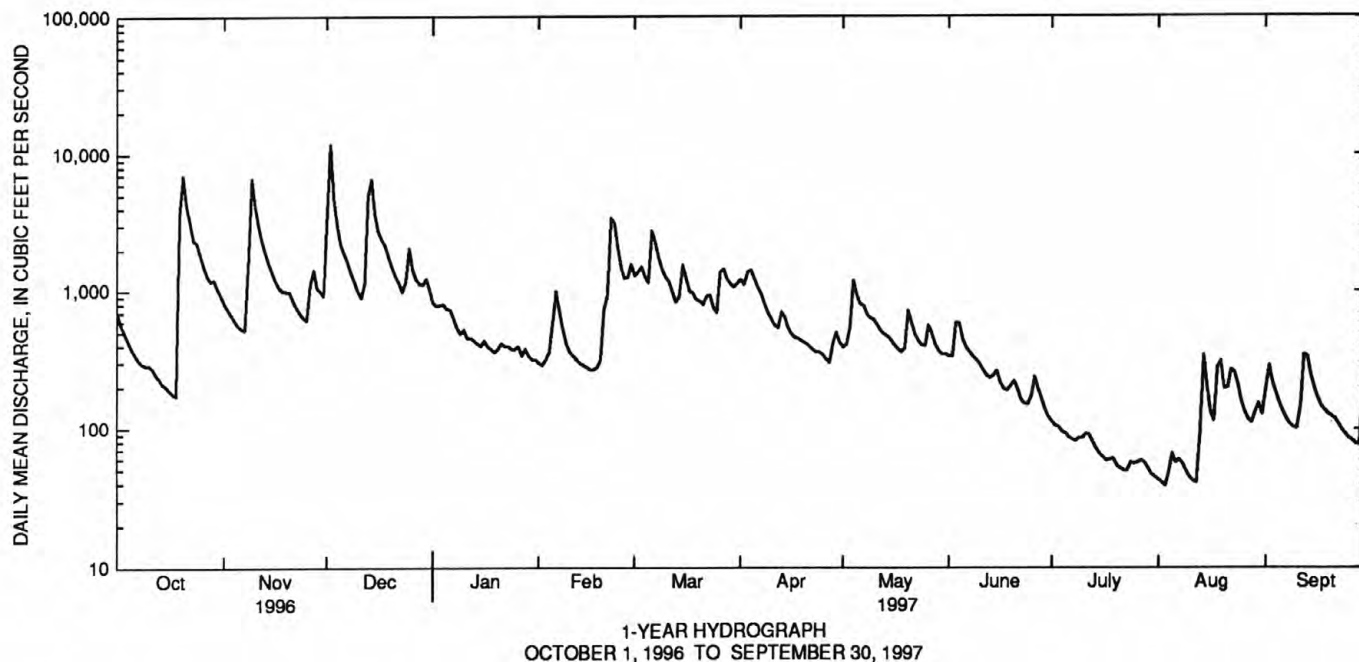
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1926 - 1997	
ANNUAL TOTAL	474651		285326		767	
ANNUAL MEAN	1297		782		1312	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					332	
HIGHEST DAILY MEAN	e22000	Jan 19	11900	Dec 2	45000	Jun 23 1972
LOWEST DAILY MEAN	75	Sep 4	39	Aug 3	11	Sep 25,26 1964
ANNUAL SEVEN-DAY MINIMUM	81	Aug 31	45	Jul 29	12	Sep 20 1964
INSTANTANEOUS PEAK FLOW			16700	Dec 2	a88700	Jun 23 1972
INSTANTANEOUS PEAK STAGE			11.19	Dec 2	b17.93	Jan 19 1996
INSTANTANEOUS LOW FLOW					11	Sep 25,26 1964c
ANNUAL RUNOFF (CFSM)	2.93		1.76		1.73	
ANNUAL RUNOFF (INCHES)	39.86		23.96		23.53	
10 PERCENT EXCEEDS	3350		1570		1710	
50 PERCENT EXCEEDS	730		420		400	
90 PERCENT EXCEEDS	175		85		69	

a From rating curve extended above 16,000 ft³/s on basis of slope-area measurement of peak flow; gage height 14.74 ft.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 9.3 ft, discharge not determined.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 2	0030	*2,150	*5.68	Dec. 13	1630	1,440	5.03

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	49	396	e48	e21	83	76	30	18	7.7	e2.1	19
2	18	46	898	47	e20	105	81	29	22	9.7	e2.0	10
3	18	41	225	47	e19	97	90	96	33	10	e2.0	7.6
4	16	38	142	42	e19	79	86	112	23	8.1	e2.2	5.9
5	15	36	e110	41	e60	86	76	85	20	6.0	e2.4	4.9
6	14	33	e99	38	38	178	68	82	19	4.8	e2.6	4.5
7	13	32	85	34	32	116	60	69	19	4.3	e2.4	4.1
8	12	178	74	e30	29	95	51	59	18	4.7	e2.2	3.9
9	13	379	63	e30	e26	78	44	55	17	8.2	e2.0	3.9
10	12	201	55	e31	e24	74	39	49	16	9.0	e1.8	4.3
11	11	140	54	e29	e23	65	36	42	15	4.7	e1.7	56
12	9.4	109	84	e28	e22	54	41	38	14	3.9	e1.7	45
13	11	91	601	e26	e21	e44	54	37	15	3.4	e3.8	30
14	11	79	363	e24	e20	e65	39	34	16	3.1	e8.0	23
15	8.7	69	178	e22	e20	e80	35	30	14	e2.8	e4.6	19
16	8.1	62	137	e24	e20	e62	33	27	15	e2.8	6.1	15
17	7.8	58	120	e23	e19	e60	33	26	17	e2.7	15	13
18	8.0	56	104	e20	e19	55	31	24	24	e2.7	40	11
19	417	58	92	e19	e20	52	29	29	33	e3.8	15	8.8
20	350	51	e75	e18	54	51	27	36	20	e3.2	12	8.5
21	181	46	e65	e21	90	48	26	26	16	e2.8	29	8.1
22	130	41	e57	e20	297	63	25	24	15	e2.7	24	5.9
23	110	38	53	e20	175	e48	24	23	14	e2.7	20	5.1
24	123	36	102	e19	116	e44	27	23	18	e4.0	14	4.7
25	96	36	104	e50	87	43	24	27	19	e4.2	11	4.1
26	85	70	82	e35	e75	107	21	28	26	e3.6	9.2	3.8
27	76	60	75	e27	96	79	20	23	16	e3.5	7.5	3.3
28	74	51	69	e25	100	76	52	21	11	e3.2	7.4	3.1
29	67	49	70	e23	---	76	35	19	9.4	e2.8	8.2	14
30	62	48	64	e22	---	70	31	20	8.1	e2.4	6.0	7.8
31	55	---	55	e22	---	85	---	19	---	e2.2	6.2	---
TOTAL	2051.0	2281	4751	905	1562	2318	1314	1242	540.5	139.7	272.1	357.3
MEAN	66.2	76.0	153	29.2	55.8	74.8	43.8	40.1	18.0	4.51	8.78	11.9
MAX	417	379	898	50	297	178	90	112	33	10	40	56
MIN	7.8	32	53	18	19	43	20	19	8.1	2.2	1.7	3.1
CFSM	2.78	3.19	6.44	1.23	2.34	3.14	1.84	1.68	.76	.19	.37	.50
IN.	3.21	3.57	7.43	1.41	2.44	3.62	2.05	1.94	.84	.22	.43	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1997, BY WATER YEAR (WY)

	33.2	58.6	63.0	49.8	53.5	85.7	89.6	60.9	30.2	18.7	17.3	21.9
MEAN	33.2	58.6	63.0	49.8	53.5	85.7	89.6	60.9	30.2	18.7	17.3	21.9
MAX	127	140	161	167	236	168	220	156	240	93.0	95.3	167
(WY)	1977	1973	1974	1976	1981	1964	1993	1946	1972	1972	1994	1975
MIN	1.44	2.62	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

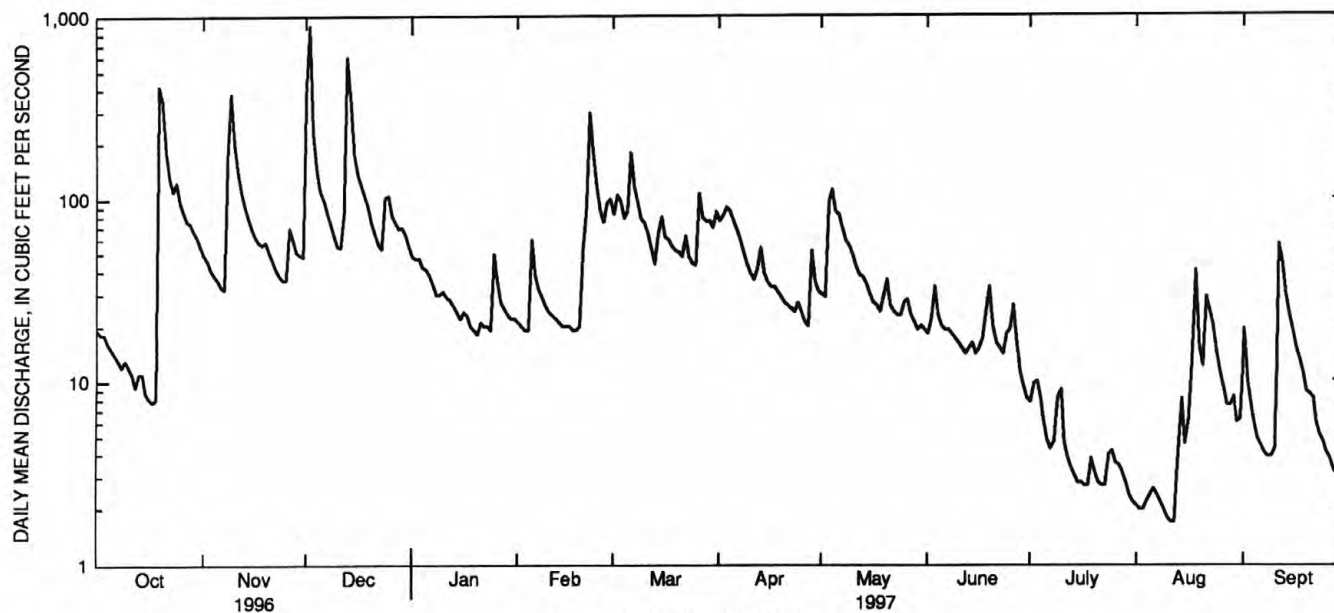
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552500 MUNCY CREEK NEAR SONESTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1941 - 1997	
ANNUAL TOTAL	25984.1		17733.6		48.5	
ANNUAL MEAN	71.0		48.6		77.3	
HIGHEST ANNUAL MEAN					22.1	
LOWEST ANNUAL MEAN					.20	
HIGHEST DAILY MEAN	e2000	Jan 19	898	Dec 2	3910	Jun 22 1972
LOWEST DAILY MEAN	2.3	Sep 3	e1.7	Aug 11,12	.20	Sep 11-13 1964
ANNUAL SEVEN-DAY MINIMUM	3.0	Aug 31	a2.1	Aug 6	.31	Sep 8 1964
INSTANTANEOUS PEAK FLOW			2150	Dec 2	b8260	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.68	Dec 2	8.94	Jun 22 1972
INSTANTANEOUS LOW FLOW					.10	Sep 11-13 1964
ANNUAL RUNOFF (CFSM)	2.98		2.04		2.04	
ANNUAL RUNOFF (INCHES)	40.61		27.72		27.68	
10 PERCENT EXCEEDS	134		96		103	
50 PERCENT EXCEEDS	40		27		25	
90 PERCENT EXCEEDS	8.1		4.0		4.4	

- a Computed using estimated daily discharges.
b From rating curve extended above 3,400 ft³/s.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA

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.

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 poor. Flow slightly regulated by 6 flood-control reservoirs, which have a combined capacity of 440,200 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 32.1 ft, from floodmarks (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 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17100	e11000	14700	13400	6160	28800	21100	6690	9100	2630	1310	2090
2	14400	10500	69300	12700	6670	27600	19100	6580	9390	2540	1270	2050
3	11600	9740	71500	12200	6880	28200	17100	6590	11800	2590	e1200	1950
4	10300	9080	53600	12200	6930	29100	15500	8070	14700	3000	e1300	1820
5	9030	8450	38600	11900	8630	25800	14100	8730	14200	2820	e1200	1700
6	7900	7890	30500	11600	11300	29200	12700	8580	12700	2470	1300	1600
7	7300	7540	26000	11400	15200	45100	11700	8610	11300	2220	1250	1550
8	6790	e9700	21000	10700	14900	41800	10600	8690	10100	2070	1270	1490
9	6410	78800	18000	9970	12300	32400	9410	8210	8960	1980	1290	1380
10	6140	96800	15600	9650	10500	25900	8790	8070	8150	1890	1190	1320
11	5840	69900	13900	e9200	9420	22400	8230	7970	7320	1920	1100	2170
12	e5300	50700	14100	e8400	8640	20600	7840	7560	e6600	2100	1190	3230
13	e4800	e40000	26800	e7300	8090	18000	7960	7090	6390	2060	1420	3220
14	e4500	30000	69100	e6600	7590	16500	8720	6990	6420	1850	1790	3330
15	e4200	22900	61300	e6300	7010	19100	9000	6650	6110	1690	2800	3240
16	4150	18000	46200	e6100	6920	24800	8570	6180	5580	1620	2850	2680
17	4000	15100	35700	e5800	6770	22800	8200	5740	5160	1550	2830	2250
18	3940	13600	29400	e5400	6290	19300	7810	5430	4750	1540	4520	2090
19	11900	12600	24600	e4800	6760	17400	7630	5390	5130	1540	5810	1920
20	58200	11900	20200	e4400	9630	16100	7360	6270	6700	1510	6200	1780
21	72000	11000	16500	e4300	18100	15000	7020	8750	6550	1440	5870	1760
22	56500	10100	14000	e5000	30600	14200	6610	10100	5500	1400	4610	1710
23	41600	9350	12600	e5800	51000	14500	6210	9460	4590	1490	4890	1710
24	33300	8750	12000	e5800	e44000	14400	6040	8740	3970	1870	4350	1810
25	27400	8260	14200	e6600	e34000	13500	6050	8250	3590	2000	3480	1780
26	22700	8660	14700	e7300	e26000	14500	5830	8890	e3500	1850	2940	1640
27	18600	10900	13400	e7200	e22000	23200	5370	13700	e3400	1740	2640	1510
28	15500	12600	12700	e6800	23300	28800	5530	17100	3190	1690	2450	1430
29	14000	12500	12600	e6500	---	25400	5930	12900	3070	1560	2280	2030
30	e13000	11700	13500	e6200	---	22500	6670	10700	2800	1440	2080	4120
31	e12000	---	13800	e5800	---	21900	---	9800	---	1360	2110	---
TOTAL	530400	638020	850100	247320	425590	718800	282680	262480	210720	59430	80790	62360
MEAN	17110	21270	27420	7978	15200	23190	9423	8467	7024	1917	2606	2079
MAX	72000	96800	71500	13400	51000	45100	21100	17100	14700	3000	6200	4120
MIN	3940	7540	12000	4300	6160	13500	5370	5390	2800	1360	1100	1320
CFSM	2.50	3.11	4.01	1.17	2.22	3.39	1.38	1.24	1.03	.28	.38	.30
IN.	2.88	3.47	4.62	1.34	2.31	3.91	1.54	1.43	1.14	.32	.44	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

	MEAN	5356	9233	11840	11330	12990	22110	22650	15080	9011	4867	3541	3601
MAX	24900	32000	28230	30740	33010	49200	62990	28750	46910	20120	18700	24080	
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1972	1994	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	

e Estimated.

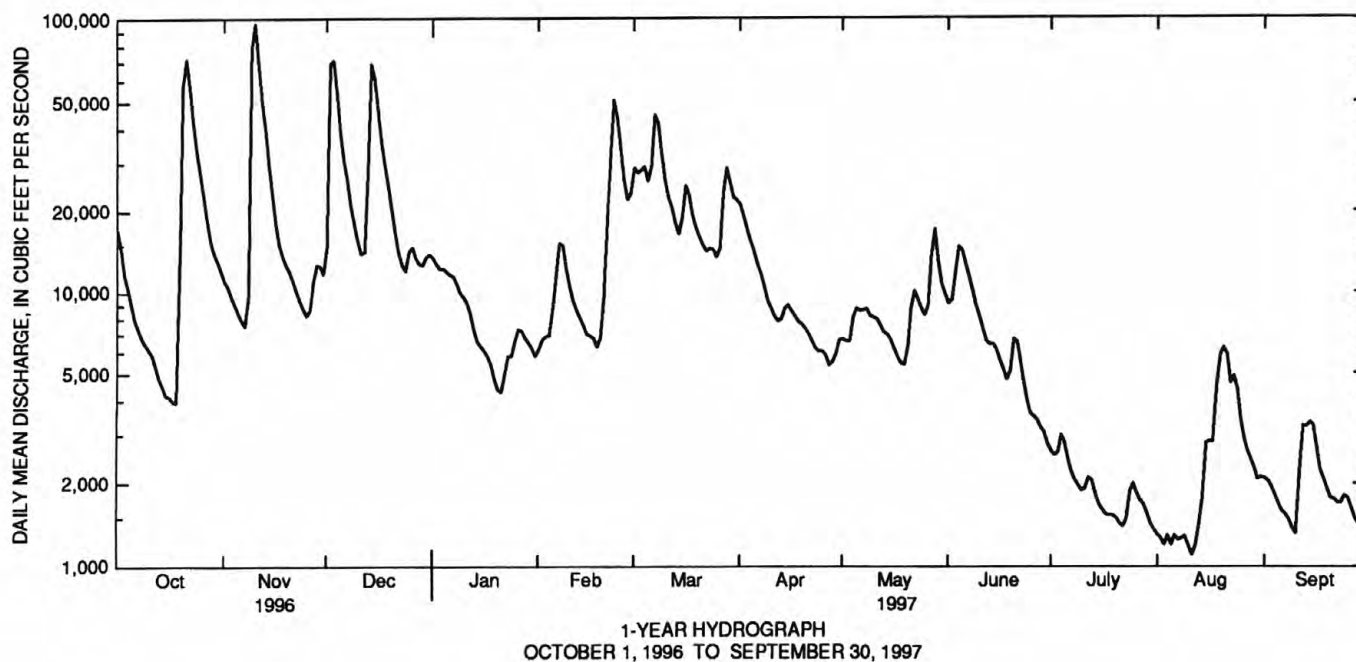
WEST BRANCH SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1940 - 1997	
ANNUAL TOTAL	6287860		4368690		10950	
ANNUAL MEAN	17180		11970		16710	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	195000	Jan 20	96800	Nov 10	285000	Jun 24 1972
LOWEST DAILY MEAN	1810	Sep 5	1100	Aug 11	417	Nov 16 1964
ANNUAL SEVEN-DAY MINIMUM	2000	Aug 31	1230	Aug 6	511	Sep 15 1964
INSTANTANEOUS PEAK FLOW			104000	Nov 10	a300000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			17.84	Nov 10	b34.23	Jun 24 1972
INSTANTANEOUS LOW FLOW					390	Nov 16 1964
ANNUAL RUNOFF (CFSM)	2.51		1.75		1.60	
ANNUAL RUNOFF (INCHES)	34.16		23.74		21.73	
10 PERCENT EXCEEDS	40800		26300		25000	
50 PERCENT EXCEEDS	11800		7960		6460	
90 PERCENT EXCEEDS	3150		1710		1500	

a About.

b From floodmarks (backwater from Susquehanna River).



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.--Records good except those for estimated daily discharges, which are poor. Flow includes diversion from West Branch Susquehanna River. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1800	1,780	7.56	Dec. 2	0445	2,730	9.48
Nov. 9	0145	1,630	7.22	Dec. 13	1930	*2,920	*9.83

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	38	581	75	39	47	75	27	27	17	17	25
2	27	36	1650	71	49	61	61	26	33	17	17	23
3	26	34	333	69	67	57	59	46	38	19	17	21
4	24	32	187	65	62	61	54	67	30	18	18	18
5	23	31	140	65	347	118	47	46	26	17	18	17
6	22	29	255	61	198	292	43	44	24	17	18	18
7	22	29	192	50	107	151	39	38	23	17	18	19
8	22	382	136	44	80	108	34	34	23	17	17	20
9	22	895	98	43	62	80	31	35	22	17	17	20
10	22	318	80	47	51	73	30	35	21	16	17	20
11	21	190	90	41	46	64	29	31	22	16	17	56
12	21	130	177	39	43	53	29	29	23	16	20	45
13	21	93	1590	37	38	46	41	29	35	16	28	33
14	21	74	1120	37	37	126	32	29	27	16	24	30
15	19	61	281	34	40	220	29	27	23	15	19	28
16	18	54	195	e32	40	130	27	26	21	15	20	26
17	18	51	171	e29	35	98	30	26	e20	16	26	24
18	19	50	110	e28	49	84	30	26	29	17	207	23
19	955	55	102	e27	84	69	28	e42	52	17	62	20
20	446	47	80	e26	107	63	26	e65	26	17	87	20
21	188	42	60	e25	104	57	23	e42	22	17	154	20
22	148	39	55	e24	157	57	23	38	21	17	61	19
23	101	37	56	34	108	48	22	37	21	20	37	19
24	144	35	82	32	81	42	22	34	20	28	30	19
25	87	34	93	102	62	39	22	38	20	22	26	19
26	66	74	62	66	55	78	20	47	19	19	24	19
27	58	57	62	43	58	56	19	36	19	18	22	19
28	60	42	64	39	54	49	46	31	19	17	21	19
29	55	42	154	35	---	48	33	29	18	17	25	41
30	48	43	140	32	---	46	28	28	18	17	20	27
31	43	---	95	33	---	88	---	29	---	17	19	---
TOTAL	2797	3074	8491	1385	2260	2609	1032	1117	742	542	1123	727
MEAN	90.2	102	274	44.7	80.7	84.2	34.4	36.0	24.7	17.5	36.2	24.2
MAX	955	895	1650	102	347	292	75	67	52	28	207	56
MIN	18	29	55	24	35	39	19	26	18	15	17	17
CFSM	1.76	2.00	5.34	.87	1.57	1.64	.67	.70	.48	.34	.71	.47
IN.	2.03	2.23	6.16	1.00	1.64	1.89	.75	.81	.54	.39	.81	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1997, BY WATER YEAR (WY)

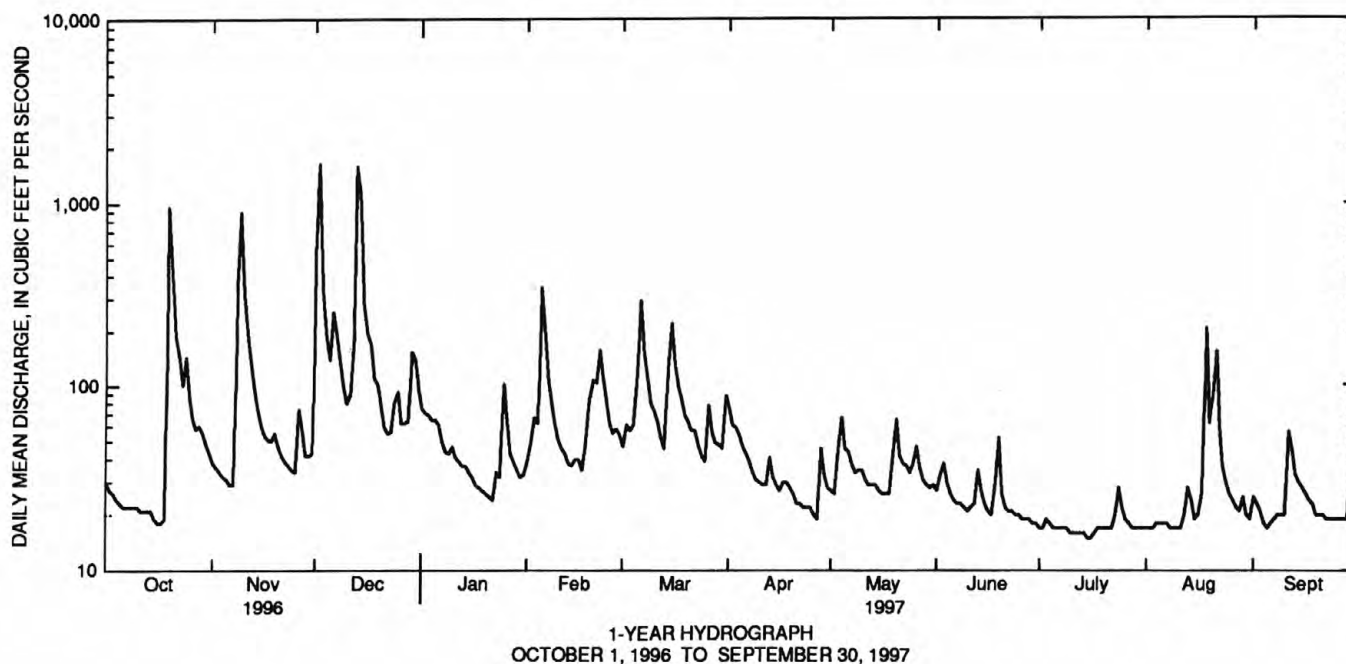
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	49.8	92.2	98.5	74.7	97.3	128	112	66.7	53.7	36.2	31.6	32.8							
MAX	211	149	274	269	243	336	286	228	221	102	87.0	99.8							
(WY)	1991	1987	1997	1996	1981	1994	1993	1989	1982	1984	1990	1987							
MIN	16.5	34.4	22.2	27.5	25.6	38.3	34.4	20.0	16.0	13.4	18.3	13.0							
(WY)	1983	1981	1990	1981	1993	1981	1997	1987	1991	1991	1991	1995							

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01553700 CHILLISQUAKE CREEK AT WASHINGTONVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1979 - 1997	
ANNUAL TOTAL	40805		25899		72.6	
ANNUAL MEAN	111		71.0		108	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					52.2	
HIGHEST DAILY MEAN	1810	Jan 19	1650	Dec 2	2080	Mar 15 1986
LOWEST DAILY MEAN	15	Jun 26,27	15	Jul 15,16	6.2	Jul 27 1991
ANNUAL SEVEN-DAY MINIMUM	17	Jun 23	16	Jul 10	11	Sep 26 1995
INSTANTANEOUS PEAK FLOW			2920	Dec 13	3770	Jan 19 1996
INSTANTANEOUS PEAK STAGE			9.83	Dec 13	11.27	Jan 19 1996
ANNUAL RUNOFF (CFSM)	2.17		1.38		1.41	
ANNUAL RUNOFF (INCHES)	29.59		18.78		19.22	
10 PERCENT EXCEEDS	228		121		144	
50 PERCENT EXCEEDS	44		34		36	
90 PERCENT EXCEEDS	20		18		18	



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 (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by earthfill dam with excavated chute spillway and concrete control sill at elevation 1,228.00 ft. Storage began in November 1965. Capacity at elevation 1,228.00 ft is 124,200 acre-ft. Conservation pool elevation is 1,155.00 ft, capacity, 4,870 acre-ft. Reservoir is used for flood control, recreation and study of water quality. Figures given herein represent total contents. Flow regulated by three gates and low-flow by-pass system. Satellite and landline telemetry at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 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, 11,720 acre-ft, May 26, elevation, 1,164.58 ft; minimum, <3,470 acre-ft, date unknown, elevation, <1,152.21 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. Satellite telemetry at station.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 33,390 acre-ft, June 24, 1972, elevation, 1,431.63 ft; minimum, 10,640 acre-ft, Nov. 16, 1965, elevation, 1,415.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,200 acre-ft, Nov. 10, elevation, 1,428.81 ft; minimum, 25,000 acre-ft, Aug. 10-12, elevation, 1,426.80 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. Satellite telemetry at station.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Protection.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,030 acre-ft, June 26, 1972, elevation, 1,015.87 ft; minimum, (after first filling), 37 acre-ft many days in October 1973, elevation, 891.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,130 acre-ft, Nov. 10, elevation, 963.22 ft; minimum, 1,400 acre-ft, Oct. 19, elevation, 915.01 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 (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earthfill embankment, rock faced, with ungated concrete spillway at elevation 937.00 ft. Storage began Feb. 7, 1962; water in reservoir first reached conservation pool elevation in March 1962. Total capacity at elevation 937.00 ft is 75,000 acre-ft. No dead storage. Ordinary minimum (conservation) pool elevation is 840.00 ft, capacity, 1,590 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Storage is regulated by three gates and low-flow bypass system. Satellite and landline telemetry at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 52,960 acre-ft, Apr. 2, 1993, elevation, 920.23 ft; minimum, no storage, June 7, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 20,310 acre-ft, Nov. 9, elevation, 884.55 ft; minimum, 1,030 acre-ft, Oct. 22, elevation, 835.79 ft.

01547480 POSTER JOSEPH SAYERS LAKE.--Lat 41°02'53", long 77°36'35", Centre County, Hydrologic Unit 02050204, at Poster 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 (U.S. Army Corps of Engineers datum).

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. 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, 46,650 acre-ft, Oct. 21, elevation, 638.92 ft; minimum, 6,450 acre-ft, Mar. 3, elevation, 610.22 ft.

WEST BRANCH SUSQUEHANNA RIVER BASIN

Reservoirs in West Branch Susquehanna River basin--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent (in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent (in ft ³ /s)
<u>01541180 Curwensville Lake</u>				<u>01541340 Glendale Lake</u>		
Sept. 30.....	1,153.30	3,990	--	1,427.67	26,370	--
Oct. 31.....	1,152.24	3,480	- 8.3	1,427.64	26,320	- 0.8
Nov. 30.....	1,152.48	3,600	+ 2.0	1,427.61	26,280	- 0.7
Dec. 31.....	1,152.83	3,760	+ 2.6	1,427.62	26,290	+ 0.2
CAL YR 1996.....	--	--	- 1.7	--	--	+ 0.1
Jan. 31.....	1,152.70	3,700	- 1.0	1,427.47	26,050	- 3.9
Feb. 28.....	1,155.79	5,310	+ 29.0	1,427.88	26,710	+ 11.9
Mar. 31.....	1,155.32	5,050	- 4.2	1,427.83	26,630	- 1.3
Apr. 30.....	1,159.60	7,760	+ 45.5	1,427.34	25,840	- 13.3
May 31.....	1,161.96	9,510	+ 28.5	1,427.85	26,660	+ 13.3
June 30.....	1,162.01	9,550	+ 0.7	1,427.21	25,640	- 17.1
July 31.....	1,161.92	9,480	- 1.1	1,426.90	25,150	- 8.0
Aug. 31.....	1,162.23	9,730	+ 4.1	1,427.27	25,730	+ 9.4
Sept. 30.....	1,162.11	9,630	- 1.7	1,427.55	26,180	+ 7.6
WTR YR 1997.....	--	--	+ 7.8	--	--	- 0.3
<u>01543900 F. F. Sinnemahoning Cr. Reservoir</u>				<u>01544800 Kettle Creek Lake</u>		
Sept. 30.....	920.75	2,220	--	841.81	1,870	--
Oct. 31.....	918.12	1,810	- 6.7	836.09	1,070	- 13.0
Nov. 30.....	921.18	2,320	+ 8.6	840.55	1,680	+ 10.3
Dec. 31.....	921.86	2,390	+ 1.1	841.21	1,780	+ 1.6
CAL YR 1996.....	--	--	+ 0.1	--	--	0
Jan. 31.....	921.75	2,380	- 0.2	841.17	1,770	- 0.2
Feb. 28.....	923.94	2,690	+ 5.6	841.68	1,850	+ 1.4
Mar. 31.....	921.25	2,320	- 6.0	839.08	1,470	- 6.2
Apr. 30.....	921.59	2,360	+ 0.7	841.30	1,790	+ 5.4
May 31.....	920.99	2,300	- 1.0	841.04	1,750	- 0.7
June 30.....	921.29	2,330	+ 0.5	841.19	1,770	+ 0.3
July 31.....	921.49	2,350	+ 0.3	841.03	1,750	- 0.3
Aug. 31.....	921.28	2,330	- 0.3	841.26	1,780	+ 0.5
Sept. 30.....	921.21	2,320	- 0.2	841.51	1,820	+ 0.7
WTR YR 1997.....	--	--	+ 0.1	--	--	- 0.1
<u>01547480 Foster Joseph Sayers Lake</u>						
Sept. 30.....	630.24	29,230	--			
Oct. 31.....	630.12	29,010	- 3.6			
Nov. 30.....	625.19	21,330	-129			
Dec. 31.....	625.13	21,240	- 1.5			
CAL YR 1996.....	--	--	+ 0.3			
Jan. 31.....	625.04	21,120	- 2.0			
Feb. 28.....	611.94	7,600	-243			
Mar. 31.....	621.02	16,010	+137			
Apr. 30.....	626.15	22,690	+112			
May 31.....	630.15	29,070	+104			
June 30.....	630.12	29,010	- 1.0			
July 31.....	630.43	29,570	+ 9.1			
Aug. 31.....	630.47	29,640	+ 1.1			
Sept. 30.....	630.49	29,680	+ 0.7			
WTR YR 1997.....	--	--	+ 0.6			

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 in borough of Shamokin Dam, on grounds of Pennsylvania Power and Light Company generating plant, 1.0 mi downstream from Shamokin Creek, 1.5 mi downstream from Sunbury Fabridam, and 1.8 mi south of Sunbury.

DRAINAGE AREA.--18,300 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).

GAGE.--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. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26400	24200	37900	39000	e14000	74600	61100	20700	18300	8120	2990	4730
2	28000	22600	121000	36700	e15000	80500	64700	22000	18000	7500	2920	5240
3	23400	21300	194000	33100	16100	73200	62200	20800	21600	7240	2870	4780
4	19800	19700	179000	31200	16500	75300	59200	22700	28300	7250	2770	4450
5	17000	18200	132000	31300	19900	69500	55600	25500	33200	6690	2870	4190
6	14600	17100	106000	33400	25900	68600	52300	28000	28500	5980	2860	3840
7	13500	16200	86700	34100	29300	97100	48800	29100	23700	5410	2770	3730
8	16000	17500	71900	33200	30000	105000	44100	26900	20400	5030	2750	3490
9	12600	105000	62100	30900	27100	84100	39000	24700	18000	5120	2700	3170
10	12000	216000	53100	28400	24100	65800	34600	24200	16500	4830	2560	3110
11	11300	190000	45500	26000	21100	54900	30600	23500	15100	4810	2410	4460
12	10600	139000	43400	23600	18900	49200	27500	21000	13500	5210	2490	6680
13	9980	111000	61100	e21000	17700	44600	26300	20600	13100	6510	2770	7200
14	9430	86100	142000	e19000	16500	40300	26200	21800	12600	6330	3290	6980
15	9230	67200	166000	e17000	15700	42700	26500	20300	11900	5520	4490	6530
16	8940	53800	134000	e16000	15200	48300	25800	19200	11700	5010	5030	5660
17	8520	44500	104000	e14000	e14000	46300	24400	18100	11200	4580	5260	4920
18	8300	39100	88900	e13000	e14000	40600	22600	16800	10500	4320	7580	4600
19	19900	33400	77800	e12000	14700	36500	21400	16200	10800	4140	9590	4310
20	86800	31500	66900	e11000	18600	33700	20600	17900	11500	3980	9170	4100
21	132000	31700	56500	e12000	29700	32100	19700	27500	11800	3560	10200	3880
22	114000	31800	47300	e13000	51100	31000	18800	40100	12100	3460	9130	3700
23	90100	30000	40900	e15000	84400	31000	18300	34700	11100	3830	8240	3660
24	71500	27100	37500	e16000	94900	32300	17800	28700	9720	4310	7460	3610
25	56100	25000	41600	e15000	82200	33600	17600	25200	9230	4580	6440	3600
26	47100	24400	45900	e15000	64200	33100	16900	24400	9020	4200	5610	3420
27	38500	27700	46100	e16000	50600	41600	15800	27400	8830	3930	5110	3180
28	32200	40800	43700	e16000	46200	56800	15600	30800	8770	3880	4880	2960
29	28900	43700	39500	e15000	---	57600	16500	25400	8560	3670	4670	3770
30	26900	37800	39100	e14000	---	52600	17200	21900	8590	3260	4440	5870
31	25500	---	39200	e13000	---	54800	---	19900	---	3120	4540	---
TOTAL	1029100	1593400	2450600	663900	887600	1687300	947700	746000	446120	155380	150860	133820
MEAN	33200	53110	79050	21420	31700	54430	31590	24060	14870	5012	4866	4461
MAX	132000	216000	194000	39000	94900	105000	64700	40100	33200	8120	10200	7200
MIN	8300	16200	37500	11000	14000	31000	15600	16200	8560	3120	2410	2960
CFSM	1.81	2.90	4.32	1.17	1.73	2.97	1.73	1.32	.81	.27	.27	.24
IN.	2.09	3.24	4.98	1.35	1.80	3.43	1.93	1.52	.91	.32	.31	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
MEAN	13500	22990	29920	27470	31930	54620	59060	35560	20200	10790	7984	8692
MAX	62760	54540	79050	77850	78120	115800	170900	69950	111600	38930	40040	55820
(WY)	1978	1978	1997	1996	1981	1945	1993	1989	1972	1972	1994	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

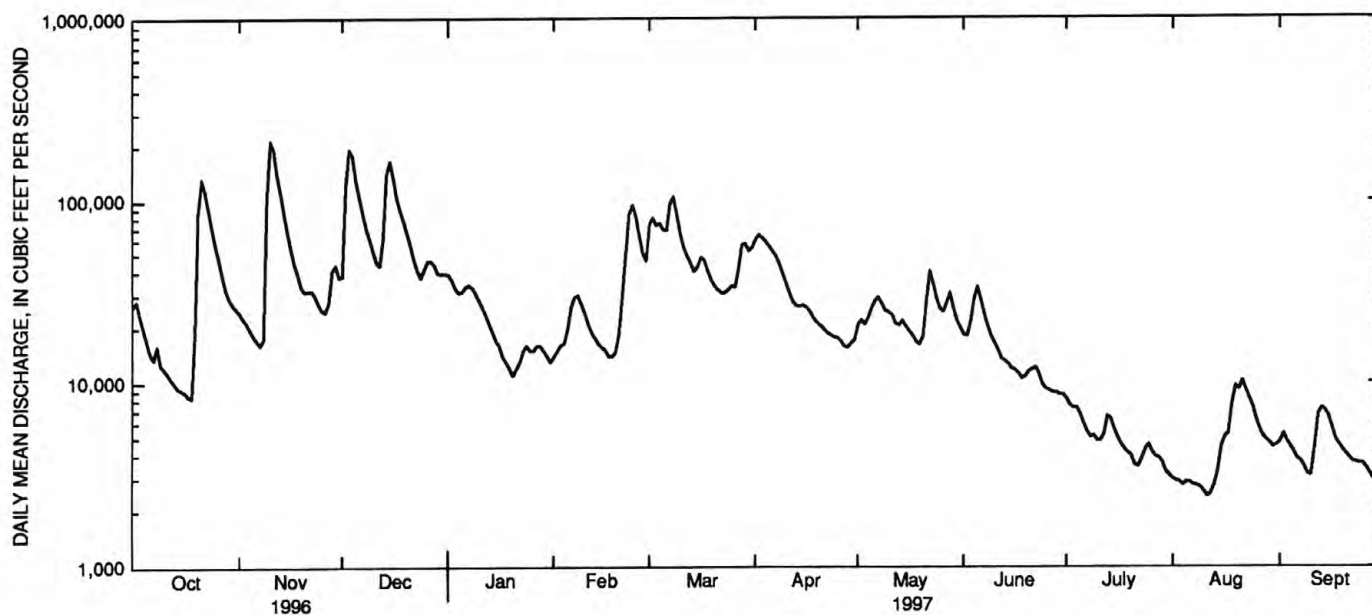
e Estimated.

SUSQUEHANNA RIVER BASIN

01554000 SUSQUEHANNA RIVER AT SUNBURY, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1938 - 1997	
ANNUAL TOTAL	15685020		10891780		26850	
ANNUAL MEAN	42860		29840		42520	
HIGHEST ANNUAL MEAN					13420	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	372000	Jan 21	216000	Nov 10	609000	Jun 24 1972
LOWEST DAILY MEAN	4340	Sep 6	2410	Aug 11	1110	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	4770	Sep 1	2640	Aug 7	1140	Sep 22 1964
INSTANTANEOUS PEAK FLOW			222000	Nov 10	620000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			22.37	Nov 10	35.80	Jun 24 1972
INSTANTANEOUS LOW FLOW			2210	Aug 11	a964	Oct 16 1971
ANNUAL RUNOFF (CFSM)	2.34		1.63		1.47	
ANNUAL RUNOFF (INCHES)	31.88		22.14		19.93	
10 PERCENT EXCEEDS	107000		67800		61000	
50 PERCENT EXCEEDS	26300		19900		15800	
90 PERCENT EXCEEDS	9220		3960		3820	

a Result of shutoff at Fabridam.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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, 2.9 mi upstream from Sweitzers Run, and 0.8 mi northeast of Penns Creek, Pa.

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, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,100 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 20	0215	5,720	8.05	Dec. 2	0615	*6,220	*8.41
Nov. 8	2400	3,130	5.99	Dec. 13	2030	3,850	6.59

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600	608	1090	532	e240	581	576	226	296	169	86	104
2	537	567	5460	517	e250	595	513	217	529	178	84	98
3	495	533	2970	527	e270	606	481	237	1010	173	82	92
4	444	493	2020	519	390	575	458	255	775	159	87	87
5	408	464	1540	497	752	610	438	228	637	150	115	83
6	383	441	1440	479	809	1060	423	222	554	143	104	81
7	367	428	1220	440	571	932	408	220	498	139	95	80
8	352	1210	1020	408	502	862	382	212	453	134	85	78
9	348	2690	895	e370	e450	802	371	218	418	132	81	77
10	333	1900	786	e340	e400	761	359	229	384	131	77	88
11	308	1450	758	e320	e380	745	345	220	358	124	75	723
12	285	1170	1030	e300	e360	664	342	211	338	117	80	392
13	272	988	2520	e280	e330	596	368	207	375	114	112	227
14	261	874	3240	e260	e320	659	347	207	360	110	152	177
15	247	781	2270	e250	e310	803	318	207	312	108	131	154
16	238	706	1790	e290	e300	675	305	202	286	114	144	135
17	232	653	1490	e230	e290	623	295	196	270	116	162	125
18	243	620	1260	e200	e300	621	289	193	282	108	189	118
19	3550	603	1100	e180	430	628	280	214	422	101	238	110
20	5070	558	935	e170	905	607	272	330	331	94	215	106
21	3370	520	799	e240	805	595	260	285	272	93	349	102
22	2330	480	736	e290	1190	598	254	250	248	93	252	98
23	1740	448	687	e330	1150	569	253	242	229	138	182	92
24	1610	426	694	e350	936	522	251	235	215	189	153	90
25	1240	405	771	355	798	496	240	265	210	148	136	86
26	1040	496	627	399	721	686	229	420	203	121	125	84
27	909	486	579	342	690	691	223	356	200	111	117	82
28	863	400	562	e300	647	622	268	329	189	105	135	80
29	853	373	592	e270	---	614	265	317	178	101	141	454
30	736	363	666	e250	---	594	239	309	171	95	120	481
31	668	---	578	e230	---	605	---	308	---	90	108	---
TOTAL	30332	22134	42125	10465	15496	20597	10052	7767	11003	3898	4212	4784
MEAN	978	738	1359	338	553	664	335	251	367	126	136	159
MAX	5070	2690	5460	532	1190	1060	576	420	1010	189	349	723
MIN	232	363	562	170	240	496	223	193	171	90	75	77
CFSM	3.25	2.45	4.51	1.12	1.84	2.21	1.11	.83	1.22	.42	.45	.53
IN.	3.75	2.74	5.21	1.29	1.92	2.55	1.24	.96	1.36	.48	.52	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	226	364	457	446	531	900	884	614	397	196	154	165
MAX	1355	1567	1359	1627	1697	3093	2855	1793	2845	759	684	1295
(WY)	1991	1978	1997	1996	1984	1936	1993	1978	1972	1989	1984	1979
MIN	35.9	34.1	47.9	76.0	108	195	278	179	107	57.2	37.0	36.4
(WY)	1931	1931	1931	1981	1940	1931	1995	1941	1962	1962	1966	1964

e Estimated.

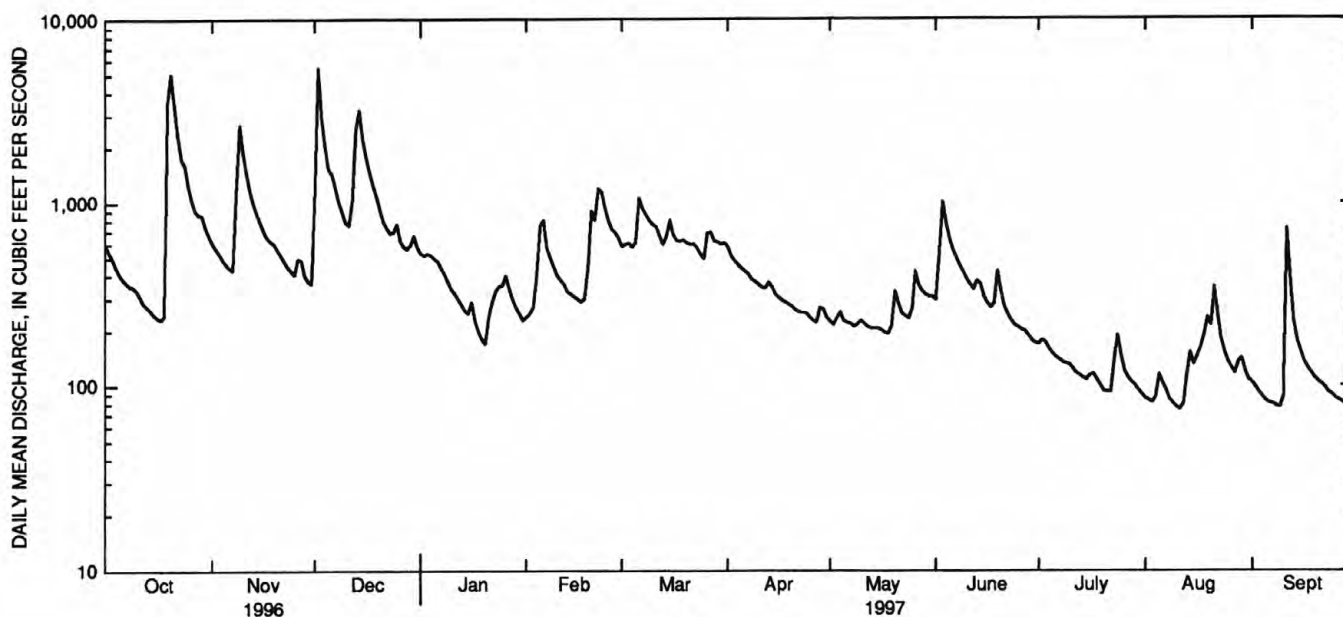
PENNS CREEK BASIN

01555000 PENNS CREEK AT PENNS CREEK, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1930 - 1997	
ANNUAL TOTAL	301810		182865		444	
ANNUAL MEAN	825		501		878	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					205	
HIGHEST DAILY MEAN	11900	Jan 20	5460	Dec 2	24600	Jun 23 1972
LOWEST DAILY MEAN	99	Sep 4	75	Aug 11	21	Aug 30 1966
ANNUAL SEVEN-DAY MINIMUM	107	Aug 31	82	Sep 4	24	Aug 28 1966
INSTANTANEOUS PEAK FLOW			6220	Dec 2	a34600	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.41	Dec 2	b14.85	Jun 23 1972
INSTANTANEOUS LOW FLOW			74	Aug 11,12	7.0	Sep 27 1932
ANNUAL RUNOFF (CFSM)	2.74		1.66		1.47	
ANNUAL RUNOFF (INCHES)	37.30		22.60		20.03	
10 PERCENT EXCEEDS	1790		933		975	
50 PERCENT EXCEEDS	579		333		262	
90 PERCENT EXCEEDS	157		105		68	

a From rating curve extended above 6,800 ft³/s on basis of contracted-opening measurement of peak flow.

b From floodmark in gage.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 December 1994, October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 520 ft above sea level, from topographic map.

REMARKS.--Records fair.

COOPERATION.--Records of gage height for the period October 1, 1996 to April 30, 1997 were furnished by U.S. Department of Agriculture, Agriculture Research Service, Klingerstown office.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1615	*2,260	*6.84	Dec. 13	2300	1,260	4.91
Dec. 2	0645	1,490	5.39	Jan. 25	1230	1,220	4.84

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	45	174	83	63	50	87	16	17	12	20	37
2	15	40	1090	81	83	56	108	16	85	25	16	27
3	14	36	472	79	94	51	111	18	234	20	14	22
4	11	32	283	70	80	52	99	18	178	14	13	18
5	10	30	196	69	257	57	84	14	125	11	15	15
6	9.7	29	212	64	176	102	75	15	95	10	12	14
7	9.6	28	199	53	120	108	68	15	76	9.5	9.5	13
8	12	170	211	49	94	103	57	13	62	8.8	8.0	13
9	25	700	201	e48	79	90	51	15	52	8.3	7.3	12
10	20	357	167	e44	68	85	44	15	43	13	7.1	11
11	17	230	148	e42	60	76	41	14	37	8.1	7.0	64
12	14	166	150	e40	54	65	41	13	33	6.6	6.6	62
13	16	128	558	e38	48	56	43	13	35	5.9	10	44
14	15	103	872	e38	49	76	35	13	32	5.9	12	37
15	14	82	461	e40	53	104	31	12	26	5.7	7.5	29
16	13	71	301	e42	60	90	29	11	22	4.7	8.5	25
17	13	63	226	e46	50	83	28	11	20	4.3	13	21
18	18	58	173	e44	51	78	27	11	26	3.8	11	21
19	1570	59	148	e36	68	70	25	13	67	4.3	8.6	17
20	840	50	115	e38	74	65	23	16	35	4.1	19	15
21	448	44	98	e44	72	59	21	11	28	4.0	54	14
22	306	39	76	e50	79	56	20	10	25	16	26	12
23	237	35	72	e70	77	46	21	9.5	21	20	19	12
24	214	33	97	e100	76	39	20	8.7	17	139	14	12
25	154	31	153	348	70	35	18	25	16	71	12	11
26	114	77	139	173	67	62	17	34	20	40	36	11
27	89	79	121	144	67	47	16	20	27	28	21	9.7
28	81	73	105	114	57	42	22	17	16	24	136	9.2
29	69	68	103	132	---	43	19	16	13	75	102	17
30	60	63	101	104	---	42	17	18	12	36	61	13
31	52	---	91	66	---	73	---	18	---	25	42	---
TOTAL	4496.3	3019	7513	2389	2246	2061	1298	469.2	1495	663.0	748.1	637.9
MEAN	145	101	242	77.1	80.2	66.5	43.3	15.1	49.8	21.4	24.1	21.3
MAX	1570	700	1090	348	257	108	111	34	234	139	136	64
MIN	9.6	28	72	36	48	35	16	8.7	12	3.8	6.6	9.2
CFSM	3.24	2.25	5.42	1.72	1.79	1.49	.97	.34	1.11	.48	.54	.48
IN.	3.74	2.51	6.25	1.99	1.87	1.72	1.08	.39	1.24	.55	.62	.53

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

	57.2	108	140	56.4	68.0	212	170	49.1	32.1	18.1	23.7	32.6
MEAN	57.2	108	140	56.4	68.0	212	170	49.1	32.1	18.1	23.7	32.6
MAX	145	133	242	77.1	94.5	327	294	71.4	49.8	24.7	38.5	56.2
(WY)	1997	1993	1997	1997	1994	1994	1993	1994	1997	1994	1994	1994
MIN	18.7	66.2	87.5	20.9	29.2	66.5	43.3	15.1	12.3	8.27	8.48	20.3
(WY)	1994	1995	1993	1994	1993	1997	1997	1997	1993	1993	1993	1993

e Estimated.

EAST MAHANTANGO CREEK BASIN

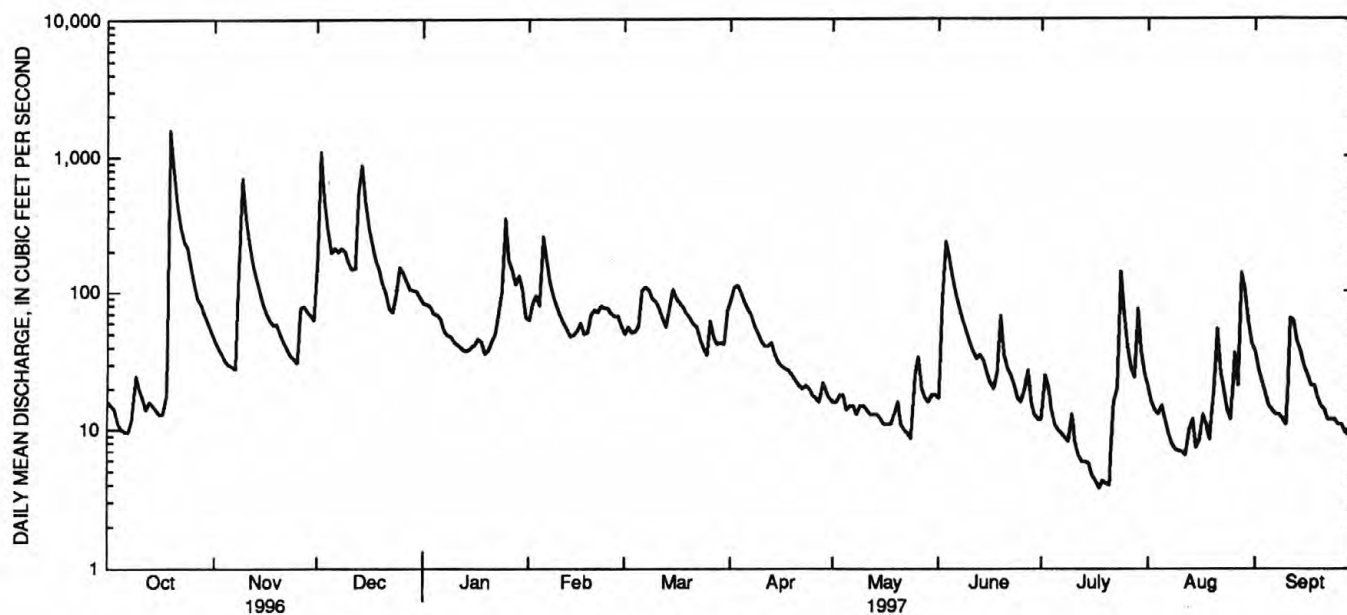
01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

SUMMARY STATISTICS

FOR 1997 WATER YEAR

FOR PERIOD OF DAILY RECORD

ANNUAL TOTAL	27035.5			
ANNUAL MEAN	74.1		83.8	
HIGHEST ANNUAL MEAN			93.6	1994
LOWEST ANNUAL MEAN			74.1	1997
HIGHEST DAILY MEAN	1570	Oct 19	2290	Nov 28 1993
LOWEST DAILY MEAN	3.8	Jul 18	2.0	Aug 10 1993
ANNUAL SEVEN-DAY MINIMUM	4.4	Jul 15	2.9	Aug 4 1993
INSTANTANEOUS PEAK FLOW	2260	Oct 19	3470	Nov 28 1993
INSTANTANEOUS PEAK STAGE	6.84	Oct 19	9.07	Nov 28 1993
INSTANTANEOUS LOW FLOW	3.4	Jul 18	1.9	Jul 28 1993
ANNUAL RUNOFF (CFSM)	1.66		1.87	
ANNUAL RUNOFF (INCHES)	22.50		25.47	
10 PERCENT EXCEEDS	149		190	
50 PERCENT EXCEEDS	40		36	
90 PERCENT EXCEEDS	11		9.0	



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued
(National Water-Quality Assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1993-95, April to September 1997.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to December 1994.

TEMPERATURE: April 1993 to December 1994, April to September 1997.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--The low intensity water-quality sampling phase (LIP) for the 1991-start National Water Quality Assessment (NAWQA) Program study units began in water year 1997 and will continue until 2000. For this phase of the program, two of the original seven fixed sites were chosen for continued monitoring. East Mahantango Creek was chosen because it is located in an area that is underlain by sandstone and shale bedrock with predominantly agricultural land use. Data from this site can, therefore, be compared to data from Bobs Creek near Pavia, which is the LIP forested reference site also underlain by sandstone and shale, to assess the effects of land use. Between April 1997 and September 1997, water-quality samples were collected semimonthly for nutrients and major ions and samples were collected monthly for pesticides. One sample of streambed sediment and a sample of fish tissue were collected and analyzed for organic compounds and trace elements. Invertebrate-, algal-, and fish-community data also were collected.

Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 206 microsiemens, Sept. 20, 1993; minimum, 50 microsiemens, Sept. 17, 1994.

TEMPERATURE: Maximum, 28.5°C, July 16, 1997; minimum, 0.0°C, many days during winters.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLE PURPOSE CODE (71999)	SAMPLER TYPE (CODE) (84164)	SAM- PLING METHOD, CODES (82398)	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)
APR												
16...	1000	1028	80020	15	3045	10	30	116	7.8	10.0	7.5	754
30...	1230	1028	80020	15	3045	10	17	120	8.2	21.5	15.0	748
MAY												
07...	1030	1028	80020	15	3045	10	14	121	7.7	10.5	11.0	754
21...	1000	1028	80020	15	3045	10	11	117	7.8	12.5	14.5	750
JUN												
02...	1010	1028	80020	15	3045	10	23	108	7.4	16.0	18.0	749
23...	1100	1028	80020	15	--	--	--	149	--	--	20.5	--
25...	1015	1028	80020	15	3045	10	16	136	7.4	24.5	22.0	752
JUL												
16...	1020	1028	80020	15	3045	10	4.6	130	7.6	26.0	24.5	752
30...	1200	1028	80020	15	3045	10	36	176	7.7	21.0	18.5	758
AUG												
14...	1030	1028	80020	15	3045	10	12	148	7.8	23.0	21.5	752
26...	1010	1028	80020	15	3045	10	41	143	7.5	21.0	18.5	754
SEP												
11...	0900	1028	80020	15	3045	10	60	131	7.4	19.0	17.5	771
25...	0850	1028	80020	15	3045	10	11	143	7.6	8.5	11.0	744

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD-- SORP- TION (MG/L AS K) (00932)	SODIUM AD-- SORP- TION (MG/L AS K) (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)
APR												
16...	12.8	108	38	10	9.0	3.7	3.7	17	0.3	1.4	34	0
30...	11.1	112	41	23	9.7	4.0	4.0	17	0.3	1.5	23	0
MAY												
07...	10.9	100	--	--	--	--	--	--	--	--	25	0
21...	9.4	94	41	19	9.9	3.9	4.4	18	0.3	1.6	26	0
JUN												
02...	7.9	85	--	--	--	--	--	--	--	--	23	0
23...	--	--	--	--	--	--	--	--	--	--	--	--
25...	8.0	93	47	25	12	4.4	4.2	16	0.3	1.7	31	0
JUL												
16...	7.6	92	--	--	--	--	--	--	--	--	35	0
30...	9.2	99	61	38	15	5.6	5.0	14	0.3	3.0	30	0
AUG												
14...	8.6	99	--	--	--	--	--	--	--	--	39	0
26...	8.9	96	49	24	12	4.6	4.3	15	0.3	2.4	32	0
SEP												
11...	9.1	94	--	--	--	--	--	--	--	--	37	0
25...	9.9	92	50	24	12	4.7	4.4	15	0.3	2.1	33	0
DATE	ALKA- LINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	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 DIS TOT IT FIELD (MG/L AS CACO3) (39086)	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)
APR												
16...	28	34	0	28	11	7.9	<0.1	3.8	67	74	0.09	5.43
30...	18	21	0	17	11	8.4	<0.1	2.8	72	65	0.10	3.30
MAY												
07...	20	23	0	19	--	--	--	--	--	--	--	--
21...	21	27	0	22	9.4	7.6	<0.1	2.8	64	62	0.09	1.90
JUN												
02...	19	23	0	19	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
25...	26	27	0	22	10	8.2	<0.1	4.1	94	75	0.13	4.06
JUL												
16...	29	33	0	27	--	--	--	--	--	--	--	--
30...	25	28	0	23	14	11	<0.1	5.9	135	103	0.18	13.1
AUG												
14...	32	37	0	30	--	--	--	--	--	--	--	--
26...	26	30	0	24	10	7.5	<0.1	4.6	86	77	0.12	9.52
SEP												
11...	31	34	0	28	--	--	--	--	--	--	--	--
25...	27	32	0	26	8.9	8.9	<0.1	3.9	87	77	0.12	2.58

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	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 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)
APR											
16...	3.79	17	0.010	0.03	3.80	<0.015	--	--	--	<0.20	<0.20
30...	3.12	14	0.020	0.07	3.14	<0.015	--	0.21	--	0.21	0.20
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
21...	1.99	8.8	0.019	0.06	2.01	0.028	0.04	0.29	0.24	0.32	0.27
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
25...	3.86	17	0.020	0.07	3.88	0.040	0.05	0.33	--	0.37	<0.20
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
30...	6.61	29	0.011	0.04	6.62	<0.015	--	0.41	--	0.41	0.31
AUG											
14...	--	--	--	--	--	--	--	--	--	--	--
26...	3.74	17	0.017	0.06	3.76	0.044	0.06	0.45	0.16	0.49	0.20
SEP											
11...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	<0.010	--	3.51	0.037	0.05	--	--	<0.20	<0.20
DATE	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)	PHOS- PHORUS ORGANIC TOTAL (MG/L AS P) (00670)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
APR											
16...	--	--	<0.010	<0.010	<0.010	--	--	23	16	47	1.2
30...	3.4	3.3	<0.010	0.011	<0.010	--	--	43	13	53	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
21...	2.3	2.3	0.018	0.014	<0.010	--	0.02	44	26	54	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
25...	4.3	--	0.078	0.025	0.022	0.07	0.08	45	21	59	--
JUL											
16...	--	--	--	--	--	--	--	--	--	--	--
30...	7.0	6.9	0.067	0.044	0.038	0.12	0.07	38	12	76	--
AUG											
14...	--	--	--	--	--	--	--	--	--	--	--
26...	4.2	4.0	0.089	0.021	0.029	0.09	0.09	13	6.5	65	--
SEP											
11...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	0.013	<0.010	0.012	0.04	0.01	20	8.4	64	--

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	ACETO- CHLOR, WATER FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD GF, REC (µG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (µG/L) (04028)	CAR- BARYL WATER FLTRD GF, REC (µG/L) (82680)	CARBO- FURAN WATER FLTRD GF, REC (µG/L) (82674)
APR											
16...	7	0.57	71	<0.002	E0.003	<0.002	0.025	<0.002	<0.002	<0.003	E0.007
30...	4	0.18	75	0.009	<0.002	<0.002	0.065	<0.002	<0.002	<0.003	<0.003
MAY											
07...	--	--	--	0.015	0.007	<0.002	0.137	<0.002	<0.002	<0.003	E0.006
21...	4	0.12	83	0.152	0.012	<0.002	0.301	<0.002	<0.002	<0.003	<0.010
JUN											
02...	--	--	--	0.060	0.009	<0.002	0.213	<0.002	<0.002	E0.005	<0.003
23...	--	--	--	--	--	--	--	--	--	--	--
25...	15	0.65	90	0.036	0.017	<0.002	0.391	<0.002	<0.002	<0.003	<0.003
JUL											
16...	--	--	--	0.006	0.010	<0.002	0.219	<0.002	<0.002	<0.003	<0.003
30...	15	1.5	92	0.025	0.036	<0.002	0.339	<0.002	<0.002	E0.029	E0.031
AUG											
14...	--	--	--	<0.002	0.008	<0.002	0.158	<0.002	<0.002	E0.007	<0.003
26...	36	4.0	94	0.028	0.019	<0.002	0.178	<0.002	<0.002	E0.201	<0.014
SEP											
11...	159	26	95	<0.002	0.019	<0.002	0.162	<0.002	<0.002	<0.003	<0.003
25...	8	0.24	59	<0.002	0.005	<0.002	0.082	<0.002	<0.002	<0.003	<0.003

DATE	CHLOR- PYRIFOS DIS- SOLVED (µG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (µG/L) (04041)	DCPA WATER FLTRD GF, REC (µG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (µG/L) (04040)	DI- AZINON, DIS- SOLVED (µG/L) (39572)	DI- ELDRIN DIS- SOLVED (µG/L) (39381)	2,6-DI- ETHYL ANILINE WAT FLT GF, REC (µG/L) (82660)	DISUL- FOTON WATER FLTRD GF, REC (µG/L) (82677)	EPTC WATER FLTRD GF, REC (µG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT GF, REC (µG/L) (82663)	ETHO- PROP WATER FLTRD GF, REC (µG/L) (82672)
APR											
16...	<0.004	<0.004	<0.002	E0.062	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
30...	<0.004	<0.004	0.013	E0.039	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
MAY											
07...	<0.004	0.010	E0.001	E0.062	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
21...	<0.004	0.019	E0.001	E0.071	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
JUN											
02...	<0.004	0.010	<0.002	E0.049	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
23...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.004	0.015	0.005	E0.092	<0.002	<0.001	<0.003	<0.017	0.009	<0.004	<0.003
JUL											
16...	<0.004	0.011	E0.002	E0.063	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
30...	<0.004	0.069	0.029	E0.147	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	0.035
AUG											
14...	<0.004	0.012	0.005	E0.086	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
26...	<0.004	0.016	0.006	E0.104	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
SEP											
11...	<0.004	<0.004	<0.002	E0.061	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003
25...	<0.004	<0.004	<0.002	E0.038	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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 AZIN- PHOS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82686)	METHYL PARA- THION WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82667)	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)
APR											
16...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.025	<0.004	<0.004	<0.003	<0.006
30...	<0.003	<0.004	<0.002	<0.005	<0.001	0.063	0.550	<0.004	<0.004	<0.003	<0.006
MAY											
07...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.250	<0.004	<0.004	<0.003	<0.006
21...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.416	<0.004	<0.004	<0.003	<0.006
JUN											
02...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.260	<0.004	<0.004	<0.003	<0.006
23...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.318	0.007	<0.004	<0.003	<0.006
JUL											
16...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.263	<0.004	<0.004	<0.003	<0.006
30...	<0.003	<0.004	<0.025	<0.005	E0.130	<0.006	0.747	0.019	<0.004	<0.003	<0.006
AUG											
14...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.154	<0.004	<0.004	<0.003	<0.006
26...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.608	<0.004	<0.004	<0.003	<0.006
SEP											
11...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.614	<0.004	<0.004	<0.003	<0.006
25...	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.113	<0.004	<0.004	<0.003	<0.006
DATE	PARA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39542)	PEB- ULATE WATER FILTRD 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)	PROPA- 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)
APR											
16...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	0.005
30...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	0.020
MAY											
07...	<0.004	<0.004	0.010	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	0.018
21...	<0.004	<0.004	0.029	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	0.066
JUN											
02...	<0.004	<0.004	0.031	<0.005	<0.002	E0.003	<0.003	<0.007	<0.004	<0.013	0.017
23...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.004	<0.004	0.012	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	0.683
JUL											
16...	<0.004	<0.004	<0.004	<0.005	<0.002	E0.004	<0.003	<0.007	<0.004	<0.013	0.059
30...	<0.004	<0.004	0.031	<0.005	<0.002	0.018	<0.003	<0.007	<0.004	<0.013	0.108
AUG											
14...	<0.004	<0.004	<0.004	<0.005	<0.002	E0.009	<0.003	<0.007	<0.004	<0.013	0.048
26...	<0.004	<0.004	<0.004	<0.005	<0.002	E0.017	<0.003	<0.007	<0.004	<0.013	0.029
SEP											
11...	<0.004	<0.004	<0.004	<0.005	<0.002	E0.013	<0.003	<0.007	<0.004	<0.013	0.073
25...	<0.004	<0.004	<0.004	<0.005	<0.002	E0.012	<0.003	<0.007	<0.004	<0.013	0.015

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	DIAZ- INON D10 SRG WAT FLT 0.7 μ GF, REC PERCENT (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 μ GF, REC PERCENT (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 μ GF, REC PERCENT (91065)	REP- LICATION TYPE (CODE) (99105)	QUALITY ASSUR- ANCE DATA INDICA- TOR CODE (99111)
APR											
16...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	88.8	114	98.4	--	10
30...	<0.150	<0.007	<0.013	<0.002	<0.001	<0.002	91.3	117	106	--	40
MAY											
07...	<0.010	E0.008	<0.013	<0.002	<0.001	<0.002	85.9	113	90.2	--	--
21...	<0.010	E0.006	<0.013	<0.002	<0.001	<0.002	115	121	106	--	--
JUN											
02...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	100	119	113	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
25...	<0.010	E0.007	<0.013	<0.002	<0.001	<0.002	101	124	99.3	--	--
JUL											
16...	<0.010	E0.006	<0.013	<0.002	<0.001	<0.002	104	126	127	--	--
30...	<0.010	E0.020	<0.013	<0.002	<0.001	<0.002	111	124	122	--	--
AUG											
14...	<0.010	E0.007	<0.013	<0.002	<0.001	<0.002	124	126	105	--	--
26...	<0.010	E0.029	<0.013	<0.002	<0.001	<0.002	117	127	104	20.00	30
SEP											
11...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	98.2	126	105	--	--
25...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	101	136	107	--	10

DATE	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) ()	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)
APR					
16...	--	--	--	--	--
30...	--	--	--	--	--
MAY					
07...	--	--	--	--	--
21...	--	--	--	--	--
JUN					
02...	--	--	--	--	--
23...	220	230	3.0	20	2.1
25...	--	--	--	--	--
JUL					
16...	--	--	--	--	--
30...	--	--	--	--	--
AUG					
14...	--	--	--	--	--
26...	--	--	--	--	--
SEP					
11...	--	--	--	--	--
25...	--	--	--	--	--

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

REMARKS.--The following analyses are quality control samples processed during the 1997 water year and are defined in the explanation of records section entitled, "Water Quality-Control Data." Explanation of column headings and abbreviations--PEST: pesticide; NUT&ION: nutrient and major ion.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

APR 16...	0945	PEST BLANK	1028	80020	15.00	--	--	--	--	--	--	--
SEP 25...	1230	NUT&ION BLANK	1028	80020	15.00	<0.02	<0.01	<0.20	<0.10	<0.10	<0.10	<0.10

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L AS SIO2) (70300)	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 DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS ORTHODIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHODIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)
------	--	---	--	--	--	---	--	--	---	---	---	---

APR	16...	--	--	--	--	--	--	--	--	--	--	--	
SEP	25...	0.011	1	<0.010	<0.050	<0.015	<0.20	<0.20	<0.010	<0.010	<0.010	<3.0	<1.0

	STRON- TIUM, DIS- SOLVED	ACETO- CHLOR, WATER, FLTRD	ALA- CHLOR, WATER, DISS, REC	ALPHA BHC DIS- SOLVED	ATRA- ZINE, WATER, DISS, REC	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC	BUTYL- ATE, WATER, FLTRD DISS, REC	CAR- BARYL WATER FLTRD 0.7 µ GF, REC	CARBO- FURAN WATER FLTRD 0.7 µ GF, REC	CHLOR- ZYNE PYRIFOS WATER, DISS, REC	CYANA- ZINE WATER, DISS, REC
DATE	(µG/L AS SR) (01080)	(µG/L) (49260)	(µG/L) (46342)	(µG/L) (34253)	(µG/L) (39632)	(µG/L) (82673)	(µG/L) (40028)	(µG/L) (82680)	(µG/L) (82674)	(µG/L) (38933)	(µG/L) (40401)

[illegible]

DATE	DESETHYL				2, 6-DI-	DISUL-		ETHAL-	ETHO-		
	DCPA	ATRA-	DI-	DI-	ETHYL	FOTON	EPTC	FLUR-	PROP		
	WATER	ZINE			ANILINE	WATER	WATER	ALIN	WATER	FONOFOS	
	FLTRD	WATER,	AZINON,	ELDRIN	WAT FLT	FLTRD	FLTRD	WAT FLT	FLTRD	WATER	LINDANE
	0.7 µ	DISS,	DIS-	DIS-	0.7 µ	0.7 µ	0.7 µ	0.7 µ	0.7 µ	DISS	DIS-
	GF, REC	REC	SOLVED	SOLVED	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	REC	SOLVED
	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)	(µG/L)
	(82682)	(04040)	(39572)	(39381)	(82660)	(82677)	(82668)	(82663)	(82672)	(04095)	(39341)

[illegible][illegible][illegible]

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997--Continued

DATE	PENDI- METH- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 µ GF, REC (µG/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82664)	PRO- METON, WATER, DISS, REC (µG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82676)	PROP- CHLOR, WATER, DISS, REC (µG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 µ GF, REC (µG/L) (82685)	SI- MAZINE, WATER, DISS, REC (µG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 µ GF, REC (µG/L) (82670)	TER- BACIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82665)
APR 16...	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	<0.010	<0.007
SEP 25...	--	--	--	--	--	--	--	--	--	--	--
DATE	TER- BUFOS WATER FLTRD 0.7 µ GF, REC (µG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 µ GF, REC (µG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82661)	DIAZ- INON D10 SRG WAT FLT 0.7 µ GF, REC PERCENT (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 µ GF, REC PERCENT (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 µ GF, REC PERCENT (91065)	BLANK, TYPE OF SOLU- TION (CODE) (99100)	BLANK, SOURCE OF SOLU- TION (CODE) (99101)	BLANK, TYPE OF SAMPLE (CODE) (99102)	REF- ERENCE MA- TERIAL/ SPIKE SOURCE (CODE) (99104)
APR 16...	<0.013	<0.002	<0.001	<0.002	81.7	123	97.2	40.00	10.00	100.00	51317
SEP 25...	--	--	--	--	--	--	--	10.00	80.00	100.00	97078

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

REMARKS.--Concentrations of pesticides and herbicides in replicate and spiked replicate from East Mahantango Creek at Klingerstown, Pa., April 30, 1997 and calculated recoveries, in percent; "<" = less than; less-than values were set equal to zero for calculations; E = estimated value. Higher than expected recoveries resulted from low concentrations of internal standard used in the sample extract during pesticide analysis; a review of quality-control data indicated that the problem only affected data from this sample.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Parameter code	Constituent	Concentration, in micrograms per liter			
		Laboratory results		a Calculated concentration of spike in sample C	Recovery in percent [(B-A)/C] x 100
		Replicate 1 (not spiked) (4/30/97 at 1230)	Replicate 2 (spiked) (4/30/97 at 1232)		
		A	B		
49260	Acetochlor	0.009	0.154	.108	134
46342	Alachlor	<0.002	0.149	.108	138
34253	Alpha BHC	<0.002	0.124	.108	115
39632	Atrazine	0.065	0.250	.108	171
82673	Benfluralin	<0.002	0.106	.108	98
04028	Butylate	<0.002	0.152	.097	157
82680	Carbaryl	<0.003	E0.180	.108	167
82674	Carbofuran	<0.003	E0.167	.108	155
38933	Chlorpyrifos	<0.004	0.122	.108	113
04041	Cyanazine	<0.004	0.145	.108	134
82682	DCPA	0.013	0.139	.097	130
04040	Desethyl Atrazine	E0.039	E0.117	.108	72
39572	Diazinon	<0.002	0.133	.108	123
39381	Dieldrin	<0.001	0.110	.097	113
82660	2,6-Diethyl Aniline	<0.003	0.108	.108	100
82677	Disulfoton	<0.017	0.091	.097	94
82668	EPTC	<0.002	0.134	.097	138
82663	Ethalfuralin	<0.004	0.117	.097	121
82672	Ethoprop	<0.003	0.135	.097	139
04095	Fonofos	<0.003	0.106	.108	98
39341	Lindane	<0.004	0.127	.097	131
82666	Linuron	<0.002	0.154	.097	159
39532	Malathion	<0.005	0.103	.108	95
82686	Methyl Azinphos	<0.001	E0.165	.108	153
82667	Methyl Parathion	0.063	0.119	.108	52
39415	Metolachlor	0.550	0.884	.097	344
82630	Metribuzin	<0.004	0.123	.108	114
82671	Molinate	<0.004	0.170	.108	157
82684	Napropamide	<0.003	0.135	.108	125
34653	P, P' DDE	<0.006	0.076	.108	70
39542	Parathion	<0.004	0.106	.108	98
82669	Pebulate	<0.004	0.148	.097	153
82683	Pendimethalin	<0.004	0.108	.108	100
82687	Permethrin	<0.005	0.020	.032	62
82664	Phorate	<0.002	0.087	.108	81
04037	Prometon	<0.018	0.111	.108	103
82676	Pronamide	<0.003	0.111	.108	103
04024	Propachlor	<0.007	0.216	.108	200
82679	Propanil	<0.004	0.144	.108	133
82685	Propargite	<0.013	0.144	.097	148
04035	Simazine	0.020	0.166	.108	135
82670	Tebuthiuron	<0.150	0.208	.108	193
82665	Terbacil	<0.007	E0.149	.108	138
82675	Terbufos	<0.013	0.098	.108	91
82681	Thiobencarb	<0.002	0.147	.108	136
82678	Triallate	<0.001	0.128	.108	119
82661	Trifluralin	<0.002	0.106	.108	98
Mean recovery					128
Standard deviation					45
Median recovery					125

a Calculated concentration of spike in sample equals the concentration of the spike solution, in micrograms per milliliter x amount of spike added, in milliliters, divided by the spiked sample volume, in liters.

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

REMARKS.--Table includes organic compounds and trace elements found in streambed sediments.

SEDIMENT-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	PCB, SED, BM WS, <2MM DW, REC (μG/KG)	O, P' - DDD, SED, BM WS, <2MM DW, REC (μG/KG)	P, P' - DDD, SED, BM WS, <2MM DW, REC (μG/KG)	O, P' - DDE, SED, BM WS, <2MM DW, REC (μG/KG)	P, P' - DDE, SED, BM WS, <2MM DW, REC (μG/KG)	O, P' - DDT, SED, BM WS, <2MM DW, REC (μG/KG)	P, P' - DDT, SED, BM WS, <2MM DW, REC (μG/KG)	CIS-CHLOR-DANE, SED, BM WS, <2MM DW, REC (μG/KG)	TRANS-CHLOR-DANE, SED, BM WS, <2MM DW, REC (μG/KG)	
		(00027)	(00028)	(49459)	(49325)	(49326)	(49327)	(49328)	(49329)	(49330)	(49320)	(49321)	
JUN 25...	1000	1028	80020	<50	<1.00	<1.00	<1.00	4.00	<2.00	E1.00	<1.00	<1.00	
DATE		CHLORO-NEB, SED, BM WS, <2MM DW, REC (μG/KG)	CIS-NONA-CHLOR, SED, BM WS, <2MM DW, REC (μG/KG)	TRANS-NONA-CHLOR, SED, BM WS, <2MM DW, REC (μG/KG)	OXY-CHLOR-DANE, SED, BM WS, <2MM DW, REC (μG/KG)	HEPTA-CHLOR, SED, BM WS, <2MM DW, REC (μG/KG)	HEPTA-CHLOR EPOXIDE, SED, BM WS, <2MM DW, REC (μG/KG)	PENTA-CHLORO-ANISOLE, SED, BM WS, <2MM DW, REC (μG/KG)	ALDRIN, SED, BM WS, <2MM DW, REC (μG/KG)	DIEL-DRIN, SED, BM WS, <2MM DW, REC (μG/KG)	ENDRIN, SED, BM WS, <2MM DW, REC (μG/KG)	ISODRIN, SED, BM WS, <2MM DW, REC (μG/KG)	MIREX, SED, BM WS, <2MM DW, REC (μG/KG)
JUN 25...	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.00	<1.00	<2.00	<1.00	<1.00	
DATE		CIS-PER-METHRIN SED, BM WS, <2MM DW, REC (μG/KG)	TRANS-PER-METHRIN SED, BM WS, <2MM DW, REC (μG/KG)	METHOXY-CHLOR, O, P' -, SED, BM WS, <2MM DW, REC (μG/KG)	METHOXY-CHLOR P, P' -, SED, BM WS, <2MM DW, REC (μG/KG)	ALPHA-BHC, SED, BM WS, <2MM DW, REC (μG/KG)	BETA-BHC, SED, BM WS, <2MM DW, REC (μG/KG)	LINDANE SED, BM WS, <2MM DW, REC (μG/KG)	ENDO-SULFAN I, SED, BM WS, <2MM DW, REC (μG/KG)	BENZENE HEXA-CHLORO-, SED, BM WS, <2MM DW, REC (μG/KG)	DCPA, SED, BM WS, <2MM DW, REC (μG/KG)	TOXA-PHENE SED, BM WS, <2MM DW, REC (μG/KG)	ALPHA-BHC, D6 SURROGT SED, BM WS, <2MM DW, REC PERCENT (μG/KG)
JUN 25...	<5.00	<5.00	<5.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	1.30	<5.00	<200	73.0
DATE		BENZENE NITROD5 SURROGT SED, BM WS, <2MM DW, REC PERCENT (μG/KG)	BIPHENYL 35DICHRO PYRENE SED, BM WS, <2MM DW, REC PERCENT (μG/KG)	BIPHENYL 2FLUORO SURROGT SED, BM WS, <2MM DW, REC PERCENT (μG/KG)	OCTCHLR BIPHENYL SURROGT SED, BM WS, <2MM DW, REC PERCENT (μG/KG)	TERPHEN YL D14-SURROGT SED, BM WS, <2MM DW, REC PERCENT (μG/KG)	PHTHAL-ATE, DIBUTYL SED, BM WS, <2MM DW, REC (μG/KG)	PHTHAL-ATE, D IOCTYL SED, BM WS, <2MM DW, REC (μG/KG)	PHTHAL-ATE, D IETHYL SED, BM WS, <2MM DW, REC (μG/KG)	PHTHAL-ATE, DI-METHYL SED, BM WS, <2MM DW, REC (μG/KG)	PYRENE, 1-METHYL SED, BM WS, <2MM DW, REC (μG/KG)	PYRENE, 1-METHYL SED, BM WS, <2MM DW, REC (μG/KG)	PYRENE, 1-METHYL SED, BM WS, <2MM DW, REC (μG/KG)
JUN 25...		86.3	83.0	92.5	61.0	109	E43	<50	<50	<50	100	<50	
DATE		BENZO (A) PYRENE SED, BM WS, <2MM DW, REC (μG/KG)	INDENO 123-CD PYRENE SED, BM WS, <2MM DW, REC (μG/KG)	2,2'-BI QUINO-LINE, SED, BM WS, <2MM DW, REC (μG/KG)	QUINO-LINE, SED, BM WS, <2MM DW, REC (μG/KG)	PHENAN-THRI-DINE SED, BM WS, <2MM DW, REC (μG/KG)	ISO-QUINO-LINE, SED, BM WS, <2MM DW, REC (μG/KG)	TOLUENE 2,4-DI-NITRO- SED, BM WS, <2MM DW, REC (μG/KG)	TOLUENE 2,6-DI-NITRO- SED, BM WS, <2MM DW, REC (μG/KG)	BENZO K FLUOR-ANTHENE SED, BM WS, <2MM DW, REC (μG/KG)	9H-FLU-ORENE, 1METHYL SED, BM WS, <2MM DW, REC (μG/KG)	9H-FLU-ORENE SED, BM WS, <2MM DW, REC (μG/KG)	9H-FLU-ORENE SED, BM WS, <2MM DW, REC (μG/KG)
JUN 25...		66	E44	<50	<50	<50	<50	<50	<50	E49	<50	<50	

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

SEDIMENT-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ISOPHOR ONE SED, BM WS, <2MM DW, REC (μG/KG) (49400)	METHANE 2CHLORO ETHOXY SED, BM WS, <2MM DW, REC (μG/KG) (49401)	NAPHTH- ALENE, SED, BM WS, <2MM DW, REC (μG/KG) (49402)	NAPTHAL ENE, 12 DIMETHL SED, BM WS, <2MM DW, REC (μG/KG) (49403)	NAPTHAL ENE, 16 DIMETHL SED, BM WS, <2MM DW, REC (μG/KG) (49404)	NAPTHAL ENE, 236 TRIMETH SED, BM WS, <2MM DW, REC (μG/KG) (49405)	NAPTHAL ENE, 26 DIMETHL SED, BM WS, <2MM DW, REC (μG/KG) (49406)	NAPTHAL ENE, 2- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49407)	BENZO (G HI) PERY LENE SED, BM WS, <2MM DW, REC (μG/KG) (49408)	PHENAN THRENE SED, BM WS, <2MM DW, REC (μG/KG) (49409)	PHENAN THRENE 1METHYL SED, BM WS, <2MM DW, REC (μG/KG) (49410)
JUN 25...	<50	<50	<50	<50	<50	<50	E30	<50	E40	50	<50
DATE	4HCYPEN PHENAN THRENE SED, BM WS, <2MM DW, REC (μG/KG) (49411)	PHENOL SED, BM WS, <2MM DW, REC (μG/KG) (49413)	3,5- XYLENOL SED, BM WS, <2MM DW, REC (μG/KG) (49421)	M-CRE- SOL, 4- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49422)	PHENOL C8- ALKYL- SED, BM WS, <2MM DW, REC (μG/KG) (49424)	PHTHALA TE, BIS2 ETHHEXL SED, BM WS, <2MM DW, REC (μG/KG) (49426)	PHTHALA TEBUTYL BENZYL- SED, BM WS, <2MM DW, REC (μG/KG) (49427)	ACENAPH THYLENE SED, BM WS, <2MM DW, REC (μG/KG) (49428)	ACENAPH THENE SED, BM WS, <2MM DW, REC (μG/KG) (49429)	ACRI- DINE SED, BM WS, <2MM DW, REC (μG/KG) (49430)	DPROPYL AMINE, N NITROSO SED, BM WS, <2MM DW, REC (μG/KG) (49431)
JUN 25...	<50	<50	<50	<50	<50	84	<50	<50	<50	<50	<50
DATE	DIPHNYL AMINE, N NITROSO SED, BM WS, <2MM DW, REC (μG/KG) (49433)	ANTHRA- CENE SED, BM WS, <2MM DW, REC (μG/KG) (49434)	ANTHRA- CENE, 2- METHYL- SED, BM WS, <2MM DW, REC (μG/KG) (49435)	BENZ (A) ANTHRA- CENE SED, BM WS, <2MM DW, REC (μG/KG) (49436)	9,10- ANTHRA- QUINONE SED, BM WS, <2MM DW, REC (μG/KG) (49437)	BENZENE 124TRI- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49438)	BENZENE O-DI- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49439)	BENZENE M-DI- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49441)	BENZENE P-DI- CHLORO- SED, BM WS, <2MM DW, REC (μG/KG) (49442)	AZO- BENZENE SED, BM WS, <2MM DW, REC (μG/KG) (49443)	BENZENE NITRO- SED, BM WS, <2MM DW, REC (μG/KG) (49444)
JUN 25...	<50	<50	<50	54	<50	<50	<50	<50	<50	<50	<50
DATE	BENZENE PNITCHLR NITRO- SED, BM WS, <2MM DW, REC (μG/KG) (49446)	CARBA- ZOLE SED, BM WS, <2MM DW, REC (μG/KG) (49449)	CHRY- SENE SED, BM WS, <2MM DW, REC (μG/KG) (49450)	P- CRESOL SED, BM WS, <2MM DW, REC (μG/KG) (49451)	THIOPH ENE, DI- BENZO- SED, BM WS, <2MM DW, REC (μG/KG) (49452)	4-BROMO PHNPHNL ETHER SED, BM WS, <2MM DW, REC (μG/KG) (49454)	4CHLORO PHNPHNL LEATHER SED, BM WS, <2MM DW, REC (μG/KG) (49455)	BENZOB FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (μG/KG) (49458)	DIBENZ (AH), AN THRACEN SED, BM WS, <2MM DW, REC (μG/KG) (49461)	FLUOR- ANTHENE BED MAT WS <2MM DRY WGT REC (μG/KG) (49466)	PHENOL, 2CHLORO BED MAT WS <2MM DRY WGT REC (μG/KG) (49467)
JUN 25...	<50	<50	59	120	<50	<50	<50	87	<50	110	<50
DATE	BENZOCI NNOLINE BED MAT WS <2MM DRY WGT REC (μG/KG) (49468)	MOVE VALUES TO PCODE (49490)	BED MAT. FALL DIAM. % FINER THAN .004 MM (80157)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	ALUM- INUM BOT MAT <63μ WS FIELD PERCENT (34790)	ANTI- MONY BOT MAT <63μ WS FIELD (μG/G) (34795)	ARSENIC BOT MAT <63μ WS FIELD (μG/G) (34800)	BERYL- LIUM BOT MAT <63μ WS FIELD (μG/G) (34810)	BISMUTH BOT MAT <180μWS FIELD (μG/G) (34816)	CALCIUM BOT MAT <63μ WS FIELD PERCENT (34830)
JUN 25...	<50	<50	10	33	67	6.6	1.1	8.2	2	<10	0.16

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

SEDIMENT-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	CERIUM BOT MAT <63µ WS FIELD (µG/G) (34835)	CHRO- MIUM BOT MAT <63µ WS FIELD (µG/G) (34840)	COBALT BOT MAT <63µ WS FIELD (µG/G) (34845)	COPPER BOT MAT <63µ WS FIELD (µG/G) (34850)	EURO- PIUM BOT MAT <63µ WS FIELD (µG/G) (34855)	GALLIUM BOT MAT <63µ WS FIELD (µG/G) (34860)	GOLD BOT MAT <63µ WS FIELD (µG/G) (34870)	HOLMIUM BOT MAT <63µ WS FIELD (µG/G) (34875)	IRON BOT MAT <63µ WS FIELD PERCENT (34880)	LANTHA- NUM BOT MAT <63µ WS FIELD (µG/G) (34885)	LEAD BOT MAT <63µ WS FIELD (µG/G) (34890)
JUN 25...	88	65	23	25	<2	14	<8	<4	3.6	48	31
DATE	LITHIUM BOT MAT <63µ WS FIELD (µG/G) (34895)	MAGNE- SIUM BOT MAT <63µ WS FIELD PERCENT (34900)	MANGA- NESE BOT MAT <63µ WS FIELD (µG/G) (34905)	MOLYB- DENUM BOT MAT <63µ WS FIELD (µG/G) (34915)	NEODYM- IUM BOT MAT <63µ WS FIELD (µG/G) (34920)	NICKEL BOT MAT <63µ WS FIELD (µG/G) (34925)	NIOBIUM BOT MAT <63µ WS FIELD (µG/G) (34930)	PHOS- PHORUS BOT MAT <63µ WS FIELD PERCENT (34935)	POTAS- SIUM BOT MAT <63µ WS FIELD PERCENT (34940)	SELE- NIUM BOT MAT <63µ WS FIELD (µG/G) (34950)	SODIUM BOT MAT <63µ WS FIELD PERCENT (34960)
JUN 25...	42	0.45	690	<2	39	37	15	0.09	1.9	0.4	0.27
DATE	STRON- TIUM BOT MAT <63µ WS FIELD (µG/G) (34965)	SULFUR BOT MAT <63µ WS FIELD (µG/G) (34970)	TANTA- LUM BOT MAT <63µ WS FIELD (µG/G) (34975)	TIN BOT MAT <63µ WS FIELD (µG/G) (34985)	VANA- DIUM BOT MAT <63µ WS FIELD (µG/G) (35005)	YTTER- BIUM BOT MAT <63µ WS FIELD (µG/G) (35015)	YTTRIUM BOT MAT <63µ WS FIELD (µG/G) (35010)	ZINC BOT MAT <63µ WS FIELD (µG/G) (35020)	TITA- NIUM, SED, BM WS, <63µ DRY WGT REC PERCENT (49274)	CARBON, ORG + INORG SED, BM WS, <2MM DW, REC (G/KG) (49272)	CARBON, INORG, SED, BM WS, <2MM DW, REC (G/KG) (49270)
JUN 25...	62	<0.05	<40	<5	100	3	35	140	0.450	13.0	<0.100

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

REMARKS.--White sucker fish-tissue was used for these analyses.

Explanation of column headings -- BIO TIS: biota tissue; DRY WGT REC: Dry weight recoverable; μG/G: micrograms per gram; WH ORG: whole organism; WW, REC: wet weight recoverable; μG/KG: micrograms per kilogram.

FISH-TISSUE DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	ALUMINUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49237)	ANTIMONY, BIOTA, TISSUE, DRY WGT REC (μG/G) (49246)	ARSENIC, BIOTA, TISSUE, DRY WGT REC (μG/G) (49247)	BARIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49238)	BERYLLIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49248)	BORON, BIOTA, TISSUE, DRY WGT REC (μG/G) (49239)	CADMIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49249)	CHROMIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49240)	
Jun	24... 24...	1800 1805	1028 1028	80020 80020	-- <1.0	-- <0.3	-- <0.3	-- 0.1	-- <0.3	-- 1	-- 0.9	-- <0.5
DATE	TIME	COPPER, BIOTA, TISSUE, DRY WGT REC (μG/G) (49241)	COBALT, BIOTA, TISSUE, DRY WGT REC (μG/G) (49250)	IRON, BIOTA, TISSUE, DRY WGT REC (μG/G) (49242)	LEAD, BIOTA, TISSUE, DRY WGT REC (μG/G) (49251)	MANGANESE, BIOTA, TISSUE, DRY WGT REC (μG/G) (49243)	MERCURY, BIOTA, TISSUE, DRY WGT REC (μG/G) (49258)	MOLYBDENUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49252)	NICKEL, BIOTA, TISSUE, DRY WGT REC (μG/G) (49253)	SELENIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49254)	SILVER, BIOTA, TISSUE, DRY WGT REC (μG/G) (49255)	
Jun	24... 24...	1800 1805	-- 36	-- 0.4	-- 350	-- <0.3	-- 5.6	-- 0.1	-- 0.8	-- 0.3	-- 3.9	-- <0.3
DATE	TIME	STRONTIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49244)	URANIUM, BIOTA, TISSUE, DRY WGT REC (μG/G) (49257)	VANADIUM, BIO TIS LIVER, DRY WGT REC (μG/G) (49465)	ZINC, BIOTA, TISSUE, DRY WGT REC (μG/G) (49245)	WATER, PRESENT, BIO TIS, DRY WGT REC PERCENT (μG/KG) (49273)	PCB, BIOTA, WH ORG WW, REC (μG/KG) (49354)	O, P'-DDT, BIOTA, WH ORG WW, REC (μG/KG) (49377)	P, P'-DDT, BIOTA, WH ORG WW, REC (μG/KG) (49376)	O, P'-DDD, BIOTA, WH ORG WW, REC (μG/KG) (49374)	P, P'-DDD, BIOTA, WH ORG WW, REC (μG/KG) (49375)	
Jun	24... 24...	1800 1805	-- 0.5	-- <0.3	-- <0.3	-- 84	-- 78	<50.0 --	<5.00 --	17.0 --	<5.00 --	E13.0 --
DATE	TIME	O, P'-DDE, BIOTA, WH ORG WW, REC (μG/KG) (49373)	P, P'-DDE, BIOTA, WH ORG WW, REC (μG/KG) (49372)	CIS-CHLORDANE, BIOTA, WH ORG WW, REC (μG/KG) (49380)	TRANS-CHLORDANE, BIOTA, WH ORG WW, REC (μG/KG) (49379)	CIS-NONACHLOR, BIOTA, WH ORG WW, REC (μG/KG) (49359)	TRANS-NONACHLOR, BIOTA, WH ORG WW, REC (μG/KG) (49358)	OXY-CHLORDANE, BIOTA, WH ORG WW, REC (μG/KG) (49357)	HEPTACHLOR, BIOTA, WH ORG WW, REC (μG/KG) (49369)	HEPTACHLOR EPOXIDE, BIOTA, WH ORG WW, REC (μG/KG) (49368)	PENTACHLOROANISOLE, BIOTA, WH ORG WW, REC (μG/KG) (49356)	
Jun	24... 24...	1800 1805	<5.00 --	120 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --
DATE	TIME	ALDRIN, BIOTA, WH ORG WW, REC (μG/KG) (49353)	DIELDRIN, BIOTA, WH ORG WW, REC (μG/KG) (49371)	ENDRIN, BIOTA, WH ORG WW, REC (μG/KG) (49370)	MIREX, BIOTA, WH ORG WW, REC (μG/KG) (49360)	METHOXYCHLOR, O, P'-, BIOTA, WH ORG WW, REC (μG/KG) (49362)	METHOXYCHLOR, P, P'-, BIOTA, WH ORG WW, REC (μG/KG) (49361)	ALPHA-BHC, BIOTA, WH ORG WW, REC (μG/KG) (49366)	BETA-BHC, BIOTA, WH ORG WW, REC (μG/KG) (49365)	DELTA-BHC, BIOTA, WH ORG WW, REC (μG/KG) (49364)	LINDANE, BIOTA, WH ORG WW, REC (μG/KG) (49363)	
Jun	24... 24...	1800 1805	<5.00 --	13.0 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --	<5.00 --
DATE	TIME	BENZENE HEXACHLOROBIOTA, WH ORG WW, REC (μG/KG) (49367)	BENZENE HEXACHLOROBIOTA, WH ORG WW, REC (μG/KG) (49367)	DCPA, BIOTA, WH ORG WW, REC (μG/KG) (49378)	TOXAPHENE, BIOTA, WH ORG WW, REC (μG/KG) (49355)	LIPIDS, BIOTA, WH ORG WW, REC PERCENT (49289)	ALPHA-BHC, D6 SURROGT, BIOTA, WH ORG WW, REC PERCENT (49261)	BIPHENYL 35DICHL, SURROGT, BIOTA, WH ORG WW, REC PERCENT (49264)	SET NUMBER SCHEDULE 2101 (NO.) (99822)	SAMPLE WEIGHT SCHEDULE 2101 (GRAMS) (99852)		
Jun	24... 24...	1800 1805	<5.00 --	12.0 --	<200 --	9.05 --	109 --	80.0 --	97303 --	10.0 --		

EAST MAHANTANGO CREEK BASIN

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, APRIL 1997 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	17.5	14.0	15.5
2	---	---	---	---	---	---	---	---	---	17.0	10.5	14.0
3	---	---	---	---	---	---	---	---	---	15.5	13.0	14.0
4	---	---	---	---	---	---	---	---	---	16.0	11.0	13.5
5	---	---	---	---	---	---	---	---	---	17.0	10.0	13.5
6	---	---	---	---	---	---	---	---	---	16.5	13.0	14.5
7	---	---	---	---	---	---	---	---	---	15.0	10.0	12.5
8	---	---	---	---	---	---	---	---	---	12.0	9.0	10.5
9	---	---	---	---	---	---	---	---	---	13.5	10.5	12.0
10	---	---	---	---	---	---	---	---	---	12.0	10.5	11.5
11	---	---	---	---	---	---	---	---	---	16.5	9.0	12.5
12	---	---	---	---	---	---	---	---	---	17.5	12.5	15.0
13	---	---	---	---	---	---	---	---	---	15.0	12.5	13.5
14	---	---	---	---	---	---	---	---	---	16.0	10.5	13.0
15	---	---	---	---	---	---	---	---	---	18.0	12.5	15.0
16	---	---	---	---	---	---	---	---	---	14.5	12.0	13.0
17	---	---	---	---	---	---	---	---	---	13.0	10.5	11.5
18	---	---	---	---	---	---	---	---	---	14.5	10.0	12.0
19	---	---	---	---	---	---	---	---	---	19.5	13.0	16.0
20	---	---	---	---	---	---	---	---	---	21.5	16.5	19.0
21	---	---	---	---	---	---	---	---	---	17.5	14.0	15.5
22	---	---	---	---	---	---	---	---	---	16.5	12.0	14.0
23	---	---	---	---	---	---	---	---	---	18.5	12.0	15.0
24	---	---	---	---	---	---	---	---	---	20.5	14.0	17.5
25	---	---	---	---	---	---	---	---	---	18.5	16.0	17.0
26	---	---	---	---	---	---	---	---	---	19.5	14.0	16.5
27	---	---	---	---	---	---	---	---	---	19.5	13.5	16.5
28	---	---	---	---	---	---	---	---	---	19.5	14.0	16.5
29	---	---	---	---	---	---	17.5	10.0	14.0	19.0	14.0	16.5
30	---	---	---	---	---	---	19.0	11.5	15.5	17.0	15.5	16.0
31	---	---	---	---	---	---	---	---	---	20.0	15.0	17.5
MONTH	---	---	---	---	---	---	19.0	10.0	14.8	21.5	9.0	14.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	21.5	17.0	19.5	22.5	21.0	21.5	23.0	18.5	21.0	22.0	19.0	20.5
2	20.5	14.5	17.5	21.0	20.0	20.5	24.0	20.5	22.0	22.5	19.5	21.0
3	14.5	12.5	13.0	25.0	20.5	22.0	23.5	20.0	22.0	21.5	18.0	20.0
4	16.0	12.0	14.0	23.5	20.5	22.0	22.0	20.0	21.0	18.0	15.5	16.5
5	17.0	13.0	15.0	22.5	18.5	20.5	21.5	18.5	20.0	17.5	13.5	15.5
6	17.0	14.5	16.0	23.5	17.5	20.5	21.5	17.0	19.0	19.0	15.0	17.0
7	16.0	14.5	15.0	24.0	19.0	21.5	21.5	17.0	19.5	19.0	15.5	17.5
8	17.0	12.5	15.0	24.5	20.0	22.5	22.0	17.0	19.5	19.5	16.5	18.0
9	19.0	13.5	16.0	24.0	21.5	23.0	23.0	18.0	20.5	18.5	17.5	18.0
10	21.0	15.0	18.0	24.5	19.5	22.0	23.0	19.5	21.5	18.0	17.0	17.0
11	21.0	17.0	19.0	24.0	18.5	21.5	24.0	20.5	22.0	18.0	17.0	17.5
12	21.0	18.0	19.5	25.0	19.5	22.5	24.0	21.5	23.0	19.0	17.0	18.0
13	21.0	18.5	19.5	26.5	20.5	23.5	23.5	22.0	22.5	18.0	17.0	17.5
14	20.5	18.5	19.5	27.0	21.0	24.0	24.5	21.0	23.0	18.5	16.0	17.5
15	21.5	16.0	19.0	27.5	22.5	25.0	22.5	20.5	21.5	18.5	16.0	17.5
16	21.0	17.0	19.0	28.5	23.5	26.0	25.0	21.0	23.0	18.5	16.0	17.5
17	20.0	18.0	19.0	28.0	22.5	25.0	25.5	22.5	24.0	19.5	17.0	18.0
18	20.0	18.0	19.0	28.0	23.0	25.0	24.5	22.0	23.0	20.5	18.5	19.5
19	21.0	17.5	19.0	27.5	22.0	24.0	22.5	18.5	20.5	19.5	16.5	18.0
20	23.5	18.0	20.5	24.5	19.5	22.0	20.5	17.0	18.5	20.0	18.0	19.0
21	25.0	20.5	22.5	26.0	19.5	22.5	20.0	17.0	18.0	18.0	14.5	16.0
22	24.5	21.5	23.0	23.5	21.5	22.0	19.5	17.0	18.5	15.0	12.0	13.5
23	25.0	19.5	22.5	21.5	19.5	20.5	20.0	17.0	18.5	15.0	13.5	14.0
24	---	---	---	19.5	17.0	17.5	20.0	16.0	18.0	14.5	12.5	13.5
25	26.5	21.5	24.0	20.0	17.0	18.0	20.5	17.5	19.0	14.5	11.0	13.0
26	25.0	22.0	23.5	22.0	17.5	20.0	20.5	18.5	19.5	15.5	12.5	14.0
27	24.5	20.0	22.0	23.5	20.0	21.5	21.0	18.5	20.0	14.5	12.0	13.5
28	25.0	19.0	22.0	24.0	20.5	22.5	20.5	19.0	20.0	15.5	12.5	14.0
29	25.0	19.5	22.5	22.5	20.5	21.5	19.5	18.0	18.5	17.0	15.0	16.0
30	24.0	19.5	22.0	22.0	17.0	19.5	19.5	16.5	18.0	16.0	15.0	15.5
31	---	---	---	23.0	17.5	20.0	20.0	17.0	18.5	---	---	---
MONTH	26.5	12.0	19.2	28.5	17.0	21.9	25.5	16.0	20.4	22.5	11.0	16.8

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 between 300 ft³/s and 1,300 ft³/s which are fair, and those for estimated daily discharges, which are poor. Intermittent regulation evident during low flows. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,900 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 19	2215	*6,070	*9.99	Dec. 2	1015	4,370	8.37
Nov. 9	0715	2,690	6.50	Dec. 13	2400	4,410	8.41

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	186	548	296	232	201	316	77	79	50	69	100
2	67	168	3510	282	265	207	345	75	227	68	60	86
3	63	152	1690	278	292	208	347	e79	864	99	54	67
4	58	139	1070	254	278	203	318	e90	581	67	50	58
5	54	127	748	242	673	218	280	e81	406	55	51	49
6	52	119	780	240	654	373	253	e76	312	47	52	46
7	51	117	739	207	449	400	237	e80	256	45	43	44
8	52	204	757	181	366	364	209	e75	218	41	38	42
9	71	2220	688	178	314	324	192	e70	189	37	35	42
10	79	1330	570	e170	270	301	173	e76	163	38	33	42
11	69	894	495	e170	242	277	162	71	144	42	32	135
12	61	632	508	e150	222	245	161	66	130	36	31	259
13	58	478	1730	e145	197	216	181	66	133	32	35	184
14	59	396	3210	e145	195	278	153	66	135	31	47	131
15	56	329	1610	e145	201	565	134	62	112	30	39	107
16	53	282	1120	e160	225	437	125	58	96	26	34	87
17	52	252	854	e165	206	369	123	57	87	27	37	74
18	54	233	671	e150	189	328	120	57	88	25	56	68
19	3540	231	572	e140	236	288	114	62	198	24	41	64
20	3450	208	477	e150	277	262	110	71	136	23	46	56
21	1430	183	385	e160	275	238	104	64	106	22	157	54
22	960	166	345	e200	300	223	99	54	88	24	113	48
23	688	150	321	e270	288	200	96	52	81	75	78	44
24	653	141	342	423	271	175	93	50	70	622	59	44
25	512	133	485	785	251	158	89	99	65	405	51	42
26	417	252	428	751	240	217	80	206	62	198	56	40
27	345	326	386	409	243	208	79	121	88	132	64	38
28	305	267	351	458	224	173	98	93	68	102	183	37
29	271	246	338	427	---	164	98	82	58	142	352	52
30	234	224	361	329	---	163	82	85	53	113	179	60
31	211	---	320	275	---	225	---	84	---	80	123	---
TOTAL	14100	10785	26409	8335	8075	8208	4971	2405	5293	2758	2298	2200
MEAN	455	360	852	269	288	265	166	77.6	176	89.0	74.1	73.3
MAX	3540	2220	3510	785	673	565	347	206	864	622	352	259
MIN	51	117	320	140	189	158	79	50	53	22	31	37
CFSM	2.81	2.22	5.26	1.66	1.78	1.63	1.02	.48	1.09	.55	.46	.45
IN.	3.24	2.48	6.06	1.91	1.85	1.88	1.14	.55	1.22	.63	.53	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	127	215	289	275	306	427	368	279	177	102	77.2	96.4
MAX	1025	553	852	1259	831	1212	1160	986	2361	504	585	1112
(WY)	1977	1951	1997	1996	1981	1994	1993	1989	1972	1947	1933	1975
MIN	5.14	8.65	14.0	12.4	54.3	111	126	67.5	29.7	13.5	9.36	3.98
(WY)	1931	1931	1931	1981	1934	1931	1965	1941	1965	1965	1957	1932

e Estimated.

EAST MAHANTANGO CREEK BASIN

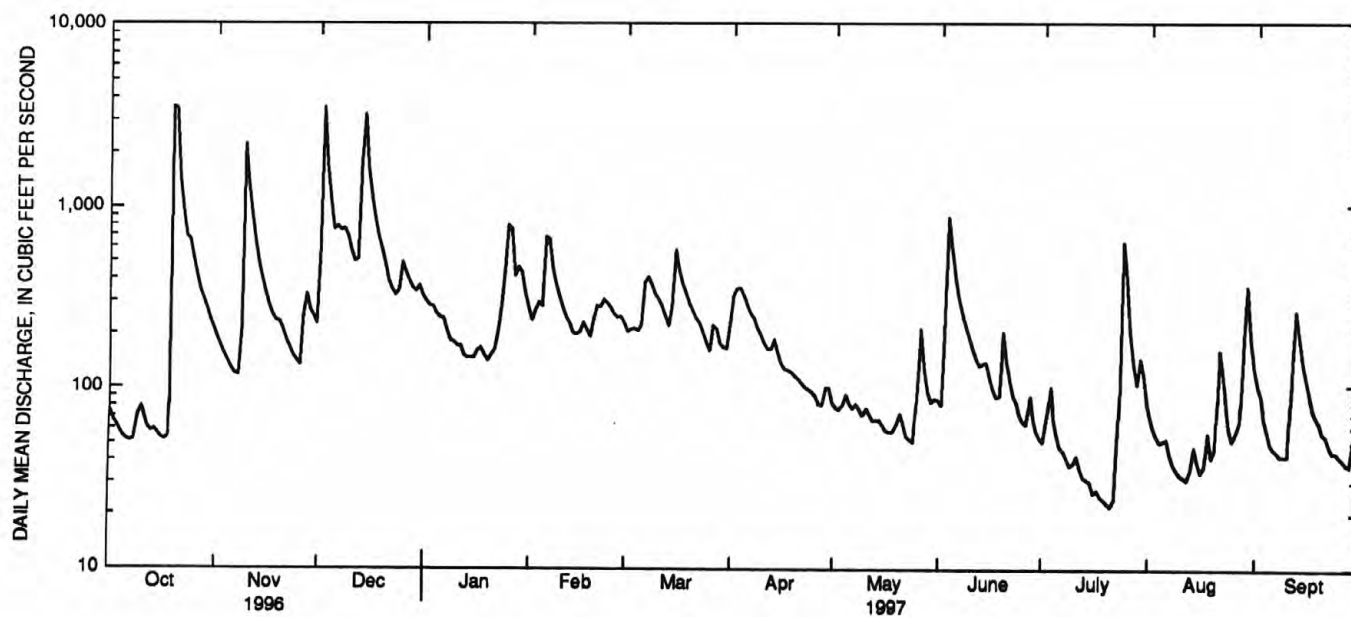
01555500 EAST MAHANTANGO CREEK NEAR DALMATIA, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1930 - 1997	
ANNUAL TOTAL	154811		95837		228	
ANNUAL MEAN	423		263		70.7	1931
HIGHEST ANNUAL MEAN					454	1972
LOWEST ANNUAL MEAN					70.7	1931
HIGHEST DAILY MEAN	10600	Jan 19	3540	Oct 19	39000	Jun 22 1972
LOWEST DAILY MEAN	30	Sep 3,4	22	Jul 21	1.5	Sep 21 1932
ANNUAL SEVEN-DAY MINIMUM	32	Aug 30	24	Jul 16	1.7	Sep 16 1932
INSTANTANEOUS PEAK FLOW			a6070	Oct 19	a69900	Jun 22 1972
INSTANTANEOUS PEAK STAGE			9.99	Oct 19	b26.62	Jun 22 1972
INSTANTANEOUS LOW FLOW			21	Jul 21,22	1.3	Oct 7 1957c
ANNUAL RUNOFF (CFSM)	2.61		1.62		1.41	
ANNUAL RUNOFF (INCHES)	35.55		22.01		19.11	
10 PERCENT EXCEEDS	881		510		495	
50 PERCENT EXCEEDS	185		153		120	
90 PERCENT EXCEEDS	54		45		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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 19.1 ft, from floodmark, discharge, about 35,500 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	0015	*6,540	*11.72	May 26	0515	6,490	11.68
Dec. 2	0830	5,110	10.39				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	354	1680	449	e220	622	e520	207	598	186	103	100
2	369	337	4080	454	e250	930	e450	206	1730	231	100	99
3	358	320	1880	463	e320	861	392	216	1660	162	99	98
4	316	294	1230	459	522	931	382	241	1380	143	116	96
5	295	289	904	429	1560	1120	360	208	972	132	159	92
6	277	274	822	414	1120	2090	345	205	737	128	151	90
7	267	268	699	364	788	1530	331	201	593	124	106	89
8	e250	2750	616	335	658	1190	304	188	512	119	101	90
9	e265	4190	569	e310	553	942	292	205	439	119	97	97
10	e290	1770	502	e290	490	1050	276	224	384	130	96	122
11	224	1130	616	e260	446	941	267	202	343	119	96	184
12	210	846	1680	e240	411	839	273	191	326	115	101	135
13	199	680	2770	e220	375	771	369	195	526	111	183	112
14	195	581	2240	e210	e330	e1000	290	195	383	110	153	103
15	189	509	1470	e200	e320	1750	260	230	300	109	115	99
16	185	458	1110	e180	e300	1160	250	208	270	111	146	98
17	180	424	891	e180	e280	946	247	193	287	107	136	95
18	188	406	738	e170	e300	823	249	215	260	104	273	94
19	2530	397	649	e170	e1000	797	259	950	318	104	171	91
20	2590	367	552	e160	2260	689	250	989	239	103	287	90
21	1690	340	456	e160	1780	614	244	644	210	100	442	91
22	1150	320	442	e160	2550	574	226	507	196	100	196	88
23	867	301	427	e180	1730	e520	220	415	185	321	153	88
24	707	287	454	e180	1140	473	222	359	174	195	134	87
25	598	279	473	e175	835	447	210	2050	166	151	124	87
26	508	477	378	e170	700	e500	200	4830	160	134	119	86
27	455	375	361	e160	652	e1000	193	1850	159	124	116	85
28	484	307	384	e190	645	e900	291	1120	151	120	122	91
29	480	298	527	e220	---	e760	253	825	144	124	112	962
30	420	304	577	e200	---	e660	217	691	140	113	105	246
31	382	---	478	e210	---	585	---	605	---	105	102	---
TOTAL	17518	19932	30655	7962	22535	28015	8642	19565	13942	4154	4514	3985
MEAN	565	664	989	257	805	904	288	631	465	134	146	133
MAX	2590	4190	4080	463	2550	2090	520	4830	1730	321	442	962
MIN	180	268	361	160	220	447	193	188	140	100	96	85
CFSM	1.94	2.28	3.40	.88	2.77	3.11	.99	2.17	1.60	.46	.50	.46
IN.	2.24	2.55	3.92	1.02	2.88	3.58	1.10	2.50	1.78	.53	.58	.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1997, BY WATER YEAR (WY)

	184	272	379	421	553	902	763	521	309	188	145	143
MEAN	184	272	379	421	553	902	763	521	309	188	145	143
MAX	969	937	1268	1446	1340	3561	2194	1314	1743	824	738	964
(WY)	1977	1986	1973	1937	1971	1936	1993	1924	1972	1989	1956	1996
MIN	45.9	48.0	52.4	61.3	86.0	263	215	127	83.0	49.7	46.9	45.9
(WY)	1931	1931	1931	1918	1934	1990	1925	1934	1965	1965	1966	1932

e Estimated.

JUNIATA RIVER BASIN

01556000 FRANKSTOWN BRANCH JUNIATA RIVER AT WILLIAMSBURG, PA--Continued

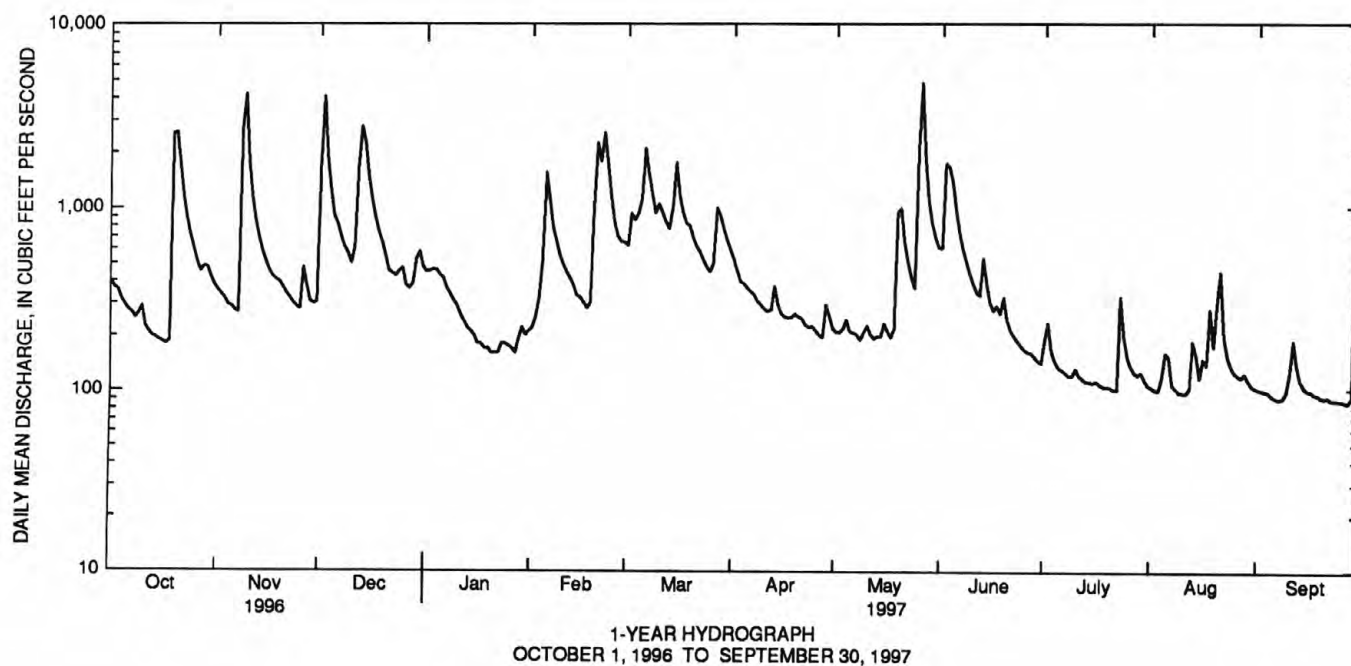
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1917 - 1997	
ANNUAL TOTAL	259820		181419		398	
ANNUAL MEAN	710		497		670	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					200	
HIGHEST DAILY MEAN	9240	Jan 19	4830	May 26	25000	Mar 18 1936
LOWEST DAILY MEAN	e96	Jan 11	85	Sep 27	31	Dec 24 1930
ANNUAL SEVEN-DAY MINIMUM	a112	Jan 6	87	Sep 21	32	Dec 19 1930
INSTANTANEOUS PEAK FLOW			6540	Nov 9	bc30000	Mar 18 1936
INSTANTANEOUS PEAK STAGE			11.72	Nov 9	19.35	Jan 19 1996
INSTANTANEOUS LOW FLOW			83	Sep 26-28	13	Jul 24 1934
ANNUAL RUNOFF (CFSM)	2.44		1.71		1.37	
ANNUAL RUNOFF (INCHES)	33.21		23.19		18.56	
10 PERCENT EXCEEDS	1510		1110		884	
50 PERCENT EXCEEDS	426		290		207	
90 PERCENT EXCEEDS	184		104		72	

a Computed using estimated daily discharges.

b From rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow.

c Gage height 18.58 ft, from floodmark in gage shelter.

e 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 West Virginia Pulp and Paper Company plant 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 West Virginia Pulp and Paper Company diversion. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 940 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1530	1,440	4.73	Dec. 2	0045	998	4.14
Nov. 8	1500	1,520	4.83	May 25	2315	*1,630	*4.95

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	58	417	83	e46	129	103	e40	98	22	7.2	7.0
2	91	55	628	90	e49	173	92	e38	196	22	6.9	6.5
3	77	51	305	93	e60	155	85	e40	154	18	6.7	6.3
4	65	46	217	84	e90	163	80	e45	149	16	8.1	5.7
5	58	43	168	85	e340	210	75	e40	123	14	12	5.4
6	52	41	153	80	275	308	71	e40	105	14	7.7	5.2
7	48	43	133	72	119	231	67	e39	91	13	7.0	5.1
8	45	916	117	68	89	189	62	e35	76	13	6.5	5.0
9	43	690	105	e64	77	156	61	e36	64	12	6.1	5.2
10	42	352	93	e60	67	172	57	e41	55	12	5.9	6.1
11	36	241	121	e56	62	153	54	e38	48	11	5.9	9.9
12	33	182	221	e52	58	136	60	e36	42	11	6.1	10
13	31	146	603	e49	e54	124	68	e36	73	10	17	6.4
14	28	125	406	e47	e52	332	57	e36	53	10	11	5.8
15	26	107	268	e44	e49	330	52	e40	39	9.7	11	5.2
16	26	96	208	e43	e47	228	50	e38	33	9.5	9.6	4.9
17	25	88	172	e40	e45	185	51	e35	48	9.1	8.1	4.9
18	53	84	144	e38	e54	162	50	e45	67	8.7	16	5.2
19	1010	80	126	e36	e100	139	50	e145	107	10	10	4.7
20	609	73	106	e54	275	124	47	e150	44	8.6	33	4.9
21	342	68	101	e45	316	112	46	71	34	8.3	31	5.6
22	242	63	85	e40	477	108	45	60	31	8.7	15	4.9
23	186	59	81	e38	308	96	46	52	27	20	11	4.6
24	149	55	90	e36	214	88	44	48	25	13	9.4	4.5
25	120	56	83	e35	162	83	41	552	23	11	8.5	4.4
26	100	91	71	e34	138	273	39	858	22	9.9	7.9	4.4
27	84	66	68	e33	135	205	40	371	21	9.1	7.3	4.2
28	89	57	72	e47	131	173	85	227	19	8.9	29	6.1
29	77	57	93	e44	---	155	e60	155	18	10	12	113
30	68	69	93	e39	---	134	e45	125	17	8.1	8.8	31
31	61	---	85	e44	---	120	---	100	---	7.4	7.6	---
TOTAL	4023	4158	5633	1673	3889	5346	1783	3612	1902	368.0	349.3	302.1
MEAN	130	139	182	54.0	139	172	59.4	117	63.4	11.9	11.3	10.1
MAX	1010	916	628	93	477	332	103	858	196	22	33	113
MIN	25	41	68	33	45	83	39	35	17	7.4	5.9	4.2
CFSM	2.94	3.14	4.12	1.22	3.15	3.91	1.35	2.64	1.44	.27	.26	.23
IN.	3.39	3.51	4.75	1.41	3.28	4.51	1.50	3.05	1.60	.31	.29	.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	35.1	56.8	78.3	80.8	104	167	144	110	65.1	31.9	21.5	24.8
MEAN	35.1	56.8	78.3	80.8	104	167	144	110	65.1	31.9	21.5	24.8
MAX	178	216	217	226	251	364	399	304	377	138	99.8	157
(WY)	1991	1951	1973	1952	1981	1945	1993	1978	1972	1956	1956	1996
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

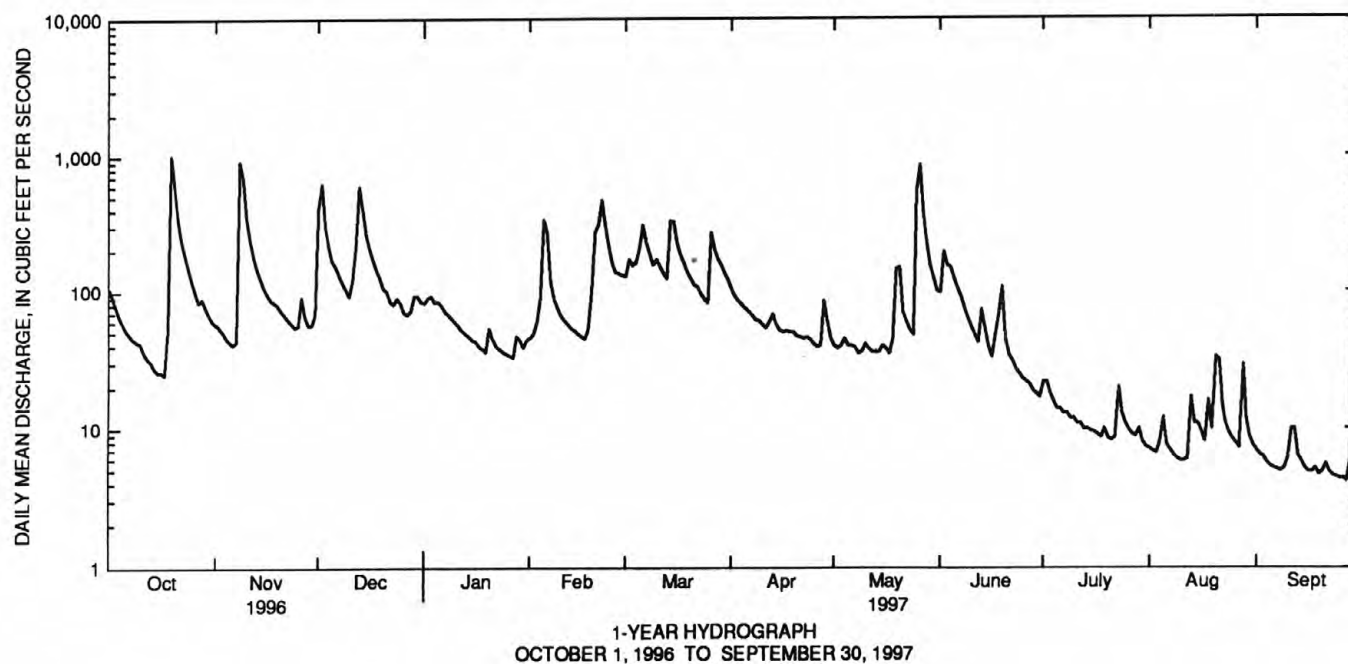
e Estimated.

JUNIATA RIVER BASIN

01557500 BALD EAGLE CREEK AT TYRONE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1945 - 1997	
ANNUAL TOTAL	42407.5		33038.4		76.4	
ANNUAL MEAN	116		90.5		133	
HIGHEST ANNUAL MEAN					46.7	
LOWEST ANNUAL MEAN					2800	
HIGHEST DAILY MEAN	1010	Oct 19	1010	Oct 19	1.4	Jun 23 1972
LOWEST DAILY MEAN	12	Jul 12,13	4.2	Sep 27	1.7	Sep 13 1973
ANNUAL SEVEN-DAY MINIMUM	14	Jul 7	4.7	Sep 21	1.7	Sep 7 1973
INSTANTANEOUS PEAK FLOW			1630	May 25	a5140	Nov 25 1950
INSTANTANEOUS PEAK STAGE			4.95	May 25	b7.50	Nov 25 1950
INSTANTANEOUS LOW FLOW			4.2	Sep 27,28	1.4	Sep 12 1973
ANNUAL RUNOFF (CFSM)	2.63		2.05		1.73	
ANNUAL RUNOFF (INCHES)	35.77		27.87		23.55	
10 PERCENT EXCEEDS	262		200		173	
50 PERCENT EXCEEDS	68		52		42	
90 PERCENT EXCEEDS	17		7.4		7.8	

a From rating curve extended above 2,100 ft³/s on basis of contracted-opening measurement of peak flow.
b From floodmark, site and datum then in use.



JUNIATA RIVER BASIN

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA

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. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 19.1 ft, from floodmarks 175 ft downstream, discharge, 39,800 ft³/s, from rating curve extended above 5,600 ft³/s on basis of slope-area measurement of peak flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1915	5,080	7.33	Dec. 13	1230	3,030	5.77
Nov. 8	1815	*6,090	*8.00	May 25	2315	3,090	5.82
Dec. 2	0415	3,780	6.39				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	471	364	1540	378	e170	607	493	224	476	165	106	119
2	425	343	2740	399	e185	791	440	225	731	206	103	115
3	393	324	1520	413	e210	733	413	242	641	165	103	113
4	347	303	1120	382	e230	768	390	261	620	149	108	112
5	318	287	870	391	e700	915	368	e225	542	141	117	108
6	296	274	788	383	676	1450	352	e220	482	136	113	108
7	279	275	682	343	521	1130	334	e215	436	133	112	105
8	266	3110	603	324	444	944	310	e190	396	129	103	105
9	263	2930	539	318	392	809	299	e200	356	125	100	108
10	268	1720	475	329	347	882	286	e220	323	125	98	109
11	239	1250	517	306	e310	783	270	e210	297	125	99	133
12	221	951	1100	272	e280	705	276	e190	270	122	103	127
13	211	759	2200	244	e260	633	342	e190	362	118	155	118
14	197	648	1890	e230	e250	1360	283	195	303	118	153	110
15	184	551	1360	e215	e240	1480	254	204	251	118	144	110
16	180	488	1060	e205	e230	1090	245	197	228	118	215	108
17	174	447	885	e200	e220	907	239	181	275	114	149	105
18	192	424	748	e190	e225	798	241	184	314	113	209	105
19	3340	404	650	e180	e600	687	231	320	439	110	152	105
20	2750	371	553	e190	1450	611	226	509	257	110	217	105
21	1710	342	470	e200	1350	546	219	381	222	108	327	107
22	1270	322	437	e190	2040	512	218	340	210	109	173	106
23	982	300	415	e180	1510	454	216	309	196	185	140	105
24	793	287	428	e180	1090	415	215	291	189	155	127	105
25	651	280	432	e170	838	385	203	1280	181	128	123	103
26	549	407	358	e170	708	1130	197	2010	175	121	121	103
27	479	327	340	e165	659	861	190	1170	178	117	121	103
28	518	280	346	e170	642	744	300	836	170	113	212	103
29	477	277	424	e180	---	690	253	662	156	129	141	608
30	420	282	462	e165	---	615	229	575	155	115	124	202
31	390	---	391	e170	---	563	---	490	---	110	120	---
TOTAL	19253	19327	26343	7832	16777	24998 *	8532	12946	9831	4030	4388	3873
MEAN	621	644	850	253	599	806	284	418	328	130	142	129
MAX	3340	3110	2740	413	2040	1480	493	2010	731	206	327	608
MIN	174	274	340	165	170	385	190	181	155	108	98	103
CFSM	2.82	2.93	3.86	1.15	2.72	3.67	1.29	1.90	1.49	.59	.64	.59
IN.	3.26	3.27	4.45	1.32	2.84	4.23	1.44	2.19	1.66	.68	.74	.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

	192	272	370	376	489	786	715	520	342	193	142	151
MEAN	192	272	370	376	489	786	715	520	342	193	142	151
MAX	816	1092	997	991	1128	1609	1928	1239	2022	623	389	898
(WY)	1991	1951	1973	1949	1976	1979	1993	1978	1972	1956	1956	1996
MIN	64.7	71.3	73.2	90.5	138	261	228	150	104	70.4	56.9	50.8
(WY)	1964	1939	1966	1940	1963	1990	1946	1976	1965	1965	1966	1995

e Estimated.

JUNIATA RIVER BASIN

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA--Continued

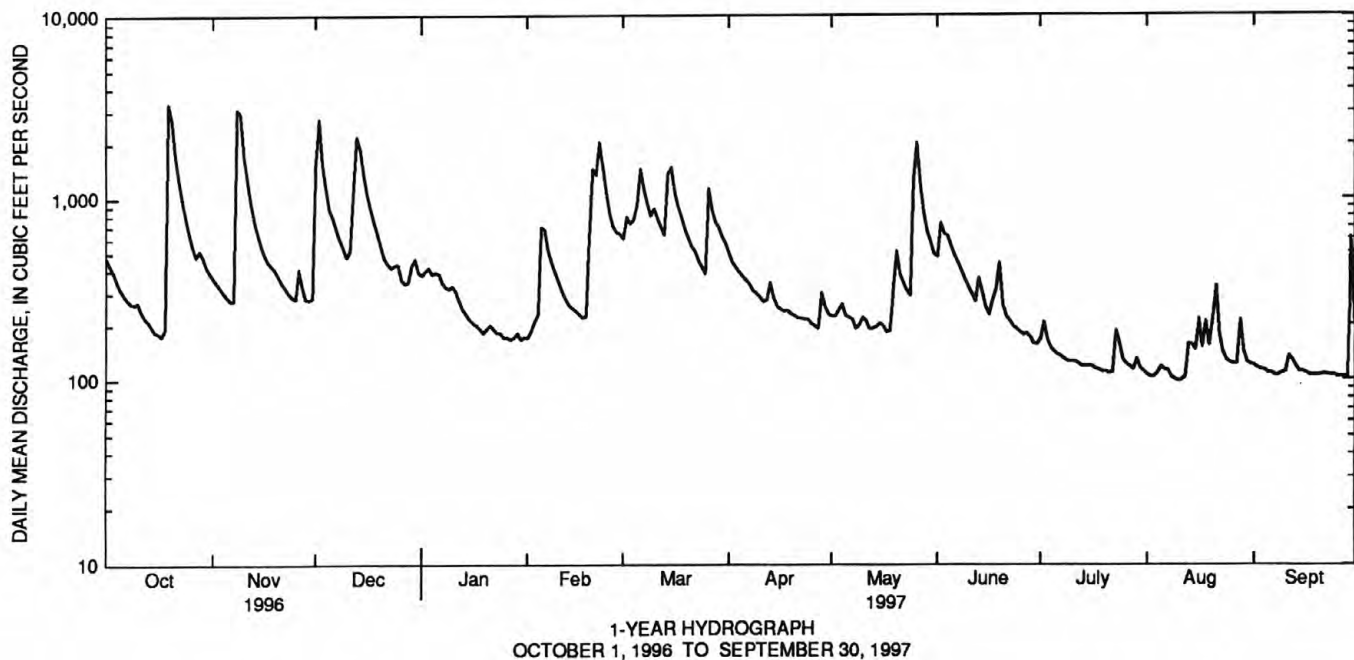
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1939 - 1997	
ANNUAL TOTAL	236141		158130		378	
ANNUAL MEAN	645		433		630	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					248	
HIGHEST DAILY MEAN	7960	Jan 19	3340	Oct 19	21100	Jun 23 1972
LOWEST DAILY MEAN	e84	Jan 13	98	Aug 10	31	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	a98	Jan 8	104	Aug 6	34	Sep 7 1995
INSTANTANEOUS PEAK FLOW			6090	Nov 8	b28600	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.00	Nov 8	16.98	Jun 23 1972
INSTANTANEOUS LOW FLOW			98	Aug 10,11	45	Sep 26 1943c
ANNUAL RUNOFF (CFSM)	2.93		1.97		1.72	
ANNUAL RUNOFF (INCHES)	39.93		26.74		23.37	
10 PERCENT EXCEEDS	1390		894		814	
50 PERCENT EXCEEDS	411		276		223	
90 PERCENT EXCEEDS	170		112		84	

a Computed using estimated daily discharges.

b From rating curve extended above 5,600 ft³/s on basis of slope-area measurement at gage height 15.77 ft.

c Also Oct. 4, 1949.

e 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). Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.87 ft, from floodmark, discharge, 81,000 ft³/s, from rating curve extended on basis of computation of peak discharge at dam and runoff comparison with downstream station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1845	11,500	8.80	Feb. 22	1115	5,710	5.87
Nov. 9	0045	*13,700	*9.59	Mar. 14	2115	6,460	6.30
Dec. 2	1000	11,200	8.66	May 26	0845	9,220	7.73
Dec. 13	1945	9,120	7.68				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1480	1170	3190	1370	723	1750	1560	697	1460	420	348	351
2	1330	1110	9400	1350	803	2130	1410	684	2270	479	353	344
3	1280	1060	5120	1440	945	2300	1300	694	2880	484	355	336
4	999	990	3570	1360	1230	2250	1220	778	2490	411	359	327
5	975	945	2810	1310	3030	2600	1160	700	2050	403	399	320
6	902	919	2520	1310	2900	4410	1120	667	1720	417	386	316
7	844	916	2250	1180	2120	3750	1070	640	1480	462	350	301
8	807	4670	1990	1090	1810	3070	995	639	1330	363	348	328
9	796	10300	1810	1060	1580	2620	953	639	1170	369	345	306
10	898	5100	1610	1100	1410	2640	922	683	1050	331	341	350
11	704	3570	1600	1060	1290	2510	883	653	958	357	343	596
12	629	2750	3530	949	1190	2270	876	617	907	351	357	654
13	589	2260	6280	892	e1050	2010	1080	602	1030	337	443	399
14	598	1940	6330	854	e1000	3480	970	598	1030	342	716	349
15	541	1710	4360	e790	e940	4880	865	663	783	336	457	332
16	540	1530	3440	e755	e900	3380	781	644	667	292	690	320
17	488	1420	2880	e730	e860	2830	792	581	775	290	546	315
18	529	1350	2460	e710	e840	2520	778	575	912	298	741	306
19	7840	1310	2170	e690	e1600	2280	758	1320	1410	338	812	291
20	8480	1200	1900	e675	4670	2070	726	1860	876	318	627	292
21	5250	1110	1620	e670	3880	1860	728	1470	724	314	1550	286
22	3770	1050	1520	e660	5390	1740	723	1220	645	345	837	285
23	2920	991	1450	e660	4370	1580	700	1060	643	648	645	276
24	2510	943	1460	e660	3190	1450	701	961	595	812	524	274
25	2080	932	1550	e660	2500	1350	677	2260	547	474	505	268
26	1790	1220	1310	e660	2140	2730	643	8250	549	422	471	269
27	1570	1250	1210	e690	1980	2510	616	4120	543	394	471	268
28	1550	986	1200	738	1880	2170	817	2680	525	370	657	274
29	1630	931	1350	795	---	1980	883	2060	497	405	567	2200
30	1400	921	1790	727	---	1850	739	1760	495	397	473	1120
31	1280	---	1440	718	---	1720	---	1540	---	377	445	---
TOTAL	56999	56554	85120	28313	56221	76690	27446	42315	33011	12356	16461	12653
MEAN	1839	1885	2746	913	2008	2474	915	1365	1100	399	531	422
MAX	8480	10300	9400	1440	5390	4880	1560	8250	2880	812	1550	2200
MIN	488	916	1200	660	723	1350	616	575	495	290	341	268
CFSM	2.25	2.31	3.36	1.12	2.46	3.03	1.12	1.67	1.35	.49	.65	.52
IN.	2.60	2.58	3.88	1.29	2.56	3.50	1.25	1.93	1.50	.56	.75	.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

	564	792	1096	1141	1449	2286	2018	1473	975	583	457	470
MAX	2114	2577	3100	2780	3059	4920	5739	3217	5562	1920	1447	2856
(WY)	1991	1951	1973	1996	1971	1994	1993	1978	1972	1989	1956	1996
MIN	146	233	232	265	379	693	747	528	313	201	163	143
(WY)	1964	1964	1966	1981	1963	1969	1946	1976	1965	1966	1966	1963

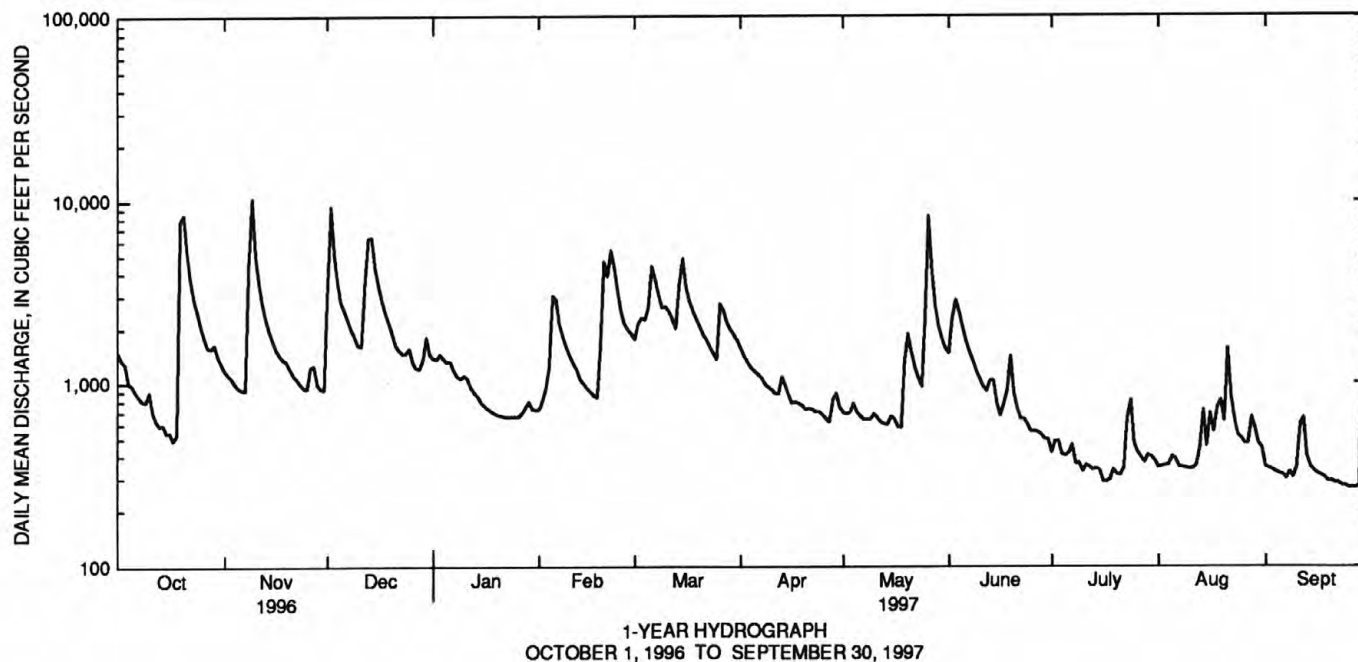
e Estimated.

JUNIATA RIVER BASIN

01559000 JUNIATA RIVER AT HUNTINGDON, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1942 - 1997	
ANNUAL TOTAL	710382		504139		1107	
ANNUAL MEAN	1941		1381		1830	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					595	
HIGHEST DAILY MEAN	21700	Jan 20	10300	Nov 9	50400	Jun 23 1972
LOWEST DAILY MEAN	327	Sep 2,3	268	Sep 25,27	40	Sep 12 1963
ANNUAL SEVEN-DAY MINIMUM	347	Aug 28	273	Sep 22	117	Sep 10 1963
INSTANTANEOUS PEAK FLOW			13700	Nov 9	a57000	Jun 23 1972
INSTANTANEOUS PEAK STAGE			9.59	Nov 9	20.03	Jun 23 1972
INSTANTANEOUS LOW FLOW			137	Jul 17	b14	Feb 8 1948
ANNUAL RUNOFF (CFSM)	2.38		1.69		1.36	
ANNUAL RUNOFF (INCHES)	32.39		22.98		18.42	
10 PERCENT EXCEEDS	3990		2820		2360	
50 PERCENT EXCEEDS	1310		931		666	
90 PERCENT EXCEEDS	495		347		267	

- 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 Protection step-backwater study.
- b Minimum recorded; Also Aug. 2, 1954.



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 September 1994, April 1997 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.--No estimated daily discharges. Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	22	49	5.8	1.4	1.7
2	---	---	---	---	---	---	---	22	157	6.2	1.4	1.6
3	---	---	---	---	---	---	---	23	161	4.5	1.4	1.7
4	---	---	---	---	---	---	---	23	137	3.9	1.4	1.7
5	---	---	---	---	---	---	---	20	110	3.7	1.4	1.6
6	---	---	---	---	---	---	---	21	85	3.5	1.4	1.7
7	---	---	---	---	---	---	---	19	67	3.4	1.4	1.6
8	---	---	---	---	---	---	---	17	51	3.3	1.3	1.6
9	---	---	---	---	---	---	---	20	41	3.1	1.3	1.8
10	---	---	---	---	---	---	---	23	34	3.1	1.3	3.2
11	---	---	---	---	---	---	---	22	28	2.8	1.4	9.7
12	---	---	---	---	---	---	---	24	24	2.7	1.4	3.7
13	---	---	---	---	---	---	---	26	31	2.6	1.8	2.7
14	---	---	---	---	---	---	---	27	22	2.5	1.8	2.4
15	---	---	---	---	---	---	17	29	18	2.4	1.4	2.2
16	---	---	---	---	---	---	16	27	15	2.5	1.9	2.0
17	---	---	---	---	---	---	17	26	15	2.5	2.3	2.0
18	---	---	---	---	---	---	17	27	12	2.6	7.2	2.1
19	---	---	---	---	---	---	17	62	11	4.4	2.6	1.9
20	---	---	---	---	---	---	16	77	9.4	3.2	11	2.2
21	---	---	---	---	---	---	15	80	8.4	3.0	9.2	2.8
22	---	---	---	---	---	---	15	69	7.7	3.7	3.9	2.2
23	---	---	---	---	---	---	15	57	6.8	7.2	3.2	2.1
24	---	---	---	---	---	---	14	46	6.2	4.1	2.6	2.1
25	---	---	---	---	---	---	13	435	5.8	3.2	2.3	2.0
26	---	---	---	---	---	---	12	519	5.7	2.5	2.1	2.0
27	---	---	---	---	---	---	12	181	5.5	2.2	2.0	1.9
28	---	---	---	---	---	---	23	111	4.8	2.5	2.1	2.7
29	---	---	---	---	---	---	20	78	4.5	2.8	1.9	40
30	---	---	---	---	---	---	20	61	4.3	1.9	1.8	9.1
31	---	---	---	---	---	---	---	50	---	1.6	1.8	---
TOTAL	---	---	---	---	---	---	---	2244	1137.1	103.4	79.4	116.0
MEAN	---	---	---	---	---	---	---	72.4	37.9	3.34	2.56	3.87
MAX	---	---	---	---	---	---	---	519	161	7.2	11	40
MIN	---	---	---	---	---	---	---	17	4.3	1.6	1.3	1.6
CFSM	---	---	---	---	---	---	---	4.36	2.28	.20	.15	.23
IN.	---	---	---	---	---	---	---	5.03	2.55	.23	.18	.26

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

MEAN	5.98	69.0	45.3	9.03	48.9	136	159	54.2	20.5	4.08	14.2	4.63
MAX	5.98	69.0	45.3	9.03	48.9	136	159	72.4	37.9	4.68	35.1	5.70
(WY)	1994	1994	1994	1994	1994	1994	1994	1997	1997	1994	1994	1994
MIN	5.98	69.0	45.3	9.03	48.9	136	159	36.0	6.87	3.34	2.56	3.87
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1994	1997	1997	1997

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

SUMMARY STATISTICS	PERIOD OF DAILY RECORD	
ANNUAL MEAN	46.6	
HIGHEST ANNUAL MEAN	46.6	1994
LOWEST ANNUAL MEAN	46.6	1994
HIGHEST DAILY MEAN	800	Nov 28 1993
LOWEST DAILY MEAN	1.2	Sep 20 1993
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 4 1997
INSTANTANEOUS PEAK FLOW	1220	Nov 28 1993
INSTANTANEOUS PEAK STAGE	10.50	Nov 28 1993
INSTANTANEOUS LOW FLOW	1.2	Sep 20 1993
ANNUAL RUNOFF (CFSM)	2.80	
ANNUAL RUNOFF (INCHES)	38.11	
10 PERCENT EXCEEDS	73	
50 PERCENT EXCEEDS	8.4	
90 PERCENT EXCEEDS	2.0	

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued
(National Water-Quality Assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD: April 1993 to September 1995. April 1997 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1993 to September 1995.

WATER TEMPERATURE: December 1993 to September 1995. April 1997 to current year.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--The low intensity water-quality sampling phase (LIP) for the 1991-start National Water-Quality Assessment (NAWQA) Program study units began in 1997 and will continue until 2000. For this phase of the program, two of the original seven fixed sites were chosen for continued monitoring. Bobs Creek was chosen because it is the LIP forested reference site located in an area that is underlain by sandstone and shale bedrock to which data from the other LIP site, East Mahantango Creek at Klingerstown, can be compared to assess the effects of land use. Between April 1997 and September 1997, water-quality samples were collected monthly for nutrients, major ions, and pesticides. Invertebrate, algal, and fish community data also were collected.

Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 94 microsiemens, Feb. 28, 1995; minimum, 51 microsiemens, Aug. 17, 1994.

WATER TEMPERATURE: Maximum, 22.5°C, July 20, 1994; minimum, 0.0°C, many days during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLE PURPOSE CODE (71999)	SAMPLER TYPE (CODE) (84164)	SAM- PLING METHOD, CODES (82398)	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)
APR												
14...	1200	1028	80020	15	8010	10	19	70	6.9	--	5.5	756
MAY												
06...	1115	1028	80020	15	3045	10	23	66	7.4	9.5	9.5	720
JUN												
05...	1415	1028	80020	15	3045	10	110	66	7.2	22.0	11.0	726
05...	1416	1028	80020	15	3045	10	110	66	7.2	22.0	11.0	726
JUL												
10...	0900	1028	80020	15	3045	10	3.1	74	7.4	17.0	15.0	728
AUG												
05...	1030	1028	80020	15	3045	10	1.4	76	7.4	18.5	16.5	723
05...	1031	1028	80020	15	3045	10	1.4	76	7.4	18.5	16.5	723
SEP												
02...	1020	1028	80020	15	3045	10	1.6	79	7.3	18.5	16.0	729
DATE		OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (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)	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 WAT.DIS FET FIELD HCO3 (MG/L) (29804)	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)
APR												
14...	12.6	101	22	15	5.3	2.2	2.8	21	0.2	0.82	8.9	0
MAY												
06...	10.5	97	23	14	5.3	2.3	2.1	16	0.2	0.99	11	0
JUN												
05...	10.3	98	22	15	5.0	2.2	1.9	15	0.2	0.89	9.8	0
05...	10.3	98	22	15	5.0	2.2	1.9	15	0.2	0.92	9.5	0
JUL												
10...	9.1	95	25	15	5.7	2.5	2.5	17	0.2	1.1	14	0
AUG												
05...	8.9	96	25	13	5.9	2.5	2.7	18	0.2	1.1	18	0
05...	8.9	96	25	13	5.9	2.5	2.7	18	0.2	1.1	18	0
SEP												
02...	9.0	96	26	14	6.2	2.5	2.9	19	0.2	1.2	17	0

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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 DIS TOT IT FIELD (MG/L AS CAC03) (39086)	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)
APR 14...	7	7	0	5	12	5.3	<0.1	4.4	43	40	0.06	2.19
MAY 06...	9	10	0	8	11	3.4	<0.1	4.6	32	38	0.04	1.63
JUN 05...	8	8	0	7	11	3.2	<0.1	5.5	40	39	0.05	11.8
JUN 05...	8	8	0	7	11	3.2	<0.1	5.6	39	39	0.05	11.5
JUL 10...	11	12	0	10	10	4.4	<0.1	5.5	40	42	0.05	0.35
AUG 05...	14	15	0	13	10	4.6	<0.1	4.4	40	41	0.05	0.15
AUG 05...	14	15	0	13	10	4.5	<0.1	4.4	40	41	0.05	0.15
SEP 02...	14	15	0	12	9.4	4.8	<0.1	3.6	44	40	0.06	0.19

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, 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)	PHOS- PHORUS DIS- SOLVED 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)	PHOS- PHORUS ORGANIC TOTAL (MG/L AS P) (00670)	IRON, DIS- SOLVED (µG/L AS FE) (01046)
APR 14...	<0.010	0.870	<0.015	--	<0.20	<0.20	0.010	<0.010	<0.010	--	0.01	5.0
MAY 06...	<0.010	0.780	<0.015	--	<0.20	<0.20	<0.010	<0.010	<0.010	--	--	3.8
JUN 05...	<0.010	1.13	<0.015	--	<0.20	<0.20	<0.010	<0.010	0.012	0.04	--	4.8
JUN 05...	<0.010	1.14	<0.015	--	<0.20	<0.20	<0.010	<0.010	0.012	0.04	--	3.2
JUL 10...	<0.010	0.746	0.372	0.48	<0.20	<0.20	<0.010	<0.010	0.017	0.05	--	4.6
AUG 05...	<0.010	0.558	0.031	0.04	<0.20	<0.20	<0.010	<0.010	0.020	0.06	--	9.2
AUG 05...	<0.010	0.559	0.031	0.04	<0.20	<0.20	<0.010	<0.010	0.019	0.06	--	9.6
SEP 02...	<0.010	0.464	<0.015	--	<0.20	<0.20	<0.010	0.019	0.014	0.04	--	4.3

DATE	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	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)	ACETO- CHLOR, WATER FLTRD REC (µG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (µG/L) (46342)	ALPHA BHC DIS- SOLVED (µG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (µG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 µ GF, REC (µG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (µG/L) (04028)
APR 14...	1	26	0.9	2	0.10	50	<0.002	<0.002	<0.002	0.013	<0.002	<0.002
MAY 06...	2	26	--	6	0.31	50	0.012	0.004	<0.002	0.015	<0.002	<0.002
JUN 05...	2	24	--	4	1.2	80	<0.002	<0.002	<0.002	0.049	<0.002	<0.002
JUN 05...	2	24	--	5	1.5	78	<0.002	<0.002	<0.002	0.053	<0.002	<0.002
JUL 10...	4	30	--	3	0.03	70	<0.002	<0.002	<0.002	0.019	<0.002	<0.002
AUG 05...	4	30	--	1	0.00	67	<0.002	<0.002	<0.002	0.011	<0.002	<0.002
AUG 05...	4	30	--	2	0.01	50	<0.002	<0.002	<0.002	0.012	<0.002	<0.002
SEP 02...	7	32	--	5	0.02	42	<0.002	<0.002	<0.002	0.006	<0.002	<0.002

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	DEETHYL ATRA-ZINE, WATER, DISS, REC (µG/L) (04040)	DI-AZINON, DIS-SOLVED (µG/L) (39572)	DI-ELDRIN DIS-SOLVED (µG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 µ GF, REC (µG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 µ GF, REC (µG/L) (82677)	EPTC WATER FLTRD 0.7 µ GF, REC (µG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82663)	
	APR 14...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.012	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
	MAY 06...	<0.003	<0.003	<0.004	0.009	<0.002	E0.012	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
JUN	05...	<0.003	<0.003	<0.004	0.012	<0.002	E0.009	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
	05...	<0.003	<0.003	<0.004	0.016	<0.002	E0.010	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
JUL 10...	<0.003	<0.003	<0.004	<0.004	E0.004	E0.012	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	
AUG	05...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.007	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
	05...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.006	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004
SEP 02...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.007	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	
DATE	ETHO-PROP WATER FLTRD 0.7 µ GF, REC (µG/L) (82672)	FONOFOS WATER DISS REC (µG/L) (04095)	LINDANE DIS-SOLVED (µG/L) (39341)	LIN-URON WATER FLTRD 0.7 µ GF, REC (µG/L) (82666)	MALA-THION, DIS-SOLVED (µG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 µ GF, REC (µG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 µ GF, REC (µG/L) (82667)	METO-LACHLOR WATER DISSOLV (µG/L) (39415)	METRI-BUZIN WATER DISSOLV (µG/L) (82630)	MOL-INATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82684)	P, P' DDE DISSOLV (µG/L) (34653)	
	APR 14...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006
	MAY 06...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.009	<0.004	<0.004	<0.003	<0.006
JUN	05...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006
	05...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006
JUL 10...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006	
AUG	05...	<0.003	<0.003	<0.004	<0.002	<0.005	--	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006
	05...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006
SEP 02...	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	<0.006	
DATE	PARA-THION, DIS-SOLVED (µG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 µ GF, REC (µG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 µ GF, REC (µG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 µ GF, REC (µG/L) (82687)	PHORATE WATER FLTRD 0.7 µ GF, REC (µG/L) (82664)	PRO-METON, WATER, DISS, REC (µG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 µ GF, REC (µG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (µG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 µ GF, REC (µG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 µ GF, REC (µG/L) (82685)	SI-MAZINE, WATER, DISS, REC (µG/L) (04035)		
	APR 14...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
	MAY 06...	<0.004	<0.004	0.006	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
JUN	05...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
	05...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
JUL 10...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005		
AUG	05...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
	05...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005	
SEP 02...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003	<0.007	<0.004	<0.013	<0.005		

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	DIAZ- INON D10 SRG WAT FLT 0.7 μ GF, REC PERCENT (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 μ GF, REC PERCENT (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 μ GF, REC PERCENT (91065)	REP- LICATE TYPE (CODE) (99105)	QUALITY ASSUR- ANCE DATA INDICA- TOR CODE (99111)
APR 14...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	92.7	111	93.3	--	10
MAY 06...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	87.6	122	93.4	--	--
JUN 05...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	81.9	109	104	20.00	30
JUN 05...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	84.0	112	109	20.00	--
JUL 10...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	112	123	97.7	--	--
AUG 05...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	87.3	113	96.6	20.00	30
AUG 05...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	79.6	110	86.4	20.00	--
SEP 02...	<0.010	<0.007	<0.013	<0.002	<0.001	<0.002	85.3	105	101	--	--

DATE	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) ()	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)
APR 14...	--	--	--	--	--
MAY 06...	--	--	--	--	--
JUN 05...	--	--	--	--	--
JUN 05...	--	--	--	--	--
JUL 08...	210	220	3.3	2.5	0.91
JUL 10...	--	--	--	--	--
AUG 05...	--	--	--	--	--
AUG 05...	--	--	--	--	--
SEP 02...	--	--	--	--	--

JUNIATA RIVER BASIN

01559795 BOBS CREEK NEAR PAVIA, PA--Continued

REMARKS.--The following analyses are quality control samples processed during the 1997 water year and are defined in the explanation of records section entitled, "Water Quality-Control Data". Explanation of column headings and abbreviations-- NUT&ION: nutrient and major ion.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SAMPLE TYPE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLE PURPOSE CODE (71999)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	
APR 14...	1145	NUT&ION BLANK	1028	80020	15	0.042	<0.01	<0.20	<0.10	<0.10	
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)	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)
APR 14...	<0.10	<0.1	<0.01	<1	<0.010	<0.050	<0.015	<0.20	<0.20	0.010	
DATE		PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P) (00670)	IRON, DIS-SOLVED (MG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (MG/L AS MN) (01056)	STRON-TIUM, DIS-SOLVED (MG/L AS SR) (01080)	BLANK, TYPE OF SOLUTION (CODE) (99100)	BLANK, SOURCE OF SOLUTION (CODE) (99101)	BLANK, TYPE OF SAMPLE (CODE) (99102)	REF-ERENCE MATERIAL/ SPIKE SOURCE (CODE) (99104)
APR 14...	<0.010	<0.010	0.01	<3.0	<1.0	<0.50	10	80	100	94152	

JUNIATA RIVER BASIN
01559795 BOBS CREEK NEAR PAVIA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, APRIL 1997 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	14.0	9.5	11.5
2	---	---	---	---	---	---	---	---	---	12.5	8.0	10.0
3	---	---	---	---	---	---	---	---	---	13.0	9.5	11.0
4	---	---	---	---	---	---	---	---	---	11.0	8.0	9.5
5	---	---	---	---	---	---	---	---	---	12.5	6.0	9.0
6	---	---	---	---	---	---	---	---	---	13.5	9.5	10.5
7	---	---	---	---	---	---	---	---	---	12.5	7.0	9.5
8	---	---	---	---	---	---	---	---	---	8.5	6.5	7.5
9	---	---	---	---	---	---	---	---	---	11.5	8.0	9.5
10	---	---	---	---	---	---	---	---	---	9.0	7.0	8.0
11	---	---	---	---	---	---	---	---	---	12.5	5.5	9.0
12	---	---	---	---	---	---	---	---	---	12.0	8.5	10.0
13	---	---	---	---	---	---	---	---	---	11.0	8.5	9.5
14	---	---	---	---	---	---	---	---	---	10.0	7.5	9.0
15	---	---	---	---	---	---	9.5	3.5	6.0	12.0	8.5	10.0
16	---	---	---	---	---	---	10.5	4.5	7.5	11.0	7.0	8.5
17	---	---	---	---	---	---	9.0	6.0	7.5	11.0	7.0	9.0
18	---	---	---	---	---	---	7.5	4.0	5.5	13.5	8.0	10.5
19	---	---	---	---	---	---	9.0	2.5	5.5	15.5	11.5	13.0
20	---	---	---	---	---	---	9.5	3.5	6.5	13.5	10.0	12.0
21	---	---	---	---	---	---	7.5	4.5	6.0	10.5	8.0	9.5
22	---	---	---	---	---	---	10.0	4.5	7.0	11.5	7.0	9.0
23	---	---	---	---	---	---	8.5	6.5	7.5	12.0	7.0	9.5
24	---	---	---	---	---	---	11.0	7.0	8.5	13.5	8.5	11.0
25	---	---	---	---	---	---	11.0	7.0	9.0	12.0	10.0	11.5
26	---	---	---	---	---	---	12.5	6.0	9.0	11.5	9.0	10.0
27	---	---	---	---	---	---	9.5	6.5	8.5	11.5	8.0	9.5
28	---	---	---	---	---	---	10.0	7.5	8.5	11.5	8.0	10.0
29	---	---	---	---	---	---	13.0	5.5	9.0	10.5	8.5	9.5
30	---	---	---	---	---	---	13.5	7.0	10.5	12.5	9.5	11.0
31	---	---	---	---	---	---	---	---	---	11.5	10.5	11.5
MONTH	---	---	---	---	---	---	13.5	2.5	7.6	15.5	5.5	10.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.0	11.0	11.5	16.5	16.0	16.5	---	---	---	---	---	---
2	12.5	10.5	12.0	18.0	16.0	17.0	---	---	---	---	---	---
3	10.5	9.0	10.0	20.0	16.5	18.0	---	---	---	---	---	---
4	12.0	8.5	10.0	18.5	17.0	18.0	---	---	---	---	---	---
5	12.0	9.0	10.5	17.0	15.0	16.0	---	---	---	---	---	---
6	11.5	9.0	10.5	16.5	13.5	15.5	---	---	---	---	---	---
7	11.0	10.0	10.5	17.0	14.5	16.0	---	---	---	---	---	---
8	12.0	9.0	10.5	18.5	15.0	16.5	---	---	---	---	---	---
9	13.0	9.5	11.0	17.5	15.5	16.5	---	---	---	---	---	---
10	13.5	10.5	12.0	18.5	15.5	16.5	---	---	---	---	---	---
11	13.5	11.5	12.5	18.5	14.5	16.5	---	---	---	---	---	---
12	14.0	12.5	13.0	19.0	15.0	17.0	---	---	---	---	---	---
13	14.5	13.0	13.5	19.5	16.0	17.5	---	---	---	---	---	---
14	15.0	13.0	14.0	20.5	16.5	18.5	---	---	---	---	---	---
15	15.0	11.5	13.5	---	---	---	---	---	---	---	---	---
16	15.0	12.0	13.5	---	---	---	---	---	---	---	---	---
17	16.5	14.0	15.0	---	---	---	---	---	---	---	---	---
18	16.0	14.5	15.0	---	---	---	---	---	---	---	---	---
19	17.5	14.5	16.0	---	---	---	---	---	---	---	---	---
20	18.0	14.5	16.0	---	---	---	---	---	---	---	---	---
21	19.0	15.5	17.0	---	---	---	---	---	---	---	---	---
22	18.5	16.0	17.0	---	---	---	---	---	---	---	---	---
23	18.5	15.0	16.5	---	---	---	---	---	---	---	---	---
24	19.0	15.0	17.0	---	---	---	---	---	---	---	---	---
25	20.0	16.0	18.0	---	---	---	---	---	---	---	---	---
26	18.5	17.0	18.0	---	---	---	---	---	---	---	---	---
27	18.5	15.5	17.0	---	---	---	---	---	---	---	---	---
28	18.0	14.5	16.5	---	---	---	---	---	---	---	---	---
29	18.5	15.0	16.5	---	---	---	---	---	---	---	---	---
30	17.0	15.0	16.0	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	20.0	8.5	14.0	20.5	13.5	16.9	---	---	---	---	---	---

JUNIATA RIVER BASIN

01560000 DUNNING CREEK AT BELDEN, PA

LOCATION.--Lat 40°04'18", long 78°29'34", Bedford County, Hydrologic Unit 02050303, on left bank 10 ft upstream from highway bridge on SR 1014, 0.8 mi southeast of Belden, 3.8 mi north of Bedford, and 4.3 mi upstream from mouth.

DRAINAGE AREA.--172 mi².

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

REVISED RECORDS.--WSP 971: 1940(M). WSP 1502: 1940-41. WDR PA-72-1: 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 1,051.16 ft above sea level.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 17.8 ft, Mar. 18, 1936, from floodmarks (backwater from Raystown Branch Juniata River), discharge, about 16,900 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	2145	4,400	9.55	May 26	0600	*5,780	*9.92
Dec. 2	0945	4,340	8.89	June 27	1245	2,330	6.55
Dec. 13	1330	2,510	6.80				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	199	147	1110	246	e110	434	289	113	227	40	20	19
2	179	140	3420	261	e150	770	241	115	1580	48	19	17
3	167	131	1490	270	e200	751	210	113	1520	42	19	17
4	140	123	896	259	450	867	192	115	1680	37	19	17
5	125	118	635	247	1380	1070	175	102	939	34	18	17
6	114	114	544	227	1020	1870	165	97	592	32	18	17
7	107	112	449	190	729	1230	154	102	413	32	18	17
8	100	2230	386	167	573	876	134	90	303	31	18	17
9	105	2910	351	e150	440	694	127	104	227	30	17	17
10	116	1050	304	e140	361	745	119	112	174	30	17	19
11	96	609	422	e125	307	650	112	108	142	29	17	39
12	84	420	818	e115	271	578	111	104	120	27	18	35
13	79	322	1800	e105	225	480	150	109	180	26	37	26
14	75	267	1480	e100	e200	1110	118	113	149	26	31	22
15	72	219	959	e94	e180	1010	105	114	104	24	25	21
16	69	190	698	e90	e165	769	98	108	87	24	22	19
17	67	170	551	e86	e150	611	96	101	83	22	22	18
18	70	164	443	e84	e200	528	96	96	95	21	32	19
19	372	159	373	e80	778	605	95	291	107	22	36	19
20	977	144	292	e78	1730	468	92	328	80	22	53	18
21	849	129	234	e76	1360	399	88	311	71	21	133	18
22	614	119	222	e74	1820	371	87	287	64	21	47	17
23	446	109	222	e80	1230	328	85	238	58	32	35	17
24	362	105	239	e86	792	291	85	193	53	39	31	17
25	297	101	234	e85	552	263	79	1410	49	41	27	17
26	249	314	166	e80	438	857	74	4460	46	33	26	17
27	221	197	168	e74	397	785	70	1260	46	30	24	17
28	209	155	202	e86	396	646	123	661	43	27	23	23
29	203	153	272	e125	---	523	114	426	41	28	22	327
30	175	168	297	e110	---	420	107	324	39	27	20	80
31	157	---	248	e100	---	355	---	245	---	23	19	---
TOTAL	7095	11289	19925	4090	16604	21354	3791	12350	9312	921	883	960
MEAN	229	376	643	132	593	689	126	398	310	29.7	28.5	32.0
MAX	977	2910	3420	270	1820	1870	289	4460	1680	48	133	327
MIN	67	101	166	74	110	263	70	90	39	21	17	17
CFSM	1.33	2.19	3.74	.77	3.45	4.00	.73	2.32	1.80	.17	.17	.19
IN.	1.53	2.44	4.31	.88	3.59	4.62	.82	2.67	2.01	.20	.19	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

MEAN	99.3	162	256	259	359	561	439	273	173	94.6	57.2	61.6
MAX	798	702	859	664	825	1408	1370	662	1015	740	214	547
(WY)	1977	1986	1973	1952	1971	1994	1993	1960	1972	1989	1979	1996
MIN	14.0	18.3	20.0	45.8	65.2	129	112	45.7	25.6	8.96	8.05	9.86
(WY)	1970	1954	1944	1981	1963	1990	1946	1941	1965	1966	1966	1985

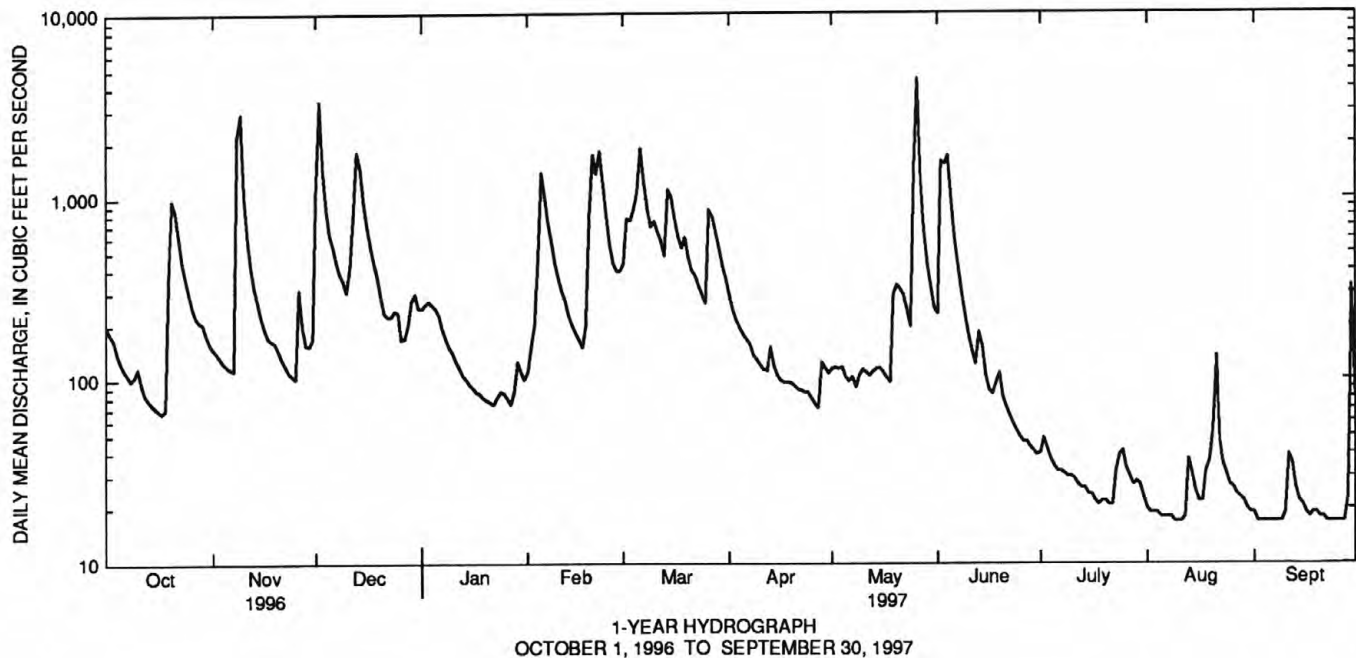
e Estimated.

JUNIATA RIVER BASIN

01560000 DUNNING CREEK AT BELDEN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1940 - 1997	
ANNUAL TOTAL	158237		108574		232	
ANNUAL MEAN	432		297		378	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					107	
HIGHEST DAILY MEAN	4780	Jan 20	4460	May 26	9140	Jun 23 1972
LOWEST DAILY MEAN	45	Sep 3	17	Aug 9-11a	6.4	Sep 6 1964
ANNUAL SEVEN-DAY MINIMUM	51	Aug 29	17	Sep 2	6.7	Aug 5 1966
INSTANTANEOUS PEAK FLOW			5780	May 26	b19400	Jul 20 1977
INSTANTANEOUS PEAK STAGE			9.92	May 26	14.15	Jul 20 1977
INSTANTANEOUS LOW FLOW			16	Sep 7	2.6	Sep 6 1964
ANNUAL RUNOFF (CFSM)	2.51		1.73		1.35	
ANNUAL RUNOFF (INCHES)	34.22		23.48		18.35	
10 PERCENT EXCEEDS	897		781		568	
50 PERCENT EXCEEDS	224		119		100	
90 PERCENT EXCEEDS	85		21		20	

a Also Sept. 2-9, 22-27.

b From rating curve extended above 9,200 ft³/s on basis of contracted-opening measurement at gage height 12.67 ft and contracted-opening and flow-over-road measurement at gage height 13.03 ft.

JUNIATA RIVER BASIN

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA

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.

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. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 23.0 ft at present site and datum, from floodmarks, discharge, about 71,300 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 7,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	0715	10,700	10.14	Dec. 2	1300	*13,600	*11.45

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	930	801	2200	1060	e610	1280	1230	425	911	236	150	126
2	836	717	11500	981	e710	1580	1050	417	1820	253	141	123
3	772	672	6650	1080	e900	2170	910	416	4730	259	136	118
4	717	623	4000	995	1520	2140	872	448	5010	254	136	114
5	641	580	2950	1020	3190	3000	812	414	4040	228	136	109
6	587	553	2420	920	4150	5180	763	387	2800	208	139	108
7	553	536	e2010	884	3100	4890	762	361	2040	197	133	109
8	543	1320	e1750	e740	2500	3610	691	349	1540	189	129	109
9	568	9180	e1520	e660	2000	2840	626	350	1200	185	125	109
10	610	4920	e1350	e605	1720	2410	593	366	994	183	123	114
11	604	3090	1380	e560	1410	2380	565	388	828	174	123	139
12	515	2370	2120	e510	1200	1980	548	363	721	168	119	232
13	458	2050	4220	e470	e1070	1700	567	352	757	160	134	273
14	430	1740	5770	e440	e960	2000	661	355	805	156	146	222
15	414	1540	4050	e425	e880	4110	525	360	707	150	157	180
16	397	1320	3070	e410	e800	3090	477	354	539	151	159	167
17	372	1030	2440	e390	e760	2480	461	341	481	145	151	144
18	396	926	2120	e385	e700	2150	499	331	484	142	174	139
19	3450	910	1750	e380	e950	2270	448	426	790	142	196	135
20	4750	873	1550	e375	3780	2220	431	583	715	142	265	132
21	4540	785	1140	e375	4110	1940	415	646	490	142	327	122
22	3420	719	1110	e380	4180	1770	416	578	417	146	435	113
23	2750	667	1350	e410	3880	1590	428	539	373	200	291	111
24	2270	621	1090	e450	2840	1410	392	491	341	205	211	107
25	1890	588	1090	e410	2120	1300	385	1230	315	225	178	107
26	1530	850	954	e415	1730	1460	373	5390	295	231	160	107
27	1230	1730	821	e390	1530	2380	386	4800	286	234	150	107
28	1120	1200	833	e465	1400	2000	372	2500	272	193	149	113
29	1070	1010	932	e650	---	1690	404	1690	263	176	135	306
30	980	969	1100	e600	---	1530	431	1290	244	161	129	810
31	887	---	1090	e550	---	1370	---	1070	---	150	129	---
TOTAL	40230	44890	76330	18385	54700	71920	17493	28010	35208	5785	5266	4905
MEAN	1298	1496	2462	593	1954	2320	583	904	1174	187	170	164
MAX	4750	9180	11500	1080	4180	5180	1230	5390	5010	259	435	810
MIN	372	536	821	375	610	1280	372	331	244	142	119	107
CFSM	1.72	1.98	3.26	.78	2.58	3.07	.77	1.20	1.55	.25	.22	.22
IN.	1.98	2.21	3.76	.90	2.69	3.54	.86	1.38	1.73	.28	.26	.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1997, BY WATER YEAR (WY)

	434	594	871	1023	1429	2123	1727	1230	742	409	269	278
MEAN	434	594	871	1023	1429	2123	1727	1230	742	409	269	278
MAX	3561	2630	3254	3477	4817	7669	5811	3425	4625	2847	851	2357
(WY)	1977	1986	1973	1937	1979	1936	1993	1924	1972	1989	1915	1996
MIN	59.5	65.3	93.6	132	138	459	338	211	134	66.6	55.1	57.6
(WY)	1964	1931	1931	1981	1934	1990	1915	1926	1965	1966	1966	1963

e Estimated.

JUNIATA RIVER BASIN

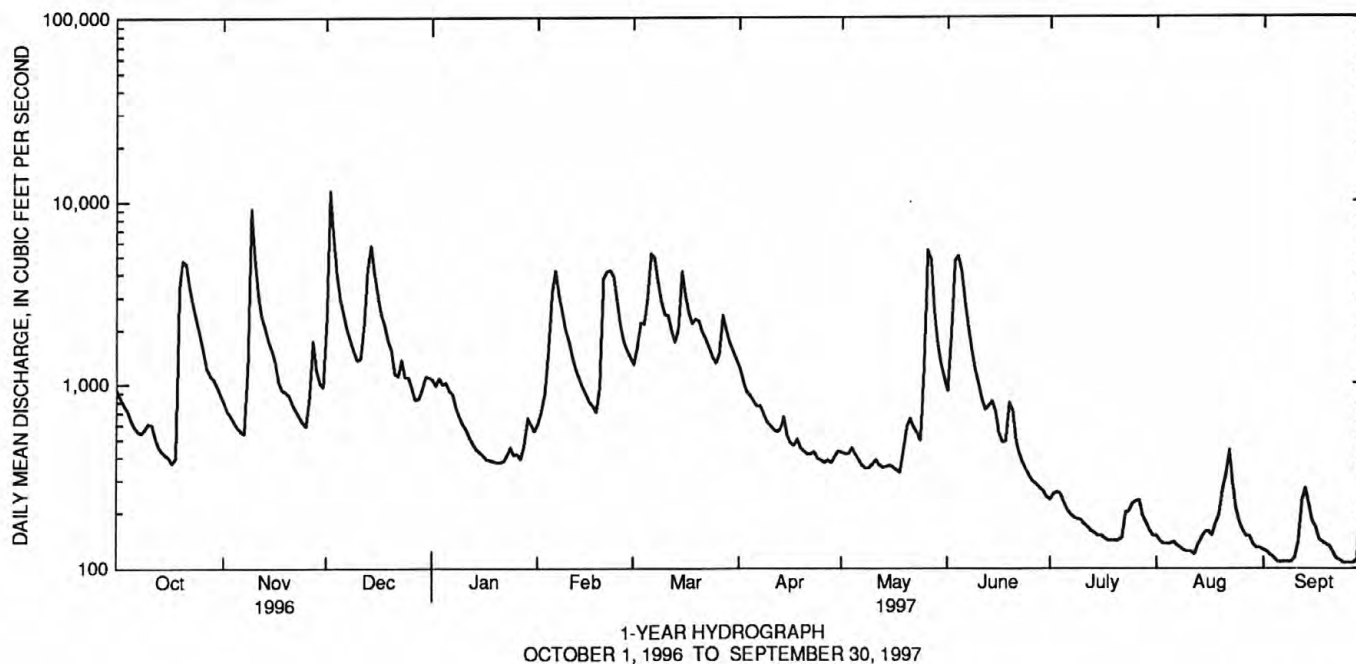
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01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1912 - 1997	
ANNUAL TOTAL	663965		403122			
ANNUAL MEAN	1814		1104		925	
HIGHEST ANNUAL MEAN					1575	1996
LOWEST ANNUAL MEAN					402	1969
HIGHEST DAILY MEAN	31600	Jan 20	11500	Dec 2	58300	Mar 18 1936
LOWEST DAILY MEAN	191	Sep 3	107	Sep 24-27	39	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	226	Aug 29	109	Sep 22	41	Sep 7 1966
INSTANTANEOUS PEAK FLOW			13600	Dec 2	a80500	Mar 18 1936
INSTANTANEOUS PEAK STAGE			11.45	Dec 2	b24.54	Mar 18 1936
INSTANTANEOUS LOW FLOW			107	Sep 5-7, 24-28	39	Sep 6 1966
ANNUAL RUNOFF (CFSM)	2.40		1.46		1.22	
ANNUAL RUNOFF (INCHES)	32.67		19.84		16.62	
10 PERCENT EXCEEDS	3930		2770		2190	
50 PERCENT EXCEEDS	1110		604		426	
90 PERCENT EXCEEDS	399		140		120	

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

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. Satellite telemetry at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 667,010 acre-ft, Apr. 3, 1993, elevation, 802.89 ft; minimum, 2,240 acre-ft, March 2, 1973, elevation, 628.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 527,940 acre-ft, Dec. 3, elevation, 787.64 ft; minimum, 495,460 acre-ft, Mar. 14, elevation, 783.84 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
Sept. 30	787.12	523,520	--
Oct. 31	784.04	497,140	-429
Nov. 30	785.11	506,260	+153
Dec. 31	786.27	516,300	+163
CAL YR 1996.....	--	--	+ 70
Jan. 31	786.32	516,720	+ 6.8
Feb. 28	786.01	514,080	- 48
Mar. 31	784.19	498,420	-255
Apr. 30	785.03	505,560	+120
May 31	786.59	519,020	+219
June 30	786.41	517,480	- 26
July 31	786.29	516,460	- 17
Aug. 31	786.17	515,440	- 17
Sept. 30	785.99	513,910	- 26
WTR YR 1997.....	--	--	- 13.2

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. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 31.0 ft, discharge, 87,000 ft³/s, at previous site and datum, by computation of peak discharge at dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	791	1380	1250	959	2420	1600	219	1590	238	211	199
2	971	791	6740	1180	961	2420	1330	218	2300	240	213	199
3	822	791	11600	1180	1040	2890	1160	222	3950	237	213	199
4	756	726	7580	1180	1400	3250	1150	222	5820	237	207	199
5	737	625	3500	1180	2650	3260	1160	222	5750	226	214	199
6	820	432	3740	1180	5010	4980	978	222	3710	219	213	199
7	629	310	3030	1180	4660	6800	840	222	2070	214	212	199
8	507	1010	2330	1040	3570	6790	840	222	1790	207	213	199
9	395	6990	1810	943	2960	5910	630	222	1200	201	213	199
10	701	7710	1380	946	2500	3660	479	222	925	199	213	201
11	819	3870	1470	946	1600	2490	472	222	923	199	210	201
12	819	2510	2010	838	1590	2470	475	222	905	199	208	199
13	820	2500	5320	627	1590	1890	474	222	908	199	208	199
14	921	1940	9030	507	1590	2020	460	219	888	199	204	199
15	975	1590	6360	457	1380	3520	444	220	888	198	204	199
16	966	1590	3870	452	1250	4200	468	277	765	201	199	199
17	997	1220	2720	450	1110	4200	491	316	616	199	199	199
18	1030	972	1860	448	1020	3050	489	258	570	201	200	199
19	3460	972	2070	448	1230	2430	487	220	831	203	199	199
20	8040	954	2070	448	3690	2420	487	279	928	204	202	199
21	8720	861	1790	451	5070	2420	487	354	1040	211	199	199
22	8560	797	1230	452	4250	2420	485	379	711	211	199	199
23	7400	722	990	500	4250	2230	484	377	470	255	199	199
24	5150	678	990	532	3720	1780	339	435	465	207	199	199
25	2750	679	1060	731	2720	1600	216	909	465	206	199	198
26	1580	1110	1100	865	1810	1610	216	6130	388	207	235	199
27	1570	1530	1100	864	1600	1920	217	7270	338	208	199	202
28	1420	1440	1100	923	1880	2260	219	5010	317	211	200	205
29	1180	1160	1100	960	---	1940	217	2270	303	208	199	237
30	1200	1030	1260	959	---	1740	219	1600	265	208	199	203
31	927	---	1360	961	---	1780	---	1600	---	209	199	---
TOTAL	66972	48301	92950	25078	67060	92770	18013	31002	42089	6561	6381	6024
MEAN	2160	1610	2998	809	2395	2993	600	1000	1403	212	206	201
MAX	8720	7710	11600	1250	5070	6800	1600	7270	5820	255	235	237
MIN	395	310	990	448	959	1600	216	218	265	198	199	198

JUNIATA RIVER BASIN

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	828	1005	1358	1291	1782	2498	2259	1412	830	564	354	466
MAX	4616	3778	4204	4768	3999	7104	8605	3438	2241	3484	802	3007
(WY)	1977	1974	1973	1996	1984	1994	1993	1978	1989	1989	1979	1996
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 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1973 - 1997

ANNUAL TOTAL	829319	503201	
ANNUAL MEAN	2266	1379	
HIGHEST ANNUAL MEAN			1217
LOWEST ANNUAL MEAN			1989
HIGHEST DAILY MEAN	14300	Jan 23	15400
LOWEST DAILY MEAN	201	Sep 4	5.0
ANNUAL SEVEN-DAY MINIMUM	210	Aug 29	8.3
INSTANTANEOUS PEAK FLOW			16200
INSTANTANEOUS PEAK STAGE			13.55
10 PERCENT EXCEEDS	5370	3670	2870
50 PERCENT EXCEEDS	1280	820	522
90 PERCENT EXCEEDS	485	199	199

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

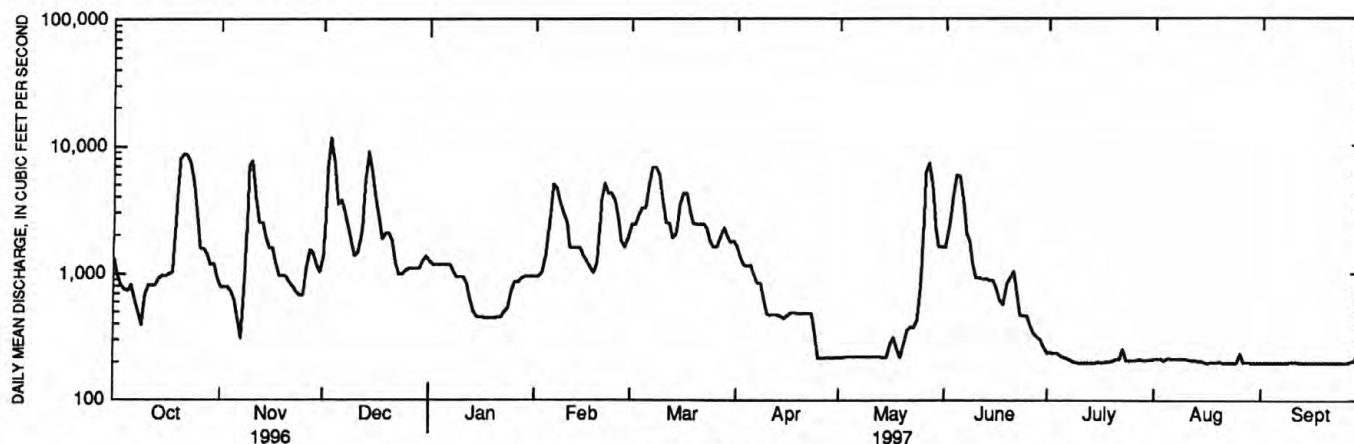
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	343	651	985	1195	1649	2695	2132	1500	875	442	303	229
MAX	1587	2796	2877	2915	4150	4481	4632	3346	5740	1722	925	648
(WY)	1955	1971	1951	1949	1971	1963	1970	1960	1972	1972	1956	1950
MIN	64.7	65.3	131	220	317	754	683	482	180	80.1	66.0	67.6
(WY)	1964	1958	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	

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.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 38.2 ft, from floodmark, discharge, 165,000 ft³/s from rating curve extended above 39,000 ft³/s on basis of runoff comparison with upstream and downstream stations.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3290	2390	5310	3100	1930	4600	3630	1100	3450	859	614	617
2	2800	2310	20600	2950	2050	5000	3180	1090	4650	911	608	606
3	2640	2230	18800	3040	2330	5710	2810	1090	7200	921	602	598
4	2140	2090	12600	2940	3030	6040	2730	1190	8480	841	606	570
5	2050	1950	7140	2870	6700	6560	2660	1110	8020	815	652	562
6	2030	1700	6980	2870	8910	10200	2470	1070	6140	788	660	555
7	1810	1510	6250	2710	7530	11400	2220	1050	3910	855	625	546
8	1720	5150	4970	2490	6130	10400	2130	1040	3530	729	575	560
9	1480	20400	4400	2320	5090	9030	1920	1040	2790	730	566	545
10	1820	14700	3560	2370	4560	7050	1650	1090	2270	698	563	617
11	1900	8460	3660	2300	3310	5660	1590	1060	2150	690	560	765
12	1790	6040	6350	2070	3190	5310	1590	1010	2070	688	573	878
13	1740	5440	13500	1740	3060	4500	1830	992	2330	680	625	709
14	1810	4590	18400	1600	3010	6040	1720	995	2360	656	875	617
15	1810	3820	12000	1510	2850	9810	1540	1070	2050	673	704	593
16	1860	3590	8410	e1420	2580	8400	1490	1100	1810	571	790	580
17	1810	3170	6610	e1340	2410	7640	1500	1080	1610	608	795	562
18	1930	2730	5020	e1300	2240	6380	1480	1040	1950	604	838	555
19	15300	2690	4920	e1270	3100	5340	1490	1740	3910	606	993	546
20	22500	2560	4570	e1270	8630	5080	1420	2650	2400	634	833	534
21	16200	2360	3950	e1290	9780	4830	1420	2260	2180	613	1650	527
22	13300	2180	3290	e1320	10400	4670	1420	1930	1820	611	1090	530
23	11200	2050	2850	e1420	9390	4310	1380	1730	1350	986	816	523
24	8520	1920	2880	1590	7580	3700	1310	1630	1300	1250	738	520
25	5880	1900	3110	1710	5940	3330	1080	3640	1250	842	676	510
26	4050	2620	2830	1880	4550	4800	1040	16700	1170	766	681	510
27	3760	3290	2710	1810	4060	5060	1000	12000	1070	719	648	521
28	3590	2880	2700	1910	4110	4940	1210	8620	1020	689	750	527
29	3410	2510	2880	1980	---	4540	1370	5010	953	687	843	2390
30	3160	2330	3600	1920	---	4040	1160	3830	925	702	677	1570
31	2730	---	3310	1920	---	4020	---	3600	---	651	628	---
TOTAL	150030	121560	208160	62230	138450	188390	53440	84557	86118	23073	22854	20243
MEAN	4840	4052	6715	2007	4945	6077	1781	2728	2871	744	737	675
MAX	22500	20400	20600	3100	10400	11400	3630	16700	8480	1250	1650	2390
MIN	1480	1510	2700	1270	1930	3330	1000	992	925	571	560	510

e Estimated.

JUNIATA RIVER BASIN

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1769	2226	3092	2863	3870	5501	4982	3321	2106	1383	946	1178
MAX	7397	5802	8006	8972	8159	14040	15970	7725	5274	6123	2020	6926
(WY)	1977	1986	1973	1996	1984	1994	1993	1978	1989	1989	1979	1996
MIN	494	579	872	481	1269	1612	1781	1309	679	608	528	484
(WY)	1992	1979	1981	1981	1993	1990	1997	1976	1991	1988	1974	1995

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1973 - 1997	
ANNUAL TOTAL	1781396		1159105			
ANNUAL MEAN	4867		3176		2763	
HIGHEST ANNUAL MEAN					4119	
LOWEST ANNUAL MEAN					1360	
HIGHEST DAILY MEAN	37300		Jan 20		37300	
LOWEST DAILY MEAN	640		Sep 3		416	
ANNUAL SEVEN-DAY MINIMUM	693		Aug 29		423	
INSTANTANEOUS PEAK FLOW			25600		57600	
INSTANTANEOUS PEAK STAGE			14.69		22.47	
10 PERCENT EXCEEDS	11900		7160		6070	
50 PERCENT EXCEEDS	3070		1950		1610	
90 PERCENT EXCEEDS	1320		614		569	

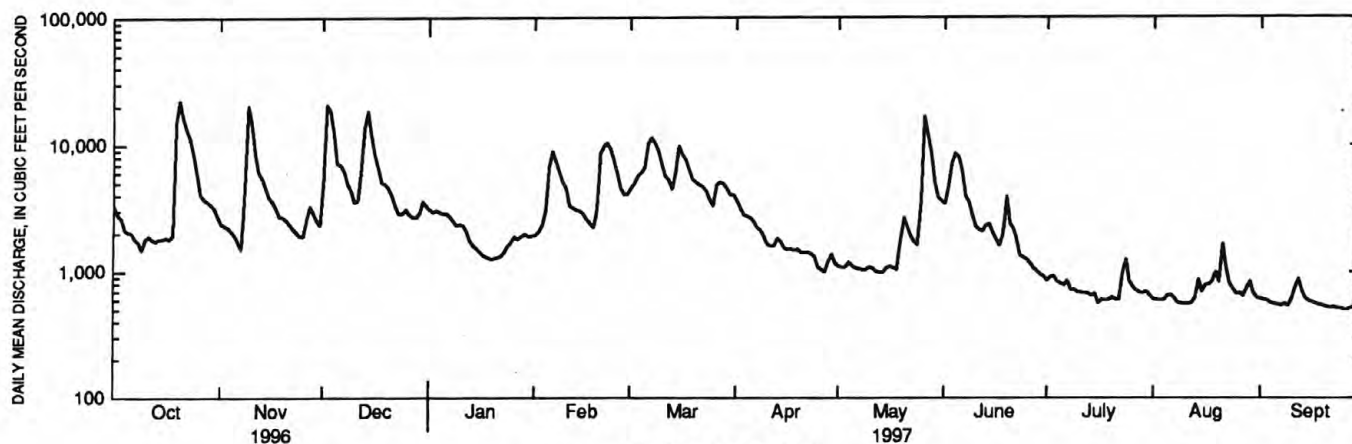
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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	

a From rating curve extended above 39,000 ft³/s on basis of runoff comparison with upstream and downstream stations.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1500	5,620	11.74	Dec. 13	1730	3,950	10.13
Nov. 9	0500	2,600	8.57	May 26	0430	2,340	8.21
Dec. 2	1000	*6,240	*12.27				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	197	1120	240	e180	235	236	86	247	36	21	19
2	160	181	4620	238	e210	305	206	81	627	39	20	18
3	146	165	1630	238	e250	299	192	78	584	72	19	17
4	127	150	1020	222	e300	330	186	77	725	43	19	16
5	113	140	707	217	e940	493	178	75	609	35	25	15
6	106	133	655	217	1030	1460	170	70	452	32	26	15
7	101	130	570	183	684	1100	165	73	336	30	26	15
8	103	345	472	158	529	757	153	69	270	29	23	15
9	125	1830	435	e145	426	569	143	70	213	29	20	15
10	125	944	370	e130	349	492	135	82	172	29	19	18
11	108	623	358	e120	301	423	130	78	146	27	18	29
12	90	455	528	e115	268	352	130	72	134	27	18	52
13	81	359	2390	e110	231	297	151	68	e140	25	19	37
14	78	306	2010	e105	215	700	142	68	e150	24	22	27
15	73	262	1140	e100	e200	1130	124	67	e130	23	26	23
16	67	226	814	e96	e190	712	116	66	e110	22	25	21
17	66	206	648	e92	e175	544	109	63	e90	23	22	20
18	105	200	527	e90	e165	469	111	60	83	22	30	20
19	3950	203	453	e88	e300	486	109	89	141	20	32	20
20	3120	183	367	e86	756	433	102	96	116	20	54	20
21	1650	162	288	e86	668	380	99	82	89	20	115	19
22	1130	151	325	e84	665	356	95	69	77	19	65	19
23	802	139	268	e92	512	311	95	64	63	41	38	18
24	654	130	272	e105	416	275	94	63	54	69	30	18
25	499	124	280	e120	347	251	93	452	49	56	26	18
26	397	335	212	e180	306	330	88	1680	46	43	24	18
27	339	355	200	e150	294	314	84	780	44	34	22	17
28	312	261	207	e200	255	270	92	472	42	29	22	19
29	300	241	246	e260	---	259	105	339	38	27	21	131
30	253	236	293	e200	---	248	92	261	36	24	20	92
31	225	---	255	e195	---	248	---	244	---	23	19	---
TOTAL	15593	9372	23680	4662	11162	14828	3925	5994	6013	992	886	801
MEAN	503	312	764	150	399	478	131	193	200	32.0	28.6	26.7
MAX	3950	1830	4620	260	1030	1460	236	1680	725	72	115	131
MIN	66	124	200	84	165	235	84	60	36	19	18	15
CFSM	2.45	1.52	3.73	.73	1.94	2.33	.64	.94	.98	.16	.14	.13
IN.	2.83	1.70	4.30	.85	2.03	2.69	.71	1.09	1.09	.18	.16	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
MEAN	114	186	273	258	382	573	468	311	193	87.2	64.9	67.4
MAX	656	946	890	1062	1399	1612	1296	798	1985	848	355	978
(WY)	1977	1951	1973	1996	1984	1994	1993	1960	1972	1989	1967	1996
MIN	6.59	18.4	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

e Estimated.

JUNIATA RIVER BASIN

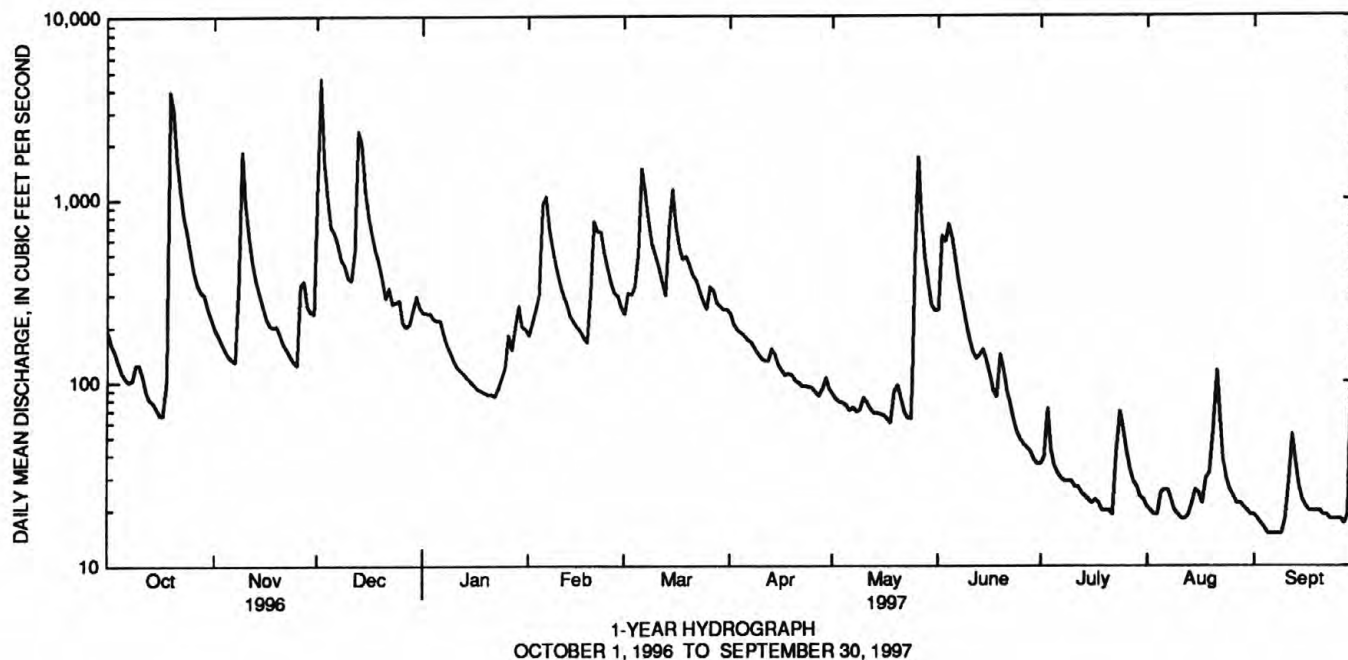
01564500 AUGHWICK CREEK NEAR THREE SPRINGS, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1939 - 1997	
ANNUAL TOTAL	201767		97908		247	
ANNUAL MEAN	551		268		486	
HIGHEST ANNUAL MEAN					105	
LOWEST ANNUAL MEAN					18700	
HIGHEST DAILY MEAN	e6600	Jan 20	4620	Dec 2		Jun 23 1972
LOWEST DAILY MEAN	33	Sep 3	15	Sep 5-9	.80	Sep 3 1966
ANNUAL SEVEN-DAY MINIMUM	39	Aug 29	15	Sep 3	1.2	Aug 29 1966
INSTANTANEOUS PEAK FLOW			6240	Dec 2	a32600	Jan 19 1996
INSTANTANEOUS PEAK STAGE			12.27	Dec 2	20.85	Jan 19 1996
INSTANTANEOUS LOW FLOW			15	Sep 5-9	.80	Sep 2 1966b
ANNUAL RUNOFF (CFSM)	2.69		1.31		1.21	
ANNUAL RUNOFF (INCHES)	36.61		17.77		16.39	
10 PERCENT EXCEEDS	1130		615		583	
50 PERCENT EXCEEDS	280		131		101	
90 PERCENT EXCEEDS	87		21		15	

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.

e Estimated.



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.

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 poor. Flow regulated since October 1972 by Raystown Dam (station 01563100) about 75 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 35.9 ft, from floodmarks, discharge, 209,000 ft³/s, from rating curve extended above 100,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5600	4840	5830	5460	3640	5940	5770	2030	5390	1390	969	919
2	5080	4360	32400	5170	3760	6440	5190	1850	5520	1430	904	854
3	4400	4080	37000	4980	4110	7170	4690	1830	9300	1390	869	821
4	3950	3880	26100	5000	4600	7890	4230	2010	11500	1370	858	793
5	3550	3710	17200	4860	8200	8710	4080	1960	12300	1330	993	775
6	3310	3510	12800	4760	14800	11900	3960	1970	11000	1230	950	740
7	3180	3270	12500	4600	14100	17400	3790	1880	8200	1170	923	731
8	3120	3940	10500	4290	11300	16200	3400	1840	5810	1140	922	731
9	2910	18000	8970	4060	9190	14300	3260	1840	5190	1150	877	722
10	2610	27700	7830	3860	7650	12400	3090	1920	4360	1040	804	803
11	2620	18600	6660	e3600	6770	10100	2680	1940	3590	1030	802	6740
12	2940	12500	7580	e3400	5350	8360	2580	1960	3340	984	784	3280
13	2700	9430	16500	e3000	4970	7560	2730	1910	3550	974	825	2080
14	2600	8270	34000	e2700	4760	7300	2840	1880	3520	965	898	1680
15	2560	7140	27000	e2700	4630	13800	2800	1880	3470	945	903	1390
16	2650	5960	18800	e2600	4520	15300	2510	1900	3050	915	1100	1210
17	2630	5480	14100	e2200	4160	12600	2410	1910	2770	978	978	1110
18	2630	5130	11400	e1900	3910	11300	2350	1920	2480	867	1080	1060
19	14700	4650	9260	e1700	4070	9420	2290	2070	3960	933	1060	1000
20	41000	4490	8570	e1900	6690	8280	2240	2740	5410	877	1240	944
21	33300	4260	7480	e2300	13600	7700	2190	4100	3730	836	1850	908
22	23900	3960	6480	e2700	14200	7210	2150	3700	3170	852	1960	867
23	19500	3640	5750	e2900	14700	6790	2140	3130	2850	1140	1980	843
24	16500	3460	5260	e3000	12700	6210	2110	2810	2100	2360	1350	829
25	13000	3240	5490	e3100	10400	5450	2080	3070	1940	2250	1130	827
26	9640	3480	5400	e3000	8420	5490	1840	11700	1840	1640	1030	802
27	7120	4400	4880	e3000	6930	7200	1710	21800	1800	1310	939	788
28	6470	5060	4670	e3400	6210	7080	1850	15500	1630	1170	1050	780
29	6190	4490	4760	e3200	---	6770	1950	10700	1540	1140	1190	1530
30	5830	4090	5470	e3000	---	6330	2180	7190	1450	1030	1070	3010
31	5310	---	5860	e3200	---	5830	---	5820	---	973	1060	---
TOTAL	261500	199020	386500	105540	218340	284430	87090	128760	135760	36809	33348	39567
MEAN	8435	6634	12470	3405	7798	9175	2903	4154	4525	1187	1076	1319
MAX	41000	27700	37000	5460	14800	17400	5770	21800	12300	2360	1980	6740
MIN	2560	3240	4670	1700	3640	5450	1710	1830	1450	836	784	722

e Estimated.

JUNIATA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2845	3585	5378	4900	6356	8842	8256	5464	3487	2319	1535	1994
MAX	11610	8494	13770	15810	15070	23500	25780	13940	8510	12080	3637	13220
(WY)	1977	1986	1973	1996	1984	1994	1993	1978	1982	1989	1979	1996
MIN	730	871	1262	495	1779	2576	2898	2363	1084	864	774	586
(WY)	1992	1979	1990	1981	1980	1990	1995	1977	1991	1988	1995	1986

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1973 - 1997

ANNUAL TOTAL	3106456	1916664	
ANNUAL MEAN	8488	5251	4569
HIGHEST ANNUAL MEAN			7166
LOWEST ANNUAL MEAN			2271
HIGHEST DAILY MEAN	92300	Jan 20	92300
LOWEST DAILY MEAN	842	Sep 4	450
ANNUAL SEVEN-DAY MINIMUM	941	Aug 30	461
INSTANTANEOUS PEAK FLOW			a103000
INSTANTANEOUS PEAK STAGE			15.85
10 PERCENT EXCEEDS	19700		10300
50 PERCENT EXCEEDS	5460		2750
90 PERCENT EXCEEDS	2040		843

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1972, BY WATER YEAR (WY) (PRIOR TO REGULATION)

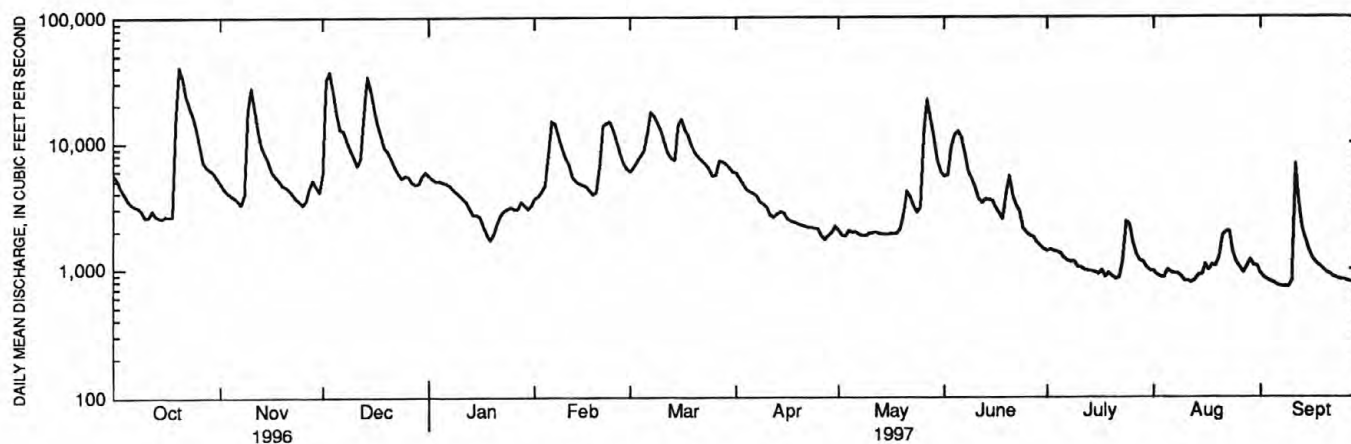
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1820	2658	3649	4621	5570	9856	8097	5797	3612	2072	1563	1419
MAX	8108	10880	11310	13300	16160	33600	17160	14870	25050	7865	4605	6890
(WY)	1928	1951	1902	1937	1915	1936	1940	1908	1972	1972	1905	1911
MIN	351	418	471	841	943	2340	2026	1319	890	455	327	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	

a From rating curve extended above 100,000 ft³/s, on basis of slope-area measurement of peak flow.

b From floodmark in gage.

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.--WDR 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 poor. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 250 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)	<u>Date</u>	<u>Time</u>	<u>Discharge</u> (ft ³ /s)	<u>Gage height</u> (ft)
Oct. 19	0345	380	5.90	Dec. 1	2400	717	6.95
Oct. 19	1430	327	5.66	Dec. 13	1545	409	6.01
Nov. 8	2030	481	6.27	Sept. 11	0015	*1,660	*8.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	19	142	23	24	18	18	9.2	11	6.3	3.4	2.9
2	16	18	258	24	43	23	16	8.6	29	8.6	3.3	2.7
3	15	16	97	24	39	19	16	9.4	35	6.8	3.5	3.0
4	14	15	67	22	27	25	15	8.5	32	5.9	4.0	2.8
5	13	14	53	23	143	43	15	7.7	25	5.6	4.3	2.9
6	13	14	60	20	66	65	14	8.0	21	5.4	3.7	3.1
7	13	13	49	18	48	47	e14	7.6	19	5.3	3.3	3.1
8	15	201	45	16	39	39	e14	7.2	17	5.1	3.3	3.1
9	12	176	42	17	33	32	e14	8.7	15	4.9	3.4	3.3
10	9.5	91	36	18	28	30	13	8.2	13	4.9	3.5	87
11	8.3	62	42	16	25	27	13	7.6	12	4.7	3.6	241
12	7.8	47	45	14	23	23	15	7.3	12	4.7	3.7	37
13	7.8	39	279	e12	20	20	16	7.6	13	4.6	5.6	21
14	7.6	33	165	e11	21	68	13	7.5	11	4.6	4.8	14
15	7.2	29	100	13	22	56	12	7.0	9.8	4.4	4.3	11
16	7.2	26	76	16	20	43	11	6.0	9.2	4.3	4.5	9.9
17	7.2	24	65	12	18	36	12	5.8	9.1	4.5	4.7	8.6
18	31	24	53	e9.5	28	32	11	6.1	9.4	6.5	5.9	8.3
19	276	23	49	e9.0	68	29	11	11	11	8.2	4.6	7.5
20	126	21	37	e9.0	47	27	10	7.4	8.4	6.9	16	7.4
21	85	19	31	e10	43	24	10	6.1	7.9	6.7	9.4	7.5
22	64	18	29	11	42	23	10	5.6	7.5	7.0	5.8	6.9
23	53	16	29	13	31	20	9.9	5.5	6.9	23	4.8	6.9
24	47	16	34	13	27	17	9.9	5.4	6.7	23	4.1	6.7
25	36	15	29	40	23	16	9.5	32	6.5	9.0	3.8	6.5
26	30	30	24	21	22	29	8.9	28	6.2	6.5	3.5	6.7
27	27	18	24	16	23	21	9.1	18	6.2	5.3	3.3	6.4
28	29	16	25	25	19	19	15	15	5.7	4.6	4.7	7.9
29	25	16	33	17	---	19	10	13	e5.6	4.1	3.4	37
30	23	16	27	15	---	18	9.5	13	e6.1	3.6	3.0	11
31	20	---	25	15	---	22	---	12	---	3.5	2.9	---
TOTAL	1062.6	1085	2070	522.5	1012	930	374.8	310.0	387.2	208.5	142.1	583.1
MEAN	34.3	36.2	66.8	16.9	36.1	30.0	12.5	10.0	12.9	6.73	4.58	19.4
MAX	276	201	279	40	143	68	18	32	35	23	16	241
MIN	7.2	13	24	9.0	18	16	8.9	5.4	5.6	3.5	2.9	2.7
CFSM	2.29	2.41	4.45	1.12	2.41	2.00	.83	.67	.86	.45	.31	1.30
IN.	2.64	2.69	5.13	1.30	2.51	2.31	.93	.77	.96	.52	.35	1.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1997, BY WATER YEAR (WY)

MEAN	11.0	15.1	19.8	18.7	28.2	39.8	32.9	23.1	17.7	11.9	6.81	8.01
MAX	48.6	61.9	66.8	80.9	91.0	135	122	81.2	172	112	32.3	55.9
(WY)	1977	1957	1997	1996	1984	1994	1993	1978	1972	1989	1955	1996
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

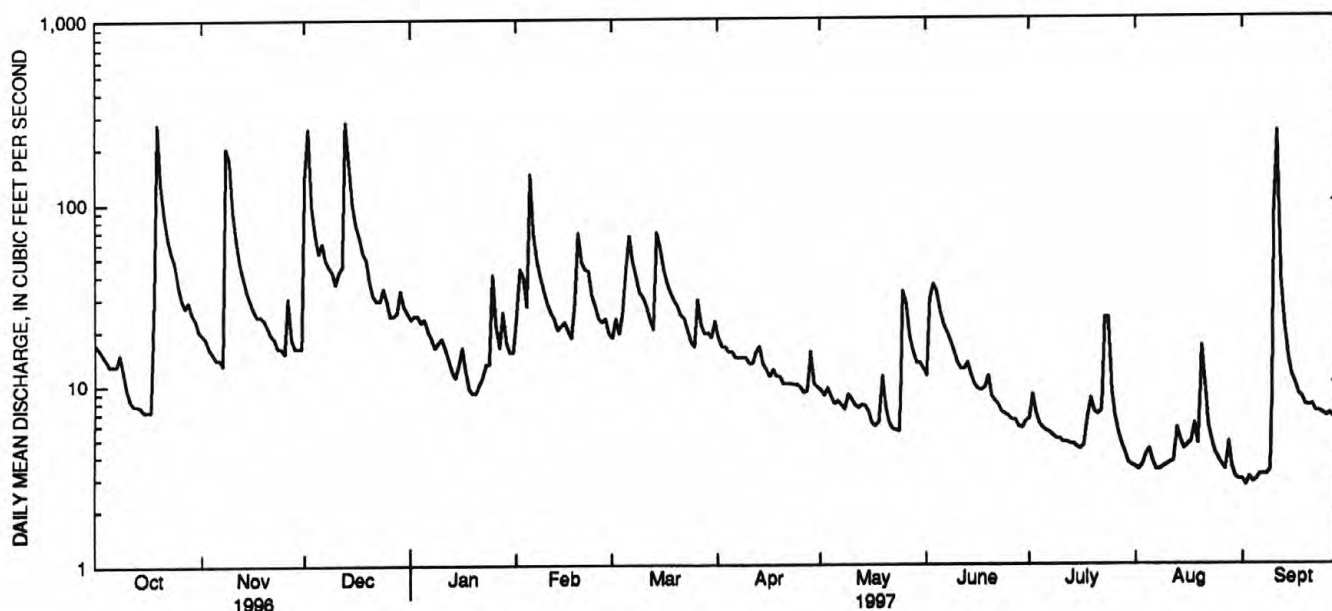
e Estimated.

SHERMAN CREEK BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1954 - 1997	
ANNUAL TOTAL	14996.3		8687.8		19.5	
ANNUAL MEAN	41.0		23.8		7.59	
HIGHEST ANNUAL MEAN					42.6	
LOWEST ANNUAL MEAN					1972	
HIGHEST DAILY MEAN	592	Jan 27	279	Dec 13	2120	Jun 22 1972
LOWEST DAILY MEAN	5.8	Aug 20	2.7	Sep 2	1.9	Sep 1 1966
ANNUAL SEVEN-DAY MINIMUM	b6.0	Jan 8	2.9	Aug 30	1.9	Sep 6 1966
INSTANTANEOUS PEAK FLOW			1660	Sep 11	c16000	Jun 20 1989
INSTANTANEOUS PEAK STAGE			a8.47	Sep 11	d12.90	Jun 20 1989
INSTANTANEOUS LOW FLOW			2.6	Sep 2,3	1.5	Feb 2 1959
ANNUAL RUNOFF (CFSM)	2.73		1.59		1.30	
ANNUAL RUNOFF (INCHES)	37.19		21.55		17.65	
10 PERCENT EXCEEDS	83		46		38	
50 PERCENT EXCEEDS	25		14		9.5	
90 PERCENT EXCEEDS	8.1		4.6		3.5	

- a From peak indicator.
b Computed using estimated daily discharges.
c From rating curve extended above 2,700 ft³/s on basis of contracted-opening and flow-over-road measurement of peak flow.
d From outside floodmark; 12.19 ft in gage well.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

SHERMAN CREEK BASIN

01568000 SHERMAN CREEK AT SHERMANS DALE, PA

LOCATION.--Lat 40°19'24", long 77°10'09", Perry County, Hydrologic Unit 02050305, on left bank on downstream side of bridge on State Highway 34 at Shermans Dale, and 1.2 mi upstream from Fishing Run.

DRAINAGE AREA.--207 mi², revised.

PERIOD OF RECORD.--October 1929 to current year. Prior to October 1962, published as "at Shermandale".

REVISED RECORDS.--WSP 1302: 1930 (M). WSP 1502: 1933, 1934 (M), 1935-36.

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 poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1927, reached a stage of 20.34 ft, from floodmark, discharge, about 44,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 3,000 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Oct. 19	1145	5,180	8.21	Dec. 13	1915	5,780	8.67
Nov. 9	0130	4,430	7.58	Sept. 11	0700	*8,520	*10.52
Dec. 2	0700	5,880	8.75				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	302	1210	327	282	304	263	123	155	57	48	42
2	218	281	4230	320	372	340	219	119	316	87	40	41
3	205	257	1560	326	415	346	206	121	653	105	43	40
4	183	233	1030	306	413	354	201	128	567	77	46	39
5	170	218	796	300	1210	497	193	117	413	62	62	37
6	163	208	900	301	974	1020	189	106	324	56	53	36
7	158	201	846	256	681	767	186	109	271	53	49	35
8	166	1200	723	228	552	624	173	103	237	51	43	34
9	201	2750	671	e210	467	529	167	111	206	51	41	34
10	175	1220	569	e190	397	492	161	122	182	54	39	139
11	151	829	544	e170	353	452	157	113	165	45	38	3430
12	138	646	626	e150	319	389	163	106	154	46	40	563
13	133	535	3510	e140	283	342	208	103	152	44	41	276
14	129	471	2850	e140	266	911	174	104	148	42	47	185
15	122	411	1450	e140	287	1310	152	100	133	40	49	146
16	119	367	1070	e130	279	796	144	94	120	40	46	120
17	119	341	899	e120	247	646	142	93	111	39	42	105
18	172	328	767	e120	248	566	141	93	115	42	50	97
19	4220	321	690	e110	509	513	139	136	139	49	70	87
20	2890	291	586	e110	773	474	137	136	119	40	137	81
21	1600	263	472	e120	605	423	131	101	101	38	347	77
22	1110	244	440	e150	681	387	129	90	93	36	130	70
23	872	223	426	e190	562	338	125	87	87	185	83	67
24	836	212	438	256	475	300	127	84	78	461	65	66
25	655	202	474	530	414	277	124	191	74	194	58	64
26	539	500	368	513	382	335	119	586	70	110	66	63
27	472	399	343	329	381	317	113	315	69	84	54	60
28	455	296	341	e300	341	267	164	228	62	72	56	59
29	431	279	388	e270	---	254	158	189	63	67	57	361
30	376	269	440	e250	---	242	130	176	62	54	48	182
31	338	---	355	256	---	275	---	165	---	55	44	---
TOTAL	17761	14297	30012	7258	13168	15087	4835	4449	5439	2436	2032	6636
MEAN	573	477	968	234	470	487	161	144	181	78.6	65.5	221
MAX	4220	2750	4230	530	1210	1310	263	586	653	461	347	3430
MIN	119	201	341	110	247	242	113	84	62	36	38	34
CFSM	2.77	2.30	4.68	1.13	2.27	2.35	.78	.69	.88	.38	.32	1.07
IN.	3.19	2.57	5.39	1.30	2.37	2.71	.87	.80	.98	.44	.37	1.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	147	246	319	317	401	606	545	391	211	119	101	101
MAX	905	924	968	1144	1253	1941	1675	1196	1969	1187	777	954
(WY)	1977	1971	1997	1996	1984	1936	1993	1978	1972	1989	1933	1996
MIN	18.5	22.1	22.7	22.0	54.3	133	161	88.8	48.4	18.9	18.1	18.6
(WY)	1964	1931	1931	1981	1931	1931	1997	1941	1965	1966	1930	1930

e Estimated.

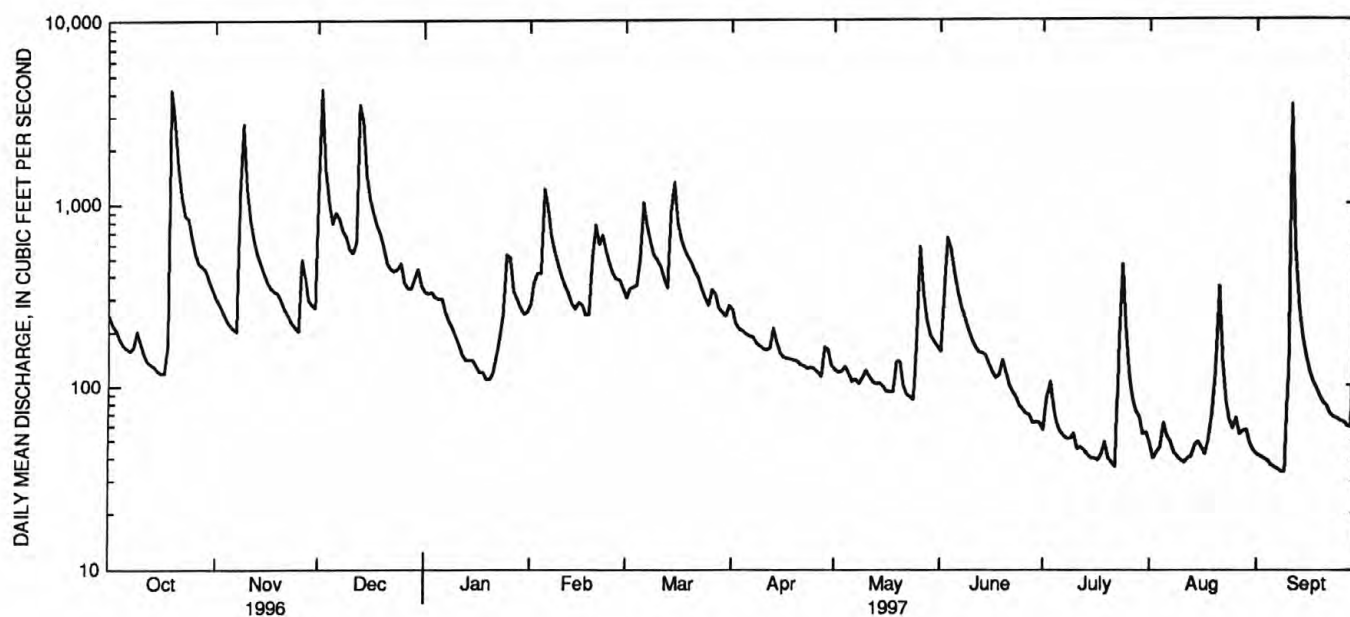
SHERMAN CREEK BASIN

01568000 SHERMAN CREEK AT SHERMANS DALE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1930 - 1997	
ANNUAL TOTAL	220305		123410		291	
ANNUAL MEAN	602		338		122	
HIGHEST ANNUAL MEAN					544	
LOWEST ANNUAL MEAN					122	
HIGHEST DAILY MEAN	7720	Sep 7	4230	Dec 2	18300	Jun 23 1972
LOWEST DAILY MEAN	45	Sep 4	34	Sep 8,9	10	Dec 24 1930
ANNUAL SEVEN-DAY MINIMUM	52	Aug 29	36	Sep 3	11	Dec 19 1930
INSTANTANEOUS PEAK FLOW			8520	Sep 11	c27500	Jun 23 1972
INSTANTANEOUS PEAK STAGE			a10.52	Sep 11	18.09	Jun 23 1972
INSTANTANEOUS LOW FLOW			34	Aug 13b	3.9	Dec 1 1930
ANNUAL RUNOFF (CFSM)	2.91		1.63		1.41	
ANNUAL RUNOFF (INCHES)	39.59		22.18		19.12	
10 PERCENT EXCEEDS	1200		675		650	
50 PERCENT EXCEEDS	369		189		142	
90 PERCENT EXCEEDS	104		49		31	

a From peak indicator.

b Also Sept. 7-10.

c From rating curve extended above 18,000 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 8.8 ft, discharge not determined, and flood in June 1972 reached a stage of 8.4 ft, from information by local resident, discharge not determined.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 130 ft³/s and maximum (*):

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Oct. 19	0400	182	4.64	Mar. 14	1415	132	4.40
Nov. 8	2145	174	4.60	May 25	2015	136	4.42
Dec. 2	0400	190	4.68	July 23	1700	176	4.61
Dec. 13	1830	257	4.96	Sept. 11	0700	*265	*4.99
Dec. 15	0700	132	4.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	57	74	71	63	62	60	45	44	37	37	32
2	51	56	132	71	62	60	59	45	69	42	37	31
3	50	55	94	70	62	61	58	46	71	37	36	33
4	50	54	86	68	63	63	57	45	62	37	46	30
5	49	53	83	69	78	72	56	44	57	36	52	30
6	48	52	91	67	71	75	56	45	55	36	40	30
7	47	52	91	66	68	71	55	44	53	36	38	30
8	53	88	90	65	67	69	54	44	52	35	36	29
9	50	102	87	64	65	67	53	46	49	35	36	29
10	49	82	84	64	64	66	53	45	48	35	35	85
11	47	74	84	64	63	65	52	44	47	34	35	160
12	46	70	80	62	62	64	55	43	47	34	34	73
13	46	67	177	61	60	64	53	43	47	34	50	62
14	45	65	164	61	61	96	51	42	46	33	39	56
15	45	63	127	61	62	85	51	42	45	33	36	52
16	44	62	114	66	61	77	51	41	44	33	36	49
17	44	61	106	61	60	75	51	41	44	32	35	46
18	53	60	100	59	60	73	50	44	46	31	41	45
19	145	59	98	59	62	72	50	47	47	32	36	42
20	96	57	92	57	64	70	49	41	43	32	62	41
21	85	57	88	57	63	69	49	40	42	31	52	40
22	78	55	85	57	63	68	48	39	41	32	45	38
23	75	55	84	57	63	66	48	39	40	99	41	37
24	70	55	84	62	62	65	48	39	40	89	39	36
25	67	54	81	81	62	64	48	84	39	58	37	36
26	65	74	79	69	62	69	47	63	39	52	52	34
27	64	59	77	65	61	63	47	52	37	47	38	34
28	63	57	76	74	60	63	52	49	39	44	36	36
29	61	56	77	69	---	62	47	47	38	42	34	56
30	60	56	74	66	---	61	46	47	37	40	34	38
31	58	---	72	64	---	66	---	45	---	39	33	---
TOTAL	1856	1867	2931	2007	1774	2123	1554	1421	1408	1267	1238	1370
MEAN	59.9	62.2	94.5	64.7	63.4	68.5	51.8	45.8	46.9	40.9	39.9	45.7
MAX	145	102	177	81	78	96	60	84	71	99	62	160
MIN	44	52	72	57	60	60	46	39	37	31	33	29
CFSM	2.77	2.88	4.38	3.00	2.93	3.17	2.40	2.12	2.17	1.89	1.85	2.11
IN.	3.20	3.22	5.05	3.46	3.06	3.66	2.68	2.45	2.42	2.18	2.13	2.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

MEAN	35.6	35.9	43.0	44.5	49.0	58.9	61.7	52.1	44.8	40.2	34.9	34.2
MAX	79.6	62.2	94.5	92.0	84.4	123	126	84.5	71.3	68.3	54.5	68.4
(WY)	1977	1997	1997	1979	1979	1994	1993	1978	1996	1996	1989	1996
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

CONODOGUINET CREEK BASIN

01569800 LETORT SPRING RUN NEAR CARLISLE, PA--Continued

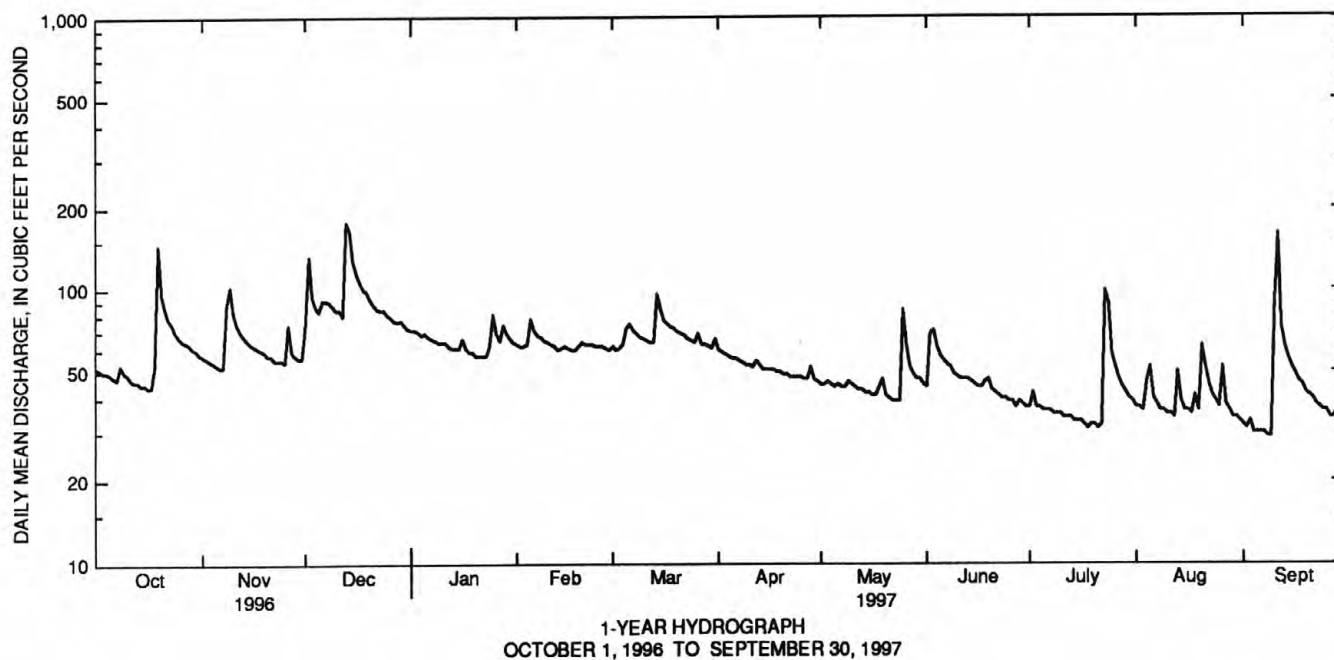
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1976 - 1997	
ANNUAL TOTAL	26090		20816		44.5	
ANNUAL MEAN	71.3		57.0		28.3	
HIGHEST ANNUAL MEAN					61.9	
LOWEST ANNUAL MEAN					28.3	
HIGHEST DAILY MEAN	246	Jan 27	177	Dec 13	452	Jan 24 1979
LOWEST DAILY MEAN	e18	Jan 8	29	Sep 8, 9	10	Aug 14 1976
ANNUAL SEVEN-DAY MINIMUM	a20	Jan 7	30	Sep 3	18	Aug 30 1992
INSTANTANEOUS PEAK FLOW			265	Sep 11	b1400	Jan 24 1979
INSTANTANEOUS PEAK STAGE			4.99	Sep 11	6.53	Jan 24 1979
INSTANTANEOUS LOW FLOW			28	Sep 8	.00	Aug 15 1976c
ANNUAL RUNOFF (CFSM)	3.30		2.64		2.06	
ANNUAL RUNOFF (INCHES)	44.93		35.85		27.99	
10 PERCENT EXCEEDS	94		81		70	
50 PERCENT EXCEEDS	70		55		38	
90 PERCENT EXCEEDS	46		36		24	

a Computed using estimated daily discharges.

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.

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.

WATER-DISCHARGE RECORDS

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 Pennsylvania American Water Co. has diverted water upstream from station for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 8.3 ft³/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1615	5,700	7.78	Dec. 14	1430	*6,770	*8.48
Nov. 9	1630	4,560	6.93	Sept. 11	1915	6,110	8.07
Dec. 2	2115	5,820	7.87				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	648	618	1320	768	702	642	635	295	351	173	168	144
2	567	580	5490	727	843	675	549	287	448	184	158	139
3	530	547	4790	725	875	699	507	287	1040	193	153	135
4	492	512	2460	687	923	736	487	296	1030	196	152	130
5	452	489	1810	660	1560	946	468	283	835	172	224	120
6	429	467	1770	677	2210	2040	458	271	643	156	184	116
7	411	451	1890	610	1610	2020	450	263	536	150	165	115
8	413	617	1780	552	1300	1470	423	257	474	144	150	114
9	462	3860	1650	523	1130	1230	391	269	424	142	153	117
10	454	2760	1470	e500	991	1080	378	296	380	147	150	151
11	417	1710	1340	e460	884	1010	368	288	345	139	139	4040
12	384	1300	1420	e420	808	902	372	263	322	136	129	2190
13	360	1070	3460	e380	735	792	435	255	308	133	153	985
14	348	919	6580	e360	688	1130	438	255	313	130	187	644
15	335	818	4030	e340	697	3160	383	247	305	125	183	485
16	321	739	2530	e360	734	2130	354	239	282	124	165	387
17	315	681	2020	e400	713	1550	347	231	266	124	154	327
18	323	642	1720	e340	679	1320	348	229	262	134	178	296
19	2970	637	1520	e300	818	1220	341	271	327	138	189	262
20	5420	605	1340	e290	1210	1150	333	279	283	130	217	238
21	3270	557	1090	e300	1290	1030	318	253	259	126	792	223
22	2200	527	973	e320	1180	947	311	222	238	128	589	202
23	1730	503	934	e340	1070	869	308	198	228	291	364	192
24	1510	480	927	e360	921	781	303	192	212	1140	270	183
25	1240	462	978	e700	825	712	302	290	200	894	221	175
26	1040	863	855	1250	753	729	300	1200	195	525	265	169
27	912	1630	776	909	731	740	291	995	190	368	216	166
28	834	1080	757	886	700	666	325	615	185	291	190	163
29	804	869	787	1110	---	622	341	474	178	234	174	285
30	737	776	859	843	---	597	316	414	172	205	160	524
31	680	---	819	735	---	631	---	384	---	182	151	---
TOTAL	31008	27769	60145	17832	27580	34226	11580	10598	11231	7354	6743	13417
MEAN	1000	926	1940	575	985	1104	386	342	374	237	218	447
MAX	5420	3860	6580	1250	2210	3160	635	1200	1040	1140	792	4040
MIN	315	451	757	290	679	597	291	192	172	124	129	114
CFSM	2.13	1.97	4.13	1.22	2.10	2.35	.82	.73	.80	.50	.46	.95
IN.	2.45	2.20	4.76	1.41	2.18	2.71	.92	.84	.89	.58	.53	1.06

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

	356	477	658	698	799	1071	934	676	489	332	305	311
MEAN	1838	1436	1940	1850	2257	3463	2693	1500	3120	1184	1584	1684
(WY)	1977	1971	1997	1996	1984	1994	1993	1978	1972	1989	1915	1996
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

e Estimated.

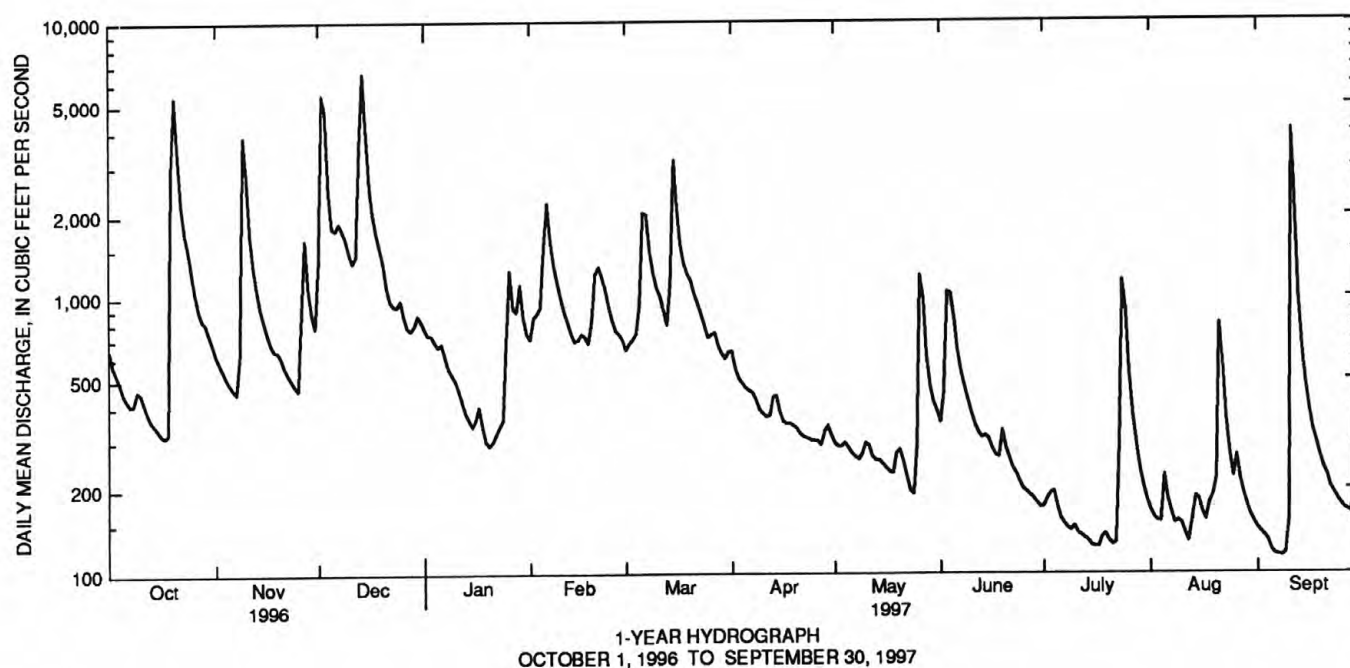
CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	444165		259483		591	
ANNUAL MEAN	1214		711		1045	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					1931	
HIGHEST DAILY MEAN	7450	Jan 28	6580	Dec 14	24500	Jun 23 1972
LOWEST DAILY MEAN	195	Sep 3,4	114	Sep 8	26	Dec 23 1930
ANNUAL SEVEN-DAY MINIMUM	206	Aug 29	121	Sep 3	27	Dec 19 1930
INSTANTANEOUS PEAK FLOW			6770	Dec 14	a33700	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.48	Dec 14	b17.01	Jun 23 1972
INSTANTANEOUS LOW FLOW			113	Sep 6-9	24	Dec 16 1930
ANNUAL RUNOFF (CFSM)	2.58		1.51		1.26	
ANNUAL RUNOFF (INCHES)	35.16		20.54		17.10	
10 PERCENT EXCEEDS	2570		1470		1250	
50 PERCENT EXCEEDS	821		454		346	
90 PERCENT EXCEEDS	330		155		119	

a From rating curve extended above 27,100 ft³/s.

b From floodmark in gage.



CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1965, 1967-68, 1971-72, 1974, 1996 to current year.

REMARKS.--The data in the following table were collected as part of a Chesapeake Bay Watershed project to document nutrient and suspended-sediment concentrations, nutrient loads, and trends in nutrient loading. Pesticide data are also included in this table that were collected at this site as part of a trial for the low intensity water-quality sampling phase (LIP) in 1996-1997 by the National Water-Quality Assessment (NAWQA) Program.

Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLE PURPOSE CODE (71999)	SAMPLER TYPE (CODE) (84164)	SAM- PLING METHOD, CODES (82398)	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)
OCT											
16...	1100	1028	80020	10	3045	10	319	469	8.4	12.0	757
NOV											
09...	1215	1028	80020	10	3039	10	4460	234	7.8	12.5	748
20...	1115	1028	80020	10	3045	10	613	394	8.3	6.5	752
20...	1120	1028	80020	15	3045	10	613	394	8.3	6.5	752
DEC											
19...	1030	1028	80020	10	3039	10	1530	325	8.0	7.0	752
JAN											
22...	1045	1028	80020	10	3045	10	550	457	8.3	1.0	760
FEB											
19...	1030	1028	80020	10	3045	10	780	376	8.2	4.5	756
MAR											
19...	1345	1028	80020	10	3039	10	1220	314	8.1	6.5	761
19...	1400	1028	80020	15	3039	10	1220	314	8.1	6.5	761
APR											
17...	0930	1028	80020	10	3045	10	354	421	8.2	13.5	750
MAY											
08...	0850	1028	80020	10	3045	10	257	474	8.4	13.0	761
08...	0851	1028	80020	10	3045	10	257	474	8.4	13.0	761
27...	1015	1028	80020	10	3039	10	912	287	8.0	15.5	762
JUN											
03...	0850	1028	80020	10	3039	10	1120	354	8.0	15.5	756
04...	0930	1028	80020	10	3039	10	1040	312	8.0	14.5	756
JUL											
01...	0900	1028	80020	10	3045	10	173	460	8.1	22.5	755
01...	0901	1028	80020	10	3045	10	173	460	8.1	22.5	755
AUG											
06...	0915	1028	80020	10	3045	10	184	459	8.5	19.0	771
06...	0920	1028	80020	15	3045	10	184	459	8.5	19.0	771
21...	1200	1028	80020	10	3039	10	938	392	8.1	20.0	750
21...	1215	1028	80020	15	3039	10	938	392	8.1	20.0	750
SEP											
11...	1340	1028	80020	10	3039	10	5220	261	8.0	18.0	771
18...	0910	1028	80020	10	3045	10	300	435	8.0	19.5	757
18...	0920	1028	80020	15	3045	10	300	435	8.0	19.5	757

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALKA- LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	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 DIS TOT IT FIELD (MG/L AS CAC03) (39086)	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)
OCT											
16...	170	202	0	166	21	19	0.10	1.7	198	248	0.27
NOV											
09...	71	87	0	71	--	--	--	--	--	--	--
20...	140	172	0	141	--	--	--	--	--	--	--
20...	140	172	0	141	--	--	--	--	--	--	--
DEC											
19...	110	135	0	111	--	--	--	--	--	--	--
JAN											
22...	150	183	0	150	21	20	0.20	5.7	252	244	0.34
FEB											
19...	120	149	0	122	--	--	--	--	--	--	--
MAR											
19...	100	128	0	100	--	--	--	--	--	--	--
19...	100	128	0	100	--	--	--	--	--	--	--
APR											
17...	130	159	0	130	20	23	0.13	1.1	229	204	0.31
MAY											
08...	161	195	0	160	--	--	--	--	--	--	--
08...	161	195	0	160	--	--	--	--	--	--	--
27...	100	122	0	100	--	--	--	--	--	--	--
JUN											
03...	98	120	0	98	--	--	--	--	--	--	--
04...	80	99	0	81	--	--	--	--	--	--	--
JUL											
01...	140	176	0	144	21	23	0.17	5.7	288	239	0.39
01...	140	176	0	144	23	24	0.32	5.8	287	229	0.39
AUG											
06...	170	204	0	167	--	--	--	--	--	--	--
06...	170	204	0	167	--	--	--	--	--	--	--
21...	120	152	0	125	--	--	--	--	--	--	--
21...	120	152	0	125	--	--	--	--	--	--	--
SEP											
11...	81	99	0	81	--	--	--	--	--	--	--
18...	160	198	0	162	--	--	--	--	--	--	--
18...	160	198	0	162	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331) .062 MM	ACETO- CHLOR, WATER FLTRD REC (49260) (µG/L)	ALA- CHLOR, WATER, DISS, REC, (46342) (µG/L)	ALPHA BHC DIS- SOLVED (34253) (µG/L)	ATRA- ZINE, WATER, DISS, REC (39632) (µG/L)	BEN- FLUR- ALIN WAT FLD GF, REC (82673) (µG/L)	BUTYL- ATE, WATER, DISS, REC (04028) (µG/L)	CAR- BARYL WATER FLTRD GF, REC (82680) (µG/L)	CARBO- FURAN WATER FLTRD GF, REC (82674) (µG/L)	CHLOR- PYRIFOS DIS- SOLVED (38933) (µG/L)
OCT 16...	3.0	40	--	--	--	--	--	--	--	--	--
NOV 09...	1060	92	<0.002	<0.002	<0.002	0.074	<0.002	<0.002	<0.003	<0.003	<0.004
20...	3.5	57	--	--	--	--	--	--	--	--	--
20...	--	--	<0.002	E0.004	<0.002	0.172	<0.002	<0.002	<0.003	<0.003	<0.004
DEC 19...	32	56	<0.002	E0.002	<0.002	0.120	<0.002	<0.002	<0.003	<0.003	<0.004
JAN 22...	14	85	<0.002	0.005	<0.002	0.182	<0.002	<0.002	<0.003	<0.003	<0.004
FEB 19...	6.0	75	<0.002	<0.002	<0.002	0.100	<0.002	<0.002	<0.003	<0.003	<0.004
MAR 19...	24	84	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	12	31	<0.002	<0.002	<0.002	0.134	<0.002	<0.002	<0.003	<0.003	<0.004
MAY 08...	--	63	<0.002	E0.003	<0.002	0.175	<0.002	<0.002	E0.004	<0.003	<0.004
08...	--	--	<0.002	E0.003	<0.002	0.172	<0.002	<0.002	E0.003	<0.003	<0.004
27...	--	55	0.087	0.118	<0.002	3.40	<0.002	<0.002	<0.003	<0.003	E0.003
JUN 03...	152	73	0.012	0.007	<0.002	0.504	<0.002	<0.002	E0.006	<0.003	<0.004
04...	--	--	0.019	0.009	<0.002	1.08	<0.002	<0.002	<0.003	<0.003	<0.004
JUL 01...	4.3	67	<0.002	E0.003	<0.002	0.245	<0.002	<0.002	<0.003	<0.003	<0.004
01...	--	--	--	--	--	--	--	--	--	--	--
AUG 06...	3.6	40	--	--	--	--	--	--	--	--	--
06...	--	--	<0.002	<0.002	<0.002	0.296	<0.002	<0.002	E0.012	<0.003	<0.004
21...	97	68	--	--	--	--	--	--	--	--	--
21...	--	--	<0.002	<0.002	<0.002	0.135	<0.002	<0.002	E0.018	<0.003	<0.004
SEP 11...	6910	87	--	--	--	--	--	--	--	--	--
18...	4.7	36	--	--	--	--	--	--	--	--	--
18...	--	--	<0.002	0.005	<0.002	0.148	<0.002	<0.002	<0.003	<0.003	<0.004

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82660)	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 DISS REC ($\mu\text{G/L}$) (04095)
OCT											
16...	--	--	--	--	--	--	--	--	--	--	--
NOV											
09...	0.102	<0.002	E0.087	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
20...	--	--	--	--	--	--	--	--	--	--	--
20...	0.012	<0.002	E0.224	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
DEC											
19...	<0.004	<0.002	E0.213	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
JAN											
22...	<0.004	<0.002	E0.332	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
FEB											
19...	0.007	<0.002	E0.170	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
MAR											
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
APR											
17...	0.007	<0.002	E0.219	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
MAY											
08...	0.017	<0.002	E0.223	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
08...	0.014	E0.002	E0.207	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
27...	0.151	E0.002	E0.219	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
JUN											
03...	0.064	<0.002	E0.095	E0.004	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
04...	0.091	E0.002	E0.063	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
JUL											
01...	0.012	<0.002	E0.156	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
01...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	0.012	<0.002	E0.099	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
21...	--	--	--	--	--	--	--	--	--	--	--
21...	0.007	<0.002	E0.128	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003
SEP											
11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.004	<0.002	E0.063	<0.002	<0.001	<0.003	<0.017	<0.002	<0.004	<0.003	<0.003

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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 AZIN- PHOS WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82686)	METHYL PARA- THION WAT FLT 0.7 μ GF, REC ($\mu\text{G/L}$) (82667)	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 DIS- SOLVED ($\mu\text{G/L}$) (34653)	PARA- THION, DIS- SOLVED ($\mu\text{G/L}$) (39542)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--
NOV 09...	<0.004	<0.002	<0.005	<0.001	<0.006	0.050	<0.004	<0.004	0.007	<0.006	<0.004
20...	--	--	--	--	--	--	--	--	--	--	--
20...	<0.004	<0.002	<0.005	<0.001	<0.006	0.071	<0.004	<0.004	<0.003	<0.006	<0.004
DEC 19...	<0.004	<0.002	<0.005	<0.001	<0.006	0.049	<0.004	<0.004	<0.003	<0.006	<0.004
JAN 22...	<0.004	<0.002	<0.005	<0.001	<0.006	0.094	<0.004	<0.004	<0.003	<0.006	<0.004
FEB 19...	<0.004	<0.002	<0.005	<0.001	<0.006	0.052	<0.004	<0.004	<0.003	<0.006	<0.004
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	<0.004	<0.002	<0.005	<0.001	<0.006	0.041	<0.004	<0.004	<0.003	<0.006	<0.004
MAY 08...	<0.004	<0.002	<0.005	<0.001	<0.006	0.064	<0.004	<0.004	<0.003	<0.006	<0.004
08...	<0.004	<0.002	<0.005	<0.001	<0.006	0.063	<0.004	<0.004	<0.003	<0.006	<0.004
27...	<0.004	<0.002	<0.005	<0.001	<0.006	2.30	0.008	<0.004	0.004	<0.006	<0.004
JUN 03...	<0.004	<0.002	<0.005	<0.001	<0.006	0.248	<0.004	<0.004	<0.003	<0.006	<0.004
04...	<0.004	<0.002	<0.005	<0.001	<0.006	0.649	<0.004	<0.004	<0.003	<0.006	<0.004
JUL 01...	<0.004	<0.002	<0.005	<0.001	<0.006	0.077	<0.004	<0.004	<0.003	<0.006	<0.004
01...	--	--	--	--	--	--	--	--	--	--	--
AUG 06...	--	--	--	--	--	--	--	--	--	--	--
06...	<0.004	<0.002	0.008	<0.001	<0.006	0.163	<0.004	<0.004	<0.003	<0.006	<0.004
21...	--	--	--	--	--	--	--	--	--	--	--
21...	<0.004	<0.002	0.015	<0.001	<0.006	0.063	<0.004	<0.004	<0.003	<0.006	<0.004
SEP 11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.004	<0.002	<0.005	<0.001	<0.006	0.074	<0.004	<0.004	<0.003	<0.006	<0.004

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	PRON- AMIDE WATER FLTRD 0.7 μ GF, REC (μ G/L) (82676)	PROPA- CHLOR, WATER, 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)
OCT 16...	--	--	--	--	--	--	--	--	--	--	--
NOV 09...	<0.004	<0.004	0.006	<0.002	E0.017	<0.003	<0.007	<0.004	<0.013	0.015	<0.010
20...	--	--	--	--	--	--	--	--	--	--	--
20...	<0.004	<0.004	<0.005	<0.002	0.020	<0.003	<0.007	<0.004	<0.013	0.023	E0.012
DEC 19...	<0.004	<0.004	<0.005	<0.002	E0.015	<0.003	<0.007	<0.004	<0.013	0.017	0.010
JAN 22...	<0.004	<0.004	<0.005	<0.002	0.022	<0.003	<0.007	<0.004	<0.013	0.027	E0.018
FEB 19...	<0.004	<0.004	<0.005	<0.002	E0.014	<0.003	<0.007	<0.004	<0.013	0.015	<0.010
MAR 19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	<0.004	<0.004	<0.005	<0.002	E0.016	<0.003	<0.007	<0.004	<0.013	0.017	E0.009
MAY 08...	<0.004	<0.004	<0.005	<0.002	0.022	<0.003	<0.007	<0.004	<0.013	0.026	E0.019
08...	<0.004	<0.004	<0.005	<0.002	0.024	<0.003	<0.007	<0.004	<0.013	0.027	E0.020
27...	<0.004	<0.004	<0.005	<0.002	E0.015	<0.003	<0.007	<0.004	<0.013	0.371	E0.006
JUN 03...	<0.004	0.014	<0.005	<0.002	0.038	<0.003	<0.007	<0.004	<0.013	0.029	0.012
04...	<0.004	<0.004	<0.005	<0.002	0.028	<0.003	<0.007	<0.004	<0.013	0.112	0.012
JUL 01...	<0.004	<0.004	<0.005	<0.002	0.031	<0.003	<0.007	<0.004	<0.013	0.029	0.012
01...	--	--	--	--	--	--	--	--	--	--	--
AUG 06...	--	--	--	--	--	--	--	--	--	--	--
06...	<0.004	<0.004	<0.005	<0.002	0.037	<0.003	<0.007	<0.004	<0.013	0.024	0.017
21...	--	--	--	--	--	--	--	--	--	--	--
21...	<0.004	<0.004	<0.005	<0.002	0.022	<0.003	<0.007	<0.004	<0.013	0.019	E0.008
SEP 11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	<0.004	<0.004	<0.005	<0.002	0.023	<0.003	<0.007	<0.004	<0.013	0.016	0.012

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	DIAZ- INON D10 SRG WAT FLT 0.7 μ GF, REC PERCENT (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 μ GF, REC PERCENT (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 μ GF, REC PERCENT (91065)	REP- LICATION TYPE (CODE) (99105)	QUALITY ASSUR- ANCE DATA INDICA- TOR CODE (99111)
OCT										
16...	--	--	--	--	--	--	--	--	--	10
NOV										
09...	<0.007	<0.013	<0.002	<0.001	<0.002	107	104	104	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	<0.007	<0.013	<0.002	<0.001	<0.002	99.3	118	115	--	--
DEC										
19...	E0.004	<0.013	<0.002	<0.001	<0.002	103	112	90.1	--	--
JAN										
22...	<0.007	<0.013	<0.002	<0.001	<0.002	118	139	116	--	--
FEB										
19...	<0.007	<0.013	<0.002	<0.001	<0.002	108	112	67.9	--	--
MAR										
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
APR										
17...	<0.007	<0.013	<0.002	<0.001	<0.002	91.7	132	101	--	--
MAY										
08...	<0.007	<0.013	<0.002	<0.001	<0.002	92.7	128	95.9	--	30
08...	<0.007	<0.013	<0.002	<0.001	<0.002	94.6	128	95.5	20	--
27...	<0.007	<0.013	<0.002	<0.001	<0.002	94.2	112	97.5	--	--
JUN										
03...	<0.007	<0.013	<0.002	<0.001	<0.002	104	122	105	--	--
04...	<0.007	<0.013	<0.002	<0.001	<0.002	96.1	118	90.6	--	--
JUL										
01...	<0.007	<0.013	<0.002	<0.001	<0.002	101	132	117	--	30
01...	--	--	--	--	--	--	--	--	20	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
06...	<0.007	<0.013	<0.002	<0.001	<0.002	82.4	115	87.3	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	<0.007	<0.013	<0.002	<0.001	<0.002	114	126	91.6	--	--
SEP										
11...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	10
18...	<0.007	<0.013	<0.002	<0.001	<0.002	83.1	120	91.2	--	--

CONODOGUINET CREEK BASIN

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA--Continued

REMARKS.--The following analyses are quality control samples processed during the 1997 water year and are defined in the explanation of records section entitled, "Water Quality-Control Data". Explanation of column headings and abbreviations--NUT: nutrient; ION: major ion.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	SAMPLE TYPE	AGENCY COL- LECTING	AGENCY ANA- LYZING	CALCIUM DIS- SOLVED	MAGNE- SIUM, DIS- SOLVED	SODIUM, DIS- SOLVED	POTAS- SIUM, DIS- SOLVED	SULFATE DIS- SOLVED	
			SAMPLE (CODE NUMBER)	SAMPLE (CODE NUMBER)	(MG/L AS CA)	(MG/L AS MG)	(MG/L AS NA)	(MG/L AS K)	(MG/L AS SO4)	
			(00027)	(00028)	(00915)	(00925)	(00930)	(00935)	(00945)	
OCT 16...	1020	ION BLANK	1028	80020	<0.02	<0.01	<0.20	<0.10	<0.10	
SEP 18...	0850	NUT BLANK	1028	80020	--	--	--	--	--	
DATE		CHLO- RIDE, DIS- SOLVED	FLUO- RIDE, DIS- SOLVED	SILICA, DIS- SOLVED	SOLIDS, RESIDUE AT 180 DEG. C	NITRO- GEN, NITRITE DIS- SOLVED	NITRO- GEN, NO2+NO3 DIS- SOLVED	NITRO- GEN, AMMONIA DIS- SOLVED	NITRO- GEN, AM- MONIA + ORGANIC TOTAL	NITRO- GEN, AM- MONIA + ORGANIC DIS.
		(MG/L AS CL)	(MG/L AS F)	(MG/L AS SIO2)	(MG/L)	(MG/L AS N)	(MG/L AS N)	(MG/L AS N)	(MG/L AS N)	(MG/L AS N)
		(00940)	(00950)	(00955)	(70300)	(00613)	(00631)	(00608)	(00625)	(00623)
OCT 16...		<0.10	<0.1	<0.01	<1	--	--	--	--	--
SEP 18...		--	--	--	--	<0.010	<0.050	<0.015	<0.20	<0.20
DATE		PHOS- PHORUS TOTAL	PHOS- PHORUS DIS- SOLVED	PHOS- PHORUS ORTHO, DIS- SOLVED	IRON, DIS- SOLVED	MANGA- NESE, DIS- SOLVED	BLANK, TYPE OF SOLU- TION	BLANK, SOURCE OF SOLU- TION	BLANK, TYPE OF SAMPLE	REF- ERENCE MA- TERIAL/ SPIKE SOURCE
		(MG/L AS P)	(MG/L AS P)	(MG/L AS P)	(μG/L AS FE)	(μG/L AS MN)	(CODE)	(CODE)	(CODE)	(CODE)
		(00665)	(00666)	(00671)	(01046)	(01056)	(99100)	(99101)	(99102)	(99104)
OCT 16...		--	--	--	3.0	<1.0	10	80	100	94160
SEP 18...		<0.010	<0.010	<0.010	--	--	10	80	100	97078

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA

LOCATION.--Lat 40°15'17", long 76°53'11", Dauphin County, Hydrologic Unit 02050305, on east bank of City Island, 60 ft downstream from Market Street bridge in Harrisburg, 3,670 ft upstream from sanitary dam, and 1.7 mi upstream from Paxton Creek.

DRAINAGE AREA.--24,100 mi².

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 poor. Flow slightly regulated by 15 flood-control reservoirs which have a combined capacity of 1,571,000 acre-ft. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known during period 1786 to 1890, 26.8 ft at Walnut Street bridge, June 2, 1889, discharge, 654,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 180,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	1930	188,000	12.21	Dec. 3	1715	255,000	14.97
Nov. 10	2015	*261,000	*15.21	Dec. 15	0700	224,000	13.76

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30500	29700	44400	48300	e25000	62500	65100	20700	26100	10500	5580	6610
2	30300	27900	124000	46800	e25000	90200	69700	23500	25500	10500	5470	6620
3	29600	26200	246000	43700	e26000	83700	69400	24500	34400	10000	5300	6750
4	25300	24900	236000	40600	e28000	82500	65900	23700	42100	9480	5270	6540
5	22400	23300	182000	39200	e32000	83800	62800	26200	48000	9200	5260	6180
6	19800	21900	137000	39900	e46000	81500	58700	28800	47300	8780	5460	6030
7	18000	20700	113000	41200	e55000	102000	55800	30900	39800	8000	5330	5790
8	17300	20600	91400	40800	e53000	131000	51700	31100	31600	7570	5270	5550
9	19000	67100	76500	39100	e48000	113000	46900	28900	27600	7170	5090	5510
10	16300	236000	65600	36300	e38000	89900	42400	26700	24300	7190	5000	5490
11	15500	241000	54600	e33000	e33000	73500	38000	26300	21800	6990	4840	12500
12	14900	179000	50400	e28000	29300	63000	34100	25400	19800	6760	4640	15600
13	14300	138000	64900	e24000	26900	57500	31900	22900	18400	6890	4770	12500
14	13700	106000	177000	e21000	25300	54000	30900	22800	18200	7520	4960	11200
15	13000	80600	220000	e23000	23500	62000	30800	23400	17500	7930	5270	10000
16	12900	64800	187000	e23000	22600	68600	30600	21700	16200	7300	5840	9130
17	12600	53300	141000	e21000	21800	66800	29300	20800	15600	6860	6950	8140
18	12500	47500	112000	e17000	21200	59900	27600	19600	15000	6600	7130	7400
19	28700	41000	94400	e15000	20600	53100	25800	19000	15000	6420	8320	7000
20	121000	35600	80800	e14000	24400	48000	24700	18800	17700	6070	11400	6650
21	178000	34400	68500	e13000	36600	44800	23900	21700	17100	6020	12700	6290
22	169000	34300	57500	e16000	56000	42800	22800	36400	16000	5780	13800	6130
23	130000	33500	49800	e18000	83900	41200	22000	41600	15700	6780	12600	5970
24	102000	31200	45400	e21000	110000	41000	21500	35500	14300	9670	10700	5790
25	79500	28800	44900	e24000	103000	41600	20800	31400	12700	10900	9520	5790
26	64400	29100	50100	e30000	83500	41700	20400	33000	12000	9190	8510	5730
27	52700	31500	51900	e30000	66900	44500	19400	48200	11700	7680	7670	5650
28	45500	38200	52200	e29000	55800	57200	19000	46600	11500	6910	7240	5480
29	39200	47700	49900	e30000	---	67300	19100	42800	11100	6530	7390	5650
30	35200	46000	48300	e28000	---	62500	19600	33100	10800	6380	7170	7050
31	31900	---	48600	e26000	---	60200	---	28600	---	5990	6760	---
TOTAL	1415000	1839800	3065100	899900	1220300	2071300	1100600	884600	654800	239560	221210	220720
MEAN	45650	61330	98870	29030	43580	66820	36690	28540	21830	7728	7136	7357
MAX	178000	241000	246000	48300	110000	131000	69700	48200	48000	10900	13800	15600
MIN	12500	20600	44400	13000	20600	41000	19000	18800	10800	5780	4640	5480
CFSM	1.89	2.54	4.10	1.20	1.81	2.77	1.52	1.18	.91	.32	.30	.31
IN.	2.18	2.84	4.73	1.39	1.88	3.20	1.70	1.37	1.01	.37	.34	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1891 - 1997, BY WATER YEAR (WY)

	MEAN	17500	26740	34680	36780	40660	74370	72550	44920	26170	15350	11750	11590
MAX	75150	83540	98870	103100	153500	216100	217000	103900	166800	71450	44960	69050	
(WY)	1977	1927	1997	1996	1891	1936	1993	1894	1972	1902	1994	1975	
MIN	2356	2303	3835	3876	9123	27460	20380	12750	7328	3315	2878	2066	
(WY)	1931	1931	1931	1931	1931	1960	1946	1941	1962	1965	1930	1964	

e Estimated.

SUSQUEHANNA RIVER BASIN

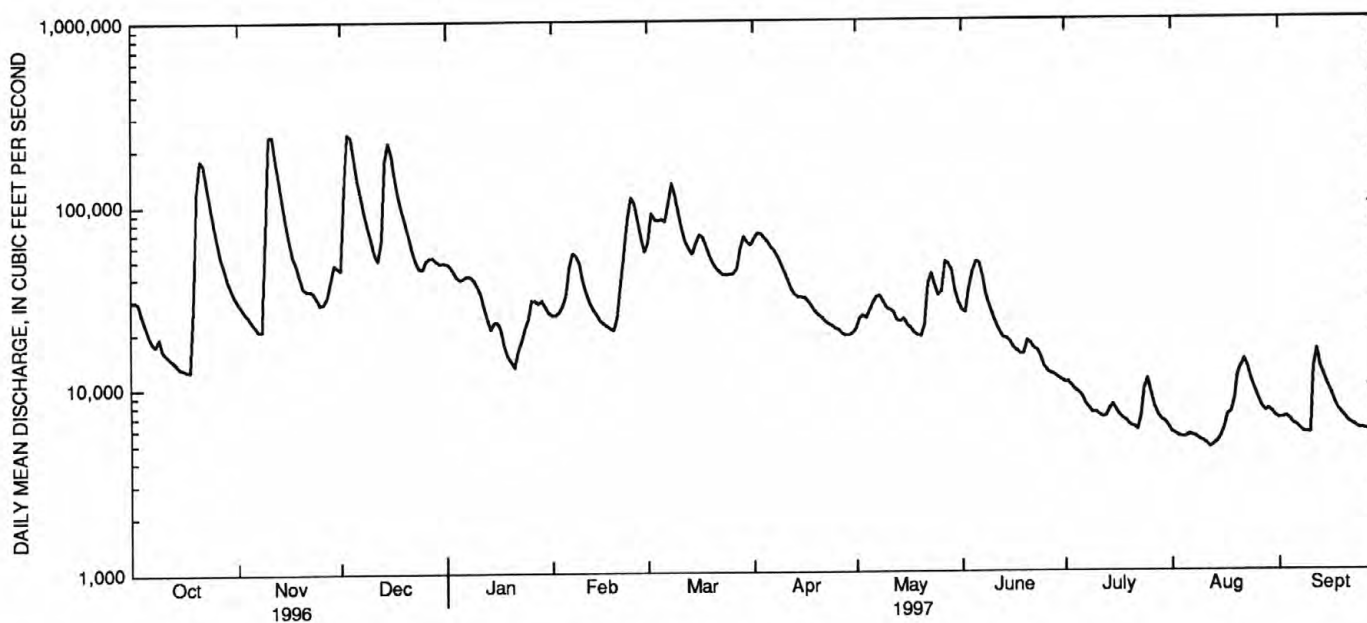
01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1891 - 1997	
ANNUAL TOTAL	20456590		13832890		34380	
ANNUAL MEAN	55890		37900		16940	
HIGHEST ANNUAL MEAN					53040	
LOWEST ANNUAL MEAN					16940	
HIGHEST DAILY MEAN	518000	Jan 21	246000	Dec 3	954000	Jun 24 1972
LOWEST DAILY MEAN	e7000	Jan 11	4640	Aug 12	1700	Nov 29 1930
ANNUAL SEVEN-DAY MINIMUM	7490	Aug 31	4940	Aug 8	1790	Sep 17 1964
INSTANTANEOUS PEAK FLOW			261000	Nov 10	1020000	Jun 24 1972
INSTANTANEOUS PEAK STAGE			15.21	Nov 10	a32.57	Jun 24 1972
INSTANTANEOUS LOW FLOW			4570	Aug 12	b1600	Nov 29 1930
ANNUAL RUNOFF (CFSM)	2.32		1.57		1.43	
ANNUAL RUNOFF (INCHES)	31.58		21.35		19.38	
10 PERCENT EXCEEDS	135000		81100		79400	
50 PERCENT EXCEEDS	36300		26000		20200	
90 PERCENT EXCEEDS	13600		6400		5500	

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.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 Olmsteds 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 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 2.8 ft³/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1953, reached a stage of 9.4 ft, from floodmarks, discharge, 3,940 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0845	1,950	6.19	Dec. 14	0015	*2,810	*7.91
Nov. 9	0100	1,570	5.19	Mar. 14	1915	1,390	4.73
Dec. 2	0745	1,820	5.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	349	553	408	337	328	410	244	242	172	157	145
2	280	336	1620	400	347	362	357	238	328	193	154	143
3	275	323	1120	399	348	350	338	235	634	200	152	144
4	256	314	800	388	354	382	328	242	514	180	152	141
5	246	304	676	380	687	438	319	230	377	169	208	137
6	241	300	784	378	581	634	317	226	333	166	166	137
7	237	297	826	352	469	502	317	222	311	163	161	137
8	272	528	868	332	440	445	302	216	300	160	155	136
9	373	1270	714	330	427	423	292	228	284	157	150	137
10	292	752	619	343	401	415	288	242	269	157	148	148
11	262	584	589	329	383	413	284	227	256	155	146	575
12	243	509	616	302	372	388	291	220	252	153	146	343
13	236	463	1650	e280	357	366	354	217	261	153	173	195
14	231	436	2430	e270	353	763	311	217	252	153	165	168
15	226	411	1460	e265	360	1020	290	213	240	151	156	158
16	221	389	1110	e290	366	641	280	208	228	149	149	152
17	219	375	974	323	349	568	276	203	222	148	147	147
18	250	369	860	252	333	534	275	205	221	151	160	147
19	1620	373	808	e225	381	542	271	231	257	155	153	140
20	1310	354	726	e230	480	525	265	224	234	147	191	138
21	895	334	624	e245	413	483	259	204	215	145	260	135
22	733	321	577	272	401	456	257	195	206	145	191	133
23	643	309	563	292	375	420	255	189	200	342	165	133
24	590	302	572	316	355	395	256	186	195	386	158	135
25	522	296	591	575	339	377	254	382	189	246	154	134
26	473	512	504	485	339	396	249	704	186	204	156	135
27	434	468	477	346	350	390	244	357	185	187	157	133
28	421	347	468	489	337	362	284	285	186	184	153	133
29	419	323	466	446	---	355	272	267	179	174	149	167
30	388	314	469	344	---	355	250	259	174	168	147	177
31	371	---	432	335	---	444	---	254	---	161	145	---
TOTAL	13466	12562	25546	10621	11034	14472	8745	7770	7930	5574	5024	4983
MEAN	434	419	824	343	394	467	292	251	264	180	162	166
MAX	1620	1270	2430	575	687	1020	410	704	634	386	260	575
MIN	219	296	432	225	333	328	244	186	174	145	145	133
CFSM	2.01	1.94	3.82	1.59	1.82	2.16	1.35	1.16	1.22	.83	.75	.77
IN.	2.32	2.16	4.40	1.83	1.90	2.49	1.51	1.34	1.37	.96	.87	.86

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

	189	213	275	303	378	492	472	366	290	206	187	189
MEAN	189	213	275	303	378	492	472	366	290	206	187	189
MAX	620	419	824	815	824	1335	1353	777	1639	486	573	1012
(WY)	1977	1997	1997	1996	1984	1994	1993	1989	1972	1989	1915	1975
MIN	98.6	99.4	97.2	92.4	153	221	216	167	123	81.2	80.6	94.7
(WY)	1964	1966	1966	1981	1989	1911	1966	1969	1966	1966	1966	1965

e Estimated.

YELLOW BREECHES CREEK BASIN

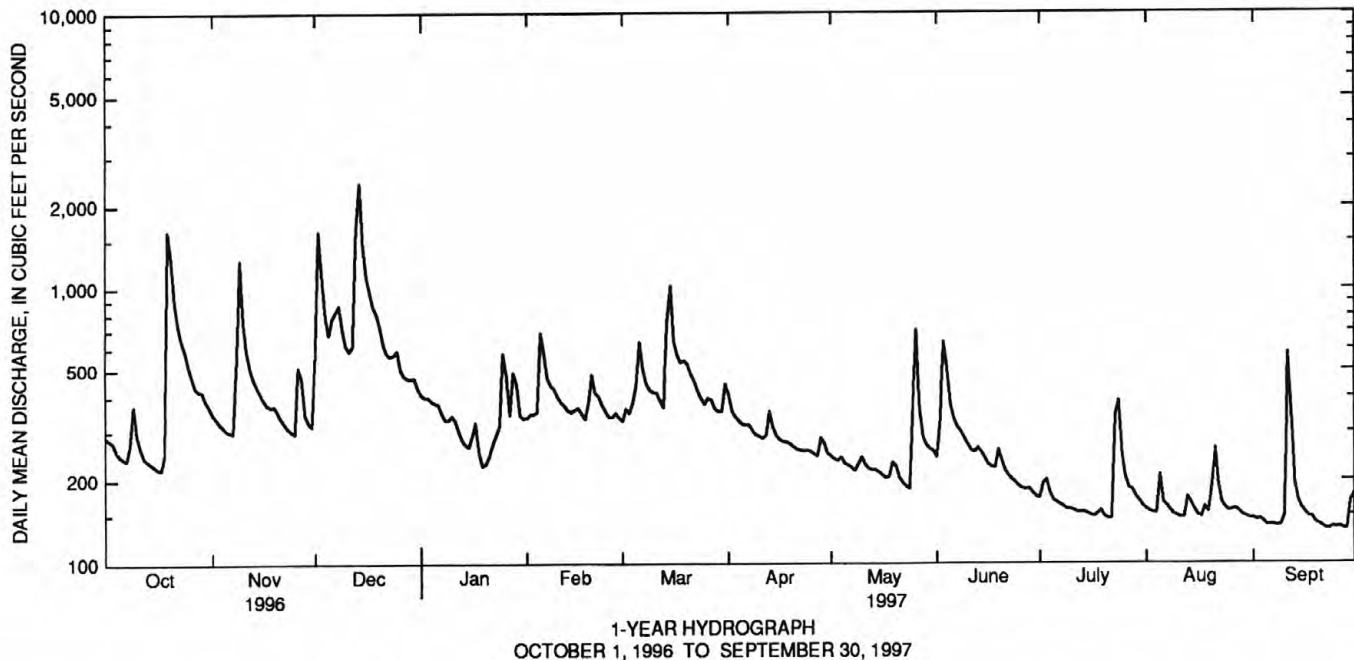
01571500 YELLOW BREECHES CREEK NEAR CAMP HILL, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	195779		127727		297	
ANNUAL MEAN	535		350		500	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					159	
HIGHEST DAILY MEAN	4090	Jan 20	2430	Dec 14	12400	Jun 22 1972
LOWEST DAILY MEAN	e110	Jan 9-18	133	Sep 22,23,27,28	67	Sep 13 1966
ANNUAL SEVEN-DAY MINIMUM	a110	Jan 9	134	Sep 22	70	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2810	Dec 14	19300	Sep 26 1975
INSTANTANEOUS PEAK STAGE			7.91	Dec 14	b18.77	Sep 26 1975
INSTANTANEOUS LOW FLOW			131	Sep 22,23,27,28	23	Sep 12 1966
ANNUAL RUNOFF (CFSM)	2.48		1.62		1.37	
ANNUAL RUNOFF (INCHES)	33.72		22.00		18.68	
10 PERCENT EXCEEDS	897		586		529	
50 PERCENT EXCEEDS	443		291		216	
90 PERCENT EXCEEDS	227		151		118	

a Computed using estimated daily discharges.

b From floodmark.

e Estimated.



SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA
(Swatara Creek Project)

LOCATION.--Lat 40°39'34", long 76°20'50", Schuylkill County, Hydrologic Unit 02050305, on left bank 500 ft upstream from bridge on U.S. Highway 209, 0.5 mi north of Newtown.

DRAINAGE AREA.--2.58 mi².

PERIOD OF RECORD.--August 1995 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1996 to current year.

pH: October 1996 to current year.

WATER TEMPERATURE: October 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system).

REMARKS.--Interruptions in the record were due to malfunctions of the instrumentation. Fixed-time, baseflow, and stormflow samples collected. Samples collected are used to determine effectiveness of various limestone treatment systems used to aid in the remediation efforts of acid mine drainage. Data collected prior to construction dates of upstream treatment is considered untreated water. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods. Other data for this project presented in tables on pages 342-392. Figure 8 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 272 microsiemens, Aug. 12; minimum, 42 microsiemens, Nov. 8.

pH: Maximum, 7.7, Mar. 21; minimum, 3.3, Jan. 1.

WATER TEMPERATURE: Maximum, 21.0°C, July 15-18, Aug. 16; minimum 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)
AUG 1995 23...	1130	1028	80020	252	4.2	4.1	637	16.5	8.6	88
DATE	ACIDITY (MG/L AS CACO3) (00435)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, DIS- SOLVED (μG/L AS AL) (01106)	BARIUM, DIS- SOLVED (μG/L AS BA) (01005)	CADMIUM, DIS- SOLVED (μG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (μG/L AS CR) (01030)	
AUG 1995 23...	18	9.5	12	5.4	110	1700	43	<1.0	<5	
DATE	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LITHIUM DIS- SOLVED (μG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	NICKEL, DIS- SOLVED (μG/L AS NI) (01065)	STRON- TIUM, DIS- SOLVED (μG/L AS SR) (01080)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)	
AUG 1995 23...	40	<10	140	<10	7	950	60	59	140	

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
MAR 1996 14...	1430	1028	9813	--	118	3.9	--	577	11.5	9.2	86
APR 19...	0930	1028	9813	12	156	4.2	4.2	616	7.5	11.0	92
JUN 11...	1100	1028	9813	.95	157	4.3	4.2	595	16.5	7.4	80
AUG 06...	0930	1028	9813	1.9	166	4.0	4.2	617	18.5	9.5	100

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--	0
APR 19...	17	--	6.2	5.0	6.1	5.5	4.6	3.9	.9	.93	0
JUN 11...	16	--	4.4	4.3	6.0	5.9	5.5	5.2	.9	.80	0
AUG 06...	15	17	3.5	3.3	5.9	5.5	5.3	4.8	.9	.82	0

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 19...	5	49	7.1	<.2	5.6	<2	<.04	<.040	<.020	<.020
JUN 11...	0	44	8.3	<.2	6.4	<2	<.04	.040	<.020	<.020
AUG 06...	0	43	8.7	<.2	5.9	14	.12	<.040	<.020	<.020

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (μ G/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	ARSENIC TOTAL (μ G/L AS AS) (01002)	ARSENIC DIS- SOLVED (μ G/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (μ G/L AS BA) (01007)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (μ G/L AS CD) (01027)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (μ G/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 19...	1000	920	<4	<4	31	27	<10	<10	<50	<50
JUN 11...	1000	970	<4	<4	41	40	<10	<10	<50	<50
AUG 06...	970	900	<4	<4	33	30	<10	<10	<50	<50

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	COBALT, TOTAL RECOV- ERABLE (μG/L AS CO) (01037)	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (μG/L AS CU) (01042)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (μG/L AS FE) (01045)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (μG/L AS PB) (01051)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (μG/L AS LI) (01132)	LITHIUM DIS- SOLVED (μG/L AS LI) (01130)
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 19...	30	28	<10	<10	610	530	1	<1.0	<25	<25
JUN 11...	30	25	<10	<10	260	240	1	1.2	<25	<25
AUG 06...	<30	<25	<10	<10	380	260	2	1.3	<25	<25

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μG/L AS NI) (01067)	NICKEL, DIS- SOLVED (μG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (μG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μG/L AS ZN) (01092)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 19...	520	470	34	34	<7	<7	40	28	90	75
JUN 11...	440	420	38	38	<7	<7	30	29	100	94
AUG 06...	460	440	35	30	<7	<7	20	23	80	84

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING 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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTI- ON POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
DEC 1996 17...	1015	1028	9813	18	123	3.8	4.4	--	7.5	12.0	98
MAR 1997 04...	1350	1028	9813	4.4	132	4.1	4.3	--	4.0	12.0	90
JUN 12...	1215	1028	9813	5.7	129	5.8	5.6	367	14.5	9.2	90
JUL 15...	1615	1028	9813	.35	241	4.5	4.7	464	20.5	7.4	82
AUG 14...	1520	1028	9813	.97	179	5.3	5.1	394	19.5	7.0	76
SEP 23...	1145	1028	9813	1.6	161	5.7	5.3	499	12.0	9.3	87

DATE	ACIDITY TOTAL HEATED (MG/L) AS CACO3 (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
DEC 1996 17...	16	--	3.3	3.2	4.4	4.3	3.6	3.5	1.2	1.2	0
MAR 1997 04...	13	--	4.2	4.0	4.8	4.7	4.3	4.2	1.3	.88	0
JUN 12...	9.6	--	8.2	8.2	5.2	5.2	4.4	4.4	1.3	.90	--
JUL 15...	6.4	--	18	16	11	10	6.6	6.2	1.3	1.3	--
AUG 14...	3.8	6.1	11	9.7	8.4	7.7	5.2	4.6	1.1	1.1	1
SEP 23...	6.8	5.0	7.9	7.6	6.4	6.2	5.0	4.8	1.0	.97	1

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
DEC 1996										
17...	0	33	5.1	<.2	6.1	24	.12	.040	.020	<.020
MAR 1997										
04...	--	39	6.6	<.2	6.1	2	.23	<.040	.020	<.020
JUN										
12...	3	41	7.2	<.2	5.8	<2	.11	<.040	<.020	<.020
JUL										
15...	1	88	9.4	<.2	10	16	.23	.070	<.020	.020
AUG										
14...	3	60	7.9	<.2	6.6	6	.28	.140	<.020	<.020
SEP										
23...	3	51	9.3	<.2	5.7	12	.13	.040	<.020	<.020
DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
DEC 1996										
17...	930	840	<4	<4	30	30	<10	<10	<50	<50
MAR 1997										
04...	910	910	<4	<4	32	31	<10	<10	<50	<50
JUN										
12...	740	<140	<4	<4	29	29	<10	<10	<50	<50
JUL										
15...	1400	500	<4	<4	50	35	<10	<10	<50	<50
AUG										
14...	600	300	<4	<4	26	23	<10	<10	<50	<50
SEP										
23...	620	<200	<4	<4	26	23	<10	<10	<50	<50
DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
DEC 1996										
17...	<25	<25	<10	<10	550	500	1	1.2	<25	<25
MAR 1997										
04...	<20	<20	<10	<10	450	450	<1	<1.0	<30	<25
JUN										
12...	<25	<25	<10	<10	290	75	1	<1.0	<25	<25
JUL										
15...	<25	<25	10	<10	1800	57	2	2.6	<25	<25
AUG										
14...	<25	<25	<10	<10	230	140	<1	<1.0	<25	<25
SEP										
23...	<25	<25	<10	<10	250	64	1	<1.0	<25	<25
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
DEC 1996										
17...	370	360	32	32	<7	<7	20	22	80	81
MAR 1997										
04...	390	370	25	<25	<7	<7	30	28	250	71
JUN										
12...	350	350	26	26	<7	<7	20	24	60	58
JUL										
15...	1000	890	50	35	<7	<7	80	68	130	77
AUG										
14...	400	370	33	33	<7	<7	30	32	70	65
SEP										
23...	400	380	<25	<25	<7	<7	30	24	60	56

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	124	91	107	127	52	85	135	100	116
2	---	---	---	121	91	107	149	54	103	139	100	115
3	---	---	---	126	97	108	149	112	129	134	94	115
4	---	---	---	124	95	110	142	105	121	137	101	119
5	---	---	---	132	98	111	135	102	118	143	99	118
6	---	---	---	122	102	110	129	96	110	140	103	119
7	---	---	---	125	94	111	127	96	110	143	106	122
8	---	---	---	118	42	89	128	88	108	140	107	123
9	---	---	---	137	62	95	126	93	108	151	102	126
10	---	---	---	150	117	130	129	93	110	146	109	124
11	---	---	---	147	117	130	122	91	108	145	108	126
12	---	---	---	144	100	125	114	75	97	151	111	129
13	---	---	---	140	103	123	90	64	77	153	112	132
14	---	---	---	137	105	120	139	82	112	153	112	135
15	---	---	---	133	103	120	140	106	123	165	117	132
16	---	---	---	134	104	120	136	96	117	149	101	121
17	176	153	162	135	98	119	128	92	112	161	105	132
18	172	89	160	140	103	120	129	93	114	166	112	137
19	111	60	75	136	104	117	129	100	112	167	116	138
20	126	94	109	143	101	120	127	99	113	156	115	134
21	137	109	125	138	102	122	127	96	113	152	114	132
22	140	110	124	146	105	123	136	95	112	157	113	134
23	140	97	119	144	106	125	130	91	111	140	101	121
24	114	87	101	141	107	127	126	83	104	137	99	120
25	118	99	106	142	100	126	122	89	102	117	78	91
26	119	92	105	134	75	98	136	90	109	137	93	110
27	119	90	103	127	94	108	128	90	109	134	99	118
28	114	89	102	128	95	111	130	86	109	130	98	113
29	121	90	102	138	91	116	126	89	107	140	107	122
30	120	82	103	135	105	119	125	92	108	142	101	125
31	126	92	105	---	---	---	133	99	114	142	106	123
MONTH	176	60	113	150	42	116	149	52	109	167	78	123

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	141	105	123	130	105	118	116	83	99	144	96	122
2	136	96	118	125	95	112	115	78	100	131	103	115
3	139	102	117	128	94	112	114	83	98	139	75	107
4	144	99	118	132	96	116	128	87	106	121	77	97
5	129	81	103	137	84	110	140	99	116	119	89	104
6	131	97	115	121	83	97	134	100	117	121	92	102
7	---	---	---	124	88	107	147	103	119	129	96	107
8	---	---	---	127	90	109	136	105	122	139	96	112
9	---	---	---	128	96	112	145	99	123	123	85	107
10	---	---	---	132	97	113	143	112	124	139	95	111
11	---	---	---	131	97	116	148	98	124	133	103	115
12	---	---	---	138	103	120	146	98	122	137	96	117
13	---	---	---	136	99	122	140	99	115	134	102	119
14	---	---	---	134	74	107	147	101	121	132	100	119
15	---	---	---	116	83	101	148	107	124	141	108	122
16	---	---	---	132	90	114	141	111	125	146	106	125
17	---	---	---	137	108	121	144	102	125	147	109	127
18	---	---	---	144	102	122	144	105	125	152	112	127
19	---	---	---	145	100	122	141	102	123	136	110	123
20	---	---	---	142	107	123	144	102	125	136	100	116
21	---	---	---	174	95	124	145	107	125	147	106	122
22	---	---	---	127	89	110	146	110	126	148	105	126
23	---	---	---	128	89	112	148	113	129	150	112	131
24	---	---	---	172	96	116	153	119	131	152	109	131
25	---	---	---	138	85	114	150	115	132	155	75	109
26	---	---	---	133	92	111	160	107	134	110	72	92
27	130	99	112	133	93	115	157	114	136	120	87	101
28	132	101	115	128	88	109	146	91	110	127	87	102
29	---	---	---	124	91	106	137	100	120	131	91	104
30	---	---	---	122	91	104	144	114	126	125	93	109
31	---	---	---	108	72	87	---	---	---	132	98	112
MONTH	144	81	115	174	72	112	160	78	121	155	72	114

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	127	100	114	198	123	162	238	169	198	208	141	169
2	147	62	92	164	86	114	250	172	200	200	141	170
3	103	66	81	164	102	126	232	177	200	208	150	170
4	130	84	104	171	110	142	242	168	201	190	154	169
5	138	103	118	196	118	152	221	169	188	198	153	169
6	139	103	121	199	137	162	220	173	194	193	153	170
7	142	105	122	200	138	165	227	170	200	195	135	164
8	144	103	120	209	141	173	241	185	205	178	141	155
9	135	98	120	228	136	180	247	172	208	184	132	158
10	138	110	124	215	148	177	251	175	211	180	125	153
11	146	107	126	213	159	186	249	177	213	154	71	98
12	149	108	129	223	139	189	272	195	217	133	75	106
13	144	102	124	221	138	192	250	136	192	166	119	134
14	152	110	128	256	133	194	209	144	175	170	129	144
15	158	106	133	252	148	198	242	165	199	168	129	147
16	156	120	136	243	141	195	235	83	181	170	137	148
17	159	117	137	241	155	197	174	81	117	181	137	153
18	166	104	135	253	148	200	186	113	148	174	126	149
19	143	87	109	231	154	197	191	145	166	172	133	154
20	153	111	128	244	162	205	201	57	142	177	132	154
21	168	117	137	247	163	207	128	61	95	172	132	155
22	175	109	141	186	103	139	151	107	127	180	145	158
23	186	108	147	186	84	123	167	128	141	186	147	160
24	192	125	155	136	52	87	181	133	154	172	144	157
25	194	129	155	222	108	164	184	89	151	171	141	157
26	200	99	152	249	165	206	160	89	126	175	143	159
27	177	107	145	268	182	211	183	128	156	177	147	161
28	190	127	155	248	83	199	186	78	112	183	141	161
29	192	137	161	198	83	135	169	108	131	167	108	131
30	200	130	168	221	153	179	194	131	158	174	130	146
31	---	---	---	221	171	193	201	142	168	---	---	---
MONTH	200	62	131	268	52	173	272	57	170	208	71	153
YEAR	272	42	131									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	3.9	3.9	3.9	4.3	3.9	4.0	3.6	3.3	3.4
2	---	---	---	3.9	3.9	3.9	4.0	3.7	3.8	3.6	3.4	3.5
3	---	---	---	3.9	3.9	3.9	3.8	3.7	3.8	3.9	3.6	3.8
4	---	---	---	3.9	3.9	3.9	3.8	3.7	3.8	3.9	3.8	3.9
5	---	---	---	4.0	3.9	4.0	3.8	3.7	3.7	3.9	3.9	3.9
6	---	---	---	4.0	4.0	4.0	3.8	3.7	3.7	4.1	3.8	3.9
7	---	---	---	4.0	3.9	4.0	3.8	3.7	3.7	4.0	3.9	4.0
8	---	---	---	4.5	3.9	4.0	3.8	3.7	3.7	4.0	3.8	3.9
9	---	---	---	4.0	3.7	3.8	3.8	3.7	3.7	4.0	3.9	3.9
10	---	---	---	3.8	3.8	3.8	3.8	3.7	3.8	4.1	3.9	4.0
11	---	---	---	3.8	3.8	3.8	3.8	3.7	3.8	4.0	3.8	3.9
12	---	---	---	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.8	3.9
13	---	---	---	3.9	3.8	3.8	3.9	3.8	3.8	3.9	3.8	3.9
14	---	---	---	3.8	3.8	3.8	3.8	3.7	3.7	4.0	3.8	3.9
15	---	---	---	3.9	3.8	3.8	3.8	3.7	3.7	4.0	3.8	3.9
16	---	---	---	3.9	3.8	3.8	3.8	3.7	3.8	4.1	3.9	4.0
17	3.9	3.8	3.9	3.9	3.8	3.9	3.8	3.7	3.8	4.0	3.9	3.9
18	4.4	3.8	3.9	3.9	3.8	3.9	3.8	3.7	3.8	4.0	3.9	3.9
19	5.0	3.7	3.9	3.9	3.9	3.9	3.8	3.5	3.7	4.0	3.9	3.9
20	3.7	3.7	3.7	3.9	3.8	3.9	3.7	3.4	3.6	4.0	3.9	3.9
21	3.7	3.4	3.7	3.9	3.6	3.9	3.6	3.4	3.5	4.0	3.9	4.0
22	3.8	3.7	3.7	3.9	3.9	3.9	3.7	3.4	3.6	4.0	3.9	4.0
23	3.8	3.7	3.8	3.9	3.9	3.9	3.8	3.6	3.7	4.0	3.9	4.0
24	3.8	3.7	3.8	3.9	3.9	3.9	3.8	3.7	3.8	4.0	3.8	3.9
25	3.9	3.8	3.8	4.0	3.9	3.9	3.7	3.6	3.7	4.1	3.8	4.0
26	3.9	3.8	3.9	4.3	3.9	3.9	3.7	3.6	3.6	4.0	3.9	4.0
27	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.6	3.7	4.0	3.9	3.9
28	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.7	3.8	4.1	3.9	4.0
29	4.0	3.9	3.9	3.9	3.8	3.9	3.9	3.7	3.8	4.0	3.9	4.0
30	4.0	3.9	3.9	4.0	3.9	3.9	3.8	3.6	3.7	4.0	3.9	3.9
31	4.0	3.9	3.9	---	---	---	3.7	3.4	3.6	4.1	4.0	4.0
MONTH	5.0	3.4	3.8	4.5	3.6	3.9	4.3	3.4	3.7	4.1	3.3	3.9

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.2	4.0	4.1	4.2	4.0	4.1	4.1	3.7	3.9	4.8	4.3	4.5
2	4.2	4.1	4.1	4.3	4.1	4.2	4.2	3.8	4.0	4.6	4.4	4.5
3	4.2	4.1	4.1	4.2	3.9	4.0	4.3	3.9	4.1	4.8	4.5	4.6
4	4.1	3.8	3.9	4.1	4.0	4.0	4.2	3.9	4.1	4.6	4.3	4.5
5	4.1	3.9	4.0	4.2	4.0	4.1	4.1	3.8	4.0	4.6	4.3	4.4
6	4.1	4.0	4.0	4.2	4.0	4.1	4.2	3.8	4.0	4.6	4.3	4.5
7	---	---	---	4.2	4.0	4.1	4.1	3.9	4.0	4.5	3.9	4.4
8	---	---	---	4.2	4.0	4.1	4.0	3.8	3.9	6.7	4.2	4.8
9	---	---	---	4.2	4.0	4.1	3.9	3.6	3.7	5.0	4.6	4.8
10	---	---	---	4.3	4.0	4.1	3.8	3.5	3.6	4.8	4.4	4.6
11	---	---	---	4.2	4.0	4.1	3.8	3.4	3.6	4.6	4.4	4.5
12	---	---	---	4.2	4.0	4.1	3.8	3.5	3.7	4.5	4.0	4.3
13	---	---	---	4.1	3.9	4.0	4.0	3.7	3.9	4.5	4.3	4.4
14	---	---	---	4.0	3.8	3.9	4.0	3.6	3.8	4.5	4.3	4.4
15	---	---	---	4.0	3.9	3.9	4.0	3.6	3.8	4.4	4.4	4.4
16	---	---	---	4.0	3.8	3.9	4.1	3.6	3.8	4.5	4.4	4.4
17	---	---	---	4.0	3.8	3.9	3.9	3.7	3.8	4.5	4.3	4.4
18	---	---	---	4.0	3.9	4.0	3.9	3.7	3.8	4.6	4.4	4.5
19	---	---	---	4.0	3.8	3.9	3.8	3.7	3.8	4.6	4.5	4.5
20	---	---	---	4.0	3.8	3.9	4.0	3.7	3.8	4.7	4.5	4.7
21	---	---	---	7.7	3.7	4.9	3.9	3.7	3.8	4.8	4.6	4.7
22	---	---	---	6.0	4.6	5.1	4.0	3.7	3.9	4.8	4.4	4.7
23	---	---	---	4.6	4.3	4.5	4.2	3.7	4.0	4.7	4.3	4.6
24	---	---	---	6.5	4.2	4.7	4.4	4.0	4.2	4.8	4.2	4.7
25	---	---	---	6.0	4.8	5.1	4.4	4.1	4.2	6.8	4.5	5.4
26	---	---	---	5.2	4.1	4.6	4.5	4.0	4.2	6.2	5.3	5.8
27	4.3	4.0	4.1	4.3	3.9	4.1	4.4	4.0	4.2	5.6	5.0	5.5
28	4.2	4.0	4.1	4.3	3.9	4.1	4.5	4.3	4.4	5.6	5.1	5.5
29	---	---	---	4.2	3.9	4.1	4.6	4.2	4.4	5.6	5.0	5.4
30	---	---	---	4.2	4.0	4.1	4.6	4.3	4.5	5.4	5.1	5.3
31	---	---	---	4.2	3.7	4.0	---	---	---	5.4	5.0	5.4
MONTH	4.3	3.8	4.1	7.7	3.7	4.2	4.6	3.4	4.0	6.8	3.9	4.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	5.5	5.4	5.4	5.2	4.8	5.0	5.5	5.4	5.4	5.3	5.1	5.2
2	7.1	5.4	6.1	6.1	5.1	5.4	5.5	5.3	5.4	5.3	5.1	5.2
3	6.4	6.0	6.2	5.5	5.1	5.3	5.4	5.3	5.4	5.3	5.2	5.3
4	6.0	5.5	5.7	5.2	5.1	5.2	5.6	5.1	5.4	5.4	5.3	5.4
5	5.5	5.4	5.4	5.1	5.0	5.1	5.7	5.3	5.5	5.4	5.3	5.4
6	5.5	5.1	5.5	5.1	5.0	5.0	5.4	5.3	5.4	5.4	5.2	5.3
7	5.5	5.2	5.4	5.0	4.9	5.0	5.3	5.2	5.3	5.4	5.2	5.3
8	5.7	5.2	5.6	5.0	4.8	4.9	5.3	5.2	5.3	5.4	5.2	5.3
9	5.7	5.4	5.6	4.9	4.7	4.8	5.3	5.1	5.2	5.4	5.3	5.3
10	5.8	5.6	5.7	4.9	4.8	4.8	5.2	5.1	5.2	5.5	5.3	5.4
11	5.8	5.7	5.7	4.9	4.7	4.8	5.2	5.1	5.1	6.5	5.3	5.7
12	5.9	5.8	5.9	4.8	4.7	4.8	5.2	5.1	5.1	6.6	5.8	6.3
13	6.1	5.8	5.9	4.8	4.5	4.7	6.0	5.1	5.4	6.7	6.5	6.6
14	5.9	5.7	5.8	4.8	4.6	4.7	5.8	5.2	5.4	6.5	6.3	6.4
15	5.8	5.7	5.8	4.7	4.5	4.6	5.3	5.0	5.2	6.3	6.0	6.2
16	5.8	5.7	5.7	4.7	4.6	4.6	6.5	5.0	5.4	6.2	5.9	6.0
17	5.8	5.7	5.8	4.7	4.5	4.6	6.3	5.8	5.9	6.0	5.8	5.9
18	6.5	5.7	5.8	4.7	4.6	4.6	6.2	5.8	6.0	6.1	5.8	5.9
19	6.5	5.4	5.9	4.7	4.6	4.7	5.9	5.6	5.7	6.0	5.7	5.9
20	5.9	4.9	5.7	4.8	4.7	4.7	6.8	5.5	5.8	5.9	5.7	5.8
21	5.8	5.3	5.6	4.7	4.5	4.7	6.6	6.0	6.3	5.9	5.8	5.9
22	5.5	5.3	5.4	5.7	4.5	5.0	6.6	6.5	6.6	5.9	5.8	5.9
23	5.4	5.2	5.3	6.3	4.8	5.3	6.5	6.1	6.4	5.8	5.7	5.8
24	5.3	5.1	5.2	7.0	5.2	6.3	6.1	5.7	5.9	5.8	5.7	5.8
25	5.2	4.8	5.1	6.6	5.3	6.0	6.5	5.5	5.7	6.0	5.8	5.9
26	5.0	5.0	5.0	5.3	5.2	5.3	6.0	5.5	5.6	6.0	5.9	5.9
27	5.0	4.9	5.0	5.3	5.2	5.2	5.5	5.3	5.4	6.2	5.9	6.1
28	5.0	4.9	4.9	6.5	5.1	5.3	6.4	5.2	5.4	6.5	6.2	6.4
29	5.0	4.8	4.9	6.1	5.5	5.7	5.4	5.3	5.4	6.7	6.5	6.5
30	5.0	4.8	4.9	5.6	5.5	5.5	5.4	5.2	5.3	6.8	6.6	6.7
31	---	---	---	5.6	5.4	5.5	5.3	5.2	5.3	---	---	---
MONTH	7.1	4.8	5.5	7.0	4.5	5.1	6.8	5.0	5.5	6.8	5.1	5.8
YEAR	7.7	3.3	4.6									

SWATARA CREEK BASIN

0157155010 SWATARA CREEK, SITE C1, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	8.0	6.5	7.5	8.5	5.0	7.0	3.0	1.5	2.0
2	---	---	---	7.0	6.0	6.5	8.0	7.0	7.5	5.0	2.5	3.5
3	---	---	---	6.5	5.0	6.0	7.5	6.5	7.0	8.0	5.0	6.5
4	---	---	---	7.0	5.0	6.0	7.5	6.5	7.0	7.0	6.0	6.5
5	---	---	---	8.0	5.5	7.0	6.5	5.5	6.5	7.5	6.0	7.0
6	---	---	---	9.5	7.0	8.5	6.0	4.5	5.5	6.0	3.5	5.0
7	---	---	---	12.0	9.5	10.5	5.5	5.0	5.5	3.5	2.0	2.5
8	---	---	---	13.5	11.5	12.5	5.5	5.0	5.0	2.0	1.0	1.5
9	---	---	---	11.5	9.0	10.0	5.0	4.5	5.0	2.0	.5	1.0
10	---	---	---	9.0	7.5	8.5	5.0	4.0	4.5	3.0	1.5	2.5
11	---	---	---	7.5	6.5	7.0	5.5	4.5	5.0	1.5	.0	.5
12	---	---	---	7.0	5.5	6.0	6.0	5.5	5.5	.5	.0	.0
13	---	---	---	6.0	5.0	5.5	6.0	5.5	6.0	.5	.0	.0
14	---	---	---	6.0	4.5	5.5	7.0	6.0	6.5	1.0	.0	.5
15	---	---	---	5.0	3.5	4.5	7.0	6.5	7.0	1.0	.0	.5
16	---	---	---	5.0	3.0	4.0	7.0	7.0	7.0	1.5	.0	1.0
17	13.5	10.5	12.0	6.0	3.5	4.5	7.5	7.0	7.0	.0	.0	.0
18	11.5	11.0	11.5	7.0	4.5	6.0	7.5	6.5	7.0	.0	.0	.0
19	11.0	10.5	10.5	7.0	5.0	6.5	6.5	3.5	5.5	.0	.0	.0
20	10.5	10.0	10.0	5.5	4.0	5.0	3.5	2.0	2.5	1.0	.0	.5
21	11.0	10.0	10.5	5.0	4.0	4.5	3.0	1.5	2.0	1.0	.5	1.0
22	11.0	10.0	10.5	5.0	4.5	5.0	3.5	2.0	3.0	1.5	1.0	1.0
23	12.0	10.0	11.0	5.5	3.5	4.5	5.5	3.5	4.5	2.5	1.0	1.5
24	11.5	9.5	10.5	5.5	4.5	5.0	6.0	4.5	5.5	1.5	.5	1.0
25	11.0	9.0	10.0	7.0	5.5	6.5	4.5	2.5	3.5	2.5	.5	1.5
26	11.5	9.0	10.5	8.0	5.0	6.5	3.5	2.0	3.0	1.5	.5	1.0
27	12.0	10.0	11.0	5.0	2.5	3.5	5.0	3.5	4.0	1.5	.5	1.0
28	12.5	10.0	11.5	3.0	2.0	2.5	5.5	4.0	5.0	3.0	.5	2.0
29	10.0	8.5	9.5	5.0	3.0	4.0	7.0	5.5	6.5	1.5	.5	1.0
30	11.5	9.0	10.5	5.0	3.0	4.0	6.5	4.5	5.5	1.5	.5	1.0
31	10.5	8.0	9.0	---	---	---	5.0	3.0	4.0	3.0	1.5	2.5
MONTH	13.5	8.0	10.6	13.5	2.0	6.1	8.5	1.5	5.4	8.0	.0	1.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.0	3.0	3.5	6.0	4.5	5.0	6.0	2.0	4.0	12.5	9.0	10.5
2	4.5	3.0	3.5	8.0	5.5	6.5	8.0	3.5	5.5	13.0	7.0	10.0
3	5.0	3.0	3.5	5.5	3.0	4.0	9.0	4.5	7.0	12.0	9.5	10.0
4	3.0	2.0	2.5	4.0	3.5	4.0	10.5	6.5	8.5	11.5	8.0	9.5
5	4.0	3.0	3.0	4.5	4.0	4.5	9.5	7.0	8.0	12.5	6.5	9.5
6	4.0	2.5	3.0	5.0	3.5	4.5	11.0	7.5	9.0	12.0	8.0	10.0
7	---	---	---	4.5	2.0	3.0	11.5	7.0	9.5	10.5	6.5	8.0
8	---	---	---	5.5	3.0	4.0	9.5	6.0	7.5	9.0	5.5	7.5
9	---	---	---	5.0	2.5	3.5	7.0	4.0	5.5	10.0	8.0	9.0
10	---	---	---	6.5	3.0	4.5	7.0	3.0	5.0	9.5	8.0	8.5
11	---	---	---	6.0	3.5	4.5	7.0	3.5	5.0	12.0	7.0	9.0
12	---	---	---	5.5	2.5	3.5	6.5	4.5	5.5	14.0	8.5	10.5
13	---	---	---	4.0	2.0	3.0	10.5	6.0	8.0	10.5	8.5	9.5
14	---	---	---	3.5	1.5	3.0	9.0	5.0	7.0	12.0	7.5	10.0
15	---	---	---	4.0	2.5	3.0	9.5	4.0	6.5	13.5	9.0	11.0
16	---	---	---	4.0	2.0	2.5	10.5	4.5	7.5	11.0	8.0	9.0
17	---	---	---	4.5	2.0	3.5	9.0	6.5	7.5	10.5	7.5	9.0
18	---	---	---	5.5	4.0	4.5	7.5	5.5	6.0	11.0	7.5	9.0
19	---	---	---	5.5	4.0	4.5	6.5	4.5	5.5	15.0	9.5	12.0
20	---	---	---	5.5	4.0	4.5	10.0	5.5	7.0	15.0	10.5	13.0
21	---	---	---	6.5	3.5	5.0	8.0	4.5	6.5	11.5	9.0	10.0
22	---	---	---	7.0	4.0	5.5	9.0	5.0	7.0	12.5	8.0	10.0
23	---	---	---	5.5	2.5	4.0	9.0	6.5	7.5	13.0	8.0	10.5
24	---	---	---	5.5	2.0	3.5	10.5	7.0	8.5	14.5	9.0	11.5
25	---	---	---	6.5	3.5	5.0	11.0	5.5	8.0	12.5	11.5	12.0
26	---	---	---	7.0	4.5	6.0	12.5	6.0	8.5	13.5	10.5	12.0
27	8.0	5.0	6.5	9.0	4.0	6.5	11.0	5.5	8.5	13.0	9.0	11.0
28	7.0	4.5	6.0	10.0	5.5	7.5	10.5	8.5	9.0	13.5	9.0	11.0
29	---	---	---	10.0	6.5	8.0	13.0	7.0	9.5	13.0	9.0	11.0
30	---	---	---	11.0	8.0	9.0	14.5	7.5	10.5	12.5	11.0	11.5
31	---	---	---	8.5	1.0	5.0	---	---	---	14.5	11.0	12.5
MONTH	8.0	2.0	3.9	11.0	1.0	4.7	14.5	2.0	7.3	15.0	5.5	10.2

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA
(Swatara Creek Project)

LOCATION.--Lat 40°39'28", long 76°20'43", Schuylkill County, Hydrologic Unit 02050305, on left bank 500 ft downstream from bridge on U.S. Highway 209. Located on Swatara Coal Company property.

DRAINAGE AREA.--2.92 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above sea level, from topographic map.

REMARKS.--Records fair. Other data for this project presented in tables on pages 342-392.

PEAK DISCHARGES FOR PERIOD OF RECORD.--Peak discharges greater than a base discharge of 50 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0900	85	2.25	Dec. 13	1700	60	2.06
Nov. 8	2100	61	2.07	July 24	0715	57	2.04
Dec. 2	0030	*91	*2.29				

DISCHARGE, CUBIC FEET PER SECOND, JULY 1996 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e3.6	2.7	.61
2	---	---	---	---	---	---	---	---	---	e3.4	2.0	.54
3	---	---	---	---	---	---	---	---	---	e3.7	2.8	.48
4	---	---	---	---	---	---	---	---	---	e3.0	2.6	.57
5	---	---	---	---	---	---	---	---	---	e2.6	1.9	.78
6	---	---	---	---	---	---	---	---	---	e2.4	1.7	.71
7	---	---	---	---	---	---	---	---	---	e2.3	1.7	1.8
8	---	---	---	---	---	---	---	---	---	e2.5	1.7	.95
9	---	---	---	---	---	---	---	---	---	e2.7	2.2	.71
10	---	---	---	---	---	---	---	---	---	e2.4	1.9	.73
11	---	---	---	---	---	---	---	---	---	e3.2	1.6	1.2
12	---	---	---	---	---	---	---	---	---	e4.6	1.5	.91
13	---	---	---	---	---	---	---	---	---	e5.0	4.2	2.0
14	---	---	---	---	---	---	---	---	---	e4.4	2.0	1.4
15	---	---	---	---	---	---	---	---	---	e4.6	1.6	1.0
16	---	---	---	---	---	---	---	---	---	e4.2	2.9	.96
17	---	---	---	---	---	---	---	---	---	e4.0	2.0	6.6
18	---	---	---	---	---	---	---	---	---	4.4	1.6	4.0
19	---	---	---	---	---	---	---	---	---	4.8	1.4	2.0
20	---	---	---	---	---	---	---	---	---	4.3	1.3	1.6
21	---	---	---	---	---	---	---	---	---	4.0	1.4	1.5
22	---	---	---	---	---	---	---	---	---	3.8	1.4	1.6
23	---	---	---	---	---	---	---	---	---	3.8	1.2	1.5
24	---	---	---	---	---	---	---	---	---	3.5	1.2	1.4
25	---	---	---	---	---	---	---	---	---	3.5	1.1	1.4
26	---	---	---	---	---	---	---	---	---	3.5	.96	1.3
27	---	---	---	---	---	---	---	---	---	3.2	.85	1.3
28	---	---	---	---	---	---	---	---	---	3.1	.93	2.0
29	---	---	---	---	---	---	---	---	---	3.9	.82	3.2
30	---	---	---	---	---	---	---	---	---	3.9	.72	1.7
31	---	---	---	---	---	---	---	---	---	3.5	.67	---
TOTAL	---	---	---	---	---	---	---	---	---	111.8	52.55	46.45
MEAN	---	---	---	---	---	---	---	---	---	3.61	1.70	1.55
MAX	---	---	---	---	---	---	---	---	---	5.0	4.2	6.6
MIN	---	---	---	---	---	---	---	---	---	2.3	.67	.48

e Estimated.

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	5.4	25	6.1	4.3	5.3	6.3	2.7	3.1	1.1	1.3	2.2
2	1.5	5.0	51	5.9	4.2	5.8	7.2	2.7	11	2.9	1.2	1.9
3	1.5	4.5	27	5.7	4.4	5.2	8.2	4.1	16	1.6	1.1	1.7
4	1.4	4.2	19	5.2	4.4	4.8	7.9	4.4	12	1.2	1.1	1.6
5	1.3	3.9	15	5.3	7.6	6.0	7.5	3.7	10	1.1	1.1	1.5
6	1.3	3.6	14	4.8	6.5	9.2	7.2	4.0	8.6	.97	.95	1.4
7	1.3	3.5	12	4.3	6.5	7.3	6.6	3.8	7.5	.88	.83	1.4
8	2.6	22	11	4.1	6.3	7.0	6.0	3.9	6.5	.80	.75	1.4
9	3.2	33	9.5	4.1	6.1	6.7	5.6	4.2	5.5	.74	.71	1.3
10	2.5	21	8.2	4.0	5.7	6.9	5.0	3.8	4.6	.79	.65	1.4
11	1.9	16	8.0	3.7	5.1	6.2	4.5	3.5	4.0	.65	.60	6.5
12	1.8	13	10	3.6	4.8	5.5	4.8	3.2	3.5	.55	.55	7.3
13	1.9	11	39	3.3	4.4	5.0	5.0	3.1	3.7	.51	.97	3.5
14	1.8	9.8	36	2.8	4.4	8.1	3.9	2.9	3.1	.44	.86	3.0
15	1.8	8.6	24	2.9	4.4	10	3.6	2.7	2.7	.38	.53	2.7
16	1.8	7.8	19	3.7	4.1	8.8	3.4	2.7	2.4	.43	1.4	2.5
17	1.8	7.2	17	e3.2	3.8	8.6	3.3	2.5	2.2	.37	2.5	2.2
18	2.2	6.7	15	e2.6	3.6	8.0	3.0	2.3	2.4	.38	1.3	2.3
19	51	6.7	13	e2.4	4.8	7.5	2.8	2.8	3.6	.38	.93	1.9
20	32	5.6	11	e2.3	6.6	6.9	2.7	3.1	2.0	.27	5.3	1.8
21	23	5.0	9.9	2.4	6.8	6.3	2.6	2.1	1.8	.27	6.6	1.7
22	17	4.5	8.9	2.5	9.8	5.9	2.6	1.9	1.6	1.5	2.4	1.6
23	14	4.1	8.2	3.0	8.9	5.4	2.5	1.8	1.5	2.2	1.9	1.6
24	14	3.8	9.8	3.0	8.3	5.5	2.3	1.7	1.4	19	1.6	1.5
25	11	3.6	9.4	7.3	7.7	6.4	2.1	5.2	1.3	4.6	2.6	1.4
26	9.6	9.2	8.0	4.8	7.2	8.1	2.0	5.0	1.3	2.9	2.8	1.4
27	8.7	6.3	7.6	4.4	6.9	4.9	1.9	3.5	1.3	2.0	1.8	1.4
28	8.4	5.8	7.3	5.5	5.9	4.2	3.6	3.4	1.1	2.9	5.6	1.4
29	7.5	5.6	7.9	4.8	---	3.9	2.4	3.4	1.0	3.7	3.3	2.5
30	6.8	5.5	7.4	4.4	---	3.7	2.2	3.5	.92	1.7	2.6	1.7
31	6.1	---	6.8	4.4	---	7.0	---	3.3	---	1.4	2.3	---
TOTAL	242.2	251.9	474.9	126.5	163.5	200.1	128.7	100.9	127.62	58.61	58.13	65.7
MEAN	7.81	8.40	15.3	4.08	5.84	6.45	4.29	3.25	4.25	1.89	1.88	2.19
MAX	51	33	51	7.3	9.8	10	8.2	5.2	16	19	6.6	7.3
MIN	1.3	3.5	6.8	2.3	3.6	3.7	1.9	1.7	.92	.27	.53	1.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

MEAN	7.81	8.40	15.3	4.08	5.84	6.45	4.29	3.25	4.25	2.75	1.79	1.87
MAX	7.81	8.40	15.3	4.08	5.84	6.45	4.29	3.25	4.25	3.61	1.88	2.19
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1997	1997
MIN	7.81	8.40	15.3	4.08	5.84	6.45	4.29	3.25	4.25	1.89	1.70	1.55
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996

e Estimated.

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

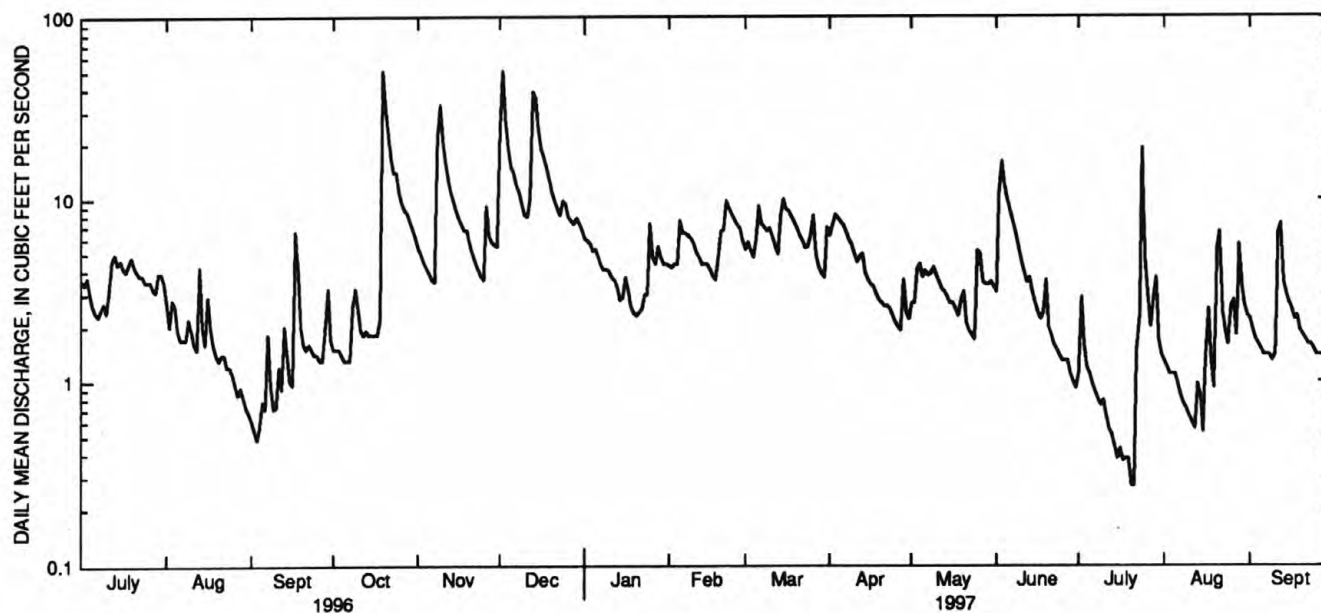
SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	1998.76			
ANNUAL MEAN	5.48		5.48	
HIGHEST ANNUAL MEAN			5.48	1997
LOWEST ANNUAL MEAN			5.48	1997
HIGHEST DAILY MEAN	51	Oct 19a	51	Oct 19 1996a
LOWEST DAILY MEAN	.27	Jul 20,21	.27	Jul 20,21 1997
ANNUAL SEVEN-DAY MINIMUM	.35	Jul 15	.35	Jul 15 1997
INSTANTANEOUS PEAK FLOW	91	Dec 2	91	Dec 2 1996
INSTANTANEOUS PEAK STAGE	2.29	Dec 2	2.29	Dec 2 1996
INSTANTANEOUS LOW FLOW	.24	Jul 20,21	.24	Jul 20,21 1997
10 PERCENT EXCEEDS	9.9		9.0	
50 PERCENT EXCEEDS	3.8		3.4	
90 PERCENT EXCEEDS	1.2		.99	

a Also Dec. 2.



JULY 1, 1996 TO SEPTEMBER 30, 1997

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1996 to current year.

pH: July 1996 to current year.

WATER TEMPERATURE: July 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996.

REMARKS.--Interruptions in the record were due to malfunctions of the instrumentation. Fixed-time, baseflow, and stormflow samples collected at streamflow control. Sample time for composited samples are midpoint of combined samples. Discharge for composited samples are the mean for the composited period. Sample times for discrete samples are as recorded. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods. Other data for the Swatara Creek Project presented in tables on pages 342-392. Figure 8 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 224 microsiemens, Aug. 11, 12; minimum, 51 microsiemens, July 24.

pH: Maximum, 7.9, July 23; minimum, 3.6, Oct. 21-23, 25, Dec. 3.

WATER TEMPERATURE: Maximum, 22.5°C, July 15; minimum 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
APR 1996											
19...	0900	1028	9813	--	150	4.3	4.3	611	7.5	11.0	93
JUN 11...	1200	1028	9813	1.9	157	5.2	4.9	506	17.5	9.6	100
JUL 22...	1110	1028	9813	4.0	141	4.4	5.0	800	14.0	9.5	93
AUG 06...	1000	1028	9813	1.9	160	4.3	4.6	590	18.5	9.7	100
SEP 28...	2145	1028	9813	4.2	137	6.2	6.4	--	14.0	--	--
28...	2230	1028	9813	6.3	127	6.2	6.2	--	14.0	--	--
29...	0001	1028	9813	6.9	118	6.4	6.1	--	14.0	--	--
29...	0200	1028	9813	5.5	112	6.6	6.1	--	13.5	--	--
29...	0430	1028	9813	4.2	111	6.7	6.1	--	13.0	--	--

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
APR 1996											
19...	16	--	5.2	5.0	6.0	5.7	4.6	4.2	1.0	1.0	0
JUN 11...	8.2	--	8.7	8.6	6.5	6.5	5.8	5.6	.8	.80	--
JUL 22...	10	--	7.7	6.8	7.2	6.9	4.8	4.8	1.0	.91	0
AUG 06...	12	--	6.4	6.2	6.6	6.3	5.9	5.7	.9	.84	15
SEP 28...	0.0	E.0	11	9.7	5.2	5.0	4.8	4.8	1.1	1.4	--
28...	0.0	--	11	8.8	4.4	4.3	5.2	5.2	1.4	1.4	--
29...	0.0	--	8.7	7.8	3.6	3.6	4.6	4.9	1.4	1.4	--
29...	0.0	--	8.0	8.0	3.6	3.6	5.3	5.3	1.2	1.2	--
29...	0.0	--	8.7	8.0	3.8	3.6	5.1	5.1	1.1	1.1	--

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 1996										
19...	5	46	7.1	<.2	5.7	<2	.06	<.040	<.020	<.020
JUN										
11...	2	50	8.8	<.2	6.3	<2	.06	.050	<.020	.020
JUL										
22...	2	56	7.9	<.2	7.4	<2	.09	.060	<.020	<.020
AUG										
06...	1	48	9.2	<.2	6.3	4	.09	<.040	<.020	<.020
SEP										
28...	13	40	8.1	<.2	6.1	28	.23	.070	.030	<.020
28...	10	35	8.8	<.2	5.8	26	.26	.060	<.020	<.020
29...	8	30	8.3	<.2	5.8	12	.21	.060	<.020	<.020
29...	8	27	8.6	<.2	5.2	2	.18	.050	<.020	<.020
29...	9	28	9.0	<.2	5.4	8	.15	<.040	<.020	<.020

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (μG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (μG/L AS AL) (01106)	ARSENIC TOTAL (μG/L AS AS) (01002)	ARSENIC DIS- SOLVED (μG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (μG/L AS BA) (01007)	BARIUM, DIS- SOLVED (μG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (μG/L AS CD) (01027)	CADMIUM DIS- SOLVED (μG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (μG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (μG/L AS CR) (01030)
APR 1996										
19...	1100	990	<4	<4	35	33	<10	<10	<50	<50
JUN										
11...	860	690	<4	<4	38	38	<10	<10	<50	<50
JUL										
22...	1100	900	<4	<4	34	34	<10	<10	<50	<50
AUG										
06...	920	820	<4	<4	33	32	<10	<10	<50	<50
SEP										
28...	1200	<140	<4	<4	30	26	<10	<10	<50	<50
28...	1300	<140	<4	<4	30	27	<10	<10	<50	<50
29...	1200	<140	<4	<4	29	26	<10	<10	<50	<50
29...	780	<140	<4	<4	35	35	<10	<10	<50	<50
29...	810	<140	<4	<4	35	33	<10	<10	<50	<50

DATE	COBALT, TOTAL RECOV- ERABLE (μG/L AS CO) (01037)	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (μG/L AS CU) (01042)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (μG/L AS FE) (01045)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (μG/L AS PB) (01051)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (μG/L AS LI) (01132)	LITHIUM DIS- SOLVED (μG/L AS LI) (01130)
APR 1996										
19...	30	26	<10	<10	620	560	1	1.1	<30	<25
JUN										
11...	30	25	<10	<10	220	160	1	1.2	<30	<25
JUL										
22...	50	34	<10	<10	420	270	2	1.1	<30	<25
AUG										
06...	<30	<25	<10	<10	280	210	1	1.0	<30	<25
SEP										
28...	<30	<25	<10	<10	560	34	1	<1.0	<30	<25
28...	<30	<25	<10	<10	1400	35	2	<1.0	<30	<25
29...	<30	<25	17	<10	810	38	2	<1.0	<30	<25
29...	<30	<25	<10	<10	510	36	1	<1.0	<30	<25
29...	<30	<25	<10	<10	370	36	1	<1.0	<30	<25

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
APR 1996										
19...	530	500	26	26	<7	<7	30	29	90	84
JUN 11...	520	520	35	35	<7	<7	40	37	90	93
JUL 22...	560	540	42	33	<7	<7	30	32	110	110
AUG 06...	590	560	39	39	<7	<7	30	31	90	88
SEP 28...	480	440	32	<25	<7	<7	30	30	70	45
28...	400	400	38	<25	<7	<7	30	27	80	54
29...	400	390	26	<25	<7	<7	20	23	70	46
29...	350	360	<25	<25	<7	<7	30	26	60	42
29...	380	350	<25	<25	<7	<7	30	25	60	48

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING 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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT 1996											
18...	2315	1028	9813	7.1	152	6.7	7.0	--	11.5	--	--
19...	0045	1028	9813	19	115	6.7	6.7	--	11.0	--	--
19...	0300	1028	9813	32	79	5.0	5.9	--	10.5	--	--
19...	0515	1028	9813	49	79	4.6	5.2	--	10.5	--	--
19...	0730	1028	9813	75	67	4.0	4.8	--	10.5	--	--
19...	0900	1028	9813	85	68	3.8	4.6	--	10.5	--	--
19...	1115	1028	9813	64	71	3.9	4.6	--	10.5	--	--
19...	1630	1028	9813	52	76	6.4	6.3	--	11.0	--	--
DEC 17...	1045	1028	9813	18	120	4.0	4.5	466	7.5	11.0	92
JAN 1997											
23...	1345	1028	9813	3.2	118	5.2	5.0	--	2.0	12.0	90
MAR 04...	1150	1028	9813	4.4	102	5.6	4.9	--	4.0	12.0	92
31...	0630	1028	9813	7.4	107	6.1	6.3	--	7.5	--	--
31...	1030	1028	9813	8.3	95	6.5	6.3	--	6.0	--	--
31...	1530	1028	9813	7.8	94	6.6	6.2	--	4.0	--	--
31...	1930	1028	9813	7.2	97	6.6	6.1	--	2.0	--	--
APR 23...	1200	1028	9813	2.6	135	6.0	5.2	--	8.5	11.0	94
JUN 02...	0929	1028	9813	5.2	118	6.2	6.6	--	13.0	--	--
02...	0931	1028	9813	5.2	118	6.2	6.5	--	13.0	--	--
02...	1030	1028	9813	8.1	113	6.0	6.5	--	13.0	--	--
02...	1100	1028	9813	13	100	6.0	6.7	--	13.0	--	--
02...	1200	1028	9813	16	95	6.4	6.5	--	13.0	--	--
02...	1245	1028	9813	18	87	6.6	6.5	--	13.0	--	--
02...	1330	1028	9813	19	86	6.8	6.6	--	13.0	--	--
02...	1545	1028	9813	19	77	6.5	6.3	--	13.0	--	--
02...	1630	1028	9813	20	73	6.3	6.4	--	13.0	--	--
02...	1800	1028	9813	19	73	6.4	6.3	--	12.5	--	--
02...	1930	1028	9813	16	75	6.2	6.2	--	12.5	--	--
02...	2100	1028	9813	14	79	6.2	6.1	--	12.0	--	--
02...	2230	1028	9813	13	82	6.2	6.2	--	12.0	--	--
03...	0001	1028	9813	13	84	6.2	6.1	--	11.5	--	--
03...	0130	1028	9813	15	84	6.2	6.1	--	11.5	--	--
03...	0215	1028	9813	17	85	6.2	6.2	--	11.0	--	--
12...	1030	1028	9813	3.7	163	6.7	7.0	335	14.0	9.3	91
JUL 15...	1500	1028	9813	.35	202	5.4	5.3	423	20.5	8.0	91
AUG 14...	1315	1028	9813	.97	187	6.5	6.2	364	18.5	8.0	87
20...	1600	1028	9813	2.9	144	6.3	6.4	--	15.0	--	--
20...	1700	1028	9813	12	119	6.4	6.4	--	15.0	--	--
20...	1822	1028	9813	15	85	6.8	6.2	--	15.5	--	--
20...	2015	1028	9813	15	80	6.6	6.1	--	15.5	--	--
20...	2212	1028	9813	16	78	6.6	6.0	--	15.5	--	--
21...	0045	1028	9813	14	80	6.7	6.0	--	15.5	--	--
21...	0430	1028	9813	10	91	7.0	6.0	--	15.0	--	--
SEP 23...	0945	1028	9813	1.6	168	6.4	6.0	432	11.5	9.8	91

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
OCT 1996											
18...	0.0	--	39	13	5.7	5.6	5.0	5.0	2.1	1.8	--
19...	0.0	--	20	9.6	3.7	3.3	4.4	4.3	2.4	2.0	--
19...	7.6	--	5.4	5.3	2.4	2.2	3.6	3.6	1.9	1.6	--
19...	10	--	4.1	4.0	2.0	1.8	3.1	3.1	2.1	1.6	--
19...	12	--	3.3	3.2	1.9	1.5	3.1	3.0	2.2	1.6	0
19...	14	--	2.5	2.5	1.6	1.4	3.2	3.2	2.1	1.7	0
19...	10	--	2.7	2.6	1.6	1.4	3.1	3.0	1.8	1.4	0
19...	11	--	17	16	11	10	6.8	6.5	2.6	2.3	0
DEC											
17...	16	--	4.0	4.0	4.3	4.2	3.9	3.8	1.0	1.0	0
JAN 1997											
23...	11	--	6.0	5.6	4.9	4.9	4.4	4.4	.8	.75	--
MAR											
04...	8.4	--	5.5	5.1	4.6	4.6	4.4	4.4	.9	.85	2
31...	2.0	--	11	8.8	3.9	3.9	4.3	4.2	.9	.76	9
31...	5.4	--	9.0	7.8	3.5	3.4	3.9	3.8	.8	.58	7
31...	4.6	--	7.5	7.0	3.4	3.3	4.2	4.1	.7	.70	6
31...	4.8	--	6.5	6.5	3.3	3.3	4.1	4.1	.8	.75	5
APR											
23...	11	--	7.3	6.6	5.3	5.1	4.6	4.4	1.2	1.2	3
JUN											
02...	0.0	--	31	10	4.2	3.7	4.5	4.1	1.1	1.1	--
02...	0.0	--	23	12	4.3	4.0	4.6	4.5	1.1	.89	--
02...	0.0	--	28	9.2	4.0	3.2	4.2	3.7	1.0	.87	14
02...	0.0	--	45	9.5	3.4	2.6	4.3	3.7	1.7	1.6	--
02...	0.0	--	26	10	3.3	2.1	3.8	3.3	1.0	.97	22
02...	0.0	--	21	9.9	3.8	1.7	3.2	2.7	.8	.84	--
02...	0.0	0	20	11	2.6	1.6	3.3	2.9	3.4	.78	22
02...	0.0	--	9.6	7.4	2.1	1.6	3.6	3.2	.7	.71	11
02...	0.0	--	9.4	5.9	2.0	1.4	3.4	2.9	1.6	.90	12
02...	2.0	--	8.2	6.0	1.9	1.5	3.6	3.0	1.7	.80	10
02...	2.0	--	7.6	6.1	2.0	1.5	4.0	3.3	1.1	.90	8
02...	1.6	--	6.9	6.1	2.0	1.7	4.0	3.6	1.0	.75	7
02...	6.2	--	6.6	5.6	2.1	1.7	4.3	3.6	1.2	.91	7
03...	4.8	--	6.7	6.1	2.2	1.9	4.3	3.7	1.0	.93	7
03...	3.2	--	7.5	6.4	2.4	2.0	4.5	3.8	1.0	.86	7
03...	1.2	--	7.4	6.8	2.3	2.1	4.3	4.1	1.0	.95	7
12...	0.0	0	18	11	5.5	5.5	4.6	4.6	1.2	1.0	--
JUL											
15...	13	--	14	16	9.5	10	5.7	6.2	1.0	1.0	--
AUG											
14...	0.0	--	13	12	8.1	7.8	5.2	5.1	1	.85	4
20...	3.2	--	16	13	5.9	5.6	4.4	4.1	1.3	.98	--
20...	2.2	--	16	12	4.2	3.4	3.6	3.6	3.1	1.5	--
20...	5.6	0	9.9	8.3	2.7	2.2	2.6	2.6	2.2	1.2	--
20...	5.6	--	7.2	6.8	2.4	2.0	3.2	2.8	1.5	1.1	--
20...	6.8	--	7.2	7.0	2.4	2.2	3.2	3.0	1.4	1.1	--
21...	7.8	--	6.8	6.7	2.3	2.3	3.5	3.5	1.4	1.1	--
21...	7.4	0	7.3	7.1	2.5	2.4	4.6	4.4	1.1	.97	--
SEP											
23...	2.8	5.2	12	12	10	9.8	7.9	7.8	1.1	1.1	5

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996										
18...	20	37	8.1	<.2	7.7	84	.26	.040	<.020	.020
19...	15	24	7.1	<.2	11	110	.73	.070	<.020	.040
19...	4	18	5.9	<.2	9.1	84	.50	<.040	<.020	.030
19...	3	15	5.3	<.2	11	130	1.0	<.040	<.020	.030
19...	2	14	5.0	<.2	12	290	1.1	.060	.020	.060
19...	1	14	5.1	<.2	10	120	.65	.060	<.020	.040
19...	1	14	4.7	<.2	10	62	.41	.060	<.020	.020
19...	9	69	9.2	<.2	13	150	.79	.230	<.020	.100
DEC										
17...	0	33	5.2	<.2	5.8	<2	.12	<.040	.020	<.020
JAN 1997										
23...	3	38	6.6	<.2	6.1	<2	.20	.050	<.020	<.020
MAR										
04...	--	36	6.9	<.2	6.1	8	.12	<.040	<.020	<.020
31...	--	32	7.9	<.2	6.4	24	.28	.090	.040	<.020
31...	--	29	7.5	<.2	6.6	24	.27	.070	.030	<.020
31...	--	29	7.1	<.2	5.4	24	.17	.050	<.020	<.020
31...	--	30	7.3	<.2	4.4	18	.21	.040	.040	<.020
APR										
23...	--	45	8.2	<.2	5.7	2	.12	<.040	<.020	<.020
JUN										
02...	16	36	7.5	<.2	6.6	62	.29	.050	.090	.020
02...	16	36	7.5	<.2	6.5	54	.40	.050	.090	.020
02...	14	34	7.2	<.2	5.8	50	.45	.060	.120	.020
02...	16	29	7.3	<.2	8.8	--	.61	.070	.090	.030
02...	22	25	6.2	<.2	26	--	.95	.070	.070	.100
02...	20	22	5.2	<.2	34	--	.91	.080	.060	.200
02...	22	21	5.8	<.2	23	--	.76	.060	.080	.090
02...	11	20	6.1	<.2	13	--	.43	.040	.030	.030
02...	12	20	6.2	<.2	8.4	--	.49	<.040	.050	.040
02...	10	19	6.4	<.2	8.8	80	.41	<.040	.040	.040
02...	8	19	6.8	<.2	7.8	34	.36	.040	.050	.020
02...	7	20	7.2	<.2	5.4	16	.33	.050	.050	.020
02...	7	22	7.4	<.2	4.8	18	.33	.050	.050	.020
03...	7	23	7.6	<.2	4.9	20	.32	.040	.060	.020
03...	7	23	7.4	<.2	5.8	24	.32	.040	.060	.020
03...	7	23	7.4	<.2	6.1	30	.37	.040	.060	.020
12...	14	43	7.7	<.2	5.8	4	.12	<.040	<.020	<.020
JUL										
15...	3	72	8.4	<.2	8.2	8	.15	.050	<.020	<.020
AUG										
14...	5	60	8.7	<.2	6.4	10	.28	.140	<.020	<.020
20...	14	45	6.1	<.2	6.6	52	.43	.140	<.020	.030
20...	19	32	6.0	<.2	19	330	1.5	.140	.060	.130
20...	10	23	4.0	<.2	14	210	1.0	.240	.070	.060
20...	7	21	5.0	<.2	8.8	86	.67	.210	.070	.030
20...	7	21	4.9	<.2	7.7	50	.55	.200	.070	.020
21...	6	22	5.6	<.2	7.0	40	.47	.160	.060	.020
21...	7	23	6.5	<.2	5.9	36	.40	.140	.050	.020
SEP										
23...	6	51	9.8	<.2	9.5	4	.13	.050	<.020	<.020

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALUM- INUM, TOTAL RECOV- ERABLE ($\mu\text{G/L}$ AS AL) (01105)	ALUM- INUM, DIS- SOLVED ($\mu\text{G/L}$ AS AL) (01106)	ARSENIC TOTAL ($\mu\text{G/L}$ AS AS) (01002)	ARSENIC DIS- SOLVED ($\mu\text{G/L}$ AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE ($\mu\text{G/L}$ AS BA) (01007)	BARIUM, DIS- SOLVED ($\mu\text{G/L}$ AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL ($\mu\text{G/L}$ AS CD) (01027)	CADMIUM DIS- SOLVED ($\mu\text{G/L}$ AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE ($\mu\text{G/L}$ AS CR) (01034)	CHRO- MIUM, DIS- SOLVED ($\mu\text{G/L}$ AS CR) (01030)
OCT 1996										
18...	2800	<140	<4	<4	36	28	<10	<10	<50	<50
19...	3800	<140	<4	<4	51	20	<10	<10	<50	<50
19...	2700	200	<4	<4	45	28	<10	<10	<50	<50
19...	3400	340	<4	<4	50	29	<10	<10	<50	<50
19...	5100	540	<4	<4	100	39	<10	<10	<50	<50
19...	3600	610	<4	<4	46	29	<10	<10	<50	<50
19...	3200	660	<4	<4	49	34	<10	<10	<50	<50
19...	3600	200	<4	<4	32	17	<10	<10	<50	<50
DEC										
17...	920	810	<4	<4	39	35	<10	<10	<50	<50
JAN 1997										
23...	890	760	<4	<4	30	30	<10	<10	<50	<50
MAR										
04...	920	840	<4	<4	33	33	<10	<10	<50	<50
31...	1200	<140	<4	<4	34	29	<10	<10	<50	<50
31...	1200	<140	<4	<4	37	28	<10	<10	<50	<50
31...	870	<140	<4	<4	32	30	<10	<10	<50	<50
31...	760	<140	<4	<4	27	27	<10	<10	<50	<50
APR										
23...	840	520	<4	<4	31	29	<10	<10	<50	<50
JUN										
02...	1600	240	<4	<4	33	24	<10	<10	<50	<50
02...	1400	150	<4	<4	33	27	<10	<10	<50	<50
02...	1700	<140	<4	<4	32	21	<10	<10	<50	<50
02...	4600	280	<4	<4	46	22	<10	<10	<50	<50
02...	14000	310	<4	<4	91	18	<10	<10	<50	<50
02...	28000	440	<4	<4	100	14	<10	<10	<50	<50
02...	10000	420	<4	<4	73	13	<10	<10	<50	<50
02...	4400	370	<4	<4	45	12	<10	<10	<50	<50
02...	4000	270	<4	<4	45	13	<10	<10	<50	<50
02...	3900	290	<4	<4	45	15	<10	<10	<50	<50
02...	2400	430	<4	<4	39	17	<10	<10	<50	<50
02...	1500	400	<4	<4	34	20	<10	<10	<50	<50
02...	1300	380	<4	<4	34	20	<10	<10	<50	<50
03...	1200	330	<4	<4	33	22	<10	<10	<50	<50
03...	1300	360	<4	<4	33	23	<10	<10	<50	<50
03...	1500	350	<4	<4	34	24	<10	<10	<50	<50
12...	720	<140	<4	<4	28	28	<10	<10	<50	<50
JUL										
15...	630	500	<4	<4	36	35	<10	<10	<50	<50
AUG										
14...	420	<200	<4	<4	24	23	<10	<10	<50	<50
20...	1700	<200	<4	<4	24	15	<10	<10	<50	<50
20...	9000	360	<4	<4	72	12	<10	<10	<50	<50
20...	6100	<200	<4	<4	50	11	<10	<10	<50	<50
20...	2900	<200	<4	<4	36	13	<10	<10	<50	<50
20...	2300	<200	<4	<4	34	18	<10	<10	<50	<50
21...	1900	<200	<4	<4	33	21	<10	<10	<50	<50
21...	1400	<200	<4	<4	31	23	<10	<10	<50	<50
SEP										
23...	890	<200	<4	<4	38	37	10	<10	<50	<50

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	COBALT, TOTAL RECOV- ERABLE (μG/L AS CO) (01037)	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (μG/L AS CU) (01042)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (μG/L AS FE) (01045)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (μG/L AS PB) (01051)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (μG/L AS LI) (01132)	LITHIUM DIS- SOLVED (μG/L AS LI) (01130)
OCT 1996										
18...	33	<25	20	<10	1600	140	5	<1.0	<30	<25
19...	<30	<25	19	<10	5700	140	6	<1.0	<30	<25
19...	<30	<25	<10	<10	5900	170	4	<1.0	<30	<25
19...	<30	<25	15	<10	9300	280	6	<1.0	<30	<25
19...	<30	<25	16	<10	11000	420	7	<1.0	<30	<25
19...	<30	<25	<10	<10	7300	420	5	<1.0	<30	<25
19...	<30	<25	10	<10	4900	320	4	<1.0	<30	<25
19...	30	<25	15	<10	13000	150	6	<1.0	<30	<25
DEC										
17...	<30	<25	<10	<10	490	410	1	1.2	<30	<25
JAN 1997										
23...	<20	<20	<10	<10	400	270	<1	<1.0	<30	<30
MAR										
04...	<20	<20	<10	11	500	380	<1	<1.0	<30	<30
31...	50	47	<10	<10	1700	89	1	<1.0	<30	<25
31...	50	47	<10	<10	1600	140	1	<1.0	<30	<25
31...	40	43	12	<10	770	160	<1	<1.0	<30	<25
31...	<30	<25	<10	<10	640	160	<1	<1.0	<30	<25
APR										
23...	<30	<25	<10	<10	220	130	<1	1.2	<30	<25
JUN										
02...	<20	<20	<10	<10	1700	28	3	<1.0	<30	<30
02...	<20	<20	<10	<10	1200	<10	2	<1.0	<30	<30
02...	<20	<20	<10	<10	1800	14	2	<1.0	<30	<30
02...	<20	<20	18	<10	7200	720	8	<1.0	<30	<30
02...	<30	<20	29	<10	24000	310	16	<1.0	<30	<30
02...	30	<20	34	<10	38000	460	18	<1.0	<30	<30
02...	20	<20	20	<10	18000	410	11	<1.0	<30	<30
02...	<20	<20	13	<10	5400	290	4	<1.0	<30	<30
02...	<30	<25	<10	<10	5800	220	5	<1.0	<30	<25
02...	<30	<25	<10	<10	5000	230	4	<1.0	<30	<25
02...	<30	<25	<10	<10	2700	290	3	<1.0	<30	<25
02...	<30	<25	<10	<10	1800	210	3	<1.0	<30	<25
02...	<30	<25	<10	<10	1400	150	2	<1.0	<30	<25
03...	<30	<25	<10	<10	1100	150	2	<1.0	<30	<25
03...	<30	<25	<10	<10	1300	170	2	<1.0	<30	<25
03...	<30	<25	<10	<10	1500	170	2	<1.0	<30	<25
12...	<30	<25	<10	<10	300	34	1	<1.0	<30	<25
JUL										
15...	<30	<25	<10	<10	120	57	<1	<1.0	<30	<25
AUG										
14...	<30	<25	<10	<10	200	100	<1	6.9	<30	<25
20...	<30	<25	<10	<10	1900	30	3	<1.0	<30	<25
20...	<30	<25	21	<10	10000	360	17	<1.0	<30	<25
20...	<30	<25	14	<10	8500	250	9	<1.0	<30	<25
20...	<30	<25	<10	<10	3500	200	4	<1.0	<30	<25
20...	<30	<25	10	<10	2800	150	3	2.3	<30	<25
21...	<30	<25	<10	<10	2000	160	<1	<1.0	<30	<25
21...	<30	<25	<10	<10	1400	120	2	<1.0	<30	<25
SEP										
23...	50	34	<10	<10	340	92	2	<1.0	<30	<30

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μG/L AS NI) (01067)	NICKEL, DIS- SOLVED (μG/L AS NI) (01065)	SELE- NIUM, TOTAL (μG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μG/L AS ZN) (01092)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)
OCT 1996										
18...	550	500	31	<25	<7	<7	50	34	140	52
19...	540	320	28	<25	<7	<7	30	24	120	13
19...	360	290	<25	<25	<7	<7	20	<20	80	50
19...	320	260	<25	<25	<7	<7	<20	<20	60	50
19...	330	220	<25	<25	<7	<7	20	<20	280	41
19...	230	200	<25	<25	<7	<7	<20	<20	50	45
19...	250	190	<25	<25	<7	<7	<20	<20	40	33
19...	1100	540	30	<25	<7	<7	70	70	90	48
DEC										
17...	370	360	28	<25	<7	<7	30	25	70	71
JAN 1997										
23...	400	400	<25	30	<7	<7	30	28	80	79
MAR										
04...	370	370	<25	33	<7	<7	30	28	70	73
31...	330	310	<25	<25	<7	<7	30	28	70	40
31...	290	280	<25	<25	<7	<7	30	24	60	37
31...	280	280	<25	<25	<7	<7	20	24	50	42
31...	310	310	<25	<25	<7	<7	20	22	50	47
APR										
23...	460	440	<25	<25	<7	<7	30	28	70	66
JUN										
02...	360	360	<25	<25	<7	<7	40	29	90	24
02...	330	290	<25	<25	<7	<7	40	32	80	18
02...	310	230	<25	<25	<7	<7	40	26	70	32
02...	360	190	35	<25	<7	<7	40	23	220	220
02...	430	150	43	<25	<7	<7	40	21	640	<10
02...	450	120	37	<25	<7	<7	40	18	160	35
02...	330	120	34	<25	<7	<7	30	19	150	30
02...	230	120	<25	<25	<7	<7	20	17	310	19
02...	220	110	<25	<25	<7	<7	20	14	70	16
02...	210	120	<25	<25	<7	<7	20	15	60	20
02...	210	120	<25	<25	<7	<7	20	16	280	190
02...	200	140	<25	<25	<7	<7	20	16	40	13
02...	200	140	<25	<25	<7	<7	20	16	100	<10
03...	200	160	<25	<25	<7	<7	20	17	40	11
03...	220	170	<25	<25	<7	<7	20	18	110	14
03...	210	180	<25	<25	<7	<7	20	19	30	20
12...	390	390	<25	<25	<7	<7	30	30	60	38
JUL										
15...	500	890	42	<25	<7	<7	50	68	80	77
AUG										
14...	390	380	29	<25	<7	<7	40	36	60	57
20...	380	280	<25	<25	<7	<7	40	34	70	17
20...	460	97	31	<25	<7	<7	30	25	110	<10
20...	490	84	<25	<25	<7	<7	20	18	80	<10
20...	300	110	<25	<25	<7	<7	20	17	310	<10
20...	300	160	<25	<25	<7	<7	20	19	50	<10
21...	260	190	<25	<25	<7	<7	20	19	40	<10
21...	250	200	<25	<25	<7	<7	20	20	40	15
SEP										
23...	590	580	<25	41	<7	<7	50	47	90	84

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	150	120	133	217	149	181
2	---	---	---	---	---	---	160	130	142	209	150	179
3	---	---	---	---	---	---	160	120	142	217	149	182
4	---	---	---	---	---	---	150	120	137	219	161	188
5	---	---	---	---	---	---	160	130	142	203	153	179
6	---	---	---	---	---	---	170	130	147	196	159	181
7	---	---	---	---	---	---	170	130	148	181	124	149
8	---	---	---	---	---	---	170	130	149	190	149	166
9	---	---	---	---	---	---	170	120	141	196	153	176
10	---	---	---	---	---	---	170	120	142	208	147	176
11	---	---	---	---	---	---	170	120	147	185	117	147
12	---	---	---	---	---	---	170	120	143	181	132	155
13	---	---	---	---	---	---	140	100	120	202	118	142
14	---	---	---	---	---	---	150	100	125	164	125	143
15	---	---	---	---	---	---	160	100	131	179	129	153
16	---	---	---	---	---	---	150	100	121	187	135	163
17	---	---	---	---	---	---	150	100	121	162	88	102
18	---	---	---	130	120	125	150	110	130	114	89	100
19	---	---	---	130	110	122	160	110	135	135	112	123
20	---	---	---	130	110	121	170	110	140	161	126	138
21	---	---	---	140	110	126	170	110	143	169	119	145
22	---	---	---	140	110	124	190	130	153	176	119	146
23	---	---	---	160	100	121	183	135	158	179	120	149
24	---	---	---	160	100	128	201	129	163	186	124	156
25	---	---	---	160	110	136	194	134	162	197	132	163
26	---	---	---	150	120	138	203	139	165	187	130	169
27	---	---	---	160	130	142	196	138	168	179	165	172
28	---	---	---	160	120	142	201	135	169	183	116	166
29	---	---	---	150	110	126	201	144	171	148	109	127
30	---	---	---	130	110	117	203	151	175	156	140	147
31	---	---	---	140	120	126	205	150	176	---	---	---
MONTH	---	---	---	160	100	128	205	100	146	219	88	155

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	174	145	153	110	104	107	121	59	89	112	105	108
2	175	153	160	114	106	110	135	59	105	114	107	110
3	180	150	159	120	109	114	138	119	132	116	106	111
4	168	157	163	121	115	118	132	122	127	114	107	111
5	173	156	165	120	114	117	128	115	123	112	101	107
6	175	162	167	119	114	117	122	114	118	112	103	109
7	175	161	168	118	110	113	122	115	118	116	108	111
8	176	104	152	117	63	94	121	112	117	121	111	116
9	137	104	120	127	71	99	116	107	113	121	113	117
10	137	125	131	136	125	131	109	102	106	121	112	117
11	147	134	141	137	128	132	108	100	104	127	106	120
12	151	140	145	135	127	131	104	90	99	134	120	126
13	156	141	147	132	120	127	91	72	79	134	123	129
14	170	143	157	128	114	123	127	89	114	140	124	130
15	166	149	157	121	115	118	129	119	125	133	121	127
16	178	154	165	123	117	119	126	115	120	149	115	121
17	183	164	173	124	115	120	120	107	113	140	118	129
18	190	136	174	123	114	119	115	108	111	141	122	133
19	138	54	83	119	112	116	114	106	109	142	129	135
20	148	116	139	121	115	118	117	109	112	137	124	130
21	139	119	128	124	116	120	117	110	114	135	125	130
22	124	107	118	125	110	116	116	102	113	162	122	133
23	121	97	114	120	111	116	115	109	112	125	112	119
24	99	88	94	123	115	119	114	92	104	171	112	121
25	102	96	99	124	116	120	108	93	101	112	86	92
26	118	98	107	123	88	99	110	102	106	115	97	108
27	121	112	117	115	102	109	107	101	104	117	109	113
28	121	112	117	117	110	114	110	103	107	119	105	112
29	116	105	111	121	111	116	113	101	106	122	112	117
30	111	105	108	124	115	120	110	98	104	125	116	121
31	112	102	107	---	---	---	113	104	107	124	118	121
MONTH	190	54	137	137	63	116	138	59	110	171	86	119

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	141	118	123	93	83	89	121	101	108	132	108	125
2	133	119	123	92	81	86	114	93	105	126	108	119
3	128	111	119	100	88	95	105	95	101	129	89	114
4	122	112	118	102	95	99	111	101	105	112	90	103
5	124	95	105	103	82	97	118	106	112	134	107	112
6	122	104	114	99	82	91	122	112	116	114	103	110
7	130	116	123	101	95	99	124	114	118	118	106	111
8	128	121	124	104	98	100	124	117	120	141	107	115
9	135	123	128	108	100	104	125	115	120	118	107	112
10	131	122	127	109	100	106	126	118	123	117	108	113
11	130	121	125	112	104	108	127	120	123	122	113	118
12	127	121	124	114	107	111	128	112	122	123	117	120
13	129	120	125	116	109	113	123	109	116	122	116	119
14	129	118	122	114	82	103	133	120	124	137	117	120
15	128	116	120	105	82	96	128	120	124	126	117	122
16	131	123	127	119	102	112	133	122	127	127	114	121
17	135	123	129	123	105	115	132	124	128	148	120	124
18	144	118	125	109	103	106	144	124	130	129	119	123
19	122	95	113	112	104	109	136	125	130	129	109	122
20	123	91	102	111	103	108	137	123	128	128	108	118
21	112	91	105	187	105	118	135	126	131	124	118	121
22	102	90	94	112	104	109	139	129	133	138	121	126
23	112	98	105	117	111	114	137	129	132	138	125	130
24	118	110	114	163	101	117	136	129	132	135	126	129
25	119	112	116	135	101	116	147	128	135	135	85	112
26	121	95	112	126	92	116	143	131	136	111	86	99
27	99	90	94	128	119	124	139	131	134	114	108	111
28	102	90	96	130	121	126	143	102	115	115	104	108
29	---	---	---	131	121	126	126	114	122	118	107	112
30	---	---	---	129	119	124	129	119	124	121	113	117
31	---	---	---	123	92	102	---	---	---	123	115	119
MONTH	144	90	116	187	81	108	147	93	122	148	85	117
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	126	117	121	181	146	168	209	194	201	201	176	190
2	126	73	100	164	106	126	212	192	202	203	182	192
3	97	77	86	146	121	134	210	193	202	204	184	194
4	122	97	110	154	140	148	210	185	201	202	187	195
5	129	117	122	167	150	158	206	185	195	201	188	195
6	134	124	129	172	159	166	211	191	201	201	187	195
7	135	127	130	188	165	172	213	196	204	202	177	191
8	135	125	130	192	169	181	219	199	208	192	175	183
9	134	126	130	192	178	185	221	203	211	195	177	187
10	148	125	134	190	172	183	221	202	212	195	164	181
11	148	133	140	195	177	186	224	205	214	171	93	127
12	152	136	142	199	181	190	224	208	215	156	97	132
13	148	124	135	210	184	194	222	171	198	205	150	172
14	145	128	138	205	189	196	199	163	185	209	169	180
15	150	135	142	206	189	198	215	192	203	192	175	182
16	151	139	145	207	187	197	218	102	190	206	185	196
17	151	136	143	207	191	198	158	103	132	203	180	193
18	151	124	142	212	193	202	164	149	156	197	168	180
19	133	104	120	211	192	199	185	156	171	189	168	181
20	140	127	133	211	190	203	188	75	149	199	181	188
21	147	133	140	217	177	205	131	77	106	200	173	187
22	151	138	144	196	125	148	160	129	145	176	164	170
23	158	142	149	171	109	133	179	153	166	173	161	166
24	186	150	158	126	51	85	191	170	180	169	160	164
25	168	154	162	184	116	153	195	117	175	172	161	166
26	168	143	159	199	177	187	173	115	149	173	164	168
27	169	151	159	202	184	193	188	168	176	175	164	170
28	173	159	166	201	102	182	190	97	128	178	160	171
29	174	159	167	178	108	147	167	130	147	162	118	136
30	178	164	170	203	173	187	184	160	172	161	146	154
31	---	---	---	206	191	199	200	180	190	---	---	---
MONTH	186	73	138	217	51	174	224	75	180	209	93	176
YEAR	224	51	135									

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	5.4	4.5	4.8	4.4	4.4	4.4
2	---	---	---	---	---	---	4.5	4.4	4.4	4.6	4.4	4.4
3	---	---	---	---	---	---	4.4	4.3	4.4	4.4	4.4	4.4
4	---	---	---	---	---	---	4.4	4.3	4.4	4.5	4.4	4.4
5	---	---	---	---	---	---	4.4	4.3	4.4	4.4	4.3	4.4
6	---	---	---	---	---	---	4.6	4.3	4.4	4.4	4.3	4.4
7	---	---	---	---	---	---	4.8	4.5	4.6	4.8	4.3	4.4
8	---	---	---	---	---	---	5.0	4.8	5.0	4.3	4.2	4.2
9	---	---	---	---	---	---	5.0	4.6	4.9	4.2	4.2	4.2
10	---	---	---	---	---	---	4.6	4.4	4.5	4.3	4.2	4.2
11	---	---	---	---	---	---	4.8	4.4	4.6	5.3	4.2	4.6
12	---	---	---	---	---	---	4.7	4.6	4.7	4.7	4.5	4.6
13	---	---	---	---	---	---	4.6	4.4	4.5	7.3	4.5	5.8
14	---	---	---	---	---	---	5.3	4.6	4.7	7.4	6.7	7.1
15	---	---	---	---	---	---	4.8	4.7	4.7	6.7	6.0	6.2
16	---	---	---	---	---	---	4.7	4.5	4.6	6.9	5.3	5.7
17	---	---	---	---	---	---	4.8	4.6	4.7	7.0	5.5	6.0
18	---	---	---	5.2	5.0	5.1	4.8	4.7	4.8	6.7	6.0	6.5
19	---	---	---	5.2	4.9	5.0	4.7	4.6	4.6	6.7	6.0	6.4
20	---	---	---	4.9	4.8	4.8	4.6	4.6	4.6	6.0	5.7	5.8
21	---	---	---	5.0	4.9	4.9	4.6	4.6	4.6	5.8	5.5	5.7
22	---	---	---	5.0	4.8	4.9	4.9	4.6	4.7	5.9	5.5	5.7
23	---	---	---	5.4	4.9	5.1	5.0	4.6	4.8	5.8	5.4	5.6
24	---	---	---	5.4	5.2	5.4	6.0	4.9	5.5	6.1	5.3	5.6
25	---	---	---	5.4	5.3	5.3	5.9	4.7	5.2	5.5	5.1	5.2
26	---	---	---	5.4	5.3	5.4	4.7	4.4	4.6	5.5	5.0	5.2
27	---	---	---	5.9	5.2	5.5	4.4	4.3	4.4	5.5	5.4	5.4
28	---	---	---	5.9	5.7	5.8	6.2	4.3	4.8	6.4	5.5	5.7
29	---	---	---	5.7	4.8	5.2	4.9	4.5	4.6	7.3	6.4	7.0
30	---	---	---	5.0	4.8	4.9	4.5	4.4	4.4	7.0	5.8	6.2
31	---	---	---	5.0	4.9	5.0	4.4	4.4	4.4	---	---	---
MONTH	---	---	---	5.9	4.8	5.2	6.2	4.3	4.7	7.4	4.2	5.3

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.9	5.8	6.1	5.4	5.1	5.3	4.7	4.2	4.3	4.8	4.5	4.6
2	6.8	5.8	6.3	5.4	5.2	5.3	4.5	4.0	4.1	4.9	4.4	4.6
3	5.8	4.8	5.2	5.3	5.1	5.2	4.5	3.6	4.0	5.8	4.3	4.9
4	4.8	4.5	4.6	5.2	5.0	5.1	4.1	4.0	4.0	6.0	5.4	5.5
5	5.6	4.4	4.6	5.1	4.9	5.0	4.1	4.0	4.0	5.8	5.5	5.7
6	4.6	4.3	4.4	5.3	4.8	5.0	4.1	4.1	4.1	5.8	5.7	5.8
7	4.7	4.3	4.4	5.6	5.2	5.4	4.1	4.1	4.1	5.8	5.6	5.7
8	5.8	4.3	4.9	5.7	4.2	5.0	4.2	4.1	4.1	5.6	5.2	5.4
9	6.3	5.1	5.4	4.2	4.1	4.2	4.3	4.2	4.2	5.4	5.2	5.3
10	5.2	4.6	4.8	4.2	4.0	4.1	4.6	4.3	4.4	6.5	5.3	5.6
11	4.9	4.6	4.8	4.2	4.0	4.1	4.7	4.4	4.6	5.7	5.2	5.4
12	4.9	4.6	4.8	4.2	4.1	4.2	5.1	4.3	4.5	5.2	4.9	5.1
13	6.0	4.9	5.5	4.7	3.9	4.2	4.4	4.1	4.2	5.0	4.8	4.9
14	6.3	5.9	6.0	5.5	4.0	4.5	4.1	4.0	4.0	5.3	4.7	4.8
15	6.1	5.7	5.9	5.7	5.2	5.5	4.1	4.0	4.0	5.5	4.8	4.9
16	7.3	5.8	6.5	5.7	5.5	5.6	4.1	4.0	4.0	5.6	5.0	5.3
17	7.4	7.0	7.3	5.6	5.3	5.5	4.2	3.7	4.1	5.2	4.9	5.0
18	7.3	6.6	7.1	5.7	5.1	5.4	4.1	4.0	4.0	5.3	4.9	5.0
19	6.7	3.7	4.2	5.7	5.5	5.6	4.1	4.0	4.1	4.9	4.7	4.8
20	3.8	3.7	3.8	5.5	5.1	5.4	4.1	4.0	4.1	4.8	4.6	4.6
21	3.9	3.6	3.7	5.9	5.1	5.2	4.2	4.1	4.1	5.0	4.6	4.7
22	3.7	3.6	3.7	5.3	5.0	5.2	4.1	4.0	4.1	4.9	4.8	4.8
23	3.7	3.6	3.7	5.0	4.6	4.8	4.1	4.0	4.0	5.2	4.8	5.0
24	3.8	3.7	3.7	4.6	4.5	4.6	4.1	4.0	4.1	5.5	5.0	5.1
25	3.8	3.6	3.7	4.7	4.4	4.5	4.2	4.1	4.1	6.8	5.5	6.2
26	3.8	3.7	3.8	4.8	4.3	4.4	4.2	4.1	4.1	6.8	6.5	6.7
27	3.8	3.7	3.8	4.6	4.3	4.4	4.2	4.1	4.1	6.5	6.4	6.4
28	3.8	3.7	3.8	4.4	4.3	4.4	4.1	4.1	4.1	6.4	6.4	6.4
29	5.0	3.8	4.2	5.8	4.3	4.5	4.1	4.1	4.1	6.4	6.3	6.3
30	5.0	4.6	4.8	4.4	4.2	4.3	5.2	4.1	4.4	6.3	6.2	6.3
31	5.2	5.0	5.1	---	---	---	5.6	4.3	4.5	6.2	6.1	6.2
MONTH	7.4	3.6	4.9	5.9	3.9	4.9	5.6	3.6	4.1	6.8	4.3	5.4

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6.8	6.0	6.4	6.1	6.0	6.1	6.7	6.5	6.6	5.4	5.1	5.2
2	6.7	6.4	6.6	6.1	5.6	6.0	6.6	6.4	6.5	5.4	4.7	5.0
3	6.7	6.5	6.6	5.6	5.5	5.6	6.7	6.5	6.6	5.7	4.7	5.1
4	6.5	6.4	6.4	5.7	5.2	5.5	6.7	6.5	6.6	5.4	4.9	5.1
5	6.5	6.4	6.5	5.2	4.2	4.8	6.5	6.4	6.4	6.5	4.9	5.4
6	6.5	6.3	6.4	4.2	4.1	4.1	6.5	6.3	6.4	6.3	6.0	6.2
7	6.4	4.6	5.5	4.1	4.0	4.1	6.5	6.2	6.4	6.0	5.5	5.8
8	4.6	4.5	4.6	4.1	4.1	4.1	6.2	5.9	6.1	6.2	5.1	5.6
9	6.1	4.5	4.6	5.7	4.1	4.2	6.1	5.8	5.9	5.9	5.4	5.5
10	5.9	4.6	4.8	4.6	4.0	4.1	5.9	5.8	5.8	5.4	5.2	5.3
11	4.8	4.7	4.8	4.0	4.0	4.0	6.1	5.7	5.9	5.4	5.1	5.2
12	4.7	4.7	4.7	4.1	4.0	4.0	6.2	6.1	6.1	5.3	5.1	5.2
13	4.8	4.6	4.7	4.0	4.0	4.0	6.3	6.2	6.2	5.1	5.0	5.1
14	4.7	4.6	4.6	4.4	4.0	4.1	6.5	6.1	6.3	5.2	4.9	5.0
15	5.3	4.6	4.7	5.5	4.3	4.6	6.4	6.2	6.3	5.3	4.9	5.0
16	4.6	4.5	4.6	4.7	4.3	4.5	6.3	6.1	6.2	5.2	5.0	5.1
17	5.7	4.4	4.6	5.7	4.3	4.7	6.4	6.2	6.3	5.9	5.0	5.3
18	6.3	4.5	4.9	6.0	5.7	5.9	7.0	6.2	6.5	5.7	5.3	5.5
19	5.2	4.9	5.1	5.9	5.8	5.9	7.1	7.0	7.0	5.9	5.6	5.7
20	6.3	5.1	5.3	5.9	5.7	5.8	7.0	6.9	6.9	5.9	5.5	5.7
21	6.2	5.2	5.8	7.2	5.5	6.1	6.9	6.5	6.7	5.7	5.4	5.5
22	6.2	5.7	5.9	7.0	6.2	6.5	6.6	6.4	6.5	5.4	5.2	5.3
23	5.7	5.4	5.6	6.2	6.0	6.1	6.4	6.1	6.3	5.4	5.2	5.3
24	5.4	5.0	5.2	7.1	6.0	6.3	6.1	5.8	6.0	5.7	5.4	5.5
25	5.0	4.9	4.9	7.0	6.7	6.9	5.8	5.4	5.7	6.6	5.5	6.0
26	5.6	4.8	4.9	6.7	6.1	6.4	6.0	5.2	5.5	6.8	6.6	6.7
27	6.6	4.9	5.6	6.3	5.3	5.9	5.5	5.2	5.3	6.6	6.5	6.5
28	6.1	6.0	6.0	5.7	5.1	5.3	6.4	5.5	6.1	6.5	6.3	6.3
29	---	---	---	6.3	5.3	5.7	6.3	5.3	5.8	6.3	6.2	6.3
30	---	---	---	6.4	5.4	6.0	5.4	5.1	5.3	6.3	6.2	6.3
31	---	---	---	6.7	5.5	6.4	---	---	---	6.4	6.2	6.3
MONTH	6.8	4.4	5.4	7.2	4.0	5.3	7.1	5.1	6.2	6.8	4.7	5.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.4	6.2	6.3	5.7	4.7	5.1	6.3	6.0	6.1	5.5	5.3	5.4
2	6.8	6.0	6.3	6.7	5.7	6.2	6.2	6.0	6.1	5.6	5.2	5.4
3	6.2	6.0	6.1	6.2	5.7	5.9	6.1	6.0	6.0	5.4	5.1	5.3
4	6.0	5.5	5.7	5.8	5.5	5.7	6.2	5.9	6.0	5.3	5.1	5.2
5	5.7	5.5	5.6	5.6	5.3	5.5	6.3	6.0	6.2	5.4	5.1	5.2
6	5.7	5.5	5.6	5.4	5.1	5.3	6.0	5.9	6.0	5.2	5.1	5.1
7	5.9	5.7	5.8	5.9	5.1	5.5	6.0	5.8	5.9	5.6	5.1	5.2
8	5.9	5.8	5.9	5.8	5.4	5.7	6.0	5.8	5.9	5.5	5.2	5.3
9	6.0	5.8	5.9	5.9	5.6	5.7	6.0	5.8	5.9	5.3	5.2	5.2
10	7.4	5.9	6.6	6.4	5.5	6.0	6.0	5.8	5.9	5.8	5.2	5.4
11	7.4	6.5	7.0	5.5	5.4	5.4	6.0	5.8	5.9	6.5	5.8	6.2
12	6.6	6.2	6.4	5.4	5.3	5.4	5.9	5.8	5.9	7.3	6.4	7.0
13	6.7	6.1	6.4	6.1	5.3	5.5	6.6	5.7	6.1	7.5	7.2	7.3
14	6.8	6.5	6.7	5.6	5.4	5.5	6.5	6.2	6.4	7.4	7.3	7.4
15	6.7	6.2	6.5	5.5	5.3	5.4	6.2	6.0	6.1	7.4	7.2	7.3
16	6.3	6.0	6.2	5.4	5.2	5.3	6.8	5.9	6.1	7.3	7.1	7.2
17	6.3	6.0	6.1	5.4	5.3	5.3	7.3	6.5	7.0	7.2	6.4	7.0
18	6.9	6.0	6.2	6.2	5.3	5.5	7.1	6.6	6.8	6.6	6.3	6.4
19	7.1	6.4	6.8	5.9	5.5	5.7	6.6	6.2	6.4	6.7	6.6	6.7
20	6.4	5.8	6.2	5.5	5.4	5.4	6.8	6.1	6.3	6.7	6.6	6.6
21	5.9	5.5	5.8	6.5	5.3	5.4	7.5	6.6	7.3	6.7	6.5	6.6
22	5.6	5.3	5.5	7.5	6.5	7.0	7.5	6.8	7.0	6.5	6.3	6.4
23	5.4	5.1	5.3	7.9	6.4	7.2	6.8	6.5	6.7	6.3	6.0	6.2
24	5.7	5.0	5.3	7.5	6.5	7.1	6.5	6.1	6.3	6.9	6.0	6.3
25	5.8	5.3	5.6	7.8	7.3	7.5	7.0	5.9	6.1	6.8	6.5	6.7
26	5.5	5.1	5.2	7.3	6.9	7.1	7.0	6.1	6.6	6.6	6.0	6.4
27	5.5	5.2	5.4	7.1	6.9	7.0	6.1	5.6	5.9	6.3	6.0	6.2
28	5.6	5.2	5.4	7.0	6.2	6.7	6.3	5.1	5.8	6.8	6.3	6.6
29	5.4	4.9	5.2	7.0	6.6	6.8	6.2	5.6	5.9	7.5	6.7	7.3
30	5.1	4.8	4.9	7.1	5.9	6.5	5.6	5.3	5.5	7.6	7.5	7.6
31	---	---	---	6.1	5.9	6.0	5.4	5.3	5.3	---	---	---
MONTH	7.4	4.8	5.9	7.9	4.7	6.0	7.5	5.1	6.2	7.6	5.1	6.3
YEAR	7.9	3.6	5.5									

SWATARA CREEK BASIN

0157155014 SWATARA CREEK, SITE C3, AT NEWTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	18.0	15.0	16.5	18.0	15.0	16.5
2	---	---	---	---	---	---	17.0	15.0	16.0	18.5	15.0	16.5
3	---	---	---	---	---	---	16.5	15.5	16.0	18.5	15.5	17.0
4	---	---	---	---	---	---	17.5	15.5	16.5	17.5	16.5	17.0
5	---	---	---	---	---	---	18.5	15.0	16.5	18.5	17.0	17.5
6	---	---	---	---	---	---	19.0	15.5	17.0	18.0	17.0	17.5
7	---	---	---	---	---	---	19.0	15.5	17.0	18.5	18.0	18.5
8	---	---	---	---	---	---	19.0	16.0	17.5	19.5	17.0	18.5
9	---	---	---	---	---	---	17.0	16.5	17.0	19.5	17.0	18.0
10	---	---	---	---	---	---	18.5	15.5	17.0	18.5	17.5	18.0
11	---	---	---	---	---	---	17.5	14.0	16.0	18.0	17.0	17.5
12	---	---	---	---	---	---	16.0	15.0	15.5	17.5	16.5	17.0
13	---	---	---	---	---	---	16.5	14.5	15.5	17.0	15.0	16.5
14	---	---	---	---	---	---	17.5	14.5	16.0	15.0	13.5	14.5
15	---	---	---	---	---	---	18.0	15.5	16.5	15.0	13.0	14.0
16	---	---	---	---	---	---	17.5	16.0	16.5	14.5	14.0	14.5
17	---	---	---	---	---	---	18.0	15.5	17.0	14.5	14.0	14.5
18	---	---	---	17.0	15.5	16.0	17.5	15.0	16.5	15.0	13.5	14.0
19	---	---	---	17.5	15.5	16.5	18.5	15.0	16.5	15.0	12.5	14.0
20	---	---	---	16.5	14.5	15.5	18.0	15.5	16.5	15.0	12.0	13.5
21	---	---	---	16.5	13.0	15.0	18.0	16.5	17.0	15.0	11.5	13.5
22	---	---	---	14.5	14.0	14.0	19.0	16.5	17.5	15.0	13.5	14.0
23	---	---	---	15.5	14.0	14.5	20.0	16.0	18.0	14.0	12.0	13.5
24	---	---	---	17.0	14.0	15.5	19.0	17.0	18.0	12.0	11.0	11.5
25	---	---	---	18.0	15.0	16.0	19.0	15.5	17.0	13.5	11.0	12.0
26	---	---	---	18.5	16.0	17.0	19.0	15.5	17.0	13.0	10.0	11.5
27	---	---	---	17.0	15.0	16.0	18.0	15.5	17.0	14.0	12.5	13.0
28	---	---	---	17.0	14.0	15.5	18.0	16.0	17.0	15.5	13.5	14.5
29	---	---	---	16.0	15.0	15.5	18.5	15.5	17.0	13.5	12.0	13.0
30	---	---	---	16.0	15.0	15.5	18.0	15.0	16.5	14.0	11.0	12.5
31	---	---	---	16.5	15.5	16.0	18.0	15.0	16.5	---	---	---
MONTH	---	---	---	18.5	13.0	15.6	20.0	14.0	16.7	19.5	10.0	15.1

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.0	11.0	12.5	8.0	6.5	7.5	8.5	5.0	7.0	2.5	1.5	2.0
2	13.0	12.5	13.0	7.0	6.0	6.5	8.5	6.5	7.5	4.5	2.0	3.5
3	13.0	9.5	12.0	6.5	5.0	6.0	7.5	6.0	7.0	8.0	4.5	6.0
4	10.0	7.5	9.0	7.5	5.0	6.0	7.5	6.5	7.0	7.0	6.0	6.5
5	10.0	7.0	8.0	8.0	5.5	7.0	6.5	5.5	6.0	7.5	6.0	6.5
6	10.0	6.5	8.5	9.5	7.0	8.5	6.0	4.5	5.5	6.0	3.5	5.0
7	10.5	7.0	9.0	12.0	9.5	10.5	5.5	5.0	5.5	3.5	1.5	2.5
8	10.0	9.0	9.5	14.0	11.5	12.5	5.5	4.5	5.0	2.0	1.0	1.5
9	12.0	9.5	11.0	11.5	9.0	10.0	5.0	4.5	4.5	1.5	.5	1.0
10	11.5	9.5	10.5	9.0	7.5	8.5	5.0	4.0	4.5	3.0	1.5	2.0
11	9.5	7.5	9.0	7.5	6.5	7.0	5.5	4.5	5.0	1.5	.0	.5
12	9.5	6.0	7.5	7.0	5.5	6.0	6.0	5.5	5.5	.5	.0	.0
13	11.0	8.5	9.5	6.0	5.0	5.5	6.0	6.0	6.0	.5	.0	.0
14	13.0	10.0	11.5	6.0	4.5	5.5	7.0	6.0	6.5	.5	.0	.5
15	10.5	8.5	9.5	5.0	3.5	4.5	7.0	6.5	6.5	1.0	.0	.5
16	12.5	8.0	10.0	5.0	3.0	4.0	7.5	7.0	7.5	1.5	.0	1.0
17	13.5	10.5	12.0	6.0	3.5	4.5	8.0	7.0	7.5	.0	.0	.0
18	12.0	11.0	11.5	7.0	4.5	6.0	7.5	6.5	7.0	.0	.0	.0
19	11.0	10.5	10.5	7.0	5.0	6.5	6.5	3.5	5.5	.0	.0	.0
20	10.5	10.0	10.5	5.5	4.0	5.0	3.5	2.0	2.5	.5	.0	.0
21	11.0	10.0	10.5	5.0	4.0	4.5	3.0	1.5	2.0	1.0	.5	.5
22	11.5	10.0	10.5	5.0	4.5	5.0	3.5	2.0	3.0	1.5	.5	1.0
23	12.0	10.5	11.0	5.5	3.5	4.5	5.5	3.5	4.5	2.5	1.0	1.5
24	11.5	9.5	10.5	5.5	4.5	5.0	6.0	4.5	5.5	1.0	.5	1.0
25	11.5	9.0	10.0	7.0	5.5	6.5	4.5	2.5	3.0	2.5	.5	1.5
26	12.0	9.0	10.5	8.0	5.0	6.5	3.5	2.0	3.0	1.5	.5	1.0
27	12.5	10.5	11.5	5.0	2.5	3.5	5.0	3.5	4.0	1.5	.0	1.0
28	12.5	10.0	11.5	3.0	2.0	2.5	5.5	4.0	5.0	3.0	.0	2.0
29	10.5	8.5	9.5	5.0	3.0	4.0	7.0	5.5	6.0	1.5	.5	1.0
30	12.0	9.0	10.5	5.0	3.0	4.0	6.5	4.5	5.5	1.5	.5	1.0
31	10.5	8.0	9.0	---	---	---	4.5	2.5	4.0	3.0	1.5	2.0
MONTH	14.0	6.0	10.3	14.0	2.0	6.1	8.5	1.5	5.3	8.0	.0	1.7

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	4.0	2.5	3.5	6.0	4.5	5.0	6.5	2.0	4.0	12.5	9.5	10.5
2	4.5	2.5	3.5	8.0	5.5	6.5	8.5	3.5	5.5	13.5	7.5	10.0
3	5.0	2.5	3.5	5.5	3.0	4.0	9.5	4.5	7.0	12.0	9.5	10.5
4	3.0	2.0	2.5	4.0	3.5	4.0	11.0	6.5	8.5	12.0	8.0	10.0
5	4.0	2.5	3.0	4.5	4.0	4.5	10.0	7.0	8.5	13.0	6.5	9.5
6	4.0	2.5	3.0	5.0	3.0	4.5	11.5	7.5	9.5	12.0	8.5	10.0
7	4.0	2.5	3.0	4.5	2.0	3.0	11.5	7.5	9.5	10.5	6.5	8.5
8	3.5	2.5	3.0	5.5	3.0	4.0	9.5	6.0	7.5	9.5	6.0	8.0
9	3.0	1.5	2.5	5.0	2.5	3.5	7.5	4.0	5.5	10.0	8.5	9.0
10	2.5	1.0	2.0	6.5	3.0	4.5	7.5	3.0	5.0	10.0	8.0	8.5
11	3.0	1.0	2.0	6.0	3.5	4.5	7.5	3.5	5.5	12.5	7.0	9.5
12	3.0	2.0	2.5	5.5	2.5	3.5	6.5	4.5	6.0	14.0	9.0	11.0
13	2.5	.5	1.5	4.5	2.0	3.0	10.5	6.0	8.0	10.5	9.0	10.0
14	2.5	.0	1.5	3.5	1.5	2.5	9.5	5.0	7.0	12.5	8.0	10.0
15	4.5	2.0	3.0	4.5	2.5	3.0	10.0	4.0	6.5	14.0	9.5	11.0
16	3.0	1.0	2.0	4.0	2.0	2.5	10.5	4.5	7.5	11.0	8.0	9.5
17	2.5	.5	2.0	5.0	2.0	3.5	9.0	6.5	8.0	10.5	7.5	9.0
18	4.5	1.5	3.0	5.5	4.0	4.5	8.0	5.5	6.5	11.0	7.5	9.0
19	6.0	3.0	4.0	5.5	4.0	4.5	6.5	4.5	5.5	15.0	10.0	12.0
20	5.5	3.0	4.0	5.5	4.0	4.5	10.0	5.5	7.0	15.0	11.0	13.0
21	6.5	3.5	5.0	6.5	3.5	5.0	8.5	4.5	6.5	11.5	9.0	10.0
22	7.5	4.0	6.0	7.0	3.5	5.5	9.5	5.0	7.5	13.0	8.5	10.0
23	5.0	3.0	4.0	5.5	2.5	4.0	9.5	6.5	8.0	13.5	8.0	10.5
24	5.0	3.0	4.0	5.5	2.0	3.5	11.0	7.0	8.5	14.5	9.5	12.5
25	3.5	1.5	2.5	6.5	3.5	4.5	11.0	5.5	8.5	12.5	11.5	12.0
26	5.5	2.0	4.0	7.0	4.5	6.0	13.0	6.0	9.0	13.5	11.0	12.0
27	8.0	5.0	6.5	9.5	4.0	6.5	11.5	6.0	8.5	13.0	9.5	11.0
28	7.0	4.5	6.0	10.0	5.5	7.5	11.0	8.5	9.0	13.5	9.0	11.0
29	---	---	---	10.0	6.5	8.5	13.5	7.0	10.0	13.0	9.0	11.0
30	---	---	---	11.5	8.0	9.5	14.5	7.5	11.0	12.5	11.0	11.5
31	---	---	---	8.5	1.5	5.0	---	---	---	14.5	11.0	13.0
MONTH	8.0	.0	3.3	11.5	1.5	4.7	14.5	2.0	7.5	15.0	6.0	10.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	15.0	12.5	13.5	16.5	15.5	16.0	18.0	14.5	16.0	17.0	15.0	16.0
2	14.0	11.5	13.0	16.0	15.5	16.0	18.5	15.5	17.0	18.0	15.0	16.5
3	11.5	10.5	11.0	19.0	16.0	17.5	19.0	15.5	17.0	16.5	13.5	15.5
4	12.5	10.0	11.0	18.0	16.0	17.0	17.0	15.5	16.5	14.0	11.5	13.0
5	12.5	10.0	11.0	17.5	14.0	16.0	18.0	14.5	16.0	15.0	11.0	13.0
6	13.0	10.5	11.5	18.0	13.5	15.5	17.0	13.5	15.0	15.5	13.0	14.0
7	12.0	11.0	11.5	18.5	14.0	16.0	17.0	13.5	15.0	16.0	13.0	14.5
8	12.0	10.0	11.0	19.0	15.0	17.0	17.5	13.0	15.0	16.5	14.0	15.0
9	13.5	10.0	12.0	19.5	16.0	17.5	18.0	14.0	16.0	15.5	15.0	15.0
10	15.0	11.0	13.0	18.5	15.0	17.0	18.5	15.0	16.5	15.0	14.5	14.5
11	15.5	12.5	14.0	18.0	13.5	16.0	18.5	15.5	17.0	16.5	15.0	16.0
12	16.0	13.5	14.5	19.0	14.5	16.5	18.5	16.5	17.5	16.0	14.5	15.5
13	16.0	13.5	14.5	19.5	15.5	17.5	18.5	17.0	17.5	15.5	14.0	14.5
14	15.5	13.5	14.5	20.0	16.0	18.0	19.5	16.5	18.0	15.5	13.5	14.5
15	15.0	11.5	13.5	22.5	17.0	19.0	18.0	15.5	17.0	15.5	13.5	14.5
16	15.0	11.5	13.5	21.0	18.0	19.5	21.0	17.0	18.5	16.0	13.5	14.5
17	14.0	13.0	13.5	21.5	17.5	19.5	20.5	19.0	19.5	16.0	13.5	15.0
18	14.5	13.0	13.5	21.5	18.5	19.5	19.0	16.0	18.0	16.5	14.5	15.5
19	16.5	13.5	15.0	20.0	17.5	18.5	17.5	14.0	16.0	16.0	12.5	14.5
20	17.0	13.5	15.5	18.0	15.0	16.5	15.5	14.5	15.0	16.5	14.0	15.5
21	18.5	14.5	16.5	19.5	15.5	17.5	17.0	15.0	16.0	14.0	11.0	12.5
22	19.0	15.5	17.0	18.5	17.0	17.5	16.5	14.0	15.0	12.5	9.0	11.0
23	18.5	15.0	16.5	17.5	16.5	17.0	16.0	13.5	14.5	13.0	11.5	12.0
24	18.0	14.0	16.0	16.5	14.5	15.5	16.0	12.5	14.5	12.0	10.0	11.5
25	20.5	15.5	18.0	16.0	14.0	15.0	17.0	14.0	15.5	12.0	8.5	10.5
26	19.0	16.5	17.5	16.5	14.0	15.0	17.5	15.5	16.5	14.0	11.0	12.5
27	18.5	15.5	16.5	18.0	15.0	16.5	17.0	14.5	16.0	12.5	9.5	11.0
28	18.5	14.0	16.0	19.0	15.5	17.0	18.0	15.5	17.0	13.5	10.5	12.0
29	18.5	14.0	16.5	18.5	15.0	17.0	16.5	15.0	15.5	14.5	12.5	13.5
30	18.0	14.0	16.0	17.0	13.0	15.0	16.0	14.0	15.0	13.5	12.5	13.0
31	---	---	---	18.0	13.5	15.5	16.5	13.5	15.0	---	---	---
MONTH	20.5	10.0	14.2	22.5	13.0	16.9	21.0	12.5	16.3	18.0	8.5	13.9
YEAR	22.5	.0	9.3									

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA
(Swatara Creek Project)

LOCATION.--Lat 40°34'50", long 76°24'18", Schuylkill County, Hydrologic Unit 02050305, on right bank 800 ft downstream of Adam's Run, 1,000 ft downstream from State Highway 125 bridge crossing Swatara Creek and 0.4 mi north of Ravine.

DRAINAGE AREA.--43.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 590 ft above sea level, from topographic map.

REMARKS.--Records fair. Other data for this project presented in tables on pages 342-392.

PEAK DISCHARGES FOR PERIOD OF RECORD.--Peak discharges greater than a base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1400	*1,740	*3.92	Dec. 13	1700	950	3.08
Nov. 8	2000	1,160	3.34	July 24	0645	1,140	3.31
Dec. 2	0130	1,640	3.83				

DISCHARGE, CUBIC FEET PER SECOND, JULY 1996 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e75	61	28
2	---	---	---	---	---	---	---	---	---	e60	55	28
3	---	---	---	---	---	---	---	---	---	e68	59	28
4	---	---	---	---	---	---	---	---	---	e60	65	27
5	---	---	---	---	---	---	---	---	---	e55	56	31
6	---	---	---	---	---	---	---	---	---	e45	49	29
7	---	---	---	---	---	---	---	---	---	e41	42	49
8	---	---	---	---	---	---	---	---	---	e40	41	33
9	---	---	---	---	---	---	---	---	---	e50	48	28
10	---	---	---	---	---	---	---	---	---	e41	43	27
11	---	---	---	---	---	---	---	---	---	e38	37	27
12	---	---	---	---	---	---	---	---	---	e52	37	26
13	---	---	---	---	---	---	---	---	---	107	58	50
14	---	---	---	---	---	---	---	---	---	83	45	39
15	---	---	---	---	---	---	---	---	---	85	38	30
16	---	---	---	---	---	---	---	---	---	88	42	29
17	---	---	---	---	---	---	---	---	---	74	39	111
18	---	---	---	---	---	---	---	---	---	68	35	81
19	---	---	---	---	---	---	---	---	---	e100	32	49
20	---	---	---	---	---	---	---	---	---	e85	31	39
21	---	---	---	---	---	---	---	---	---	e65	32	35
22	---	---	---	---	---	---	---	---	---	e68	31	37
23	---	---	---	---	---	---	---	---	---	e55	30	37
24	---	---	---	---	---	---	---	---	---	e53	32	33
25	---	---	---	---	---	---	---	---	---	58	30	31
26	---	---	---	---	---	---	---	---	---	63	28	28
27	---	---	---	---	---	---	---	---	---	55	27	28
28	---	---	---	---	---	---	---	---	---	50	28	38
29	---	---	---	---	---	---	---	---	---	67	29	59
30	---	---	---	---	---	---	---	---	---	75	28	39
31	---	---	---	---	---	---	---	---	---	67	28	---
TOTAL	---	---	---	---	---	---	---	---	---	1991	1236	1154
MEAN	---	---	---	---	---	---	---	---	---	64.2	39.9	38.5
MAX	---	---	---	---	---	---	---	---	---	107	65	111
MIN	---	---	---	---	---	---	---	---	---	38	27	26
CFSM	---	---	---	---	---	---	---	---	---	1.48	.92	.89
IN.	---	---	---	---	---	---	---	---	---	1.71	1.06	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1996, BY WATER YEAR (WY)

	1996	1996	1996
MEAN	---	---	---
MAX	---	---	---
(WY)	---	---	---
MIN	---	---	---
(WY)	---	---	---

e Estimated.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	83	587	101	78	91	117	55	55	36	31	32
2	33	79	1030	100	79	97	125	56	145	62	28	30
3	32	74	494	100	85	91	124	75	295	46	27	28
4	28	71	347	96	84	89	116	89	176	38	26	25
5	27	68	266	98	164	102	109	68	137	34	27	22
6	26	67	287	93	131	150	106	67	116	31	24	21
7	27	67	246	83	117	115	102	61	103	30	22	21
8	40	413	225	77	107	111	94	59	92	28	22	22
9	60	609	189	76	98	107	89	64	85	28	22	21
10	49	324	162	76	91	110	85	63	78	27	21	23
11	40	240	159	71	85	103	81	59	72	25	21	64
12	34	193	182	67	82	93	88	56	67	25	20	62
13	34	165	645	65	77	87	103	54	68	25	25	36
14	33	148	671	62	81	188	83	53	71	24	23	30
15	30	131	451	60	85	207	77	51	58	23	20	25
16	30	120	351	80	78	151	74	48	57	22	20	24
17	32	115	308	e66	73	140	72	47	53	21	35	26
18	36	111	256	e57	72	134	69	48	59	20	29	25
19	1180	113	228	e54	82	124	66	53	79	20	21	24
20	622	101	192	e57	107	117	65	56	56	19	62	25
21	362	94	166	59	106	108	61	46	50	20	90	25
22	235	88	152	58	131	104	60	43	48	45	39	25
23	193	82	145	66	116	95	58	41	44	58	29	25
24	184	79	158	66	110	88	58	41	41	454	25	24
25	146	76	154	137	103	86	55	107	40	103	38	23
26	128	190	128	96	100	112	54	111	42	64	50	23
27	116	117	123	82	105	95	53	70	43	52	32	22
28	110	95	121	102	97	86	83	62	37	51	73	23
29	101	92	130	88	---	84	64	58	34	57	68	41
30	96	90	125	78	---	81	56	58	33	38	42	30
31	89	---	111	77	---	122	---	57	---	33	35	---
TOTAL	4187	4295	8789	2448	2724	3468	2447	1876	2334	1559	1047	847
MEAN	135	143	284	79.0	97.3	112	81.6	60.5	77.8	50.3	33.8	28.2
MAX	1180	609	1030	137	164	207	125	111	295	454	90	64
MIN	26	67	111	54	72	81	53	41	33	19	20	21
CFSM	3.12	3.31	6.55	1.82	2.25	2.58	1.88	1.40	1.80	1.16	.78	.65
IN.	3.60	3.69	7.55	2.10	2.34	2.98	2.10	1.61	2.01	1.34	.90	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

MEAN	135	143	284	79.0	97.3	112	81.6	60.5	77.8	57.3	36.8	33.3
MAX	135	143	284	79.0	97.3	112	81.6	60.5	77.8	64.2	39.9	38.5
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996	1996
MIN	135	143	284	79.0	97.3	112	81.6	60.5	77.8	50.3	33.8	28.2
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

e Estimated.

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

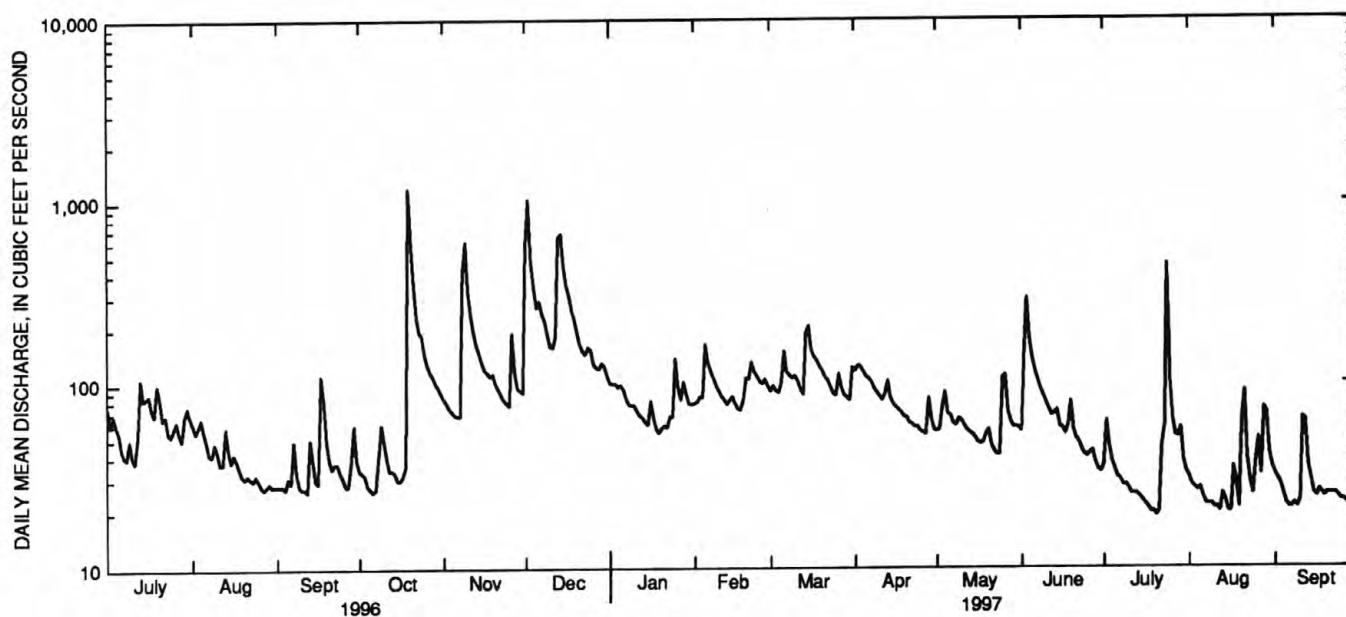
SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	36021				
ANNUAL MEAN	98.7			98.7	
HIGHEST ANNUAL MEAN				98.7	1997
LOWEST ANNUAL MEAN				98.7	1997
HIGHEST DAILY MEAN	1180	Oct 19		1180	Oct 19 1996
LOWEST DAILY MEAN	19	Jul 20		19	Jul 20 1997
ANNUAL SEVEN-DAY MINIMUM	21	Jul 15		21	Jul 15 1997
INSTANTANEOUS PEAK FLOW	1740	Oct 19		1740	Oct 19 1996
INSTANTANEOUS PEAK STAGE	3.92	Oct 19		3.92	Oct 19 1996
INSTANTANEOUS LOW FLOW	19	Jul 19a		19	Jul 19 1997a
ANNUAL RUNOFF (CFSM)	2.28			2.28	
ANNUAL RUNOFF (INCHES)	30.95			30.97	
10 PERCENT EXCEEDS	165			148	
50 PERCENT EXCEEDS	72			62	
90 PERCENT EXCEEDS	25			26	

a Also July 20, 21, Aug. 12, 13, 15, 16, 20.



JULY 1, 1996 TO SEPTEMBER 30, 1997

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1996 to current year.

pH: April 1996 to current year.

WATER TEMPERATURE: April 1996 to current year.

INSTRUMENTATION.--Water-quality monitor (in situ system). Automatic pumping sampler for stormflow samples since July 1996.

REMARKS.--Interruptions in the record were due to malfunctions of the instrumentation. Fixed-time, baseflow, and stormflow samples collected at streamflow control. Stormflow samples are for discharge-weighted composited samples as well as discrete samples(*). Sample times for composited samples are midpoint of combined samples. Discharge for composited samples are the mean for the composited period. Sample times for discrete samples are as recorded. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods. Other data for this project presented in tables on pages 342-392. Figure 8 shows the location of sites sampled as part of the Swatara Creek Project.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 355 microsiemens, Jan. 25; minimum, 27 microsiemens, June 11.

pH: Maximum, 8.1, June 18, 19; minimum, 5.2, Oct. 19, Dec. 2.

WATER TEMPERATURE: Maximum, 23.0°C, July 16, 18; minimum, 0.0°C, Jan. 17-19.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	AGENCY	AGENCY	DIS-	SPE-	PH	PH	OXID-	TEMPER-	OXYGEN,	OXYGEN,
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CHARGE, INST. CUBIC FEET PER SECOND (00061)	CIFIC CON- DUCT- ANCE (μS/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	WATER WHOLE LAB (STAND- ARD UNITS) (00403)	ATION RED- UCTION POTEN- TIAL (MV) (00090)			
APR 1996											
25...	1045	1028	9813	130	180	6.2	6.9	329	10.0	11.0	96
JUN											
10...	1615	1028	9813	190	226	6.5	6.3	317	18.5	8.8	94
AUG											
06...	1230	1028	9813	49	240	6.6	6.3	268	18.5	10.0	110
SEP											
13...	0945	1028	9813	62	230	6.4	6.2	242	17.0	9.5	100
13...	1250	1028	9813	79	192	6.4	6.3	177	17.0	11.0	120
28...	2025	1028	9813	98	236	6.4	6.1	--	15.0	--	--
28...	2145	1028	9813	90	234	6.5	6.1	--	15.0	--	--
28...	2245	1028	9813	85	230	6.8	6.5	--	15.0	--	--
29...	0345	1028	9813	73	216	6.7	6.0	--	14.0	--	--
DATE		ACIDITY	CALCIUM	CALCIUM	MAGNE-	MAGNE-	SODIUM,	SODIUM,	POTAS-	POTAS-	ANC
		TOTAL HEATED (MG/L AS CACO3) (70508)									
APR 1996											
25...	0.0	--	8.7	8.7	5.7	5.7	3.5	3.5	1.2	1.0	--
JUN											
10...	2.4	--	19	18	9.9	9.9	5.6	5.6	2.7	1.6	--
AUG											
06...	0.0	0	15	14	11	11	5.8	5.7	1.4	1.3	4
SEP											
13...	7.4	--	14	14	9.0	9.0	5.2	5.2	3.2	2.3	--
13...	0.0	--	15	14	6.4	6.2	4.5	4.3	3.2	2.0	--
28...	4.4	--	17	17	11	11	7.7	7.7	3.2	1.9	--
28...	--	--	18	16	11	9.9	7.7	7.4	3.4	2.2	--
28...	0.0	0	39	30	12	8.0	5.7	5.5	5.7	2.2	--
29...	--	--	17	17	10	9.8	7.4	7.4	2.6	2.1	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00600)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 1996									
25...	20	45	5.8	<.2	7.5	18	.94	.740	.030
JUN									
10...	10	92	7.9	<.2	25	160	.53	.210	.170
AUG									
06...	7	87	9.2	<.2	7.2	16	.23	.200	<.020
SEP									
13...	11	78	8.6	<.2	14	240	1.1	.240	.260
13...	16	56	7.2	<.2	9.0	230	1.1	.300	.290
28...	10	82	10	<.2	17	220	1.0	.300	.480
28...	11	76	9.4	<.2	20	140	1.0	.330	.420
28...	34	70	7.0	<.2	43	250	1.1	.330	.400
29...	9	69	10	<.2	15	<2	.76	.290	--

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
APR 1996										
25...	270	<140	<4	<4	28	28	<10	<10	<50	<50
JUN										
10...	9000	190	<4	<4	67	19	<10	<10	<50	<50
AUG										
06...	310	<140	<4	<4	21	20	<10	<10	<50	<50
SEP										
13...	4800	<140	<4	<4	41	16	<10	<10	<50	<50
13...	3200	<140	<4	<4	38	16	<10	<10	<50	<50
28...	7700	<140	<4	<4	62	21	<10	<10	<50	<50
28...	8500	200	<4	<4	77	20	<10	<10	<50	<50
28...	20000	<140	9	<4	160	15	<10	<10	<50	<50
29...	3400	450	<4	<4	44	23	<10	<10	<50	<50

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
APR 1996										
25...	<30	<25	<10	<10	460	160	<1	<1.0	<30	<25
JUN										
10...	40	<25	28	<10	16000	320	<1	<1.0	<30	<25
AUG										
06...	<30	<25	58	<10	980	190	<1	<1.0	<30	<25
SEP										
13...	40	<25	21	<10	16000	150	12	<1.0	<30	<25
13...	30	<25	21	<10	9100	130	17	<1.0	<30	<25
28...	<30	<25	28	<10	30000	170	10	<1.0	<30	<25
28...	50	<25	32	<10	20000	260	11	<1.0	<30	<25
28...	40	<20	46	<10	29000	300	31	<1.0	40	<25
29...	<20	<20	19	<10	8100	710	4	<1.0	<30	<25

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
APR 1996										
25...	370	370	<25	<25	<7	<7	50	45	50	49
JUN										
10...	1000	800	46	28	<7	<7	80	78	170	35
AUG										
06...	840	820	35	31	<7	<7	70	65	60	48
SEP										
13...	1100	680	48	29	<7	<7	70	66	140	28
13...	860	450	36	<25	<7	<7	70	61	100	13
28...	1700	630	62	<25	<7	<7	90	79	330	79
28...	1600	620	56	26	<7	<7	100	2900	210	44
28...	1200	290	60	<25	<7	<7	150	110	170	<10
29...	1000	740	47	<25	<7	<7	80	72	80	29

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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- ARDS) UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARDS) UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT 1996											
18...	2300	1028	9813	68	192	6.4	6.3	--	11.0	--	--
19...	0001	1028	9813	150	177	6.7	6.5	--	12.0	--	--
19...	0015	1028	9813	210	184	6.9	6.7	--	12.0	--	--
19...	0300	1028	9813	490	109	6.4	6.3	--	11.0	--	--
19...	0345	1028	9813	690	98	6.1	6.3	--	11.0	--	--
19...	0515	1028	9813	950	74	5.9	6.2	--	11.0	--	--
19...	0645	1028	9813	1300	67	5.8	6.1	--	11.0	--	--
19...	0815	1028	9813	1700	59	5.7	6.1	--	11.0	--	--
DEC											
13...	0045	1028	9813	240	128	6.1	6.1	--	7.0	--	--
13...	0345	1028	9813	440	115	6.1	6.2	--	6.5	--	--
13...	0600	1028	9813	570	100	6.0	6.1	--	6.5	--	--
13...	1145	1028	9813	550	98	6.0	6.1	--	6.5	--	--
13...	1545	1028	9813	870	88	5.9	6.1	--	6.5	--	--
17...	0900	1028	9813	300	160	6.1	--	326	7.5	11.0	95
JAN 1997											
23...	1145	1028	9813	65	223	6.7	6.0	--	4.0	12.0	91
MAR											
04...	1030	1028	9813	88	150	6.7	5.9	--	5.0	12.0	94
31...	0900	1028	9813	130	169	6.6	6.2	--	8.0	--	--
31...	1330	1028	9813	140	163	6.5	6.2	--	7.0	--	--
31...	1800	1028	9813	130	157	6.5	6.2	--	4.5	--	--
31...	2145	1028	9813	130	152	6.4	6.1	--	3.5	--	--
APR											
23...	1730	1028	9813	57	187	7.0	6.2	--	10.5	11.0	95
JUN											
02...	0945	1028	9813	83	165	6.6	6.2	--	14.0	--	--
02...	1015	1028	9813	96	160	6.6	6.2	--	14.0	--	--
02...	1137	1028	9813	130	154	6.7	6.2	--	14.0	--	--
02...	1437	1028	9813	190	144	6.8	6.2	--	14.0	--	--
02...	1545	1028	9813	220	137	6.7	6.2	--	14.0	--	--
02...	1630	1028	9813	270	145	6.7	6.2	--	14.0	--	--
02...	1737	1028	9813	280	131	6.7	6.2	--	14.0	--	--
02...	1937	1028	9813	270	126	6.6	6.3	--	13.5	--	--
02...	2100	1028	9813	230	118	6.5	6.2	--	13.5	--	--
02...	2300	1028	9813	210	115	6.4	6.3	--	13.0	--	--
03...	0045	1028	9813	240	115	6.4	6.3	--	13.0	--	--
03...	0130	1028	9813	280	111	6.5	6.3	--	13.0	--	--
03...	0215	1028	9813	340	111	6.5	6.3	--	12.5	--	--
03...	0300	1028	9813	370	107	6.5	6.3	--	12.5	--	--
11...	1055	1028	9813	74	196	6.7	6.0	324	14.5	9.6	95
JUL											
15...	1140	1028	9813	24	262	6.8	6.2	314	20.0	8.7	96
AUG											
14...	1130	1028	9813	23	258	6.8	6.3	320	18.5	9.1	98
20...	1600	1028	9813	85	200	6.6	6.4	--	15.5	--	--
20...	1730	1028	9813	140	179	6.8	6.3	--	15.5	--	--
20...	1930	1028	9813	130	163	6.8	6.2	--	16.0	--	--
20...	2230	1028	9813	160	159	6.6	6.1	--	16.0	--	--
21...	0300	1028	9813	140	144	6.5	6.1	--	16.0	--	--
21...	0630	1028	9813	110	142	6.4	6.1	--	16.0	--	--
SEP											
22...	1200	1028	9813	26	291	6.7	6.1	377	11.5	11.0	99

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996										
18...	9	69	9.2	<.2	13	150	.79	.230	<.020	.100
19...	20	60	7.6	<.2	78	5800	1.7	.200	.050	1.80
19...	34	62	7.6	.3	64	5000	2.1	.290	<.020	.910
19...	9	44	7.6	<.2	25	470	1.5	.260	<.020	.320
19...	9	30	6.1	<.2	22	470	1.8	.240	.030	.320
19...	7	28	5.3	<.2	22	210	1.2	.240	.030	.160
19...	6	25	4.6	<.2	21	320	1.3	.230	.030	.140
19...	5	22	4.1	<.2	18	360	1.4	.240	<.020	.120
DEC										
13...	6	48	6.6	<.2	7.9	12	.38	.190	.060	.020
13...	6	38	6.4	<.2	8.7	6	.43	.190	.050	.020
13...	5	34	6.0	<.2	8.2	<2	.47	.180	.050	.030
13...	5	32	5.4	<.2	5.3	6	.38	.160	.050	.020
13...	5	29	5.4	<.2	12	<2	.44	.170	.050	.030
17...	--	--	--	--	--	--	--	--	--	--
JAN 1997										
23...	7	77	10	<.2	6.6	<2	.36	.120	.100	.020
MAR										
04...	7	56	13	<.2	7.4	26	.28	.110	.080	.020
31...	8	52	10	<.2	7.9	30	.52	.160	.080	.030
31...	7	49	10	<.2	6.7	22	.60	.150	.090	.030
31...	7	46	9.6	<.2	6.4	24	.51	.140	.090	<.020
31...	7	45	9.6	<.2	6.6	10	.47	.140	.080	<.020
APR										
23...	8	67	7.4	<.2	6.2	<2	.27	.110	.060	<.020
JUN										
02...	9	53	8.3	<.2	10	66	.57	.120	.070	.040
02...	10	51	8.5	<.2	10	46	.55	.120	.070	.040
02...	11	51	8.9	<.2	11	86	.69	.140	.070	.080
02...	11	45	8.1	<.2	16	150	.95	.190	.060	.130
02...	10	41	7.4	<.2	13	140	.73	.160	.020	.090
02...	10	39	8.2	<.2	7.9	100	.83	.160	.060	.080
02...	10	38	7.9	<.2	15	230	1.1	.190	.060	.220
02...	8	36	6.8	<.2	17	200	1.1	.130	.060	.170
02...	7	33	7.3	<.2	17	150	.95	.120	.060	.100
02...	7	31	6.8	<.2	10	86	.84	.120	.070	.070
03...	7	32	6.9	<.2	11	70	.69	.130	.060	.060
03...	8	31	7.0	<.2	7.8	56	.67	.130	.070	.050
03...	8	30	7.7	<.2	9.7	68	.65	.120	.060	.050
03...	8	29	7.0	<.2	11	96	.56	.140	.040	.060
11...	7	64	7.2	<.2	5.6	<2	.21	.080	.030	<.020
JUL										
15...	10	93	7.7	<.2	8.3	16	.29	.160	<.020	.020
AUG										
14...	8	92	8.1	<.2	7.8	4	.40	.210	<.020	<.020
20...	14	58	8.1	<.2	18	250	1.2	.290	.070	.080
20...	14	50	6.8	<.2	21	330	1.5	.310	.030	.150
20...	12	47	7.2	.2	13	160	1.1	.370	.030	.090
20...	9	46	7.0	<.2	11	110	1.0	.300	.030	.090
21...	8	41	6.2	<.2	9.4	96	.88	.280	.040	.060
21...	8	41	6.3	<.2	7.9	44	.75	.250	.050	.040
SEP										
22...	8	97	9.7	<.2	--	4	.23	.100	.030	<.020

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
OCT 1996										
18...	3600	200	<4	<4	32	17	<10	<10	<50	<50
19...	50000	310	10	<4	380	19	<10	<10	<50	<50
19...	28000	400	<40	<4	230	15	<10	<10	<50	<50
19...	14000	<140	<40	<4	120	16	<10	<10	<50	<50
19...	9200	250	<40	<4	84	16	<10	<10	<50	<50
19...	11000	350	<40	<4	110	20	<10	<10	<50	<50
19...	9100	180	<40	<4	89	20	<10	<10	<50	<50
19...	7200	450	<40	<4	78	21	<10	<10	<50	<50
DEC										
13...	1200	<140	<4	<4	410	21	<10	<10	<50	<50
13...	2400	<140	<4	<4	29	20	<10	<10	<50	<50
13...	2000	<140	<4	<4	29	21	<10	<10	<50	<50
13...	1600	1600	<4	<4	29	29	<10	<10	<50	<50
13...	3200	<140	<4	<4	38	20	<10	<10	<50	<50
17...	--	--	--	--	--	--	--	--	--	--
JAN 1997										
23...	550	<140	<4	<4	18	17	<10	<10	<50	<50
MAR										
04...	580	<140	<4	<4	21	20	<10	<10	<50	<50
31...	1500	<140	<4	<4	22	16	<10	<10	<50	<50
31...	1200	<140	<4	<4	22	20	<10	<10	<50	<50
31...	930	<140	<4	<4	22	19	<10	<10	<50	<50
31...	720	<140	<4	<4	22	21	<10	<10	<50	<50
APR										
23...	290	<140	<4	<4	18	18	<10	<10	<50	<50
JUN										
02...	2300	<140	<40	<40	30	17	<10	<10	<50	<50
02...	2100	<140	<40	<40	28	17	<10	<10	<50	<50
02...	3500	<140	<40	<40	34	18	<10	<10	<50	<50
02...	5600	<140	<40	<40	53	18	<10	<10	<50	<50
02...	4400	<140	<40	<40	42	16	<10	<10	<50	<50
02...	4400	<140	<40	<40	40	17	<10	<10	<50	<50
02...	8900	<140	<40	<40	69	17	<10	<10	<50	<50
02...	6900	<140	<40	<40	56	18	<10	<10	<50	<50
02...	5700	<140	<40	<40	47	17	<10	<10	<50	<50
02...	2900	<140	<40	<40	34	21	<10	<10	<50	<50
03...	2500	<140	<40	<40	34	31	<10	<10	<50	<50
03...	1800	<140	<40	<40	28	19	<10	<10	<50	<50
03...	2300	<140	<40	<40	360	36	<10	<10	<50	<50
03...	3400	<140	<40	<40	38	17	<10	<10	<50	<50
11...	340	<140	<4	<4	20	20	<10	<10	<50	<50
JUL										
15...	510	<140	<4	<4	22	20	<10	<10	<50	<50
AUG										
14...	280	<200	<4	<4	22	20	<10	<10	71	<50
20...	7100	<200	<4	<4	53	24	<10	<10	<50	<50
20...	9400	<200	<4	<4	75	19	<10	<10	<50	<50
20...	4100	<200	<4	<4	45	16	<10	<10	<50	<50
20...	3000	<200	<4	<4	38	17	<10	<10	<50	<50
21...	2300	<200	<4	<4	34	17	<10	<10	<50	<50
21...	1500	<200	<4	<4	27	16	<10	<10	<50	<50
SEP										
22...	--	--	<4	<4	--	--	--	--	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
OCT 1996										
18...	30	<25	15	<10	13000	150	6	<1.0	<30	<25
19...	220	<25	120	<10	120000	760	<1	<1.0	90	29
19...	50	<20	63	<10	39000	820	28	<1.0	40	<30
19...	110	<20	71	<10	61000	220	29	<1.0	<30	<30
19...	70	<20	36	<10	39000	470	25	<1.0	<30	<30
19...	80	<20	60	<10	35000	910	27	<1.0	<30	<30
19...	60	<20	40	<10	26000	320	19	<1.0	<30	<30
19...	40	<20	26	14	22000	450	15	<1.0	<30	<30
DEC										
13...	<30	<25	<10	<10	2100	36	2	<1.0	<30	<25
13...	<30	<25	<10	<10	3600	53	3	<1.0	<30	<25
13...	<30	<25	<10	<10	3400	83	4	<1.0	<30	<25
13...	<30	<25	<10	<10	1900	1900	2	1.6	<30	<25
13...	<30	<25	<10	<10	4600	140	4	<1.0	<30	<25
17...	--	--	--	--	--	--	--	--	--	--
JAN 1997										
23...	<30	<25	<10	<10	1400	580	<1	<1.0	<30	<25
MAR										
04...	20	22	<10	<10	1500	680	<1	<1.0	<30	<30
31...	<30	<25	<10	<10	3500	56	2	<1.0	<30	<25
31...	<30	<25	<10	<10	2600	100	2	<1.0	<30	<25
31...	<30	<25	<10	<10	1900	230	<1	<1.0	<30	<25
31...	40	34	<10	<10	1700	870	<1	1.1	<30	<25
APR										
23...	<30	<25	<10	<10	8800	510	<1	<1.0	<30	<25
JUN										
02...	30	<25	<10	<10	5100	160	<10	<10	<30	<25
02...	30	<25	10	<10	5600	250	<10	<10	<30	<25
02...	30	25	16	<10	9500	180	<10	<10	<30	<25
02...	<30	<25	14	<10	12000	160	<10	<10	<30	<25
02...	<30	<25	19	<10	10000	200	<10	<10	<30	<25
02...	<30	<25	11	<10	11000	260	<10	<10	<30	<25
02...	<30	<25	30	<10	15000	200	10	<10	<30	<25
02...	<30	<25	17	<10	13000	200	<10	<10	<30	<25
02...	<30	<25	14	<10	12000	200	<10	<10	<30	<25
02...	<30	<25	<10	<10	5900	220	<10	<10	<30	<25
03...	<30	<25	<10	<10	4100	220	<10	<10	<30	<25
03...	<30	<25	<10	<10	3700	240	<10	<10	<30	<25
03...	<30	<25	<10	<10	5400	200	<10	<10	<30	<25
03...	<30	<25	12	<10	8700	180	<10	<10	<30	<25
11...	<30	<25	<10	<10	1500	480	<1	<1.0	<30	<25
JUL										
15...	<30	<25	<10	<10	1300	260	<1	<1.0	<30	<25
AUG										
14...	<30	<25	<10	<10	1100	260	<1	<1.0	<30	<25
20...	60	40	22	<10	20000	130	11	<1.0	<30	<25
20...	60	<25	36	<10	25000	150	15	<1.0	<30	<25
20...	<30	<25	15	<10	9100	120	7	<1.0	<30	<25
20...	<30	<25	14	<10	8100	190	6	<1.0	<30	<25
21...	<30	<25	<10	<10	4800	140	8	<1.0	<30	<25
21...	<30	<25	<10	<10	2900	150	3	<1.0	<30	<25
SEP										
22...	--	--	--	--	--	--	<1	<1.0	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
OCT 1996										
18...	1100	540	30	<25	<7	<7	70	70	90	48
19...	7600	150	240	<25	<7	<7	180	81	760	<10
19...	1900	220	56	<25	<70	<7	160	87	210	<10
19...	4300	270	100	<25	<70	<7	70	47	330	30
19...	2700	110	63	<25	<70	<7	50	39	220	23
19...	3200	230	74	<25	<70	<7	50	34	240	55
19...	2100	250	58	<25	<70	<7	40	28	160	32
19...	1400	280	38	<25	<70	<7	40	27	120	40
DEC										
13...	620	590	<25	<25	<7	<7	50	46	80	63
13...	510	470	26	<25	<7	<7	40	40	70	53
13...	480	410	<25	<25	<7	<7	40	33	60	55
13...	430	430	<25	<25	<7	<7	30	34	60	58
13...	470	350	<25	<25	<7	<7	30	29	90	85
17...	--	--	--	--	--	--	--	--	--	--
JAN 1997										
23...	760	740	44	44	<7	<7	60	56	70	67
MAR										
04...	690	680	40	31	<7	<7	60	56	60	60
31...	520	460	<25	<25	<7	<7	40	38	60	41
31...	530	530	<25	<25	<7	<7	40	43	50	44
31...	500	500	<25	<25	<7	<7	40	40	50	46
31...	580	580	<25	<25	<7	<7	50	50	60	54
APR										
23...	670	670	29	<25	<7	<7	50	54	50	43
JUN										
02...	610	490	36	36	<70	<70	50	47	70	23
02...	600	470	37	26	<70	<70	50	45	60	42
02...	670	480	34	25	<70	<70	50	50	110	24
02...	660	430	<25	<25	<70	<70	60	56	90	45
02...	670	400	<25	<25	<70	<70	50	45	110	64
02...	700	410	25	<25	<70	<70	50	44	110	17
02...	880	390	35	<25	<70	<70	60	41	130	21
02...	730	380	<25	<25	<70	<70	80	38	130	17
02...	600	360	<25	<25	<70	<70	40	33	70	33
02...	460	340	<25	<25	<70	<70	40	35	60	30
03...	450	360	<25	<25	<70	<70	40	37	50	23
03...	400	350	<25	<25	<70	<70	40	35	40	19
03...	290	290	<25	<25	<70	<70	40	29	50	16
03...	540	270	<25	<25	<70	<70	40	28	70	14
11...	700	680	33	33	<7	<7	50	52	60	52
JUL										
15...	760	700	40	<25	<7	<7	100	89	40	34
AUG										
14...	750	700	<25	<25	<7	<7	80	76	40	32
20...	980	380	28	<25	<7	<7	70	62	140	15
20...	1400	250	35	<25	<7	<7	80	61	200	15
20...	630	240	34	<25	<7	<7	60	52	70	<10
20...	720	320	<25	<25	<7	<7	50	48	70	11
21...	550	340	<25	<25	<7	<7	50	44	50	12
21...	490	360	<25	<25	<7	<7	50	40	60	16
SEP										
22...	--	--	--	--	<7	<7	--	--	--	--

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	---	---	---	298	130	219	292	273	282
2	---	---	---	---	---	---	271	133	216	300	277	288
3	---	---	---	---	---	---	291	144	197	307	282	293
4	---	---	---	---	---	---	245	131	194	303	258	288
5	---	---	---	---	---	---	247	119	202	287	247	271
6	---	---	---	---	---	---	260	146	217	288	249	273
7	---	---	---	---	---	---	268	168	231	271	203	231
8	---	---	---	---	---	---	279	202	250	277	226	247
9	---	---	---	---	---	---	288	172	231	291	225	258
10	---	---	---	---	---	---	263	160	225	283	241	263
11	---	---	---	---	---	---	268	217	248	286	257	270
12	---	---	---	---	---	---	270	212	248	284	254	272
13	---	---	---	305	140	197	259	184	213	291	189	234
14	---	---	---	175	140	154	255	193	223	260	201	230
15	---	---	---	201	164	173	259	212	240	276	242	258
16	---	---	---	173	101	112	263	223	245	279	223	263
17	---	---	---	132	110	120	269	213	250	243	122	169
18	---	---	---	152	130	138	272	240	255	191	112	158
19	---	---	---	---	---	---	278	227	258	235	162	197
20	---	---	---	---	---	---	277	238	261	248	180	220
21	---	---	---	---	---	---	274	232	260	270	177	231
22	---	---	---	---	---	---	280	242	262	268	166	221
23	---	---	---	---	---	---	278	249	263	277	162	217
24	---	---	---	---	---	---	288	229	260	277	198	240
25	---	---	---	279	155	227	288	256	271	292	181	235
26	---	---	---	278	140	211	304	266	283	275	215	254
27	---	---	---	267	151	220	296	277	285	266	251	259
28	---	---	---	295	151	218	295	272	282	264	214	253
29	---	---	---	277	135	203	295	264	273	219	186	200
30	---	---	---	257	128	198	286	270	278	232	200	217
31	---	---	---	261	146	211	292	272	280	---	---	---
MONTH	---	---	---	305	101	183	304	119	246	307	112	243

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	265	241	251	183	162	174	160	66	110	165	98	---
2	274	255	264	189	174	181	94	65	80	136	100	---
3	279	257	268	194	177	185	121	92	110	118	96	---
4	273	260	266	191	179	185	134	118	125	155	96	---
5	274	256	265	195	182	188	144	130	137	107	97	---
6	271	257	264	198	184	191	140	128	133	103	96	---
7	272	256	264	200	186	192	147	135	141	105	98	---
8	270	215	252	202	71	149	152	139	144	210	101	---
9	222	183	195	106	72	90	156	146	152	212	199	206
10	212	189	200	120	105	113	161	152	156	219	200	208
11	228	206	217	127	115	123	169	155	160	219	207	213
12	234	220	226	136	124	131	158	150	154	224	212	220
13	231	213	223	146	132	139	155	98	116	228	219	223
14	229	212	219	152	142	147	126	103	114	227	215	221
15	229	213	219	159	149	154	138	122	130	226	214	220
16	233	211	221	166	154	160	152	135	144	247	198	216
17	234	219	227	169	160	164	156	147	151	214	193	205
18	237	165	225	169	161	164	165	150	158	220	210	216
19	189	57	77	164	156	160	169	160	164	233	215	221
20	92	71	84	170	161	165	182	166	173	230	218	226
21	99	90	94	175	164	168	188	177	182	229	214	221
22	113	96	103	176	167	172	189	183	186	309	215	229
23	120	104	113	179	171	175	190	183	186	234	213	223
24	121	107	114	180	172	177	210	169	187	305	208	222
25	139	118	128	179	171	175	179	164	172	355	166	197
26	150	130	140	177	103	124	183	158	---	185	165	175
27	156	136	148	143	114	132	174	149	---	192	178	184
28	156	140	150	151	139	146	162	138	---	260	172	212
29	163	147	156	153	144	150	181	146	---	199	188	193
30	169	155	161	159	149	154	176	151	---	206	184	195
31	174	158	166	---	---	---	159	106	---	198	184	191
MONTH	279	57	190	202	71	158	210	65	147	355	96	210

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	221	186	199	171	156	164	225	152	183	212	189	196
2	211	192	199	182	161	167	189	160	172	210	183	195
3	202	188	195	173	160	167	167	155	161	199	163	188
4	216	181	188	178	168	172	170	160	164	173	140	155
5	---	---	---	170	147	162	175	160	168	185	170	177
6	---	---	---	152	119	129	177	162	172	185	170	179
7	159	141	151	141	125	134	182	168	176	180	169	175
8	160	132	149	144	136	140	186	170	177	183	172	176
9	172	148	162	150	140	146	185	164	175	176	168	172
10	177	163	170	154	140	148	189	170	179	183	165	173
11	179	169	174	148	141	145	189	169	179	186	175	181
12	186	170	178	154	145	150	195	167	184	187	174	179
13	192	176	183	157	148	153	176	157	163	187	176	181
14	225	179	195	210	114	159	183	162	174	190	178	182
15	238	190	206	129	112	120	185	171	179	192	180	186
16	209	188	194	132	124	128	185	161	176	195	182	189
17	200	185	192	135	127	131	192	168	181	201	185	192
18	200	189	194	140	132	135	195	180	189	206	191	198
19	196	177	189	143	131	139	197	183	190	203	188	195
20	178	151	161	145	134	140	191	158	176	197	178	186
21	169	151	162	145	138	141	177	138	165	196	183	190
22	155	140	145	149	140	144	164	115	136	201	189	195
23	156	142	149	152	144	148	---	---	---	209	193	199
24	158	144	151	158	148	152	---	---	---	209	193	201
25	161	150	155	162	151	156	---	---	---	206	122	173
26	170	154	158	163	145	154	---	---	---	145	123	135
27	172	151	158	172	155	162	---	---	---	153	141	146
28	163	151	158	176	159	168	---	---	---	164	145	157
29	---	---	---	176	156	168	---	---	---	177	161	167
30	---	---	---	174	148	164	199	186	192	176	164	169
31	---	---	---	183	150	163	---	---	---	184	168	175
MONTH	238	132	174	210	112	150	225	115	174	212	122	179

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	186	170	175	241	206	228	279	257	268	242	222	232
2	180	112	150	227	178	195	279	251	262	248	231	239
3	123	99	110	215	190	201	269	252	262	263	237	250
4	137	118	128	232	204	219	269	256	262	270	251	260
5	152	134	141	238	222	230	265	251	258	267	247	258

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	6.5	6.3	6.4	6.4	6.4	6.4
2	---	---	---	---	---	---	6.5	6.3	6.4	6.4	6.1	6.2
3	---	---	---	---	---	---	6.6	6.4	6.5	6.2	6.1	6.1
4	---	---	---	---	---	---	6.5	6.4	6.5	6.4	6.2	6.3
5	---	---	---	---	---	---	6.6	6.5	6.5	6.6	6.2	6.5
6	---	---	---	---	---	---	6.6	6.5	6.6	6.5	6.3	6.5
7	---	---	---	---	---	---	6.6	6.5	6.6	7.2	6.3	6.5
8	---	---	---	---	---	---	6.6	6.4	6.4	6.5	6.4	6.5
9	---	---	---	---	---	---	6.6	6.3	6.4	6.5	6.4	6.5
10	---	---	---	---	---	---	6.6	6.5	6.5	6.6	6.4	6.5
11	---	---	---	---	---	---	6.7	6.5	6.6	6.6	6.5	6.5
12	---	---	---	---	---	---	6.7	6.7	6.7	6.5	6.5	6.5
13	---	---	---	6.9	6.3	6.4	6.7	6.7	6.7	7.5	6.4	6.6
14	---	---	---	6.4	6.3	6.3	6.7	6.6	6.7	6.4	6.2	6.3
15	---	---	---	6.7	6.3	6.4	6.8	6.7	6.7	6.3	6.2	6.3
16	---	---	---	6.4	6.1	6.2	6.7	6.5	6.6	6.5	6.3	6.4
17	---	---	---	6.3	6.1	6.2	6.5	6.4	6.4	6.7	6.5	6.6
18	---	---	---	6.3	6.2	6.3	6.6	6.4	6.5	6.6	6.5	6.5
19	---	---	---	---	---	---	6.7	6.6	6.6	6.5	6.4	6.4
20	---	---	---	---	---	---	6.7	6.6	6.6	6.5	6.4	6.4
21	---	---	---	---	---	---	6.6	6.6	6.6	6.5	6.4	6.4
22	---	---	---	---	---	---	6.7	6.6	6.6	6.5	6.4	6.4
23	---	---	---	---	---	---	6.6	6.6	6.6	6.4	6.2	6.3
24	---	---	---	---	---	---	6.7	6.6	6.6	6.3	6.2	6.2
25	---	---	---	6.4	6.1	6.2	6.6	6.5	6.5	6.4	6.3	6.4
26	---	---	---	6.5	6.2	6.4	6.5	6.4	6.4	6.4	6.4	6.4
27	---	---	---	6.5	6.4	6.4	6.5	6.4	6.5	6.4	6.4	6.4
28	---	---	---	6.5	6.4	6.4	6.5	6.4	6.4	6.8	6.3	6.4
29	---	---	---	6.6	6.4	6.5	6.5	6.3	6.4	6.8	6.5	6.6
30	---	---	---	6.6	6.5	6.5	6.5	6.4	6.4	6.6	6.5	6.5
31	---	---	---	6.5	6.3	6.4	6.4	6.4	6.4	---	---	---
MONTH	---	---	---	6.9	6.1	6.4	6.8	6.3	6.5	7.5	6.1	6.4

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.6	6.4	6.5	6.1	5.9	6.0	7.2	5.4	6.0	6.4	6.3	6.4
2	6.4	6.2	6.3	6.0	5.9	5.9	6.7	5.2	5.4	6.5	6.3	6.4
3	6.3	6.2	6.2	6.1	5.9	6.0	5.6	5.3	5.5	6.4	6.3	6.4
4	6.4	6.3	6.3	6.2	6.0	6.1	5.6	5.5	5.6	6.3	6.2	6.2
5	6.4	6.3	6.4	6.2	6.1	6.1	5.8	5.6	5.7	6.3	6.2	6.2
6	6.4	6.4	6.4	6.2	6.1	6.1	5.8	5.6	5.7	6.5	6.2	6.3
7	6.4	6.4	6.4	6.1	6.0	6.1	5.8	5.7	5.7	6.4	6.4	6.4
8	6.6	6.3	6.4	7.1	5.5	6.1	5.8	5.7	5.8	6.5	6.4	6.4
9	6.6	6.4	6.4	5.6	5.3	5.4	6.0	5.7	5.8	6.4	6.4	6.4
10	6.5	6.3	6.4	5.6	5.4	5.5	6.0	5.8	5.9	6.5	6.4	6.5
11	6.4	6.2	6.3	5.7	5.5	5.6	6.1	5.9	6.0	6.5	6.4	6.5
12	6.3	6.2	6.2	5.8	5.6	5.7	6.1	5.9	6.0	6.5	6.4	6.4
13	6.4	6.3	6.3	5.8	5.7	5.8	6.2	5.6	5.9	6.4	6.3	6.4
14	6.4	6.3	6.4	6.0	5.8	5.9	5.6	5.3	5.4	6.5	6.4	6.5
15	6.4	6.4	6.4	6.0	5.9	6.0	5.7	5.4	5.5	6.5	6.4	6.5
16	6.5	6.3	6.4	6.0	5.8	5.9	5.9	5.6	5.8	6.6	6.4	6.5
17	6.6	6.4	6.5	6.0	5.8	5.9	6.2	5.9	6.1	6.7	6.5	6.5
18	6.7	6.4	6.5	6.1	5.9	6.0	6.2	6.1	6.1	6.7	6.6	6.6
19	7.4	5.2	5.7	6.1	6.0	6.1	6.2	6.1	6.2	6.7	6.6	6.6
20	5.7	5.3	5.5	6.2	6.0	6.1	6.3	6.1	6.2	6.6	6.5	6.6
21	5.7	5.6	5.7	6.2	6.1	6.2	6.2	6.1	6.2	6.6	6.5	6.5
22	5.7	5.6	5.7	6.2	5.9	6.2	6.2	6.1	6.2	6.7	6.6	6.6
23	5.9	5.7	5.7	6.3	6.1	6.2	6.4	6.2	6.3	6.8	6.6	6.7
24	5.9	5.7	5.8	6.3	6.2	6.2	6.5	6.3	6.4	6.7	6.5	6.7
25	6.0	5.8	5.8	6.4	6.2	6.4	6.4	6.3	6.3	6.7	6.5	6.6
26	5.9	5.8	5.8	6.5	5.9	6.2	6.4	6.3	6.4	6.6	6.5	6.6
27	6.0	5.8	5.9	6.3	6.1	6.2	6.4	6.3	6.4	6.6	6.6	6.6
28	6.1	5.9	6.0	6.3	6.2	6.3	6.4	6.1	6.2	6.6	6.4	6.5
29	6.1	6.0	6.0	6.3	6.2	6.3	6.7	6.1	6.2	6.5	6.4	6.4
30	6.1	6.0	6.1	6.3	6.1	6.2	6.3	6.2	6.2	6.5	6.4	6.4
31	6.1	6.0	6.1	---	---	---	6.4	6.3	6.3	6.5	6.4	6.5
MONTH	7.4	5.2	6.1	7.1	5.3	6.0	7.2	5.2	6.0	6.8	6.2	6.5

SWATARA CREEK BASIN
01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	6.5	6.4	6.5	6.7	6.5	6.6	6.7	6.4	6.5	6.9	6.5	6.6
2	6.6	6.4	6.5	7.2	6.6	6.8	6.4	6.3	6.4	6.7	6.5	6.6
3	6.5	6.4	6.5	6.9	6.8	6.8	6.3	6.2	6.3	7.6	6.5	6.6
4	6.5	6.3	6.4	6.9	6.6	6.7	6.4	6.3	6.3	6.6	6.3	6.4
5	6.6	6.3	6.4	6.7	6.6	6.6	6.4	6.2	6.3	6.4	6.2	6.3
6	6.4	6.2	6.3	6.7	6.4	6.5	6.4	6.3	6.3	6.4	6.2	6.3
7	6.5	6.1	6.4	6.5	6.5	6.5	6.5	6.3	6.4	6.4	6.2	6.3
8	6.6	6.5	6.6	6.5	6.4	6.5	6.5	6.4	6.4	6.4	6.2	6.3
9	6.7	6.6	6.6	6.5	6.4	6.5	6.4	6.3	6.4	6.6	6.3	6.4
10	6.7	6.6	6.7	6.5	6.4	6.5	6.4	6.3	6.4	6.4	6.3	6.3
11	6.8	6.7	6.7	6.6	6.4	6.5	6.5	6.3	6.4	6.4	6.2	6.3
12	7.2	6.7	6.8	6.5	6.4	6.5	6.5	6.4	6.5	6.5	6.3	6.4
13	6.9	6.8	6.8	6.5	6.4	6.4	6.5	6.4	6.5	6.6	6.3	6.4
14	6.8	6.7	6.7	6.7	6.2	6.4	6.6	6.4	6.5	6.6	6.3	6.4
15	6.9	6.7	6.8	6.4	6.2	6.3	6.7	6.5	6.6	6.6	6.4	6.5
16	6.8	6.8	6.8	6.3	6.3	6.3	6.7	6.6	6.6	6.5	6.4	6.4
17	6.8	6.7	6.8	6.3	6.2	6.3	6.7	6.6	6.6	6.5	6.3	6.4
18	6.8	6.7	6.8	6.3	6.2	6.3	6.7	6.5	6.6	6.4	6.2	6.3
19	6.8	6.7	6.8	6.3	6.2	6.3	6.6	6.5	6.6	6.5	6.3	6.4
20	7.0	6.6	6.7	6.3	6.3	6.3	6.6	6.5	6.6	6.8	6.5	6.6
21	6.7	6.6	6.7	6.4	6.3	6.3	6.7	6.6	6.6	6.6	6.4	6.5
22	6.6	6.4	6.5	6.4	6.3	6.4	6.7	6.6	6.7	6.7	6.4	6.5
23	6.5	6.4	6.5	6.4	6.4	6.4	---	---	---	6.7	6.4	6.6
24	6.5	6.4	6.5	6.5	6.4	6.4	---	---	---	6.7	6.5	6.6
25	6.5	6.4	6.4	6.5	6.4	6.5	---	---	---	7.0	6.4	6.6
26	6.5	6.4	6.5	6.6	6.5	6.5	---	---	---	6.4	6.3	6.3
27	6.6	6.5	6.5	6.6	6.5	6.5	---	---	---	6.5	6.3	6.4
28	6.7	6.6	6.6	6.6	6.5	6.6	---	---	---	6.6	6.3	6.5
29	---	---	---	6.6	6.5	6.6	---	---	---	6.6	6.4	6.5
30	---	---	---	6.6	6.5	6.5	6.7	6.5	6.6	6.5	6.3	6.4
31	---	---	---	6.6	6.3	6.5	---	---	---	6.7	6.4	6.5
MONTH	7.2	6.1	6.6	7.2	6.2	6.5	6.7	6.2	6.5	7.6	6.2	6.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	6.7	6.4	6.6	7.0	6.7	6.8	6.8	6.4	6.7	6.7	6.4	6.5
2	6.9	6.5	6.6	7.0	6.6	6.8	6.8	6.6	6.7	6.7	6.4	6.6
3	6.5	6.2	6.3	7.0	6.5	6.8	6.7	6.7	6.7	6.6	6.3	6.5
4	6.3	6.1	6.2	6.8	6.5	6.7	6.7	6.3	6.6	6.5	6.4	6.4
5	6.3	6.1	6.2	6.8	6.5	6.6	6.7	6.4	6.6	6.6	6.4	6.5
6	6.4	6.2	6.3	7.0	6.6	6.8	6.7	6.4	6.6	6.7	6.6	6.6
7	6.4	6.3	6.3	7.0	6.5	6.8	6.7	6.5	6.6	6.7	6.6	6.6
8	6.4	6.2	6.3	7.0	6.6	6.8	6.6	6.3	6.6	6.7	6.3	6.6
9	6.6	6.3	6.4	7.0	6.7	6.9	6.5	6.4	6.5	6.6	6.5	6.6
10	6.6	6.4	6.5	7.0	6.8	6.9	6.7	6.5	6.6	6.6	6.5	6.6
11	6.7	6.4	6.6	6.9	6.8	6.8	6.7	6.3	6.7	7.5	6.5	6.8
12	6.8	6.5	6.7	6.8	6.7	6.8	6.7	6.4	6.7	7.0	6.5	6.7
13	6.8	6.5	6.7	6.7	6.6	6.7	6.8	6.3	6.6	6.6	6.4	6.5
14	7.4	6.6	6.8	6.9	6.5	6.7	6.8	6.3	6.6	6.5	6.4	6.4
15	6.7	6.5	6.6	7.0	6.4	6.8	6.8	6.5	6.7	6.7	6.5	6.6
16	6.7	6.5	6.6	7.0	6.7	6.9	6.8	6.4	6.7	6.7	6.5	6.6
17	6.7	6.5	6.6	7.0	6.6	6.9	6.7	6.3	6.4	6.7	5.8	6.5
18	8.1	6.3	6.6	7.0	6.6	6.9	6.6	6.3	6.5	6.2	5.7	6.0
19	8.1	6.6	6.8	7.0	6.7	6.9	6.8	6.5	6.7	6.5	6.1	6.4
20	6.8	6.5	6.6	7.0	6.8	6.9	6.9	6.5	6.7	6.8	6.5	6.6
21	6.9	6.5	6.7	7.0	6.6	6.8	6.6	6.3	6.4	6.9	6.7	6.8
22	7.0	6.6	6.7	7.4	6.6	6.9	6.6	6.4	6.5	6.9	6.7	6.8
23	6.9	6.6	6.7	6.9	6.6	6.8	6.6	6.4	6.5	6.9	6.8	6.8
24	6.9	6.5	6.7	7.0	6.0	6.3	6.6	6.5	6.6	6.9	6.8	6.8
25	7.0	6.5	6.8	6.6	6.4	6.5	7.1	6.2	6.6	6.9	6.8	6.8
26	7.2	6.4	6.7	6.5	6.4	6.5	6.6	6.1	6.3	6.9	6.8	6.8
27	7.0	6.6	6.8	6.5	6.4	6.4	6.5	6.2	6.4	6.9	6.7	6.8
28	7.0	6.7	6.9	6.9	6.4	6.5	7.8	6.2	6.5	6.8	6.7	6.7
29	7.0	6.8	6.9	6.9	6.4	6.6	7.0	6.4	6.5	6.8	6.5	6.7
30	7.0	6.5	6.9	6.9	6.6	6.7	6.5	6.4	6.4	6.7	6.5	6.6
31	---	---	---	6.8	6.5	6.8	6.6	6.4	6.5	---	---	---
MONTH	8.1	6.1	6.6	7.4	6.0	6.7	7.8	6.1	6.6	7.5	5.7	6.6
YEAR	8.1	5.2	6.4									

SWATARA CREEK BASIN

01571820 SWATARA CREEK NEAR RAVINE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, JULY 1996 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	19.5	15.5	17.0	19.5	14.5	17.0
2	---	---	---	---	---	---	18.5	15.0	16.5	19.5	14.5	16.5
3	---	---	---	---	---	---	17.0	16.0	16.5	19.0	15.0	17.0
4	---	---	---	---	---	---	19.0	16.5	17.0	18.0	16.5	17.0
5	---	---	---	---	---	---	20.0	16.0	17.5	19.5	16.5	17.5
6	---	---	---	---	---	---	20.0	16.0	18.0	18.0	16.5	17.5
7	---	---	---	---	---	---	20.0	16.0	18.0	19.0	18.0	18.5
8	---	---	---	---	---	---	20.0	16.0	18.0	20.5	17.0	18.5
9	---	---	---	---	---	---	17.5	16.5	17.0	19.5	16.5	18.0
10	---	---	---	---	---	---	19.5	16.0	17.5	20.0	17.0	18.0
11	---	---	---	---	---	---	18.5	14.0	16.5	18.5	17.0	17.5
12	---	---	---	---	---	---	16.0	15.0	15.5	18.0	16.0	17.0
13	---	---	---	17.5	16.0	16.5	17.0	15.0	16.0	18.0	15.5	16.5
14	---	---	---	19.0	16.5	17.5	19.0	14.5	16.5	16.0	13.5	15.0
15	---	---	---	18.5	17.0	17.5	19.0	15.5	17.5	15.5	13.0	14.0
16	---	---	---	19.0	16.5	18.0	18.5	16.5	17.5	15.0	13.5	14.5
17	---	---	---	19.5	17.0	18.0	19.5	15.5	17.5	15.5	14.5	15.0
18	---	---	---	18.5	16.5	17.5	18.5	15.0	17.0	16.0	14.5	15.0
19	---	---	---	---	---	---	19.5	14.5	17.0	16.5	13.5	14.5
20	---	---	---	---	---	---	19.5	15.5	17.0	16.0	12.0	14.0
21	---	---	---	---	---	---	19.0	16.5	17.5	15.5	11.5	13.5
22	---	---	---	---	---	---	20.5	16.5	18.0	15.5	13.5	14.0
23	---	---	---	---	---	---	21.0	16.0	18.5	15.0	12.5	14.0
24	---	---	---	---	---	---	20.0	17.0	18.5	12.5	11.0	12.0
25	---	---	---	19.5	15.5	17.0	19.5	15.5	17.5	14.5	11.0	12.5
26	---	---	---	20.0	16.5	18.0	20.0	15.0	17.0	13.0	10.0	12.0
27	---	---	---	18.5	15.0	16.5	18.0	15.5	17.0	14.5	12.5	13.5
28	---	---	---	19.0	14.0	16.5	19.0	16.0	17.0	16.0	14.5	15.0
29	---	---	---	17.0	15.5	16.0	19.5	15.5	17.5	15.0	12.5	14.0
30	---	---	---	17.0	16.0	16.5	19.0	14.5	17.0	15.0	11.0	13.0
31	---	---	---	17.5	16.0	16.5	19.0	15.0	16.5	---	---	---
MONTH	---	---	---	20.0	14.0	17.1	21.0	14.0	17.2	20.5	10.0	15.4

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	11.5	13.5	9.0	8.0	8.5	8.5	5.5	7.0	4.0	3.0	3.5
2	13.5	13.0	13.5	8.0	7.0	7.5	8.5	7.0	7.5	5.5	3.5	4.5
3	13.5	10.0	12.5	7.5	6.0	7.0	7.5	6.0	7.0	8.5	5.5	7.0
4	11.0	7.5	9.5	8.5	6.0	7.0	7.5	7.0	7.5	8.0	6.5	7.5
5	10.5	7.0	8.5	8.5	6.5	7.5	7.5	6.5	7.0	8.0	7.0	7.5
6	11.0	7.0	9.0	10.0	8.0	9.0	7.0	5.5	6.0	7.0	5.0	6.5
7	11.5	7.5	9.5	12.5	10.0	11.0	6.5	6.0	6.0	5.0	3.0	4.0
8	11.0	9.5	10.0	14.0	11.5	13.0	6.5	5.5	6.0	3.5	2.5	3.0
9	12.5	10.0	11.5	11.5	9.5	10.5	6.0	5.5	6.0	3.0	1.5	2.5
10	12.0	10.0	11.5	9.5	8.0	9.0	6.0	5.0	5.5	4.5	3.0	3.5
11	11.0	8.5	10.0	8.0	7.0	7.5	6.5	6.0	6.0	3.0	1.0	2.0
12	10.0	6.5	8.5	7.0	6.5	7.0	7.0	6.0	6.5	1.5	.5	1.0
13	12.0	9.0	10.5	7.0	5.5	6.0	7.0	6.0	6.5	1.5	.5	1.0
14	14.0	10.5	12.0	7.0	5.5	6.0	7.0	6.0	6.5	2.0	.5	1.0
15	12.0	9.0	10.5	6.0	4.5	5.5	7.5	7.0	7.0	2.5	.5	1.5
16	13.0	8.5	10.5	6.0	4.0	5.0	7.5	7.5	7.5	3.5	1.0	2.5
17	14.5	11.0	12.5	6.5	4.0	5.5	8.0	7.5	8.0	1.0	.0	.0
18	12.5	11.5	12.0	7.0	5.5	6.5	8.0	7.5	8.0	.5	.0	.0
19	12.0	11.0	11.0	8.0	6.0	7.0	7.5	5.5	7.0	.5	.0	.5
20	11.0	10.5	11.0	6.5	5.0	6.0	5.5	3.5	4.0	1.5	.5	1.0
21	11.5	10.5	11.0	6.5	5.0	5.5	4.0	3.0	3.5	2.0	1.0	1.5
22	11.5	10.5	11.0	6.0	5.5	6.0	5.0	3.5	4.5	3.0	1.0	2.5
23	12.5	11.0	11.5	6.5	5.0	6.0	6.5	5.0	5.5	4.5	2.5	3.5
24	12.0	10.5	11.5	7.0	6.0	6.5	7.0	5.5	6.5	2.5	1.5	2.0
25	11.5	9.5	10.5	8.0	6.5	7.5	5.5	4.0	4.5	3.5	2.0	2.5
26	12.0	10.0	11.0	8.0	6.0	7.5	4.5	3.5	4.0	2.5	1.0	2.0
27	12.5	11.0	12.0	6.0	3.5	4.5	6.0	4.5	5.0	2.5	.5	2.0
28	13.0	11.0	12.0	4.0	3.0	3.5	6.5	5.0	6.0	3.5	.5	2.5
29	11.0	9.5	10.5	5.5	3.5	4.5	7.5	6.5	7.0	2.5	1.0	2.0
30	12.5	10.0	11.0	5.5	4.0	5.0	7.0	5.5	6.5	2.5	1.0	1.5
31	11.0	9.0	10.0	---	---	---	5.5	4.0	5.5	3.5	2.5	3.0
MONTH	15.0	6.5	11.0	14.0	3.0	6.9	8.5	3.0	6.2	8.5	.0	2.7

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	5.5	3.5	4.5	7.0	6.0	6.5	7.5	3.5	5.0	14.0	11.0	12.0
2	5.5	3.5	4.5	9.0	6.5	7.5	9.5	5.0	7.0	14.5	8.5	11.5
3	6.0	4.0	5.0	6.5	4.5	5.5	10.0	6.0	8.0	13.5	10.5	11.5
4	4.0	3.0	3.5	5.5	4.5	5.0	12.0	8.0	10.0	13.0	9.5	11.0
5	4.0	3.0	3.5	6.0	5.0	5.5	11.0	8.5	9.5	14.0	8.5	11.0
6	4.5	3.5	4.0	5.5	4.5	5.0	12.5	9.0	10.5	13.5	10.5	11.5
7	5.0	3.5	4.0	5.5	3.0	4.0	13.0	9.0	11.5	12.5	8.0	10.0
8	4.0	3.5	3.5	6.5	4.0	5.0	11.0	7.5	9.0	10.5	7.0	9.0
9	4.0	2.5	3.5	6.5	4.0	5.0	9.0	5.5	7.0	11.0	9.5	10.0
10	3.5	2.0	2.5	7.5	4.0	5.5	9.0	4.5	6.5	11.0	9.5	10.0
11	4.0	2.0	3.0	7.0	4.5	5.5	9.0	5.5	7.0	14.0	8.5	11.0
12	4.0	3.0	3.5	7.0	3.5	5.0	8.0	6.0	7.0	15.0	10.0	12.0
13	3.5	1.5	2.5	6.0	3.5	4.5	11.0	7.5	9.0	12.0	10.0	11.0
14	4.0	1.0	3.0	4.5	3.5	4.0	11.0	6.5	8.5	13.5	9.0	11.0
15	5.5	3.5	4.5	5.0	3.0	4.0	11.5	6.0	8.5	15.0	10.5	12.5
16	4.5	2.5	3.5	5.0	2.5	3.5	12.0	6.0	9.0	12.5	9.5	11.0
17	4.0	2.0	3.0	5.0	3.0	4.0	10.0	8.0	9.0	12.0	9.0	10.0
18	6.0	2.5	4.0	6.0	5.0	5.5	8.0	7.0	7.5	12.5	9.0	10.5
19	7.0	4.0	5.5	6.0	5.0	5.5	8.0	6.0	7.0	16.0	11.0	13.5
20	6.5	4.0	5.0	7.0	5.0	6.0	12.0	7.0	9.0	17.0	13.0	14.5
21	7.5	4.5	6.0	7.5	4.5	6.0	10.0	6.5	8.0	13.5	10.5	12.0
22	8.5	5.5	7.0	7.5	5.5	7.0	10.5	6.5	8.5	13.5	9.5	11.5
23	6.0	4.0	5.0	7.0	4.0	5.5	---	---	---	15.0	9.0	12.0
24	6.0	4.0	5.0	7.5	3.5	5.5	---	---	---	16.5	10.5	13.5
25	4.5	2.5	3.5	7.0	4.5	5.5	---	---	---	13.5	12.5	13.0
26	6.5	3.0	4.5	7.5	6.0	7.0	---	---	---	15.0	12.0	13.0
27	9.5	6.0	7.5	10.5	5.0	7.5	---	---	---	15.0	10.5	12.5
28	8.5	6.0	7.0	11.0	6.5	8.5	---	---	---	15.0	10.5	12.5
29	---	---	---	10.5	8.0	9.5	---	---	---	14.5	10.5	12.5
30	---	---	---	12.0	9.0	10.5	16.0	9.0	12.0	13.5	12.0	12.5
31	---	---	---	10.0	3.5	7.0	---	---	---	16.0	12.0	14.0
MONTH	9.5	1.0	4.3	12.0	2.5	5.9	16.0	3.5	8.4	17.0	7.0	11.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.0	13.5	15.0	17.0	15.5	16.5	19.0	14.5	16.5	19.5	16.5	17.5
2	15.0	13.0	14.0	16.5	16.0	16.5	20.0	16.0	17.5	20.0	16.5	18.0
3	13.0	12.0	12.0	20.5	16.5	18.0	20.0	16.0	18.0	18.0	14.5	17.0
4	14.0	11.0	12.5	19.0	16.0	17.5	18.0	16.0	17.0	16.0	12.5	14.0
5	14.0	11.0	12.5	18.5	14.5	16.5	19.5	15.0	17.0	16.0	11.0	13.5
6	14.0	12.0	13.0	19.5	13.5	16.0	18.5	13.5	16.0	17.5	13.0	15.0
7	13.5	12.0	12.5	20.0	14.5	16.5	18.0	13.5	15.5	17.0	13.0	15.0
8	13.0	11.0	12.0	20.0	15.0	17.5	18.5	13.0	15.5	17.5	14.5	16.0
9	15.0	11.0	13.0	20.5	16.0	18.0	19.5	14.0	16.5	16.5	15.0	15.5
10	16.5	12.0	14.0	20.5	15.5	17.5	19.5	15.0	17.0	15.5	15.0	15.0
11	16.5	13.0	14.5	19.5	13.5	16.5	20.0	15.5	17.5	17.0	15.5	16.5
12	17.0	14.0	15.0	20.5	14.5	17.0	20.5	17.0	18.0	17.0	15.5	16.5
13	16.5	14.5	15.5	21.0	15.0	17.5	19.0	17.5	18.0	16.5	14.5	15.5
14	16.5	14.5	15.5	22.0	16.0	18.5	21.0	17.0	18.5	16.5	14.0	15.0
15	17.0	12.5	14.5	22.5	17.0	19.5	19.0	15.5	17.0	17.0	13.5	15.5
16	16.5	12.5	14.5	23.0	18.0	20.0	22.0	17.0	19.0	17.5	13.5	15.0
17	15.5	14.0	14.5	22.5	17.0	19.5	21.5	18.5	19.5	17.5	15.0	16.0
18	15.5	14.0	14.5	23.0	18.0	20.0	20.5	17.0	19.0	18.5	15.5	16.5
19	18.0	14.5	16.0	22.0	17.5	19.5	19.5	14.0	16.5	17.5	13.0	15.0
20	18.5	14.5	16.0	20.0	14.5	17.0	16.0	15.0	15.5	17.5	14.5	16.0
21	19.5	15.5	17.5	21.0	15.0	17.5	18.0	16.0	16.5	14.5	12.0	13.5
22	19.5	16.0	17.5	19.5	17.0	18.0	18.0	15.0	16.5	13.5	9.5	12.0
23	20.0	15.5	17.0	17.5	16.5	17.0	17.5	14.0	15.5	13.5	11.5	12.5
24	19.5	14.5	17.0	17.0	15.5	16.0	17.0	13.0	15.0	13.5	11.0	12.0
25	21.0	16.0	18.0	17.5	15.0	16.0	18.0	14.5	16.0	13.5	9.0	11.0
26	19.0	16.5	17.5	18.0	15.0	16.5	18.5	16.0	17.0	15.0	11.5	13.0
27	20.0	15.5	17.5	19.0	16.0	17.5	18.5	15.5	17.0	14.0	10.0	12.0
28	20.0	14.0	16.5	20.5	16.5	18.0	19.0	16.5	17.5	14.0	10.5	12.5
29	19.5	14.5	17.0	20.0	16.0	18.0	18.0	16.5	17.0	16.0	13.5	14.5
30	19.0	14.5	16.5	18.5	13.5	16.0	17.5	15.0	16.0	15.0	12.5	13.5
31	---	---	---	19.0	13.5	16.0	17.5	14.5	16.0	---	---	---
MONTH	21.0	11.0	15.1	23.0	13.5	17.5	22.0	13.0	16.9	20.0	9.0	14.7
YEAR	23.0	.0	10.2									

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA
(Swatara Creek Project)

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.

WATER-DISCHARGE RECORDS

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. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1715	*4,350	*12.40	Dec. 14	0045	2,440	9.59
Nov. 9	0245	3,230	10.85	July 24	0900	2,100	8.99
Dec. 2	0430	3,690	11.52				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	181	1550	236	241	194	291	121	127	68	76	62
2	76	169	2970	231	295	200	316	122	281	120	71	58
3	74	155	1290	232	307	195	311	150	864	94	64	55
4	63	144	848	219	273	198	279	180	551	73	63	49
5	58	137	634	220	706	219	251	143	383	64	65	45
6	55	136	800	214	520	347	236	142	301	59	59	43
7	55	138	769	194	380	297	224	133	253	58	54	41
8	94	897	781	179	313	275	204	127	219	55	51	43
9	194	2330	619	177	271	254	193	140	195	55	48	42
10	167	1040	495	179	242	254	182	139	173	55	45	45
11	137	679	449	165	222	239	174	127	158	52	45	112
12	116	509	463	e150	208	214	181	119	146	48	44	121
13	109	414	1520	e140	194	197	234	115	145	47	60	68
14	98	356	1980	e135	199	524	184	113	145	46	57	58
15	86	306	1190	149	228	853	168	107	123	44	46	53
16	80	272	871	200	231	552	161	100	117	43	43	49
17	75	251	733	178	204	432	157	97	110	42	61	49
18	74	238	601	e160	193	372	154	94	120	40	62	50
19	2920	242	548	e140	217	321	150	109	211	37	49	44
20	1980	214	452	e130	270	287	146	116	130	34	116	42
21	1020	197	384	e130	258	259	141	94	111	36	225	42
22	691	181	352	143	303	243	126	85	103	123	104	40
23	532	168	333	173	275	219	109	82	97	133	74	38
24	480	158	365	176	254	203	104	79	86	1060	61	38
25	374	150	381	454	236	192	101	245	80	393	66	37
26	315	433	306	329	225	244	103	317	80	206	94	36
27	276	329	292	243	228	208	103	197	84	147	64	34
28	258	274	284	412	208	186	190	166	71	124	116	34
29	235	249	297	331	---	179	146	149	65	145	144	59
30	216	229	289	245	---	175	126	141	62	100	86	48
31	197	---	257	224	---	273	---	136	---	86	68	---
TOTAL	11183	11176	23103	6488	7701	8805	5445	4185	5591	3687	2281	1535
MEAN	361	373	745	209	275	284	182	135	186	119	73.6	51.2
MAX	2920	2330	2970	454	706	853	316	317	864	1060	225	121
MIN	55	136	257	130	193	175	101	79	62	34	43	34
CFSM	3.11	3.21	6.42	1.80	2.37	2.45	1.56	1.16	1.61	1.03	.63	.44
IN.	3.59	3.58	7.41	2.08	2.47	2.82	1.75	1.34	1.79	1.18	.73	.49

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

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MEAN	151	265	297	285	222	398	352	280	183	143	81.5	74.7
MAX	361	396	745	683	434	846	874	756	317	378	155	143
(WY)	1997	1998	1999	1996	1996	1994	1993	1989	1989	1989	1994	1994
MIN	42.1	102	77.8	91.9	104	185	135	110	81.4	58.7	34.7	26.1
(WY)	1989	1992	1990	1992	1993	1990	1995	1995	1993	1993	1993	1995

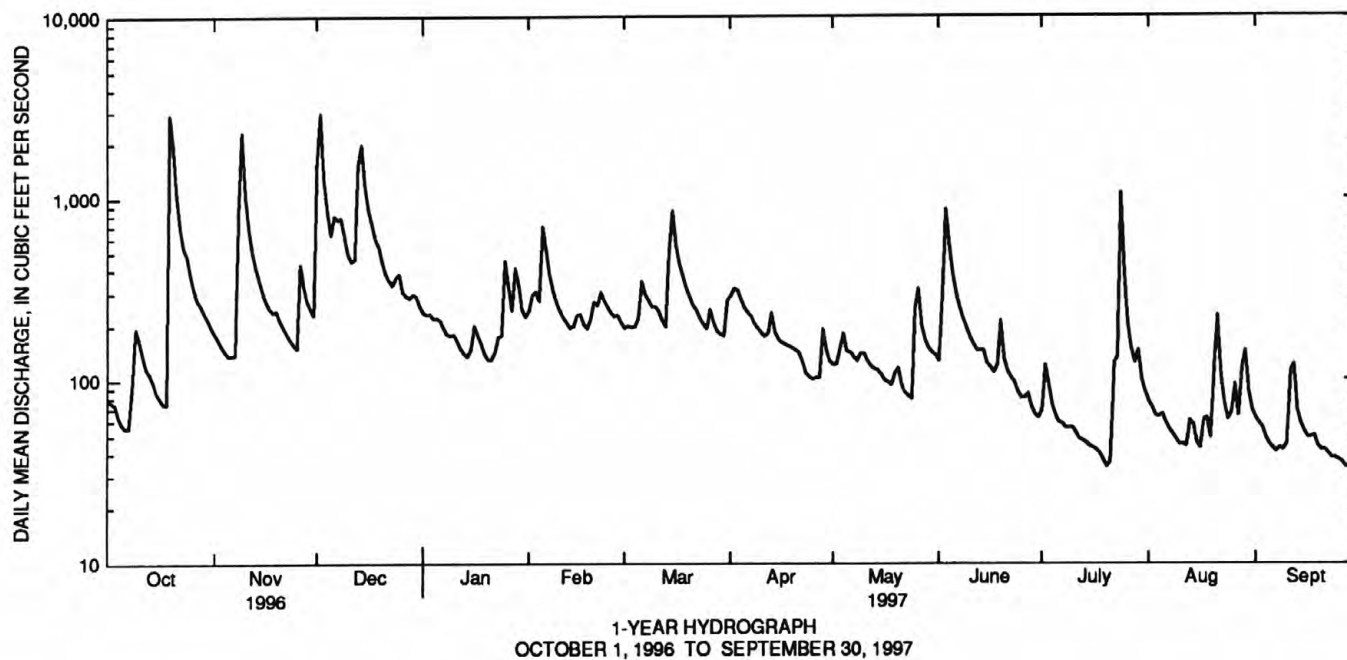
e Estimated.

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	127808		91180		224	
ANNUAL MEAN	349		250		273	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	3130	Jan 20	2970	Dec 2	4130	Nov 28 1993
LOWEST DAILY MEAN	38	Sep 2	34	Jul 20a	18	Oct 18 1988
ANNUAL SEVEN-DAY MINIMUM	40	Aug 31	37	Sep 22	22	Sep 3 1995
INSTANTANEOUS PEAK FLOW			b4350	Oct 19	b5880	Nov 28 1993
INSTANTANEOUS PEAK STAGE			12.40	Oct 19	14.17	Nov 28 1993
INSTANTANEOUS LOW FLOW			33	Sep 27	18	Oct 4 1991
ANNUAL RUNOFF (CFSM)	3.01		2.15		1.93	
ANNUAL RUNOFF (INCHES)	40.99		29.24		26.24	
10 PERCENT EXCEEDS	786		470		466	
50 PERCENT EXCEEDS	230		167		140	
90 PERCENT EXCEEDS	69		49		46	

a Also Sept. 27, 28.

b From rating curve extended above 3,300 ft³/s on basis of step-backwater analysis.

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued
(Swatara Creek Project)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.

REMARKS.--Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING 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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
APR 1996											
25...	0945	1028	9813	250	130	5.7	6.0	333	10.0	11.0	100
JUN											
10...	1430	1028	9813	150	166	6.3	6.4	303	21.0	7.2	79
AUG											
06...	1200	1028	9813	150	157	7.0	6.6	313	19.5	9.5	100
SEP											
28...	2315	1028	9813	170	--	--	6.1	--	--	--	--
29...	0001	1028	9813	190	--	--	6.2	--	--	--	--
29...	0415	1028	9813	190	--	--	6.2	--	--	--	--
29...	0800	1028	9813	150	--	--	6.2	--	--	--	--
DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
APR 1996											
25...	5.8	--	12	12	9.3	9.1	5.2	5.0	1.0	1.0	--
JUN											
10...	0.0	--	10	9.6	6.3	5.8	6.2	6.1	1.9	1.5	--
AUG											
06...	0.0	0	9.3	9.3	5.6	5.6	6.4	6.4	1.7	1.7	7
SEP											
28...	0.0	--	14	14	7.7	7.7	9.2	9.2	2.4	2.2	--
29...	0.0	--	13	12	6.8	6.6	6.8	6.8	2.9	2.2	--
29...	0.0	--	15	13	5.6	5.0	5.6	5.6	3.0	2.2	--
29...	0.0	--	11	11	5.7	5.6	6.0	6.0	2.4	2.0	--
DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE SETTLE- ABLE (MG/L) (00545)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 1996											
25...	10	65	6.6	<.2	8.3	6	--	.18	.080	.030	.020
JUN											
10...	13	46	7.1	<.2	11	30	<.200	1.2	.800	.050	.080
AUG											
06...	15	35	7.4	<.2	5.8	10	<.200	1.7	1.30	.090	.020
SEP											
28...	14	51	8.6	<.2	9.4	50	--	1.4	.670	.060	.120
29...	15	39	8.2	<.2	10	120	--	1.6	.750	.030	.200
29...	19	30	7.2	<.2	15	110	--	1.5	.820	.030	.120
29...	15	33	7.9	<.2	9.7	16	--	1.3	.780	.030	.060

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
APR 1996										
25...	530	<140	<4	<4	24	23	<10	<10	<50	<50
JUN										
10...	3500	<140	<4	<4	250	23	<10	<10	<50	<50
AUG										
06...	<140	<140	<4	<4	24	24	<10	<10	<50	<50
SEP										
28...	1400	<140	<4	<4	32	22	10	<10	<50	<50
29...	2300	160	<4	<4	38	24	<10	<10	<50	<50
29...	4200	510	<4	<4	60	25	<10	<10	<50	<50
29...	1400	230	<4	<4	34	24	<10	<10	<50	<50
DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
APR 1996										
25...	<30	<25	<10	<10	1100	480	<1	<1.0	<30	<25
JUN										
10...	<30	<25	<10	<10	2700	110	2	<1.0	<30	<25
AUG										
06...	<30	<25	<10	<10	240	63	<1	<1.0	<30	<25
SEP										
28...	<20	<20	<10	<10	2800	150	4	<1.0	<30	<30
29...	<20	<20	10	<10	5400	250	<1	4.3	<30	<30
29...	<20	<20	330	<10	8000	810	7	1.9	<30	<30
29...	<20	<20	10	<10	3000	300	2	<1.0	<30	<30
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
APR 1996										
25...	740	710	29	29	<7	<7	60	54	90	88
JUN										
10...	360	260	<25	<25	<7	<7	50	46	40	23
AUG										
06...	220	220	<25	<25	<7	<7	50	50	10	12
SEP										
28...	440	98	<25	<25	<7	<7	70	72	40	19
29...	360	84	<25	<25	<7	<7	60	61	50	20
29...	380	76	<25	<25	<7	<7	70	58	40	<10
29...	320	130	<25	<25	<7	<7	60	55	20	<10

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT 1996											
19...	0230	1028	9813	660	--	--	6.4	--	--	--	--
19...	0700	1028	9813	1700	--	--	6.3	--	--	--	--
19...	1100	1028	9813	3100	--	--	6.3	--	--	--	--
19...	1700	1028	9813	4100	--	--	6.3	--	--	--	--
20...	0500	1028	9813	2700	--	--	6.3	--	--	--	--
20...	2000	1028	9813	1300	--	--	6.3	--	--	--	--
DEC											
13...	0200	1028	9813	670	--	--	6.3	--	--	--	--
13...	1200	1028	9813	1200	--	--	6.4	--	--	--	--
13...	1630	1028	9813	1900	--	--	6.3	--	--	--	--
14...	0001	1028	9813	2400	--	--	6.3	--	--	--	--
14...	1400	1028	9813	1900	--	--	6.3	--	--	--	--
15...	0400	1028	9813	1300	--	--	6.2	--	--	--	--
JAN 1997											
23...	1100	1028	9813	140	154	6.5	6.2	--	3.0	12.0	90
MAR											
04...	0930	1028	9813	170	132	6.8	6.0	--	4.0	12.0	94
31...	0700	1028	9813	230	--	--	6.2	--	--	--	--
31...	1300	1028	9813	290	--	--	6.2	--	--	--	--
31...	2200	1028	9813	280	--	--	6.2	--	--	--	--
APR											
01...	0800	1028	9813	250	--	--	6.2	--	--	--	--
23...	1825	1028	9813	90	155	6.9	6.3	--	11.0	10.0	94
JUN											
02...	1030	1028	9813	190	--	--	6.4	--	--	--	--
02...	1730	1028	9813	380	--	--	6.4	--	--	--	--
03...	0200	1028	9813	620	--	--	6.3	--	--	--	--
03...	0630	1028	9813	1100	--	--	6.3	--	--	--	--
03...	1200	1028	9813	880	--	--	6.3	--	--	--	--
03...	1800	1028	9813	740	--	--	6.3	--	--	--	--
04...	1030	1028	9813	520	--	--	6.3	--	--	--	--
11...	1000	1028	9813	150	150	6.5	6.1	368	16.0	9.3	94
JUL											
15...	1115	1028	9813	41	238	7.0	6.4	363	21.0	9.2	100
AUG											
14...	0930	1028	9813	54	205	6.9	6.5	324	20.0	8.3	92
20...	1700	1028	9813	140	--	--	6.2	--	--	--	--
20...	2000	1028	9813	270	--	--	6.3	--	--	--	--
21...	0001	1028	9813	320	--	--	6.4	--	--	--	--
21...	1000	1028	9813	220	--	--	6.4	--	--	--	--
22...	0200	1028	9813	120	--	--	6.4	--	--	--	--
22...	1037	1028	9813	99	--	--	6.5	--	--	--	--
SEP											
22...	1010	1028	9813	41	256	7.0	6.2	332	11.5	10.0	94

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)
OCT 1996											
19...	4.4	--	12	11	5.1	4.2	4.3	4.2	4.5	3.4	17
19...	7.6	--	7.1	6.9	3.3	2.8	2.9	2.8	4.9	3.0	10
19...	6.2	--	5.7	5.9	2.7	2.4	2.4	2.4	4.0	3.1	9
19...	6.4	--	5.8	5.2	2.8	2.3	2.4	2.1	3.6	2.7	9
20...	7.0	--	6.4	6.3	3.2	3.0	2.4	2.4	2.6	2.2	8
20...	5.6	--	6.6	6.9	3.6	3.6	2.8	2.8	2.2	1.8	8
DEC											
13...	.6	--	7.6	7.6	4.4	4.3	3.9	3.9	1.8	1.4	9
13...	5.4	--	6.7	6.6	3.6	3.4	3.4	3.4	1.7	1.4	8
13...	3.8	--	6.7	6.2	3.4	3.0	3.3	3.1	2.0	1.6	8
14...	4.2	--	5.9	5.9	3.0	3.0	3.0	3.0	2.0	1.7	8
14...	5.4	--	6.2	6.0	3.5	3.3	3.1	2.8	1.9	1.7	7
15...	3.4	--	6.4	6.3	3.8	3.7	2.8	2.8	1.4	1.4	7
JAN 1997											
23...	4.0	--	9.2	9.2	6.1	6.1	6.8	6.8	1.4	1.4	11
MAR											
04...	1.4	0	8.2	8.1	5.0	4.9	6.7	6.7	1.0	.99	10
31...	.6	--	8.2	7.9	4.8	4.6	5.3	5.2	1.2	1.2	10
31...	0.0	--	7.9	7.9	4.4	4.4	5.2	5.2	1.2	1.0	10
31...	1.8	--	7.6	7.4	4.2	4.2	6.2	6.2	1.2	1.2	10
APR											
01...	.4	--	7.7	7.7	4.3	4.2	7.7	7.6	1.0	.96	10
23...	.8	0	7.9	7.9	5.1	5.1	5.2	5.2	1.3	1.2	11
JUN											
02...	0.0	--	13	12	6.8	6.3	6.1	5.9	3.0	2.0	13
02...	.8	--	10	9.7	5.1	4.7	6.4	6.2	3.0	2.0	12
03...	1.0	--	7.7	7.1	3.7	3.2	4.8	4.8	2.9	1.8	11
03...	2.0	--	6.9	6.8	3.3	3.0	4.4	4.4	2.4	1.5	11
03...	.8	--	6.6	6.4	3.2	3.0	4.1	4.1	1.9	1.4	11
03...	0.0	--	7.1	6.9	3.6	3.4	4.3	4.3	1.6	1.2	10
04...	0.0	--	7.5	7.5	4.0	4.0	4.7	4.6	1.4	1.3	10
11...	.80	--	8.4	8.4	5.6	5.6	5.3	5.3	1.2	1.2	10
JUL											
15...	0.0	0	15	14	9.9	9.2	13	12	1.6	1.6	16
AUG											
14...	0.0	0	14	13	7.9	7.9	8.8	8.5	1.6	1.6	16
20...	2.0	--	11	10	6.3	5.7	7.9	7.5	1.9	1.6	13
20...	2.8	--	11	9.8	5.8	5.0	6.5	6.0	2.7	1.8	16
21...	1.0	--	10	8.8	5.0	4.4	5.5	5.1	2.4	1.7	16
21...	2.4	--	9.2	8.8	4.7	4.4	5.6	5.0	2.4	2.0	14
22...	0.0	--	10	9.7	5.4	5.2	6.4	6.1	2.2	2.0	16
22...	0.0	--	11	11	6.2	6.2	7.2	7.2	2.1	2.1	16
SEP											
22...	0.0	0	18	18	13	13	11	10	1.8	1.8	13

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE SETTLE- ABLE (MG/L) (00545)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996										
19...	28	6.3	<.2	25	420	E.100	2.5	.710	.120	.390
19...	16	4.8	<.2	16	5800	.200	2.1	.750	.090	.240
19...	14	4.2	<.2	14	190	E.120	2.0	1.00	.080	.130
19...	13	4.2	<.2	12	78	E.080	2.2	1.50	.070	.090
20...	16	4.7	<.2	8.4	8	<.400	2.6	2.10	.060	.050
20...	19	5.0	<.2	7.0	26	<.200	2.4	2.00	.060	.030
DEC										
13...	24	5.4	<.2	8.1	17	<.200	1.5	1.10	.090	.040
13...	19	4.7	<.2	8.6	25	<.200	1.4	.980	.080	.040
13...	17	4.3	<.2	10	47	<.200	1.5	.970	.080	.050
14...	15	4.0	<.2	8.7	34	<.200	1.7	1.20	.060	.040
14...	17	4.1	<.2	7.2	9	<.200	1.8	1.40	.060	.020
15...	20	4.1	<.2	7.0	10	<.200	1.8	1.40	.060	.020
JAN 1997										
23...	39	9.7	<.2	5.8	10	<.200	1.7	1.10	.170	.020
MAR										
04...	32	10	<.2	6.2	22	<.200	1.1	.700	.090	<.020
31...	27	12	<.2	7.4	16	--	1.2	.810	.060	<.020
31...	28	7.9	<.2	7.5	26	--	1.2	.760	.050	.020
31...	26	8.1	<.2	6.5	12	--	1.2	.720	.060	.020
APR										
01...	26	9.3	<.2	6.5	14	--	1.2	.760	.060	.020
23...	45	7.4	<.2	4.1	6	--	1.0	.500	.160	.020
JUN										
02...	41	9.0	<.2	9.8	--	.800	1.3	.530	.000	.270
02...	28	6.8	<.2	17	140	1	1.4	.590	.040	.100
03...	18	5.8	<.2	18	54	1	1.8	.810	.060	.090
03...	16	5.4	<.2	17	58	.400	1.9	.910	.050	.080
03...	17	5.5	<.2	11	4	<.200	1.7	.950	.060	.050
03...	17	5.8	<.2	<1.1	70	--	1.8	1.10	.050	.040
04...	20	6.1	<.2	5.8	26	.200	1.8	1.30	.050	.030
11...	38	6.8	<.2	5.4	<2	<.200	1.3	.870	.110	<.020
JUL										
15...	71	9.0	<.2	6.1	<2	<.200	1.5	.640	.210	.030
AUG										
14...	56	8.8	<.2	6.1	2	--	1.6	.900	.200	.020
20...	45	6.7	<.2	9.0	82	--	1.9	.840	.100	.080
20...	35	7.4	<.2	9.9	200	.500	1.9	.740	.060	.130
21...	32	6.8	<.2	14	160	.500	1.9	.750	.030	.120
21...	30	7.1	<.2	8.0	42	.300	1.4	.700	.070	.050
22...	35	7.8	<.2	6.7	22	<.200	1.4	.820	.100	.030
22...	40	8.5	<.2	13	6	<.200	1.5	.910	.120	.020
SEP										
22...	79	10	<.2	7.7	10	<.200	1.0	.550	.090	.020

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
OCT 1996										
19...	12000	1200	<40	<4	100	48	<10	<10	<50	<50
19...	7100	620	<40	<4	76	40	<10	<10	<50	<50
19...	4500	460	<40	<4	54	37	<10	<10	<50	<50
19...	3100	170	<40	<4	46	27	<10	<10	<50	<50
20...	1400	150	<40	<4	37	30	<10	<10	<50	<10
20...	760	140	<4	<4	32	30	<10	<10	<50	<50
DEC										
13...	1200	410	<4	<4	35	30	<10	<10	<50	<50
13...	1600	350	<4	<4	39	31	<10	<10	<50	<50
13...	2200	280	<4	<4	44	31	<10	<10	<50	<50
14...	1700	180	<4	<4	41	28	<10	<10	<50	<50
14...	1100	270	<4	<4	37	31	<10	<10	<50	<50
15...	<140	<140	<4	<4	34	30	<10	<10	<50	<50
JAN 1997										
23...	300	<140	<4	<4	22	22	<10	<10	<50	<50
MAR										
04...	350	<140	<4	<4	22	21	<10	<10	<50	<50
31...	750	<140	<4	<4	28	23	<10	<10	<50	<50
31...	870	<140	<4	<4	29	23	<10	<10	<50	<50
31...	480	<140	<4	<4	27	24	<10	<10	<50	<50
APR										
01...	400	<140	<4	<4	26	24	<10	<10	<50	<50
23...	<140	<140	<4	<4	15	15	<10	<10	<50	<50
JUN										
02...	3000	<140	<4	<4	48	18	<10	<10	<50	<50
02...	6000	170	<4	<4	61	23	<10	<10	<50	<50
03...	5300	150	<4	<4	61	18	<10	<10	<50	<50
03...	4200	180	<4	<4	56	25	<10	<10	<50	<50
03...	2500	150	<4	<4	45	26	<10	<10	<50	<50
03...	1600	<140	<4	<4	40	27	<10	<10	<50	<50
04...	810	<140	<4	<4	35	29	<10	<10	<50	<50
11...	170	<140	<4	<4	23	22	<10	<10	<50	<50
JUL										
15...	140	<140	<4	<4	23	21	<10	<10	<50	<50
AUG										
14...	<200	<200	<4	<4	27	25	<10	<10	<50	<50
20...	2700	<200	<4	<4	42	19	<10	<10	<50	<50
20...	7600	<200	<4	<4	68	17	<10	<10	<50	<50
21...	4300	<200	<4	<4	50	16	<10	<10	<50	<50
21...	1300	<200	<4	<4	32	17	<10	<10	<50	<50
22...	480	<200	<4	<4	26	20	<10	<10	<50	<50
22...	<200	270	<4	<4	25	29	<10	<10	<50	<50
SEP										
22...	<200	<200	<4	<4	24	23	<10	<10	<50	<50

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
OCT 1996										
19...	60	<25	<10	14	25000	800	18	3.2	<30	<25
19...	40	<25	23	12	16000	590	15	9.3	<30	<25
19...	<30	<25	10	<10	8600	540	<10	4.1	<30	<25
19...	<30	<25	<10	<10	4400	200	<10	1.8	<30	<25
20...	<30	<25	<10	<10	1900	440	2	1.6	<30	<25
20...	<30	<25	<10	<10	1300	200	1	<1.0	<30	<25
DEC										
13...	<20	<20	10	<10	1700	200	2	1.1	<30	<30
13...	<20	<20	10	<10	2500	200	2	1.1	<30	<30
13...	<20	<20	<10	<10	3500	160	4	1.3	<30	<30
14...	<20	<20	<10	<10	2500	90	2	<1.0	<30	<30
14...	<20	<20	<10	<10	1100	370	1	<1.0	<30	<30
15...	<20	<20	<10	<10	860	85	<1	<1.0	<30	<30
JAN 1997										
23...	<30	<25	<10	<10	610	160	<1	<1.0	<30	<25
MAR										
04...	<20	<20	<10	<10	640	150	<1	<1.0	<30	<30
31...	<20	<20	10	<10	1500	170	1	<1.0	<30	<30
31...	<20	<20	10	<10	1700	120	<1	<1.0	<30	<30
31...	<20	<20	10	10	990	150	1	<1.0	<30	<30
APR										
01...	<20	<20	11	<10	780	160	<1	<1.0	<30	<30
23...	<30	<25	<10	<10	260	90	1	2.2	<30	<25
JUN										
02...	<30	<25	16	<10	7800	140	8	<1.0	<30	<30
02...	<20	<20	16	<10	11000	300	6	<1.0	<30	<30
03...	<20	<20	11	<10	8200	240	7	<1.0	<30	<30
03...	<20	<20	<10	<10	7000	340	6	<1.0	<30	<30
03...	<20	<20	<10	<10	4000	300	4	<1.0	<30	<30
03...	<20	<20	<10	<10	2600	170	3	<1.0	<30	<30
04...	<20	<20	<10	<10	1400	120	1	<1.0	<30	<30
11...	<30	<25	<10	<10	470	100	<1	<1.0	<30	<25
JUL										
15...	<30	<25	<10	<10	300	82	<1	<1.0	<30	<25
AUG										
14...	<30	<25	<10	<10	280	68	<1	1.4	<30	<25
20...	60	30	<10	<10	4300	95	6	<1.0	<30	<25
20...	40	<25	20	<10	13000	98	11	<1.0	<30	<25
21...	<30	<25	56	<10	9900	120	8	<1.0	<30	<25
21...	<30	<25	<10	<10	2700	130	2	<1.0	<30	<25
22...	<30	<25	11	<10	940	100	<1	<1.0	<30	<25
22...	<30	27	<10	<10	90	510	<1	<1.0	<30	<25
SEP										
22...	<20	<20	<10	<10	230	110	<1	1.1	<30	<30

SWATARA CREEK BASIN

01572025 SWATARA CREEK NEAR PINE GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μ G/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μ G/L AS NI) (01067)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, TOTAL (μ G/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μ G/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μ G/L AS ZN) (01092)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)
OCT 1996										
19...	1800	380	57	<25	<70	<7	60	51	220	98
19...	1200	180	39	<25	<70	<7	40	30	120	61
19...	570	180	<25	<25	<70	<7	30	27	60	48
19...	330	140	<25	<25	<70	<7	30	25	40	22
20...	220	150	<25	<25	<7	<7	30	28	30	140
20...	240	200	<25	<25	<7	<7	30	31	30	29
DEC										
13...	260	220	<25	<25	<7	<7	40	38	40	38
13...	230	170	<25	<25	<7	<7	30	32	30	25
13...	250	140	<25	<25	<7	<7	30	30	40	27
14...	190	120	<25	<25	<7	<7	30	29	30	21
14...	180	160	<25	<25	<7	<7	30	30	30	24
15...	210	190	<25	<25	<7	<7	30	31	30	26
JAN 1997										
23...	330	330	29	29	<7	<7	50	46	40	35
MAR										
04...	320	300	<25	<25	<7	<7	40	41	30	30
31...	270	240	<25	<25	<7	<7	40	41	30	21
31...	260	230	<25	<25	<7	<7	40	37	30	31
31...	250	230	<25	<25	<7	<7	40	38	30	29
APR										
01...	240	230	<25	<25	<7	<7	40	39	20	21
23...	320	320	<25	<25	<7	<7	40	36	20	20
JUN										
02...	1700	48	<25	<25	<7	<7	70	59	100	19
02...	540	180	27	<25	<7	<7	60	49	90	15
03...	420	140	<25	<25	<7	<7	40	36	60	15
03...	390	130	<25	<25	<7	<7	40	34	50	13
03...	350	130	<25	<25	<7	<7	40	34	40	16
03...	400	140	<25	<25	<7	<7	40	37	30	16
04...	220	180	<25	<25	<7	<7	40	40	30	17
11...	320	310	<25	<25	<7	<7	40	43	30	26
JUL										
15...	310	280	<25	<25	<7	<7	80	77	30	28
AUG										
14...	230	210	<25	<25	<7	<7	70	67	20	21
20...	1000	110	<25	<25	<7	<7	60	55	90	22
20...	940	66	33	<25	<7	<7	60	50	130	12
21...	690	64	<25	<25	<7	<7	50	44	160	<10
21...	310	87	<25	<25	<7	<7	50	45	40	<10
22...	220	120	<25	<25	<7	<7	50	52	40	12
22...	170	240	<25	<25	<7	<7	60	62	10	24
SEP										
22...	560	550	36	36	<7	<7	80	82	50	50

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 Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 11.1 ft³/s. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0015	*6,290	*13.28	Dec. 14	0100	3,770	10.30
Nov. 9	0745	3,960	10.57	July 24	1145	2,410	8.15
Dec. 2	1145	4,970	11.81				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	243	1620	334	308	271	425	145	149	71	92	77
2	100	226	4370	323	401	274	454	148	325	134	85	71
3	101	206	2030	324	433	269	462	167	1300	118	78	66
4	87	190	1300	303	409	269	416	264	950	88	73	59
5	79	179	985	295	972	291	368	186	645	76	75	55
6	75	172	1120	295	898	534	338	177	480	69	71	51
7	73	179	1090	255	636	467	318	166	393	65	64	50
8	90	787	1140	229	507	424	279	155	331	63	59	50
9	241	3230	945	223	430	385	252	171	289	62	57	51
10	204	1510	769	228	373	374	232	179	249	59	54	56
11	173	1010	672	210	331	356	221	158	218	53	52	128
12	148	773	704	178	302	307	222	146	196	49	52	164
13	139	608	2100	e160	272	273	335	141	190	47	63	98
14	129	506	3170	e160	269	606	247	138	186	46	74	81
15	116	430	1890	189	294	1340	211	131	157	44	57	72
16	107	378	1340	248	333	914	197	124	145	43	53	66
17	102	346	1130	248	279	712	191	116	135	40	62	62
18	102	324	955	178	248	595	184	114	133	38	73	63
19	3610	329	859	e140	277	499	176	125	269	36	62	58
20	3780	293	711	e140	392	443	168	137	170	34	90	54
21	1630	263	578	e160	379	394	163	114	137	34	294	51
22	1110	240	517	180	463	360	155	102	122	136	132	51
23	870	216	483	210	440	314	134	95	111	161	95	49
24	771	206	504	225	391	281	130	92	98	1340	78	48
25	583	196	585	651	351	259	123	228	92	686	71	46
26	470	565	445	545	326	333	121	533	88	307	110	45
27	403	491	415	367	330	298	120	267	95	196	82	42
28	375	387	404	538	301	252	240	205	82	150	98	40
29	335	348	412	512	---	235	199	179	74	164	173	65
30	299	319	424	357	---	227	156	166	71	119	106	63
31	272	---	368	319	---	360	---	161	---	102	86	---
TOTAL	16682	15150	34035	8724	11345	12916	7237	5230	7880	4630	2671	1932
MEAN	538	505	1098	281	405	417	241	169	263	149	86.2	64.4
MAX	3780	3230	4370	651	972	1340	462	533	1300	1340	294	164
MIN	73	172	368	140	248	227	120	92	71	34	52	40
CFSM	3.22	3.02	6.57	1.69	2.43	2.49	1.44	1.01	1.57	.89	.52	.39
IN.	3.72	3.37	7.58	1.94	2.53	2.88	1.61	1.17	1.76	1.03	.59	.43

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

MEAN	215	383	434	415	321	596	526	413	260	202	105	99.3
MAX	538	662	1098	987	616	1263	1325	1184	471	576	192	189
(WY)	1997	1993	1997	1996	1996	1994	1993	1989	1989	1989	1994	1994
MIN	61.1	135	114	108	149	271	165	127	97.2	77.6	42.5	32.7
(WY)	1989	1992	1989	1992	1992	1990	1995	1995	1993	1993	1993	1995

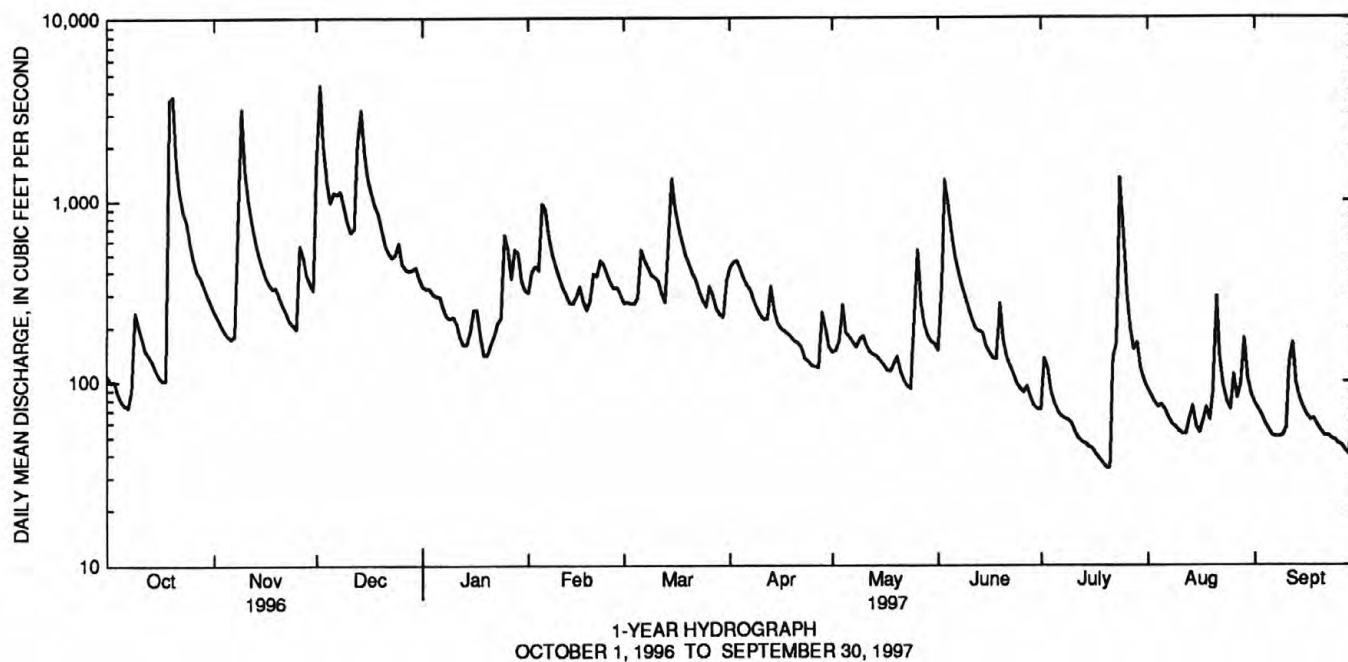
e Estimated.

SWATARA CREEK BASIN

01572190 SWATARA CREEK NEAR INWOOD, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	184803		128432		325	
ANNUAL MEAN	505		352		394	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					225	
HIGHEST DAILY MEAN	6200	Jan 20	4370	Dec 2	6200	Jan 20 1996
LOWEST DAILY MEAN	53	Sep 3	34	Jul 20,21	26	Oct 4 1991a
ANNUAL SEVEN-DAY MINIMUM	59	Aug 29	38	Jul 15	26	Sep 2 1995
INSTANTANEOUS PEAK FLOW			b6290	Oct 20	b9510	Nov 28 1993
INSTANTANEOUS PEAK STAGE			13.28	Oct 20	16.20	Nov 28 1993
INSTANTANEOUS LOW FLOW			33	Jul 20,21	25	Sep 2 1993
ANNUAL RUNOFF (CFSM)	3.02		2.11		1.95	
ANNUAL RUNOFF (INCHES)	41.17		28.61		26.46	
10 PERCENT EXCEEDS	1110		711		725	
50 PERCENT EXCEEDS	327		210		185	
90 PERCENT EXCEEDS	87		61		58	

a Also Sept. 1, 2, 1993 and Sept. 3-8, 1995.
b From rating curve extended above 4,500 ft³/s.



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 poor. The Pennsylvania American Water Company diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 11.4 ft³/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 25.6 ft, from floodmark, discharge, about 88,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0530	*11,400	*11.83	Dec. 2	1330	8,210	9.76
Nov. 9	1130	8,730	10.12	Dec. 14	0345	8,820	10.18

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	473	2080	660	682	485	951	258	238	111	150	105
2	198	439	7630	618	1010	490	876	250	435	194	137	98
3	204	401	3830	632	996	493	796	270	2290	256	124	93
4	176	365	2280	604	895	522	726	389	1630	157	115	82
5	151	345	1730	580	2330	639	641	313	1060	124	114	74
6	141	329	2640	609	1820	1130	591	277	795	111	113	68
7	137	329	2280	512	1250	904	559	275	646	104	100	64
8	194	1190	2510	447	1020	780	495	251	551	99	90	64
9	710	7410	1870	434	865	709	450	279	484	97	84	67
10	474	3130	1500	458	749	681	415	310	418	123	79	76
11	395	2000	1310	416	647	662	393	270	364	107	76	244
12	311	1510	1350	335	597	574	392	243	329	89	74	317
13	279	1210	4670	342	539	506	611	233	315	83	93	179
14	264	1030	7620	366	535	1320	470	226	311	78	130	128
15	230	874	3860	363	701	2960	387	219	271	76	98	109
16	207	760	2630	456	848	1720	354	207	238	69	82	97
17	196	690	2150	e440	626	1340	341	191	225	64	80	88
18	212	649	1840	e400	555	1150	335	183	221	62	105	86
19	7250	662	1680	e380	611	969	316	202	401	60	105	84
20	9170	598	1370	e400	785	851	305	218	313	56	152	76
21	3600	531	1090	e460	729	752	289	198	233	53	502	69
22	2340	492	982	e550	801	685	283	170	200	198	264	66
23	1760	446	932	e600	764	601	257	156	181	440	162	66
24	1500	420	1000	814	674	534	245	148	165	2080	124	65
25	1190	397	1330	2100	606	495	232	264	152	1350	106	63
26	958	1250	906	1220	565	652	221	896	144	579	141	61
27	804	1110	822	763	586	597	213	452	153	370	139	60
28	734	766	811	1390	541	486	389	329	143	281	112	55
29	670	690	857	1370	---	451	404	283	124	255	218	82
30	582	636	906	776	---	447	287	261	114	218	179	104
31	533	---	739	630	---	810	---	256	---	171	124	---
TOTAL	35789	31132	67205	20125	23327	25395	13224	8477	13144	8115	4172	2890
MEAN	1154	1038	2168	649	833	819	441	273	438	262	135	96.3
MAX	9170	7410	7630	2100	2330	2960	951	896	2290	2080	502	317
MIN	137	329	739	335	535	447	213	148	114	53	74	55
CFSM	3.43	3.08	6.43	1.93	2.47	2.43	1.31	.81	1.30	.78	.40	.29
IN.	3.95	3.44	7.42	2.22	2.57	2.80	1.46	.94	1.45	.90	.46	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1997, BY WATER YEAR (WY)

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
MEAN	335	543	715	680	757	1068	885	681	441	310	246	262
MAX	2104	1753	2168	2538	2097	3096	2466	2189	3952	1472	1772	2000
(WY)	1977	1927	1997	1996	1925	1994	1983	1989	1972	1945	1933	1975
MIN	28.1	35.9	60.0	42.1	162	358	297	154	80.2	30.8	22.0	15.9
(WY)	1942	1932	1931	1981	1980	1985	1988	1926	1965	1966	1966	1932

e Estimated.

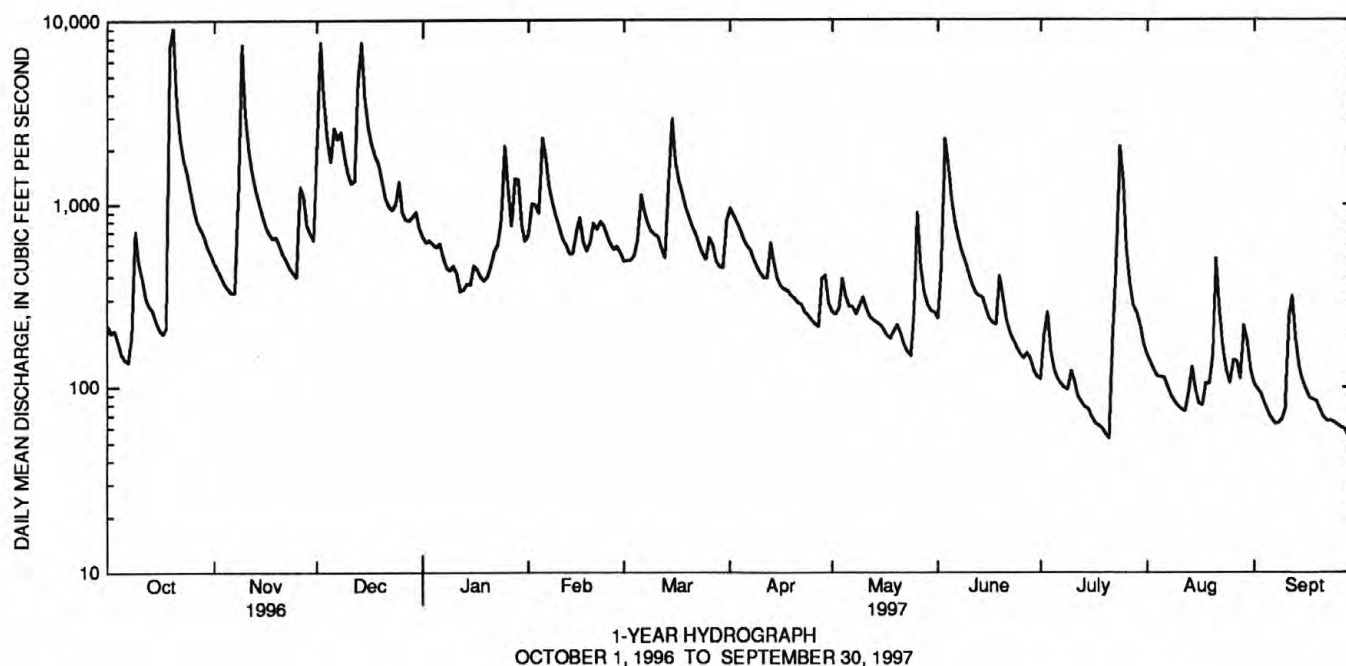
SWATARA CREEK BASIN

01573000 SWATARA CREEK AT HARPER TAVERN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1919 - 1997	
ANNUAL TOTAL	391921		252995		575	
ANNUAL MEAN	1071		693		948	
HIGHEST ANNUAL MEAN					1972	
LOWEST ANNUAL MEAN					201	
HIGHEST DAILY MEAN	17500	Jan 20	9170	Oct 20	42500	Jun 23 1972
LOWEST DAILY MEAN	103	Sep 3	53	Jul 21	6.6	Aug 21 1965
ANNUAL SEVEN-DAY MINIMUM	115	Aug 29	62	Sep 22	10	Sep 19 1932
INSTANTANEOUS PEAK FLOW			11400	Oct 20	a66700	Jun 23 1972
INSTANTANEOUS PEAK STAGE			11.83	Oct 20	b23.72	Jun 23 1972
INSTANTANEOUS LOW FLOW			52	Jul 21	6.0	Aug 21 1965
ANNUAL RUNOFF (CFSM)	3.18		2.06		1.71	
ANNUAL RUNOFF (INCHES)	43.26		27.93		23.19	
10 PERCENT EXCEEDS	2200		1380		1290	
50 PERCENT EXCEEDS	670		401		320	
90 PERCENT EXCEEDS	174		90		66	

a From rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark in gage.



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 fair except those for estimated daily discharges, which are poor. No diversion by Hershey Chocolate U.S.A. Satellite and landline telemetry at station.

COOPERATION.--Records of daily diversion furnished by Hershey Chocolate U.S.A., a division of Hershey Foods Corporation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 6,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	1230	*11,200	*8.08	Dec. 2	1930	7,550	6.38
Nov. 9	1745	7,990	6.59	Dec. 14	0415	9,640	7.36

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	297	683	2090	1030	1130	855	1290	e480	375	202	208	158
2	267	626	6970	996	1380	862	1160	e440	626	234	193	149
3	266	574	4960	1000	1340	886	1090	e440	2450	372	181	138
4	248	534	2790	1030	1280	958	1020	e480	2050	261	164	132
5	230	515	2150	887	2760	1120	934	e440	1370	219	173	127
6	214	486	3140	921	2490	1510	844	e400	1070	207	175	131
7	200	474	2970	803	1820	1340	823	e390	885	199	157	126
8	242	1260	3250	703	1560	1190	766	e380	768	175	144	114
9	776	7210	2480	696	1360	1120	745	e420	676	140	142	122
10	578	4070	2050	761	1250	1090	708	e440	578	162	136	130
11	496	2440	1820	763	1080	1090	663	e400	529	182	129	272
12	399	1920	1840	653	886	990	704	e380	537	145	118	379
13	366	1580	5320	616	816	915	915	e360	439	146	128	254
14	329	1320	9170	614	825	1640	e800	e340	470	133	172	188
15	295	1170	5090	626	1040	3610	e600	e340	423	127	150	156
16	269	1030	3360	e600	1270	2270	e550	e320	373	111	123	150
17	256	951	2750	e550	979	1800	e500	e300	376	113	126	147
18	273	910	2400	e500	918	1570	e460	e280	370	105	140	142
19	6970	939	2200	e480	981	1360	e430	e300	521	115	154	151
20	10600	870	1870	e460	1160	1220	e410	e330	462	120	192	142
21	4750	791	1560	e480	1180	1110	e400	e320	348	110	531	142
22	2950	777	1430	488	1180	1040	e380	e310	295	161	381	142
23	2210	738	1360	529	1140	923	e360	e300	282	448	246	144
24	1890	738	1380	704	1070	836	e340	e300	258	1660	198	124
25	1580	681	1730	2070	993	765	e320	e420	241	1680	183	134
26	1340	1440	1310	1630	931	779	e300	1090	237	688	174	150
27	1140	1680	1200	1040	976	842	e290	688	250	440	222	140
28	996	1260	1210	1660	917	676	e500	523	226	348	182	144
29	928	1200	1240	2060	---	652	e550	443	221	301	214	198
30	826	1170	1280	1220	---	643	e500	382	211	290	250	243
31	761	---	1100	1100	---	964	---	377	---	236	185	---
TOTAL	42942	40037	83470	27670	34712	36626	19352	12813	17917	9830	5871	4869
MEAN	1385	1335	2693	893	1240	1181	645	413	597	317	189	162
MAX	10600	7210	9170	2070	2760	3610	1290	1090	2450	1680	531	379
MIN	200	474	1100	460	816	643	290	280	211	105	118	114
CF5M	2.87	2.76	5.57	1.85	2.57	2.45	1.34	.86	1.24	.66	.39	.34
IN.	3.31	3.08	6.43	2.13	2.67	2.82	1.49	.99	1.38	.76	.45	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	607	801	1039	978	970	1403	1244	903	590	451	317	328										
MAX	2632	1427	2693	3370	1707	3848	3207	2708	1959	1536	1036	1320										
(WY)	1977	1993	1997	1979	1996	1994	1993	1989	1982	1989	1978	1987										
MIN	85.3	152	111	79.9	226	459	420	329	166	143	106	73.0										
(WY)	1981	1982	1981	1981	1980	1985	1995	1995	1991	1987	1987	1980										

e Estimated.

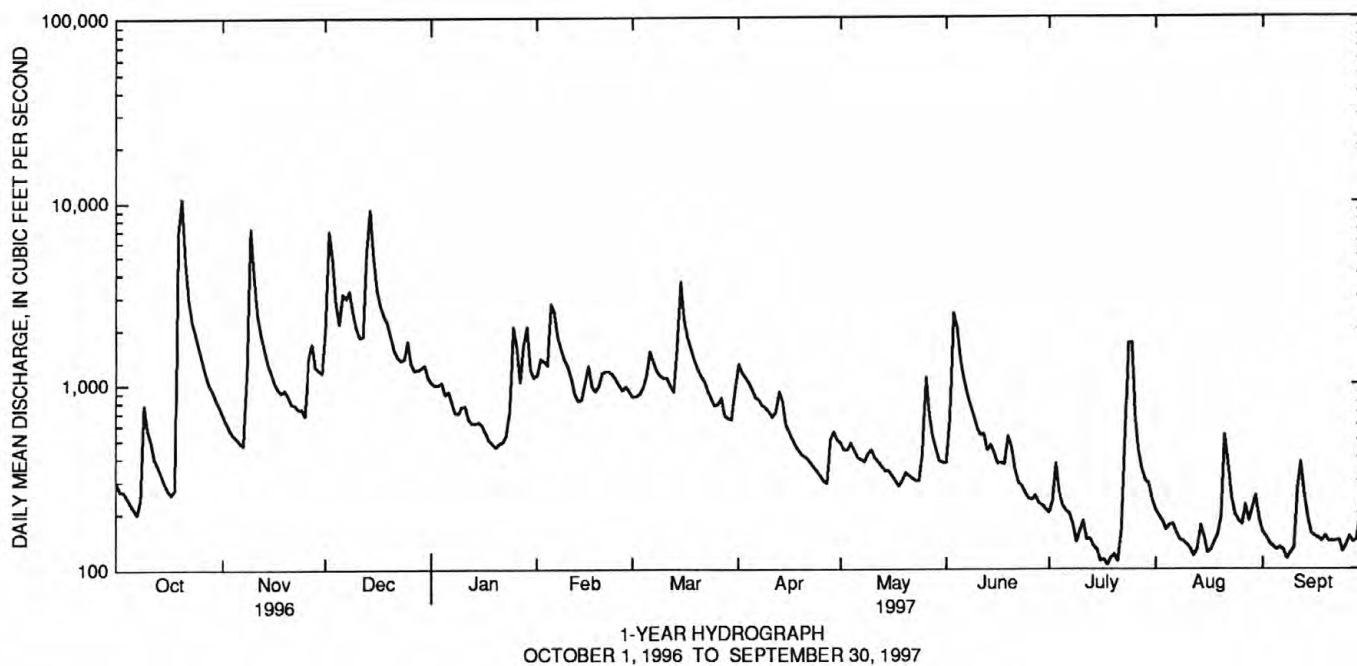
SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1976 - 1997	
ANNUAL TOTAL	496813		336109		802	
ANNUAL MEAN	1357		921		1225	
HIGHEST ANNUAL MEAN					1225	
LOWEST ANNUAL MEAN					380	
HIGHEST DAILY MEAN	e13200	Jan 20,21	10600	Oct 20	23800	Jan 25 1979
LOWEST DAILY MEAN	170	Jan 8	105	Jul 18	59	Sep 21 1985
ANNUAL SEVEN-DAY MINIMUM	190	Aug 31	114	Jul 15	63	Sep 18 1985
INSTANTANEOUS PEAK FLOW			11200	Oct 20	29400	Sep 27 1975
INSTANTANEOUS PEAK STAGE			8.08	Oct 20	15.36	Sep 27 1975
INSTANTANEOUS LOW FLOW			100	Jul 18-22a	59	Sep 21 1985
ANNUAL RUNOFF (CFSM)	2.81		1.91		1.66	
ANNUAL RUNOFF (INCHES)	38.26		25.89		22.56	
10 PERCENT EXCEEDS	2750		1850		1770	
50 PERCENT EXCEEDS	941		578		448	
90 PERCENT EXCEEDS	267		146		138	

a Also Sept. 7, 8.

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. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 10,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	1600	13,800	14.10	Dec. 14	0015	*18,100	*16.79
Nov. 9	1130	11,000	12.22				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	428	460	1730	610	559	453	1440	241	171	68	66	46
2	350	448	8780	571	561	706	846	226	261	72	62	43
3	329	421	3830	594	569	693	676	215	1120	74	58	39
4	317	397	2070	580	591	1110	600	211	1110	78	56	43
5	266	402	1530	555	2070	2200	538	247	632	86	62	46
6	246	386	2350	583	1990	3310	499	207	404	70	63	41
7	241	396	3200	550	1140	1910	479	180	318	67	55	40
8	312	1570	4160	495	882	1260	441	172	274	64	54	39
9	1690	8340	2490	422	819	1020	378	175	248	61	50	34
10	1190	3190	1780	413	738	892	350	196	220	67	48	44
11	776	1880	1520	441	647	844	328	218	196	63	45	160
12	488	1290	1500	327	585	703	329	190	181	60	44	862
13	405	1030	8250	285	530	586	500	175	173	64	44	254
14	364	846	12600	e270	505	2750	562	161	172	59	47	142
15	333	751	3740	e280	616	6270	384	158	169	55	48	103
16	298	711	2440	e300	935	1870	324	151	155	51	46	86
17	273	639	2050	e280	863	1300	304	144	140	49	43	73
18	282	586	1870	e230	744	1100	294	139	132	47	43	64
19	9230	606	1860	e240	1210	1160	288	154	183	47	41	57
20	5510	580	1910	e260	1330	1440	272	166	179	44	55	54
21	2320	521	1290	e270	1040	1070	257	161	159	42	153	50
22	1630	482	973	e280	883	882	252	138	125	42	147	47
23	1310	452	893	e300	782	751	252	124	115	85	127	47
24	1110	429	978	e440	636	636	243	116	105	182	82	45
25	928	419	1440	e950	521	573	241	205	95	138	68	45
26	767	1990	999	e2000	479	649	238	759	92	181	65	45
27	666	2600	807	e1500	495	840	224	591	86	121	57	44
28	618	997	744	e2200	491	619	271	302	77	92	51	41
29	670	754	722	e1900	---	545	400	205	74	82	48	45
30	602	690	737	816	---	575	299	182	68	96	49	48
31	521	---	683	604	---	1370	---	173	---	76	46	---
TOTAL	34470	34263	79926	19546	23211	40087	12509	6682	7434	2383	1923	2727
MEAN	1112	1142	2578	631	829	1293	417	216	248	76.9	62.0	90.9
MAX	9230	8340	12600	2200	2070	6270	1440	759	1120	182	153	862
MIN	241	386	683	230	479	453	224	116	68	42	41	34
CFSM	2.18	2.24	5.06	1.24	1.63	2.54	.82	.42	.49	.15	.12	.18
IN.	2.51	2.50	5.83	1.43	1.69	2.92	.91	.49	.54	.17	.14	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1997, BY WATER YEAR (WY)

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
MEAN	279	471	686	776	957	1265	987	652	434	263	226	262
MAX	1783	1535	2578	3126	2521	4510	3273	2874	4445	1419	2423	3862
(WY)	1977	1933	1997	1996	1971	1994	1993	1989	1972	1969	1933	1975
MIN	9.71	14.7	43.3	37.7	86.3	345	253	135	52.7	12.2	13.3	12.0
(WY)	1942	1932	1966	1981	1934	1931	1995	1941	1965	1966	1930	1964

e Estimated.

WEST CONEWAGO CREEK BASIN

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA--Continued

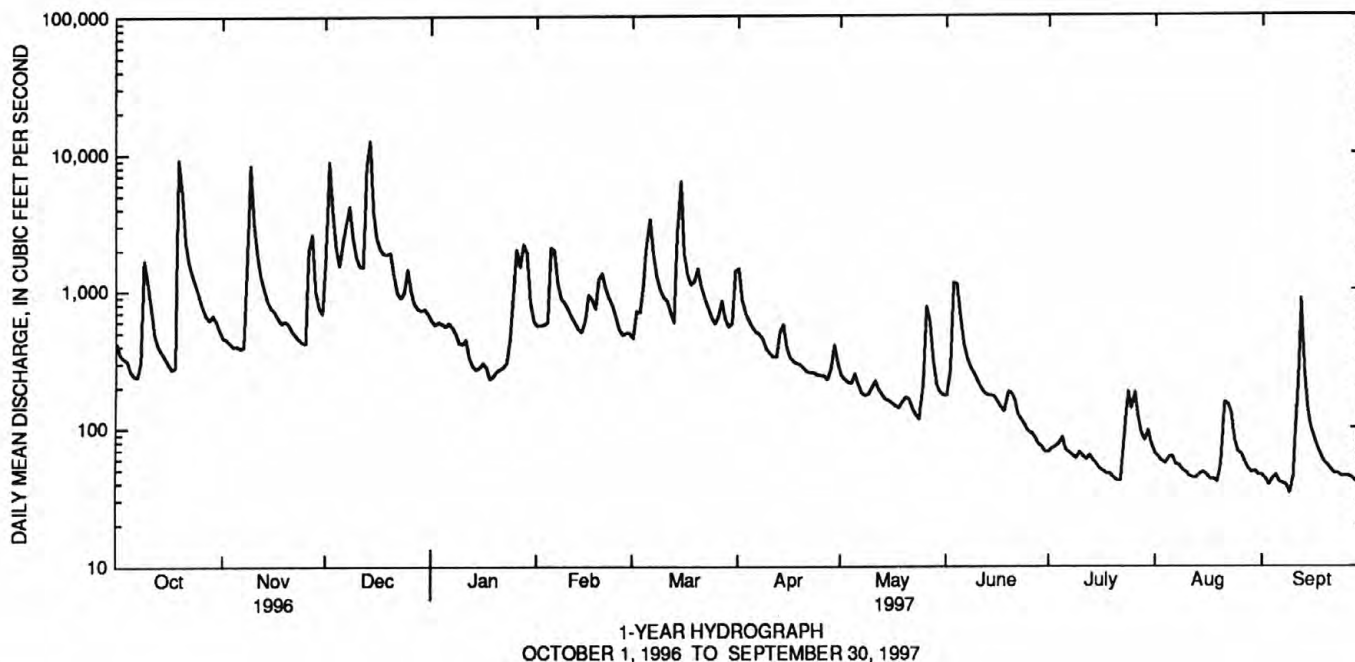
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1929 - 1997	
ANNUAL TOTAL	504542		265161		603	
ANNUAL MEAN	1379		726		1117	
HIGHEST ANNUAL MEAN					154	
LOWEST ANNUAL MEAN					154	
HIGHEST DAILY MEAN	21400	Jan 20	12600	Dec 14	64000	Sep 26 1975
LOWEST DAILY MEAN	e88	Jan 16	34	Sep 9	2.0	Aug 8 1930
ANNUAL SEVEN-DAY MINIMUM	a101	Jan 10	40	Sep 3	3.9	Aug 3 1966
INSTANTANEOUS PEAK FLOW			18100	Dec 14	b96200	Sep 26 1975
INSTANTANEOUS PEAK STAGE			16.79	Dec 14	c32.11	Sep 26 1975
INSTANTANEOUS LOW FLOW			33	Sep 9,10	1.9	Oct 13 1941
ANNUAL RUNOFF (CFSM)	2.70		1.42		1.18	
ANNUAL RUNOFF (INCHES)	36.80		19.34		16.06	
10 PERCENT EXCEEDS	3050		1710		1300	
50 PERCENT EXCEEDS	729		329		252	
90 PERCENT EXCEEDS	243		49		46	

a Computed using estimated daily discharges.

b From rating curve extended above 45,000 ft³/s on basis of slope-area computation at gage height 30.26 ft.

c From floodmark.

e 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 1964, November 1965 to September 1968, published as West Branch Codorus Creek at Spring Grove.

REVISED RECORDS.--WSP 1302: 1929-30. WSP 1502: 1932(M), 1933, 1935(M), 1940, 1942(M), 1943, 1944-46(M), 1951(M), 1955(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 430.86 ft above 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. Satellite telemetry at station.

COOPERATION.--Records of change in lake contents and daily diversion furnished by P.H. Glatfelter Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	138	267	149	93	117	180	61	47	58	49	40
2	121	136	572	148	91	111	155	62	104	60	51	58
3	120	129	248	148	88	147	146	70	139	57	54	62
4	115	128	181	145	91	193	136	93	78	53	51	54
5	112	130	148	145	169	191	120	60	59	53	53	49
6	112	130	335	141	121	200	116	59	57	52	45	46
7	112	129	369	136	118	149	112	56	52	61	43	48
8	199	469	321	127	119	138	103	54	50	54	43	49
9	211	625	229	114	117	128	98	64	48	56	44	49
10	184	293	181	116	109	133	96	61	50	65	43	59
11	222	226	160	112	106	122	93	55	48	53	43	82
12	135	183	148	105	105	116	101	52	49	53	45	61
13	127	126	1200	99	102	110	113	50	50	53	47	50
14	127	118	711	93	112	340	93	50	51	68	47	47
15	128	99	357	88	134	256	87	52	48	62	46	43
16	146	89	277	106	135	169	83	49	47	53	43	43
17	124	78	239	91	120	148	83	47	49	48	45	44
18	152	78	201	83	122	145	82	48	50	43	51	44
19	1090	78	234	81	134	177	76	52	51	45	48	45
20	358	72	171	84	126	156	74	50	49	43	57	44
21	279	67	138	84	118	138	72	48	48	53	59	45
22	286	67	132	83	117	135	77	47	51	54	44	46
23	320	65	127	99	108	134	73	45	58	62	44	45
24	252	62	175	89	104	127	71	47	57	89	43	45
25	211	59	219	183	101	124	61	75	58	51	43	46
26	168	528	182	94	101	178	59	105	56	51	44	45
27	154	168	172	82	107	136	65	52	58	51	45	45
28	167	116	172	221	99	128	81	51	57	53	47	45
29	157	101	173	109	---	139	59	48	56	55	45	54
30	149	94	166	93	---	137	55	49	55	50	44	44
31	142	---	158	92	---	268	---	48	---	50	44	---
TOTAL	6301	4781	8363	3540	3167	4890	2820	1760	1730	1709	1450	1477
MEAN	203	159	270	114	113	158	94.0	56.8	57.7	55.1	46.8	49.2
MAX	1090	625	1200	221	169	340	180	105	139	89	59	82
MIN	112	59	127	81	88	110	55	45	47	43	43	40

CODORUS CREEK BASIN

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01574500 CODORUS CREEK AT SPRING GROVE, PA--Continued

REMARKS.--Daily and monthly discharge figures (and those data determined from them) include water diverted around station by P.H. Gladfelter Co. Instantaneous data reflect actual streamflow past gage and do not include diverted streamflow.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.7	63.7	79.6	89.9	104	125	122	89.4	87.5	63.6	56.2	67.2
MAX	269	159	270	264	269	492	372	171	699	185	109	360
(WY)	1980	1997	1997	1996	1971	1994	1993	1975	1972	1970	1996	1975
MIN	18.1	15.8	16.9	19.5	25.7	33.0	31.2	28.8	21.4	17.4	17.1	19.2
(WY)	1967	1966	1966	1966	1969	1969	1969	1969	1966	1966	1966	1966

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1966 - 1997

ANNUAL TOTAL	60411	41988	
ANNUAL MEAN	165	115	86.0
HIGHEST ANNUAL MEAN			163
LOWEST ANNUAL MEAN			33.6
HIGHEST DAILY MEAN	1900	Jan 19	1200
LOWEST DAILY MEAN	e39	Jan 15,16	40
ANNUAL SEVEN-DAY MINIMUM	a40	Jan 10	44
INSTANTANEOUS PEAK FLOW			b2070
INSTANTANEOUS PEAK STAGE			7.65
10 PERCENT EXCEEDS	274	192	154
50 PERCENT EXCEEDS	128	89	55
90 PERCENT EXCEEDS	73	46	32

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
LOWEST ANNUAL MEAN	31.4
HIGHEST DAILY MEAN	3920
LOWEST DAILY MEAN	.80
ANNUAL SEVEN-DAY MINIMUM	5.0
INSTANTANEOUS PEAK FLOW	b11200
INSTANTANEOUS PEAK STAGE	f11.84
INSTANTANEOUS LOW FLOW	.00
ANNUAL RUNOFF (CFSM)	.98
ANNUAL RUNOFF (INCHES)	13.34
10 PERCENT EXCEEDS	151
50 PERCENT EXCEEDS	42
90 PERCENT EXCEEDS	14

a Computed using estimated daily discharges.

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.

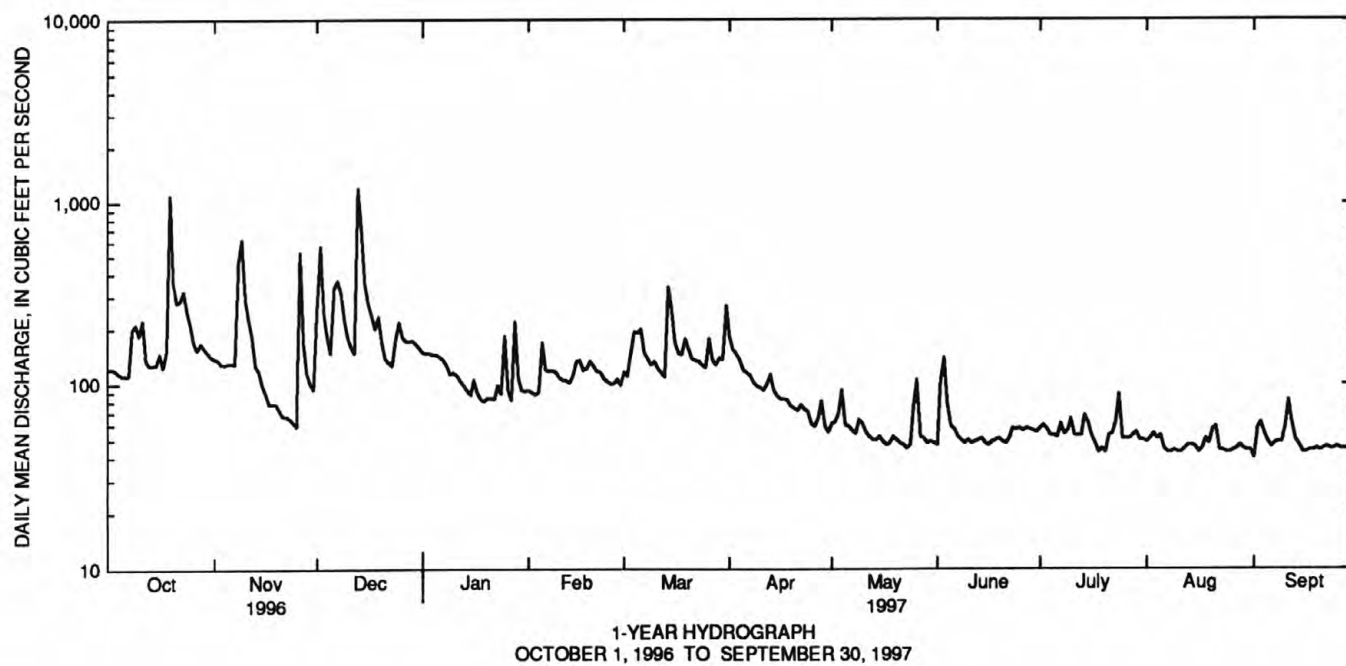
d Adjusted for diversion since March 1961.

e Estimated.

f Site and datum then in use.

CODORUS CREEK BASIN

01574500 CODORUS CREEK AT SPRING GROVE, PA--Continued



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, 47,320 acre-ft, May 4, elevation, 622.73 ft; minimum, 37,990 acre-ft, Nov. 8, elevation, 614.64 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 (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 435.00 ft (capacity, 28,000 acre-ft). Reservoir completed in June 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. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,200 acre-ft, June 23, 1972, elevation, 436.44 ft; minimum, no storage many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,560 acre-ft, Dec. 14, elevation, 400.24 ft; minimum, 9.2 acre-ft, July 17, elevation, 372.05 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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.....	618.10	41,670	--	375.00	24.0	--
Oct. 31.....	615.40	38,780	- 47.0	378.90	72.5	+ 0.79
Nov. 30.....	616.40	39,850	+ 18.0	376.57	37.8	- 0.58
Dec. 31.....	621.60	45,820	+ 97.1	377.67	47.2	+ 0.15
CAL YR 1996.....	--	--	+ 7.6	--	--	+ 0.05
Jan. 31.....	621.40	45,550	- 4.4	378.61	65.2	+ 0.29
Feb. 28.....	621.54	45,740	+ 3.4	378.96	74.0	+ 0.16
Mar. 31.....	622.42	46,900	+ 18.9	382.42	193	+ 1.94
Apr. 30.....	622.64	47,200	+ 5.0	376.71	39.0	- 2.59
May 31.....	622.36	46,820	- 6.2	377.48	45.6	+ 0.11
June 30.....	621.45	45,620	- 20.2	376.77	39.5	- 0.10
July 31.....	619.40	43,060	- 41.6	372.37	10.1	- 0.48
Aug. 31.....	617.00	40,500	- 41.6	372.17	9.5	- 0.01
Sept. 30.....	614.80	38,160	- 39.3	372.18	9.5	0
WTR YR 1997.....	--	--	- 4.8	--	--	- 0.02

SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA

LOCATION.--Lat 40°03'16", long 76°31'52", Lancaster County, Hydrologic Unit 02050306, on left bank 420 ft upstream from Chickies Creek, and 1.0 mi downstream from Marietta. Records include flow of Chickies Creek.

DRAINAGE AREA.--25,990 mi², approximately, includes that of Chickies Creek.

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 1502: 1937.

GAGE.--Water-stage recorder. Datum of gage is 200.56 ft above sea level.

REMARKS.--Records good. 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. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 58.2 ft, from floodmark, discharge, about 630,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36300	37300	51900	54300	27400	62200	72100	21600	28900	11100	5910	6930
2	35800	34900	111000	53000	27100	93000	76300	24200	28300	11000	5640	6700
3	36900	32300	255000	50300	28300	93200	77800	26600	37000	11000	5450	6800
4	31900	30500	259000	46400	30300	89700	74200	26100	47800	10300	5180	6770
5	27400	28500	207000	44000	34100	93800	70800	27200	51300	9670	5390	6350
6	23900	26600	160000	43800	49800	92800	66900	30100	53700	9470	5330	6160
7	21100	24900	136000	45200	61400	103000	63400	32500	46200	8760	5440	5950
8	19700	25700	117000	45100	57700	136000	58900	33500	37200	8120	5110	5810
9	22800	63400	96900	43700	53300	126000	53700	32100	31800	7700	5090	5440
10	22600	229000	84400	41600	46600	103000	48300	29700	27900	7460	4980	5580
11	18600	265000	72800	38500	40600	85000	43500	28700	24800	7180	4830	7010
12	17200	203000	65800	33400	35700	72300	39200	27800	22200	7070	4670	19100
13	16300	155000	83000	28300	30900	65500	36800	25500	20800	6960	4540	14700
14	15400	124000	191000	22500	29400	64500	35100	24100	19700	7770	5360	12500
15	14400	98400	244000	24400	28300	78200	34100	25300	19200	7840	4890	11100
16	13800	80100	213000	24800	27600	79500	34000	24000	18000	7780	5510	10100
17	13600	66700	164000	24900	26500	77700	33000	22500	16800	7330	6270	9010
18	13200	58000	132000	20100	25300	70700	31200	21500	16400	6480	7310	8130
19	40000	52300	114000	e18000	25000	63500	29200	20700	16200	6760	7420	7430
20	122000	45700	99600	e16000	26500	56900	27700	20000	17400	6150	10400	6820
21	185000	42600	85900	14700	35700	52400	26700	21000	18900	6010	13900	6580
22	187000	42400	73900	17100	55100	49300	25700	30000	5850	17700	14300	6130
23	147000	41600	64200	19000	81000	46900	24700	44500	16600	6720	14300	6020
24	119000	39400	57700	21900	113000	45600	23900	39800	16200	11100	12000	e5850
25	95900	36000	55300	26100	114000	45800	23200	35800	14100	14000	10900	5700
26	78200	38100	58800	31800	96200	47200	22600	37100	12700	11600	9690	5650
27	64500	40400	61300	32100	78300	47900	21700	48100	12300	9560	8480	5600
28	55100	40900	60500	31900	64800	58300	21300	50200	12100	8050	7840	5450
29	47800	53500	57700	36300	---	72600	21200	48600	11500	7340	7380	5740
30	43500	55700	54800	30700	---	71100	21400	38500	11400	6750	7660	5810
31	40000	---	54600	28000	---	68600	---	32200	---	6550	7240	---
TOTAL	1625900	2111900	3542100	1007900	1349900	2312200	1238600	949500	725100	259430	228410	226920
MEAN	52450	70400	114300	32510	48210	74590	41290	30630	24170	8369	7368	7564
MAX	187000	265000	259000	54300	114000	136000	77800	50200	53700	14000	14300	19100
MIN	13200	24900	51900	14700	25000	45600	21200	20000	11400	5850	4540	5440
CFSM	2.02	2.71	4.40	1.25	1.85	2.87	1.59	1.18	.93	.32	.28	.29
IN.	2.33	3.02	5.07	1.44	1.93	3.31	1.77	1.36	1.04	.37	.33	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1997, BY WATER YEAR (WY)

	18010	30160	40290	40030	44850	76360	79680	48830	28400	15900	12140	12720
MEAN	18010	30160	40290	40030	44850	76360	79680	48830	28400	15900	12140	12720
MAX	81330	71930	114300	116900	109300	229100	235100	103400	190700	61480	47180	78650
(WY)	1977	1978	1997	1996	1984	1936	1993	1989	1972	1972	1994	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

e Estimated.

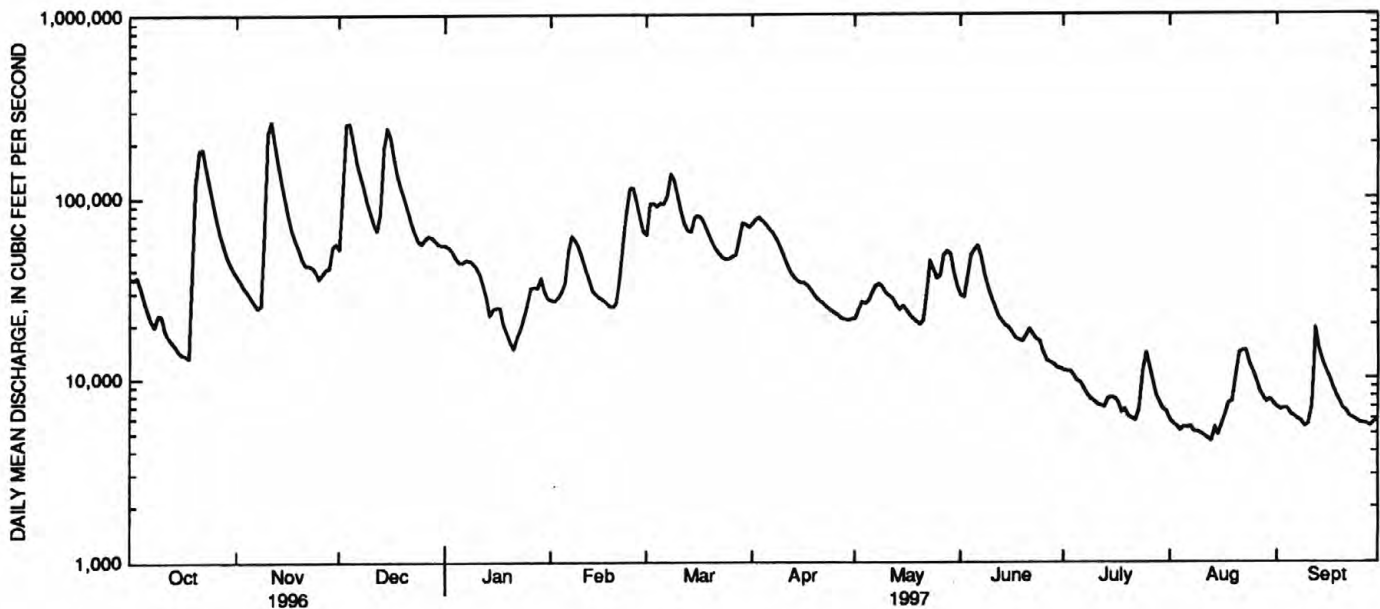
SUSQUEHANNA RIVER BASIN

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1932 - 1997	
ANNUAL TOTAL	23262320		15577860		37220	
ANNUAL MEAN	63560		42680		19060	
HIGHEST ANNUAL MEAN					59900	
LOWEST ANNUAL MEAN					19060	
HIGHEST DAILY MEAN	556000	Jan 21	265000	Nov 11	1040000	Jun 24 1972
LOWEST DAILY MEAN	7220	Sep 4	4540	Aug 13	1380	Sep 26 1932
ANNUAL SEVEN-DAY MINIMUM	7790	Aug 31	4910	Aug 9	1720	Sep 26 1932
INSTANTANEOUS PEAK FLOW			277000	Nov 10	1080000	Jun 23 1972
INSTANTANEOUS PEAK STAGE			48.35	Nov 10	a64.54	Jun 23 1972
INSTANTANEOUS LOW FLOW			4400	Aug 12	b618	Sep 26 1932
ANNUAL RUNOFF (CFSM)	2.45		1.64		1.43	
ANNUAL RUNOFF (INCHES)	33.30		22.30		19.46	
10 PERCENT EXCEEDS	148000		93100		84800	
50 PERCENT EXCEEDS	42500		28900		22100	
90 PERCENT EXCEEDS	15000		6520		6070	

a From floodmarks.

b York Haven powerplant shut down to obtain current-meter measurements of low flow.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

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 fair except those for estimated daily discharges, which are poor. Regulation at low flow by water plant and mill above station. Diversion upstream for municipal supply of city of Lancaster. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by city of Lancaster.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0045	*11,200	*13.22	Dec. 8	0030	3,540	7.35
Nov. 9	0945	8,700	a11.7	Dec. 14	1000	9,000	a11.9
Nov. 26	Unknown	5,100	a8.8	Jan. 25	0830	4,390	8.08
Dec. 2	0100	5,100	a8.8	Jan. 28	1545	4,900	8.59
Dec. 6	1330	4,500	8.19	Mar. 15	0100	4,180	7.88

a About.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	408	1540	700	587	424	938	288	227	161	132	114
2	201	400	3840	669	572	522	764	325	304	177	122	112
3	221	379	1500	664	540	461	654	308	1010	212	122	111
4	204	358	1150	629	527	519	565	394	585	176	123	107
5	180	345	1010	613	1540	650	518	309	420	156	128	104
6	175	336	2540	636	893	824	490	272	360	150	123	101
7	173	330	1780	563	680	614	484	271	335	149	125	96
8	264	884	2190	517	622	531	451	258	317	142	112	93
9	1070	e6000	1340	503	597	506	429	281	300	137	103	94
10	732	1470	1140	522	548	537	412	344	286	248	100	102
11	444	1030	1060	515	508	586	397	286	264	180	107	409
12	343	878	1090	447	499	500	400	254	252	144	107	404
13	302	770	2500	422	474	455	579	241	254	142	106	166
14	281	706	e6800	423	509	1160	456	231	250	137	126	133
15	262	647	2700	404	772	2250	390	226	235	123	126	115
16	244	602	1870	579	823	970	372	219	219	115	114	102
17	235	570	1620	602	596	809	364	210	212	104	302	99
18	249	548	1430	414	535	782	368	205	218	104	203	93
19	e5700	554	1450	e360	551	718	364	222	859	98	153	89
20	e4400	516	1240	e320	563	675	343	221	363	101	156	83
21	1170	476	1050	e340	512	633	330	205	279	100	643	94
22	933	461	980	377	510	608	322	190	252	131	246	87
23	804	443	949	440	472	560	315	183	230	304	182	81
24	713	419	997	433	438	515	309	176	216	730	153	75
25	632	404	1360	2380	420	485	309	325	200	398	138	75
26	578	e2200	903	798	407	549	295	1130	190	238	133	72
27	533	e1700	869	541	444	530	286	385	188	197	128	60
28	504	782	840	2830	425	469	419	278	175	175	123	74
29	488	711	833	1180	---	454	402	248	171	158	120	79
30	455	666	830	694	---	465	312	235	169	154	124	93
31	435	---	751	616	---	1020	---	231	---	138	118	---
TOTAL	23144	25993	50152	21131	16564	20781	13037	8951	9340	5679	4798	3517
MEAN	747	866	1618	682	592	670	435	289	311	183	155	117
MAX	5700	6000	6800	2830	1540	2250	938	1130	1010	730	643	409
MIN	173	330	751	320	407	424	286	176	169	98	100	60
CFSM	2.30	2.67	4.99	2.10	1.83	2.07	1.34	.89	.96	.57	.48	.36
IN.	2.66	2.98	5.76	2.43	1.90	2.39	1.50	1.03	1.07	.65	.55	.40
(†)	12.5	11.9	11.7	12.3	12.9	13.2	13.1	9.9	11.9	16.7	14.2	13.3

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

e Estimated.

CONESTOGA RIVER BASIN

01576500 CONESTOGA RIVER AT LANCASTER, PA--Continued

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

MEAN	209	284	402	475	552	680	628	457	378	306	241	214
MAX	930	866	1618	1699	1191	2089	1720	1529	3286	944	1427	908
(WY)	1980	1997	1997	1979	1979	1994	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

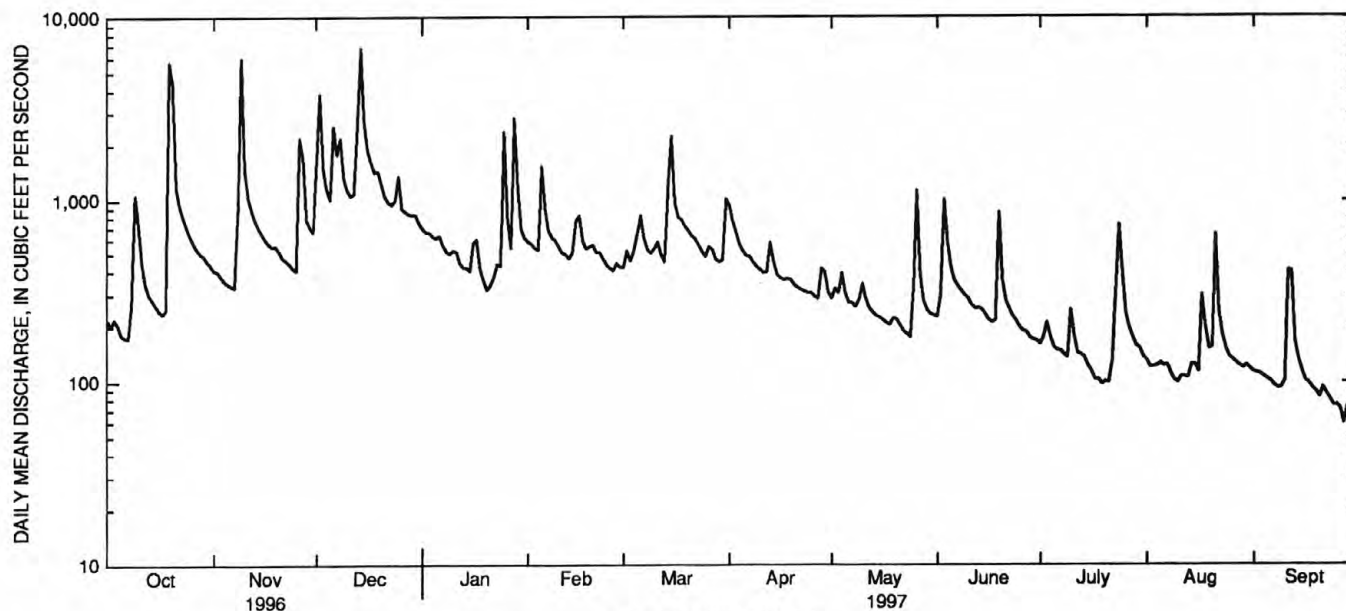
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	274114		203087			
ANNUAL MEAN	749		556		400	
HIGHEST ANNUAL MEAN					753	
LOWEST ANNUAL MEAN					143	
HIGHEST DAILY MEAN	e6800		e6800		47600	
LOWEST DAILY MEAN	e117		60		7.0	
ANNUAL SEVEN-DAY MINIMUM	c124		74		20	
INSTANTANEOUS PEAK FLOW			11200		d50300	
INSTANTANEOUS PEAK STAGE			b13.22		b27.90	
ANNUAL RUNOFF (CFSM)	2.31		1.72		1.23	
ANNUAL RUNOFF (INCHES)	31.47		23.32		16.77	
10 PERCENT EXCEEDS	1390		1040		809	
50 PERCENT EXCEEDS	547		398		259	
90 PERCENT EXCEEDS	196		114		85	

b From floodmark.

c Computed using estimated daily discharges.

d 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.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

CONESTOGA RIVER BASIN

01576519 BIG SPRING RUN BELOW WILLOW BRANCH NEAR WILLOW STREET, PA

LOCATION.--Lat 39°59'35", long 76°15'46", Lancaster County, Hydrologic Unit 02050306, 0.2 mi north of U.S. Route 222 and 150 ft west of Gypsy Hill Road, and 1.1 mi northeast of Willow Street.

DRAINAGE AREA.--1.62 mi².

PERIOD OF RECORD.--May 1996 to current year.

REMARKS.--Land surface elevation is 315 ft, from topographic map.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
MAY											
20...	0945	1028	80020	2.1	667	7.6	14.0	7.0	10.5	.086	9.11
20...	1000	1028	80020	--	--	--	--	--	--	--	--
SEP											
08...	1320	1028	80020	.47	602	8.1	18.5	8.5	10.9	.034	11.1
08...	1345	1028	80020	--	--	--	--	--	--	--	--

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)
MAY											
20...	.062	.22	.29	.030	.023	.031	37	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	39.4	2.10
SEP											
08...	.031	<.20	<.20	.018	<.010	.019	84	--	--	--	--
08...	--	--	--	--	--	--	--	591.7	622.1	51.0	E8.60

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 poor; accuracy affected by bypass flow for water wheel. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 180 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0730	*636	*5.81	Dec. 13	2215	405	5.00
Nov. 8	2000	564	5.58	Jan. 25	0015	360	4.84
Nov. 26	0700	184	4.15				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	12	33	15	12	12	15	8.8	7.0	4.7	3.8	2.6
2	9.0	12	32	16	12	12	13	8.6	9.2	4.9	3.8	2.6
3	8.0	11	e23	16	12	12	12	11	13	4.8	3.8	3.0
4	7.6	11	e18	15	12	13	12	9.8	8.4	4.6	3.7	2.7
5	7.5	11	e17	15	28	13	11	8.8	7.8	4.3	3.8	2.6
6	7.4	11	39	14	14	13	11	8.6	7.5	4.3	3.7	2.6
7	7.3	11	32	14	13	12	11	8.3	7.5	4.4	3.3	2.3
8	16	144	22	13	13	12	10	8.3	7.4	4.2	2.2	2.1
9	12	41	20	13	13	11	10	9.3	7.1	4.4	2.0	2.0
10	13	19	18	14	12	12	10	8.6	7.0	4.5	2.7	2.2
11	10	17	18	13	12	11	10	8.3	7.0	4.2	2.9	10
12	9.8	16	18	13	12	11	10	8.1	7.1	4.2	2.5	3.1
13	9.5	15	96	12	12	11	10	8.1	7.1	4.2	3.0	2.4
14	9.3	15	71	e11	14	14	9.8	8.1	7.0	3.9	3.3	2.1
15	9.0	14	28	e11	22	13	9.6	7.8	6.3	3.8	3.2	1.9
16	8.8	14	24	e14	15	12	9.5	7.6	5.3	3.7	3.1	1.6
17	8.5	14	24	e12	14	12	9.5	7.6	5.4	3.8	3.2	1.5
18	8.6	13	22	e11	13	11	9.5	7.7	5.7	3.6	3.2	1.5
19	206	13	23	e10	13	11	9.4	7.9	5.6	3.5	3.2	1.5
20	20	13	19	e10	12	11	9.3	7.6	5.3	3.5	3.5	1.5
21	17	13	18	e10	12	11	9.2	7.4	4.9	3.0	3.8	1.5
22	16	13	18	e11	12	11	9.2	7.3	4.9	2.9	3.1	1.4
23	15	13	18	e12	12	10	9.0	7.3	4.8	6.3	2.9	1.4
24	15	12	21	27	11	10	9.1	7.1	4.8	7.0	2.8	1.4
25	14	12	19	80	11	10	9.0	12	4.8	4.3	2.7	1.4
26	13	44	17	14	11	11	8.8	9.0	4.8	3.9	2.7	1.4
27	13	15	17	13	12	10	8.8	7.5	4.6	3.9	2.6	1.4
28	13	13	17	44	11	10	9.8	7.3	4.7	3.9	3.2	1.4
29	12	13	17	14	---	10	8.9	7.0	4.6	3.8	2.8	1.5
30	12	13	17	13	---	9.9	8.6	7.2	4.6	3.8	2.7	1.4
31	12	---	16	13	---	17	---	7.1	---	3.9	2.6	---
TOTAL	547.1	588	792	513	372	358.9	302.0	255.1	191.2	130.2	95.8	66.0
MEAN	17.6	19.6	25.5	16.5	13.3	11.6	10.1	8.23	6.37	4.20	3.09	2.20
MAX	206	144	96	80	28	17	15	12	13	7.0	3.8	10
MIN	7.3	11	16	10	11	9.9	8.6	7.0	4.6	2.9	2.0	1.4
CFSM	2.64	2.93	3.82	2.48	1.99	1.73	1.51	1.23	.95	.63	.46	.33
IN.	3.05	3.27	4.41	2.86	2.07	2.00	1.68	1.42	1.06	.73	.53	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

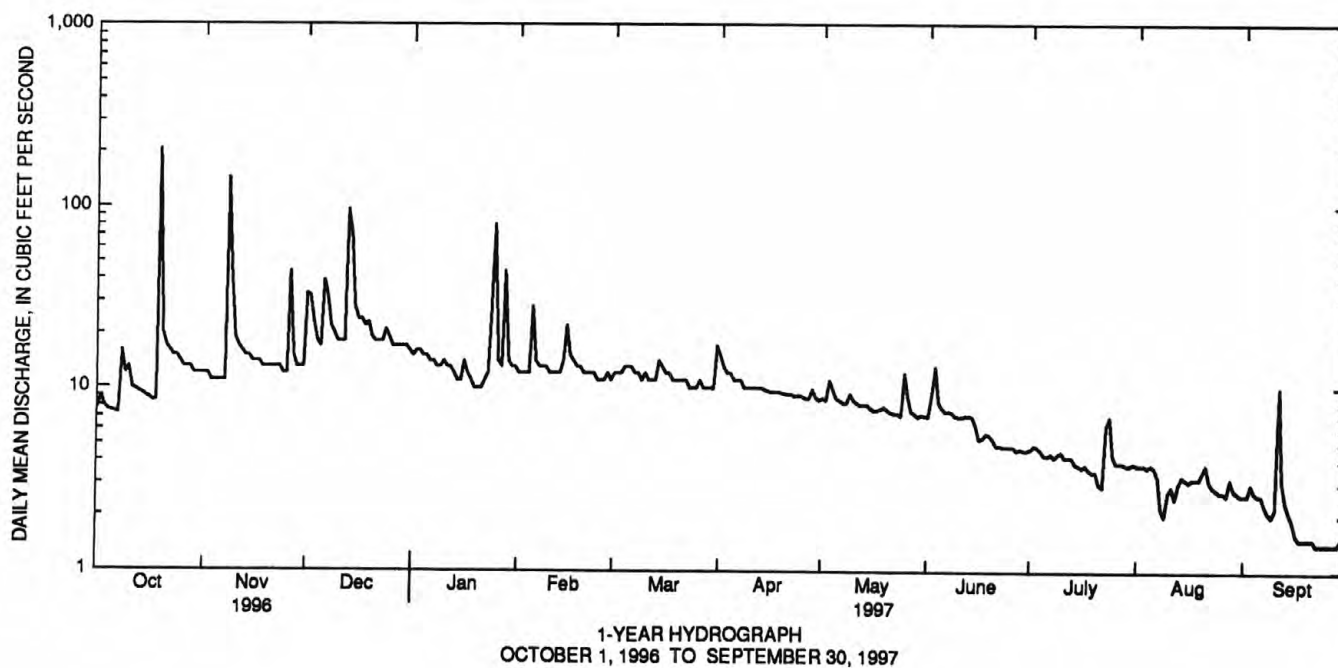
	1992	1993	1994	1995	1996	1997
MEAN	7.13	8.91	11.6	13.4	10.9	18.3
MAX	17.6	19.6	25.5	21.2	16.9	40.3
(WY)	1997	1997	1997	1996	1994	1993
MIN	3.66	4.43	5.12	5.41	4.13	10.2
(WY)	1993	1995	1995	1993	1993	1995

e Estimated.

CONESTOGA RIVER BASIN

01576520 MUDDY RUN AT WEAVERTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1992 - 1997	
ANNUAL TOTAL	5290.7		4211.3		9.77	
ANNUAL MEAN	14.5		11.5		13.0	
HIGHEST ANNUAL MEAN					5.47	
LOWEST ANNUAL MEAN					1.4	
HIGHEST DAILY MEAN	232	Jan 19	206	Oct 19	236	Jan 28 1994
LOWEST DAILY MEAN	4.5	Jan 7	1.4	Sep 22-28,30	1.4	Sep 22 1997
ANNUAL SEVEN-DAY MINIMUM	5.7	Jan 12	1.4	Sep 22	1.4	Sep 22 1997
INSTANTANEOUS PEAK FLOW			a636	Oct 19	a857	Jan 28 1994
INSTANTANEOUS PEAK STAGE			5.81	Oct 19	6.49	Jan 28 1994
INSTANTANEOUS LOW FLOW			1.4	Sep 22-30	.43	Feb 1 1993
ANNUAL RUNOFF (CFSM)	2.16		1.73		1.46	
ANNUAL RUNOFF (INCHES)	29.46		23.45		19.87	
10 PERCENT EXCEEDS	19		17		16	
50 PERCENT EXCEEDS	11		10		6.6	
90 PERCENT EXCEEDS	7.3		2.8		3.4	

a From rating curve extended above 60 ft³/s.

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 Protection. Stormflow samples collected by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (000027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (000028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (000061)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (000530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (000630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (000631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (000610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (000608)
OCT									
10...	1120	9813	9813	12	38	9.50	8.84	0.300	0.240
NOV									
07...	1115	9813	9813	11	<2	13.8	13.3	0.090	0.090
08...	1800	1028	9813	468	2700	1.76	--	0.800	--
08...	1900	1028	9813	515	2260	1.80	--	0.670	--
08...	2000	1028	9813	564	1830	1.74	--	0.680	--
08...	2300	1028	9813	331	552	2.38	--	0.530	--
09...	0500	1028	9813	48	102	5.57	--	0.410	--
DEC									
05...	1110	9813	9813	17	<2	13.5	13.3	0.020	0.020
13...	1400	1028	9813	65	392	7.00	--	0.480	--
13...	2000	1028	9813	181	1240	3.43	--	0.390	--
13...	2100	1028	9813	341	764	2.38	--	0.380	--
13...	2200	1028	9813	399	454	1.91	--	0.350	--
14...	0200	1028	9813	148	512	2.77	--	0.320	--
14...	0400	1028	9813	89	364	4.62	--	0.260	--
JAN									
16...	1010	9813	9813	24	48	7.80	7.50	0.850	0.760
FEB									
05...	0102	1028	9813	23	516	10.5	--	0.740	--
05...	0402	1028	9813	47	804	6.84	--	1.42	--
05...	0502	1028	9813	52	748	5.81	--	1.60	--
05...	1020	1028	9813	32	246	6.01	--	1.35	--
05...	1402	1028	9813	21	144	7.61	--	0.960	--
12...	1000	9813	9813	12	6	13.4	13.4	0.040	0.040
MAR									
17...	0945	9813	9813	12	14	12.8	12.7	<0.020	<0.020
31...	0500	1028	9813	21	8	9.62	--	0.170	--
31...	0600	1028	9813	24	182	8.95	--	0.310	--
31...	1200	1028	9813	19	74	6.96	--	0.250	--
31...	2400	1028	9813	12	76	9.58	--	0.150	--
APR									
09...	1015	9813	9813	10	10	12.8	12.5	0.030	0.030
MAY									
20...	1330	9813	9813	7.7	30	9.10	9.07	0.110	0.100
JUN									
02...	2300	1028	9813	11	54	8.71	--	0.410	--
03...	0400	1028	9813	18	92	6.62	--	0.640	--
03...	1025	1028	9813	15	4	6.29	--	0.670	--
16...	1030	9813	9813	6.1	14	9.40	9.34	0.030	<0.020
JUL									
14...	1045	9813	9813	4.0	28	8.28	8.25	0.040	0.040
23...	1200	1028	9813	6.4	54	7.92	--	0.130	--
23...	1400	1028	9813	11	58	7.85	--	0.160	--
23...	2000	1028	9813	7.5	56	6.15	--	0.440	--
24...	0800	1028	9813	13	162	6.66	--	0.560	--
24...	1100	1028	9813	8.6	114	6.38	--	0.820	--
AUG									
21...	1230	9813	9813	3.5	<2	7.69	7.45	0.230	0.210
SEP									
11...	0500	1028	9813	16	1230	5.77	--	1.14	--
11...	0600	1028	9813	16	960	5.29	--	1.25	--
11...	0700	1028	9813	10	472	2.63	--	1.66	--
11...	0900	1028	9813	8.6	78	2.26	--	0.920	--
11...	1300	1028	9813	7.7	102	3.26	--	0.930	--
22...	1030	9813	9813	1.4	8	8.42	8.35	0.020	0.020

CONESTOGA RIVER BASIN

01576520 MUDDY RUN AT WEAVERTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.45 μM-MF (COLS./ 100 ML) (31616)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT								
10...	1.8	--	0.690	0.462	0.455	600000	190000	140000
NOV								
07...	--	--	0.040	0.035	0.024	28000	4700	1700
08...	3.8	--	4.39	--	--	--	--	--
08...	2.4	--	4.22	--	--	--	--	--
08...	<1.0	--	3.84	--	--	--	--	--
08...	<1.0	--	2.66	--	--	--	--	--
09...	<1.0	--	1.91	--	--	--	--	--
DEC								
05...	<1.0	<1.0	0.050	0.039	0.035	2500	880	3200
13...	3.5	--	1.58	--	--	--	--	--
13...	3.1	--	2.84	--	--	--	--	--
13...	4.2	--	2.86	--	--	--	--	--
13...	2.5	--	2.70	--	--	--	--	--
14...	4.6	--	1.89	--	--	--	--	--
14...	1.9	--	1.32	--	--	--	--	--
JAN								
16...	1.5	--	0.560	0.420	0.420	21000	7000	81000
FEB								
05...	1.2	--	1.38	--	--	--	--	--
05...	3.9	--	2.94	--	--	--	--	--
05...	3.5	--	3.06	--	--	--	--	--
05...	3.2	--	2.21	--	--	--	--	--
05...	1.0	--	1.39	--	--	--	--	--
12...	0.61	0.25	0.040	0.018	0.022	6000	850	500
MAR								
17...	<1.0	<1.0	0.020	0.008	0.005	3200	220	80
31...	1.6	--	0.590	--	--	--	--	--
31...	2.3	--	0.800	--	--	--	--	--
31...	2.0	--	0.590	--	--	--	--	--
31...	1.3	--	0.250	--	--	--	--	--
APR								
09...	<1.0	<1.0	0.020	0.017	0.013	4000	780	60
MAY								
20...	<1.0	<1.0	0.110	0.089	0.092	26000	16000	2600
JUN								
02...	2.4	--	0.600	--	--	--	--	--
03...	2.4	--	1.06	--	--	--	--	--
03...	2.6	--	1.09	--	--	--	--	--
16...	<1.0	<1.0	0.060	0.048	0.045	9000	4600	460
JUL								
14...	<1.0	<1.0	0.160	0.089	0.065	14000	10000	4100
23...	1.0	--	0.520	--	--	--	--	--
23...	1.0	--	0.700	--	--	--	--	--
23...	2.0	--	0.950	--	--	--	--	--
24...	2.0	--	1.34	--	--	--	--	--
24...	2.2	--	1.31	--	--	--	--	--
AUG								
21...	<1.0	<1.0	0.200	0.129	0.128	32000	28000	29000
SEP								
11...	2.9	--	4.36	--	--	--	--	--
11...	4.0	--	--	--	--	--	--	--
11...	4.5	--	3.29	--	--	--	--	--
11...	2.6	--	2.08	--	--	--	--	--
11...	3.5	--	1.65	--	--	--	--	--
22...	1.3	<1.0	0.173	0.128	0.173	30000	17000	5100

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA

LOCATION.--Lat 39°59'53", Long 76°15'55", Lancaster County, Hydrologic Unit 02050306, on left bank 300 ft upstream of Long Rifle Road bridge near the intersection with Gypsy Hill Road, and 1.5 mi northeast of Willow Street.

DRAINAGE AREA.--1.77 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 292.13 ft above sea level.

REMARKS.--No estimated daily discharges. Records fair except those for daily discharges above 20 ft³/s, which are poor.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0445	218	6.63	Nov. 8	1630	*236	*6.82

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.0	13	3.7	3.2	3.5	3.8	2.0	1.4	.90	.74	.51
2	3.0	2.8	11	3.8	3.1	3.0	3.0	1.8	4.5	.99	.74	.49
3	2.0	2.6	4.5	3.7	3.1	3.5	2.9	4.4	11	1.0	.69	.57
4	1.9	2.5	4.0	3.6	3.8	4.6	2.7	2.5	2.5	.84	.67	.55
5	1.8	2.4	3.8	3.6	7.9	4.7	2.7	1.9	2.0	.82	.68	.55
6	1.8	2.3	14	3.5	3.8	3.8	2.8	1.9	1.8	.82	.65	.55
7	1.8	2.3	11	3.4	3.4	3.2	2.6	1.7	1.7	.87	.62	.55
8	13	41	6.0	3.2	3.4	3.0	2.5	1.7	1.7	.82	.65	.52
9	4.2	9.3	4.7	3.3	3.5	2.9	2.5	2.6	1.6	.76	.69	.49
10	5.6	5.5	4.2	3.6	3.2	3.4	2.4	1.8	1.5	.76	.72	.89
11	2.8	4.0	4.3	3.3	3.1	3.0	2.3	1.7	1.4	.69	.74	3.4
12	2.5	3.6	4.1	3.2	3.1	2.8	2.9	1.6	1.4	.67	.74	.81
13	2.4	3.4	41	3.1	2.9	2.7	2.5	1.6	1.8	.66	.83	.63
14	2.3	3.3	13	3.0	4.4	6.6	2.3	1.6	1.5	.65	.84	.61
15	2.2	3.1	6.8	3.0	6.5	4.1	2.2	1.5	1.4	.63	.82	.57
16	2.2	3.0	5.8	6.3	4.2	3.3	2.1	1.5	1.3	.62	1.4	.55
17	2.1	3.0	5.5	3.5	3.7	3.1	2.1	1.5	1.3	.67	1.0	.54
18	11	3.0	5.0	3.1	3.7	3.1	2.2	1.8	1.3	.65	1.0	.55
19	66	2.8	6.1	2.9	3.6	3.3	2.1	1.8	1.2	.61	.71	.53
20	5.7	2.7	4.6	2.9	3.3	3.0	2.1	1.6	1.2	.61	2.3	.51
21	4.4	2.7	4.3	2.9	3.1	3.0	2.1	1.4	1.2	.62	.90	.50
22	4.0	2.6	4.3	3.1	3.0	2.8	2.1	1.3	1.1	.70	.50	.50
23	3.8	2.7	4.3	3.2	2.9	2.7	2.0	1.3	1.1	3.8	.48	.50
24	3.6	2.7	5.2	4.0	2.8	2.7	2.0	1.3	1.0	3.2	.48	.49
25	3.6	2.7	4.5	15	2.7	2.7	2.1	5.8	1.0	1.2	.47	.49
26	3.5	15	4.1	3.6	2.9	3.8	1.9	2.4	1.0	1.0	.45	.47
27	3.4	4.0	4.1	3.2	2.9	2.7	2.1	1.6	.96	.95	.43	.45
28	3.6	3.3	3.9	12	2.7	2.5	2.7	1.5	.93	1.5	.80	.46
29	3.3	3.2	4.4	3.6	---	2.8	1.9	1.4	.91	.99	.46	.60
30	3.2	3.0	4.0	3.3	---	2.5	1.8	1.5	.87	.82	.47	.46
31	2.9	---	3.9	3.2	---	7.3	---	1.4	---	.76	.48	---
TOTAL	175.5	147.5	219.4	126.8	99.9	106.1	71.4	59.4	53.57	30.58	23.15	19.29
MEAN	5.66	4.92	7.08	4.09	3.57	3.42	2.38	1.92	1.79	.99	.75	.64
MAX	66	41	41	15	7.9	7.3	3.8	5.8	11	3.8	2.3	3.4
MIN	1.8	2.3	3.8	2.9	2.7	2.5	1.8	1.3	.87	.61	.43	.45
CFSM	3.20	2.78	4.00	2.31	2.02	1.93	1.34	1.08	1.01	.56	.42	.36
IN.	3.69	3.10	4.61	2.66	2.10	2.23	1.50	1.25	1.13	.64	.49	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

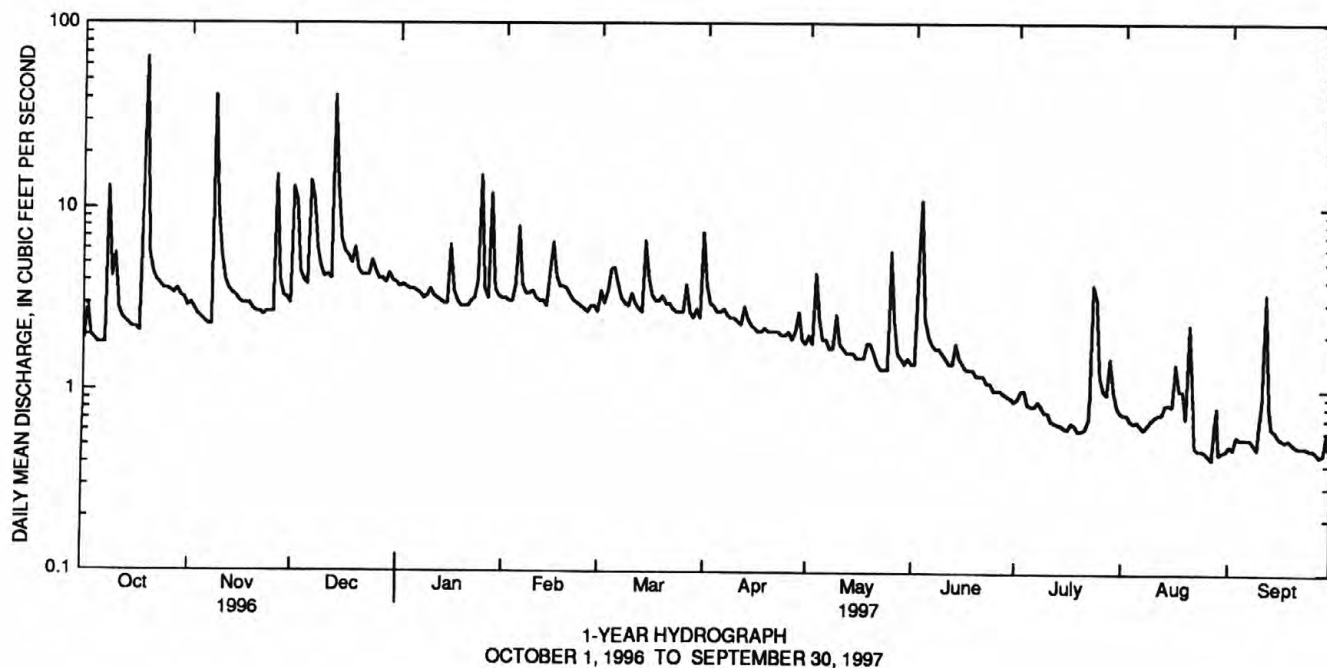
	1994	1995	1996	1994	1995	1997	1995	1997	1995	1997	1997	1997
MEAN	3.08	3.67	4.26	4.75	3.60	5.74	3.45	3.01	2.53	2.70	2.33	1.82
MAX	5.66	4.92	7.08	7.96	5.00	12.1	4.98	4.08	4.02	4.79	4.75	3.01
(WY)	1997	1997	1997	1996	1994	1994	1996	1996	1996	1996	1996	1994
MIN	1.57	2.08	2.32	3.35	2.61	3.42	2.33	1.92	1.64	.99	.75	.64
(WY)	1994	1995	1996	1994	1995	1997	1995	1997	1995	1997	1997	1997

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1994 - 1997	
ANNUAL TOTAL	1776.2		1132.59		3.42	
ANNUAL MEAN	4.85		3.10		4.21	
HIGHEST ANNUAL MEAN					2.29	
LOWEST ANNUAL MEAN					82	
HIGHEST DAILY MEAN	82	Jan 19	66	Oct 19	82	Jan 19 1996
LOWEST DAILY MEAN	1.6	Sep 26, 27	.43	Aug 27	.43	Aug 27 1997
ANNUAL SEVEN-DAY MINIMUM	a1.8	Jan 9	.48	Sep 22	.47	Sep 2 1995
INSTANTANEOUS PEAK FLOW			b236	Nov 8	b357	Sep 26 1994
INSTANTANEOUS PEAK STAGE			6.82	Nov 8	7.48	Sep 26 1994
INSTANTANEOUS LOW FLOW			.42	Aug 26-29	.34	Jan 7 1996
ANNUAL RUNOFF (CFSM)	2.74		1.75		1.93	
ANNUAL RUNOFF (INCHES)	37.33		23.80		26.22	
10 PERCENT EXCEEDS	7.3		4.5		5.0	
50 PERCENT EXCEEDS	3.3		2.5		2.3	
90 PERCENT EXCEEDS	2.1		.61		.96	

a Computed using estimated daily discharges.

b From rating curve extended above 100 ft³/s on basis of step-backwater computation, at gage height 7.30 ft and at peak flow.

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to current year.

INSTRUMENTATION.--Automatic pumping sampler for stormflow, nutrient, and sediment samples since December 1993.

REMARKS.--Fixed-time, baseflow, and stormflow samples collected at streamflow control. Constituent values for stormflow water quality are for discharge-weighted composited samples. Samples with two dates are composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	STREP- TOCOCCI FECAL, KF AGAR (COLS. 100 ML) (31673)	ANC UNFLTRD CARBON- ATE IT-LAB (MG/L - CAC03) (90430)
OCT												
07...	0830	1028	80020	--	1.6	712	7.1	10.0	2.4	11.3	--	--
OCT												
08-09	1322	1028	80020	20	--	--	--	--	--	--	--	--
16...	0850	1028	80020	--	2.1	718	7.6	11.0	2.5	12.5	650	--
OCT												
18-19	2237	1028	80020	97	--	--	--	--	--	--	--	--
28...	0715	1028	80020	--	3.6	715	7.5	13.0	3.0	10.7	--	--
NOV												
05...	0830	1028	80020	--	2.5	711	7.3	9.5	1.9	12.4	K73000	--
NOV												
08-09	1452	1028	80020	62	--	--	--	--	--	--	--	--
NOV												
26-26	0307	1028	80020	28	--	--	--	--	--	--	--	--
DEC												
12...	0915	1028	80020	--	4.1	678	--	9.5	5.9	15.0	3800	--
DEC												
13-13	0352	1028	80020	38	--	--	--	--	--	--	--	--
JAN												
08...	0905	1028	80020	--	3.2	705	7.4	5.0	3.3	13.0	K120	--
FEB												
04-05	2237	1028	80020	12	--	--	--	--	--	--	--	--
11...	0840	1028	80020	--	3.0	838	7.1	5.0	25	--	120	--
MAR												
05...	0825	1028	80020	--	3.9	924	7.7	8.0	6.0	9.8	K18000	--
MAR												
05-05	1822	1028	80020	7.3	--	--	--	--	--	--	--	--
MAR												
14-15	1937	1028	80020	8.4	--	--	--	--	--	--	--	--
MAR												
26-26	0452	1028	80020	7.4	--	--	--	--	--	--	--	--
MAR												
31-31	0252	1028	80020	12	--	--	--	--	--	--	--	--
APR												
10...	0840	1028	80020	--	2.4	--	7.3	6.5	3.5	--	K85	--
22...	1045	1028	80020	--	2.1	702	7.7	12.5	3.0	--	--	--
30...	0950	1028	80020	--	1.9	701	7.8	13.0	9.5	14.4	--	--
MAY												
09...	0745	1028	80020	--	2.1	625	7.5	11.5	9.0	9.9	2800	--
20...	0810	1028	80020	--	1.5	689	7.5	14.0	8.0	10.1	--	--
20...	0900	1028	80020	--	1.5	--	--	--	--	--	--	--
30...	0840	1028	80020	--	1.5	701	6.7	13.0	7.0	10.9	--	--
JUN												
02-02	0407	1028	80020	8.8	--	--	--	--	--	--	--	--
JUN												
03-03	0107	1028	80020	22	--	--	--	--	--	--	--	--
09...	0840	1028	80020	--	1.6	714	7.3	13.0	6.7	13.9	2100	--
19...	0750	1028	80020	--	1.3	704	7.6	14.5	5.0	16.1	--	--
30...	0905	1028	80020	--	.89	656	7.8	14.5	6.5	10.2	--	--
JUL												
09...	0835	1028	80020	--	.80	625	7.7	15.5	14	9.2	6400	216
18...	0855	1028	80020	--	.73	617	7.8	16.5	10	9.9	--	--
JUL												
23-23	1237	1028	80020	11	--	--	--	--	--	--	--	--
JUL												
23-23	1238	1028	80020	11	--	--	--	--	--	--	--	--
JUL												
24-24	0407	1028	80020	9.7	--	--	--	--	--	--	--	--
JUL												
28-28	1922	1028	80020	6.4	--	--	--	--	--	--	--	--
29...	0900	1028	80020	--	1.1	690	7.7	16.5	9.0	8.9	--	--
AUG												
08...	0905	1028	80020	--	.70	674	7.7	14.0	16	9.8	K2100	--
AUG												
16-16	2207	1028	80020	7.7	--	--	--	--	--	--	--	--
18...	0945	1028	80020	--	.82	577	7.6	16.5	12	7.7	--	--
AUG												
20-20	1752	1028	80020	8.2	--	--	--	--	--	--	--	--
28...	0905	1028	80020	--	.94	485	6.7	17.0	13	8.1	--	--

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	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)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)
OCT 07...	.020	12.0	.020	<.20	<.20	<.010	.020	.020	8	--	--
OCT 08-09	.050	3.10	.250	1.9	1.0	.900	.670	.580	331	--	--
16...	.020	11.0	.050	.20	<.20	.030	.020	.020	8	--	--
OCT 18-19	.050	1.90	.060	2.0	.60	1.30	.600	.560	978	--	--
28...	.030	11.0	.040	<.20	<.20	.020	.010	.020	8	--	--
NOV 05...	.030	12.0	.030	<.20	<.20	<.010	<.010	.010	16	--	--
NOV 08-09	.060	2.10	.130	1.4	.90	.920	.620	.600	989	--	--
NOV 26-26	.050	3.20	.220	2.1	1.2	.980	.590	.500	1060	--	--
DEC 12...	.020	11.0	.050	<.20	<.20	.050	.060	.040	47	--	--
DEC 13-13	.030	2.20	.210	1.9	.60	1.20	.390	.340	630	--	--
JAN 08...	<.010	11.0	.020	<.20	<.20	<.010	<.010	.010	34	--	--
FEB 04-05	.040	5.40	.390	2.3	1.1	1.00	.260	.220	1050	--	--
11...	.030	12.0	.030	.30	<.20	.060	<.010	<.010	188	--	--
MAR 05...	.020	10.0	.030	.30	<.20	.020	<.010	.020	75	--	--
MAR 05-05	.070	6.40	.040	1.6	.90	.370	.080	.030	168	--	--
MAR 14-15	.030	6.00	.120	2.0	.80	.600	.060	.070	334	--	--
MAR 26-26	.040	5.80	<.015	1.8	.70	.380	.030	<.010	209	--	--
MAR 31-31	.030	3.60	.180	3.4	.60	1.00	.090	.080	622	--	--
APR 10...	.010	11.0	.020	<.20	<.20	<.010	<.010	<.010	12	--	--
22...	.032	11.0	<.015	.27	<.20	.034	<.010	.017	20	--	--
30...	.041	11.2	<.015	.22	.22	.053	.048	.018	16	--	--
MAY 09...	.045	9.93	.042	.47	.20	.031	.015	.019	34	--	--
20...	.083	10.6	.059	<.20	.24	.020	.019	.026	27	--	--
20...	--	--	--	--	--	--	--	--	--	6.80	E.460
30...	.059	10.3	.063	.60	.51	.068	.017	.027	29	--	--
JUN 02-02	.071	3.17	.046	.64	.36	.071	.028	<.010	310	--	--
JUN 03-03	.058	5.82	.299	1.5	1.1	.436	.290	.259	773	--	--
09...	.033	10.8	<.015	<.20	<.20	.012	<.010	.028	27	--	--
19...	.057	10.8	.018	<.20	<.20	.028	.032	.026	26	--	--
30...	.041	11.7	.031	<.20	<.20	.019	.017	.026	38	--	--
JUL 09...	.049	12.2	.036	.21	<.20	.049	.012	.024	66	--	--
18...	.084	11.5	.078	.60	.52	.044	.030	.045	27	--	--
JUL 23-23	.071	2.08	.200	2.9	1.0	.993	.172	.126	727	--	--
JUL 23-23	.068	2.01	.187	3.3	1.0	.909	.163	.119	695	--	--
JUL 24-24	.042	2.30	.211	2.2	1.0	.506	.226	.170	164	--	--
JUL 28-28	.102	4.05	.237	1.7	1.1	.159	.084	.072	472	--	--
29...	.042	10.2	.053	<.20	.29	.035	.036	.037	23	--	--
AUG 08...	.034	10.6	.026	<.20	<.20	<.010	<.010	.013	118	--	--
AUG 16-16	.135	2.99	.299	4.2	.91	1.10	.193	.069	696	--	--
18...	.049	10.6	.067	.37	.23	.084	.030	.028	25	--	--
AUG 20-20	.042	1.68	.115	.94	.74	.169	.101	.091	259	--	--
28...	.050	7.07	.015	<.20	.26	.021	.020	.021	15	--	--

CONESTOGA RIVER BASIN

01576521 BIG SPRING RUN NEAR WILLOW STREET, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	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)	OXYGEN, DIS-SOLVED (MG/L) (00300)	STREP-TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	
		(00027)	(00028)	(00060)	(00061)	(00095)	(00400)	(00010)	(00076)	(00300)	(31673)	(00613)	
SEP													
08...	0935	1028	80020	--	.54	632	7.6	15.0	17	9.6	--	.038	
08...	1030	1028	80020	--	.54	--	--	--	--	--	--	--	
08...	1035	1028	80020	--	.52	--	--	--	--	--	--	--	
SEP													
11-11	0422	1028	80020	12	--	--	--	--	--	--	--	.036	
SEP													
11-11	1652	1028	80020	6.8	--	--	--	--	--	--	--	.037	
17...	1055	1028	80020	--	.54	610	8.1	16.5	6.0	12.5	2500	.020	
26...	0930	1028	80020	--	.49	591	6.6	13.0	10	12.1	--	.020	
DATE		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)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70958)
		(00631)	(00608)	(00625)	(00623)	(00665)	(00666)	(00671)	(80154)	(00572)	(00573)	(70957)	(70958)
SEP													
08...	11.3	.026	.24	<.20	.050	<.010	.019	95	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	964.5	998.6	85.0	E6.40	--
08...	--	--	--	--	--	--	--	--	968.9	1004	--	--	--
SEP													
11-11	1.52	.208	3.5	.70	1.14	.153	.130	670	--	--	--	--	--
SEP													
11-11	3.33	.111	1.7	.67	.525	.177	.149	138	--	--	--	--	--
17...	11.1	.016	<.20	.27	.028	.028	.031	61	--	--	--	--	--
26...	10.9	.047	.41	<.20	.099	.037	.048	60	--	--	--	--	--

CONESTOGA RIVER BASIN

01576525 SOUTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA

LOCATION.--Lat 39°59'23", long 76°14'55", Lancaster County, Hydrologic Unit 02050306, 40 ft upstream of culvert on SR 741, and 0.5 mi west of Lampeter.

DRAINAGE AREA.--0.33 mi².

PERIOD OF RECORD.--June 1993 to current year.

REMARKS.--Land surface elevation is 361 ft, from topographic map. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
07...	1100	1028	80020	.38	609	7.7	11.5	3.9	10.6	--
16...	1045	1028	80020	.38	632	7.7	11.5	2.8	11.1	260
28...	0830	1028	80020	.57	621	7.6	12.5	6.1	8.4	--
NOV										
05...	1040	1028	80020	.47	607	7.5	10.5	4.7	10.7	150
DEC										
12...	1105	1028	80020	.88	--	--	--	E9.0	--	--
JAN										
08...	1020	1028	80020	.62	610	7.3	6.0	7.8	10.5	K1100
FEB										
11...	0955	1028	80020	.63	618	6.9	6.5	5.2	--	K39
MAR										
05...	0940	1028	80020	.71	711	7.5	8.5	3.5	10.3	120
APR										
10...	1010	1028	80020	.49	--	7.3	9.0	6.0	--	240
22...	1145	1028	80020	.45	568	7.5	12.0	4.0	--	--
30...	1135	1028	80020	.40	559	7.5	14.0	8.5	14.2	--
MAY										
09...	0955	1028	80020	.38	560	7.6	11.5	2.5	9.7	860
20...	0900	1028	80020	.37	560	7.6	13.5	4.5	9.2	--
30...	0935	1028	80020	.30	566	7.0	13.0	4.5	9.8	--
JUN										
09...	0945	1028	80020	.34	606	7.2	13.0	7.9	11.8	1200
19...	0915	1028	80020	.34	587	7.7	14.0	4.0	14.4	--
30...	1030	1028	80020	.27	539	7.5	14.5	5.5	9.5	--
JUL										
09...	1000	1028	80020	.25	501	7.5	15.0	7.0	8.9	2200
18...	1050	1028	80020	.20	506	7.5	15.5	35	10.0	--
29...	1020	1028	80020	.21	582	7.6	15.5	10	8.6	--
AUG										
08...	1055	1028	80020	.21	537	7.8	13.5	6.5	9.2	570
18...	1040	1028	80020	.18	550	7.5	15.5	8.0	8.0	--
28...	1100	1028	80020	.18	491	7.5	15.0	2.0	8.7	--
SEP										
08...	1020	1028	80020	.15	502	7.6	14.0	7.0	9.2	--
17...	0930	1028	80020	.12	487	7.3	13.5	4.5	11.5	460
26...	1030	1028	80020	.10	472	6.8	12.5	4.0	11.5	--

CONESTOGA RIVER BASIN

01576525 SOUTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	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)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)
OCT									
07...	.070	13.0	.020	<.20	<.20	<.010	<.010	<.010	22
16...	.100	13.0	.050	<.20	<.20	.010	<.010	.010	124
28...	.100	13.0	.040	<.20	<.20	<.010	<.010	<.010	25
NOV									
05...	.080	13.0	.040	.20	<.20	<.010	<.010	.010	56
DEC									
12...	.040	11.0	.050	<.20	.20	.020	<.010	<.010	28
JAN									
08...	.020	12.0	.030	<.20	<.20	<.010	<.010	<.010	12
FEB									
11...	.040	12.0	<.015	.20	.30	.010	<.010	<.010	49
MAR									
05...	.030	12.0	.020	.50	<.20	.030	<.010	.010	29
APR									
10...	.050	12.0	.020	<.20	<.20	.020	<.010	<.010	20
22...	.048	12.5	<.015	.28	<.20	.027	<.010	<.010	9
30...	.105	11.6	<.015	.27	<.20	.016	.023	<.010	25
MAY									
09...	.070	12.1	<.015	.38	<.20	.012	.013	<.010	14
20...	.154	11.0	.106	.22	.23	<.010	<.010	.011	20
30...	.120	11.3	.083	.28	.25	.024	<.010	.014	23
JUN									
09...	.073	11.2	<.015	.34	<.20	.010	.018	.010	43
19...	.087	12.0	.032	<.20	<.20	.031	<.010	<.010	18
30...	.070	11.5	.049	.28	<.20	.024	<.010	.016	13
JUL									
09...	.062	11.0	.035	<.20	<.20	<.010	<.010	.015	16
18...	.052	10.6	.036	5.2	4.9	.290	.203	.184	58
29...	.110	10.1	.076	.66	.48	.015	.014	.015	20
AUG									
08...	.057	11.5	.066	.22	<.20	<.010	<.010	.012	25
18...	.132	10.2	.082	.58	.34	.036	<.010	.013	14
28...	.070	10.4	.035	.35	<.20	.021	<.010	.013	10
SEP									
08...	.057	11.8	.028	<.20	<.20	<.010	<.010	<.010	44
17...	.056	11.6	.048	.47	<.20	<.010	<.010	.013	39
26...	.042	11.6	.050	<.20	<.20	.021	<.010	.014	42

CONESTOGA RIVER BASIN

01576526 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR WILLOW STREET, PA

LOCATION.--Lat 39°59'44", long 76°15'06", Lancaster County, Hydrologic Unit 02050306, 0.4 mi north of culvert on SR 741, 0.5 mi northwest of Lampeter, and 1.5 mi northeast of Willow Street.

DRAINAGE AREA.--1.13 mi².

PERIOD OF RECORD.--September 1993 to current year.

REMARKS.--Land surface elevation is 335 ft, from topographic map. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
MAY											
20...	1115	1028	80020	.70	612	7.7	16.5	5.0	12.4	.113	9.15
20...	1200	1028	80020	--	--	--	--	--	--	--	--
SEP											
08...	1230	1028	80020	.20	547	7.9	17.5	5.5	8.6	.034	10.1
08...	1300	1028	80020	--	--	--	--	--	--	--	--

DATE	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)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI- PHYTON BIOMASS TOTAL WEIGHT G/SQ M (00573)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)
MAY											
20...	.082	.29	.38	.027	.029	.033	25	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	E88.0	9.40
SEP											
08...	.019	.21	<.20	.012	<.010	.012	33	--	--	--	--
08...	--	--	--	--	--	--	--	517.9	533.3	25.0	E.650

CONESTOGA RIVER BASIN

015765265 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA

LOCATION.--Lat 39°59'54", long 76°14'50", Lancaster County, Hydrologic Unit 02050306, on left bank 1000 ft downstream of Lampeter Road, and 0.7 mi northwest of Lampeter.

DRAINAGE AREA.--0.32 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1995 to current year.

GAGE.--Water-stage recorder and wooden weir. Datum of gage is 360.32 ft above sea level.

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

PEAK DISCHARGES FOR CURRENT PERIOD.--Peak discharges greater than a base discharge of 30 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0355	64	5.61	Dec. 13	1950	31	5.14
Nov. 8	1610	*66	*5.68				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.24	4.6	e.28	.23	.47	1.0	.09	.08	.05	.00	.00
2	.29	.19	3.3	e.26	.20	.30	.53	.02	1.0	.08	.00	.00
3	.14	.18	.71	.26	.20	.49	.40	.79	2.8	.03	.00	.01
4	.10	.17	.45	.23	.49	1.3	.34	.16	.34	.02	.06	.00
5	.08	.17	.40	.25	2.0	1.6	.29	.11	.22	e.01	.00	.00
6	.08	.16	3.7	.21	.56	.96	.28	.12	.19	e.00	.00	.00
7	.08	.16	3.1	.19	.36	.45	.21	.06	.18	e.03	.00	.00
8	2.7	11	1.3	.18	.36	.38	.22	.07	.16	.00	.00	.00
9	.56	2.4	.76	.19	.35	.31	.20	.27	.14	.00	.00	.00
10	1.1	.93	.51	.27	.24	.54	.20	.12	.13	.03	.00	.18
11	.25	.42	.59	.18	.20	.30	.20	.09	.12	.00	.00	1.1
12	.20	.31	.54	.16	.19	.24	.42	.06	.12	.00	.00	.02
13	.18	.27	13	.14	.16	.23	.20	.06	.16	.00	.03	.00
14	.16	.24	4.0	.14	.88	2.2	.16	.09	.11	.00	<.01	.00
15	.15	.21	1.5	.14	2.5	.98	.15	.10	.09	.00	.00	.00
16	.14	.20	1.0	1.2	.86	.45	.15	.10	.09	.00	.22	.00
17	.12	.19	.84	e.19	.50	.37	.15	.11	.09	.00	.02	.00
18	3.4	.19	.62	e.09	.41	.32	.14	.21	.09	.00	.05	.00
19	18	.18	1.1	e.05	.38	.35	.13	.22	.08	.00	.00	.00
20	1.6	.16	.54	e.03	.30	.29	.11	.13	.06	.00	.35	.00
21	.75	.15	.41	e.03	.28	.26	.11	.11	.06	.00	.05	.00
22	.54	.14	.41	.11	.26	.22	.11	.09	.07	<.01	.00	.00
23	.43	.13	.37	.07	.22	.17	.10	.08	.07	.95	.00	.00
24	.37	.12	.70	1.7	.21	.16	.11	.07	.07	.71	.00	.00
25	.33	.13	.44	2.2	.19	.16	.19	1.2	.06	.04	.00	.00
26	.31	3.9	.35	.35	.26	.57	.03	.23	.04	<.01	.00	.00
27	.30	.42	.33	.27	.21	.18	.07	.14	.05	.00	.00	.00
28	.33	.29	.32	3.0	.17	.16	.22	.11	.04	.36	.20	.00
29	.24	.24	.43	.42	---	.23	.02	.10	.03	.03	.00	.05
30	.24	.24	e.32	.31	---	.14	<.01	.11	.03	.00	.00	.00
31	.20	---	e.29	.28	---	2.6	---	.09	---	.00	.00	---
TOTAL	33.47	23.73	46.93	13.38	13.17	17.38	6.45	5.31	6.77	2.36	0.99	1.36
MEAN	1.08	.79	1.51	.43	.47	.56	.21	.17	.23	.076	.032	.045
MAX	18	11	13	3.0	2.5	2.6	1.0	1.2	2.8	.95	.35	1.1
MIN	.08	.12	.29	.03	.16	.14	.01	.02	.03	.00	.00	.00
CFSM	3.37	2.47	4.73	1.35	1.47	1.75	.67	.54	.71	.24	.10	.14
IN.	3.89	2.76	5.46	1.56	1.53	2.02	.75	.62	.79	.27	.12	.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
MEAN	.73	.80	.83	1.19	.48	.59	.43	.27	.33	.31	.17	.094
MAX	1.08	.80	1.51	1.95	.49	.62	.64	.43	.61	.51	.47	.18
(WY)	1997	1996	1997	1996	1996	1996	1996	1996	1996	1996	1996	1996
MIN	.37	.79	.14	.43	.47	.56	.22	.17	.16	.076	.017	.045
(WY)	1996	1997	1996	1997	1997	1997	1997	1997	1995	1997	1995	1997

e Estimated.

< Actual value is known to be less than the value shown.

CONESTOGA RIVER BASIN

015765265 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

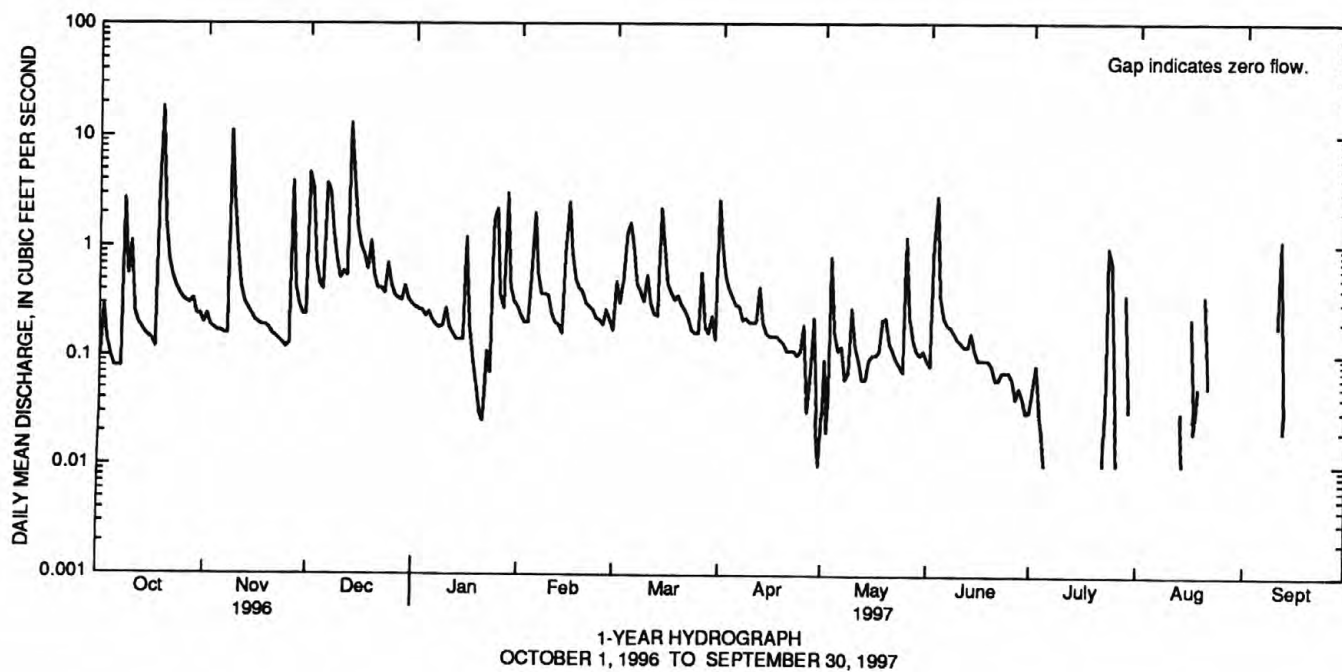
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1995 - 1997	
ANNUAL TOTAL	284.99		171.30			
ANNUAL MEAN	.78		.47		.54	
HIGHEST ANNUAL MEAN					.60	
LOWEST ANNUAL MEAN					.47	
HIGHEST DAILY MEAN	28	Jan 19	18	Oct 19	28	Jan 19 1996
LOWEST DAILY MEAN	.03	Sep 11	e.00	Jul 6a	.00	May 20 1995a
ANNUAL SEVEN-DAY MINIMUM	.07	Aug 30	.00	Jul 11b	.00	Aug 15 1995b
INSTANTANEOUS PEAK FLOW			c66	Nov 8	c122	Jun 19 1996b
INSTANTANEOUS PEAK STAGE			5.68	Nov 8	6.35	Jun 19 1996
INSTANTANEOUS LOW FLOW			.00	Apr 26a	.00	Sep 28 1995a
ANNUAL RUNOFF (CFSM)	2.43		1.47		1.68	
ANNUAL RUNOFF (INCHES)	33.13		19.91		22.78	
10 PERCENT EXCEEDS	1.3		.94		.80	
50 PERCENT EXCEEDS	.25		.17		.15	
90 PERCENT EXCEEDS	.10		.00		.00	

a Many days.

b First occurrence.

c From rating curve extended above 26 ft³/s on basis of slope-area measurements at gage heights 5.50 and 6.05 ft.

e Estimated.



CONESTOGA RIVER BASIN

015765265 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1995 to current year.

INSTRUMENTATION.--Automatic pumping sampler for stormflow since May 1995, nutrient and sediment samples since January 1995.

REMARKS.--Fixed-time, baseflow, and stormflow samples collected at streamflow control. Constituent values for stormflow water quality are for discharge-weighted composited samples. Samples with two dates are composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT										
07...	1010	1028	80020	--	.08	719	7.7	10.5	3.4	11.1
OCT										
08-09	1227	1028	80020	4.6	--	--	--	--	--	--
16...	1110	1028	80020	--	.15	726	7.7	12.5	3.2	12.4
OCT										
18-19	2212	1028	80020	33	--	--	--	--	--	--
28...	0740	1028	80020	--	.30	735	7.6	13.5	2.1	10.1
NOV										
05...	1000	1028	80020	--	.17	716	7.5	9.5	2.2	13.8
NOV										
08-08	1452	1028	80020	22	--	--	--	--	--	--
DEC										
12...	1040	1028	80020	--	.48	--	--	--	3.7	--
DEC										
13-13	1057	1028	80020	15	--	--	--	--	--	--
JAN										
08...	1050	1028	80020	--	.18	711	7.6	3.0	3.9	12.4
FEB										
11...	1020	1028	80020	--	.19	720	7.1	3.0	5.1	--
MAR										
01-01	1127	1028	80020	1.1	--	--	--	--	--	--
05...	1000	1028	80020	--	1.3	614	7.7	6.5	13	10.2
MAR										
26-26	0357	1028	80020	2.1	--	--	--	--	--	--
MAR										
31-31	0145	1028	80020	4.7	--	--	--	--	--	--
APR										
10...	1040	1028	80020	--	.21	--	7.7	6.0	2.0	--
22...	1205	1028	80020	--	.11	669	7.9	13.0	1.5	--
30...	1225	1028	80020	--	.00	665	7.8	17.5	4.5	14.3
MAY										
09...	0910	1028	80020	--	.13	538	7.6	11.5	4.5	10.2
20...	0650	1028	80020	--	.15	670	7.6	16.0	4.0	9.0
30...	1010	1028	80020	--	.13	692	7.3	14.0	5.0	10.1
JUN										
02-02	0415	1028	80020	1.1	--	--	--	--	--	--
09...	1015	1028	80020	--	.15	708	7.6	14.0	2.6	11.9
19...	0930	1028	80020	--	.09	712	7.7	17.0	2.0	13.8
30...	1115	1028	80020	--	.04	680	8.0	18.5	7.0	8.1
JUL										
23-23	1115	1028	80020	3.0	--	--	--	--	--	--
JUL										
28-28	1807	1028	80020	2.6	--	--	--	--	--	--
29...	1105	1028	80020	--	.03	457	7.7	21.5	17	5.6
AUG										
04-04	1202	1028	80020	.25	--	--	--	--	--	--
AUG										
16-17	2137	1028	80020	1.3	--	--	--	--	--	--
18...	1247	1028	80020	--	.21	257	7.9	21.0	9.0	7.2
AUG										
20-20	1615	1028	80020	1.5	--	--	--	--	--	--
AUG										
28-28	0342	1028	80020	.83	--	--	--	--	--	--
28...	1150	1028	80020	--	.01	274	7.9	20.0	10	7.4
SEP										
10-10	0857	1028	80020	.47	--	--	--	--	--	--
SEP										
11-11	1557	1028	80020	2.6	--	--	--	--	--	--

CONESTOGA RIVER BASIN

303

015765265 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	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)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)
OCT 07...	--	.020	15.0	.020	<.20	.20	<.010	.010	.020	5
OCT 08-09	--	.020	2.20	.030	1.6	.70	.750	.360	.310	266
OCT 16...	1700	.020	14.0	.040	1.1	<.20	.020	.020	.020	11
OCT 18-19	--	.030	1.40	.040	1.5	.60	.920	.430	.440	309
OCT 28...	--	.040	14.0	.040	<.20	<.20	.020	<.010	.020	10
NOV 05...	420	.030	16.0	.020	<.20	<.20	<.010	<.010	.010	11
NOV 08-08	--	.040	1.50	.050	1.1	.70	.720	.520	.500	620
DEC 12...	150	.020	12.0	.030	.20	.30	.040	.040	.040	24
DEC 13-13	--	.050	1.80	.470	1.8	1.1	1.10	.540	.560	544
JAN 08...	120	<.010	15.0	.030	<.20	<.20	<.010	<.010	.020	186
FEB 11...	K170	.040	14.0	<.015	<.20	<.20	<.010	.010	<.010	77
MAR 01-01	--	.040	5.30	.170	1.1	.40	.160	.030	.020	169
MAR 05...	180	.010	8.80	<.015	.60	.30	.030	.020	.030	17
MAR 26-26	--	.040	5.00	.160	1.3	.50	.230	.020	<.010	143
MAR 31-31	--	.020	2.50	.060	2.0	.50	.560	.050	.040	297
APR 10...	60	.010	14.0	<.015	<.20	<.20	<.010	<.010	<.010	2
APR 22...	--	.028	13.9	.018	.31	.25	<.020	.030	<.010	3
APR 30...	--	.044	13.1	<.015	.34	.26	.025	.025	.010	14
MAY 09...	K4500	.036	10.2	<.015	.52	.26	.029	<.010	<.010	18
MAY 20...	--	.074	11.9	.054	.24	.30	.010	.012	.018	8
MAY 30...	--	.026	11.9	.029	.30	.37	.025	<.010	.017	11
JUN 02-02	--	.044	2.43	<.015	.89	.47	.126	.039	<.010	139
JUN 09...	4600	.013	11.9	<.015	<.20	<.20	<.010	<.010	.012	13
JUN 19...	--	.019	13.1	<.015	<.20	.24	<.010	.015	<.010	11
JUN 30...	--	.017	13.5	.032	.28	.23	<.010	<.010	.010	28
JUL 23-23	--	.022	.829	<.015	1.3	.36	.324	.089	.059	198
JUL 28-28	--	.059	2.04	.394	2.7	.92	.712	.115	.071	642
JUL 29...	--	.013	3.72	<.015	.41	.43	.044	.033	.031	9
AUG 04-04	--	.026	6.35	.042	.74	.66	.120	.092	.071	12
AUG 16-17	--	.047	1.39	.173	1.5	.64	.366	.138	.112	175
AUG 18...	--	.024	2.47	.030	.66	.58	.055	.036	.034	7
AUG 20-20	--	.019	.733	<.015	.37	.35	.080	.067	.054	26
AUG 28-28	--	.039	1.67	.350	1.2	1.3	.129	.094	.095	18
AUG 28...	--	.024	3.32	.021	.42	.37	.055	.042	.047	4
SEP 10-10	--	.045	2.75	.292	1.1	.86	.169	.118	.118	71
SEP 11-11	--	.014	.636	.054	.88	.39	.269	.087	.079	84

CONESTOGA RIVER BASIN

01576527 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA

LOCATION.--Lat 39°59'47", long 76°14'59", Lancaster County, Hydrologic unit 02050306, on right bank 30 ft upstream of box culvert on Mentzer Road, and 0.5 mi northwest of Lampeter.

DRAINAGE AREA.--0.36 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1993 to current year.

GAGE.--Water-stage recorder and wooden weir control. Datum of gage is 350.66 ft above sea level.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 30 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0400	60	2.94	Dec. 13	2000	32	2.44
Nov. 8	1610	*72	*3.13				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.28	5.5	.55	.36	.50	.87	.19	.15	.08	.02	.00
2	.35	.28	4.2	.51	.34	.40	.58	.14	1.2	.12	.02	.00
3	.20	.25	1.0	.51	.36	.52	.45	.91	3.4	.08	.02	.00
4	.16	.25	.80	.46	.53	.93	.36	.22	.54	.06	.07	.00
5	.15	.25	.69	.50	1.5	1.1	.32	.16	.34	.04	.02	.00
6	.14	.22	4.1	.42	.67	.83	.31	.18	.28	.03	.01	.00
7	.14	.22	3.7	.41	.54	.57	.28	.14	.26	.04	.01	.00
8	2.6	11	1.4	.33	.53	.49	.26	.14	.23	.03	.00	.00
9	.70	3.0	.99	.33	.52	.42	.25	.32	.20	.03	.00	.00
10	1.2	1.2	.79	.42	.42	.59	.21	.15	.20	.04	.00	.11
11	.39	.71	.82	.32	.37	.42	.18	.14	.17	.02	.00	1.3
12	.31	.64	.79	.30	.37	.36	.32	.15	.16	.02	.00	.05
13	.28	.58	14	.25	.32	.33	.21	.15	.20	.02	.00	.01
14	.24	.55	5.1	.25	.76	1.7	.17	.14	.17	.02	.00	.00
15	.21	.51	1.6	.25	1.9	.86	.15	.14	.15	.02	.00	.00
16	.21	.51	1.2	1.2	.82	.57	.14	.14	.14	.01	.19	.00
17	.19	.50	1.1	e.37	.65	.51	.14	.14	.14	.01	.03	.00
18	2.9	.48	.94	e.29	.59	.46	.13	.18	.14	.00	.02	.00
19	17	.45	1.3	e.24	.56	.49	.11	.21	.13	.00	.00	.00
20	1.6	.40	.84	.21	.51	.42	.10	.15	.12	.00	.32	.00
21	.91	.38	.71	.21	.51	.36	.09	.13	.11	.00	.06	.00
22	.68	.42	.69	.31	.45	.35	.11	.12	.11	.00	.01	.00
23	.58	.37	.66	.31	.36	.30	.12	.13	.11	1.1	.00	.00
24	.52	.36	.89	1.8	.35	.30	.13	.13	.10	.93	.00	.00
25	.45	.36	.74	1.8	.30	.30	.22	1.4	.09	.08	.00	.00
26	.38	4.4	.66	.49	.35	.59	.15	.27	.09	.05	.00	.00
27	.35	.81	.65	.38	.34	.30	.19	.17	.09	.04	.00	.00
28	.35	.65	.61	2.6	.30	.30	.33	.15	.08	.48	.17	.00
29	.28	.60	.70	.53	---	.37	.15	.14	.08	.07	.00	.00
30	.29	.57	.62	.42	---	.30	.14	.14	.07	.04	.00	.00
31	.25	---	.60	.40	---	2.1	---	.14	---	.02	.00	---
TOTAL	34.17	31.20	58.39	17.37	15.58	18.04	7.17	7.01	9.25	3.48	0.97	1.47
MEAN	1.10	1.04	1.88	.56	.56	.58	.24	.23	.31	.11	.031	.049
MAX	17	11	14	2.6	1.9	2.1	.87	1.4	3.4	1.1	.32	1.3
MIN	.14	.22	.60	.21	.30	.30	.09	.12	.07	.00	.00	.00
CFSM	3.06	2.89	5.23	1.56	1.55	1.62	.66	.63	.86	.31	.09	.14
IN.	3.53	3.22	6.03	1.79	1.61	1.86	.74	.72	.96	.36	.10	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

MEAN	.58	.72	.98	.85	1.02	1.09	.44	.32	.38	.37	.30	.21
MAX	1.10	1.04	1.88	1.90	2.27	2.36	.81	.51	.68	.53	.54	.47
(WY)	1997	1997	1997	1996	1995	1994	1996	1996	1996	1996	1994	1994
MIN	.20	.28	.11	.29	.56	.58	.19	.23	.22	.11	.031	.049
(WY)	1995	1995	1996	1994	1997	1997	1995	1997	1995	1997	1997	1997

e Estimated.

01576527 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1994 - 1997	
ANNUAL TOTAL	325.57		204.10			
ANNUAL MEAN	.89		.56		.56	
HIGHEST ANNUAL MEAN					.66	
LOWEST ANNUAL MEAN					.46	
HIGHEST DAILY MEAN	26	Jan 19	17	Oct 19	27	Feb 6 1995
LOWEST DAILY MEAN	e.06	Jan 1,11-16	.00	Jul 18 ^b	.00	Aug 29 1995 ^b
ANNUAL SEVEN-DAY MINIMUM	a.06	Jan 10	.00	Aug 8	.00	Aug 29 1995 ^c
INSTANTANEOUS PEAK FLOW			d72	Nov 8	d157	Jun 19 1996
INSTANTANEOUS PEAK STAGE			3.13	Nov 8	4.25	Jun 19 1996
INSTANTANEOUS LOW FLOW			.00	Jul 18 ^b	.00	Aug 28 1995 ^b
ANNUAL RUNOFF (CFSM)	2.47		1.55		1.56	
ANNUAL RUNOFF (INCHES)	33.64		21.09		21.24	
10 PERCENT EXCEEDS	1.4		.96		1.0	
50 PERCENT EXCEEDS	.42		.27		.22	
90 PERCENT EXCEEDS	.15		.00		.06	

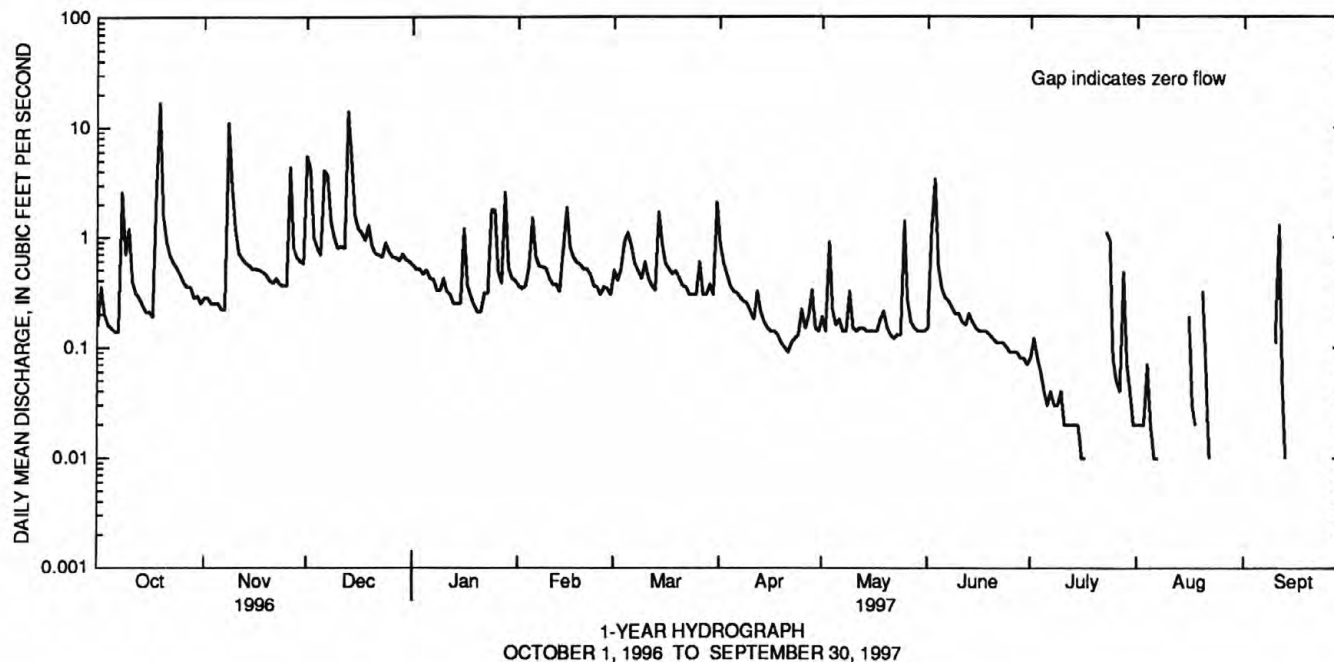
a Computed using estimated daily discharges.

b Many days.

c First occurrence.

d From rating curve extended above 24 ft³/s.

e Estimated, Jan. 11-16.



CONESTOGA RIVER BASIN

01576527 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to current year.

INSTRUMENTATION.--Automatic pumping sampler since March 1994.

REMARKS.--Fixed-time, baseflow, and stormflow samples collected at streamflow control. Constituent values for stormflow water quality are for discharge-weighted composite samples. Samples with two dates are composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, IN 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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT											
07...	0930	1028	80020	--	.14	748	7.6	12.0	2.9	11.9	--
OCT											
08-09	1327	1028	80020	6.2	--	--	--	--	--	--	--
16...	0930	1028	80020	--	.21	762	7.6	12.5	28	11.2	K520000
OCT											
18-19	2212	1028	80020	44	--	--	--	--	--	--	--
28...	0840	1028	80020	--	.30	757	7.6	14.0	8.0	10.6	--
NOV											
05...	0920	1028	80020	--	.25	748	7.4	10.5	1.5	14.8	1200
NOV											
08-08	1457	1028	80020	30	--	--	--	--	--	--	--
NOV											
26-26	0257	1028	80020	8.1	--	--	--	--	--	--	--
DEC											
12...	0955	1028	80020	--	.77	679	--	9.0	2.5	16.2	K910
DEC											
13-13	1057	1028	80020	21	--	--	--	--	--	--	--
JAN											
08...	0930	1028	80020	--	.30	740	7.2	3.0	1.7	15.4	250
FEB											
11...	0910	1028	80020	--	.36	741	7.1	2.5	2.7	--	77
MAR											
01-01	1127	1028	80020	1.1	--	--	--	--	--	--	--
05...	0850	1028	80020	--	.90	662	7.8	6.5	8.0	10.4	480
MAR											
14-14	1957	1028	80020	2.5	--	--	--	--	--	--	--
MAR											
26-26	0427	1028	80020	1.3	--	--	--	--	--	--	--
MAR											
31-31	0245	1028	80020	3.7	--	--	--	--	--	--	--
APR											
10...	0910	1028	80020	--	.21	--	7.4	5.5	2.0	--	K33
22...	1115	1028	80020	--	.10	734	7.6	14.5	10	--	--
22...	1116	1028	80020	--	.10	734	7.6	14.5	10	--	--
30...	1040	1028	80020	--	.14	742	7.5	17.0	40	9.8	--
MAY											
09...	0810	1028	80020	--	.18	551	7.5	11.5	2.0	9.6	8600
20...	0715	1028	80020	--	.18	703	7.4	15.5	5.0	8.8	--
30...	0905	1028	80020	--	.16	702	7.0	14.5	11	9.5	--
JUN											
02-02	0742	1028	80020	.95	--	--	--	--	--	--	--
JUN											
02-03	1752	1028	80020	2.3	--	--	--	--	--	--	--
09...	0900	1028	80020	--	.21	735	7.4	15.0	3.9	12.3	4700
09...	0901	1028	80020	--	.21	--	--	--	--	--	--
19...	0830	1028	80020	--	.14	747	7.5	17.5	11	12.4	--
30...	0945	1028	80020	--	.09	751	7.6	19.0	20	4.9	--
JUL											
09...	0905	1028	80020	--	.03	714	7.5	20.0	6.0	5.8	K13000
JUL											
23-23	1145	1028	80020	4.0	--	--	--	--	--	--	--
JUL											
28-28	1842	1028	80020	3.7	--	--	--	--	--	--	--
29...	0940	1028	80020	--	.08	598	7.7	21.0	3.0	4.5	--
AUG											
04-04	1315	1028	80020	.17	--	--	--	--	--	--	--
AUG											
16-17	2207	1028	80020	1.6	--	--	--	--	--	--	--
AUG											
20-20	1645	1028	80020	1.2	--	--	--	--	--	--	--
AUG											
28-28	0452	1028	80020	.71	--	--	--	--	--	--	--
28...	1010	1028	80020	--	.09	233	7.7	20.0	4.0	4.5	--
SEP											
10-10	1017	1028	80020	.14	--	--	--	--	--	--	--
SEP											
11-11	0402	1028	80020	6.9	--	--	--	--	--	--	--
SEP											
11-11	1617	1028	80020	2.8	--	--	--	--	--	--	--

CONESTOGA RIVER BASIN

01576527 NORTH FORK UNNAMED TRIBUTARY TO BIG SPRING RUN AT LAMPETER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ANC UNFLTRD CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT										
07...	--	.030	12.0	.020	<.20	.20	<.010	.020	.010	13
OCT										
08-09	--	.030	2.30	.060	1.5	.80	.730	.400	.380	28
16...	232	.040	11.0	.120	1.4	.90	.240	.060	.070	19
OCT										
18-19	--	.040	1.70	.050	1.1	.80	1.00	.780	.750	456
28...	--	.040	12.0	.050	.30	.20	.060	.020	.020	14
NOV										
05...	237	.030	13.0	.030	<.20	<.20	<.010	<.010	<.010	6
NOV										
08-08	--	.060	1.80	.070	1.7	.80	1.20	.640	.630	665
NOV										
26-26	--	.060	2.20	2.50	6.7	4.5	3.20	1.50	1.30	611
DEC										
12...	218	.020	11.0	.030	<.20	.30	.040	.040	.040	26
DEC										
13-13	--	.030	1.80	.310	1.7	.90	1.20	.640	.590	463
JAN										
08...	230	<.010	12.0	.020	<.20	<.20	<.010	.010	.010	104
FEB										
11...	216	.040	13.0	<.015	<.20	<.20	<.010	<.010	<.010	60
MAR										
01-01	--	.040	6.70	.120	1.6	.40	.210	<.010	.010	208
05...	170	.020	9.10	<.015	.50	.40	.020	<.010	.020	9
MAR										
14-14	--	.030	3.60	<.015	2.3	.70	.530	.050	<.010	520
MAR										
26-26	--	.050	6.20	.120	1.7	.50	.350	<.010	<.010	227
MAR										
31-31	--	.020	2.70	.050	2.2	.50	.680	.040	.040	447
APR										
10...	222	.010	12.0	<.015	<.20	<.20	<.010	<.010	<.010	6
22...	--	.050	11.8	.079	1.9	1.6	.159	.102	.066	31
22...	--	.052	11.7	.084	2.6	1.7	.181	.096	.092	38
30...	--	.111	10.2	.183	2.7	1.9	.346	.212	.200	61
MAY										
09...	170	.065	8.12	<.015	.38	.34	.017	.013	<.010	11
20...	--	.169	9.56	.129	.34	.38	.045	.034	.037	22
30...	--	.076	9.47	.042	.50	.60	.040	<.010	.016	63
JUN										
02-02	--	.050	2.11	<.015	1.1	.32	.169	.064	<.010	148
JUN										
02-03	--	.034	2.08	<.015	.89	.58	.299	.113	.083	180
09...	220	.045	9.77	.018	.23	<.20	<.010	<.010	.019	40
09...	--	.046	10.1	<.015	.26	<.20	.029	<.010	.023	22
19...	--	.154	8.74	<.015	1.2	.42	.389	.170	.139	60
30...	--	.319	5.11	.189	1.8	1.2	.341	.143	.132	114
JUL										
09...	280	.099	4.30	.042	.42	.37	.058	.068	.064	70
JUL										
23-23	--	.038	.968	.081	1.3	.62	.466	.303	.245	47
JUL										
28-28	--	.118	2.10	.304	1.4	.98	.230	.153	.125	208
29...	--	.030	3.02	.025	.43	.44	.032	.042	.039	12
AUG										
04-04	--	.068	5.17	.048	.93	.77	.102	.073	.074	34
AUG										
16-17	--	.148	1.17	.160	1.8	.87	.438	.290	.223	43
AUG										
20-20	--	.027	.874	.047	.61	.46	.211	.175	.160	6
AUG										
28-28	--	.052	1.61	.071	.64	.53	.173	.135	.132	9
28...	--	.022	1.51	.037	.50	.41	.143	.114	.121	1
SEP										
10-10	--	.100	3.79	.228	1.5	1.1	.350	.266	.246	4
SEP										
11-11	--	.024	.640	.075	.84	.47	.402	.266	.264	37
SEP										
11-11	--	.020	.656	.100	.70	.54	.258	.189	.180	28

CONESTOGA RIVER BASIN

01576528 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR WILLOW STREET, PA

LOCATION.--Lat 39°59'49", long 76°15'20", Lancaster County, Hydrologic Unit 02050306, 100 ft below pond, 0.7 mi northwest of Lampeter, and 1.5 mi northeast of Willow Street.

DRAINAGE AREA.--1.21 mi².

PERIOD OF RECORD.--September 1993 to current year.

REMARKS.--Land surface elevation is 325 ft, from topographic map. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
MAY											
20...	1045	1028	80020	.83	626	7.7	15.5	5.5	11.4	.111	9.97
20...	1100	1028	80020	--	--	--	--	--	--	--	--
SEP											
08...	1140	1028	80020	.21	569	7.8	18.5	5.5	9.9	.106	10.1
08...	1200	1028	80020	--	--	--	--	--	--	--	--

DATE	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)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M ²) (70958)
MAY											
20...	.076	.23	.31	.053	.019	.019	26	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	17.2	1.40
SEP											
08...	.079	.55	.40	.055	.031	.038	35	--	--	--	--
08...	--	--	--	--	--	--	--	525.1	544.8	73.0	<.100

CONESTOGA RIVER BASIN

01576529 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA

LOCATION.--Lat 39°59'57", long 76°15'52", Lancaster County, Hydrologic Unit 02050306, on left bank 70 ft upstream from bridge on Morningside Drive near the intersection with Long Rifle Road and Gypsy Hill Road, and 1.0 mi northwest of Lampeter.

DRAINAGE AREA.--1.42 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 290.24 ft above sea level.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 140 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0445	141	4.51	Nov. 8	1645	*153	*4.67

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.2	10	2.2	1.9	2.0	2.6	1.1	.79	.70	.32	.19
2	1.9	2.2	8.6	2.2	1.8	1.9	2.1	1.1	2.4	.78	.29	.19
3	1.6	2.1	3.0	2.2	1.7	2.0	2.0	2.3	7.6	.77	.29	.21
4	1.4	2.0	2.5	2.2	2.0	2.7	1.9	1.5	1.9	.68	.32	.21
5	1.4	2.0	2.3	2.2	4.8	2.9	1.8	1.2	1.5	.64	.32	.19
6	1.4	1.9	9.3	2.1	2.3	2.5	1.9	1.2	1.4	.64	.29	.19
7	1.3	1.9	7.9	2.0	2.1	2.1	1.8	1.1	1.3	.67	.27	.19
8	6.9	25	4.0	1.9	2.0	2.0	1.7	1.1	1.3	.64	.27	.21
9	3.1	7.8	3.2	1.8	2.0	1.9	1.7	1.4	1.2	.61	.27	.23
10	3.8	4.1	2.6	2.0	1.9	2.0	1.6	1.1	1.1	.60	.27	.34
11	2.2	3.3	2.7	1.9	1.8	1.9	1.6	1.1	1.1	.59	.26	2.2
12	2.0	3.0	2.5	1.8	1.7	1.8	1.7	.99	1.0	.57	.24	.38
13	1.9	2.7	30	1.7	1.7	1.7	1.7	.92	1.1	.55	.25	.24
14	1.8	2.6	12	1.7	2.4	3.8	1.5	.93	1.1	.50	.28	.22
15	1.8	2.5	4.8	1.6	4.8	2.6	1.4	.90	.99	.48	.23	.19
16	1.6	2.4	4.0	3.7	2.7	2.0	1.3	.83	.92	.45	.23	.15
17	1.5	2.4	3.7	e2.0	2.3	1.9	1.3	.82	.92	.42	.57	.15
18	6.3	2.3	3.4	e1.7	2.2	1.9	1.3	.94	.92	.41	.27	.15
19	43	2.3	4.0	e1.6	2.2	2.0	1.3	1.0	.90	.38	.22	.15
20	5.0	2.2	3.1	e1.6	2.0	1.9	1.3	.89	.85	.39	.58	.15
21	3.6	2.2	2.6	1.5	1.9	1.9	1.2	.85	.81	.39	.49	.15
22	3.3	2.1	2.5	1.6	1.9	1.8	1.2	.73	.77	.39	.24	.14
23	3.0	2.0	2.5	1.8	1.8	1.7	1.1	.69	.76	2.0	.19	.14
24	2.9	2.0	3.1	6.3	1.7	1.7	1.1	.72	.73	2.0	.19	.14
25	2.7	2.0	2.9	6.2	1.7	1.6	1.3	2.7	.73	.58	.19	.14
26	2.5	10	2.4	2.0	1.7	2.1	1.2	1.4	.75	.48	.19	.13
27	2.3	2.3	2.4	1.8	1.8	1.7	1.2	.98	.77	.44	.19	.12
28	2.4	2.0	2.4	8.0	1.6	1.7	1.5	.91	.77	.82	.43	.12
29	2.3	1.9	2.6	2.0	---	1.8	1.2	e.90	.77	.59	.23	.16
30	2.3	1.9	2.4	1.9	---	1.7	1.2	.86	.72	.41	.21	.14
31	2.2	---	2.3	1.9	---	4.8	---	.80	---	.38	.19	---
TOTAL	120.8	105.3	151.7	75.1	60.4	66.0	45.7	33.96	37.87	19.95	8.78	7.51
MEAN	3.90	3.51	4.89	2.42	2.16	2.13	1.52	1.10	1.26	.64	.28	.25
MAX	43	25	30	8.0	4.8	4.8	2.6	2.7	7.6	2.0	.58	2.2
MIN	1.3	1.9	2.3	1.5	1.6	1.6	1.1	.69	.72	.38	.19	.12
CFSM	2.74	2.47	3.45	1.71	1.52	1.50	1.07	.77	.89	.45	.20	.18
IN.	3.16	2.76	3.97	1.97	1.58	1.73	1.20	.89	.99	.52	.23	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997
MEAN	1.72	2.32	2.80	2.63	2.23	4.10	2.07	1.55	1.54	1.46	1.21	.91
MAX	3.90	3.51	4.89	5.02	2.54	9.49	3.03	2.53	2.82	2.59	2.70	1.65
(WY)	1997	1997	1996	1994	1994	1994	1996	1996	1996	1996	1996	1996
MIN	.72	1.12	1.26	1.20	1.83	2.13	1.01	1.10	.69	.64	.28	.20
(WY)	1994	1995	1996	1994	1995	1997	1995	1997	1995	1997	1995	1995

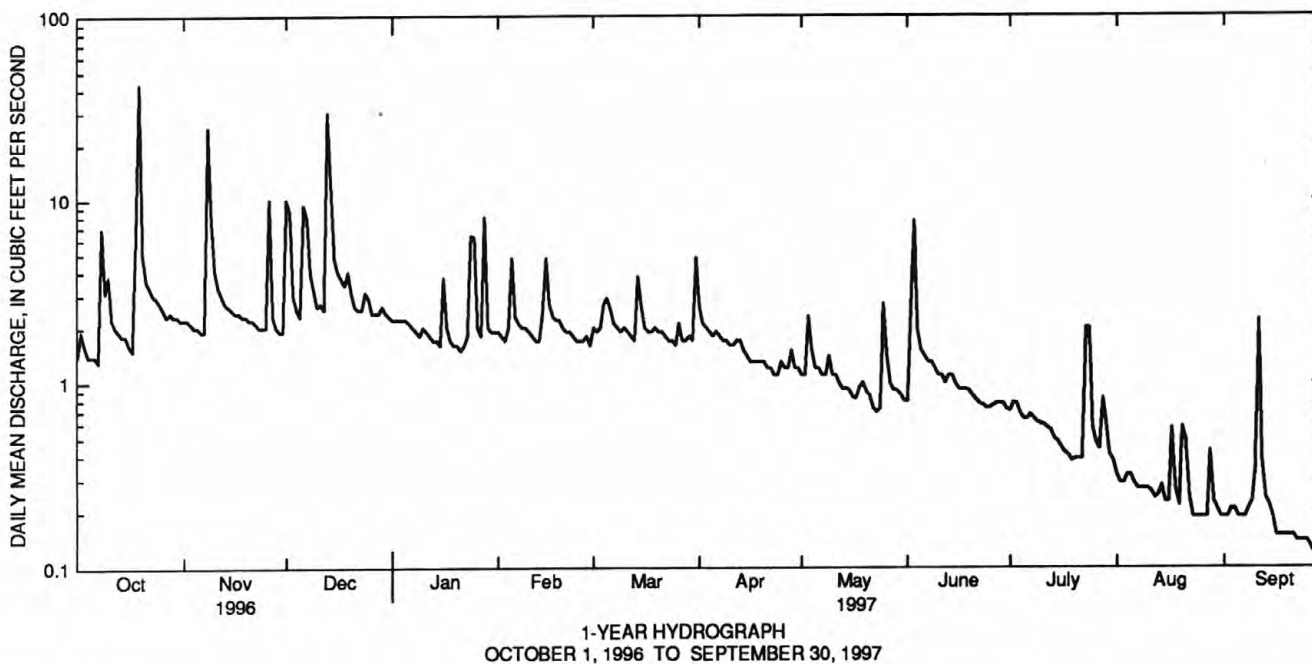
e Estimated.

CONESTOGA RIVER BASIN

01576529 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1994 - 1997	
ANNUAL TOTAL	1152.25		733.07		2.05	
ANNUAL MEAN	3.15		2.01		2.58	
HIGHEST ANNUAL MEAN					1.15	
LOWEST ANNUAL MEAN					1.15	
HIGHEST DAILY MEAN	54	Jan 19	43	Oct 19	54	Jan 19 1996
LOWEST DAILY MEAN	.92	Jan 16,17	.12	Sep 27,28	.07	Aug 24 1995
ANNUAL SEVEN-DAY MINIMUM	a.98	Jan 11	.13	Sep 22	.08	Sep 10 1995
INSTANTANEOUS PEAK FLOW			b153	Nov 8	b430	Jun 12 1994
INSTANTANEOUS PEAK STAGE			4.67	Nov 8	6.31	Jun 12 1994
INSTANTANEOUS LOW FLOW			.12	Sep 26-28	.05	Aug 25 1995
ANNUAL RUNOFF (CFSM)	2.22		1.41		1.44	
ANNUAL RUNOFF (INCHES)	30.19		19.20		19.59	
10 PERCENT EXCEEDS	4.3		3.1		3.1	
50 PERCENT EXCEEDS	2.2		1.7		1.3	
90 PERCENT EXCEEDS	1.4		.23		.37	

a Computed using estimated daily discharges.

b From rating curve extended above 140 ft³/s on basis of calculation of flow through culvert at gage heights 4.60, 5.30, 6.00 and 6.65 ft.

CONESTOGA RIVER BASIN

01576529 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to current year.

INSTRUMENTATION.--Automatic pumping sampler since December 1993.

REMARKS.--Fixed-time, baseflow, and stormflow samples collected at streamflow control. Constituent values for stormflow water quality are for discharge-weighted composite samples. Samples with two dates are composited samples; sample time is the composite start time, discharge is the mean for the composited period. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML) (31673)	ANC CARBON- ATE IT-LAB (MG/L - CAC03) (90430)
OCT												
07...	0900	1028	80020	--	1.4	657	7.5	10.5	3.1	12.1	--	--
OCT												
08-09	1422	1028	80020	12	--	--	--	--	--	--	--	--
16...	0720	1028	80020	--	1.7	681	7.3	11.0	2.9	11.8	2400	214
OCT												
18-19	2222	1028	80020	60	--	--	--	--	--	--	--	--
28...	0700	1028	80020	--	2.4	703	7.5	13.0	4.5	10.9	--	--
28...	0701	1028	80020	--	2.4	703	7.5	13.0	4.5	10.9	--	--
NOV												
05...	0800	1028	80020	--	2.0	693	7.1	8.5	2.7	12.6	650	220
NOV												
08-09	1452	1028	80020	40	--	--	--	--	--	--	--	--
NOV												
08-09	1453	1028	80020	40	--	--	--	--	--	--	--	--
NOV												
26-26	0352	1028	80020	21	--	--	--	--	--	--	--	--
DEC												
12...	0805	1028	80020	--	2.5	655	--	8.5	5.4	14.8	630	214
DEC												
13-13	0322	1028	80020	28	--	--	--	--	--	--	--	--
JAN												
08...	0750	1028	80020	--	1.9	684	7.0	2.0	5.1	12.3	--	222
08...	0751	1028	80020	--	1.9	684	7.0	2.0	5.1	12.3	--	222
FEB												
04-05	2237	1028	80020	7.1	--	--	--	--	--	--	--	--
11...	0745	1028	80020	--	1.7	695	7.6	2.0	17	--	160	200
MAR												
05...	0750	1028	80020	--	2.5	727	7.7	7.0	6.0	10.5	940	196
05...	0751	1028	80020	--	2.5	727	7.7	7.0	6.0	10.5	1600	196
MAR												
05-05	1907	1028	80020	4.5	--	--	--	--	--	--	--	--
MAR												
14-15	1922	1028	80020	5.8	--	--	--	--	--	--	--	--
MAR												
31-31	0322	1028	80020	8.1	--	--	--	--	--	--	--	--
MAR												
31-31	0323	1028	80020	8.1	--	--	--	--	--	--	--	--
APR												
10...	0740	1028	80020	--	1.6	--	6.7	4.0	8.5	--	K260	198
22...	1020	1028	80020	--	1.2	658	6.9	11.0	4.0	--	--	--
30...	0915	1028	80020	--	1.1	648	7.8	12.5	4.5	11.0	--	--
MAY												
09...	0700	1028	80020	--	1.3	552	7.3	11.0	5.0	10.0	3300	172
20...	0755	1028	80020	--	.87	626	7.7	16.0	9.0	9.5	--	--
20...	0756	1028	80020	--	.87	--	--	--	--	--	--	--
20...	0800	1028	80020	--	.87	--	--	--	--	--	--	--
20...	0805	1028	80020	--	.87	--	--	--	--	--	--	--
30...	0815	1028	80020	--	.87	634	6.1	14.5	7.5	11.2	--	--
JUN												
03-03	0107	1028	80020	15	--	--	--	--	--	--	--	--
JUN												
03-03	0108	1028	80020	15	--	--	--	--	--	--	--	--
09...	0745	1028	80020	--	1.2	678	7.7	13.0	5.4	14.0	3300	204
19...	0730	1028	80020	--	.92	669	7.7	17.0	3.0	15.3	--	--
30...	0830	1028	80020	--	.77	629	7.9	17.5	4.5	10.3	--	--
JUL												
09...	0725	1028	80020	--	.64	601	7.8	19.5	2.0	8.0	2500	220
18...	0830	1028	80020	--	.46	595	7.7	21.5	4.0	9.5	--	--
JUL												
23-23	1307	1028	80020	5.4	--	--	--	--	--	--	--	--
JUL												
24-24	0537	1028	80020	5.4	--	--	--	--	--	--	--	--
JUL												
28-28	2022	1028	80020	4.0	--	--	--	--	--	--	--	--
29...	0820	1028	80020	--	.57	534	7.4	20.5	7.5	8.0	--	--
AUG												
08...	0803	1028	80020	--	.27	637	7.1	15.5	1.5	9.3	3800	222

CONESTOGA RIVER BASIN

01576529 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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)	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)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	CHLOR-A PERI- PHYTON CHROMO- FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)
OCT											
07...	.020	12.0	.020	<.20	.20	<.010	<.010	.010	5	--	--
OCT											
08-09	.050	3.40	.150	1.9	1.0	.960	.570	.530	183	--	--
16...	.030	12.0	.040	.30	.30	.040	.030	.020	13	--	--
OCT											
18-19	.070	2.10	.060	1.1	.80	.900	.700	.660	412	--	--
28...	.050	12.0	.040	<.20	<.20	.030	.020	.020	12	--	--
28...	.050	12.0	.030	<.20	.20	.020	.020	.010	7	--	--
NOV											
05...	.050	13.0	.020	.20	<.20	<.010	<.010	<.010	9	--	--
NOV											
08-09	.100	2.80	.110	1.5	.90	1.00	.700	.670	761	--	--
NOV											
08-09	.110	2.80	.120	1.3	.90	.930	.710	.690	367	--	--
NOV											
26-26	.090	3.40	2.90	8.8	5.1	2.60	1.50	1.20	879	--	--
DEC											
12...	.060	11.0	.120	.30	.40	.040	.040	.030	76	--	--
DEC											
13-13	.040	2.80	.330	3.1	.80	1.60	.540	.550	536	--	--
JAN											
08...	.020	12.0	.020	<.20	<.20	<.010	<.010	.010	67	--	--
08...	.010	12.0	.020	<.20	<.20	<.010	<.010	<.010	6	--	--
FEB											
04-05	.040	6.50	.360	2.3	1.1	.850	.320	.270	317	--	--
11...	.040	12.0	<.015	.30	.20	.060	<.010	<.010	123	--	--
MAR											
05...	.030	11.0	<.015	.40	.30	.010	<.010	.020	44	--	--
05...	.030	11.0	.020	.40	.30	.020	<.010	.020	57	--	--
MAR											
05-05	.110	8.30	.040	1.4	.80	.280	.060	<.010	110	--	--
MAR											
14-15	.040	5.70	.130	2.2	.60	.630	.060	<.020	318	--	--
MAR											
31-31	.050	4.90	.160	3.4	.80	.990	.110	.110	460	--	--
MAR											
31-31	.050	4.90	.160	2.9	.70	.930	.120	.100	477	--	--
APR											
10...	.030	12.0	<.015	.20	<.20	<.010	<.010	<.010	10	--	--
22...	.050	12.0	.062	.49	.32	.040	<.010	.018	19	--	--
30...	.071	11.2	.043	.33	.30	.044	.047	.020	17	--	--
MAY											
09...	.069	9.32	.028	.55	.25	.043	.011	.011	37	--	--
20...	.110	10.2	.060	.33	.27	.016	<.010	.015	34	--	--
20...	.112	9.73	.060	.31	.32	.015	.010	.015	22	--	--
20...	--	--	--	--	--	--	--	--	--	33.2	3.20
20...	--	--	--	--	--	--	--	--	--	42.5	10.2
30...	.073	10.1	.041	.44	.22	.051	<.010	.018	24	--	--
JUN											
03-03	.037	3.52	.136	2.0	.79	.862	.291	.297	387	--	--
JUN											
03-03	.037	3.50	.066	1.8	.81	.799	.298	.274	323	--	--
09...	.054	11.0	<.015	.31	<.20	<.010	<.010	.018	26	--	--
19...	.093	10.4	.017	.23	.25	.034	<.010	.019	17	--	--
30...	.096	10.7	.028	.31	.22	.021	.013	.023	34	--	--
JUL											
09...	.140	10.2	.039	.37	.30	<.010	<.010	.018	35	--	--
18...	.158	9.33	.032	.44	.28	<.010	<.010	.016	13	--	--
JUL											
23-23	.118	2.59	.285	3.5	1.6	.988	.491	.393	257	--	--
JUL											
24-24	.064	2.26	.226	1.7	1.1	.561	.416	.360	113	--	--
JUL											
28-28	.206	5.50	.242	3.3	1.2	.701	.221	.176	184	--	--
29...	.066	5.90	.032	.50	.60	.087	.074	.059	5	--	--
AUG											
08...	.033	9.33	.039	.26	.21	<.010	<.010	.015	6	--	--

CONESTOGA RIVER BASIN

01576529 UNNAMED TRIBUTARY TO BIG SPRING RUN NEAR LAMPETER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)
AUG									
17-17	0007	1028	80020	2.4	--	--	--	--	--
18...	0900	1028	80020	--	.29	580	7.1	21.5	2.0
AUG									
20-20	1922	1028	80020	2.3	--	--	--	--	--
AUG									
20-20	1923	1028	80020	2.3	--	--	--	--	--
28...	0930	1028	80020	--	1.1	430	7.6	19.5	9.5
SEP									
08...	0830	1028	80020	--	.19	--	--	--	--
08...	0955	1028	80020	--	.21	596	7.0	17.0	9.5
08...	0956	1028	80020	--	.21	--	--	--	--
SEP									
11-11	0552	1028	80020	6.7	--	--	--	--	--
SEP									
11-11	1752	1028	80020	3.9	--	--	--	--	--
17...	1120	1028	80020	--	.15	565	8.4	19.5	2.0
26...	0910	1028	80020	--	.14	560	6.2	12.5	2.0

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ANC UNFLTRD CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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)
AUG								
17-17	--	--	--	.232	6.31	.292	2.5	1.5
18...	6.6	--	--	.061	7.28	.049	.51	.48
AUG								
20-20	--	--	--	.092	4.68	.170	1.6	1.2
AUG								
20-20	--	--	--	.090	4.30	.158	1.7	1.3
28...	7.9	--	--	.100	6.16	.038	.73	.55
SEP								
08...	--	--	--	--	--	--	--	--
08...	9.5	--	--	.041	8.48	.016	.33	.25
08...	--	--	--	.040	8.78	.016	.33	.22
SEP								
11-11	--	--	--	.065	2.18	.384	2.5	1.4
SEP								
11-11	--	--	--	.063	2.30	.420	2.9	1.6
17...	14.1	1400	210	.024	7.92	<.015	.27	.27
26...	14.5	--	--	.022	9.41	.021	<.20	<.20

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)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70957)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2) (70958)
AUG								
17-17	.385	.205	.194	61	--	--	--	--
18...	.055	.024	.027	3	--	--	--	--
AUG								
20-20	.397	.310	.272	38	--	--	--	--
AUG								
20-20	.406	.375	.262	39	--	--	--	--
28...	.129	.108	.109	7	--	--	--	--
SEP								
08...	--	--	--	--	686.9	719.0	93.0	E9.60
08...	.028	<.010	.012	70	--	--	--	--
08...	.025	<.010	.013	57	--	--	--	--
SEP								
11-11	.875	.480	.458	146	--	--	--	--
SEP								
11-11	.964	.626	.561	38	--	--	--	--
17...	.034	.026	.025	70	--	--	--	--
26...	.022	.025	.028	67	--	--	--	--

LOCATION.--Lat 40°00'36", long 76°16'39", Lancaster County, Hydrologic Unit 02050306, on right bank 200 ft downstream from 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 fair except those for estimated daily discharges, which are poor. Intermittent regulation upstream from unknown source. Satellite telemetry at station.

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

<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge (ft³/s)</u>	<u>Gage height (ft)</u>
Oct. 19	1515	*3,860	*28.56	Dec. 14	0500	2,670	27.25
Nov. 9	0400	3,240	27.88	Jan. 25	0600	1,320	25.56
Nov. 26	1300	1,070	25.17				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	86	281	116	88	83	108	54	42	31	18	12
2	67	86	455	113	85	84	113	53	64	36	17	11
3	67	83	168	114	83	84	98	63	146	37	18	13
4	56	80	143	110	83	95	92	75	64	32	17	15
5	54	78	130	108	211	101	86	54	54	30	18	15
6	53	76	420	106	105	102	78	52	51	27	19	14
7	52	75	289	100	91	88	75	50	49	30	17	14
8	143	637	284	96	89	84	72	48	49	30	16	14
9	197	1240	177	96	87	82	69	57	47	29	15	14
10	150	185	155	98	83	90	68	54	44	31	13	21
11	94	145	146	97	80	85	66	49	41	28	13	84
12	83	124	145	92	80	80	68	48	41	35	13	34
13	79	117	679	e87	78	77	71	47	40	33	18	17
14	76	112	1340	e85	92	113	64	47	42	27	23	15
15	71	106	333	e85	141	124	63	45	39	26	20	14
16	68	103	253	e85	127	87	63	44	36	26	20	14
17	68	101	229	e80	98	83	62	45	33	25	27	14
18	90	99	202	e80	92	80	62	47	33	26	18	14
19	2400	98	217	e75	90	79	61	52	36	26	19	13
20	236	95	175	e70	87	78	61	49	32	24	24	13
21	152	91	154	e70	85	73	60	46	32	22	36	14
22	129	89	149	e75	84	73	60	45	31	25	19	15
23	119	87	147	e80	81	72	59	44	31	53	16	15
24	112	85	160	e90	79	70	59	42	29	67	15	15
25	106	84	177	534	77	70	58	74	29	39	15	15
26	100	463	139	103	76	83	56	95	29	31	15	15
27	96	136	135	90	81	73	55	49	28	24	14	15
28	95	107	133	377	76	71	66	45	29	22	22	14
29	91	101	134	112	---	70	58	43	30	23	17	18
30	89	98	130	93	---	71	55	42	30	20	15	19
31	86	---	121	89	---	153	---	43	---	19	13	---
TOTAL	5339	5067	7800	3606	2609	2658	2086	1601	1281	934	560	530
MEAN	172	169	252	116	93.2	85.7	69.5	51.6	42.7	30.1	18.1	17.7
MAX	2400	1240	1340	534	211	153	113	95	146	67	36	84
MIN	52	75	121	70	76	70	55	42	28	19	13	11
CFSM	3.18	3.12	4.64	2.15	1.72	1.58	1.28	.95	.79	.56	.33	.33
IN.	3.66	3.48	5.35	2.47	1.79	1.82	1.43	1.10	.88	.64	.38	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

MEAN	67.8	83.1	115	121	89.4	157	112	76.9	59.0	59.2	45.6	41.5
MAX	172	169	252	221	133	334	192	111	91.0	93.8	87.4	74.0
(WY)	1997	1997	1997	1996	1994	1994	1993	1993	1996	1996	1996	1994
MIN	23.5	37.2	45.8	44.6	39.7	85.7	50.0	50.8	42.7	30.1	18.1	17.7
(WY)	1993	1993	1993	1993	1993	1997	1995	1995	1995	1997	1997	1997

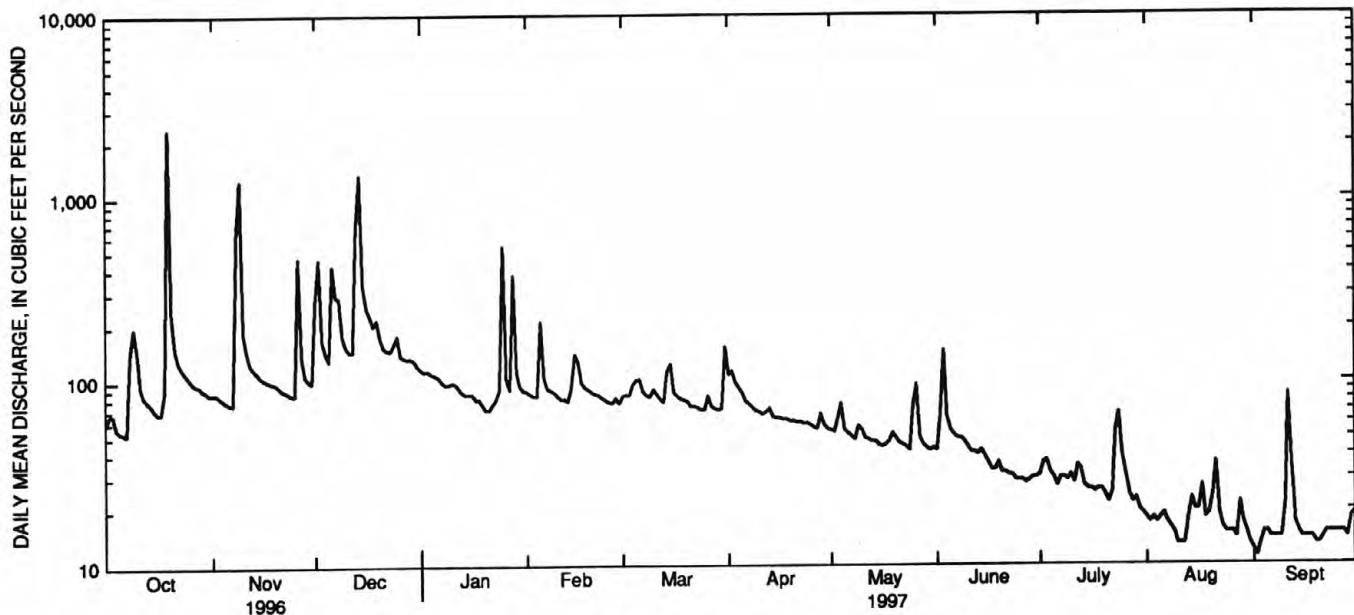
e Estimated.

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1992 - 1997	
ANNUAL TOTAL	48936		34071		86.0	
ANNUAL MEAN	134		93.3		54.9	
HIGHEST ANNUAL MEAN					114	
LOWEST ANNUAL MEAN					1994	
HIGHEST DAILY MEAN	2450	Jan 19	2400	Oct 19	2450	Jan 19 1996
LOWEST DAILY MEAN	33	Jun 8	11	Sep 2	5.6	Jul 17 1993
ANNUAL SEVEN-DAY MINIMUM	a36	Jan 10	13	Aug 31	13	Sep 1 1992
INSTANTANEOUS PEAK FLOW			b3860	Oct 19	b5600	Jan 19 1996
INSTANTANEOUS PEAK STAGE			28.56	Oct 19	30.21	Jan 19 1996
INSTANTANEOUS LOW FLOW			10	Sep 1,2	4.9	Jul 17 1993
ANNUAL RUNOFF (CFSM)	2.47		1.72		1.59	
ANNUAL RUNOFF (INCHES)	33.59		23.38		21.57	
10 PERCENT EXCEEDS	198		145		139	
50 PERCENT EXCEEDS	93		70		55	
90 PERCENT EXCEEDS	55		17		24	

a Computed using estimated daily discharges.
b From rating curve extended above 600 ft³/s.



1-YEAR HYDROGRAPH
OCTOBER 1, 1996 TO SEPTEMBER 30, 1997

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1992 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to September 1994.

TEMPERATURE: April 1993 to September 1994.

REMARKS.--The data in the following table were collected as part of the Mill Creek project.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	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)
OCT									
10...	1230	9813	9813	175	86	5.94	5.68	0.160	0.130
NOV									
07...	1235	9813	9813	76	<2	12.1	11.9	<0.020	<0.020
08...	1700	1028	9813	1400	4600	3.70	--	0.230	--
08...	1800	1028	9813	1820	896	5.68	--	<0.020	--
08...	2400	1028	9813	2650	2100	4.22	--	0.330	--
09...	0300	1028	9813	3200	720	2.11	--	0.030	--
09...	0600	1028	9813	2850	378	2.11	--	0.020	--
09...	0900	1028	9813	1070	150	3.04	--	0.050	--
DEC									
05...	1240	9813	9813	130	<2	9.18	10.6	<0.020	<0.020
13...	1300	1028	9813	775	764	6.07	--	0.190	--
13...	1400	1028	9813	870	454	5.94	--	0.150	--
13...	1700	1028	9813	911	364	4.62	--	0.110	--
13...	2100	1028	9813	1450	512	3.96	--	0.210	--
14...	0100	1028	9813	2030	560	3.70	--	0.230	--
14...	0300	1028	9813	2430	864	3.17	--	0.250	--
14...	1110	1028	9813	1050	366	3.17	--	0.200	--
JAN									
16...	1105	9813	9813	146	23	10.3	10.1	0.130	0.110
FEB									
05...	0600	1028	9813	196	310	8.72	--	0.170	--
05...	0950	1028	9813	315	234	9.13	--	0.220	--
05...	1000	1028	9813	322	216	9.25	--	0.230	--
05...	1100	1028	9813	342	196	9.67	--	0.210	--
05...	2000	1028	9813	163	232	8.34	--	0.230	--
12...	1100	9813	9813	81	8	11.5	11.5	0.030	0.020
MAR									
17...	1100	9813	9813	82	44	9.88	9.86	<0.020	<0.020
31...	1100	1028	9813	175	158	6.69	--	0.300	--
31...	1235	1028	9813	196	210	6.99	--	0.250	--
31...	1500	1028	9813	202	196	6.95	--	0.090	--
APR									
09...	1115	9813	9813	70	<2	9.83	9.56	0.040	0.040
MAY									
20...	1215	9813	9813	49	36	10.6	10.6	0.040	0.060
25...	2000	1028	9813	119	264	7.51	--	0.320	--
25...	2100	1028	9813	154	548	5.10	--	1.50	--
25...	2200	1028	9813	173	634	6.24	--	0.190	--
26...	0200	1028	9813	148	312	6.43	--	0.250	--
26...	0600	1028	9813	140	166	7.57	--	0.270	--
JUN									
03...	0400	1028	9813	268	824	4.74	--	0.220	--
03...	0500	1028	9813	268	246	5.35	--	0.250	--
03...	0700	1028	9813	203	224	5.57	--	0.260	--
03...	1000	1028	9813	172	174	5.72	--	0.230	--
16...	1145	9813	9813	35	28	8.01	8.01	0.050	0.040
JUL									
14...	1200	9813	9813	28	28	8.47	8.13	<0.020	<0.020
23...	1400	1028	9813	67	128	5.20	--	0.030	--
23...	1500	1028	9813	87	364	5.09	--	0.160	--
23...	1600	1028	9813	90	198	4.46	--	0.140	--
23...	2000	1028	9813	77	112	4.82	--	0.060	--
23...	2400	1028	9813	71	108	4.62	--	0.120	--
24...	0800	1028	9813	83	158	4.32	--	0.220	--
24...	1200	1028	9813	69	120	5.37	--	0.150	--
24...	2000	1028	9813	61	98	5.01	--	0.250	--
AUG									
20...	2000	1028	9813	42	180	5.31	--	0.080	--
20...	2100	1028	9813	49	188	4.75	--	0.120	--
21...	0100	1028	9813	46	122	5.37	--	0.060	--
21...	0500	1028	9813	45	100	5.25	--	0.060	--
21...	1345	9813	9813	33	14	5.54	5.46	0.080	0.080
SEP									
22...	1235	9813	9813	15	18	9.74	9.73	0.080	0.080

CONESTOGA RIVER BASIN

01576540 MILL CREEK AT ESHELMAN MILL ROAD NEAR LYNDON, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	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)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI- FORM, FECAL, 0.45 μM-MF (COLS./ 100 ML) (31616)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)
OCT								
10...	1.5	--	0.640	0.439	0.421	290000	150000	64000
NOV								
07...	--	--	0.030	0.029	0.025	1800	720	280
08...	<1.0	--	3.77	--	--	--	--	--
08...	<1.0	--	1.92	--	--	--	--	--
08...	<1.0	--	2.73	--	--	--	--	--
09...	<1.0	--	2.54	--	--	--	--	--
09...	<1.0	--	1.94	--	--	--	--	--
09...	<1.0	--	1.68	--	--	--	--	--
DEC								
05...	<1.0	<1.0	0.050	0.041	0.046	1400	550	500
13...	2.1	--	1.54	--	--	--	--	--
13...	2.1	--	0.740	--	--	--	--	--
13...	2.1	--	0.880	--	--	--	--	--
13...	2.5	--	1.35	--	--	--	--	--
14...	3.2	--	1.59	--	--	--	--	--
14...	2.1	--	1.98	--	--	--	--	--
14...	3.8	--	0.980	--	--	--	--	--
JAN								
16...	1.6	--	0.070	0.056	0.036	2100	1200	4600
FEB								
05...	<0.20	--	0.630	--	--	--	--	--
05...	1.1	--	0.510	--	--	--	--	--
05...	0.50	--	0.470	--	--	--	--	--
05...	1.5	--	0.430	--	--	--	--	--
05...	1.2	--	0.800	--	--	--	--	--
12...	0.79	<0.20	0.040	0.022	0.029	1600	60	60
MAR								
17...	<1.0	<1.0	0.030	0.018	0.013	800	20	60
31...	1.7	--	0.340	--	--	--	--	--
31...	1.5	--	0.490	--	--	--	--	--
31...	<1.0	--	0.260	--	--	--	--	--
APR								
09...	1.2	<1.0	0.040	0.032	0.043	1700	220	60
MAY								
20...	<1.0	<1.0	0.070	0.045	0.026	2300	920	380
25...	2.1	--	0.410	--	--	--	--	--
25...	4.5	--	1.80	--	--	--	--	--
25...	<1.0	--	0.600	--	--	--	--	--
26...	1.1	--	0.360	--	--	--	--	--
26...	1.1	--	0.320	--	--	--	--	--
JUN								
03...	1.0	--	1.15	--	--	--	--	--
03...	<1.0	--	0.930	--	--	--	--	--
03...	1.2	--	0.560	--	--	--	--	--
03...	1.6	--	0.520	--	--	--	--	--
16...	1.4	<1.0	0.120	0.084	0.121	2500	1500	440
JUL								
14...	<1.0	<1.0	0.180	0.105	0.094	1200	1200	780
23...	<1.0	--	0.360	--	--	--	--	--
23...	1.5	--	0.860	--	--	--	--	--
23...	<1.0	--	0.530	--	--	--	--	--
23...	<1.0	--	0.370	--	--	--	--	--
23...	<1.0	--	0.400	--	--	--	--	--
24...	<1.0	--	0.820	--	--	--	--	--
24...	<1.0	--	0.400	--	--	--	--	--
24...	<1.0	--	0.450	--	--	--	--	--
AUG								
20...	<1.0	--	0.600	--	--	--	--	--
20...	<1.0	--	0.420	--	--	--	--	--
21...	<1.0	--	0.250	--	--	--	--	--
21...	<1.0	--	0.230	--	--	--	--	--
21...	<1.0	<1.0	0.190	0.142	0.149	15000	11000	8300
SEP								
22...	<1.0	<1.0	0.090	0.040	0.063	2800	720	480

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.

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 fair. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 20	0030	*14,400	*11.51	Dec. 14	1445	11,800	9.91
Nov. 9	1230	11,400	9.71	Jan. 25	1330	5,430	6.46
Nov. 26	2115	6,700	7.15	Jan. 28	1945	6,380	6.98
Dec. 2	0545	6,390	6.99	Mar. 15	0530	4,640	5.99
Dec. 6	1730	5,410	6.45				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	384	671	1480	1140	900	636	1580	475	371	263	193	180
2	364	655	5410	1080	870	730	1200	478	485	277	205	175
3	364	633	2300	1090	818	708	1010	499	1570	297	198	183
4	354	601	1730	1020	773	767	902	631	1040	291	200	177
5	318	573	1520	985	1830	958	812	526	665	254	206	163
6	308	557	3240	1030	1530	1160	759	450	549	234	204	161
7	304	547	2570	934	1070	1030	742	425	500	243	198	157
8	580	1640	3190	848	947	814	712	413	477	230	192	156
9	1650	8710	2000	812	915	759	663	453	453	223	174	155
10	1210	2330	1740	835	841	768	648	497	436	291	163	169
11	890	1650	1600	826	758	876	621	461	410	324	162	542
12	577	1390	1590	749	722	756	610	416	393	237	173	727
13	499	1260	3260	716	708	687	751	393	382	224	171	318
14	471	1150	9870	687	757	995	737	385	383	222	191	230
15	440	1060	4210	665	1080	3230	621	377	366	214	201	207
16	417	978	2680	813	1320	1540	570	364	349	202	187	189
17	398	928	2300	1070	955	1280	558	356	337	193	246	180
18	439	886	2070	660	831	1180	556	356	332	179	382	175
19	8340	881	2040	e570	812	1110	554	377	922	179	244	164
20	6390	836	1880	e540	825	1040	534	377	612	169	262	162
21	1880	769	1610	e550	767	982	516	352	413	172	827	154
22	1530	727	1500	606	743	931	505	330	375	173	443	161
23	1330	707	1450	641	723	877	497	315	352	474	279	156
24	1200	665	1480	712	665	801	490	307	327	962	239	150
25	1070	639	1930	3130	635	761	487	484	309	787	217	144
26	975	3160	1450	1460	610	832	489	1550	298	392	223	145
27	894	2410	1340	897	640	858	468	668	287	313	207	133
28	841	1290	1290	3170	643	745	525	463	281	287	243	128
29	801	1110	1300	2360	---	717	662	404	271	276	202	167
30	744	1040	1290	1130	---	734	530	381	263	242	193	161
31	715	---	1200	959	---	1240	---	372	---	249	190	---
TOTAL	36677	40453	72520	32685	24688	30502	20309	14335	14208	9073	7415	6069
MEAN	1183	1348	2339	1054	882	984	677	462	474	293	239	202
MAX	8340	8710	9870	3170	1830	3230	1580	1550	1570	962	827	727
MIN	304	547	1200	540	610	636	468	307	263	169	162	128
CFSM	2.52	2.87	4.98	2.24	1.88	2.09	1.44	.98	1.01	.62	.51	.43
IN.	2.90	3.20	5.74	2.59	1.95	2.41	1.61	1.13	1.12	.72	.59	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1997, BY WATER YEAR (WY)

MEAN	419	617	811	819	820	1089	875	749	496	519	376	403
MAX	1183	1348	2339	1887	1264	3145	2508	2148	1277	1202	659	1252
(WY)	1997	1997	1997	1996	1986	1994	1993	1989	1989	1988	1986	1987
MIN	231	257	276	343	323	366	275	397	223	192	191	166
(WY)	1993	1992	1990	1992	1992	1985	1985	1991	1991	1991	1987	1995

e Estimated.

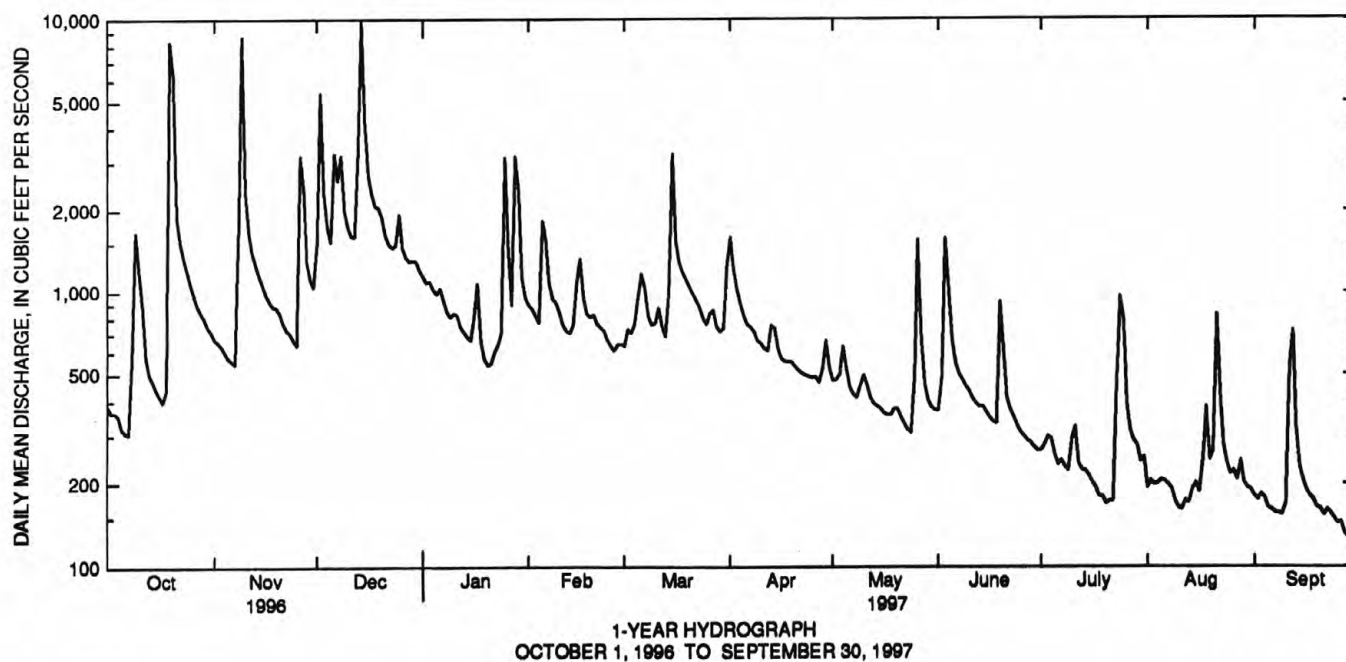
CONESTOGA RIVER BASIN

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1985 - 1997	
ANNUAL TOTAL	423964		308934		666	
ANNUAL MEAN	1158		846		993	1994
HIGHEST ANNUAL MEAN					389	1992
LOWEST ANNUAL MEAN					13500	Sep 9 1987
HIGHEST DAILY MEAN	13200	Jan 20	9870	Dec 14	89	Sep 23 1985
LOWEST DAILY MEAN	e170	Jan 16	128	Sep 28	106	Sep 20 1985
ANNUAL SEVEN-DAY MINIMUM	a180	Jan 10	145	Sep 22	19000	Sep 9 1987
INSTANTANEOUS PEAK FLOW			14400	Oct 20	14.37	Sep 9 1987
INSTANTANEOUS PEAK STAGE			11.51	Oct 20	82	Aug 22 1987
INSTANTANEOUS LOW FLOW			112	Sep 28	1.42	
ANNUAL RUNOFF (CFSM)	2.46		1.80		19.25	
ANNUAL RUNOFF (INCHES)	33.56		24.45			
10 PERCENT EXCEEDS	2030		1570		1250	
50 PERCENT EXCEEDS	886		621		453	
90 PERCENT EXCEEDS	356		190		208	

a Computed using estimated daily discharges.

e Estimated.



POTOMAC RIVER BASIN

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA

LOCATION.--Lat 39°53'54", long 78°07'57", Fulton County, Hydrologic Unit 02070004, on left bank 10 ft downstream from bridge on SR 3008, 0.2 mi upstream from Foster Creek, and 3.5 mi north of Needmore.

DRAINAGE AREA.--10.7 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 good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 19	0145	*346	*5.55	Dec. 13	0915	207	4.90
Dec. 2	0015	311	5.38				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	4.7	88	8.0	e9.2	15	11	3.4	7.3	1.5	.34	.28
2	5.0	4.3	228	8.1	e7.6	16	9.8	3.2	44	2.1	.29	.24
3	4.3	3.7	100	8.5	e8.6	16	9.0	3.1	41	1.6	.31	.14
4	3.5	3.3	55	8.3	e11	20	8.7	3.1	48	1.3	.30	.09
5	3.0	3.1	37	8.8	e66	48	8.2	2.9	35	1.1	.55	.07
6	2.8	2.9	32	8.6	66	110	7.9	3.0	23	1.0	.61	.07
7	2.6	2.8	26	7.5	50	71	7.7	2.9	17	.96	.55	.07
8	3.3	39	22	e7.0	40	47	6.9	2.7	13	.87	.31	.07
9	3.2	79	21	e6.4	32	33	6.5	4.0	10	.97	.16	.07
10	3.0	51	18	e6.0	26	29	6.0	3.3	8.3	1.3	.13	.65
11	2.3	30	19	e5.6	22	23	5.7	3.0	7.1	.86	.10	1.8
12	2.0	18	26	e5.2	19	19	6.0	2.8	6.8	.71	.09	1.4
13	1.9	12	156	e5.0	16	16	7.1	3.0	6.5	.62	.91	.64
14	1.8	9.8	129	e4.8	e14	53	5.9	2.9	5.4	.56	.88	.51
15	1.7	8.0	69	e4.5	e13	70	5.0	3.0	4.2	.50	.38	.42
16	1.6	6.5	47	e4.4	e12	51	4.6	2.6	3.7	1.3	.27	.33
17	1.5	5.7	35	e4.3	e11	37	4.9	2.6	3.6	.63	.71	.26
18	11	5.1	28	e4.2	e10	31	4.8	2.5	4.4	.51	3.1	.24
19	240	4.9	23	e4.0	e18	31	4.5	3.6	6.2	1.5	.97	.23
20	197	4.4	e19	e4.0	46	27	4.1	3.0	3.6	.65	4.1	.21
21	112	4.0	e16	e3.9	51	26	3.9	2.5	3.2	.49	3.3	.16
22	56	3.6	e14	e3.8	55	26	3.8	2.4	2.9	.41	1.6	.14
23	31	3.2	e12	e3.9	42	22	3.7	2.3	2.5	2.7	1.2	.11
24	21	2.9	13	e4.0	30	19	3.7	2.2	2.2	2.3	.89	.11
25	15	2.7	12	e7.0	23	17	3.5	7.4	2.1	1.7	.75	.11
26	11	15	11	e12	20	20	3.3	12	2.0	1.3	.66	.10
27	8.9	9.2	9.1	e9.4	18	16	3.2	8.6	2.0	1.1	.57	.09
28	8.7	8.1	9.0	e11	15	14	5.1	7.6	1.7	.92	.57	.62
29	7.3	7.4	9.7	e13	---	13	3.9	6.8	1.5	.85	.45	5.2
30	6.4	8.2	9.8	e12	---	12	3.4	6.2	1.4	.58	.32	1.7
31	5.5	---	8.5	e10	---	13	---	5.4	---	.43	.30	---
TOTAL	780.2	362.5	1302.1	213.2	751.4	961	171.8	124.0	319.6	33.32	25.67	16.13
MEAN	25.2	12.1	42.0	6.88	26.8	31.0	5.73	4.00	10.7	1.07	.83	.54
MAX	240	79	228	13	66	110	11	12	48	2.7	4.1	5.2
MIN	1.5	2.7	8.5	3.8	7.6	12	3.2	2.2	1.4	.41	.09	.07
CFSM	2.35	1.13	3.93	.64	2.51	2.90	.54	.37	1.00	.10	.08	.05
IN.	2.71	1.26	4.53	.74	2.61	3.34	.60	.43	1.11	.12	.09	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	6.60	10.9	15.6	14.2	21.6	28.0	23.2	17.3	11.0	4.68	2.12	4.05
MEAN	6.60	10.9	15.6	14.2	21.6	28.0	23.2	17.3	11.0	4.68	2.12	4.05
MAX	37.7	40.7	42.0	62.1	59.5	78.2	72.4	51.5	85.6	39.7	9.93	50.0
(WY)	1991	1986	1997	1996	1986	1994	1993	1988	1972	1989	1989	1996
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

e Estimated.

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA--Continued

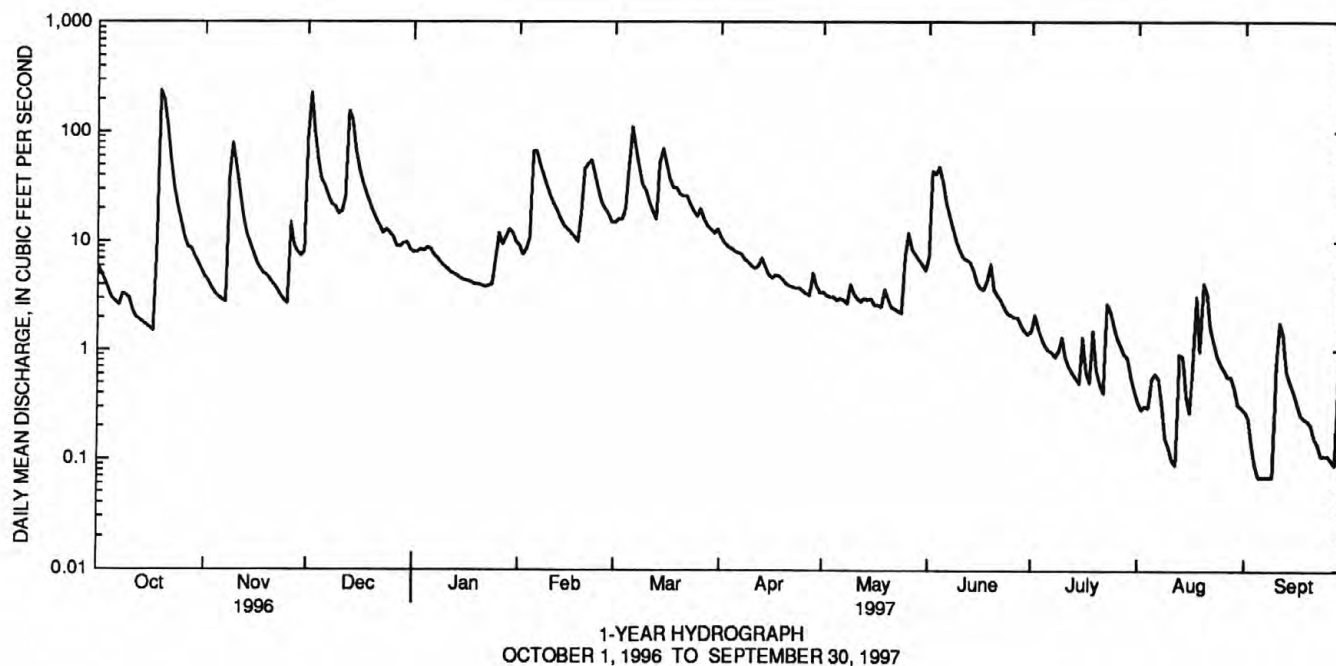
SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1966 - 1997	
ANNUAL TOTAL	11261.6		5060.92		13.2	
ANNUAL MEAN	30.8		13.9		28.3	
HIGHEST ANNUAL MEAN					5.21	
LOWEST ANNUAL MEAN					868	
HIGHEST DAILY MEAN	e480	Jan 19	240	Oct 19		Jun 22 1972
LOWEST DAILY MEAN	1.5	Sep 1-3	.07	Sep 5-9	.00	Jun 25 1966a
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 28	.08	Sep 3	.00	Jul 1 1966
INSTANTANEOUS PEAK FLOW			346	Oct 19	bc1300	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.55	Oct 19	9.48	Jan 19 1996
INSTANTANEOUS LOW FLOW			.06	Sep 5	.00	Jul 18 1991a
ANNUAL RUNOFF (CFSM)	2.88		1.30		1.23	
ANNUAL RUNOFF (INCHES)	39.15		17.59		16.72	
10 PERCENT EXCEEDS	76		35		33	
50 PERCENT EXCEEDS	12		4.9		5.1	
90 PERCENT EXCEEDS	2.8		.43		.34	

a No flow many days throughout period of record.

b From rating curve extended above 540 ft³/s on basis of contracted-opening and slope-area measurement of peak flow.

c Gage height 9.17 ft.

e Estimated.



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 1997

Annual maximum discharge at cross section partial record stations during water year 1997								
Station name and number	Location and drainage area	Period of Record	Water year 1997 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</u>								
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 .	1986-97	11-08-96	51.93	15,300	11-08-96	51.93	15,300
Cowanesque River at Elkland, Pa. (01519200)	Lat 41°59'15", long 77°18'09", Tioga County, Hydrologic Unit 02050104, at single- span steel-truss bridge on State Highway 49 at Elkland. Drainage area is 235 mi ² .	1980-97	11-08-96	27.02	16,900	1-19-96	30.20	28,000
Susquehanna River at Bloomsburg, Pa. (01538700)	Lat 40°59'45", long 76°25'15", Columbia County, Hydrologic Unit 02050107, on right bank 50 ft upstream from SR 487 bridge, at Bloomsburg. Drainage area is 10,542 mi ² .	1995-97b	12-03-96	18.87	136,000	1-21-96	26.76	225,000
WEST BRANCH SUSQUEHANNA RIVER BASIN								
West Branch Susquehanna River at Karthaus, Pa. (01542500)	Lat 41°07'03", long 78°06'33", Clearfield County, Hydrologic Unit 02050201, at steel-truss bridge on State Highway 879 at Karthaus. Drainage area is 1,462 mi ² .	1918-1920c 1940-1995† 1996-97	11-09-96	9.47	20,100	6-23-72	18.57	84,300
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* 1984-97	11-09-96	10.71	5,400	1-19-96	15.37	15,400
West Branch Susquehanna River at Lock Haven, Pa. (01545800)	Lat 41°08'17", long 77°26'32", Clinton County, Hydrologic Unit 02050203, on right bank 1250 ft downstream from Jay Street bridge, and 2.1 mi upstream from Bald Eagle Creek. Drainage area is 3,345 mi ² .	1975-97	11-09-96	16.94	55,100	1-20-96	25.76	93,900

† Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

a From floodmark.

b Converted to stage-only site Apr. 1, 1997.

c Gage heights only, in reports of Water Supply Commission of Pennsylvania.

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 1997--Continued

Station name and number	Location and drainage area	Period of Record	Water year 1997 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>								
WEST BRANCH SUSQUEHANNA RIVER BASIN--Continued								
Bald Eagle Creek near Beech Creek Station, Pa. (01548005)	Lat 41°04'51", long 77°32'59", Clinton County, Hydrologic Unit 02050204, on right bank at abandoned railroad bridge, 1.5 mi downstream from Beech Creek, and 4.2 mi downstream from Foster Joseph Sayers Dam Drainage area is 562 mi ² .	1910-95† 1996-97	11-09-96	12.29	6,470	3-18-36 d	14.42	25,600
Lycoming Creek near Williams- port, Pa. (01550500)	Lat 41°16'01", long 77°02'49", Lycoming County, Hydrologic Unit 02050206, 150 ft down- stream from concrete bridge on U.S. Highway 15, 1.2 mi down- stream from Beautys Run, and 3.4 mi upstream from mouth. Datum of gage is 530.12 ft above sea level. Drainage area is 268 mi ² .	1908-13f 1982-87* 1988-90 1995-97	12-02-96	12.14	15,500	1-19-96	18.69	45,000g
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 .	1989-97	12-02-96	16.14i	12,100	1-19-96	20.57	43,000h
West Branch Susquehanna River at West Milton, Pa. (01553240)	Lat 41°01'07", long 76°51'55", Union County, Hydrologic Unit 02050206, 50 ft upstream from concrete bridge on SR 642, and 11.2 mi upstream from mouth. Datum of gage is 432.45 ft above sea level. Drainage area is 6,825 mi ² .	1996-97b	11-09-96	20.62	82,400	1-20-96 a	29.25	202,000
JUNIATA RIVER BASIN								
Raystown Branch Juniata River at Wolfsburg, Pa. (01559790)	Lat 40°02'45", long 78°31'45", Bedford County, Hydrologic Unit 02050303, 150 ft upstream from single-span steel-girder bridge on U.S. Highway 30 at Wolfsburg, and 4.7 mi upstream from Dunning Creek. Drainage area is 132 mi ² .	1989-90 1996-97	11-08-96	11.36	2,920	1-19-96	16.97	9,340
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 .	1990-97	12-02-96	12.41	9,900	1-19-96	19.46	44,400
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 2,519 mi ² .	1989-97	10-20-96	19.37	33,700	1-20-96 i	31.64	74,400

† Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

a From floodmark.

b Converted to stage-only site Apr. 1, 1997.

d Site and datum in use before October 1984.

f Operated as a continuous-record station by the Pennsylvania Department of Forests and Waters. Published as "at Bridge No. 2, near Williamsport".

g From rating curve extended above 8,000 ft³/s.h From rating curve extended above 9,000 ft³/s.

i From peak-stage indicator.

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 1997--Continued

Annual maximum discharge at selected gaging stations during water year 1997--Continued								
Station name and number	Location and drainage area	Period of Record	Water year 1997 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>								
JUNIATA RIVER BASIN--Continued								
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 Reeds- ville. Datum of gage is 551.23 ft above sea level. Drainage area is 164 mi ² .	1940-70† 1984-85‡ 1982-87* 1989-97	12-02-96	8.67	3,200	1-19-96	j14.20	12,400
Tuscarora Creek near Port Royal Pa. (01566000)	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. Drainage area is 214 mi ² .	1911-58† 1982-87* 1988-90 1992-95k 1996-97m	10-19-96	12.01	5,870	9-07-96	21.27	25,000
CODORUS CREEK BASIN								
Codorus Creek near York, Pa. (01575500)	Lat 39°56'46", long 76°45'20", York County, Hydrologic Unit 02050306, on left bank 0.5 mi upstream from bridge on Richland Avenue (SR 3054), 2.0 mi downstream from South Branch Codorus Creek, and 2.0 mi southwest of York. Drainage area is 222 mi ² .	1915-23n 1926-32n 1940-96‡ 1997	12-13-96	9.96	4,510	6-22-72	o26.36	30,000
CONOWINGO CREEK BASIN								
Conowingo Creek near Buck, Pa. (01578200)	Lat 39°50'35", long 76°11'45", Lancaster County, Hydrologic Unit 02050306, at concrete bridge on SR 3008, 2.0 mi upstream from Jackson Run, and 2.5 mi southeast of Buck. Drainage area is 8.71 mi ² .	1963-97	10-19-96	5.73	331	7-01-84	113.50	6,200

† Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

j From inside floodmark. 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.

k Operated as a miscellaneous site.

l From floodmark; farm pond failure upstream.

m Also a miscellaneous site.

n Gage heights and discharge measurements only, in reports of Pennsylvania Department of Forests and Waters.

o From floodmark in gage.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1997

Discharge measurements made at miscellaneous sites during water year 1997						
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	1989-96	11-21-96	158
					3-04-97	220
					4-23-97	69
					5-21-97	123
					7-03-97	11
					8-14-97	10
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	1989-96	10-15-96	28
					11-22-96	233
					3-05-97	308
					4-23-97	97
					7-03-97	25
					8-15-97	15
NESCOPECK CREEK BASIN						
01538600 Nescopeck Creek	Susquehanna River	Lat 41°02'46", long 76°13'28", Luzerne County, Hydrologic Unit 02050107, at bridge on State Highway 339, just downstream from railroad bridge at Nescopeck.	171	1949-50 1982-87 1989-91 1995-96	10-21-96	1,250
					12-18-96	1,100
					3-21-97	282
					5-02-97	172
					7-02-97	107
					7-22-97	88
8-22-97	355					
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* 1992-96	10-17-96	11
					12-18-96	190
					3-21-97	99
					5-02-97	48
					7-02-97	5.9
					7-03-97	14
7-22-97	1.7					
8-22-97	49					
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 Driftwood and 1000 ft upstream from mouth.	365	1975-96	11-20-96	473
					4-10-97	417
					5-29-97	711
					7-16-97	59
9-16-97	50					
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	1989-96	10-22-96	1,130
					11-20-96	226
					1-08-97	172
					4-17-97	115
					6-20-97	75
7-17-97	36					
01548085 Bald Eagle Creek	West Branch Susquehanna River	Lat 41°07'35", long 77°26'00", Clinton County, Hydrologic Unit 02050204, at concrete bridge on SR 2012 at Castanea, and 2.0 mi upstream from mouth.	768	1988-89 1991-96	10-22-96	5,290
					2-26-97	3,080
					6-08-97	1,140
					6-20-97	725
					7-17-97	335
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	1989-96	11-18-96	502
					1-07-97	418
					4-17-97	418
					5-30-97	246
					7-02-97	138
					8-13-97	51
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	1989-96	11-18-96	149
					1-07-97	97
					4-17-97	67
					5-30-97	47
					7-02-97	19
					8-13-97	12

* Operated as a low-flow partial-record station.

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1997

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SUSQUEHANNA RIVER BASIN--Continued						
PINE CREEK BASIN--Continued						
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 1992-96	10-07-96	120
					1-07-97	259
					3-13-97	359
					4-17-97	154
					6-06-97	163
					7-31-97	15
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 1989-95	10-16-96	27
					11-05-96	65
					12-09-96	131
					3-20-97	95
					4-18-97	46
					5-09-97	47
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	1989-96	11-06-96	155
					12-02-96	5,230
					3-20-97	312
					5-14-97	87
					8-05-97	34
					9-08-97	22
JUNIATA RIVER BASIN						
01555810 Franks- town Branch Juniata River	Juniata River	Lat 40°22'42", long 78°25'01", Blair County, Hydrologic Unit 02050302, at end of cantilevered wooden walkway, 0.6 mi downstream of McDonald Run, and 3.4 mi south of Duncansville.	84.3	1995-96	1-03-97	123
					2-28-97	207
					4-29-97	70
					6-27-97	40
					7-15-97	24
					8-20-97	28
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	1982-96	11-08-96	2,450
					11-08-96	2,890
					11-08-96	2,740
					1-03-97	133
					4-28-97	82
					6-27-97	25
a01566000 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*b 1988-90c 1992-96	10-09-96	129
					7-11-97	40
					9-11-97	614
					CONODOGUINET CREEK BASIN	
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, 0.2 mi downstream from Holtz Run, and 4.7 mi upstream from mouth.	501	1989-96	10-16-96	368
					11-22-96	583
					1-08-97	601
					2-03-97	814
					3-10-97	1,120
					4-17-97	402
					6-04-97	1,110
					7-07-97	183
					8-25-97	267
CONEWAGO CREEK BASIN						
01573820 South Branch Conewago Creek	Conewago Creek	Lat 39°51'30", long 77°03'59", Adams County, Hydrologic Unit 02050306, on right bank 3,500 ft upstream from bridge on SR 30, and 0.5 mi west of New Oxford.	65.8	1995-96	10-15-96	47
					11-18-96	86
					1-10-97	74
					2-05-97	239
					3-12-97	77
					4-28-97	97
					6-05-97	38
					7-08-97	16
					8-28-97	13

† Operated as a continuous-record gaging station.

* Operated as a low-flow partial-record station.

a Also a crest-stage partial-record station.

b Most years during period.

c Operated as a crest-stage partial-record station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1997

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
<u>SUSQUEHANNA RIVER BASIN--Continued</u>						
CHICKIES CREEK BASIN						
01575900 Chickies Creek	Susquehanna River	Lat 40°03'46", long 76°30'57", Lancaster County, Hydrologic Unit 02050306, at double-span concrete bridge on SR 23, 400 feet downstream from Little Chickies Creek, and 1.2 mi East of Marietta.	108	1989-96	10-31-96	152
					11-19-96	195
					1-14-97	116
					2-06-97	222
					3-25-97	159
					5-08-97	66
					6-19-97	599
					7-29-97	53
					9-16-97	35
PEQUEA CREEK BASIN						
01576787 Pequea Creek	Susquehanna River	Lat 39°54'21", long 76°19'43, Lancaster County, Hydrologic Unit 02050306, at bridge on SR 324 at Martic Forge, and 3.4 mi upstream from mouth.	148	1977-81† 1993-95† 1989-96	10-31-96	221
					11-19-96	266
					2-06-97	319
					3-27-97	260
					5-08-97	174
					6-16-97	120
					7-29-97	104
					9-15-97	61
					<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	1961-81c 1970-91*d 1992-96	10-24-96	18
					12-16-96	28
					2-18-97	11
					4-15-97	3.6
					6-19-97	2.4
					8-04-97	0.15
					9-29-97	7.9
LICKING CREEK BASIN						
01613500 Licking Creek	Potomac River	Lat 39°43'23", long 78°03'38", Franklin County, Hydrologic Unit 02070004, at bridge on State Highway 456, 200 ft north of PA-MD state line, 3.0 mi southwest of Sylvan, and 10 mi up- stream from mouth.	158	1930-41† 1983-91*d 1992-96	10-22-96	770
					12-13-96	1,780
					12-13-96	2,040
					4-17-97	81
					6-16-97	64
					8-01-97	16
					9-29-97	55
CONOCOCHIEGUE CREEK BASIN						
01614137 Dennis Creek	Back Creek	Lat 39°56'51", long 77°44'26", Franklin County, Hydrologic Unit 02070004, on left bank, 160 ft upstream from bridge on Township Route 458, 250 ft upstream from Back Creek, and 4.2 mi west of Chambersburg.	13.2	---	4-21-97	9.6
					4-29-97	9.3
					5-27-97	9.5
					6-02-97	9.2
					8-27-97	2.7

† Operated as a continuous-record gaging station.

* Operated as a low-flow partial-record station.

c Operated as a crest-stage partial-record station.

d Most years during period.

ANALYSIS OF STREAMFLOW 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 1996 TO SEPTEMBER 1997

OCTORARO CREEK BASIN

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)	OXYGEN, DIS- SOLVED (MG/L) (00300)
01578340 EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)								
OCT 1996 30...	1150	1028	80020	15	304	6.7	12.0	11.5
01578343 VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)								
OCT 1996 30...	0900	1028	80020	15	298	6.4	11.0	9.9

DATE	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3) (00419)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
01578340 EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)						
OCT 1996 30...	46	19	0.020	10.0	<0.015	0.010
01578343 VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)						
OCT 1996 30...	53	19	0.030	8.70	0.160	0.030

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

Water-quality and benthic macroinvertebrate samples were collected at 15 sites in the Little Conestoga Creek Basin in Lancaster County in September 1997. All samples were collected by trained volunteers working in cooperation with the U.S. Geological Survey and the Alliance for the Chesapeake Bay. Water-quality samples were analyzed in the laboratory for nutrients; determinations of water temperature, pH, specific conductance, alkalinity, bicarbonate, carbonate, and turbidity were done in the field. Benthic macroinvertebrate samples were collected following the U.S. Environmental Protection Agency Rapid Bioassessment Protocols Level II. A one-meter square kick seine with a 600 μ m mesh size was used to collect one sample from a riffle habitat and one sample from a run habitat within a described reach. These two samples were composited and sub-sampled for approximately 100 organisms. Identification to the family level was conducted by a U.S. Geological Survey biologist.

REMARKS --Explanation of column headings and abbreviations--**STATION NUMBER**: 8-digit unique downstream-ordered identifier for site; **μ S/CM**: microsiemens per centimeter at 25 degrees Celsius; **DEG C**: degrees Celsius; **MG/L**: milligrams per liter; **NTU**: Nephelometric Turbidity Units; **ENVIR**: environmental sample; **REP**: replicate environmental sample. Filtered water and fixed-endpoint titration (FET) used for alkalinity, bicarbonate, and carbonate. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. Also, some values for "dissolved orthophosphate phosphorus" exceeded values for the corresponding "dissolved phosphorus." These results are within the limits of analytical precision and methods.

STATION NUMBER	DATE	TIME	STATION NAME
01576670	09-13-97	0900	BACHMAN RUN AT FRUITVILLE PIKE AT EAST PETERSBURG, PA
	09-18-97	1625	BACHMAN RUN AT FRUITVILLE PIKE AT EAST PETERSBURG, PA
01576650	09-13-97	1020	LITTLE CONESTOGA CREEK AT EAST PETERSBURG, PA
	09-18-97	1725	LITTLE CONESTOGA CREEK AT EAST PETERSBURG, PA
01576680	09-13-97	1100	LITTLE CONESTOGA CREEK NEAR EAST PETERSBURG, PA
	09-18-97	1530	LITTLE CONESTOGA CREEK NEAR EAST PETERSBURG, PA
01576684	09-13-97	1200	UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK AT TOWNSHIP ROUTE 707 AT EAST PETERSBURG, PA
	09-13-97	1201	UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK AT TOWNSHIP ROUTE 707 AT EAST PETERSBURG, PA
	09-17-97	1815	UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK AT TOWNSHIP ROUTE 707 AT EAST PETERSBURG, PA
01576694	09-13-97	1330	SWARR RUN ABOVE MILLERS RUN NEAR LANDISVILLE, PA
	09-17-97	1715	SWARR RUN ABOVE MILLERS RUN NEAR LANDISVILLE, PA
01576690	09-13-97	1410	UNNAMED TRIBUTARY TO SWARR RUN AT LANDISVILLE, PA
	09-17-97	1615	UNNAMED TRIBUTARY TO SWARR RUN AT LANDISVILLE, PA
01576702	09-13-97	1500	UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK AT LONG'S PARK NEAR LANCASTER, PA
	09-17-97	1500	UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK AT LONG'S PARK NEAR LANCASTER, PA
01576705	09-13-97	0900	BRUBAKER RUN NEAR ROHRERSTOWN, PA
01576708	09-13-97	1040	LITTLE CONESTOGA CREEK BELOW TOWNSHIP ROUTE 595 NEAR LANCASTER, PA
01576720	09-13-97	1140	LITTLE CONESTOGA CREEK AT MILLERSVILLE, PA
01576728	09-13-97	1250	WEST BRANCH LITTLE CONESTOGA CREEK NEAR MOUNTVILLE, PA
	09-13-97	1251	WEST BRANCH LITTLE CONESTOGA CREEK NEAR MOUNTVILLE, PA
01576735	09-13-97	1430	WEST BRANCH LITTLE CONESTOGA CREEK NEAR LETORT, PA
01576740	09-13-97	1600	WEST BRANCH LITTLE CONESTOGA CREEK AT LETORT, PA
01576746	09-13-97	1630	INDIAN RUN AT STEHMAN CHURCH NEAR MILLERSVILLE, PA
01576748	09-13-97	1730	LITTLE CONESTOGA CREEK NEAR ROCKHILL, PA

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STATION NUMBER	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DRAIN- AGE AREA (SQ. MI.) (81024)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SAM- PLING METHOD, CODES (82398)	SAMPLE TYPE	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)	BICAR- BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)
01576670	80020	6.24	320	70	ENVIR	3.2	667	--	15.5	7.6	230
01576670	80020	6.24	320	--	ENVIR	--	624	8.1	23.3	--	--
01576650	80020	6.47	340	70	ENVIR	1.5	--	--	18.0	24	230
01576650	80020	6.47	340	--	ENVIR	--	630	7.9	24.4	--	--
01576680	80020	14.0	320	70	ENVIR	6.3	662	--	17.5	4.4	240
01576680	80020	14.0	320	--	ENVIR	--	620	8.2	22.1	--	--
01576684	80020	1.01	340	70	ENVIR	0.24	740	--	19.0	0.73	310
01576684	80020	1.01	340	70	REP	0.24	740	--	19.0	0.68	310
01576684	80020	1.01	340	--	ENVIR	--	715	8.0	21.0	--	--
01576694	80020	7.19	320	70	ENVIR	2.7	560	--	19.5	12	250
01576694	80020	7.19	320	--	ENVIR	--	554	8.1	23.0	--	--
01576690	80020	3.58	380	70	ENVIR	1.8	524	--	21.5	6.3	240
01576690	80020	3.58	380	--	ENVIR	--	498	8.1	22.4	--	--
01576702	80020	1.96	320	70	ENVIR	0.69	741	--	17.0	2.3	300
01576702	80020	1.96	320	--	ENVIR	--	717	8.1	18.6	--	--
01576705	80020	2.82	300	70	ENVIR	1.5	653	7.9	17.0	3.4	240
01576708	80020	41.2	280	70	ENVIR	17	643	8.0	19.5	7.3	220
01576720	80020	46.2	260	70	ENVIR	20	467	8.0	20.0	12	170
01576728	80020	1.95	380	70	ENVIR	0.48	531	8.1	20.5	0.90	200
01576728	80020	1.95	380	70	REP	0.48	531	8.1	20.5	0.78	200
01576735	80020	7.31	260	70	ENVIR	3.9	613	7.9	21.0	10	200
01576740	80020	11.6	260	70	ENVIR	5.8	601	8.1	21.0	7.5	190
01576746	80020	2.89	240	70	ENVIR	0.91	523	8.1	22.0	2.8	170
01576748	80020	64.9	200	70	ENVIR	28	511	8.2	20.0	6.0	160

STATION NUMBER	CAR- BONATE WAT.DIS FET FIELD CO3 (MG/L) (29807)	ALKA- LITY WAT.DIS FIX END FIELD CACO3 (MG/L) (39036)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	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)
01576670	0	190	9.57	42	0.036	0.12	9.61	0.037	0.05
01576670	--	--	--	--	--	--	--	--	--
01576650	0	190	8.33	37	0.042	0.14	8.37	0.079	0.10
01576650	--	--	--	--	--	--	--	--	--
01576680	0	200	8.66	38	0.032	0.11	8.69	0.020	0.03
01576680	--	--	--	--	--	--	--	--	--
01576684	0	260	7.30	32	0.018	0.06	7.31	<0.015	--
01576684	0	260	7.24	32	0.017	0.06	7.26	<0.015	--
01576684	--	--	--	--	--	--	--	--	--
01576694	0	200	5.26	23	0.045	0.15	5.30	0.061	0.08
01576694	--	--	--	--	--	--	--	--	--
01576690	0	200	5.30	23	0.027	0.09	5.33	0.035	0.04
01576690	--	--	--	--	--	--	--	--	--
01576702	0	240	--	--	<0.010	--	2.56	<0.015	--
01576702	--	--	--	--	--	--	--	--	--
01576705	0	200	--	--	<0.010	--	4.23	<0.015	--
01576708	0	180	5.06	22	0.027	0.09	5.09	0.055	0.07
01576720	0	140	3.48	15	0.021	0.07	3.50	0.055	0.07
01576728	0	170	--	--	<0.010	--	2.79	0.015	0.02
01576728	0	160	--	--	<0.010	--	2.70	0.015	0.02
01576735	0	160	12.8	57	0.037	0.12	12.9	0.037	0.05
01576740	0	150	11.7	52	0.024	0.08	11.7	0.018	0.02
01576746	0	140	13.2	58	0.011	0.04	13.2	<0.015	--
01576748	0	130	5.76	25	0.011	0.04	5.77	<0.015	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997--Continued

STATION NUMBER	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)	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)
01576670	--	0.27	<0.20	--	0.048	0.026	0.034	0.10
01576670	--	--	--	--	--	--	--	--
01576650	0.12	0.23	0.20	8.6	<0.010	<0.010	<0.010	--
01576650	--	--	--	--	--	--	--	--
01576680	--	0.21	<0.20	--	0.027	0.014	0.021	0.06
01576680	--	--	--	--	--	--	--	--
01576684	--	0.29	0.21	7.5	0.053	0.048	0.051	0.16
01576684	--	0.34	0.32	7.6	0.045	0.046	0.052	0.16
01576684	--	--	--	--	--	--	--	--
01576694	0.26	0.55	0.32	5.6	0.061	0.048	0.033	0.10
01576694	--	--	--	--	--	--	--	--
01576690	0.21	0.25	0.24	5.6	0.028	0.019	0.026	0.08
01576690	--	--	--	--	--	--	--	--
01576702	--	<0.20	<0.20	--	<0.010	<0.010	0.017	0.05
01576702	--	--	--	--	--	--	--	--
01576705	--	0.27	<0.20	--	0.031	0.021	0.028	0.09
01576708	0.21	0.33	0.27	5.4	0.058	0.039	0.043	0.13
01576720	0.36	0.54	0.42	3.9	0.097	0.075	0.071	0.22
01576728	--	<0.20	<0.20	--	0.039	0.037	0.043	0.13
01576728	--	<0.20	<0.20	--	0.028	0.034	0.038	0.12
01576735	0.27	0.40	0.31	13	0.060	0.039	0.045	0.14
01576740	0.24	0.36	0.26	12	0.081	0.052	0.054	0.17
01576746	--	0.26	0.25	13	0.077	0.074	0.082	0.25
01576748	--	0.44	0.37	6.1	0.073	0.058	0.062	0.19

REMARKS.--The following analyses are quality-control samples processed during the 1997 water year and are defined in the explanation of records section entitled, "Water Quality-Control Data."

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STATION NUMBER	DATE	TIME	QUALITY ASSURANCE SAMPLE (TYPE)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	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)
01576702	09-13-97	1510	FIELD BLANK	--	--	<0.010	--	<0.050	<0.015	--	--
01576748	09-13-97	1740	FIELD BLANK	--	--	<0.010	--	<0.050	<0.015	--	--

STATION NUMBER	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)	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)
01576702	<0.20	<0.20	--	<0.010	<0.010	<0.010	--
01576748	<0.20	<0.20	--	<0.010	0.011	<0.010	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

REMARKS -- A double dash (--) indicates there were no observations of the organism in the sample.

BIOLOGICAL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BENTHIC MACROINVERTEBRATES

	STATION NUMBER DATE	01576670 09/18/97	01576650 09/18/97	01576680 09/17/97	01576680 09/18/97 Replicate
BENTHIC MACROINVERTEBRATE	-----	COUNTS PER 100-ORGANISM (APPROXIMATE) SUBSAMPLE			-----
PLATYHELMINTHES					
Turbellaria (FLATWORMS)					
Tricladida					
Planariidae	--	--	--	--	--
NEMATODA (NEMATODES)	--	--	--	--	--
ANNELIDA					
Oligochaeta (AQUATIC EARTHWORMS)	1	8	--	--	--
Hirudinea (LEECHES)					
Pharyngobdellida					
Erpobdellidae	--	--	--	--	--
ARTHROPODA					
Crustacea					
Isopoda (SOW BUGS)					
Asellidae	--	1	1	--	--
Amphipoda (SCUDS)					
Gammaridae	4	--	7	16	
Crangonyctidae	--	9	--	--	--
Insecta					
Ephemeroptera (MAYFLIES)					
Baetidae	2	--	3	6	
Heptageniidae	--	--	3	26	
Tricorythidae	--	--	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)					
Calopterygidae	--	--	--	--	--
Coenagrionidae	--	--	--	--	--
Hemiptera (TRUE BUGS)	--	--	--	--	--
Corixidae (WATER BOATMEN)	--	--	--	--	--
Gerridae (WATER STRIDERS)	--	--	--	--	--
Veliidae (BROAD-SHOULDERED WATER STRIDERS)	--	--	--	--	--
Coleoptera					
Elmidae (RIFFLE BEETLES)	48	14	17	23	
Hydrophilidae (WATER SCAVENGER BEETLES)	--	--	--	--	--
Psephenidae (WATER PENNIES)	2	1	1	3	
Megaloptera					
Sialidae (ALDERFLIES)	--	--	--	--	--
Trichoptera (CADDISFLIES)					
Hydropsychidae	55	--	1	25	
Hydroptilidae	1	1	--	--	--
Diptera (TRUE FLIES)					
Chironomidae (MIDGES)	5	83	37	4	
Empididae (DANCE FLIES)	--	--	--	--	--
Muscidae	--	1	--	--	--
Sciomyzidae (MARSH FLIES)	--	1	--	--	--
Simuliidae (BLACK FLIES)	1	--	--	--	--
Tipulidae (CRANE FLIES)	--	7	--	--	--
MOLLUSCA					
Gastropoda (SNAILS)					
Basommatophora					
Physidae	--	--	1	1	
Pelecypoda (CLAMS)					
Veneroidea					
Corbiculidae	--	--	--	--	--
Sphaeriidae	--	--	--	--	--
Total Organisms		119	126	71	104
EPT Families		3	1	3	3

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

BIOLOGICAL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BENTHIC MACROINVERTEBRATES--Continued

	STATION NUMBER DATE	01576684 09/17/97	01576694 09/17/97	01576690 09/17/97	01576702 09/18/97
BENTHIC MACROINVERTEBRATE	-----	COUNTS PER 100-ORGANISM (APPROXIMATE) SUBSAMPLE			-----
PLATYHELMINTHES					
Turbellaria (FLATWORMS)					
Tricladida					
Planariidae	--	1	1	--	
NEMATODA (NEMATODES)	--	--	1	--	
ANNELIDA					
Oligochaeta (AQUATIC EARTHWORMS)	--	--	3	1	
Hirudinea (LEECHES)					
Pharyngobdellida					
Erpobdellidae	1	4	1	--	
ARTHROPODA					
Crustacea					
Isopoda (SOW BUGS)					
Asellidae	--	--	--	3	
Amphipoda (SCUDS)					
Gammaridae	--	--	--	--	
Crangonyctidae	11	3	11	7	
Insecta					
Ephemeroptera (MAYFLIES)					
Baetidae	--	--	7	--	
Heptageniidae	--	--	--	--	
Tricorythidae	--	--	--	--	
Odonata (DRAGONFLIES AND DAMSELFLIES)					
Calopterygidae	--	--	--	--	
Coenagrionidae	--	--	--	--	
Hemiptera (TRUE BUGS)	--	--	--	--	
Corixidae (WATER BOATMEN)	1	--	--	--	
Gerridae (WATER STRIDERS)	--	--	--	--	
Veliidae (BROAD-SHOULDERED WATER STRIDERS)	--	--	--	--	
Coleoptera					
Elmidae (RIFFLE BEETLES)	7	86	12	--	
Hydrophilidae (WATER SCAVENGER BEETLES)	1	--	--	--	
Psephenidae (WATER PENNIES)	--	--	1	--	
Megaloptera					
Sialidae (ALDERFLIES)	--	--	--	--	
Trichoptera (CADDISFLIES)					
Hydropsychidae	1	8	14	2	
Hydroptilidae	--	--	--	--	
Diptera (TRUE FLIES)					
Chironomidae (MIDGES)	2	--	90	3	
Empididae (DANCE FLIES)	--	--	--	1	
Muscidae	--	--	--	--	
Sciomyzidae (MARSH FLIES)	--	--	--	--	
Simuliidae (BLACK FLIES)	--	--	--	2	
Tipulidae (CRANE FLIES)	--	--	4	4	
MOLLUSCA					
Gastropoda (SNAILS)					
Basommatophora					
Physidae	--	--	--	--	
Pelecypoda (CLAMS)					
Veneroidea					
Corbiculidae	--	--	--	--	
Sphaeriidae	--	--	--	--	
Total Organisms		24	102	145	23
EPT Families		1	1	2	1

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

BIOLOGICAL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BENTHIC MACROINVERTEBRATES--Continued

	STATION NUMBER DATE	01576705 09/13/97	01576708 09/13/97	01576720 09/13/97	01576728 09/13/97	01576728 09/13/97 Replicate
BENTHIC MACROINVERTEBRATE	-----	COUNTS PER 100-ORGANISM (APPROXIMATE) SUBSAMPLE				-----
PLATYHELMINTHES						
Turbellaria (FLATWORMS)						
Tricladida						
Planariidae		2	8	--	9	--
NEMATODA (NEMATODES)		--	1	--	1	--
ANNELIDA						
Oligochaeta (AQUATIC EARTHWORMS)		--	2	--	1	--
Hirudinea (LEECHES)						
Pharyngobdellida						
Erpobdellidae		--	--	--	--	--
ARTHROPODA						
Crustacea						
Isopoda (SOW BUGS)						
Asellidae		--	15	1	--	--
Amphipoda (SCUDS)						
Gammaridae		1	--	--	--	1
Crangonyctidae		--	3	--	2	--
Insecta						
Ephemeroptera (MAYFLIES)						
Baetidae		5	1	--	15	6
Heptageniidae		--	1	2	--	--
Tricorythidae		--	--	--	1	--
Odonata (DRAGONFLIES AND DAMSELFLIES)						
Calopterygidae		--	--	--	1	--
Coenagrionidae		--	--	--	--	--
Hemiptera (TRUE BUGS)		--	--	--	2	--
Corixidae (WATER BOATMEN)		--	--	3	--	--
Gerridae (WATER STRIDERS)		--	--	--	--	1
Veliidae (BROAD-SHOULDERED WATER STRIDERS)		--	1	--	--	--
Coleoptera						
Elmidae (RIFFLE BEETLES)		70	62	86	22	15
Hydrophilidae (WATER SCAVENGER BEETLES)		--	--	--	--	--
Psephenidae (WATER PENNIES)		31	--	--	--	--
Megaloptera						
Sialidae (ALDERFLIES)		--	--	--	--	1
Trichoptera (CADDISFLIES)						
Hydropsychidae		12	8	13	16	39
Hydroptilidae		--	--	--	--	--
Diptera (TRUE FLIES)						
Chironomidae (MIDGES)		--	5	4	32	9
Empididae (DANCE FLIES)		--	--	--	--	--
Muscidae		--	--	--	--	--
Sciomyzidae (MARSH FLIES)		--	--	--	--	--
Simuliidae (BLACK FLIES)		--	--	--	--	--
Tipulidae (CRANE FLIES)		--	1	--	8	2
MOLLUSCA						
Gastropoda (SNAILS)						
Basommatophora						
Physidae		--	--	--	--	--
Pelecypoda (CLAMS)						
Veneroidea						
Corbiculidae		--	--	20	--	--
Sphaeriidae		--	3	--	--	--
Total Organisms		121	111	129	110	74
EPT Families		2	3	2	3	2

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SYNOPTIC SURVEY OF LITTLE CONESTOGA CREEK BASIN

BIOLOGICAL DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BENTHIC MACROINVERTEBRATES--Continued

	STATION NUMBER DATE	01576735 09/13/97	01576740 09/13/97	01576746 09/13/97	01576748 09/13/97
BENTHIC MACROINVERTEBRATE	-----	COUNTS PER 100-ORGANISM (APPROXIMATE)			SUBSAMPLE -----
PLATYHELMINTHES					
Turbellaria (FLATWORMS)					
Tricladida					
Planariidae	--	--	--	--	25
NEMATODA (NEMATODES)	--	--	--	--	--
ANNELIDA					
Oligochaeta (AQUATIC EARTHWORMS)	--	--	1	--	--
Hirudinea (LEECHES)					
Pharyngobdellida	--	--	--	--	--
Erpobdellidae	--	--	--	--	--
ARTHROPODA					
Crustacea					
Isopoda (SOW BUGS)					
Asellidae	--	--	--	--	--
Amphipoda (SCUDS)					
Gammaridae	--	--	--	--	1
Crangonyctidae	6	--	--	--	1
Insecta					
Ephemeroptera (MAYFLIES)					
Baetidae	--	--	2	--	1
Heptageniidae	--	1	--	--	4
Tricorythidae	--	--	--	--	--
Odonata (DRAGONFLIES AND DAMSELFLIES)					
Calopterygidae	--	--	--	--	--
Coenagrionidae	--	--	--	--	1
Hemiptera (TRUE BUGS)					
Corixidae (WATER BOATMEN)	1	--	--	--	--
Gerridae (WATER STRIDERS)	--	--	--	--	--
Veliidae (BROAD-SHOULDERED WATER STRIDERS)	--	--	--	--	--
Coleoptera					
Elmidae (RIFFLE BEETLES)	40	12	35	62	
Hydrophilidae (WATER SCAVENGER BEETLES)	--	--	--	--	--
Psephenidae (WATER PENNIES)	--	1	--	--	--
Megaloptera					
Sialidae (ALDERFLIES)	--	--	1	--	--
Trichoptera (CADDISFLIES)					
Hydropsychidae	54	64	37	15	
Hydroptilidae	--	--	--	--	--
Diptera (TRUE FLIES)					
Chironomidae (MIDGES)	--	1	31	6	
Empididae (DANCE FLIES)	--	--	--	--	--
Muscidae	--	--	--	--	--
Sciomyzidae (MARSH FLIES)	--	--	--	--	--
Simuliidae (BLACK FLIES)	--	--	--	--	--
Tipulidae (CRANE FLIES)	6	7	2	1	
MOLLUSCA					
Gastropoda (SNAILS)					
Basommatophora					
Physidae	--	--	--	--	--
Pelecypoda (CLAMS)					
Veneroidea					
Corbiculidae	--	--	--	--	--
Sphaeriidae	--	--	--	--	--
Total Organisms		107	86	109	117
EPT Families		1	2	2	3

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

CHESAPEAKE BAY WATERSHED PROJECT

401509077011201 QUARRY DISCHARGE TO CONODOGUINET CREEK

REMARKS.--The data in the following table were collected to document quarry inflow contributions to the water quality of Conodoguinet Creek near Hogestown, PA (station 01570000), Cumberland County, as part of the Chesapeake Bay Watershed project. The quarry discharge was located at lat 40°15'09", long 77°01'12", approximately fifteen feet downstream from the Hogestown gage station and approximately 800 feet upstream from the sampling site for the Chesapeake Bay Watershed project.

Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

Explanation of column headings-- μ S/CM: microsiemens per centimeter at 25 degrees Celsius; DEG C: degrees Celsius; MM OF HG: millimeters of mercury; MG/L: milligrams per liter. Filtered water and both incremental and fixed-endpoint titration methods used for alkalinity, bicarbonate, and carbonate.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	SAMPLE PURPOSE CODE (71999)	SAMPLER TYPE (CODE) (84164)	SAM-PLING METHOD, CODES (82398)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD WATER UNITS)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	
		(00027)	(00028)					(00400)				
AUG 13...	1200	1028	80020	10	3045	70	413	7.8	19.0	754	8.9	
DATE		OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BICAR-BONATE WAT.DIS FET FIELD HCO3 (MG/L) (29804)	ALKA-LINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	BICAR-BONATE WATER DIS IT FIELD HCO3 AS (MG/L) (00453)	CAR-BONATE WATER DIS IT FIELD CO3 AS (MG/L) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD CAC03 (MG/L) (39086)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) AS N (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) AS NO3 (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS NO2 (71856)
AUG 13...	98	160	130	154	0	126	8.5	4.17	18	0.030	0.10	
DATE		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 TOTAL (MG/L) AS N (00605)	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)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L) AS PO4 (00660)
AUG 13...	4.20	0.030	0.04	0.17	0.20	<0.20	4.4	<0.010	0.020	0.010	0.03	

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

Ecological Survey of Fixed Sites--Fish Species Taxonomic List

01555400 EAST MAHANTANGO CREEK AT KLINGERSTOWN, PA

REMARKS.--A fish-community survey was conducted on June 24, 1997. Fish were collected by electrofishing using a pulsed-DC current. Two electrofishing passes were conducted in an upstream pattern covering the 200 meter reach. Fish were identified, sorted by species, measured for total and standard length, weighed, and checked for external anomalies. Additional information can be obtained from the U.S. Geological Survey. Water-quality data are available on page XX.

Explanation of table--Fish family names are in uppercase; scientific names are underlined; and common names are in parentheses. Common names follow those of the American Fisheries Society (1991).

FISH SPECIES AND NUMBERS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

SPECIES NAME	NUMBER OF FISH
CYPRINIDAE (carps and minnows)	
<u>Camptostoma anomalum</u> (central stoneroller)	140
<u>Exoglossum maxillina</u> (cutlips minnow)	83
<u>Luxilus cornutus</u> (common shiner)	35
<u>Nocomis micropogon</u> (river chub)	160
<u>Notropis hudsonius</u> (spottail shiner)	50
<u>Notropis rubellus</u> (rosyface shiner)	54
<u>Pimephales notatus</u> (bluntnose minnow)	63
<u>Rhinichthys atratulus</u> (blacknose dace)	35
<u>Rhinichthys cataractae</u> (longnose dace)	75
<u>Semotilus atromaculatus</u> (creek chub)	139
<u>Semotilus corporalis</u> (fallfish)	245
CATOSTOMIDAE (suckers)	
<u>Catostomus commersoni</u> (white sucker)	201
<u>Hypentelium nigricans</u> (northern hog sucker)	14
ICTALURIDAE (bullhead catfishes)	
<u>Noturus insignis</u> (margined madtom)	88
CENTRARCHIDAE (sunfishes)	
<u>Ambloplites rupestris</u> (rock bass)	56
<u>Lepomis auritus</u> (redbreast sunfish)	3
<u>Lepomis gibbosus</u> (pumpkinseed)	7
<u>Lepomis macrochirus</u> (bluegill)	1
<u>Micropterus dolomieu</u> (smallmouth bass)	42
PERCIDAE (perches)	
<u>Etheostoma olmstedii</u> (tessellated darter)	208
<u>Etheostoma zonale</u> (banded darter)	21
<u>Percina peltata</u> (shield darter)	32

01559795 BOBS CREEK NEAR PAVIA, PA

REMARKS.--A fish-community survey was conducted on July 9, 1997. Fish were collected by electrofishing using a pulsed-DC current. Two electrofishing passes were conducted in an upstream pattern covering the 208-meter reach. Fish were identified, sorted by species, measured for total and standard length, weighed, and checked for external anomalies. Additional information can be obtained from the U.S. Geological Survey, Lemoyne, Pa. Water-quality data are available on page XX.

Explanation of table--Fish family names are in uppercase; scientific names are underlined; and common names are in parentheses. Common names follow those of the American Fisheries Society (1991).

FISH SPECIES AND NUMBERS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

SPECIES NAME	NUMBER OF FISH
CYPRINIDAE (carps and minnows)	
<u>Camptostoma anomalum</u> (central stoneroller)	1
<u>Exoglossum maxillina</u> (cutlips minnow)	14
<u>Rhinichthys atratulus</u> (blacknose dace)	540
<u>Rhinichthys cataractae</u> (longnose dace)	138
<u>Semotilus atromaculatus</u> (creek chub)	1
CATOSTOMIDAE (suckers)	
<u>Catostomus commersoni</u> (white sucker)	6
SALMONIDAE (trout)	
<u>Oncorhynchus mykiss</u> (rainbow trout)	1
<u>Salmo trutta</u> (brown trout)	89
<u>Salvelinus fontinalis</u> (brook trout)	46
COTTIDAE (sculpins)	
<u>Cottus spp.</u> (sculpin)	1,130

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

01571490 CEDAR RUN AT EBERLYS MILL, PA

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.

PERIOD OF RECORD.--March 1993 to September 1995, 1997 (miscellaneous sampling site).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1993 to September 1995.

WATER TEMPERATURE: April 1993 to September 1995.

INSTRUMENTATION.--Daily record measured and collected with in-situ probes and electronic data logger.

REMARKS.--The low intensity water-quality sampling phase (LIP) for the 1991-start National Water-Quality Assessment (NAWQA) Program study units began in water year 1997 and will continue until 2000. Cedar Run at Eberlys Mill, Pa. was one of the fixed sites sampled by Lower Susquehanna River Basin NAWQA staff during the high intensity phase (fiscal years 1993 to 1995) and was the only fixed site representing a basin that had predominantly urban land use. This site was initially selected for LIP sampling but was discontinued after final LIP site selections were determined.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 970 microsiemens, Dec. 31, 1994; minimum, 119 microsiemens, July 2, 1995.

WATER TEMPERATURE: MAXIMUM, 25.5°C, July 11, 1993; minimum, 0.0°C, January 19, 1994.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SAMPLE PURPOSE CODE (71999)	SAMPLER TYPE (CODE) (84164)	SAM-PLING METHOD, CODES (82398)	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)
DEC 19...	0810	1028	80020	15	3045	10	46	631	8.0	9.0	10.0	752
DATE	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	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 DIS TOT IT FIELD (MG/L AS CACO3) (39086)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	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, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
DEC 19...	10.0	90	260	0	213	3.99	18	0.010	0.03	4.00	<0.015	<0.20
DATE	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)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	PHOS-PHORUS ORGANIC TOTAL (MG/L AS P) (00670)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	ACETO-CHLOR, WATER FLTRD REC (μG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (μG/L) (46342)	ALPHA BHC, DIS-SOLVED (μG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (μG/L) (39632)
DEC 19..	<0.20	0.030	<0.010	0.010	0.03	0.03	13	1.6	<0.002	<0.002	<0.002	0.103
DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (μG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (μG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (μG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (μG/L) (82674)	CHLOR-ZINE, PYRIFOS DIS-SOLVED (μG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (μG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (μG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (μG/L) (04040)	DI-AZINON, DIS-SOLVED (μG/L) (39572)	DI-ELDRIN, DIS-SOLVED (μG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (μG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (μG/L) (82677)
DEC 19...	<0.002	<0.002	<0.003	<0.003	<0.004	<0.004	<0.002	E0.162	<0.002	E0.003	<0.003	<0.017

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

LOWER SUSQUEHANNA RIVER BASIN NAWQA PROJECT

01571490 CEDAR RUN AT EBERLYS MILL, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	EPTC WATER FLTRD 0.7 U GF, REC (μG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (μG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (μG/L) (82672)	FONOFOS WATER DISS REC (μG/L) (04095)	LINDANE DIS- SOLVED REC (μG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (μG/L) (82666)	MALA- THION, DIS- SOLVED GF, REC (μG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (μG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (μG/L) (82667)	METO- LACHLOR WATER DISSOLV (μG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (μG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (μG/L) (82671)
DEC 19...	<0.002	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.001	<0.006	0.012	<0.004	<0.004
	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (μG/L) (82684)	P, P' DDE DISSOLV REC (μG/L) (34653)	PARA- THION, DIS- SOLVED GF, REC (μG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (μG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (μG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (μG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (μG/L) (82664)	PRO- METON, WATER, DISS, REC (μG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (μG/L) (82676)	PROPA- CHLOR, WATER, DISS, REC (μG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (μG/L) (82679)	
DEC 19...	<0.003	<0.006	<0.004	<0.004	<0.004	<0.005	<0.002	0.077	<0.003	<0.007	<0.004	
	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (μG/L) (82685)	SI- MAZINE, WATER, DISS, REC (μG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (μG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (μG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (μG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (μG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (μG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (μG/L) (82661)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	
DEC 19...	<0.013	0.036	0.032	<0.007	<0.013	<0.002	<0.001	<0.002	107	107	94.5	

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT

EVALUATION OF LIMESTONE TREATMENT OF ACIDIC MINE DRAINAGE IN
SWATARA CREEK BASIN, SCHUYLKILL COUNTY, PENNSYLVANIA

The tables on the following pages contain data from an ongoing evaluation of limestone treatment of acidic mine drainage (AMD) in the Swatara Creek Basin.

Acidic mine drainage from abandoned anthracite mines has degraded water resources in the 48 mi² northern Swatara Creek Basin. To neutralize the AMD, with a goal of remediating approximately 25 miles (67 percent) of degraded streams in the basin, a variety of limestone treatment systems have been constructed (fig. 8). Most of the limestone treatment systems were installed during fall 1996 and spring 1997. The type and size of the treatment system was based on streamflow rates and chemistry determined by preliminary monitoring and field trials. The treatments, which include limestone-sand dosing, open limestone channels, anoxic and oxic limestone drains, and limestone diversion wells, were constructed by the Schuylkill County Conservation District and the Swatara Creek Watershed Association, with technical assistance from the USGS and the Pennsylvania Department of Environmental Protection (PaDEP). Each treatment has different advantages and disadvantages; however, all suffer from possible complication associated with variability of flow rates and chemistry of the AMD-contaminated water and from uncertainties about efficiency and longevity of the treatment.

To resolve uncertainties about treatment designs (efficiency and longevity), limestone dissolution in response to variations in water chemistry and coating (armoring) by iron and aluminum hydroxides, and appropriate uses of the various limestone treatments, the USGS has established monitoring stations upstream and downstream of each treatment. During base-flow and high-flow conditions in 1995-97, data on discharge rate and water quality at 40 stations in the Swatara Creek basin and 3 stations in adjacent watersheds (table 1) were collected to characterize untreated mine drainage, treatment-system performance, and cumulative downstream effects. In spring-summer 1996, two streamflow stations on Swatara Creek, Site C3, at Newtown (station 0157155014) and Swatara Creek near Ravine (station 01571820) were installed for continuous streamflow and water-quality monitoring. The data for these stations indicate cumulative effects of AMD remediation throughout the northern Swatara Creek basin.

Limestone sand dosing and open limestone channels are the simplest treatment systems where limestone is added directly to the stream channel semiannually or less frequently. Limestone sand, which can dissolve rapidly because of its small size (<1/8 inch), was dumped into Coal Run (14 tons) between stations C4 and C6 on September 4, 1996, and into Lorberry Creek (150 tons) below station E2 on February 13-14, 1997 (fig. 8). An open limestone channel was constructed within a 110-ft long segment of Swatara Creek at station B2 (fig. 8) on March 21, 1997. A total of 44 tons of sand-size fragments and 70 tons of larger fragments (1-4 inches) were installed as a series of alternating berms extending part way across the 15-ft-wide channel from opposite sides of the stream.

A limestone drain is another relatively simple treatment method, which involves the burial of limestone in air-tight trenches that intercept acidic discharge water. Keeping oxygen out of contact with the discharge water minimizes the potential for oxidation of ferrous iron and the consequent precipitation of ferric-iron armoring as iron hydroxides. Furthermore, keeping carbon dioxide within the drain can enhance limestone dissolution and alkalinity production. Limestone drains were constructed on March 15, 1995, at station E3 to treat a small acidic discharge (10-30 gpm, oxic inflow; 44 tons limestone) along Lower Rausch Creek and on May 21, 1997, at station A1 to treat a larger discharge (50-200 gpm, anoxic inflow; 400 tons limestone) at the headwaters of Swatara Creek (fig. 8).

In a limestone diversion well, acidic water is diverted from upstream points and the hydraulic force of the piped flow is deflected upward through limestone fragments inside 4-ft diameter "wells." Hydraulic churning abrades limestone forming fine particles and preventing the buildup of iron or aluminum hydroxides armoring. On November 14, 1995, a pair of diversion wells was installed to treat water diverted from Swatara Creek at station C2, and on July 13, 1997, a single diversion well was installed to treat water from Martin Run at station C8 (fig. 8). Approximately one ton of limestone are consumed weekly by each operating diversion well.

SWATARA CREEK PROJECT--Continued

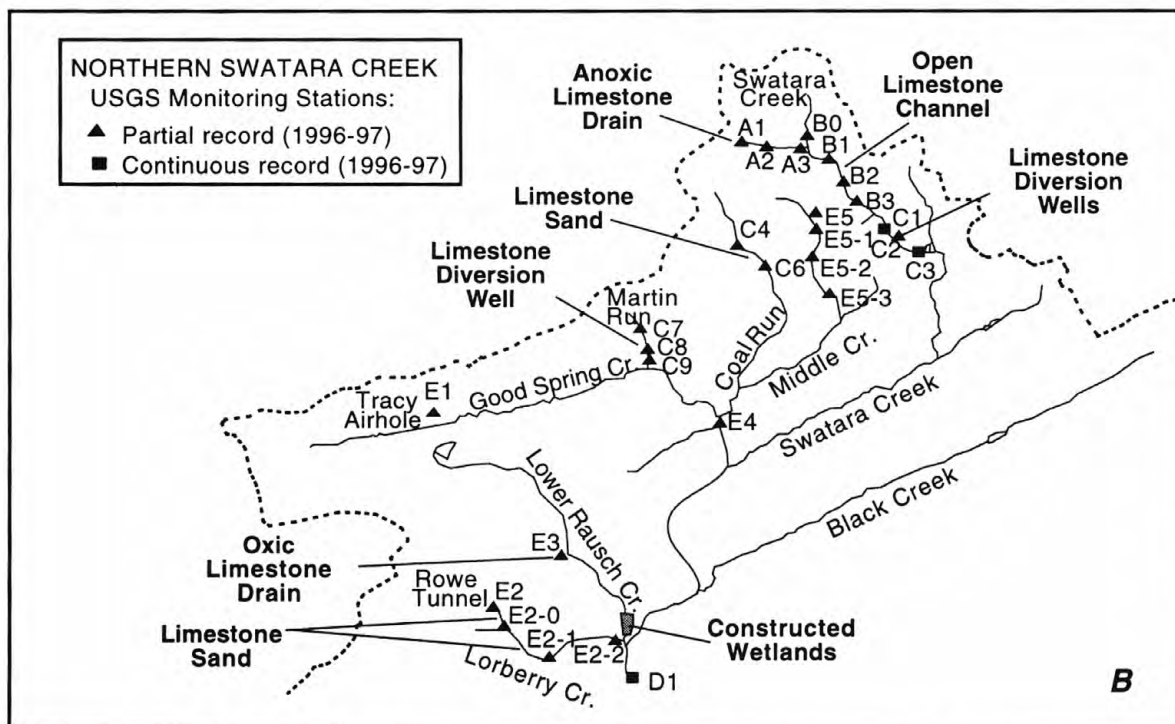
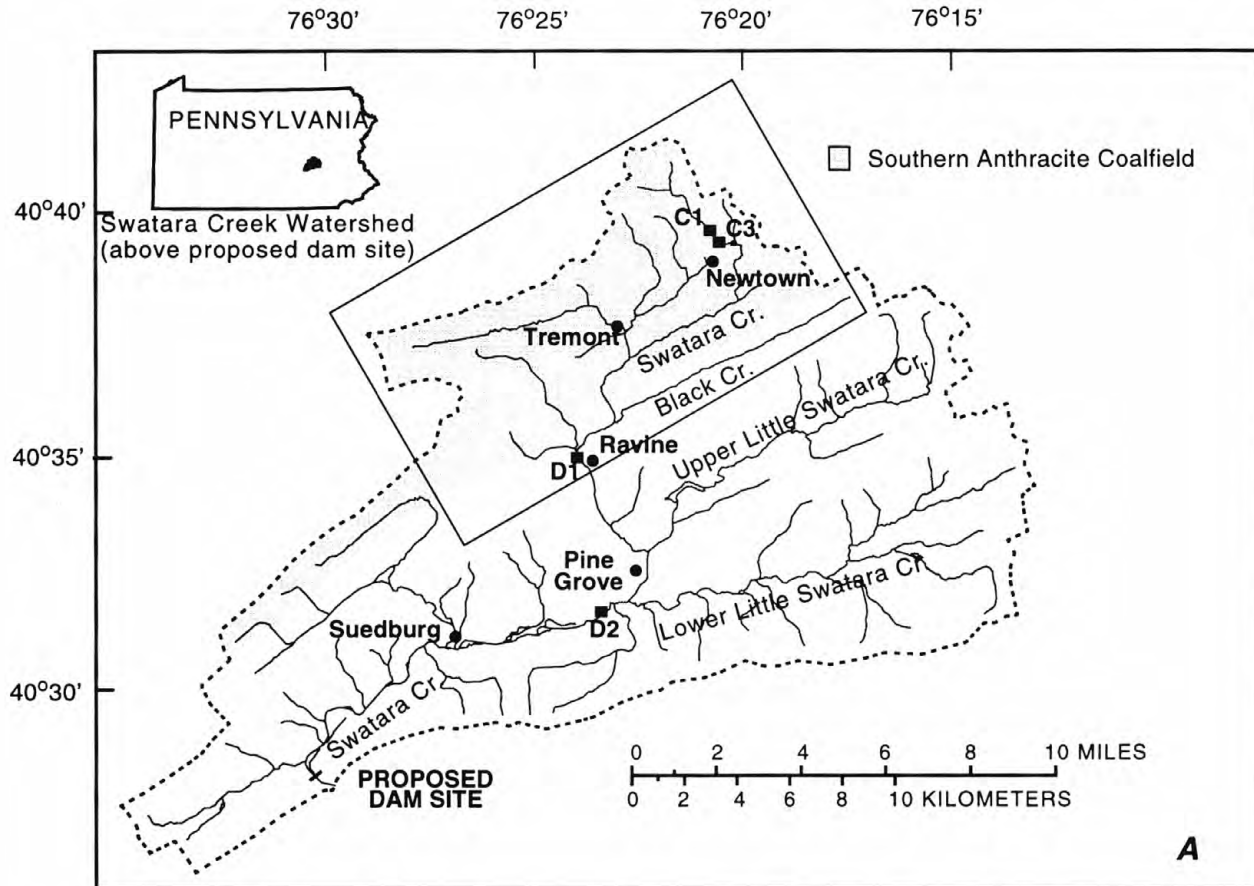


Figure 8.--Locations of water-quality and streamflow monitoring stations in the Swatara Creek Basin, Lebanon and Schuylkill Counties, Pennsylvania: A, continuous monitoring stations on Swatara Creek above the proposed dam for Swatara State Park Reservoir; B, monitoring stations within the Southern Anthracite Coalfield, above Ravine (area denoted in A).

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

TABLE 1.--SWATARA CREEK PROJECT STATION LIST.

REMARKS.--All samples collected by the U.S. Geological Survey.

LOCAL ID	STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DRAINAGE AREA
CONTINUOUS-RECORD STATIONS					
C1	0157155010	SWATARA CREEK, SITE C1, AT NEWTOWN, PA	40°39'34"	76°20'50"	2.58
C3	0157155014	SWATARA CREEK, SITE C3, AT NEWTOWN, PA	40°39'28"	76°20'43"	2.92
D1	01571820	SWATARA CREEK AT RAVINE, PA	40°34'50"	76°24'18"	43.3
D2	01572025	SWATARA CREEK NEAR PINE GROVE, PA	40°31'57"	76°24'09"	116
PARTIAL-RECORD STATIONS					
A1	404032076222901	NORTHWEST TRIBUTARY TO SWATARA CREEK, SITE A1, NEAR NEWTOWN, PA	40°40'32"	76°22'29"	n.a.
A2	0157154970	NORTHWEST TRIBUTARY TO SWATARA CREEK, SITE A2, NEAR NEWTOWN, PA	40°40'32"	76°22'25"	.25
A3	0157154972	NORTHWEST TRIBUTARY TO SWATARA CREEK, SITE A3, NEAR NEWTOWN, PA	40°40'32"	76°21'59"	.40
B0	0157154960	SWATARA CREEK, ABOVE NORTHWEST TRIBUTARY, SITE B0, NEAR NEWTOWN, PA	40°40'34"	76°21'57"	1.14
B1	0157154980	SWATARA CREEK, BELOW NORTHWEST TRIBUTARY, SITE B1, NEAR NEWTOWN, PA	40°40'22"	76°21'41"	1.75
B2	0157154982	SWATARA CREEK, BELOW NORTHWEST TRIBUTARY, SITE B2, NEAR NEWTOWN, PA	40°40'22"	76°21'39"	1.77
B3	0157154984	SWATARA CREEK, BELOW NORTHWEST TRIBUTARY, SITE B3, NEAR NEWTOWN, PA	40°40'22"	76°21'36"	1.90
C2	0157155012	SWATARA CREEK, SITE C2, AT NEWTOWN, PA	40°39'31"	76°20'47"	2.65
C4	0157158010	COAL RUN, SITE C4, NEAR TREMONT, PA	40°38'35"	76°22'47"	.26
C6	0157158014	COAL RUN, SITE C6, NEAR TREMONT, PA	40°38'32"	76°22'46"	.29
C7	0157156010	MARTIN RUN, SITE C7, AT DONALDSON, PA	40°38'19"	76°24'19"	.48
C8	0157156012	MARTIN RUN, SITE C8, AT DONALDSON, PA	40°38'17"	76°24'19"	.51
C9	0157156014	MARTIN RUN, SITE C9, AT DONALDSON, PA	40°38'16"	76°24'19"	.53
D2-0	01572010	SWATARA CREEK BELOW STATE ROUTE 645 HIGHWAY BRIDGE AT PINE GROVE, PA	40°32'12"	76°21'59"	33.4
E1-229	403745076271901	TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA	40°37'45"	76°27'19"	n.a.
E2-0	01571774	LORBERRY CREEK AT LORBERRY, PA	40°35'32"	76°26'22"	1.15
E2-1	01571778	LORBERRY CREEK NEAR LORBERRY JUNCTION, PA	40°35'15"	76°25'35"	3.48
E2-2	01571780	LORBERRY CREEK AT LORBERRY JUNCTION, PA	40°35'20"	76°24'43"	4.21
E2-244	403542076263201	ROWE DRAINAGE TUNNEL, SITE E2-244, NEAR JOLIETT, PA	40°35'42"	76°26'32"	n.a.
E3-1	01571760	LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA.	40°35'22"	76°24'42"	8.80
E3-N0	403627076253001	ORCHARD DISCHARGE NORTH, SITE E3-N0, NEAR JOLIETT, PA	40°36'27"	76°25'30"	n.a.
E3-N1	403626076252902	ORCHARD DISCHARGE NORTH, DOWNSTREAM, SITE E3-N1, NEAR JOLIETT, PA	40°36'26"	76°25'29"	n.a.
E3-S0	403626076253001	ORCHARD DISCHARGE SOUTH, SITE E3-S0, NEAR JOLIETT, PA	40°36'26"	76°25'30"	n.a.
E3-S1	403626076252901	ORCHARD DISCHARGE SOUTH, DOWNSTREAM, SITE E3-S1, NEAR JOLIETT, PA	40°36'26"	76°25'29"	n.a.
SR	01571776	STUMPS RUN AT LORBERRY, PA	40°35'30"	76°26'23"	.65
MISCELLANEOUS STATIONS					
C0-2	403940076205901	HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA	40°39'40"	76°20'59"	n.a.
C0-3	403939076205901	HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA	40°39'39"	76°20'59"	n.a.
C7-218	403841076243001	EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA	40°38'41"	76°24'30"	n.a.
C7-219	403825076242301	COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA	40°38'25"	76°24'23"	n.a.
E1-1	0157156210	TRACY AIRHOLE, SITE E1-1, TRIBUTARY TO GOOD SPRING CREEK, NEAR DONALDSON, PA	40°37'45"	76°27'16"	.07
E1-2	0157156212	TRACY AIRHOLE, SITE E1-2, TRIBUTARY TO GOOD SPRING CREEK, NEAR DONALDSON, PA	40°37'40"	76°27'09"	.22
E4	01571593	GOOD SPRING CREEK BELOW MIDDLE CREEK AT TREMONT, PA	40°37'35"	76°23'15"	14.0
E5	403853076222301	MIDDLE CREEK MINE DISCHARGE, SITE E5, NEAR NEWTOWN, PA	40°38'53"	76°22'23"	n.a.
E5-1	0157157010	MIDDLE CREEK, SITE E5-1, NEAR NEWTOWN, PA	40°38'47"	76°22'18"	1.63
E5-2	0157157012	MIDDLE CREEK, SITE E5-2, NEAR NEWTOWN, PA	40°38'48"	76°22'12"	.06
E5-3	0157157014	MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA	40°38'21"	76°22'11"	1.97
MC	403709076330201	MARKSON COLUMWAY NEAR VALLEY VIEW, PA	40°37'09"	76°33'02"	n.a.
PT	403619076310501	PORTER TUNNEL NEAR TOWER CITY, PA	40°36'02"	76°30'21"	n.a.
VV	403650076330701	VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA	40°36'56"	76°33'04"	n.a.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

TABLE 2.--FIELD WATER-QUALITY ANALYTICAL TECHNIQUES.

REMARKS.--Field analysis conducted on unfiltered samples following methods of Wood (1976, "Guidelines for the Collection and Field Analysis of Ground-Water Samples for Selected Unstable Constituents") and Buchanan and Somers (1969, "Discharge Measurements at Gaging Stations").

CONSTITUENT	UNITS	PARAMETER CODE	TECHNIQUE
Acidity, total as CaCO ₃	mg/L	00435	Titrimetric
Alkalinity, as CaCO ₃ (ANC)	mg/L	00410	Titrimetric
Discharge, instantaneous	ft ³ /s	00061	Current meter
Flow rate, instantaneous	gal/min	00059	Volumetric
Oxidation reduction potential, Eh	mV	00090	Electrometric
Oxygen, dissolved	mg/L	00300	Electrometric
pH	pH units	00400	Electrometric
Specific conductance	μS/cm	00095	Electrometric
Temperature, water	°C	00010	Thermometric

TABLE 3.--LABORATORY WATER-QUALITY ANALYTICAL TECHNIQUES, STANDARD ANALYSIS CODE 414.

REMARKS.--Laboratory analysis conducted by Pennsylvania Department of Environmental Protection using the following methods: EPA (U.S. Environmental Protection Agency, 1979, "Methods for Chemical Analysis of Water and Waste") and STM (Greenberg, Connors, and Jenkins, 1986, "Standard Methods for the Examination of Water and Wastewater"); USGS (Fishman and Friedman, 1989, "Methods for the Determination of Inorganic Substances in Water and Fluvial Sediments"); and n.a. for not applicable. Samples stored in 125 and 500 ml polyethylene bottles: RU, raw, unpreserved, 500 ml; RA, raw, acidified with 1:1 HNO₃, 125 ml; FA, filtered, acidified with 1:1 HNO₃, 125 ml. Acidified samples stored only in acid-rinsed bottles.

CONSTITUENT	UNITS	PARAMETER CODE DISSOLVED	CODE WHOLE	ANALYTICAL METHOD	ANALYTICAL TECHNIQUE	SAMPLE
Acidity, total as CaCO ₃	mg/L	n.a.	70508	STM 16 402	Titrimetric	RU
Alkalinity, as CaCO ₃ (ANC)	mg/L	n.a.	00417	EPA 310.1	Titrimetric	RU
Aluminum	μg/L	01106	01105	EPA 200.7	ICP-MS	FA+RA
Arsenic	μg/L	01000	01002	EPA 200.8	ICP	FA+RA
Barium	μg/L	01005	01007	EPA 200.8	ICP	FA+RA
Cadmium	μg/L	01025	01027	EPA 200.7	ICP	FA+RA
Calcium	mg/L	00915	00916	EPA 200.7	ICP	FA+RA
Chloride	mg/L	n.a.	00940	EPA 325.2	IC	RU
Chromium	μg/L	01030	01034	EPA 200.7	ICP	FA+RA
Cobalt	μg/L	01035	01037	EPA 200.7	ICP	FA+RA
Copper	μg/L	01040	01042	EPA 200.7	ICP	FA+RA
Iron	μg/L	01046	01045	EPA 200.7	ICP	FA+RA
Fluoride	mg/L	n.a.	00951	EPA 375.2	IC	RU
Lead	μg/L	01049	01051	EPA 200.7	ICP-MS	FA+RA
Lithium	μg/L	01130	01132	EPA 200.7	ICP	FA+RA
Magnesium	mg/L	00925	00927	EPA 200.7	ICP	FA+RA
Manganese	μg/L	01056	01055	EPA 200.7	ICP	FA+RA
Nickel	μg/L	01065	01067	EPA 200.7	ICP	RU
Nitrogen, total, as N	mg/L	n.a.	00600	EPA 351.2	Colorimetric	RU
Nitrogen, ammonia, total as N	mg/L	n.a.	00610	EPA 350.1	Colorimetric	RU
Nitrogen, nitrate, total as N	mg/L	n.a.	00620	EPA 353.2	Colorimetric	RU
pH	pH units	n.a.	00403	EPA 150.1	lectrometric	RU
Phosphorus, total, as P	mg/L	n.a.	00665	EPA 365.3	Colorimetric	RU
Potassium	mg/L	00935	00937	EPA 200.7	ICP	FA+RA
Selenium	μg/L	01145	01147	EPA 200.8	ICP-MS	FA+RA
Silica, as SiO ₂	mg/L	00956	n.a.	EPA 200.7	ICP	FA+RA
Sodium	mg/L	00930	00929	EPA 200.7	ICP	FA+RA
Solids, suspended	mg/L	n.a.	00530	EPA 160.5	Gravimetric	RU
Strontium	μg/L	01080	01082	EPA 200.7	ICP	FA+RA
Sulfate, as SO ₄	mg/L	n.a.	00945	EPA 375.2	Colorimetric	RU
Zinc	μg/L	01090	01092	EPA 200.7	ICP	FA+RA

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

PARTIAL-RECORD STATION ANALYSES

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
0157154970	NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)									
AUG 1995 23...	1445	1028	80020	172	4.8	4.4	421	12.0	4.4	41
0157154972	NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)									
AUG 1995 23...	1350	1028	80020	228	3.6	3.5	670	13.5	9.5	92
0157154960	SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)									
AUG 1995 23...	1320	1028	80020	81.0	4.2	4.1	658	16.0	8.5	86
0157154980	SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)									
AUG 1995 23...	1230	1028	80020	170	3.8	4.2	617	17.0	7.9	82
DATE	ACIDITY (MG/L AS CACO3) (00435)	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)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)	
0157154970	NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)									
AUG 1995 23...	39	2.5	4.8	9.3	61	340	23	3.0	<5	
0157154972	NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)									
AUG 1995 23...	22	2.3	4.2	8.4	70	460	25	<1.0	<5	
0157154960	SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)									
AUG 1995 23...	12	1.1	1.3	4.2	25	710	33	<1.0	<5	
0157154980	SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)									
AUG 1995 23...	17	1.9	3.3	7.1	48	620	31	<1.0	<5	

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SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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DATE	COBALT, DIS- SOLVED (μG/L AS CO) (01035)	COPPER, DIS- SOLVED (μG/L AS CU) (01040)	IRON, DIS- SOLVED (μG/L AS FE) (01046)	LEAD, DIS- SOLVED (μG/L AS PB) (01049)	LITHIUM DIS- SOLVED (μG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	NICKEL, DIS- SOLVED (μG/L AS NI) (01065)	STRON- TIUM, DIS- SOLVED (μG/L AS SR) (01080)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)
0157154970	NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)								
AUG 1995 23...	--	<10	11000	30	9	690	60	17	70
0157154972	NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)								
AUG 1995 23...	40	<10	1800	<10	8	630	50	15	52
0157154960	SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)								
AUG 1995 23...	10	<10	160	<10	<4	270	10	11	32
0157154980	SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)								
AUG 1995 23...	30	<10	900	<10	6	510	30	15	53

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)											
MAR 1996											
14...	1500	1028	9813	--	194	4.5	--	249	9.0	.6	5
APR											
19...	1145	1028	9813	--	185	4.6	4.3	524	9.0	.2	2
JUN											
11...	1516	1028	9813	--	178	4.4	4.1	512	9.5	.3	2
AUG											
13...	1400	1028	9813	--	180	4.8	4.6	463	10.5	.8	7
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)											
APR 1996											
19...	1115	1028	9813	1.2	175	4.4	--	539	10.0	8.6	76
JUN											
11...	1520	1028	9813	.37	173	4.1	4.3	490	11.0	7.8	70
AUG											
13...	1415	1028	9813	.29	175	4.6	4.7	424	11.0	6.6	60
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)											
APR 1996											
19...	1100	1028	9813	2.6	135	4.3	4.2	574	9.0	11.0	95
JUN											
11...	1400	1028	9813	.38	188	3.6	3.8	648	15.0	11.0	100
AUG											
13...	1230	1028	9813	.51	169	3.8	3.8	641	13.0	10.0	96
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)											
APR 1996											
19...	1000	1028	9813	--	78	4.3	4.3	561	7.5	12.0	98
JUN											
11...	1330	1028	9813	.83	79	4.1	4.3	608	16.5	9.6	100
AUG											
13...	1215	1028	9813	2.2	82	4.3	4.3	534	15.0	9.5	95
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)											
APR 1996											
19...	1015	1028	9813	7.7	94	4.3	4.3	585	8.0	11.0	91
JUN											
11...	1250	1028	9813	1.4	115	4.0	4.1	626	17.0	9.9	100
AUG											
13...	1130	1028	9813	2.8	102	4.2	4.2	621	14.5	10	99
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)											
MAR 1996											
14...	1400	1028	9813	--	142	4.3	--	478	5.5	7.7	62
APR											
19...	0915	1028	9813	--	138	4.4	4.5	606	7.5	11.0	91
JUN											
11...	1125	1028	9813	.86	156	4.7	4.9	596	17.0	10	100
AUG											
06...	0945	1028	9813	2.3	172	4.1	4.3	625	18.5	10.0	110
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
MAR 1996											
14...	1300	1028	9813	--	248	5.8	--	383	10.5	9.2	83
APR											
19...	1245	1028	9813	5.2	212	5.4	5.3	504	9.5	9.9	87
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
MAR 1996											
14...	1200	1028	9813	--	213	4.8	--	503	10.0	8.6	77
APR											
19...	1330	1028	9813	4.4	158	5.2	4.8	433	11.0	12.0	110
JUN											
12...	1105	1028	9813	1.3	230	4.6	4.4	534	14.0	12.0	120
AUG											
07...	1230	1028	9813	1.3	237	4.5	4.6	378	17.5	8.8	93

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SWATARA CREEK PROJECT--Continued

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DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	0
APR 19...	32	--	2.5	2.4	4.8	4.6	9.2	8.8	1.2	1.1	--
JUN 11...	28	--	2.8	2.7	5.0	5.0	9.8	9.6	1.0	.96	0
AUG 13...	34	--	2.4	2.4	4.7	4.7	9.9	9.9	1.5	1.3	--
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)											
APR 1996											
19...	--	--	--	--	--	--	--	--	--	--	0
JUN 11...	28	--	2.7	2.6	4.9	4.8	9.4	9.3	1.1	1.1	0
AUG 13...	30	--	2.6	2.5	4.6	4.6	10	9.6	1.3	1.3	--
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)											
APR 1996											
19...	17	--	1.7	1.7	2.8	2.8	6.0	6.0	1.0	.96	0
JUN 11...	18	--	2.4	2.4	4.1	4.0	8.0	7.9	.9	.82	0
AUG 13...	16	--	1.9	1.9	3.2	3.1	7.2	7.2	1.0	1.0	0
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)											
APR 1996											
19...	12	--	.99	.99	.88	.88	4.1	4.1	.6	.57	0
JUN 11...	9.6	--	1.3	1.2	1.1	1.1	4.4	4.4	.6	<.50	0
AUG 13...	13	--	1.1	1.1	1.0	.99	5.1	4.9	.6	<.50	0
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)											
APR 1996											
19...	15	--	1.2	1.2	1.5	1.5	4.6	4.5	.8	.77	0
JUN 11...	14	--	1.6	1.6	2.0	1.9	6.2	6.2	.6	.60	0
AUG 13...	12	--	1.9	1.9	3.4	3.4	7.1	7.1	.7	.67	0
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	0
APR 19...	15	--	4.7	4.4	5.6	5.4	4.3	4.1	.9	.90	0
JUN 11...	11	--	7.0	6.6	6.4	6.4	5.6	5.6	.8	.79	--
AUG 06...	15	14	4.7	4.7	6.1	6.1	5.3	5.3	.9	.92	0
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	8.0	--	12	12	11	11	5.8	5.5	.9	.78	--
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	12	--	6.9	6.9	5.6	5.6	7.0	7.0	1.0	.89	--
JUN 12...	16	--	14	14	11	11	6.8	6.8	.9	.92	--
AUG 07...	13	12	12	12	11	11	6.6	6.6	1.0	1.0	0

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DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SiO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE SETTLE- ABLE (MG/L) (00545)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	5	52	15	<.2	7.4	12	--	.06	<.040	.100	<.020
JUN 11...	0	48	14	<.2	7.7	80	--	.18	<.040	.090	<.020
AUG 13...	1	47	14	<.2	7.7	<2	--	.21	<.040	.100	<.020
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)											
APR 1996											
19...	--	--	--	--	--	--	--	--	--	--	--
JUN 11...	0	47	14	<.2	7.0	3	--	.06	<.040	.090	<.020
AUG 13...	2	47	14	<.2	5.2	2	--	.18	<.040	.100	.020
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)											
APR 1996											
19...	5	38	11	<.2	5.3	<2	--	.06	<.040	.060	<.020
JUN 11...	0	37	12	<.2	6.6	<2	--	.06	.040	.050	<.020
AUG 13...	0	33	11	<.2	3.6	<2	--	.12	<.040	.060	.020
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)											
APR 1996											
19...	6	<10	7.5	<.2	3.7	<2	--	.06	<.040	<.020	<.020
JUN 11...	0	12	9.5	<.2	3.4	<2	--	.09	.100	<.020	<.020
AUG 13...	0	10	10	<.2	4.8	<2	--	.12	<.040	<.020	.020
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)											
APR 1996											
19...	5	15	8.9	<.2	4.2	<2	--	.06	<.040	.020	<.020
JUN 11...	0	21	10	<.2	5.0	<2	--	.06	.060	.020	<.020
AUG 13...	0	15	10	<.2	6.8	2	--	.15	<.040	<.020	.020
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	6	43	5.9	<.2	5.7	<2	--	.06	<.040	.020	<.020
JUN 11...	2	46	8.4	<.2	6.3	<2	--	<.04	.040	<.020	<.020
AUG 06...	0	47	8.9	<.2	5.7	10	--	.09	<.040	<.020	<.020
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	8	81	9.3	<.2	6.7	<2	--	.06	<.040	<.020	<.020
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
MAR 1996											
14...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	6	42	13	<.2	6.9	<2	--	<.04	<.040	.020	<.020
JUN 12...	0	79	11	<.2	9.8	<2	--	.09	.060	.040	<.020
AUG 07...	1	81	11	<.2	6.0	12	<.200	.09	<.040	.040	<.020

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	770	680	<4	<4	21	20	<10	<10	<50	<50
JUN 11...	720	500	<4	<4	21	21	<10	<10	<50	<50
AUG 13...	410	400	<4	<4	23	23	<10	<10	<50	<50
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
APR 1996										
19...	--	--	--	--	--	--	--	--	--	--
JUN 11...	460	440	<4	<4	20	20	<10	<10	<50	<50
AUG 13...	380	360	<4	<4	23	22	<10	<10	<50	<50
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
APR 1996										
19...	500	500	<4	<4	25	25	<10	<10	<50	<50
JUN 11...	500	480	<4	<4	31	31	<10	<10	<50	<50
AUG 13...	400	400	<4	<4	31	31	<10	<10	<50	<50
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
APR 1996										
19...	780	770	<4	<4	33	32	<10	<10	<50	<50
JUN 11...	710	710	<4	<4	44	41	<10	<10	<50	<50
AUG 13...	730	730	<4	<4	38	37	<10	<10	<50	<50
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
APR 1996										
19...	740	690	<4	<4	31	30	<10	<10	<50	<50
JUN 11...	720	640	<4	<4	43	42	<10	<10	<50	<50
AUG 13...	460	460	<4	<4	31	31	<10	<10	<50	<50
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	1100	1000	<4	<4	37	34	<10	<10	<50	<50
JUN 11...	950	910	<4	<4	42	42	<10	<10	<50	<50
AUG 06...	910	890	<4	<4	31	31	<10	<10	<50	<50
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	590	400	<4	<4	24	22	<10	<10	<50	<50
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	360	290	<4	<4	28	28	<10	<10	<50	<50
JUN 12...	490	400	<4	<4	27	26	<10	<10	<50	<50
AUG 07...	350	320	<4	<4	29	28	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (μ G/L AS CO) (01037)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (μ G/L AS CU) (01042)	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (μ G/L AS FE) (01045)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (μ G/L AS PB) (01051)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (μ G/L AS LI) (01132)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	40	44	<10	<10	8700	7600	2	1.4	<30	<25
JUN 11...	50	49	<10	<10	22000	10000	3	<1.0	<30	<25
AUG 13...	60	50	<10	<10	9900	9800	<1	<1.0	<30	<25
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
APR 19...	--	--	--	--	--	--	--	--	--	--
JUN 11...	50	46	<10	<10	9400	9100	1	1.2	<30	<25
AUG 13...	50	46	<10	<10	9200	9200	<1	<1.0	<30	<25
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
APR 19...	30	<25	<10	<10	2900	2900	<1	<1.0	<30	<25
JUN 11...	40	38	<10	<10	1800	1800	<1	<1.0	<30	<25
AUG 13...	30	31	<10	<10	2400	2300	<1	<1.0	<30	<25
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
APR 19...	<30	<25	<10	<10	100	79	<1	<1.0	<30	<25
JUN 11...	<30	<25	<10	<10	140	140	<1	1.0	<30	<25
AUG 13...	<30	<25	<10	<10	260	180	1	<1.0	<30	<25
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
APR 19...	<30	<25	<10	<10	950	880	<1	<1.0	<30	<25
JUN 11...	<30	<25	<10	<10	630	580	1	1.1	<30	<25
AUG 13...	<30	<25	<10	<10	2500	2500	<1	<1.0	<30	<25
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	30	28	<10	<10	600	570	1	1.0	<30	<25
JUN 11...	30	26	<10	<10	250	240	2	1.5	<30	<25
AUG 06...	<30	<25	<10	<10	300	270	1	1.3	<30	<25
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	30	28	<10	<10	670	540	<1	<1.0	<30	<25
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	<20	<20	<10	<10	2300	2100	<1	<1.0	<30	<30
JUN 12...	30	30	<10	<10	2900	2700	<1	<1.0	<30	<25
AUG 07...	<30	<25	<10	<10	2800	2600	<1	<1.0	<30	<25

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	640	600	50	51	<7	<7	20	15	120	120
JUN 11...	660	660	66	62	<7	<7	20	17	120	110
AUG 13...	650	650	63	58	<7	<7	20	16	110	110
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
APR 1996										
19...	--	--	--	--	--	--	--	--	--	--
JUN 11...	660	640	63	56	<7	<7	20	17	110	110
AUG 13...	620	620	52	47	<7	<7	20	15	110	110
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
APR 1996										
19...	410	410	25	<25	<7	<7	10	13	80	79
JUN 11...	560	550	50	39	<7	<7	20	16	90	89
AUG 13...	450	450	32	32	<7	<7	10	13	80	83
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
APR 1996										
19...	150	150	<25	<25	<7	<7	10	11	50	45
JUN 11...	200	200	<25	<25	<7	<7	10	13	40	43
AUG 13...	180	180	<25	<25	<7	<7	10	11	40	43
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
APR 1996										
19...	230	220	<25	<25	<7	<7	10	11	60	55
JUN 11...	310	290	<25	<25	<7	<7	10	13	60	59
AUG 13...	490	490	38	38	<7	<7	10	14	80	75
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	450	420	30	29	<7	<7	30	27	100	81
JUN 11...	480	480	37	37	<7	<7	30	34	100	100
AUG 06...	540	540	24	35	<7	<7	30	28	90	85
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	770	750	42	42	<7	<7	80	78	100	95
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)										
MAR 1996										
14...	--	--	--	--	--	--	--	--	--	--
APR 19...	480	480	<25	30	<7	<7	30	34	70	66
JUN 12...	870	870	35	35	<7	<7	60	61	90	91
AUG 07...	850	850	36	36	<7	<7	60	59	40	67

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
AUG 1996											
13...	1500	1028	9813	--	572	6.0	5.7	448	10.5	.3	2
APR											
18...	1500	1028	9813	--	458	6.0	5.7	363	10.5	1.3	12
JUN											
12...	1230	1028	9813	--	583	6.0	4.5	343	11.0	.7	6
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)											
AUG 1996											
15...	1100	1028	9813	5.5	220	6.3	5.2	241	15.0	9.7	96
SEP											
13...	1130	1028	9813	16	124	6.1	6.0	273	16.0	9.5	95
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)											
AUG 1996											
13...	1600	1028	9813	5.0	254	6.1	5.8	319	12.0	9.3	96
APR											
18...	1130	1028	9813	3.5	210	5.0	4.6	492	12.0	8.9	82
JUN											
12...	1300	1028	9813	12	296	4.4	5.8	499	12.0	12.0	120
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)											
AUG 1996											
15...	1130	1028	9813	5.1	416	7.2	6.1	252	17.0	9.2	96
SEP											
13...	1100	1028	9813	24	226	6.2	6.2	308	15.5	11.0	110

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
AUG 1996											
13...	4.2	79	39	39	39	39	6.6	6.6	2.5	4.0	43
APR											
18...	19	--	26	26	29	29	7.4	7.2	1.9	1.9	--
JUN											
12...	28	--	14	14	19	19	2.9	2.9	1.4	1.4	--
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)											
AUG 1996											
15...	10	7.2	9.4	9.4	12	12	3.2	3.2	1.1	1.1	5
SEP											
13...	13	--	11	7.5	6.8	4.7	3.0	2.9	6.9	3.4	--
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)											
AUG 1996											
13...	15	31	9.7	9.7	15	15	3.2	3.1	1.3	1.3	86
APR											
18...	17	--	6.8	7.0	11	11	3.0	3.0	1.3	1.3	--
JUN											
12...	22	--	43	43	44	44	6.2	6.0	1.9	1.9	0
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)											
AUG 1996											
15...	0.0	0	35	35	24	24	12	12	2.1	2.1	170
SEP											
13...	16	--	14	13	8.6	8.2	10	10	4.6	2.3	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SI02) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	RESIDUE SETTLE- ABLE (MG/L) (00545)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
AUG 1996											
13...	34	220	11	<.2	8.1	14	<.200	.29	.060	.200	.020
APR											
18...	36	210	14	<.2	6.8	<2	--	.15	<.040	.170	<.020
JUN											
12...	0	130	2.7	<.2	11	2	<.200	.12	.040	.080	<.020
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)											
AUG 1996											
15...	3	75	3.9	<.2	8.8	<2	--	.15	.040	.050	<.020
SEP											
13...	6	41	4.7	<.2	26	800	--	1.1	.240	.080	.460
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)											
AUG 1996											
13...	12	94	3.0	<.2	11	4	<.200	.15	<.040	.090	<.020
APR											
18...	9	81	3.8	<.2	8.7	<2	--	.09	<.040	.050	<.020
JUN											
12...	38	230	10	<.2	7.9	5	<.200	.26	<.040	.210	<.020
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)											
AUG 1996											
15...	22	150	14	<.2	8.6	<2	--	.15	.040	.030	.030
SEP											
13...	12	73	10	<.2	11	490	--	.94	.240	.030	.440

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (μ G/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	ARSENIC TOTAL (μ G/L AS AS) (01002)	ARSENIC DIS- SOLVED (μ G/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (μ G/L AS BA) (01007)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (μ G/L AS CD) (01027)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (μ G/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)										
AUG 1996										
13...	<140	<140	<4	<4	19	19	<10	<10	<50	<50
APR										
18...	<140	<140	<4	<4	18	18	<10	<10	<50	<50
JUN										
12...	1400	970	<4	<4	26	25	<10	<10	<50	<50
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
AUG 1996										
15...	660	<140	<4	<4	29	29	<10	<10	<50	<50
SEP										
13...	11000	170	<4	<4	100	23	<10	<10	<50	<50
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
AUG 1996										
13...	820	180	<4	<4	28	28	<10	<10	<50	<50
APR										
18...	970	820	<4	<4	20	20	<10	<10	<50	<50
JUN										
12...	310	<140	<4	<4	22	22	<10	<10	<50	<50
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
AUG 1996										
15...	760	<140	<4	<4	26	25	<10	<10	<50	<50
SEP										
13...	3900	170	<4	<4	37	16	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (μ G/L AS CO) (01037)	COBALT, DIS- SOLVED (μ G/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (μ G/L AS CU) (01042)	COPPER, DIS- SOLVED (μ G/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (μ G/L AS FE) (01045)	IRON, DIS- SOLVED (μ G/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (μ G/L AS PB) (01051)	LEAD, DIS- SOLVED (μ G/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (μ G/L AS LI) (01132)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)										
AUG 1996										
13...	70	68	<10	<10	15000	12000	<1	<1.0	<30	<25
APR										
18...	40	42	<10	<10	9500	8300	<1	<1.0	<30	<25
JUN										
12...	80	76	13	13	7100	5100	2	1.2	50	39
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
AUG 1996										
15...	30	<25	<10	<10	3700	2200	<1	<1.0	<30	<25
SEP										
13...	40	<25	36	<10	31000	690	31	<1.0	<30	<25
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
AUG 1996										
13...	60	58	<10	<10	8600	8000	<1	<1.0	<30	<25
APR										
18...	50	57	<10	<10	4300	3500	2	1.0	<30	<25
JUN										
12...	70	67	<10	<10	17000	15000	<1	<1.0	40	32
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
AUG 1996										
15...	<30	<25	16	16	2500	130	<1	<1.0	<30	<25
SEP										
13...	40	<25	16	<10	27000	460	13	<1.0	<30	<25

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μ G/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μ G/L AS NI) (01067)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (μ G/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μ G/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μ G/L AS ZN) (01092)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)										
AUG 1996										
13...	2700	2600	82	73	<7	<7	150	150	60	57
APR										
18...	1800	1800	50	51	<7	<7	90	83	60	57
JUN										
12...	2200	2200	100	100	<7	<7	40	44	280	280
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
AUG 1996										
15...	1300	1300	57	52	<7	<7	40	41	110	110
SEP										
13...	1200	640	54	<25	<7	<7	60	36	140	54
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
AUG 1996										
13...	1900	1800	65	71	<7	<7	40	40	140	140
APR										
18...	1300	1300	69	63	<7	<7	30	27	190	200
JUN										
12...	3100	2900	83	83	<7	<7	160	150	70	70
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
AUG 1996										
15...	1400	1400	56	51	<7	<7	140	140	70	39
SEP										
13...	1200	670	39	<25	<7	<7	70	59	160	23

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	FLOW RATE (G/M) (00059)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
403627076253001 ORCHARD DISCHARGE NORTH, SITE E3-N0, NR JOLIETT, PA (LAT 40 36 27N LONG 076 25 30W)											
MAR 1996											
14...	1145	1028	9813	--	517	5.4	--	478	10.5	2.4	22
APR											
18...	0930	1028	9813	--	380	5.4	5.4	403	10.0	2.4	21
403626076252902 ORCHARD DISCH. NORTH DOWNSTREAM, E3-N1, NR JOLIETT, PA (LAT 40 36 26N LONG 076 25 29W)											
MAR 1996											
14...	1115	1028	9813	--	512	6.2	--	282	11.5	8.4	78
APR											
18...	0945	1028	9813	--	368	6.1	--	342	12.0	10	92
403626076253001 ORCHARD DISCH. SOUTH, SITE E3-S0, NR JOLIETT, PA (LAT 40 36 26N LONG 076 25 30W)											
NOV 1995											
08...	1640	1028	80020	--	714	3.4	3.5	491	10.0	1.9	17
FEB 1996											
12...	1640	1028	80020	21	485	3.6	3.6	705	8.5	2.6	22
MAR											
26...	1640	1028	80020	36	410	3.5	3.5	684	10.0	2.2	19
27...	1640	1028	80020	11	413	3.4	3.5	689	9.5	2.7	23
APR											
18...	1030	1028	9813	--	409	3.6	3.5	663	11.0	2.9	26
403626076252901 ORCHARD DISCH. SOUTH, DS, SITE E3-S1, NR JOLIETT, PA (LAT 40 36 26N LONG 076 25 29W)											
NOV 1995											
08...	1100	1028	80020	--	589	5.0	4.5	333	10.5	1.8	16
FEB 1996											
12...	1100	1028	80020	11	473	3.6	--	657	5.5	9.8	80
MAR											
26...	1100	1028	80020	20	450	3.6	3.5	626	11.0	9.6	87
14...	1100	1028	9813	--	411	3.4	--	652	11.5	7.9	97
APR											
18...	1000	1028	9813	--	406	3.6	--	662	11.5	9.5	87

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

[illegible]

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

[illegible]

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

PARTIAL-RECORD STATION ANALYSES

[illegible]

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

* MISCELLANEOUS STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)											
APR 1996 18...	1600	1028	9813	--	648	4.8	5.9	455	8.5	7.7	66
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)											
APR 1996 18...	1615	1028	9813	--	500	5.5	--	463	10.0	4.0	35
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)											
MAR 1996 14...	1245	1028	9813	--	115	4.9	--	302	11.5	7.5	69
APR 1996 19...	1230	1028	9813	3.6	97	4.9	4.7	523	10.5	9.9	89
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)											
MAR 1996 14...	1230	1028	9813	--	444	5.3	--	227	11.5	4.4	41
APR 1996 18...	1300	1028	9813	--	412	5.5	--	382	11.5	5.4	50
APR 1996 19...	1345	1028	9813	--	406	5.4	5.3	397	11.0	5.4	49
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)											
JUL 1996 22...	1230	1028	9813	25	270	6.5	6.1	544	14.0	9.6	93
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)											
APR 1996 18...	1400	1028	9813	--	760	3.5	3.4	668	10.5	2.6	--
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)											
APR 1996 18...	1215	1028	9813	4.9	900	3.3	3.1	702	11.0	10.0	96
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)											
APR 1996 18...	1340	1028	9813	--	250	5.8	6.1	352	11.0	5.9	53

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

MISCELLANEOUS STATION ANALYSES

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)										
APR 1996 18...	0	51	47	32	29	6.7	6.6	1.2	1.2	--
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)										
APR 1996 18...	96	51	50	40	39	8.0	7.9	1.7	1.7	--
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	7.6	1.8	1.8	2.3	2.3	8.8	8.8	.8	.70	--
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 18...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	54	29	28	23	22	2.2	2.1	1.3	1.2	--
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)										
JUL 1996 22...	1.4	19	19	13	13	6.6	6.4	1.8	1.8	--
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)										
APR 1996 18...	64	31	31	32	32	1.5	1.9	1.8	1.8	--
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)										
APR 1996 18...	140	32	32	43	43	1.4	1.4	1.5	1.5	0
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)										
APR 1996 18...	3.0	17	14	15	14	.7	.99	1.2	1.2	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

MISCELLANEOUS STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)										
APR 1996 18...	32	230	8.4	<.2	6.3	42	3.4	.160	<.020	<.020
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)										
APR 1996 18...	--	290	12	<.2	11	--	--	--	--	.210
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	6	15	16	<.2	5.0	<2	<.04	<.040	<.020	<.020
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 18...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	16	160	2.4	<.2	13	<2	.15	<.040	.150	.060
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)										
JUL 1996 22...	7	96	11	<.2	7.5	12	.26	.150	.050	<.020
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)										
APR 1996 18...	0	250	.96	<.2	9.6	<2	.15	<.040	.130	<.020
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)										
APR 1996 18...	0	270	1.2	<.2	13	<2	.12	<.040	.140	<.020
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)										
APR 1996 18...	44	140	.46	<.2	8.7	<2	.12	<.040	.150	<.020

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

MISCELLANEOUS STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)										
APR 1996 18...	1300	500	<4	<4	46	18	<10	<10	<50	<50
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)										
APR 1996 18...	32000	12000	<4	<4	21	16	<10	<10	<50	<50
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	280	280	<4	<4	34	34	<10	<10	<50	<50
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 18...	--	--	--	--	--	--	--	--	--	--
19...	900	620	5	5	17	16	<10	<10	<50	<50
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)										
JUL 1996 22...	460	<140	<4	<4	26	24	<10	<10	<50	<50
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)										
APR 1996 18...	1800	1800	<4	<4	17	17	<10	<10	<50	<50
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)										
APR 1996 18...	6700	6700	<4	<4	19	19	<10	<10	<50	<50
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)										
APR 1996 18...	140	<140	5	5	26	26	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

MISCELLANEOUS STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)										
APR 1996 18...	50	40	<10	<10	7700	140	2	<1.0	<30	<30
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)										
APR 1996 18...	130	120	56	45	4100	37	5	1.1	40	34
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	<20	<20	<10	<10	320	260	<1	<1.0	<30	<30
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 1996 18...	--	--	--	--	--	--	--	--	--	--
APR 1996 19...	<30	<25	<10	<10	22000	22000	<1	<1.0	<30	<30
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)										
JUL 1996 22...	30	34	<10	<10	1700	630	<1	<1.0	<30	<25
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)										
APR 1996 18...	<30	<25	<10	13	6700	6100	3	3.2	<30	<25
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)										
APR 1996 18...	180	180	60	56	17000	17000	2	1.8	40	48
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)										
APR 1996 18...	<20	<20	<10	<10	18000	15000	<1	<1.0	<30	<30

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

MISCELLANEOUS STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μ G/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μ G/L AS NI) (01067)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (μ G/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μ G/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μ G/L AS ZN) (01092)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)
403940076205901 HEGINS RED SEEP, SITE C0-2, AT ZERBE, PA (LAT 40 39 40N LONG 076 20 59W)										
APR 1996 18...	2400	810	82	94	<7	<7	260	250	160	150
403939076205901 HEGINS WHITE SEEP, SITE C0-3, AT ZERBE, PA (LAT 40 39 39N LONG 076 20 59W)										
APR 1996 18...	3300	2600	260	240	<7	<7	150	150	710	680
403841076243001 EUREKA MINE TUNNEL, SITE C7-218, AT DONALDSON, PA (LAT 40 38 41N LONG 076 24 30W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 19...	290	290	<25	<25	<7	<7	10	13	60	57
403825076242301 COLKET MINE TUNNEL, SITE C7-219, AT DONALDSON, PA (LAT 40 38 25N LONG 076 24 23W)										
MAR 1996 14...	--	--	--	--	--	--	--	--	--	--
APR 18...	--	--	--	--	--	--	--	--	--	--
19...	1500	1400	72	72	<7	<7	110	110	100	98
01571593 GOOD SPRING CREEK BL MIDDLE CREEK AT TREMONT, PA (LAT 40 37 35N LONG 076 23 15W)										
JUL 1996 22...	900	900	42	42	<7	<7	90	84	80	82
403709076330201 MARKSON COLUMWAY NEAR VALLEY VIEW, PA (LAT 40 37 09N LONG 076 33 02W)										
APR 1996 18...	3600	3600	170	170	<7	<7	80	78	380	380
403619076310501 PORTER TUNNEL NEAR TOWER CITY, PA (LAT 40 36 02N LONG 076 30 21W)										
APR 1996 18...	3700	3700	320	320	<7	<7	70	72	660	660
403650076330701 VALLEY VIEW TUNNEL NEAR VALLEY VIEW, PA (LAT 40 36 56N LONG 076 33 04W)										
APR 1996 18...	1700	1700	100	45	<7	<7	80	75	40	41

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)											
DEC 1996 18...	1130	1028	9813	--	158	4.5	4.6	504	9.5	1.4	12
APR 1997 03...	1545	1028	9813	.92	127	4.6	4.9	--	9.0	.1	1
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)											
DEC 1996 18...	1100	1028	9813	1.6	154	4.3	4.5	515	8.5	9.5	82
APR 1997 03...	1500	1028	9813	.66	133	4.4	4.9	--	10.0	5.2	46
JUN 12...	1630	1028	9813	.15	290	6.8	6.6	379	9.0	.2	2
JUL 15...	1715	1028	9813	.10	350	7.3	6.6	234	9.5	.3	3
SEP 23...	1600	1028	9813	.27	250	6.3	6.3	394	10.5	.1	1
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)											
JUN 1997 12...	1550	1028	9813	.80	191	7.4	6.9	421	13.5	9.2	89
SEP 23...	1400	1028	9813	.45	188	7.3	6.4	487	11.5	9.4	88
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)											
JUN 1997 12...	1445	1028	9813	1.6	75	4.4	4.3	509	14.5	9.2	91
SEP 23...	1410	1028	9813	1.6	94	4.4	4.3	515	12.5	9.3	88
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)											
DEC 1996 18...	1000	1028	9813	1.3	83	4.2	4.4	302	6.5	1.4	93
MAR 1997 05...	0920	1028	9813	4.0	54	4.1	4.4	--	4.0	12.0	92
APR 03...	1300	1028	9813	6.0	88	3.5	4.4	--	7.5	7.4	61
JUN 12...	1400	1028	9813	2.4	96	6.8	6.4	340	15.0	9.0	90
SEP 23...	1230	1028	9813	1.1	111	7.0	6.2	427	12.0	9.4	89
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)											
APR 1997 03...	1245	1028	9813	6.0	87	3.6	4.5	--	7.5	7.4	62
JUN 12...	1415	1028	9813	2.4	97	6.9	6.5	308	14.5	8.9	89
SEP 23...	1215	1028	9813	1.1	114	7.0	6.2	443	12.0	9.5	90
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)											
APR 1997 03...	1230	1028	9813	6.0	80	4.0	4.6	--	7.5	7.9	66
JUN 12...	1430	1028	9813	2.4	97	7.1	6.6	279	15.0	9.2	92
SEP 23...	1200	1028	9813	1.1	115	7.0	6.2	419	12.0	9.6	90
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)											
DEC 1996 17...	1030	1028	9813	.77	106	4.8	6.0	306	7.5	12.0	98
MAR 1997 04...	1400	1028	9813	2.8	102	4.9	5.1	--	4.0	12.0	93
JUN 12...	1145	1028	9813	1.6	138	7.2	7.5	507	14.5	9.2	92
AUG 14...	1420	1028	9813	.56	179	5.6	5.8	345	19.0	8.4	90
SEP 23...	1045	1028	9813	.80	165	6.0	6.0	489	12.0	10.0	94

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)											
DEC 1996											
18...	34	--	2.6	2.6	5.1	5.0	8.8	8.8	1.4	1.3	0
APR 1997											
03...	42	--	2.6	2.6	4.8	4.6	8.4	8.4	.9	.91	3
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)											
DEC 1996											
18...	28	--	2.6	2.5	4.8	4.6	8.5	8.3	1.4	1.4	0
APR 1997											
03...	24	--	2.4	2.4	4.2	4.1	7.8	7.6	1	.99	2.6
JUN											
12...	0.0	0	38	38	4.4	4.3	8.2	8.2	1.6	1.5	84
JUL											
15...	0.0	0	52	48	4.4	4.2	8.4	8.0	1.6	.95	--
SEP											
23...	0.0	32	24	23	3.6	3.6	6.6	6.8	1.0	.95	66
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)											
JUN 1997											
12...	0.0	0	25	25	3.2	3.2	6.2	6.2	1.4	1.4	--
SEP											
23...	0.0	0	18	16	3.3	3.0	6.5	5.8	1.3	1.3	22
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)											
JUN 1997											
12...	12	--	1.2	1.2	1.0	1.0	5.2	5.2	.8	.79	0
SEP											
23...	11	9.6	1.0	1.0	1.0	1.6	6.8	6.6	7.1	<.50	0
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)											
DEC 1996											
18...	16	--	1.4	1.4	1.5	1.6	4.3	4.3	1	.90	0
MAR 1997											
05...	12	--	1.3	1.3	1.5	1.5	4.6	4.6	.6	<.50	0
APR											
03...	11	--	1.3	1.4	1.5	1.4	6.3	6.3	.5	<.50	0
JUN											
12...	1.0	0	8.5	7.9	1.6	1.6	5.3	5.2	1.2	1.2	8
SEP											
23...	5.8	0	8.2	7.4	2.0	1.8	11	8.0	.6	.61	6
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)											
APR 1997											
03...	13	--	1.5	1.5	1.4	1.4	6.4	6.4	.6	<.50	0
JUN											
12...	0.0	0	8.2	7.9	1.6	1.6	5.0	4.9	1.4	1.2	9
SEP											
23...	4.4	0	7.1	6.9	1.8	1.7	6.7	6.1	.7	.58	5
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)											
APR 1997											
03...	10	--	2.1	2.0	1.4	1.4	6.3	6.2	.5	<.50	1.2
JUN											
12...	0.0	0	8.3	8.3	1.5	1.6	4.8	4.8	1.3	.79	11
SEP											
23...	1.3	0	7.1	6.9	1.8	1.7	6.0	5.7	.7	<.50	6
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)											
DEC 1996											
17...	5.0	--	8.3	5.2	4.2	3.9	3.2	3.0	.9	.89	--
MAR 1997											
04...	6.6	--	5.1	7.1	4.9	4.3	4.6	4.4	.9	.76	3
JUN											
12...	0.0	0	48	11	5.5	5.2	4.3	4.3	1.1	1.1	--
AUG											
14...	3.8	7.3	12	11	8.6	8.0	5.2	4.9	.8	.84	3
SEP											
23...	4.6	4.1	9.6	8.9	6.8	6.6	5.2	4.9	.8	.83	3

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SiO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
DEC 1996										
18...	1	43	10	<.2	8.7	4	.12	<.040	.080	<.020
APR 1997										
03...	--	47	12	<.2	8.6	<2	.15	<.040	.090	<.020
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
DEC 1996										
18...	0	42	10	<.2	8.5	52	.12	<.040	.080	<.020
APR 1997										
03...	--	42	11	<.2	8.1	<2	.15	<.040	.080	<.020
JUN										
12...	84	42	12	<.2	7.4	<2	.16	<.040	.130	<.020
JUL										
15...	120	38	12	<.2	7.4	16	.15	<.040	.080	<.020
SEP										
23...	62	35	10	<.2	6.5	<2	.11	<.040	.090	<.020
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
JUN 1997										
12...	38	38	9.3	<.2	5.3	<2	.13	<.040	.050	<.020
SEP										
23...	24	37	10	<.2	5.1	6	.13	<.040	.050	<.020
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
JUN 1997										
12...	0	16	9.6	<.2	4.6	<2	.13	<.040	<.020	<.020
SEP										
23...	0	18	13	<.2	4.4	24	.11	<.040	<.020	<.020
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
DEC 1996										
18...	0	18	6.1	<.2	5.0	<2	.12	<.040	.020	<.020
MAR 1997										
05...	--	19	7.5	<.2	5.2	16	.19	.050	.030	<.020
APR										
03...	--	18	11	<.2	6.5	20	.15	<.040	<.020	<.020
JUN										
12...	8	21	9.1	<.2	4.7	<2	.13	<.040	.020	<.020
SEP										
23...	7	22	12	<.2	4.4	6	.12	<.040	.020	<.020
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)										
APR 1997										
03...	--	18	11	<.2	5.6	24	.16	<.040	<.020	<.020
JUN										
12...	9	21	9.1	<.2	4.5	<2	.12	<.040	.020	<.020
SEP										
23...	7	21	11	<.2	4.3	<2	.12	<.040	.020	<.020
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)										
APR 1997										
03...	--	18	11	<.2	4.8	<2	.13	<.040	<.020	<.020
JUN										
12...	11	21	9.4	<.2	6.6	<2	.15	<.040	.020	<.020
SEP										
23...	7	21	12	<.2	4.5	6	.13	<.040	.020	<.020
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
DEC 1996										
17...	6	30	4.9	<.2	5.5	<2	.12	<.040	.020	<.020
MAR 1997										
04...	--	33	6.5	<.2	6.1	32	.21	<.040	<.020	<.020
JUN										
12...	15	42	7.4	<.2	5.8	40	.13	<.040	<.020	<.020
AUG										
14...	4	60	8.3	<.2	6.7	6	.27	.140	<.020	<.020
SEP										
23...	4	51	9.4	<.2	6.0	8	.13	.050	<.020	<.020

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (μ G/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	ARSENIC TOTAL (μ G/L AS AS) (01002)	ARSENIC DIS- SOLVED (μ G/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (μ G/L AS BA) (01007)	BARIUM, DIS- SOLVED (μ G/L AS BA) (01005)	CADMIUM WATER UNFLTRD (μ G/L AS CD) (01027)	CADMIUM DIS- SOLVED (μ G/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (μ G/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (μ G/L AS CR) (01030)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
DEC 1996										
18...	690	680	<4	<4	24	24	<10	<10	<50	<50
APR 1997										
03...	740	600	<4	<4	25	24	<10	<10	<50	<50
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
DEC 1996										
18...	610	600	<4	<4	24	23	<10	<10	<50	<50
APR 1997										
03...	460	460	<4	<4	23	23	<10	<10	<50	<50
JUN										
12...	<140	<140	<40	<40	23	21	<10	<10	<50	<50
JUL										
15...	<140	<140	<4	<4	19	19	<10	<10	<50	<50
SEP										
23...	<200	<200	<4	<4	18	18	<10	<10	<50	<50
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
JUN 1997										
12...	150	<140	<40	<40	28	28	<10	<10	<50	<50
SEP										
23...	<200	<200	<4	<4	22	20	<10	<10	<50	<50
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
JUN 1997										
12...	760	720	<40	<40	44	44	<10	<10	<50	<50
SEP										
23...	580	580	<4	<4	44	44	<10	<10	<50	<50
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
DEC 1996										
18...	800	800	<4	<4	500	33	<10	<10	<50	<50
MAR 1997										
05...	980	700	<4	<4	33	33	<10	<10	<50	<50
APR										
03...	1400	710	<4	<4	43	38	<10	<10	<50	<50
JUN										
12...	550	190	<40	<40	36	34	<10	<10	<50	<50
SEP										
23...	370	<200	<4	<4	200	120	<10	<10	<50	<50
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)										
APR 1997										
03...	1000	710	<4	<4	41	39	<10	<10	<50	<50
JUN										
12...	510	200	<40	<40	33	32	<10	<10	<50	<50
SEP										
23...	380	<200	<4	<4	66	44	<10	<10	<50	<50
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)										
APR 1997										
03...	740	640	<4	<4	38	37	<10	<10	<50	<50
JUN										
12...	590	230	<40	<40	33	32	<10	<10	<50	<50
SEP										
23...	390	<200	<4	<4	37	32	<10	<10	<50	<50
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
DEC 1996										
17...	840	310	<4	<4	29	27	<10	<10	<50	<50
MAR 1997										
04...	980	1200	<4	<4	38	38	<10	<10	<50	<50
JUN										
12...	810	140	<4	<4	28	27	<10	<10	<50	<50
AUG										
14...	530	<200	<4	<4	26	24	<10	<10	<50	<50
SEP										
23...	570	<200	<4	<4	25	24	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
DEC 1996 18...	<30	<25	<10	<10	6400	6300	1	1.3	<30	<20
APR 1997 03...	40	50	11	<10	9800	9400	2	1.7	<30	<30
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
DEC 1996 18...	<30	<25	<10	<10	5700	5500	1	1.3	<30	<25
APR 1997 03...	40	40	<10	<10	7200	7200	3	1.2	<30	<30
JUN 12...	40	40	<10	<10	9300	9300	<10	<10	<30	<25
JUL 15...	40	32	<10	<10	9400	6700	<1	<1.0	<30	<25
SEP 23...	30	<25	<10	<10	8500	8500	<1	<1.0	<30	<25
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
JUN 1997 12...	<30	<25	<10	<10	750	280	<10	<10	<30	<25
SEP 23...	<30	<25	<10	<10	1100	360	<1	<1.0	<30	<25
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
JUN 1997 12...	<30	<25	<10	<10	140	100	<10	<10	<30	<25
SEP 23...	<30	<25	<10	<10	200	170	2	1.5	<30	<25
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
DEC 1996 18...	<30	<25	<10	<10	890	890	<1	<1.0	<30	<25
MAR 1997 05...	<20	<20	<10	<10	1700	1000	1	<1.0	<30	<30
APR 03...	20	<20	<10	<10	5200	860	<1	1.5	<30	<30
JUN 12...	<30	<25	<10	<10	330	71	<10	<10	<30	<25
SEP 23...	<30	<25	<10	<10	440	120	<1	<1.0	<30	<25
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)										
APR 1997 03...	<20	<20	<10	<10	2100	880	1	<1.0	<30	<30
JUN 12...	<30	<25	<10	<10	300	70	<10	<10	<30	<25
SEP 23...	<30	<25	<10	<10	470	120	<1	<1.0	<30	<25
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)										
APR 1997 03...	<20	<20	<10	<10	890	760	1	<1.0	<30	<30
JUN 12...	<30	<25	<10	<10	660	130	<10	<10	<30	<25
SEP 23...	<30	<25	<10	<10	450	140	<1	<1.0	<30	<25
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
DEC 1996 17...	<30	<25	<10	<10	540	340	2	<1.0	<30	<25
MAR 1997 04...	<20	<20	<10	<10	530	340	<1	<1.0	<30	<30
JUN 12...	<30	<25	<10	<10	430	30	1	<1.0	<30	<25
AUG 14...	<30	<25	<10	<10	240	110	<1	<1.0	<30	<25
SEP 23...	<30	<25	<10	<10	240	65	<1	<1.0	<30	<25

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μG/L AS NI) (01067)	NICKEL, DIS- SOLVED (μG/L AS NI) (01065)	SELE- NIUM, TOTAL (μG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μG/L AS ZN) (01092)	ZINC, DIS- SOLVED (μG/L AS ZN) (01090)
404032076222901 NW TRIB TO SWATARA CREEK, SITE A1, NR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 29W)										
DEC 1996										
18...	700	670	66	<25	<7	<7	20	17	130	130
APR 1997										
03...	680	620	63	47	<7	<7	20	17	130	130
0157154970 NW TRIB TO SWATARA CR, SITE A2, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 22 25W)										
DEC 1996										
18...	690	670	63	58	<7	<7	20	16	120	120
APR 1997										
03...	620	610	54	60	<7	<7	20	16	90	83
JUN										
12...	610	610	47	43	<70	<70	40	40	60	58
JUL										
15...	640	600	47	37	<7	<7	50	49	50	42
SEP										
23...	560	560	39	39	<7	<7	30	28	60	48
0157154972 NW TRIB TO SWATARA CR, SITE A3, NEAR NEWTOWN, PA (LAT 40 40 32N LONG 076 21 59W)										
JUN 1997										
12...	360	360	<25	<25	<70	<70	30	32	20	15
SEP										
23...	350	320	<50	<50	<7	<7	20	22	20	14
0157154960 SWATARA CREEK, AB NW TRIB, SITE B0, NR NEWTOWN, PA (LAT 40 40 34N LONG 076 21 57W)										
JUN 1997										
12...	170	170	<25	<25	<70	<70	10	14	40	43
SEP										
23...	190	180	<25	<25	<7	<7	770	380	30	41
0157154980 SWATARA CR, BL NW TRIB, SITE B1, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 41W)										
DEC 1996										
18...	250	250	<25	<25	<7	<7	10	13	60	55
MAR 1997										
05...	240	240	<25	<25	<7	<7	10	13	40	43
APR										
03...	230	230	<25	<25	<7	<7	10	13	50	44
JUN										
12...	220	220	<25	<25	<70	<70	20	17	30	23
SEP										
23...	230	220	<25	<25	<7	<7	190	99	20	14
0157154982 SWATARA CR, BL NW TRIB, SITE B2, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 39W)										
APR 1997										
03...	240	240	<25	<25	<7	<7	10	13	50	46
JUN										
12...	220	210	<25	<25	<70	<70	20	16	30	22
SEP										
23...	230	230	<25	<25	<7	<7	50	28	20	15
0157154984 SWATARA CR, BL NW TRIB, SITE B3, NEAR NEWTOWN, PA (LAT 40 40 22N LONG 076 21 36W)										
APR 1997										
03...	230	220	<25	<25	<7	<7	10	13	40	60
JUN										
12...	210	200	<25	<25	<70	<70	20	16	40	23
SEP										
23...	230	220	<25	<25	<7	<7	20	17	20	14
0157155012 SWATARA CREEK, SITE C2, AT NEWTOWN, PA (LAT 40 39 31N LONG 076 20 47W)										
DEC 1996										
17...	310	300	34	<25	<7	<7	20	19	70	60
MAR 1997										
04...	390	390	52	25	<7	<7	30	27	80	82
JUN										
12...	380	350	<25	<25	<7	<7	40	27	60	14
AUG										
14...	400	380	39	35	<7	<7	40	34	70	64
SEP										
23...	420	410	<50	<50	<7	<7	30	26	70	61

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
DEC 1996											
18...	1330	1028	9813	7.6	192	5.6	5.4	469	9.0	10.0	90
MAR 1997											
05...	1045	1028	9813	2.7	129	5.7	5.9	--	8.5	10.0	87
JUN											
11...	1300	1028	9813	2.4	164	6.0	6.1	352	11.5	9.6	88
SEP											
24...	1515	1028	9813	1.5	280	6.6	6.0	392	11.0	10.0	96
0157158014 COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)											
DEC 1996											
18...	1300	1028	9813	7.6	197	5.6	5.4	444	9.0	11.0	93
MAR 1997											
05...	1055	1028	9813	2.7	126	6.1	5.9	--	8.5	10.0	89
JUN											
11...	1315	1028	9813	2.4	222	6.3	6.0	352	12.0	10.0	93
SEP											
24...	1500	1028	9813	1.5	266	6.7	6.0	392	11.0	11.0	100
0157156010 MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)											
DEC 1996											
18...	1415	1028	9813	3.9	175	5.4	5.1	434	9.0	11.0	96
MAR 1997											
05...	1120	1028	9813	.78	115	5.1	4.8	--	7.5	11.0	90
JUN											
11...	1340	1028	9813	1.6	185	5.4	5.1	398	15.5	9.8	100
SEP											
25...	1515	1028	9813	.73	257	6.4	5.7	345	13.5	8.0	77
0157156012 MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)											
DEC 1996											
18...	1400	1028	9813	.97	183	6.3	6.8	414	9.0	11.0	96
MAR 1997											
05...	1135	1028	9813	1.0	114	6.1	6.0	--	7.5	10.0	87
JUN											
11...	1343	1028	9813	.75	191	5.7	5.8	378	15.5	9.7	98
SEP											
25...	1500	1028	9813	.49	267	7.1	6.6	290	14.0	9.1	90
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
DEC 1996											
18...	1345	1028	9813	4.9	180	6.0	6.3	449	9.0	11.0	96
MAR 1997											
05...	1150	1028	9813	1.8	113	6.1	5.9	--	8.0	11.0	93
JUN											
11...	1420	1028	9813	1.6	189	6.0	5.7	368	15.5	10.0	100
SEP											
25...	1450	1028	9813	.73	271	7.2	6.6	280	14.0	8.6	84
01572010 SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)											
JUN 1997											
03...	1115	1028	9813	910	--	6.4	6.3	--	13.0	13	91
AUG											
14...	1020	1028	9813	54	237	7.2	6.5	353	20.5	8.3	92
22...	1015	1028	9813	99	--	--	6.4	--	--	--	--
SEP											
22...	1100	1028	9813	--	296	7.1	6.2	352	11.0	9.5	88
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
SEP 1997											
24...	1130	1028	9813	--	635	6.0	6.1	272	11.0	.6	5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
DEC 1996											
18...	11	--	11	11	11	11	4.8	4.7	1.0	.95	--
MAR 1997											
05...	5.0	--	15	14	14	14	6.0	5.9	.9	.82	--
JUN											
11...	4.4	--	14	14	14	14	6.9	6.8	1.6	1.6	10
SEP											
24...	5.0	9.6	16	15	12	12	6.4	6.3	.9	.86	15
0157158014 COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)											
DEC 1996											
18...	8.2	--	11	11	11	11	4.9	4.8	1.0	.91	--
MAR 1997											
05...	3.2	--	15	15	14	14	5.8	5.7	1.1	.90	--
JUN											
11...	2.8	--	15	15	14	14	6.9	6.9	1.0	.86	11
SEP											
24...	3.8	0	18	17	16	16	7.0	6.8	1.0	.79	15
0157156010 MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)											
DEC 1996											
18...	10	--	9.8	9.7	8.3	8.1	4.7	4.5	1.1	1.1	--
MAR 1997											
05...	12	--	11	10	9.0	8.7	6.8	6.8	.8	.82	--
JUN											
11...	13	--	10	10	8.5	8.4	6.3	6.5	.8	.84	3
SEP											
25...	7.8	--	17	16	14	13	5.9	5.4	1.1	1.1	5
0157156012 MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)											
DEC 1996											
18...	0.0	--	27	12	8.4	8.2	4.9	4.6	1.0	1.0	--
MAR 1997											
05...	.8	--	22	11	8.7	8.4	6.6	6.2	.9	.87	--
JUN											
11...	7.6	--	12	11	8.9	8.9	6.3	6.2	.9	.80	--
SEP											
25...	0.0	0	36	21	13	13	5.6	5.2	1.0	1.0	12
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
DEC 1996											
18...	0.0	--	14	11	8.2	8.2	4.7	4.7	1.1	1.0	--
MAR 1997											
05...	2.0	--	19	11	9.0	8.8	7.5	7.5	.9	.90	--
JUN											
11...	11	--	10	10	8.0	8.0	5.7	5.6	.9	.93	3
SEP											
25...	0.0	0	35	21	14	13	5.5	5.2	1.0	.96	12
01572010 SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)											
JUN 1997											
03...	4.4	--	7.2	7.2	3.4	3.4	4.4	4.4	2.0	1.6	--
AUG											
14...	0.0	0	15	14	9.8	9.3	9.8	9.3	1.5	1.4	--
22...	0.0	--	11	10	6.0	5.7	6.4	6.2	1.9	1.6	--
SEP											
22...	3.6	0	20	20	15	14	12	12	1.5	1.4	--
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
SEP 1997											
24...	14	53	44	44	46	46	5.9	5.9	1.7	1.7	47

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS P) (00951)	SILICA TOTAL (MG/L- SiO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE SETTLE- ABLE (MG/L) (00545)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)											
DEC 1996											
18...	4	69	6.0	<.2	7.4	<2	--	.12	.040	.020	<.020
MAR 1997											
05...	11	74	8.8	<.2	7.7	8	--	.17	<.040	.030	<.020
JUN											
11...	10	76	10	<.2	7.8	<2	--	.15	<.040	.030	<.020
SEP											
24...	17	78	11	<.2	7.6	<2	--	.11	<.040	.040	<.020
0157158014 COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)											
DEC 1996											
18...	3	68	6.0	<.2	7.4	<2	--	.09	<.040	.020	<.020
MAR 1997											
05...	11	72	8.5	<.2	7.8	14	--	.19	<.040	.030	<.020
JUN											
11...	11	75	10	<.2	5.5	<2	--	.16	<.040	.040	<.020
SEP											
24...	17	78	11	<.2	8.4	<2	--	.09	.040	.040	<.020
0157156010 MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)											
DEC 1996											
18...	3	60	7.3	<.2	--	<2	--	.12	<.040	.020	<.020
MAR 1997											
05...	2	66	10	<.2	8.7	6	--	.17	.040	.030	<.020
JUN											
11...	3	66	10	<.2	7.0	<2	--	.11	<.040	.030	<.020
SEP											
25...	6	96	9.1	<.2	10	16	--	.23	<.040	.050	<.020
0157156012 MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)											
DEC 1996											
18...	15	59	7.2	<.2	--	<2	--	.12	.050	.020	<.020
MAR 1997											
05...	8	64	10	<.2	8.3	12	--	.16	.040	.030	<.020
JUN											
11...	4	64	10	<.2	8.3	<2	--	.09	<.040	.030	<.020
SEP											
25...	19	100	9.3	<.2	9.5	22	--	.13	<.040	.050	<.020
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)											
DEC 1996											
18...	8	58	7.1	<.2	--	4	--	.12	<.040	.020	<.020
MAR 1997											
05...	7	64	10	<.2	8.6	20	--	.16	.040	.030	<.020
JUN											
11...	3	63	10	<.2	7.1	<2	--	.11	.040	.030	<.020
SEP											
25...	18	99	9.0	<.2	9.0	26	--	.15	<.040	.050	<.020
01572010 SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)											
JUN 1997											
03...	11	20	5.8	<.2	8.4	64	--	1.3	.720	.060	.040
AUG											
14...	15	71	8.6	<.2	6.7	2	--	1.4	.620	.330	<.020
22...	16	38	7.9	<.2	6.6	14	<.200	1.4	.850	.120	.020
SEP											
22...	11	92	9.6	<.2	8.0	8	<.200	.71	.200	.160	<.020
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)											
SEP 1997											
24...	50	210	9.5	<.2	9.1	14	--	.27	<.040	.190	<.020

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
0157158010 COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)										
DEC 1996										
18...	560	460	<4	<4	26	26	<10	<10	<50	<50
MAR 1997										
05...	280	150	<4	<4	23	22	<10	<10	<50	<50
JUN										
11...	330	<140	<4	<4	26	25	<10	<10	<50	<50
SEP										
24...	<200	<200	<4	<4	22	22	<10	<10	<50	<50
0157158014 COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)										
DEC 1996										
18...	620	440	<4	<4	31	31	<10	<10	<50	<50
MAR 1997										
05...	320	<140	<4	<4	22	22	<10	<10	<50	<50
JUN										
11...	490	<140	<4	<4	26	26	<10	<10	<50	<50
SEP										
24...	<200	<200	<4	<4	25	24	<10	<10	<50	<50
0157156010 MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)										
DEC 1996										
18...	400	330	<4	<4	24	24	<10	<10	<50	<50
MAR 1997										
05...	380	300	<4	<4	25	21	<10	<10	<50	<50
JUN										
11...	330	200	<4	<4	29	29	<10	<10	<50	<50
SEP										
25...	300	<200	<4	<4	27	25	<10	<10	<50	<50
0157156012 MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)										
DEC 1996										
18...	390	<140	<4	<4	29	26	<10	<10	<50	<50
MAR 1997										
05...	410	<140	<4	<4	26	23	<10	<10	<50	<50
JUN										
11...	330	<140	<4	<4	28	28	<10	<10	<50	<50
SEP										
25...	400	<200	<4	<4	26	23	<10	<10	<50	<50
0157156014 MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)										
DEC 1996										
18...	420	<140	<4	<4	28	28	<10	<10	<50	<50
MAR 1997										
05...	410	<140	<4	<4	27	25	<10	<10	<50	<50
JUN										
11...	360	<140	<4	<4	25	25	<10	<10	<50	<50
SEP										
25...	370	<200	<4	<4	25	22	<10	<10	<50	<50
01572010 SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)										
JUN 1997										
03...	1800	<140	<40	<40	33	23	<10	<10	<50	<50
AUG										
14...	<200	<200	<4	<4	26	24	<10	<10	<50	<50
22...	220	<200	<4	<4	27	23	<10	<10	<50	<50
SEP										
22...	300	<200	<4	<4	24	24	<10	<10	<50	<50
403745076271901 TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)										
SEP 1997										
24...	<200	<200	<4	<4	21	21	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
0157158010	COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)									
DEC 1996										
18...	30	27	12	11	620	500	<1	<1.0	<30	<25
MAR 1997										
05...	20	24	12	<10	1500	1200	<1	<1.0	<30	<30
JUN										
11...	60	50	<10	<10	1400	1100	<1	<1.0	<30	<25
SEP										
24...	<30	<25	<10	<10	2000	1800	1	<1.0	<30	<25
0157158014	COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)									
DEC 1996										
18...	30	25	12	10	580	470	<1	<1.0	<30	<25
MAR 1997										
05...	<20	<20	<10	<10	1400	1200	<1	<1.0	<30	<30
JUN										
11...	60	47	<10	<10	1700	1100	<1	<1.0	<30	<25
SEP										
24...	30	28	<10	<10	2100	1900	1	<1.0	<30	<30
0157156010	MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)									
DEC 1996										
18...	<30	<25	<10	<10	2100	1700	<1	<1.0	<20	<20
MAR 1997										
05...	40	40	<10	<10	2800	2400	<1	<1.0	<30	<25
JUN										
11...	40	40	<10	<10	2500	2200	<1	<1.0	<30	<25
SEP										
25...	<30	<25	<10	<10	2400	2100	<1	<1.0	<30	<25
0157156012	MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)									
DEC 1996										
18...	<30	<25	10	<10	2200	1400	<1	<1.0	<20	<20
MAR 1997										
05...	40	36	<10	<10	3000	2400	<1	<1.0	<30	<25
JUN										
11...	50	48	<10	<10	2600	2300	<1	<1.0	<30	<25
SEP										
25...	<50	<50	<10	<10	3900	350	<1	<1.0	<30	<25
0157156014	MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)									
DEC 1996										
18...	<30	<25	<10	<10	2000	1500	<1	<1.0	<30	<25
MAR 1997										
05...	40	41	<10	<10	2900	2300	<1	<1.0	<30	<25
JUN										
11...	<30	<25	<10	<10	2400	1900	<1	<1.0	<30	<25
SEP										
25...	<50	<50	<10	<10	3600	130	<1	<1.0	<30	<25
01572010	SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)									
JUN 1997										
03...	<30	<25	<10	<10	3600	280	<10	<10	<30	<25
AUG										
14...	<30	<25	<10	<10	290	71	<1	<1.0	<30	<25
22...	<30	<25	<10	<10	520	95	<1	<1.0	<30	<25
SEP										
22...	<20	<20	<10	<10	350	150	<1	1.2	<30	<30
403745076271901	TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)									
SEP 1997										
24...	50	45	<10	<10	18000	16000	<1	<1.0	30	31

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
0157158010	COAL RUN, SITE C4, NEAR TREMONT, PA (LAT 40 38 35N LONG 076 22 47W)									
DEC 1996										
18...	780	780	48	48	<7	<7	90	85	110	110
MAR 1997										
05...	890	870	43	39	<7	<7	110	110	80	78
JUN										
11...	870	840	35	27	<7	<7	110	110	70	70
SEP										
24...	1100	1100	37	32	<7	<7	130	130	70	69
0157158014	COAL RUN, SITE C6, NEAR TREMONT, PA (LAT 40 38 32N LONG 076 22 46W)									
DEC 1996										
18...	780	780	45	45	<7	<7	90	89	110	110
MAR 1997										
05...	860	860	38	42	<7	<7	100	100	80	76
JUN										
11...	900	880	36	30	<7	<7	110	110	80	72
SEP										
24...	1200	1200	<50	<50	<7	<7	140	140	60	60
0157156010	MARTIN RUN, SITE C7, AT DONALDSON, PA (LAT 40 38 19N LONG 076 24 19W)									
DEC 1996										
18...	630	610	28	27	<7	<7	50	46	70	68
MAR 1997										
05...	700	670	<25	<25	<7	<7	50	51	40	35
JUN										
11...	660	650	<25	<25	<7	<7	50	50	50	51
SEP										
25...	810	740	26	<25	<7	<7	80	69	50	41
0157156012	MARTIN RUN, SITE C8, AT DONALDSON, PA (LAT 40 38 17N LONG 076 24 19W)									
DEC 1996										
18...	620	610	<25	33	<7	<7	60	48	70	50
MAR 1997										
05...	680	660	29	29	<7	<7	60	49	30	25
JUN										
11...	700	700	<25	<25	<7	<7	50	49	50	52
SEP										
25...	940	840	42	33	<7	<7	80	72	50	<10
0157156014	MARTIN RUN, SITE C9, AT DONALDSON, PA (LAT 40 38 16N LONG 076 24 19W)									
DEC 1996										
18...	620	620	<25	<25	<7	<7	50	49	70	61
MAR 1997										
05...	700	680	<25	<25	<7	<7	60	52	40	29
JUN										
11...	620	620	<25	<25	<7	<7	50	45	50	49
SEP										
25...	870	780	<25	<25	<7	<7	80	71	40	<10
01572010	SWATARA CR BL SR 645 HWY BRIDGE AT PINE GROVE, PA (LAT 40 32 12N LONG 076 21 59W)									
JUN 1997										
03...	330	220	<25	<25	<70	<70	40	37	50	21
AUG										
14...	360	340	<25	<25	<7	<7	80	75	30	23
22...	250	190	<25	<25	<7	<7	60	56	20	12
SEP										
22...	700	690	46	42	<7	<7	90	91	60	55
403745076271901	TRACY AIRHOLE, SITE E1-229, NEAR DONALDSON, PA (LAT 40 37 45N LONG 076 27 19W)									
SEP 1997										
24...	2700	2700	60	60	<7	<7	160	160	40	37

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
01571774 LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)											
SEP 1997 25...	1145	1028	9813	2.5	243	7.0	6.0	286	12.0	11.0	110
01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)											
SEP 1997 25...	1130	1028	9813	2.8	244	7.0	5.8	328	11.0	9.9	90
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)											
MAR 1997 04...	1540	1028	9813	17	164	6.8	5.8	--	7.5	11.0	89
APR 23...	1500	1028	9813	10	217	6.1	6.0	--	12.0	9.0	83
SEP 25...	1045	1028	9813	3.6	227	6.6	5.8	344	9.5	10.0	90
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)											
JAN 1997 23...	1645	1028	9813	4.8	225	5.9	5.8	--	11.5	8.4	78
MAR 04...	1500	1028	9813	8.2	88	5.7	5.7	--	12.0	8.5	78
OCT 1996 07...	1030	1028	9813	2.7	352	4.5	4.5	--	12.0	10.0	97
APR 1997 23...	1430	1028	9813	5.2	179	6.6	6.0	--	10.5	11.0	95
SEP 25...	1345	1028	9813	2.2	265	6.1	5.9	342	12.0	10.0	97
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)											
SEP 1997 25...	1100	1028	9813	--	386	6.9	--	323	10.0	10.0	92
01571776 STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)											
SEP 1997 25...	1200	1028	9813	.22	44	6.5	5.8	372	11.0	8.4	77

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, TOTAL DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, TOTAL DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, TOTAL DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
	01571774		LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)								
SEP 1997 25...	11	0	11	11	16	16	3.4	3.4	1.3	1.3	13
	01571778		LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)								
SEP 1997 25...	14	0	14	14	15	15	3.0	3.0	1.2	1.2	5
	01571780		LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)								
MAR 1997 04...	8.0	0	12	12	9.1	9.1	4.3	4.2	.9	.92	--
APR 23...	14	--	7.8	7.9	8.0	8.0	2.2	2.2	1.2	.96	--
SEP 25...	11	--	13	13	14	13	3.5	3.3	1.0	1.0	5
	403542076263201		ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)								
JAN 1997 23...	24	--	8.5	8.2	14	13	2.4	2.4	1.3	1.3	--
MAR 04...	19	--	8.5	8.5	15	15	2.6	2.6	1.3	1.1	--
OCT 1996 07...	24	--	19	19	26	26	4.0	4.0	1.7	1.7	--
APR 1997 23...	.80	--	8.0	7.8	12	12	2.3	2.3	1.5	1.5	--
SEP 25...	19	--	11	11	18	17	3.2	3.1	1.3	1.2	15
	01571760		LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)								
SEP 1997 25...	--	16	--	--	--	--	--	--	--	--	11
	01571776		STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)								
SEP 1997 25...	0.0	--	3.1	3.0	2.1	2.0	.7	.74	.7	.74	5

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEDED (MG/L) (00530)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
01571774 LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)										
SEP 1997 25...	12	100	3.3	<.2	11	40	.12	<.040	.080	<.020
01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)										
SEP 1997 25...	5	110	3.0	<.2	10	26	.13	<.040	.070	<.020
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
MAR 1997 04...	5	62	7.1	<.2	7.7	30	.21	.060	.050	<.020
APR 23...	5	68	3.3	<.2	6.7	<2	.15	.040	.050	<.020
SEP 25...	5	100	4.1	<.2	9.9	24	.17	.040	.070	<.020
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
JAN 1997 23...	9	86	2.8	<.2	9.2	2	.20	<.040	.070	<.020
MAR 04...	10	75	2.6	<.2	10	28	.15	<.040	.070	<.020
OCT 1996 07...	0	150	2.9	<.2	12	<2	.15	<.040	.090	<.020
APR 1997 23...	12	81	2.7	<.2	9.4	<2	.12	<.040	.080	.020
SEP 25...	16	100	3.4	<.2	10	28	.12	<.040	.100	<.020
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
SEP 1997 25...	--	--	--	--	--	--	--	--	--	--
01571776 STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)										
SEP 1997 25...	5	13	.69	<.2	6.7	10	.08	<.040	<.020	<.020

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
01571774 LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)										
SEP 1997 25...	940	<200	<4	<4	26	26	<10	<10	<50	<50
01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)										
SEP 1997 25...	1300	<200	<4	<4	23	24	<10	<10	<50	<50
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
MAR 1997 04...	1100	<140	<4	<4	21	21	<10	<10	<50	<50
APR 23...	680	<140	<4	<4	300	18	<10	<10	<50	<50
SEP 25...	990	<200	<4	<4	23	22	<10	<10	<50	<50
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
JAN 1997 23...	570	<140	<4	<4	23	22	<10	<10	<50	<50
MAR 04...	600	240	<4	<4	26	26	<10	<10	<50	<50
OCT 1996 07...	1300	990	<4	<4	29	29	<10	<10	<50	<50
APR 1997 23...	570	140	<4	<4	25	25	<10	<10	<50	<50
SEP 25...	1000	<200	<4	<4	28	28	<10	<10	<50	<50
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
SEP 1997 25...	--	--	--	--	--	--	--	--	--	--
01571776 STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)										
SEP 1997 25...	<200	<200	<4	<4	12	12	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
01571774 LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)										
SEP 1997 25...	<30	51	<10	<10	8500	7600	1	<1.0	<30	<25
01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)										
SEP 1997 25...	70	67	<10	<10	7800	6200	<1	1.1	<30	<25
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
MAR 1997 04...	50	45	11	11	2300	6700	<1	<1.0	<30	<30
APR 23...	<30	<25	<10	<10	4000	2900	2	<1.0	<30	<25
SEP 25...	60	56	<10	<10	5900	4400	<1	<1.0	<30	<25
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
JAN 1997 23...	40	38	<10	<10	7100	5600	<1	<1.0	<30	<25
MAR 04...	50	44	<10	<10	6500	4900	<1	<1.0	<30	<30
OCT 1996 07...	60	44	<10	<10	8000	5800	2	<1.0	40	42
APR 1997 23...	<30	<25	<10	<10	6700	5400	<1	2.9	<30	<25
SEP 25...	60	49	<10	<10	9400	8900	<1	<1.0	<30	<25
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
SEP 1997 25...	--	--	--	--	--	--	--	--	--	--
01571776 STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)										
SEP 1997 25...	<30	<25	<10	<10	20	<10	<1	<1.0	<30	<25

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PARTIAL-RECORD STATION ANALYSES

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (μ G/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (μ G/L AS NI) (01067)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SELE- NIUM, TOTAL (μ G/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (μ G/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (μ G/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (μ G/L AS ZN) (01092)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)
01571774 LORBERRY CREEK AT LORBERRY, PA (LAT 40 35 32N LONG 076 26 22W)										
SEP 1997 25...	1900	1900	69	70	<7	<7	40	43	110	110
01571778 LORBERRY CREEK NEAR LORBERRY JUNCTION, PA (LAT 40 35 15N LONG 076 25 35W)										
SEP 1997 25...	2000	2000	73	73	<7	<7	50	47	130	120
01571780 LORBERRY CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 20N LONG 076 24 43W)										
MAR 1997 04...	1300	1300	42	54	<7	<7	30	34	80	120
APR 23...	1200	1200	45	44	<7	<7	30	27	80	80
SEP 25...	1800	1700	66	66	<7	<7	50	44	120	110
403542076263201 ROWE DRAINAGE TUNNEL, SITE E2-244, NR JOLIETT, PA (LAT 40 35 42N LONG 076 26 32W)										
JAN 1997 23...	1600	1500	74	62	<7	<7	30	31	140	130
MAR 04...	1600	1600	67	66	<7	<7	30	34	140	140
OCT 1996 07...	2500	2400	120	110	<7	<7	50	52	250	250
APR 1997 23...	1600	1600	60	60	<7	<7	30	31	120	110
SEP 25...	1800	1800	76	69	<7	<7	40	42	120	120
01571760 LOWER RAUSCH CREEK AT LORBERRY JUNCTION, PA (LAT 40 35 22N LONG 076 24 42W)										
SEP 1997 25...	--	--	--	--	--	--	--	--	--	--
01571776 STUMPS RUN AT LORBERRY, PA (LAT 40 35 30N LONG 076 26 23W)										
SEP 1997 25...	52	51	<25	<25	<7	<7	10	13	<10	<10

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

MISCELLANEOUS STATION ANALYSES

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)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXID- ATION RED- UCTION POTEN- TIAL (MV) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
0157156210 TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)											
SEP 1997 24...	1230	1028	9813	1.9	642	6.2	6.1	317	11.0	7.4	67
0157156212 TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)											
SEP 1997 24...	1300	1028	9813	--	607	6.5	6.2	262	11.0	8.8	80
403853076222301 MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)											
SEP 1997 24...	1715	1028	9813	2.8	--	4.9	5.0	446	12.0	2.0	19
0157157014 MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)											
SEP 1997 24...	1700	1028	9813	2.8	275	6.0	5.6	411	13.0	10.0	97
DATE	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	ACIDITY (MG/L AS CACO3) (00435)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)
0157156210 TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)											
SEP 1997 24...	14	43	44	44	46	46	5.9	5.9	1.7	1.7	47
0157156212 TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)											
SEP 1997 24...	6.6	36	43	39	46	42	5.9	5.4	1.7	1.7	45
403853076222301 MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)											
SEP 1997 24...	24	43	11	11	14	14	7.2	7.1	1.1	.96	3
0157157014 MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)											
SEP 1997 24...	9.8	5.0	10	10	13	13	7.0	6.8	1.0	.96	2

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

MISCELLANEOUS STATION ANALYSES

DATE	ANC WATER UNFLTRD FET LAB (MG/L AS CACO3) (00417)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA TOTAL (MG/L- SIO2) (00956)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
0157156210	TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)									
SEP 1997 24...	50	210	9.5	<.2	9.1	14	.27	<.040	.190	<.020
0157156212	TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)									
SEP 1997 24...	46	210	9.8	<.2	9.1	46	.25	<.040	.190	<.020
403853076222301	MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)									
SEP 1997 24...	5	79	12	<.2	8.4	<2	.20	.090	.060	<.020
0157157014	MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)									
SEP 1997 24...	3	78	12	<.2	7.7	<2	.15	.090	.050	<.020
DATE	ALUM- INUM, TOTAL RECOV- ERABLE (µG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106)	ARSENIC TOTAL (µG/L AS AS) (01002)	ARSENIC DIS- SOLVED (µG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (µG/L AS BA) (01007)	BARIUM, DIS- SOLVED (µG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CADMIUM DIS- SOLVED (µG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030)
0157156210	TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)									
SEP 1997 24...	<200	<200	<4	<4	21	21	<10	<10	<50	<50
0157156212	TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)									
SEP 1997 24...	<200	<200	<4	<4	21	19	<10	<10	<50	<50
403853076222301	MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)									
SEP 1997 24...	920	480	<4	<4	33	32	<10	<10	<50	<50
0157157014	MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)									
SEP 1997 24...	630	<200	<4	<4	32	30	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SWATARA CREEK PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

MISCELLANEOUS STATION ANALYSES

DATE	COBALT, TOTAL RECOV- ERABLE (µG/L AS CO) (01037)	COBALT, DIS- SOLVED (µG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	IRON, DIS- SOLVED (µG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (µG/L AS LI) (01132)	LITHIUM DIS- SOLVED (µG/L AS LI) (01130)
0157156210	TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)									
SEP 1997 24...	50	45	<10	<10	18000	16000	<1	<1.0	30	31
0157156212	TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)									
SEP 1997 24...	50	43	<10	<10	18000	14000	<1	<1.0	<30	<30
403853076222301	MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)									
SEP 1997 24...	40	<25	13	10	3000	1400	<1	<1.0	<30	<25
0157157014	MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)									
SEP 1997 24...	--	30	12	<10	2200	1100	<1	<1.0	<30	<25
DATE	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (µG/L AS NI) (01067)	NICKEL, DIS- SOLVED (µG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (µG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (µG/L AS SE) (01145)	STRON- TIUM, TOTAL RECOV- ERABLE (µG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (µG/L AS SR) (01080)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
0157156210	TRACY AIRHOLE, SITE E1-1, TRIB TO GOOD SPRING CR (LAT 40 37 45N LONG 076 27 16W)									
SEP 1997 24...	2700	2700	60	60	<7	<7	160	160	40	37
0157156212	TRACY AIRHOLE, SITE E1-2, TRIB TO GOOD SPRING CR (LAT 40 37 40N LONG 076 27 09W)									
SEP 1997 24...	2700	2400	63	45	<7	<7	160	140	40	34
403853076222301	MIDDLE CR MINE DISCHARGE, SITE E5, NR NEWTOWN, PA (LAT 40 38 53N LONG 076 22 23W)									
SEP 1997 24...	930	910	63	41	<7	<7	80	74	130	120
0157157014	MIDDLE CREEK, SITE E5-3, NEAR NEWTOWN, PA (LAT 40 38 21N LONG 076 22 11W)									
SEP 1997 24...	880	850	48	48	<7	<7	70	70	120	110

SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

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

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

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

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

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

where:

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

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

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

PRINTED OUTPUT

REMARK

E,e	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
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
V	Analyte was detected in both the environmental sample and the associated blanks.

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

SAMPLE PURPOSE CODES: (parameter code 71999)

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

SAMPLER TYPE: (partial list) (parameter code 84164)

110--Sewage sampler
 3011--US D-77
 3035--DH-76 Trace metal sampler with
 teflon gasket and nozzle
 3039--D-77 Trace metal
 3040--D-77 Trace metal modified teflon
 bag sampler
 3045--DH-81 with Teflon cap and
 nozzle
 8010--Other (other than a defined
 sampler type)

SAMPLE METHOD CODES: (parameter code 82398)

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

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

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

(00027) AGENCY COLLECTING SAMPLE CODES:

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

(00028) AGENCY ANALYZING SAMPLE CODES:

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

GROUND-WATER-LEVEL AND GROUND-WATER-QUALITY STATION RECORDS

ADAMS COUNTY

395846077040601. Local number, AD 146.

LOCATION.--Lat 39°58'46", long 77°04'06", Hydrologic Unit 02050306, at State Game Land No. 249, and near York Springs.

Owner: U.S. Geological Survey.

AQUIFER.--Gettysburg Formation, Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 17 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 540 ft above 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. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--January 1968 to current year.

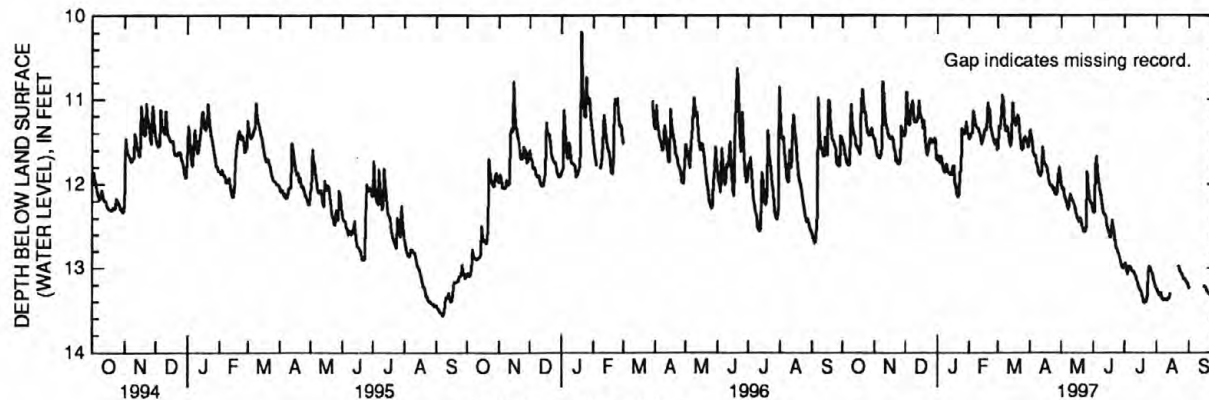
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.51	11.47	11.38	11.71	11.47	11.57	11.36	12.00	12.33	12.99	13.24	13.23
2	11.54	11.54	10.91	11.66	11.44	11.32	11.43	12.06	12.33	12.94	13.27	13.24
3	11.63	11.63	11.12	11.73	11.40	11.35	11.50	12.04	11.76	12.99	13.31	---
4	11.68	11.66	11.29	11.74	11.40	11.19	11.62	12.13	11.67	13.07	13.32	---
5	11.73	11.68	11.30	11.67	11.14	10.95	11.66	12.17	11.85	13.01	13.29	---
6	11.76	11.69	11.15	11.77	11.19	11.02	11.65	12.21	11.96	12.98	13.35	---
7	11.77	11.65	11.05	11.82	11.28	11.23	11.74	12.27	12.05	12.99	13.37	---
8	11.76	11.57	11.02	11.86	11.33	11.37	11.78	12.29	12.11	13.02	13.37	---
9	11.06	10.79	11.24	11.85	11.34	11.37	11.85	12.17	12.20	13.04	13.37	---
10	11.25	11.01	11.27	11.76	11.35	11.32	11.89	12.12	12.29	13.04	13.37	---
11	11.37	11.19	11.27	11.84	11.40	11.42	11.90	12.17	12.35	13.07	13.38	---
12	11.42	11.30	11.26	11.86	11.44	11.49	11.85	12.19	12.35	13.10	13.36	---
13	11.44	11.34	11.22	11.88	11.52	11.55	11.56	12.22	12.38	13.14	13.35	---
14	11.55	11.41	11.02	11.89	11.48	11.47	11.70	12.26	12.48	13.18	13.30	---
15	11.56	11.44	11.16	11.88	11.45	11.04	11.76	12.31	12.53	13.23	---	13.21
16	11.58	11.46	11.22	11.79	11.36	11.21	11.77	12.38	12.57	13.25	---	13.22
17	11.61	11.47	11.23	11.78	11.37	11.26	11.80	12.40	12.63	13.27	---	13.22
18	11.64	11.44	11.34	11.99	11.33	11.31	11.85	12.44	12.63	13.32	---	13.26
19	11.07	11.48	11.26	12.03	11.04	11.23	11.95	12.39	12.42	13.37	---	13.28
20	10.88	11.57	11.44	12.12	11.12	11.19	12.00	12.42	12.50	13.41	---	13.30
21	11.02	11.63	11.58	12.15	11.12	11.24	12.02	12.49	12.57	13.38	---	13.31
22	11.14	11.72	11.65	12.12	11.34	11.43	12.01	12.52	12.68	13.40	12.97	13.30
23	11.15	11.72	11.60	11.86	11.40	11.53	12.06	12.56	12.76	13.34	13.01	13.27
24	11.29	11.76	11.50	11.83	11.45	11.59	12.04	12.56	12.78	13.05	13.04	13.30
25	11.38	11.75	11.46	11.35	11.49	11.58	12.11	12.51	12.82	12.98	13.06	13.26
26	11.42	11.71	11.51	11.39	11.53	11.46	12.12	11.85	12.85	13.00	13.09	---
27	11.42	11.32	11.51	11.41	11.48	11.44	12.10	12.03	12.90	13.04	13.13	---
28	11.39	11.40	11.51	11.39	11.59	11.48	11.89	12.13	12.95	13.06	13.12	---
29	11.34	11.42	11.46	11.27	---	11.51	11.80	12.21	12.99	13.13	13.15	---
30	11.41	11.43	11.48	11.39	---	11.56	11.88	12.22	13.00	13.18	13.17	---
31	11.45	---	11.69	11.42	---	11.46	---	12.27	---	13.22	13.19	---
MEAN	11.43	11.49	11.33	11.75	11.37	11.36	11.82	12.26	12.46	13.14	13.23	13.26
MAX	11.77	11.76	11.69	12.15	11.59	11.59	12.12	12.56	13.00	13.41	13.38	13.31
MIN	10.88	10.79	10.91	11.27	11.04	10.95	11.36	11.85	11.67	12.94	12.97	13.21

WTR YR 1997: HIGHEST 10.79, NOVEMBER 9; LOWEST 13.41, JULY 20.



3-YEAR HYDROGRAPH
OCTOBER 1, 1994 TO SEPTEMBER 30, 1997

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.

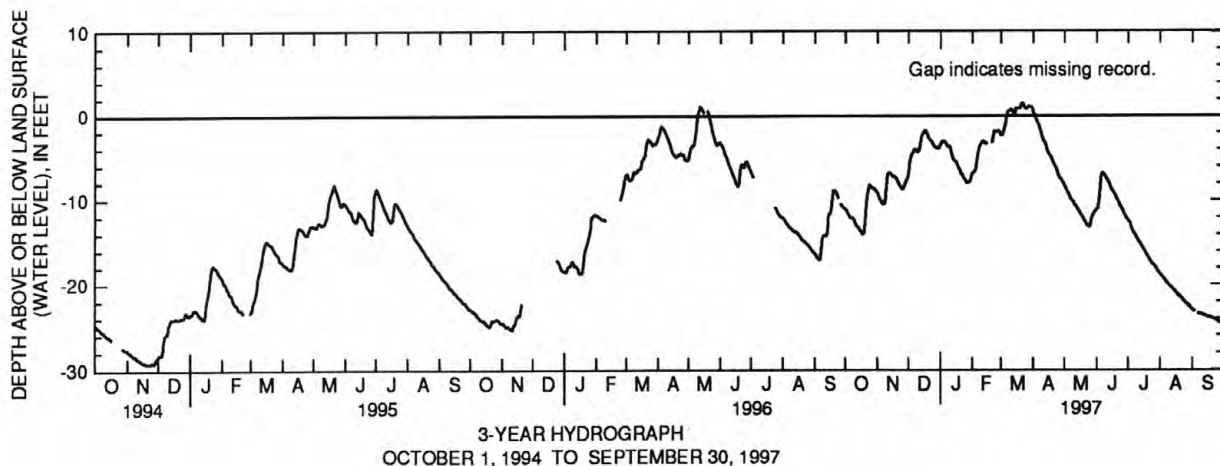
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-11.12	-9.20	-6.83	-3.47	-6.75	-2.36	0.34	-8.35	-11.03	-12.37	-18.77	-23.02
2	-11.19	-9.52	-5.65	-3.17	-6.76	-2.30	0.02	-8.64	-10.99	-12.57	-18.90	-23.10
3	-11.52	-9.87	-5.00	-3.07	-6.65	-1.92	-0.28	-8.77	-10.01	-12.68	-19.05	-23.22
4	-11.78	-10.07	-4.61	-3.13	-6.27	-1.42	-0.60	-9.12	-8.72	-13.13	-19.19	---
5	-12.00	-10.27	-4.47	-3.09	-5.30	-0.93	-0.89	-9.30	-7.30	-13.46	-19.38	---
6	-12.08	-10.43	-4.11	-3.32	-4.55	0.04	-1.10	-9.61	-6.81	-13.71	-19.58	-23.57
7	-12.12	-10.44	-4.07	-3.56	-4.03	0.40	-1.55	-9.89	-6.90	-13.93	-19.73	-23.47
8	-12.12	-10.41	-4.07	-3.77	-3.65	0.51	-1.93	-10.00	-7.00	-14.09	-19.89	-23.50
9	-12.28	-8.90	-4.29	-3.79	-3.39	0.55	-2.44	-10.11	-7.21	-14.31	-20.01	-23.52
10	-12.63	-7.41	-4.29	-3.74	-3.23	0.70	-2.81	-10.39	-7.45	-14.57	-20.15	-23.53
11	-12.93	-6.82	-4.18	-4.24	-3.09	0.69	-3.11	-10.57	-7.64	-14.80	-20.30	-23.63
12	-13.08	-6.84	-3.62	-4.75	-3.16	0.42	-3.19	-10.71	-7.80	-14.97	-20.42	-23.67
13	-13.21	-6.86	-2.85	-5.09	-3.35	0.25	-3.61	-10.91	-8.07	-15.13	-20.51	-23.72
14	-13.36	-6.97	-2.28	-5.36	-3.27	0.26	-4.10	-11.10	-8.41	-15.35	-20.68	-23.75
15	-13.57	-7.16	-2.13	-5.44	-3.46	0.85	-4.41	-11.32	-8.71	-15.57	-20.80	-23.80
16	-13.68	-7.25	-1.91	-5.50	---	0.90	-4.60	-11.59	-8.88	-15.77	-20.99	-23.85
17	-13.97	-7.30	-1.77	-5.85	---	0.90	-4.80	-11.78	-9.12	-15.97	-21.09	-23.85
18	-13.98	-7.30	-1.89	-6.17	---	0.90	-5.01	-11.95	-9.26	-16.16	-21.27	-23.93
19	-13.70	-7.47	-2.17	-6.33	---	0.90	-5.30	-12.10	-9.60	-16.45	-21.40	-23.92
20	-12.10	-7.70	-2.61	-6.60	-3.27	1.30	-5.60	-12.38	-9.80	-16.66	-21.41	-24.03
21	-10.32	-7.93	-2.78	-6.97	-2.58	1.48	-5.86	-12.62	-9.98	-16.84	-21.59	-24.11
22	-9.41	-8.25	-2.99	-7.02	-1.89	1.40	-6.10	-12.85	-10.26	-17.05	-21.72	-24.12
23	-8.65	-8.42	-3.08	-7.40	-1.91	1.10	-6.30	-13.02	-10.57	-17.27	-21.90	-24.16
24	-8.20	-8.61	-3.23	-7.55	-1.92	0.85	-6.68	-13.12	-10.81	-17.46	-22.02	-24.27
25	-8.37	-8.72	-3.59	-7.64	-1.90	0.80	-7.10	-13.13	-10.97	-17.56	-22.17	-24.30
26	-8.54	-8.56	-3.72	-7.94	-1.84	0.95	-7.40	-12.78	-11.21	-17.70	-22.29	-24.46
27	-8.56	-8.26	-3.83	-7.97	-1.92	1.00	-7.52	-12.08	-11.55	-17.85	-22.37	-24.51
28	-8.59	-7.90	-3.91	-7.89	-2.31	1.15	-7.64	-11.79	-11.78	-18.02	-22.48	-24.56
29	-8.74	-7.61	-3.94	-7.89	---	---	-7.91	-11.59	-12.05	-18.26	-22.61	-24.50
30	-8.79	-7.46	-3.93	-7.56	---	1.08	-8.10	-11.40	-12.23	-18.49	-22.74	-24.70
31	-9.03	---	-3.66	-7.09	---	0.83	---	-11.19	---	-18.63	-22.88	---
MEAN	-11.28	-8.33	-3.60	-5.56	-3.60	0.38	-4.19	-11.10	-9.40	-15.70	-20.91	-23.88
MAX	-13.98	-10.44	-6.83	-7.97	-6.76	-2.36	-8.10	-13.13	-12.23	-18.63	-22.88	-24.70
MIN	-8.20	-6.82	-1.77	-3.07	-1.84	1.48	0.34	-8.35	-6.81	-12.37	-18.77	-23.02

WTR YR 1997: HIGHEST +1.48, MARCH 21; LOWEST -24.70, SEPTEMBER 30.



BLAIR COUNTY

402452078271301. Local number, BA 74.

LOCATION.--Lat 40°24'52", long 78°27'13", Hydrologic Unit 02050302, at Allegheny Portage Railroad National Historic Site, and southwest of Duncansville.
Owner: U.S. Geological Survey.

AQUIFER.--Brallier Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 150 ft, cased to 14 ft, open hole.

INSTRUMENTATION.--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.

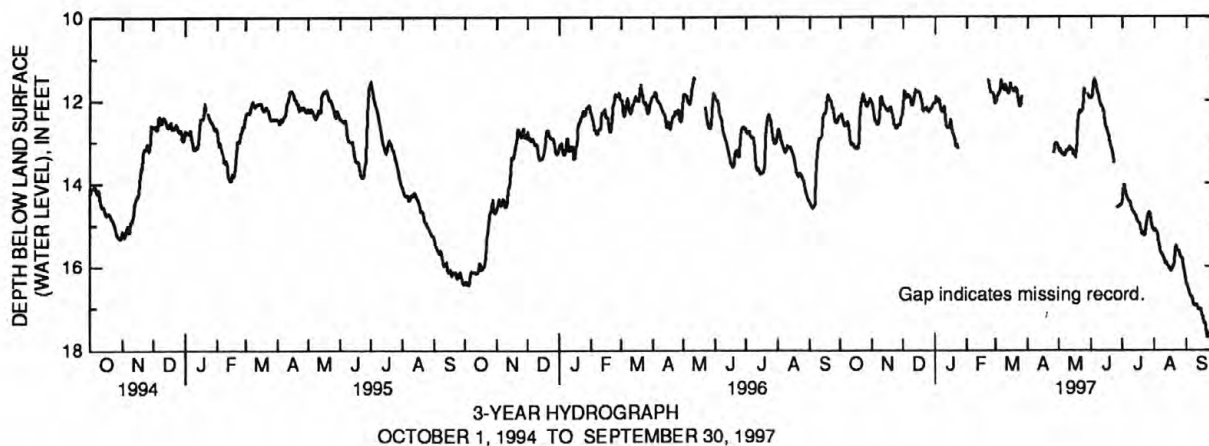
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

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 1996 TO SEPTEMBER 1997
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.39	12.08	12.12	12.07	---	12.06	---	13.22	11.94	14.45	15.14	16.42
2	12.33	12.21	11.77	11.91	---	11.91	---	13.17	11.88	14.20	15.10	16.46
3	12.44	12.43	11.80	11.99	---	11.88	---	13.26	11.58	14.03	15.15	16.55
4	12.54	12.50	11.93	12.03	---	11.81	---	13.30	11.49	14.15	15.20	16.63
5	12.62	12.53	11.92	11.97	---	11.77	---	13.28	11.55	14.28	15.40	16.71
6	12.62	12.58	11.86	12.14	---	11.50	---	13.33	11.67	14.34	15.51	16.72
7	12.55	12.55	11.89	12.24	---	11.61	---	13.32	11.79	14.40	15.65	16.81
8	12.52	12.39	11.93	12.27	---	11.69	---	13.20	11.88	14.43	15.69	16.91
9	12.59	11.93	12.11	12.25	---	11.75	---	13.20	12.00	14.46	15.72	16.94
10	12.84	11.90	12.10	12.15	---	11.62	---	13.22	12.10	14.60	15.78	16.95
11	13.06	12.03	12.00	12.44	---	11.64	---	13.12	12.15	14.66	15.85	16.91
12	13.08	12.12	11.87	12.62	---	11.76	---	13.14	12.18	14.69	15.94	17.00
13	13.05	12.13	11.74	12.66	---	11.83	---	13.20	12.26	14.73	15.90	17.04
14	13.10	12.19	11.79	12.66	---	11.79	---	13.19	12.48	14.76	15.99	17.02
15	13.15	12.24	11.80	12.65	---	11.58	---	13.30	12.64	14.83	16.00	17.02
16	13.13	12.26	11.78	12.46	---	11.70	---	13.29	12.67	14.92	16.06	17.18
17	13.17	12.23	11.82	12.64	---	11.70	---	13.38	12.80	14.94	16.10	17.21
18	13.17	12.16	11.93	12.81	---	11.78	---	13.11	12.86	14.96	16.05	17.36
19	13.03	12.16	12.00	12.82	---	11.78	---	12.52	13.05	15.10	16.01	17.34
20	12.34	12.29	12.23	12.94	---	11.69	---	12.33	13.13	15.22	15.94	17.52
21	12.07	12.37	12.26	13.11	11.50	11.70	---	12.24	13.19	15.18	15.60	17.69
22	11.97	12.58	12.19	13.06	11.52	11.88	---	12.29	13.33	15.26	15.50	17.69
23	11.84	12.59	12.19	13.15	11.70	12.00	---	12.25	13.51	15.24	15.60	17.61
24	11.92	12.68	12.17	13.15	11.79	12.15	---	12.20	---	15.05	15.62	17.66
25	12.04	12.66	12.27	---	11.81	12.11	---	11.70	---	14.88	15.64	17.50
26	12.13	12.59	12.28	---	11.81	11.88	13.28	11.84	14.59	14.76	15.75	17.65
27	12.14	12.61	12.22	---	11.88	---	13.07	---	14.55	14.70	15.78	17.73
28	12.06	12.58	12.20	---	12.06	---	13.03	11.86	14.56	14.72	15.81	17.70
29	12.01	12.41	12.16	---	---	---	13.04	11.86	14.52	14.92	16.00	17.17
30	11.95	12.34	12.08	---	---	---	13.10	11.92	14.52	15.05	16.12	17.13
31	12.02	---	12.06	---	---	---	---	11.95	---	15.11	16.27	---
MEAN	12.51	12.34	12.02	12.51	11.76	11.79	13.10	12.77	12.75	14.74	15.74	17.14
MAX	13.17	12.68	12.28	13.15	12.06	12.15	13.28	13.38	14.59	15.26	16.27	17.73
MIN	11.84	11.90	11.74	11.91	11.50	11.50	13.03	11.70	11.49	14.03	15.10	16.42

WTR YR 1997: HIGHEST 11.49, JUNE 4; LOWEST 17.73, SEPTEMBER 27.



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.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

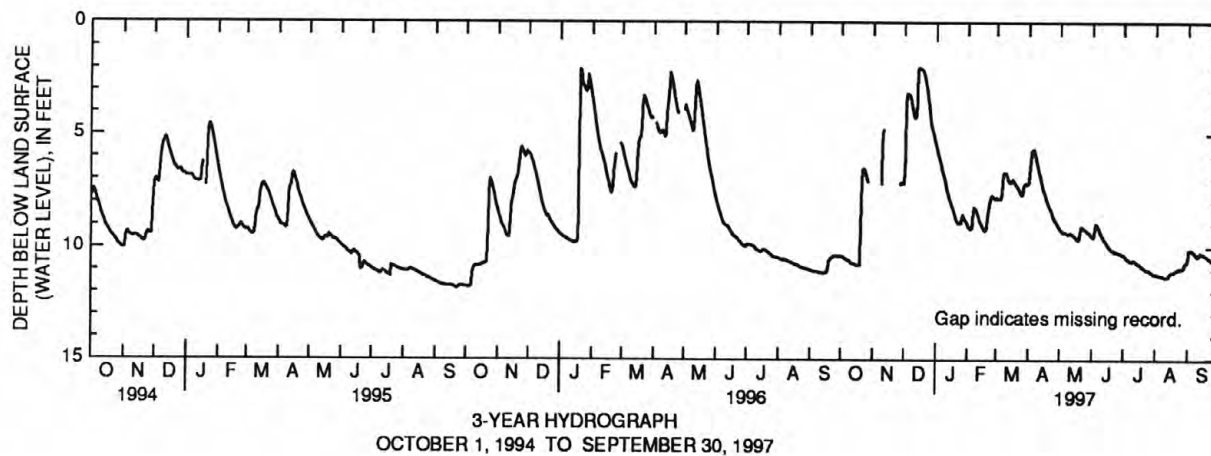
Highest water level, 1.33 ft below land-surface datum, Apr. 6, 1984; lowest, 11.99 ft below land-surface datum, Sept. 20, 24, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.37	---	7.19	5.43	9.04	7.80	7.13	9.18	9.51	10.30	11.20	10.52
2	10.41	---	6.29	5.62	9.11	7.86	6.69	9.22	9.53	10.35	11.21	10.14
3	10.44	---	3.48	5.83	9.16	7.85	6.13	9.28	9.31	10.40	11.22	10.10
4	10.48	---	3.14	5.99	9.15	7.86	5.74	9.30	8.99	10.46	11.23	10.10
5	10.50	---	3.19	6.15	9.07	7.85	5.69	9.30	8.93	10.50	11.25	10.12
6	10.52	---	3.20	6.35	8.47	7.60	5.66	9.32	9.03	10.53	11.25	10.18
7	10.55	---	3.28	6.56	8.22	6.95	5.83	9.34	9.12	10.59	11.26	10.21
8	10.56	---	3.53	6.76	8.25	6.70	6.04	9.37	9.23	10.60	11.28	10.29
9	10.60	7.22	3.84	6.90	8.34	6.70	6.26	9.38	9.35	10.62	11.29	10.32
10	10.67	5.31	4.03	7.11	8.47	6.70	6.49	9.37	9.44	10.61	11.30	10.38
11	10.70	4.78	4.24	7.33	8.61	6.81	6.70	9.35	9.50	10.56	11.30	10.39
12	10.71	---	4.23	7.53	8.78	6.99	6.85	9.37	9.59	10.59	11.30	10.30
13	10.70	---	4.07	7.71	8.87	7.10	7.10	9.40	9.68	10.62	11.30	10.24
14	10.74	---	2.09	7.89	8.96	7.12	7.30	9.44	9.72	10.68	11.20	10.25
15	10.77	---	e2.01	7.97	9.09	7.12	7.46	9.49	9.80	10.70	11.15	10.28
16	10.80	---	e2.00	8.15	9.16	7.02	7.60	9.54	9.87	10.72	11.11	10.30
17	10.80	---	e2.03	8.24	9.22	7.01	7.72	9.60	9.94	10.76	11.11	10.33
18	10.80	---	e2.06	8.41	9.24	7.12	7.88	9.63	10.02	10.80	11.10	10.37
19	10.79	---	e2.09	8.52	9.08	7.18	8.00	9.64	10.07	10.86	11.08	10.39
20	8.58	---	e2.21	8.70	8.67	7.28	8.12	9.42	10.10	10.89	11.04	10.43
21	7.00	---	e2.41	8.80	8.30	7.31	8.24	9.10	10.10	10.90	11.00	10.48
22	6.57	---	e2.65	8.85	8.06	7.41	8.34	9.05	10.13	10.95	10.98	10.49
23	6.54	---	e2.94	8.92	7.85	7.51	8.45	9.10	10.20	10.98	10.95	10.53
24	6.61	---	e3.27	8.92	7.71	7.61	8.60	9.16	10.20	10.99	10.95	10.57
25	6.78	---	e3.62	8.92	7.73	7.67	8.70	9.20	10.20	11.01	10.96	10.59
26	6.97	---	e4.05	8.67	7.78	7.65	8.80	9.22	10.21	11.03	10.94	10.65
27	7.14	7.25	4.46	8.55	7.84	7.27	8.84	9.27	10.23	11.07	10.93	10.68
28	---	7.14	4.65	8.66	7.84	7.23	8.92	9.30	10.25	11.10	10.89	10.70
29	---	7.18	4.85	8.76	---	7.18	9.01	9.32	10.26	11.14	10.72	10.64
30	---	7.19	5.01	8.82	---	7.21	9.08	9.40	10.30	11.18	10.69	10.61
31	---	---	5.23	8.89	---	7.21	---	9.44	---	11.19	10.65	---
MEAN	9.56	6.58	3.59	7.74	8.57	7.29	7.45	9.34	9.76	10.76	11.09	10.39
MAX	10.80	7.25	7.19	8.92	9.24	7.86	9.08	9.64	10.30	11.19	11.30	10.70
MIN	6.54	4.78	2.00	5.43	7.71	6.70	5.66	9.05	8.93	10.30	10.65	10.10

WTR YR 1997: HIGHEST e2.00, DECEMBER 16; LOWEST 11.30, AUGUST 10-13.

e Estimated.



CAMERON COUNTY

412732078034201. Local number, CM 13.

LOCATION.--Lat 41°27'32", long 78°03'42", Hydrologic Unit 02050202, at Sinnemahoning State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 102 ft, cased to 57 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,010 ft above sea level, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.

REMARKS.--Water levels reported Apr. 1-8, 1993 affected by surface-water impounded by George B. Stevenson Dam (wellhead submerged April 3). In addition to the daily maximum water levels shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

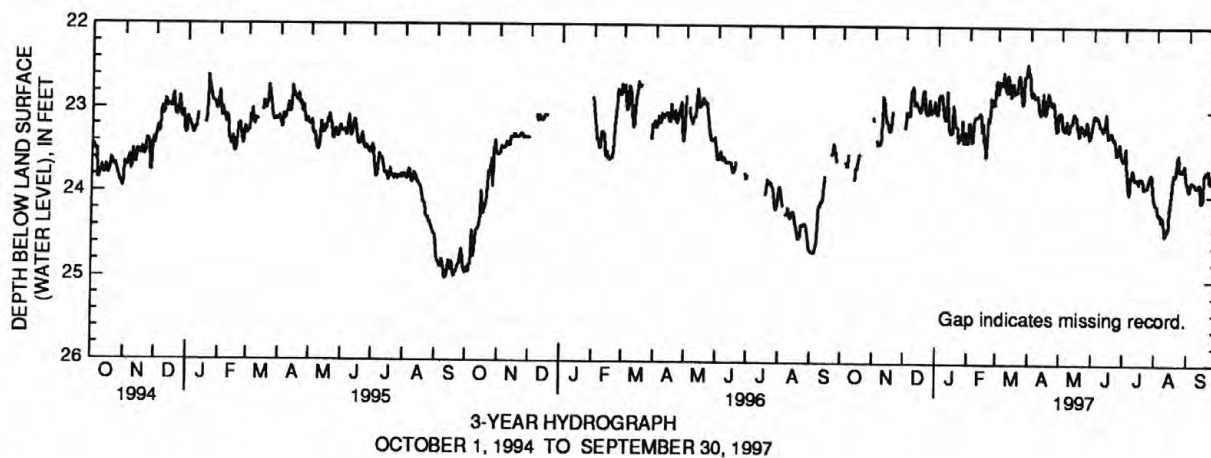
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 3.21 ft above land-surface datum, Apr. 3, 1993 (see Remarks); lowest, 25.98 ft below land-surface datum, Sept. 10, 1972.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	23.12	23.15	23.04	23.14	22.78	22.76	23.04	23.05	23.57	24.10	23.93
2	---	---	23.02	22.84	23.20	22.64	22.81	23.21	23.04	23.43	24.11	23.93
3	---	23.35	23.02	22.80	23.36	22.66	22.76	23.18	23.08	23.67	24.20	23.85
4	23.61	23.41	23.06	22.85	23.36	22.67	22.79	23.23	23.06	23.78	24.22	23.82
5	23.66	23.39	23.05	22.80	23.13	22.68	22.84	23.21	23.07	23.94	24.21	23.84
6	23.66	23.40	22.77	22.95	23.08	22.53	---	23.11	23.11	23.97	24.29	23.84
7	23.52	23.35	22.74	23.05	23.07	22.68	22.80	23.21	23.17	23.78	24.24	23.85
8	---	23.12	22.71	23.10	23.07	22.72	22.85	23.24	23.18	23.75	24.27	23.88
9	---	22.83	22.93	23.10	23.06	22.77	22.96	23.16	23.21	23.68	24.37	23.89
10	---	22.87	22.93	22.76	23.05	22.56	23.03	23.14	23.23	23.76	24.46	23.89
11	---	23.01	22.89	23.03	23.02	22.61	23.03	23.14	23.19	23.80	24.41	23.85
12	23.82	23.13	22.93	23.21	23.05	22.74	22.97	23.06	23.13	23.81	24.41	23.85
13	23.82	23.13	22.95	23.26	23.24	22.82	22.78	23.02	23.03	23.79	24.36	24.06
14	23.67	23.20	23.00	23.26	23.15	22.75	22.97	23.06	23.22	23.81	24.16	24.06
15	23.69	23.24	23.01	23.26	23.35	22.66	23.03	23.06	23.31	23.85	24.06	24.03
16	23.59	23.24	22.95	22.93	23.38	22.78	23.00	23.18	23.29	23.78	23.95	23.75
17	23.53	23.16	22.78	23.04	23.54	22.78	22.86	23.23	23.25	23.78	23.81	23.71
18	23.52	23.01	22.75	23.18	23.33	22.76	22.78	23.29	23.25	23.79	23.74	23.72
19	---	---	22.75	23.19	23.07	22.76	22.82	23.21	23.30	23.81	23.76	23.72
20	---	---	22.99	23.19	23.13	22.62	22.90	23.16	23.33	23.91	23.72	23.68
21	---	---	23.04	23.36	23.03	22.56	22.92	23.19	23.32	23.89	23.55	23.82
22	---	---	23.04	23.32	22.84	22.62	22.88	23.22	23.40	23.89	23.51	23.84
23	---	---	22.97	23.29	22.90	22.78	22.88	23.26	23.51	23.90	23.66	23.75
24	---	---	22.87	23.32	22.92	22.91	22.97	23.22	23.51	23.86	23.70	23.80
25	---	---	23.00	23.11	22.92	22.88	23.12	23.12	23.46	23.81	23.70	23.70
26	---	---	23.03	23.37	22.79	22.58	23.23	23.15	23.38	23.77	23.69	23.80
27	---	---	22.98	23.38	22.63	22.58	23.22	23.26	23.48	23.74	23.67	23.85
28	---	---	22.97	23.25	22.78	22.54	23.03	23.32	23.53	23.77	23.63	23.84
29	---	---	22.88	23.38	---	22.43	23.01	23.28	23.56	23.95	23.74	23.61
30	23.08	23.21	23.00	23.38	---	22.52	23.01	23.21	23.58	24.04	23.83	23.51
31	23.12	---	23.04	23.15	---	22.54	---	23.14	---	24.09	23.86	---
MEAN	23.56	23.18	22.94	23.13	23.09	22.67	22.93	23.18	23.27	23.81	23.98	23.82
MAX	23.82	23.41	23.15	23.38	23.54	22.91	23.23	23.32	23.58	24.09	24.46	24.06
MIN	23.08	22.83	22.71	22.76	22.63	22.43	22.76	23.02	23.03	23.43	23.51	23.51

WTR YR 1997: HIGHEST 22.43, MARCH 29; LOWEST 24.46 AUGUST 10.



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.

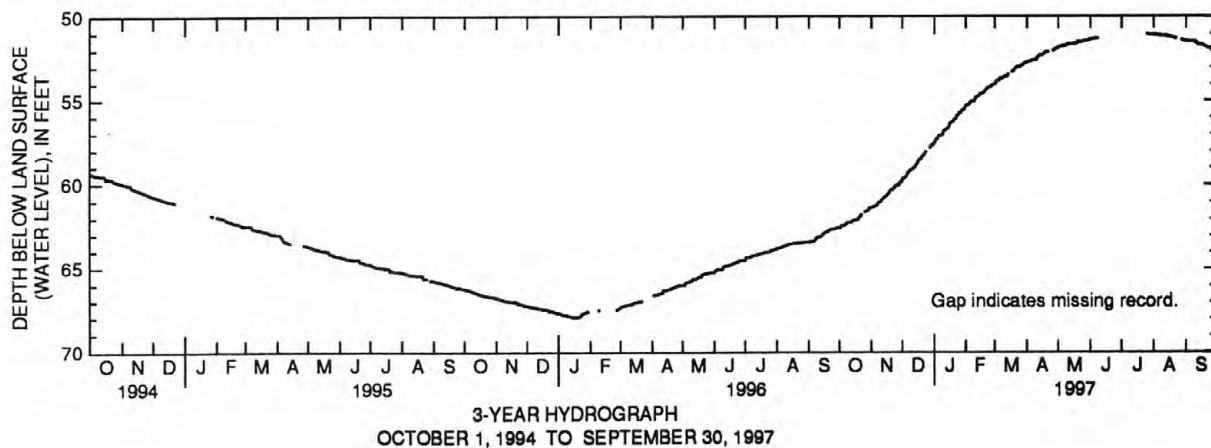
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 51.91 ft below land-surface datum, Sept. 8, 12, 16, 1978; lowest, 80.14 ft below land-surface datum, Mar. 26, 1970.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.57	61.35	59.75	57.59	55.30	54.04	52.71	51.82	51.34	---	51.08	51.46
2	62.56	61.32	59.64	57.43	55.30	53.85	52.71	51.79	51.33	---	51.08	51.46
3	62.41	61.29	59.64	57.33	55.27	53.82	52.69	51.79	51.33	---	51.08	51.47
4	62.41	61.28	59.56	57.30	55.25	53.82	52.62	51.76	51.33	---	51.10	51.48
5	62.41	61.24	59.54	57.19	55.10	53.80	52.61	51.76	51.33	---	51.11	51.49
6	62.40	61.21	59.36	57.11	55.10	53.66	52.58	51.73	51.29	---	51.12	51.49
7	62.34	61.15	59.30	57.11	55.07	53.68	52.57	51.73	51.29	---	51.12	51.49
8	62.30	61.07	59.23	57.09	55.06	53.67	52.57	51.73	51.29	---	51.12	51.49
9	62.24	61.04	59.17	57.07	55.05	53.62	52.56	51.69	51.28	---	51.13	51.50
10	62.22	61.03	59.15	56.80	54.84	53.56	52.56	51.65	---	---	51.13	51.50
11	62.22	60.88	59.07	56.78	54.82	53.55	52.40	51.65	---	---	51.14	51.51
12	62.22	60.86	59.04	56.77	54.76	53.55	52.40	51.63	---	---	51.14	51.65
13	62.19	60.80	59.03	56.72	54.73	53.55	52.29	51.62	---	---	51.15	51.66
14	62.13	60.74	58.89	56.66	54.67	53.38	52.29	51.62	---	---	51.15	51.67
15	62.12	60.70	58.84	56.61	54.59	---	52.28	51.62	---	---	51.18	51.68
16	62.11	60.65	58.71	56.36	54.59	---	52.28	51.61	---	---	51.21	51.68
17	62.08	60.57	58.58	56.34	54.57	53.32	52.20	51.61	---	---	51.22	51.68
18	62.08	60.54	58.55	56.31	54.56	53.25	52.15	51.58	---	---	51.23	51.74
19	62.07	60.39	58.54	56.27	54.41	53.22	52.11	51.58	---	---	51.24	51.75
20	61.92	60.34	58.38	56.16	54.39	53.11	52.10	51.50	---	---	51.26	51.78
21	61.89	60.30	58.38	56.12	54.32	53.08	52.10	51.50	---	---	51.27	51.83
22	61.82	60.30	58.28	56.09	54.21	52.98	52.08	51.50	---	---	51.28	51.85
23	61.74	60.19	58.17	55.91	54.21	52.98	---	51.50	---	---	51.29	51.85
24	---	60.13	58.05	55.91	54.21	52.99	---	51.49	---	---	---	51.87
25	61.60	60.08	---	55.76	54.17	52.99	52.00	51.46	---	51.05	---	51.87
26	61.59	60.03	---	55.76	54.09	52.89	52.00	51.43	---	51.03	---	51.92
27	61.57	60.03	57.86	55.75	54.04	52.89	52.00	51.43	---	51.05	51.40	51.92
28	61.54	60.03	57.84	55.61	54.04	52.86	51.91	51.43	---	51.06	51.39	51.92
29	61.54	59.88	57.75	55.61	---	52.79	51.89	51.43	---	51.06	51.42	51.91
30	61.39	59.85	57.71	55.57	---	52.74	51.89	51.41	---	51.07	51.43	51.94
31	61.36	---	57.62	55.40	---	52.72	---	51.38	---	51.07	51.44	---
MEAN	62.03	60.64	58.75	56.47	54.67	53.32	52.31	51.59	51.31	51.06	51.21	51.68
MAX	62.57	61.35	59.75	57.59	55.30	54.04	52.71	51.82	51.34	51.07	51.44	51.94
MIN	61.36	59.85	57.62	55.40	54.04	52.72	51.89	51.38	51.28	51.03	51.08	51.46

WTR YR 1997: HIGHEST 51.03, JULY 26; LOWEST 62.57, OCTOBER 1.



CLINTON COUNTY

411424077462201. Local number, CN 1.

LOCATION.--Lat 41°14'24", long 77°46'22", Hydrologic Unit 02050203, at Sproul State Forest, and at State Camp.
 Owner: Commonwealth of Pennsylvania.

AQUIFER.--Huntley Mountain Formation, Early Mississippian-Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 78 ft, cased to 38 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 2,050 ft above sea level, from topographic map. Measuring point: Top of platform, 3.2 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

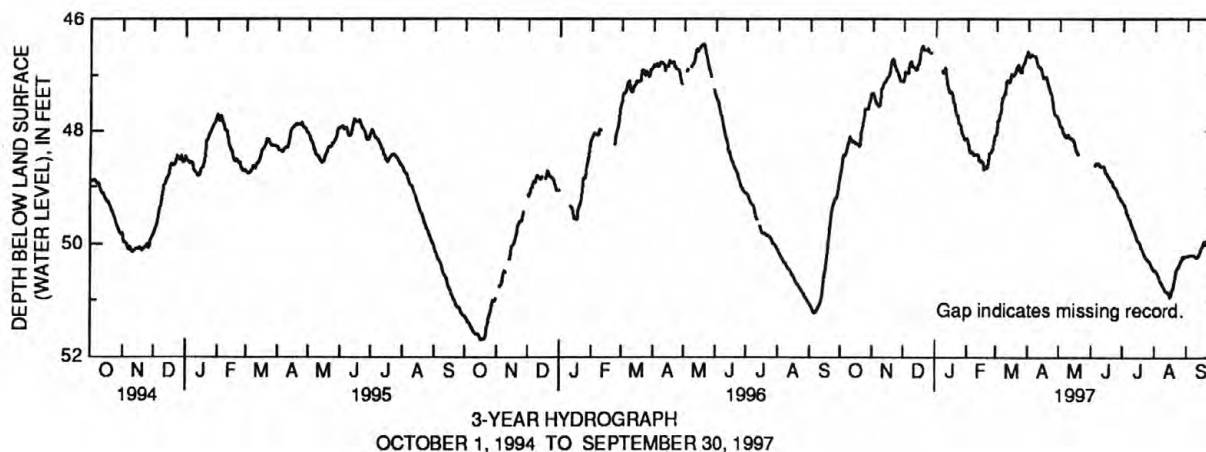
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48.73	47.32	47.08	---	48.19	48.02	46.65	47.90	---	49.24	50.47	50.20
2	48.58	47.36	46.94	---	48.27	47.82	46.67	47.93	---	49.28	50.47	50.20
3	48.43	47.46	46.94	---	48.38	47.81	46.64	47.93	---	49.31	50.50	50.19
4	48.44	47.50	46.96	---	48.39	47.69	46.63	48.03	48.62	49.36	50.54	50.19
5	48.42	47.52	46.96	---	48.37	47.66	46.65	48.05	48.58	49.44	50.58	50.19
6	48.37	47.56	46.79	---	48.39	47.40	---	48.09	48.58	49.48	50.65	50.19
7	48.26	47.54	46.77	46.90	48.43	47.42	46.65	48.11	48.58	49.53	50.67	50.19
8	48.21	47.48	46.74	46.96	48.43	47.34	46.70	48.11	48.58	49.55	50.70	50.19
9	48.10	47.24	46.84	46.96	48.42	47.34	46.77	48.07	48.62	49.61	50.74	50.21
10	48.14	47.22	46.84	46.86	48.42	47.12	46.83	48.11	48.64	49.67	50.77	50.23
11	48.18	47.14	46.86	47.01	48.42	47.08	46.87	48.13	48.64	49.72	50.82	50.22
12	48.20	47.12	46.90	47.15	48.52	47.09	46.85	48.13	48.63	49.75	50.83	50.20
13	48.18	47.11	46.90	47.23	48.54	47.13	46.88	48.15	48.63	49.79	50.84	50.17
14	48.20	47.05	46.81	47.31	48.52	47.05	46.99	48.17	48.71	49.85	50.86	50.11
15	48.23	47.03	46.80	47.31	48.56	46.97	47.05	48.21	48.75	49.91	50.86	50.06
16	48.23	47.01	46.70	47.29	48.56	47.01	47.05	48.31	48.75	49.94	50.94	50.03
17	48.25	46.95	46.56	47.35	48.68	47.01	47.03	48.37	48.81	49.95	50.88	49.96
18	48.27	46.83	46.50	47.48	48.65	46.97	47.03	48.39	48.82	50.00	50.81	49.94
19	48.26	46.72	46.47	47.51	48.64	46.96	47.13	48.43	48.87	50.06	50.76	49.95
20	48.02	46.71	46.53	47.65	48.66	46.87	47.19	---	48.89	50.09	50.66	49.93
21	47.96	46.72	46.55	47.72	48.56	46.83	47.25	---	48.89	50.15	50.56	49.95
22	47.85	46.82	46.55	47.72	48.40	46.81	47.31	---	48.97	50.19	50.46	49.95
23	47.75	46.87	46.55	47.86	48.40	46.91	47.35	---	48.99	50.22	50.42	49.91
24	47.61	46.92	46.51	47.88	48.36	46.95	47.49	---	49.01	50.25	50.40	49.92
25	47.61	46.94	46.57	47.91	48.32	46.95	47.63	---	49.02	50.27	50.36	49.89
26	47.61	47.01	46.59	48.04	48.21	46.81	47.71	---	49.08	50.29	50.31	49.90
27	47.61	47.09	46.59	48.06	48.08	46.80	47.71	---	49.15	50.31	50.28	49.90
28	47.51	47.09	46.59	48.11	48.08	46.75	47.73	---	49.16	50.35	50.22	49.90
29	47.46	47.11	---	48.16	---	46.67	47.77	---	49.20	50.39	50.21	49.83
30	47.35	47.11	---	48.15	---	46.65	47.81	---	49.22	50.43	50.22	49.81
31	47.32	---	---	48.13	---	46.57	---	---	---	50.45	50.21	---
MEAN	48.04	47.12	46.73	47.55	48.42	47.11	47.10	48.14	48.83	49.90	50.58	50.05
MAX	48.73	47.56	47.08	48.16	48.68	48.02	47.81	48.43	49.22	50.45	50.94	50.23
MIN	47.32	46.71	46.47	46.86	48.08	46.57	46.63	47.90	48.58	49.24	50.21	49.81

WTR YR 1997: HIGHEST 46.47, DECEMBER 19; LOWEST 50.94, AUGUST 16.



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.

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

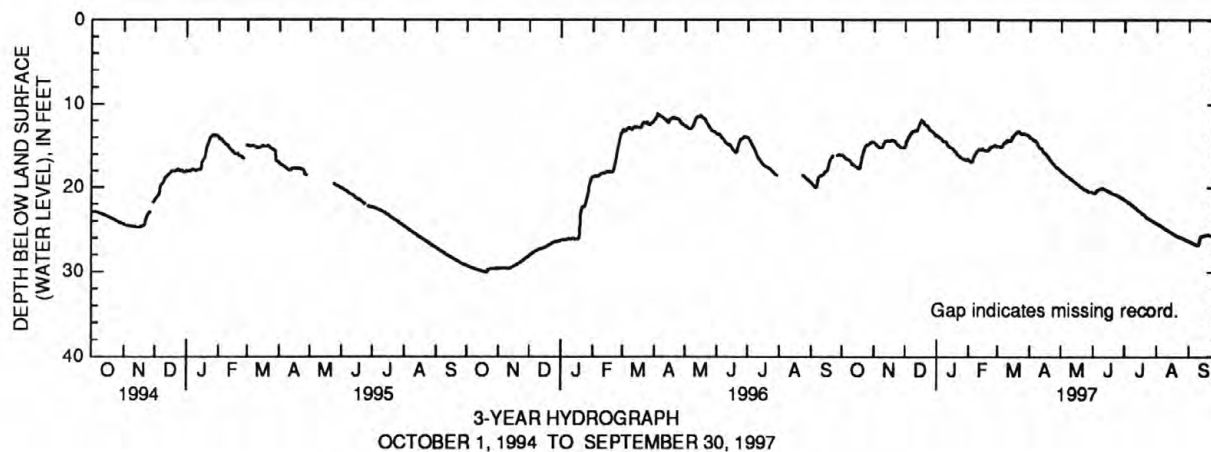
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 8.99 ft below land-surface datum, Apr. 3, 1994; lowest, 33.50 ft below land-surface datum, Feb. 3, 1955.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.10	14.58	15.10	13.75	16.74	15.01	13.99	17.98	20.56	21.42	24.23	26.33
2	16.10	14.64	14.55	13.72	16.79	15.02	14.01	18.12	20.61	21.49	24.30	26.39
3	16.30	14.85	14.30	13.90	16.90	15.06	14.03	18.14	20.61	21.53	24.39	26.46
4	16.44	14.99	13.95	13.99	16.90	15.10	14.20	18.34	20.44	21.66	24.45	26.51
5	16.54	15.04	13.81	14.04	16.56	15.10	14.27	18.42	20.27	21.76	24.54	26.58
6	16.57	15.17	13.52	14.24	16.22	14.71	14.25	18.54	20.20	21.87	24.62	26.62
7	16.64	15.19	13.43	14.38	15.95	14.69	14.49	18.64	20.15	21.96	24.70	26.70
8	16.68	15.16	13.25	14.45	15.73	14.50	14.62	18.68	20.11	22.04	24.78	26.74
9	16.86	15.11	13.26	14.44	15.58	14.50	14.90	18.76	20.07	22.14	24.87	26.81
10	17.07	14.73	13.26	14.50	15.47	14.21	15.12	18.88	20.07	22.25	24.94	26.83
11	17.20	14.53	13.13	14.78	15.38	14.28	15.24	18.96	20.08	22.35	25.01	26.50
12	17.28	14.41	13.16	14.95	15.42	14.32	15.25	19.06	20.13	22.45	25.10	25.81
13	17.31	14.38	13.12	15.05	15.48	14.38	15.50	19.16	20.19	22.53	25.17	25.77
14	17.47	14.33	12.59	15.16	15.28	14.24	15.68	19.24	20.28	22.65	25.23	25.72
15	17.50	14.33	12.40	15.17	15.44	13.90	15.80	19.33	20.39	22.76	25.31	25.70
16	17.60	14.36	12.11	15.25	15.50	13.79	15.90	19.46	20.42	22.85	25.40	25.69
17	17.69	14.35	11.91	15.37	15.55	13.61	16.02	19.55	20.47	22.94	25.49	25.64
18	17.70	14.30	12.00	15.58	15.51	13.48	16.17	19.65	20.58	23.06	25.56	25.61
19	17.10	14.24	12.10	15.66	15.49	13.40	16.40	19.73	20.65	23.16	25.62	25.61
20	16.32	14.31	12.39	15.89	15.50	13.23	16.60	19.86	20.72	23.27	25.69	25.60
21	15.89	14.43	12.48	16.05	15.22	13.23	16.72	19.96	20.73	23.39	25.73	25.64
22	15.51	14.55	12.56	16.04	15.10	13.32	16.90	20.07	20.79	23.51	25.80	25.65
23	15.12	14.74	12.61	16.28	15.11	13.48	17.02	20.13	20.83	23.61	25.88	25.69
24	14.91	14.82	12.82	16.37	15.01	13.55	17.15	20.19	20.90	23.69	25.92	25.70
25	14.87	14.96	13.05	16.42	14.98	13.52	17.34	20.23	20.99	23.72	25.93	25.72
26	14.83	15.04	13.12	16.54	14.89	13.49	17.49	20.31	21.03	23.80	26.00	25.81
27	14.77	15.16	13.21	16.54	14.93	13.55	17.58	20.41	21.10	23.88	26.05	25.88
28	14.60	15.14	13.29	16.61	15.03	13.57	17.63	20.44	21.20	23.94	26.10	25.90
29	14.56	15.18	13.44	16.68	---	13.64	17.78	20.47	21.24	24.03	26.17	25.92
30	14.49	15.15	13.58	16.66	---	13.70	17.85	20.49	21.32	24.11	26.21	25.99
31	14.55	---	13.75	16.55	---	13.72	---	20.52	---	24.18	26.29	---
MEAN	16.21	14.74	13.14	15.32	15.63	14.04	15.86	19.41	20.57	22.84	25.34	26.05
MAX	17.70	15.19	15.10	16.68	16.90	15.10	17.85	20.52	21.32	24.18	26.29	26.83
MIN	14.49	14.24	11.91	13.72	14.89	13.23	13.99	17.98	20.07	21.42	24.23	25.60

WTR YR 1997: HIGHEST 11.91, DECEMBER 17; LOWEST 26.83, SEPTEMBER 10.



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.--Data collection platform with 60-minute recording interval. Satellite telemetry 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.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

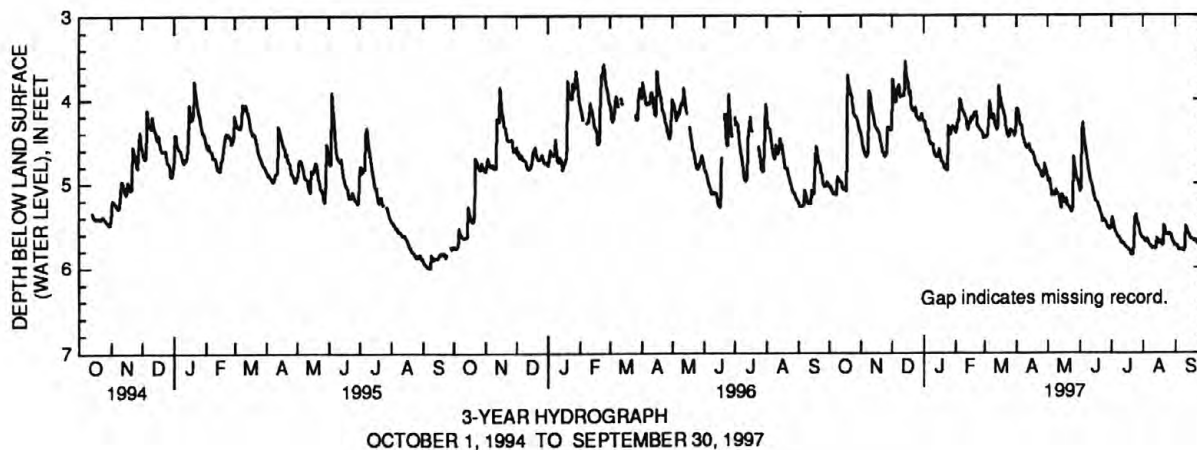
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.04	4.41	4.33	4.26	4.40	4.44	4.11	4.92	5.09	5.53	5.65	5.73
2	5.03	4.49	3.76	4.26	4.34	4.45	4.11	4.98	5.07	5.41	5.66	5.73
3	5.07	4.57	3.86	4.34	4.25	4.45	4.16	4.94	4.36	5.45	5.69	5.75
4	5.10	4.61	4.03	4.40	4.26	4.42	4.26	5.03	4.28	5.52	5.68	5.79
5	5.12	4.66	4.03	4.36	4.00	4.27	4.31	5.14	4.43	5.57	5.66	5.79
6	5.12	4.68	3.88	4.47	4.02	4.02	4.31	5.10	4.54	5.59	5.70	5.78
7	5.13	4.67	3.85	4.51	4.10	4.11	4.44	5.14	4.62	5.62	5.73	5.78
8	5.13	4.62	3.82	4.54	4.14	4.21	4.47	5.14	4.71	5.64	5.74	5.79
9	4.92	3.90	3.97	4.53	4.16	4.23	4.52	5.07	4.80	5.64	5.76	5.80
10	4.94	3.94	3.96	4.53	4.20	4.18	4.56	5.11	4.88	5.68	5.77	5.76
11	4.97	4.06	3.96	4.64	4.23	4.28	4.58	5.13	4.95	5.71	5.76	5.51
12	4.98	4.14	3.95	4.66	4.30	4.32	4.57	5.14	4.99	5.70	5.77	5.54
13	4.98	4.18	3.95	4.68	4.36	4.36	4.54	5.22	5.02	5.71	5.77	5.58
14	5.06	4.27	3.55	4.68	4.28	4.32	4.60	5.29	5.11	5.74	5.65	5.60
15	5.07	4.33	3.68	4.68	4.29	3.84	4.63	5.13	5.16	5.75	5.67	5.64
16	5.05	4.34	3.77	4.59	4.21	3.96	4.62	5.17	5.20	5.77	5.71	5.66
17	5.07	4.37	3.80	4.66	4.25	4.00	4.65	5.20	5.22	5.77	5.71	5.66
18	5.09	4.37	3.94	4.74	4.21	4.09	4.68	5.23	5.23	5.79	5.68	5.67
19	3.71	4.43	3.90	4.74	4.16	4.11	4.74	5.18	5.27	5.80	5.73	5.68
20	3.82	4.50	4.08	4.77	4.19	4.18	4.78	5.26	5.30	5.84	5.73	5.67
21	3.85	4.55	4.12	4.82	4.15	4.21	4.79	5.27	5.35	5.85	5.50	5.69
22	3.93	4.63	4.14	4.78	4.30	4.35	4.80	5.29	5.38	5.84	5.54	5.72
23	3.95	4.64	4.13	4.84	4.33	4.40	4.84	5.31	5.45	5.64	5.60	5.67
24	4.07	4.68	4.10	4.84	4.35	4.45	4.85	5.34	5.42	5.40	5.60	5.72
25	4.17	4.67	4.21	4.32	4.37	4.44	4.90	5.29	5.44	5.38	5.61	5.70
26	4.20	4.65	4.21	4.42	4.38	4.36	4.92	4.68	5.46	5.44	5.59	5.76
27	4.20	4.33	4.24	4.42	4.40	4.37	4.91	4.78	5.49	5.47	5.60	5.75
28	4.23	4.34	4.25	4.35	4.46	4.39	4.77	4.86	5.52	5.52	5.61	5.71
29	4.27	4.36	4.23	4.32	---	4.39	4.82	4.93	5.54	5.59	5.68	5.62
30	4.33	4.37	4.17	4.33	---	4.44	4.86	4.96	5.54	5.62	5.69	5.67
31	4.38	---	4.25	4.34	---	4.38	---	5.02	---	5.64	5.73	---
MEAN	4.64	4.43	4.00	4.54	4.25	4.27	4.60	5.10	5.09	5.63	5.68	5.70
MAX	5.13	4.68	4.33	4.84	4.46	4.45	4.92	5.34	5.54	5.85	5.77	5.80
MIN	3.71	3.90	3.55	4.26	4.00	3.84	4.11	4.68	4.28	5.38	5.50	5.51

WTR YR 1997: HIGHEST 3.55, DECEMBER 14; LOWEST 5.85, JULY 21.



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.--Data collection platform with 60-minute recording interval. Satellite telemetry 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.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office. Well was pumped on Aug. 19, 1997 as part of periodic well-maintenance program.

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

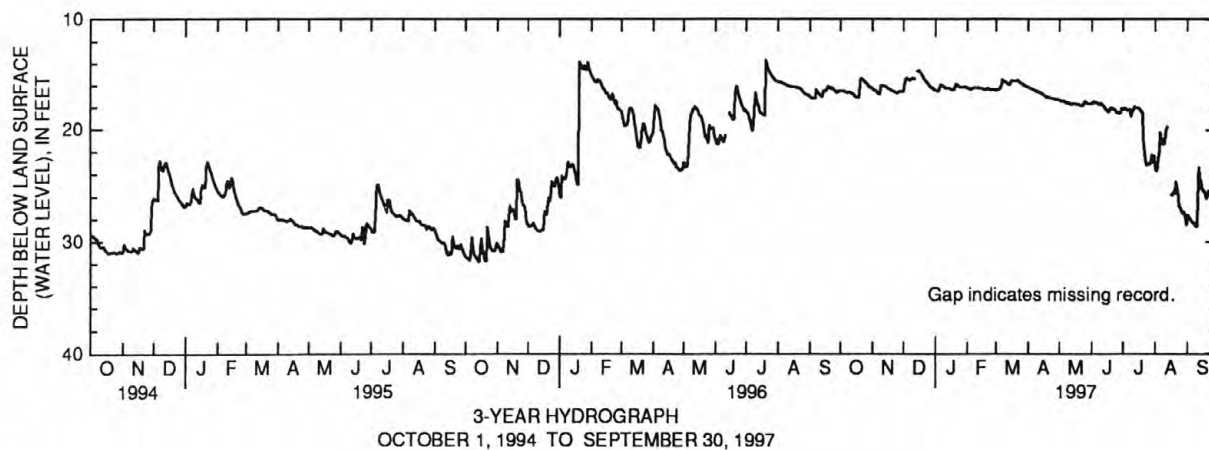
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.48	16.21	16.51	16.39	16.15	16.37	16.09	17.26	17.61	18.09	23.06	27.57
2	16.45	16.37	15.84	16.42	16.21	16.34	16.15	17.34	17.51	18.10	23.65	27.68
3	16.45	16.40	15.35	16.47	16.26	16.32	16.20	17.35	17.43	18.02	23.61	27.88
4	16.49	16.41	15.28	16.48	16.32	16.27	16.25	17.38	17.51	18.07	22.52	27.99
5	16.52	16.55	15.36	16.12	16.25	16.13	16.28	17.35	17.51	18.19	22.03	28.18
6	16.56	16.66	15.42	15.90	16.25	15.88	16.34	17.40	17.49	18.17	20.20	28.26
7	16.61	16.73	15.46	15.98	16.18	15.45	16.37	17.52	17.54	18.14	20.80	28.31
8	16.61	16.70	15.36	16.03	16.16	15.52	16.47	17.54	17.66	18.13	21.19	28.44
9	16.55	16.02	15.35	16.07	16.16	15.58	16.47	17.51	17.66	18.75	21.25	28.57
10	16.62	16.02	15.29	16.13	16.16	15.60	16.46	17.56	17.56	18.25	21.20	28.64
11	16.64	15.99	15.30	16.18	16.14	15.70	16.55	17.56	17.68	18.25	20.42	26.40
12	16.68	16.00	15.39	16.23	16.14	15.79	16.62	17.64	17.74	17.87	19.90	23.35
13	16.74	16.03	---	16.23	16.19	15.86	16.62	17.64	17.90	17.95	19.66	24.33
14	16.83	16.07	14.71	16.23	16.20	15.87	16.72	17.59	18.02	17.97	---	24.59
15	16.96	16.13	14.60	16.23	16.23	15.57	16.77	17.58	18.16	17.97	---	25.16
16	17.01	16.20	14.61	16.30	16.24	15.49	16.83	17.61	18.27	18.01	25.70	25.39
17	17.02	16.27	14.73	16.35	16.26	15.50	16.88	17.63	18.33	18.05	25.77	25.44
18	17.05	16.32	14.84	16.35	16.30	15.55	16.99	17.63	18.29	18.19	25.72	25.58
19	16.82	16.39	15.02	16.31	16.30	15.55	16.99	17.64	17.98	18.30	25.50	26.10
20	15.46	16.43	15.20	16.03	16.24	15.54	17.01	17.69	17.99	18.49	25.58	25.91
21	15.32	16.48	15.38	15.83	16.24	15.50	17.04	17.70	18.01	21.11	24.65	25.42
22	15.39	16.52	15.50	15.89	16.25	15.47	17.07	17.80	18.11	22.05	25.15	25.64
23	15.47	16.56	15.61	16.00	16.30	15.59	17.15	17.74	18.10	22.72	25.70	---
24	15.57	16.63	15.74	16.08	16.32	15.69	17.13	17.67	18.24	23.12	26.82	25.70
25	15.68	16.65	15.85	16.09	16.31	15.73	17.12	17.43	18.37	23.05	26.85	26.02
26	15.77	16.61	15.97	16.11	16.32	15.78	17.19	17.43	18.38	23.00	27.14	26.28
27	15.86	16.51	16.11	16.11	16.33	15.86	17.20	17.49	18.48	23.05	27.40	26.45
28	16.00	16.51	16.14	16.11	16.35	15.94	17.20	17.61	18.44	22.83	27.28	26.71
29	16.10	16.51	16.19	16.07	---	15.98	17.20	17.57	18.35	22.24	27.46	26.04
30	16.15	16.51	16.25	16.10	---	16.03	17.23	17.57	18.04	22.86	27.76	23.66
31	16.16	---	16.36	16.13	---	16.07	---	17.57	---	22.26	28.44	---
MEAN	16.32	16.38	15.49	16.16	16.24	15.79	16.75	17.55	17.95	19.72	24.22	26.40
MAX	17.05	16.73	16.51	16.48	16.35	16.37	17.23	17.80	18.48	23.12	28.44	28.64
MIN	15.32	15.99	14.60	15.83	16.14	15.45	16.09	17.26	17.43	17.87	19.66	23.35

WTR YR 1997: HIGHEST 14.60, DECEMBER 15; LOWEST 28.64, SEPTEMBER 10.



HUNTINGDON COUNTY

401843078075401. Local number, HU 301.

LOCATION.--Lat 40°18'43", long 78°07'54", Hydrologic Unit 02050303, at Trough Creek State Park, and near Newburg.

Owner: U.S. Geological Survey.

AQUIFER.--Pocono Formation, Early Mississippian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 105 ft, cased to 18 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 970 ft above sea level, from topographic map. Measuring point: Top of casing, 3.6 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--August 1969 to current year.

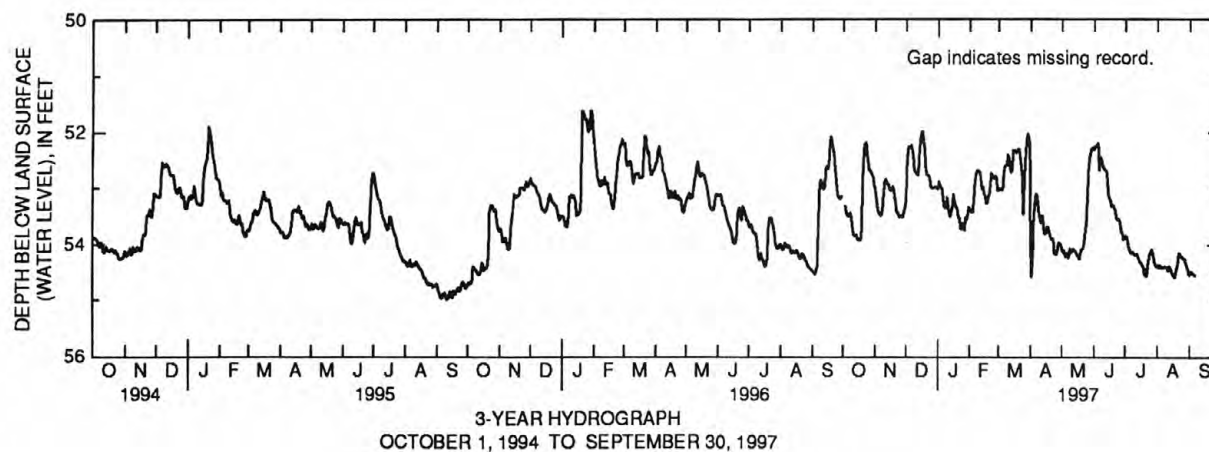
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	53.00	53.20	53.01	53.37	53.03	53.86	54.05	52.31	53.86	54.40	54.54
2	---	53.15	52.58	52.88	53.41	53.00	54.57	54.13	52.25	53.84	54.37	54.50
3	53.31	53.32	52.26	52.95	53.43	53.00	54.32	54.09	52.25	53.86	54.41	54.48
4	53.42	53.40	52.27	52.99	53.43	53.02	53.58	54.15	52.21	53.94	54.36	54.50
5	53.48	53.44	52.27	52.99	53.19	53.02	53.26	54.21	52.19	54.06	54.41	54.52
6	53.50	53.48	52.23	53.19	52.89	52.71	53.10	54.15	52.67	54.10	54.40	54.54
7	53.46	53.48	52.31	53.32	52.75	52.62	53.12	54.23	52.43	54.14	54.41	54.55
8	53.44	53.42	52.43	53.35	52.69	52.58	53.26	54.21	52.47	54.14	54.40	---
9	53.51	53.16	52.69	53.35	52.69	52.58	53.42	54.07	52.56	54.12	54.39	---
10	53.67	52.90	52.70	53.17	52.69	52.40	53.52	54.13	52.63	54.16	54.40	---
11	53.82	52.83	52.73	53.36	52.73	52.46	53.62	54.13	52.65	54.18	54.42	---
12	53.84	52.88	52.76	53.43	52.86	52.61	53.48	54.07	52.67	54.18	54.46	---
13	53.84	52.92	52.69	53.51	53.01	52.71	53.52	54.09	52.69	54.16	54.39	---
14	53.83	52.93	52.27	53.41	52.97	52.65	53.78	54.11	52.83	54.22	54.43	---
15	53.90	53.02	52.11	53.32	53.09	52.32	53.81	54.13	53.11	54.26	54.48	---
16	53.90	53.04	51.99	53.11	53.15	52.32	53.79	54.19	53.17	54.32	54.53	---
17	53.92	53.04	51.99	53.23	53.27	52.32	53.69	54.19	53.23	54.32	54.54	---
18	53.92	52.96	52.17	53.33	53.27	52.36	53.69	54.25	53.32	54.36	54.58	---
19	53.75	53.02	52.31	53.33	53.17	52.35	53.76	54.16	53.30	54.40	54.50	---
20	52.73	53.16	52.62	53.39	53.10	52.30	53.85	54.10	53.30	54.52	54.41	---
21	52.31	53.26	52.75	53.53	52.92	52.30	53.89	54.07	53.36	54.54	54.34	---
22	52.20	53.42	52.77	53.53	52.73	52.48	53.89	54.05	53.40	54.56	54.15	---
23	52.18	53.42	52.77	53.71	52.77	52.65	53.91	53.91	53.52	54.42	54.16	---
24	52.35	53.49	52.82	53.73	52.80	52.80	54.16	53.75	53.56	54.27	54.21	---
25	52.53	53.52	52.98	53.62	52.82	53.46	54.13	53.57	53.54	54.16	54.20	54.44
26	52.67	53.48	52.99	53.70	52.78	52.79	54.17	53.02	53.58	54.12	54.24	54.53
27	52.68	53.49	52.99	53.75	52.81	52.39	54.09	52.59	53.66	54.08	54.25	54.57
28	52.71	53.52	52.99	53.53	53.04	52.12	53.96	52.42	53.76	54.14	54.26	54.53
29	52.76	53.42	52.97	53.57	---	52.02	53.99	52.32	53.80	54.23	54.35	54.28
30	52.79	53.34	52.99	53.49	---	52.10	53.98	52.27	53.90	54.34	54.40	54.06
31	52.93	---	52.99	53.34	---	52.20	---	52.27	---	54.36	54.46	---
MEAN	53.22	53.23	52.60	53.36	52.99	52.57	53.77	53.78	53.01	54.21	54.38	54.46
MAX	53.92	53.52	53.20	53.75	53.43	53.46	54.57	54.25	53.90	54.56	54.58	54.57
MIN	52.18	52.83	51.99	52.88	52.69	52.02	53.10	52.27	52.19	53.84	54.15	54.06

WTR YR 1997: HIGHEST 51.99, DECEMBER 16,17; LOWEST 54.58, AUGUST 18.



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.

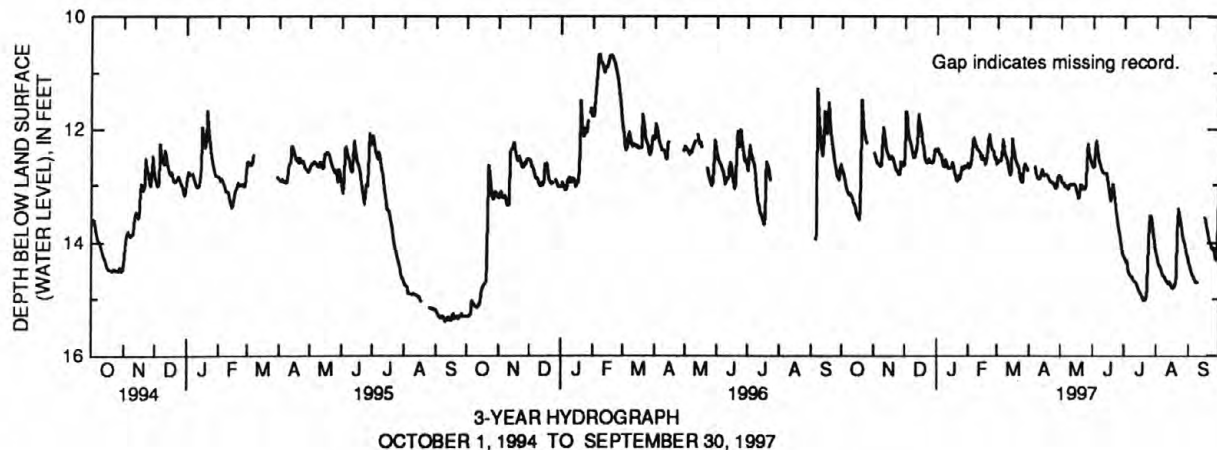
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 10.65 ft below land-surface datum, Feb. 7, 1996; lowest, 16.62 ft below land-surface datum, June 10, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.72	12.41	12.46	12.38	12.69	12.60	---	12.85	12.68	14.25	14.20	14.35
2	12.77	12.47	11.68	12.34	12.67	12.55	---	12.96	12.66	14.29	14.27	14.41
3	12.83	12.55	11.71	12.41	12.61	12.56	---	12.96	12.33	14.34	14.36	14.47
4	12.94	12.60	12.02	12.46	12.48	12.56	---	12.96	12.20	14.32	14.41	14.54
5	13.04	12.62	12.14	12.45	12.21	12.43	---	13.03	12.34	14.50	14.44	14.59
6	13.10	12.64	12.22	12.57	12.15	12.18	12.66	13.01	12.48	14.54	14.51	14.62
7	13.14	12.66	12.30	12.65	12.23	12.28	12.79	13.06	12.58	14.58	14.56	14.67
8	13.17	12.63	12.38	12.67	12.29	12.44	12.84	13.07	12.64	14.60	14.60	14.70
9	13.15	12.28	12.50	12.54	12.35	12.49	12.88	13.00	12.71	14.61	14.61	14.71
10	13.19	11.96	12.50	12.59	12.36	12.54	12.89	12.98	12.76	14.66	14.65	14.70
11	13.24	12.09	12.44	12.68	12.39	12.65	12.87	12.99	12.78	14.68	14.68	---
12	13.31	12.25	12.35	12.69	12.42	12.74	12.78	12.99	12.79	14.70	14.73	---
13	13.34	12.37	12.21	12.69	12.53	12.82	12.72	12.98	12.79	14.72	14.73	---
14	13.39	12.42	11.72	12.69	12.47	12.74	12.80	12.98	12.79	14.77	14.70	---
15	13.50	12.49	11.85	12.67	12.54	12.17	12.83	13.01	12.93	14.82	14.76	---
16	13.53	12.53	11.95	12.59	12.53	12.31	12.81	13.09	13.03	14.86	14.79	13.56
17	13.57	12.52	12.07	12.67	12.63	12.39	12.81	13.14	13.16	14.90	14.81	13.60
18	13.60	12.48	12.24	12.78	12.54	12.54	12.82	13.23	13.28	14.93	14.78	13.72
19	13.02	12.50	12.30	12.83	12.40	12.58	12.87	13.17	13.09	14.98	14.77	13.79
20	11.47	12.56	12.49	12.91	12.19	12.65	12.91	12.99	12.98	15.02	14.63	13.90
21	11.77	12.64	12.57	12.93	12.09	12.65	12.94	13.00	13.07	15.00	13.77	14.00
22	11.99	12.71	12.60	12.82	12.25	12.81	12.94	13.03	13.23	15.01	13.42	14.01
23	12.09	12.74	12.57	12.89	12.33	12.90	12.96	13.07	13.41	14.88	13.52	14.10
24	12.20	12.77	12.52	12.78	12.37	12.95	12.96	13.07	13.54	14.32	13.62	14.12
25	12.25	12.81	12.59	12.67	12.39	12.93	13.03	13.00	13.66	13.74	13.73	14.09
26	---	12.79	12.59	12.72	12.52	12.70	13.05	12.56	13.78	13.54	13.86	14.22
27	---	12.58	12.60	12.67	12.50	12.62	13.03	12.26	13.85	13.54	13.96	14.30
28	---	12.62	12.58	12.65	12.62	12.66	12.86	12.42	13.99	13.66	14.00	14.32
29	---	12.65	12.50	12.69	---	12.68	12.82	12.50	14.10	13.83	14.09	13.56
30	---	12.64	12.35	12.67	---	12.75	12.85	12.58	14.20	13.98	14.19	12.97
31	---	---	12.38	12.61	---	---	---	12.62	---	14.10	14.26	---
MEAN	12.89	12.53	12.30	12.66	12.42	12.60	12.87	12.92	13.06	14.47	14.34	14.16
MAX	13.60	12.81	12.60	12.93	12.69	12.95	13.05	13.23	14.20	15.02	14.81	14.71
MIN	11.47	11.96	11.68	12.34	12.09	12.17	12.66	12.26	12.20	13.54	13.42	12.97

WTR YR 1997: HIGHEST 11.47, OCTOBER 20; LOWEST 15.02, JULY 20.



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.

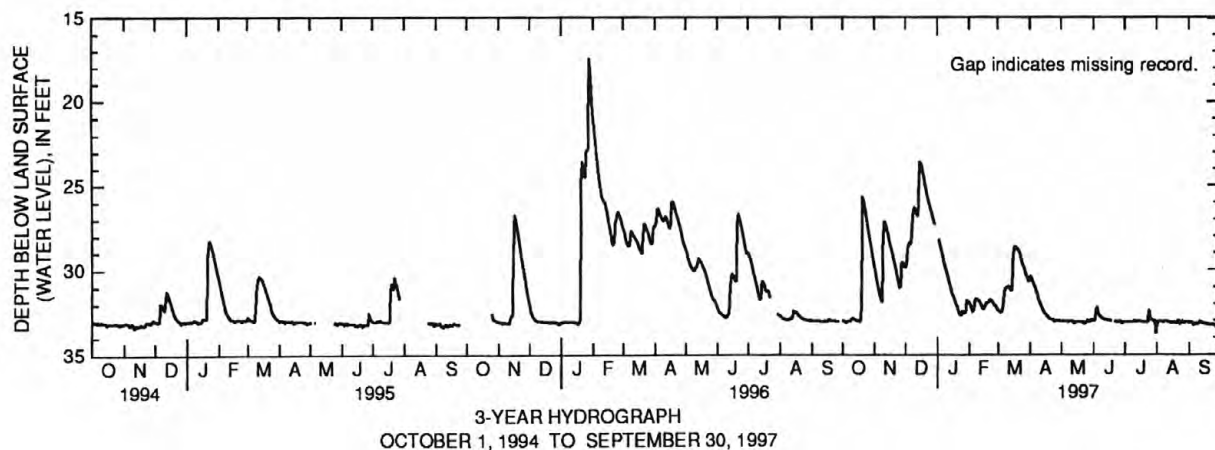
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 16.89 ft below land-surface datum, Mar. 28, 1994; lowest, 35.47 ft below land-surface datum, Nov. 15, 1967.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.00	29.96	29.86	---	31.99	32.40	30.39	33.04	32.99	33.09	33.20	33.11
2	33.01	30.34	29.52	28.21	32.14	32.45	30.54	33.05	32.99	33.09	33.06	33.14
3	33.05	30.68	28.68	28.47	32.32	32.50	30.70	33.03	32.40	33.08	33.06	33.13
4	33.13	30.97	28.46	28.74	32.46	32.48	30.85	33.04	32.20	33.10	33.06	33.15
5	33.06	31.27	28.51	28.96	32.28	32.24	31.01	33.05	32.50	33.10	33.06	33.28
6	33.06	31.53	28.46	29.25	31.78	31.77	31.16	33.06	32.65	33.10	33.08	33.20
7	33.06	31.77	27.59	29.54	31.73	31.21	31.35	33.07	32.74	33.09	33.09	33.18
8	33.06	31.88	26.73	29.82	31.74	31.06	31.55	33.07	32.81	33.09	33.07	33.18
9	32.93	28.49	26.32	30.03	31.77	31.07	31.75	33.05	32.87	33.08	33.06	33.19
10	32.87	27.20	26.39	30.25	31.83	31.02	31.93	33.06	32.91	33.03	33.06	33.18
11	32.88	27.20	26.56	30.50	31.92	31.00	32.09	33.06	32.93	33.04	33.07	33.06
12	32.92	27.45	26.82	30.72	32.05	31.10	32.23	33.06	32.94	33.07	33.08	33.10
13	32.95	27.71	26.81	30.94	32.21	31.20	32.37	33.17	32.95	33.07	33.08	33.14
14	32.99	28.01	24.49	31.18	32.30	31.20	32.50	33.11	32.97	33.05	33.13	33.16
15	33.00	28.30	23.62	31.40	32.25	29.40	32.58	33.08	32.97	33.05	33.13	33.17
16	33.02	28.56	23.72	31.53	32.11	28.76	32.66	33.09	32.98	33.06	33.15	33.18
17	33.03	28.80	23.94	31.69	31.97	28.65	32.73	33.09	33.00	33.07	33.12	33.20
18	33.04	29.02	24.32	31.91	31.94	28.70	32.78	33.10	33.01	33.08	33.10	33.21
19	32.32	29.29	24.59	32.06	31.91	28.76	32.89	33.09	---	33.09	33.16	33.22
20	25.71	29.57	25.02	32.17	31.82	28.85	32.90	33.10	---	33.09	33.15	33.23
21	25.88	29.88	25.36	32.42	31.76	28.94	32.93	33.11	33.05	33.09	33.01	33.24
22	26.19	30.22	25.66	32.57	31.78	29.14	32.95	33.11	33.07	33.09	33.02	33.24
23	26.55	30.50	25.95	32.67	31.88	29.36	32.96	33.18	33.08	33.06	33.21	33.24
24	26.96	30.79	26.14	32.68	31.98	29.64	33.07	33.15	33.08	32.40	33.11	33.24
25	27.41	31.05	26.39	32.44	32.09	29.79	33.03	33.09	33.07	32.83	33.07	33.26
26	27.83	30.97	26.60	32.51	32.12	29.95	33.01	32.98	33.07	32.94	33.12	33.27
27	28.18	29.62	26.85	32.54	32.23	30.18	33.00	33.05	33.07	32.95	33.14	33.41
28	28.53	29.57	27.06	32.51	32.36	30.36	33.00	33.08	33.16	33.00	33.10	33.36
29	28.91	29.70	27.32	31.81	---	30.52	33.02	32.97	33.09	33.01	33.10	33.36
30	29.25	29.84	---	31.82	---	30.68	33.03	32.96	33.09	33.02	33.10	33.28
31	29.62	---	---	31.88	---	30.60	---	33.00	---	33.74	33.11	---
MEAN	30.88	29.67	26.47	31.11	32.03	30.48	32.23	33.07	32.92	33.05	33.10	33.21
MAX	33.13	31.88	29.86	32.68	32.46	32.50	33.07	33.18	33.16	33.74	33.21	33.41
MIN	25.71	27.20	23.62	28.21	31.73	28.65	30.39	32.96	32.20	32.40	33.01	33.06

WTR YR 1997: HIGHEST 23.62, DECEMBER 15; LOWEST 33.74, JULY 31.



LANCASTER COUNTY

395947076145901. Local number, LN 2037.

LOCATION.--Lat 39°59'47", long 76°14'59", Hydrologic Unit 02050306, 50 ft upstream from box culvert on Mentzer Road, 0.2 mi north of the intersection with SR 741, and 0.5 mi northwest of Lampeter.

Owner: U.S. Geological Survey.

AQUIFER.--Quaternary age alluvium.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 6 ft, cased to 6 ft, closed end, screened from 3.5 to 4.5 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 354.45 ft above sea level. Measuring point: Top of casing, 1.45 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--June 1994 to current year.

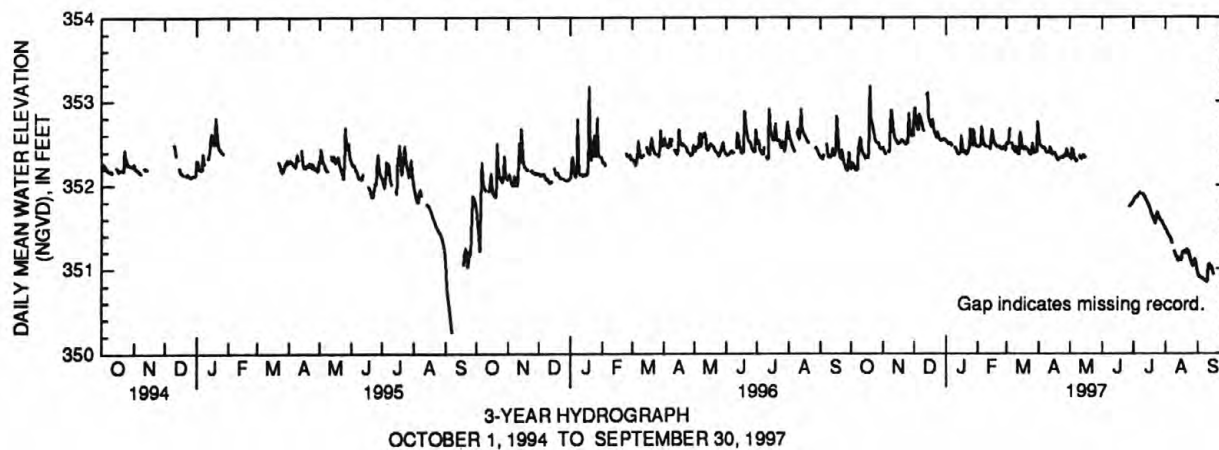
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 353.18 ft, Oct. 19, 1996; lowest water level, 350.25 ft, Sept. 7, 1995.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	352.20	352.45	352.86	352.53	352.46	352.51	352.60	352.35	---	351.81	351.47	350.94
2	352.27	352.42	352.92	352.52	352.46	352.49	352.49	352.32	---	351.84	351.45	350.91
3	352.26	352.38	352.77	352.50	352.47	352.52	352.47	352.44	---	351.85	351.42	350.90
4	352.21	352.39	352.71	352.50	352.49	352.68	352.46	352.42	---	351.86	351.39	350.90
5	352.19	---	352.66	352.51	352.69	---	352.45	352.34	---	351.87	351.38	350.89
6	352.19	352.40	352.84	352.49	352.54	352.51	352.45	352.32	---	351.89	351.35	350.88
7	352.19	352.42	352.81	352.47	352.49	352.44	352.44	352.29	---	351.90	351.30	350.87
8	352.44	352.73	352.76	---	352.47	352.43	352.40	352.31	---	351.92	---	350.86
9	352.52	352.89	352.71	352.45	352.47	352.40	352.39	---	---	---	351.21	350.85
10	352.57	352.78	352.66	352.45	352.46	352.46	---	352.36	---	351.90	351.18	350.85
11	352.43	352.66	352.65	352.43	---	352.41	352.38	352.33	---	351.88	351.15	351.04
12	352.39	352.58	---	352.39	352.47	352.38	352.45	352.32	---	351.86	351.13	351.05
13	352.38	352.55	353.07	352.37	352.43	352.37	352.42	352.35	---	351.83	351.09	351.03
14	352.35	352.53	353.10	352.38	352.56	352.63	352.37	352.36	---	351.81	351.11	351.02
15	352.32	352.50	352.82	352.39	352.66	352.56	352.38	352.34	---	351.78	351.13	350.98
16	---	352.50	352.76	352.58	352.56	352.45	352.39	352.33	---	351.76	351.10	350.93
17	352.32	352.51	352.73	352.47	352.51	352.44	352.37	---	---	351.72	351.19	---
18	352.40	352.52	352.70	352.40	352.49	352.43	352.34	---	---	351.67	351.20	350.84
19	353.18	352.54	352.78	352.39	352.47	352.46	352.31	---	---	351.64	351.21	---
20	352.81	352.53	352.68	352.41	352.46	352.43	352.30	---	---	351.60	351.18	---
21	352.74	352.52	352.63	352.37	352.46	352.44	352.33	---	---	351.57	351.23	---
22	352.71	352.51	352.60	352.39	352.47	352.41	352.33	---	---	351.54	351.22	---
23	352.63	352.49	352.57	352.42	352.44	352.38	352.34	---	---	351.62	351.20	---
24	352.56	352.52	352.63	352.47	352.44	352.37	352.33	---	---	351.68	351.15	---
25	352.52	352.51	352.57	352.67	352.43	352.39	352.35	---	---	351.63	351.10	---
26	352.51	352.85	352.55	352.51	352.46	352.50	352.36	---	---	351.61	351.06	---
27	352.51	352.67	352.53	352.48	352.46	352.40	352.35	---	351.74	351.58	351.03	---
28	352.49	352.60	352.54	352.66	352.42	352.39	352.43	---	351.76	351.57	351.07	---
29	352.44	352.59	352.55	352.52	---	352.42	352.37	---	351.77	351.55	351.11	---
30	352.43	352.59	352.55	352.48	---	352.40	352.35	---	351.79	351.52	351.05	---
31	352.43	---	352.55	352.47	---	352.75	---	---	---	351.50	350.99	---
MEAN	352.45	352.56	352.71	352.47	352.49	352.46	352.39	352.35	351.77	351.73	351.19	350.93
MAX	353.18	352.89	353.10	352.67	352.69	352.75	352.60	352.44	351.79	351.92	351.47	351.05
MIN	352.19	352.38	352.53	352.37	352.42	352.37	352.30	352.29	351.74	351.50	350.99	350.84

WTR YR 1997: HIGHEST 353.18, OCTOBER 19; LOWEST RECORDED 350.84, SEPTEMBER 18.



LANCASTER COUNTY

395947076145901. Local number, LN 2037--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well pumped dry. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY	AGENCY	DEPTH	SPE-	PH	OXYGEN,	TEMPER-	
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANALYZING SAMPLE (CODE NUMBER) (00028)	BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	CIFIC CON- DUCT- ANCE (μS/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)			DIS- SOLVED (MG/L) (00300)
OCT									
16...	0925	1028	80020	2.11	832	7.3	6.3	15.0	
NOV									
05...	0910	1028	80020	2.05	824	7.2	6.2	12.0	
DEC									
12...	0945	1028	80020	1.81	795	--	8.3	8.0	
JAN									
08...	0930	1028	80020	2.03	777	7.0	8.9	6.5	
FEB									
11...	0900	1028	80020	2.01	787	6.7	--	4.5	
MAR									
05...	0850	1028	80020	1.86	877	7.2	6.9	6.5	
APR									
10...	0910	1028	80020	2.03	--	7.1	7.2	8.5	
MAY									
09...	0830	1028	80020	2.05	797	7.0	6.4	11.5	
JUN									
09...	0900	1028	80020	2.07	828	7.0	--	15.0	
JUL									
09...	0900	1028	80020	2.51	743	7.2	4.4	19.5	
AUG									
08...	0940	1028	80020	3.18	831	7.3	4.9	19.0	
SEP									
17...	1215	1028	80020	3.58	--	--	--	--	
DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT									
16...	2400	280	0.020	9.10	0.050	0.20	<0.010	<0.010	
NOV									
05...	230	254	--	12.0	--	--	--	--	
DEC									
12...	1500	264	--	12.0	--	--	--	--	
JAN									
08...	98	266	<0.010	12.0	0.020	0.20	<0.010	<0.010	
FEB									
11...	88	252	--	12.0	--	--	--	--	
MAR									
05...	K35	257	--	15.0	--	--	--	--	
APR									
10...	40	266	0.020	11.0	0.020	0.30	<0.010	<0.010	
MAY									
09...	68	270	--	12.3	--	--	--	--	
JUN									
09...	780	276	--	10.0	--	--	--	--	
JUL									
09...	88	272	0.052	8.72	<0.015	0.23	0.010	0.014	
AUG									
08...	510	280	--	6.13	--	--	--	--	
SEP									
17...	1500	168	--	1.11	--	--	--	--	

LANCASTER COUNTY

395947076145902. Local number, LN 2038.

LOCATION.--Lat 39°59'47", long 76°14'59", Hydrologic Unit 02050306, 50 ft upstream from box culvert on Mentzer Road, 0.2 mi north of the intersection with SR 741, and 0.5 mi northwest of Lampeter.

Owner: U.S. Geological Survey.

AQUIFER.--Quaternary age alluvium.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 6.6 ft, cased to 6.6 ft, closed end, screened from 4 to 5 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 354.32 ft above sea level. Measuring point: Top of casing, 1.6 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--June 1994 to current year.

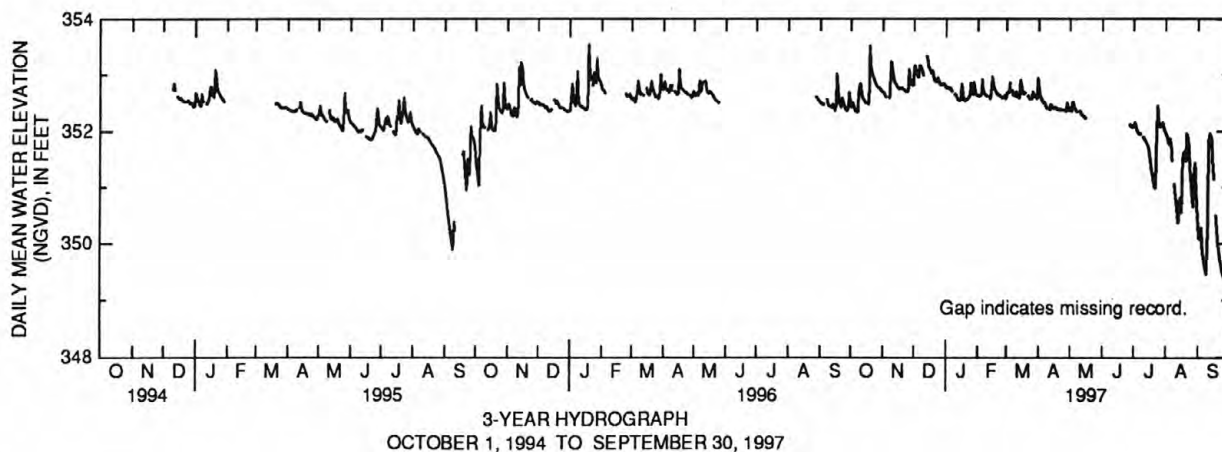
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 353.54 ft, Jan. 19, 1996; lowest water level, 349.31 ft, Sept. 28, 1997.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	352.43	352.70	353.13	352.77	352.63	352.69	352.77	352.39	---	352.09	351.96	350.28
2	352.51	352.67	353.17	352.78	352.62	352.67	352.64	352.36	---	352.15	351.92	350.08
3	352.48	352.62	353.04	352.78	352.64	352.70	352.59	352.50	---	352.12	351.85	350.07
4	352.40	352.61	353.00	352.75	352.66	352.87	352.54	352.52	---	352.04	351.77	350.27
5	352.36	---	352.96	352.77	352.92	---	352.51	352.41	---	351.99	351.87	349.91
6	352.35	352.59	353.17	352.73	352.73	352.74	352.51	352.39	---	351.96	351.77	349.75
7	352.34	352.61	353.17	352.70	352.67	352.64	352.47	352.35	---	351.97	351.47	349.64
8	352.66	353.00	353.13	---	352.64	352.65	352.42	352.35	---	351.94	---	349.54
9	352.82	353.23	353.06	352.64	352.64	352.62	352.40	---	---	---	351.07	349.46
10	352.85	353.07	353.00	352.66	352.61	352.70	---	352.37	---	351.91	350.90	350.08
11	352.67	352.95	353.00	352.62	---	352.63	352.37	352.33	---	351.88	350.72	351.82
12	352.60	352.87	---	352.57	352.60	352.60	352.47	352.29	---	351.85	350.52	351.95
13	352.56	352.84	353.35	352.55	352.58	352.59	352.47	352.28	---	351.82	350.37	351.93
14	352.54	352.81	353.29	352.55	352.76	352.90	352.40	352.26	---	351.78	350.73	351.84
15	352.50	352.78	353.16	352.58	352.96	352.81	352.41	352.25	---	351.74	350.82	351.43
16	---	352.76	353.11	352.84	352.82	352.68	352.40	352.22	---	351.66	350.55	351.14
17	352.47	352.75	353.07	352.68	352.75	352.67	352.42	---	---	351.49	351.50	---
18	352.52	352.77	353.03	352.57	352.71	352.67	352.41	---	---	351.34	351.62	350.51
19	353.52	352.77	353.08	352.54	352.68	352.69	352.38	---	---	351.23	351.65	350.24
20	353.15	352.75	352.95	352.56	352.65	---	352.38	---	---	351.11	351.48	350.01
21	353.04	352.74	352.89	352.57	352.65	352.63	352.39	---	---	351.01	351.96	349.86
22	352.98	352.72	352.88	352.59	352.64	352.61	352.39	---	---	350.99	351.88	349.73
23	352.94	352.71	352.88	352.61	352.61	352.58	352.38	---	---	351.80	351.76	349.62
24	352.88	352.71	352.95	352.65	352.60	352.57	352.38	---	---	352.45	351.37	349.52
25	352.83	352.71	352.89	352.86	352.59	352.59	352.38	---	---	352.17	351.09	349.45
26	352.79	353.10	352.83	352.69	352.62	352.70	352.38	---	---	352.10	350.87	349.39
27	352.78	352.93	352.83	352.65	352.63	352.62	352.36	---	352.13	352.08	350.65	349.35
28	352.78	352.84	352.82	352.87	352.58	352.61	352.50	---	352.10	352.13	351.23	349.31
29	352.74	352.82	352.85	352.70	---	352.63	352.41	---	352.08	352.15	351.44	349.78
30	352.74	352.81	352.83	352.65	---	352.58	352.37	---	352.07	352.05	350.96	350.17
31	352.70	---	352.81	352.64	---	352.94	---	---	---	352.01	350.57	---
MEAN	352.70	352.80	353.01	352.67	352.67	352.68	352.44	352.35	352.10	351.83	351.28	350.21
MAX	353.52	353.23	353.35	352.87	352.96	352.94	352.77	352.52	352.13	352.45	351.96	351.95
MIN	352.34	352.59	352.81	352.54	352.58	352.57	352.36	352.22	352.07	350.99	350.37	349.31

WTR YR 1997: HIGHEST 353.52, OCTOBER 19; LOWEST 349.31, SEPTEMBER 28.



LANCASTER COUNTY

395947076145902. Local number, LN 2038--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well pumped dry. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.

PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TEMPER- ATURE WATER (DEG C) (00010)
OCT								
16...	0935	1028	80020	1.83	797	7.3	5.3	15.0
NOV								
05...	0915	1028	80020	1.71	799	7.2	5.3	13.0
DEC								
12...	0955	1028	80020	1.34	782	--	6.4	8.0
JAN								
08...	0935	1028	80020	1.66	773	6.9	6.8	7.5
FEB								
11...	0905	1028	80020	1.73	767	6.6	--	5.0
MAR								
05...	0900	1028	80020	1.52	845	7.1	4.8	6.5
APR								
10...	0920	1028	80020	1.79	--	7.0	4.6	8.5
MAY								
09...	0810	1028	80020	1.87	798	7.1	3.4	11.0
JUN								
09...	0910	1028	80020	1.88	813	6.8	4.5	13.5
09...	0911	1028	80020	1.88	813	6.8	4.5	13.5
JUL								
09...	0915	1028	80020	2.37	723	7.0	0.8	17.5
AUG								
08...	0940	1028	80020	3.05	756	7.1	0.4	18.5
SEP								
17...	1220	1028	80020	3.46	616	7.6	5.9	18.0

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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)
OCT								
16...	230	254	0.130	11.0	0.080	0.40	0.020	0.020
NOV								
05...	49	250	--	13.0	--	--	--	--
DEC								
12...	1000	266	--	13.0	--	--	--	--
JAN								
08...	89	256	0.030	13.0	0.020	0.30	<0.010	<0.010
FEB								
11...	60	242	--	13.0	--	--	--	--
MAR								
05...	39	240	--	14.0	--	--	--	--
APR								
10...	K12	268	0.070	13.0	<0.015	<0.20	0.030	0.010
MAY								
09...	67	256	--	13.4	--	--	--	--
JUN								
09...	800	256	--	10.3	--	--	--	--
09...	800	256	--	10.2	--	--	--	--
JUL								
09...	K6	256	0.091	8.94	<0.015	0.26	<0.010	0.010
AUG								
08...	130	250	--	5.44	--	--	--	--
SEP								
17...	220	232	--	4.49	--	--	--	--

LANCASTER COUNTY

395947076145903. Local number, LN 2039.

LOCATION.--Lat 39°59'47", long 76°14'59", Hydrologic Unit 02050306, 50 ft upstream from box culvert on Mentzer Road, 0.2 mi north of the intersection with SR 741, and 0.5 mi northwest of Lampeter.
Owner: U.S. Geological Survey.

AQUIFER.--Limestone of the Cambro-Ordovician age Conestoga Formation.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in. steel, depth 63 ft, cased to 19 ft, open hole.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 354.66 ft above sea level. Measuring point: Top of casing, 3.3 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--June 1994 to current year.

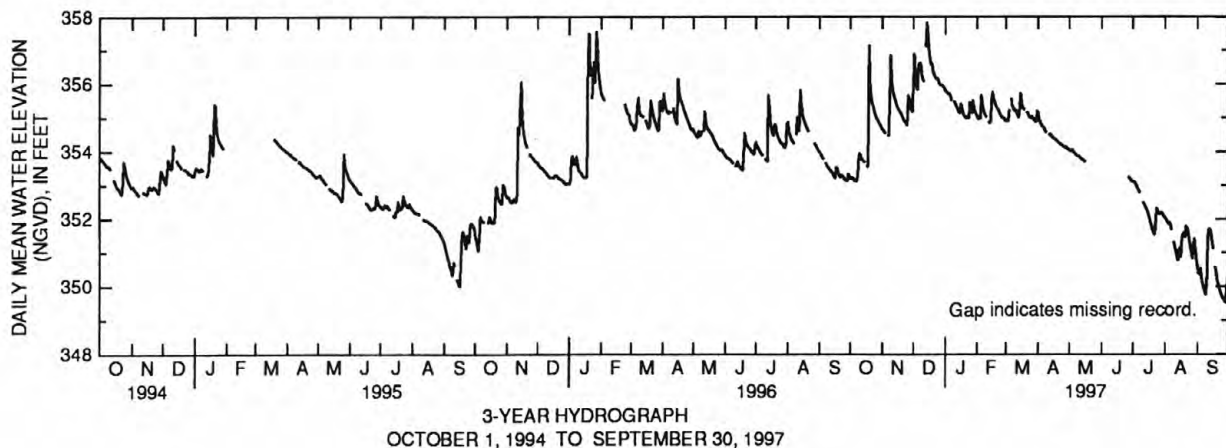
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 357.83 ft, Dec. 14, 1996; lowest water level, 349.53 ft, Sept. 28, 1997.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353.21	354.67	355.98	355.79	355.04	354.93	355.13	354.05	---	353.11	352.04	350.56
2	353.21	354.64	356.87	355.77	354.98	354.94	354.96	354.02	---	353.11	351.99	350.39
3	353.23	354.58	356.17	355.74	354.97	354.91	354.87	354.03	---	353.09	351.93	350.37
4	353.18	354.54	355.96	355.70	354.97	355.24	354.80	354.05	---	353.03	351.86	350.53
5	353.14	---	355.83	355.72	355.65	---	354.74	353.99	---	352.96	351.91	350.22
6	353.14	354.48	356.58	355.63	355.46	355.58	354.72	353.96	---	352.90	351.85	350.06
7	353.13	354.48	356.61	355.51	355.25	355.36	354.68	353.92	---	352.85	351.68	349.94
8	353.28	355.39	356.61	---	355.14	355.29	354.61	353.89	---	352.79	---	349.83
9	353.84	356.84	356.29	355.48	355.07	355.21	354.57	---	---	---	351.33	349.75
10	353.94	356.07	356.15	355.47	355.01	355.23	---	353.87	---	---	351.22	350.22
11	353.87	355.83	356.06	355.40	---	355.16	354.49	353.84	---	352.51	351.08	351.48
12	353.79	355.66	---	355.31	354.89	355.08	354.51	353.81	---	352.45	350.92	351.69
13	353.74	355.55	357.11	355.24	354.84	355.02	354.51	353.78	---	352.39	350.78	351.69
14	353.72	355.46	357.83	355.18	354.92	355.28	354.45	353.76	---	352.32	351.07	351.61
15	353.69	355.36	357.50	355.14	355.53	355.71	354.42	353.73	---	352.25	351.14	351.36
16	---	355.29	357.01	355.42	355.76	355.41	354.40	353.70	---	352.17	350.88	351.12
17	353.55	355.23	356.75	355.36	355.54	355.32	354.39	---	---	352.04	351.44	---
18	353.60	355.19	356.58	355.18	355.45	355.26	354.36	---	---	351.91	351.54	350.58
19	357.15	355.13	356.59	355.08	355.39	355.24	354.32	---	---	351.79	351.59	350.37
20	355.99	355.05	356.39	355.05	355.29	---	354.29	---	---	351.68	351.47	350.19
21	355.63	354.99	356.28	355.00	355.26	355.18	354.26	---	---	351.58	351.77	350.05
22	355.46	354.92	356.21	355.01	355.21	355.14	354.24	---	---	351.54	351.75	349.93
23	355.35	354.88	356.15	355.01	355.12	355.06	354.21	---	---	351.89	351.66	349.83
24	355.22	354.83	356.17	354.99	355.07	355.01	354.19	---	---	352.33	351.41	349.74
25	355.10	354.79	356.11	355.45	355.02	355.00	354.16	---	---	352.24	351.21	349.67
26	355.01	355.66	356.01	355.27	355.00	355.04	354.14	---	---	352.18	351.02	349.62
27	354.95	355.56	355.97	355.15	355.00	354.98	354.12	---	353.26	352.15	350.84	349.57
28	354.91	355.35	355.96	355.50	354.92	354.94	354.15	---	353.21	352.15	351.22	349.53
29	354.83	355.24	355.96	355.29	---	354.92	354.10	---	353.17	352.20	351.41	349.93
30	354.80	355.18	355.92	355.18	---	354.89	354.07	---	353.13	352.13	351.09	350.26
31	354.72	---	355.88	355.11	---	355.20	---	---	---	352.08	350.78	---
MEAN	354.28	355.20	356.38	355.34	355.18	355.16	354.44	353.89	353.19	352.34	351.40	350.35
MAX	357.15	356.84	357.83	355.79	355.76	355.71	355.13	354.05	353.26	353.11	352.04	351.69
MIN	353.13	354.48	355.83	354.99	354.84	354.89	354.07	353.70	353.13	351.54	350.78	349.53

WTR YR 1997: HIGHEST 357.83, DECEMBER 14; LOWEST 349.53, SEPTEMBER 28.



LANCASTER COUNTY

395947076145903. Local number, LN 2039--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with submersible pump from recovery water after well was pumped more than 3 times casing volume.

PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TEMPER- ATURE WATER (DEG C) (00010)
OCT								
16...	0945	1028	80020	0.98	--	7.7	--	--
16...	0946	1028	80020	0.98	--	7.7	--	--
NOV								
05...	0930	1028	80020	0.13	839	7.1	2.9	13.0
DEC								
12...	1015	1028	80020	-1.35	813	--	9.3	12.0
JAN								
08...	0950	1028	80020	-0.71	785	6.8	6.8	11.5
FEB								
11...	0925	1028	80020	-0.30	826	6.6	--	11.5
MAR								
05...	0910	1028	80020	-0.88	890	7.0	6.3	12.0
APR								
10...	0930	1028	80020	0.13	--	6.9	7.3	12.0
MAY								
09...	0840	1028	80020	0.76	849	7.0	8.5	12.0
JUN								
09...	0920	1028	80020	0.70	871	6.7	11.6	12.0
JUL								
09...	0925	1028	80020	1.92	785	6.9	7.7	12.0
AUG								
08...	0955	1028	80020	3.10	854	7.1	7.1	12.0
SEP								
17...	1230	1028	80020	3.79	768	7.6	8.4	12.0

DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT									
16...	K5	274	<0.010	21.0	0.050	<0.20	<0.010	<0.010	
16...	K5	274	<0.010	21.0	0.050	<0.20	<0.010	0.010	
NOV									
05...	K1	248	--	20.0	--	--	--	--	--
DEC									
12...	K0	260	--	16.0	--	--	--	--	--
JAN									
08...	K7	262	<0.010	17.0	0.030	<0.20	<0.010	<0.010	
FEB									
11...	K0	254	--	17.0	--	--	--	--	--
MAR									
05...	K4	246	--	18.0	--	--	--	--	--
APR									
10...	K0	262	<0.010	17.0	0.020	<0.20	<0.010	<0.010	
MAY									
09...	K0	258	--	18.3	--	--	--	--	--
JUN									
09...	K0	263	--	18.4	--	--	--	--	--
JUL									
09...	K1	268	<0.010	17.8	<0.015	<0.20	<0.010	<0.010	
AUG									
08...	K0	266	--	17.7	--	--	--	--	--
SEP									
17...	K0	262	--	17.6	--	--	--	--	--

LANCASTER COUNTY

395947076145904. Local number, LN 2040.

LOCATION.--Lat 39°59'47", long 76°14'59", Hydrologic Unit 02050306, 50 ft upstream from box culvert on Mentzer Road, 0.2 mi north of the intersection with SR 741, and 0.5 mi northwest of Lampeter.

Owner: U.S. Geological Survey.

AQUIFER.--Quaternary age alluvium.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 7.6 ft, cased to 7.6 ft, closed end, screened from 5 to 6 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 354.74 ft above sea level. Measuring point: Top of casing, 1.63 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--June 1994 to current year.

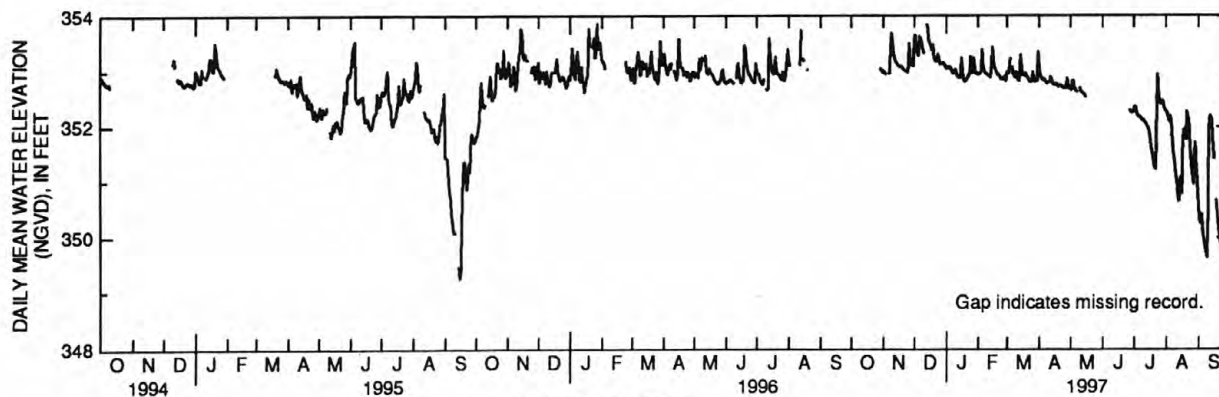
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 353.86 ft, Jan. 27, 1996; lowest water level, 349.26 ft, Sept. 15, 1995.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	353.02	353.59	353.06	352.95	352.99	353.10	352.71	---	352.29	352.28	350.54
2	---	353.00	353.66	353.09	352.95	352.96	352.95	352.67	---	352.37	352.25	350.32
3	---	352.96	353.44	353.09	352.98	352.99	352.91	352.83	---	352.35	352.18	350.25
4	---	352.96	353.35	353.06	353.00	353.25	352.86	352.84	---	352.25	352.09	350.42
5	---	---	353.29	353.09	353.39	---	352.85	352.71	---	352.20	352.19	350.12
6	---	352.97	353.63	353.03	353.10	353.09	352.87	352.68	---	352.18	352.09	349.97
7	---	352.97	353.60	352.99	353.01	352.95	352.83	352.64	---	352.18	351.76	349.84
8	---	353.43	353.53	352.97	352.98	352.93	352.80	352.65	---	352.16	351.54	349.73
9	---	353.69	353.43	353.00	352.97	352.89	352.78	---	---	352.12	351.38	349.64
10	---	353.51	353.35	353.04	352.94	353.00	---	352.72	---	352.13	351.19	350.31
11	---	353.34	353.34	352.99	352.93	352.90	352.80	352.66	---	352.10	351.01	351.98
12	---	353.24	---	352.93	352.93	352.85	352.90	352.63	---	352.08	350.80	352.20
13	---	353.19	353.85	352.90	352.89	352.84	352.88	352.62	---	352.05	350.66	352.18
14	---	353.16	353.77	352.89	353.13	353.30	352.78	352.60	---	352.02	350.99	352.09
15	---	353.12	353.57	352.90	353.44	353.13	352.77	352.58	---	351.98	351.10	351.72
16	---	353.10	353.51	353.25	353.20	352.96	352.77	352.54	---	351.90	350.79	351.41
17	---	353.09	353.47	353.02	353.08	352.94	352.79	---	---	351.73	351.77	---
18	---	353.10	353.40	352.87	353.03	352.93	352.77	---	---	351.60	351.94	350.68
19	---	353.09	353.49	352.82	352.99	352.97	352.74	---	---	351.48	351.96	350.43
20	---	353.06	353.29	352.83	352.94	352.92	352.74	---	---	351.37	351.77	350.24
21	---	353.04	353.21	352.86	352.95	352.90	352.75	---	---	351.27	352.27	350.01
22	---	353.02	353.19	352.90	352.92	352.85	352.75	---	---	351.24	352.18	349.91
23	---	353.01	353.21	352.94	352.87	352.82	352.73	---	---	352.10	352.04	349.83
24	---	353.00	353.32	352.97	352.87	352.81	352.71	---	---	352.95	351.62	349.70
25	---	352.99	353.22	353.27	352.86	352.84	352.72	---	---	352.57	351.36	349.64
26	---	353.51	353.14	353.03	352.90	352.99	352.73	---	---	352.45	351.14	349.53
27	---	353.25	353.15	352.98	352.91	352.85	352.71	---	352.31	352.42	350.96	349.46
28	---	353.14	353.14	353.25	352.83	352.82	352.88	---	352.28	352.45	351.46	349.47
29	353.03	353.12	353.17	353.04	---	352.87	352.74	---	352.26	352.47	351.71	349.98
30	353.05	353.10	353.14	352.97	---	352.83	352.70	---	352.26	352.35	351.26	350.27
31	353.00	---	353.11	352.96	---	353.36	---	---	---	352.31	350.89	---
MEAN	353.03	353.14	353.39	353.00	353.00	352.96	352.80	352.67	352.28	352.10	351.57	350.41
MAX	353.05	353.69	353.85	353.27	353.44	353.36	353.10	352.84	352.31	352.95	352.28	352.20
MIN	353.00	352.96	353.11	352.82	352.83	352.81	352.70	352.54	352.26	351.24	350.66	349.46

WTR YR 1997: HIGHEST 353.85, DECEMBER 13; LOWEST 349.46, SEPTEMBER 27.



LANCASTER COUNTY

395947076145904. Local number, LN 2040--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well was pumped more than 3 times casing volume. Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods.
 PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TEMPER- ATURE WATER (DEG C) (00010)
OCT								
16...	1000	1028	80020	--	851	7.2	0.3	15.5
NOV								
05...	0925	1028	80020	1.77	845	7.1	1.8	13.5
DEC								
12...	1005	1028	80020	1.42	821	--	0.6	8.5
JAN								
08...	0940	1028	80020	1.80	803	6.9	4.4	7.0
FEB								
11...	0920	1028	80020	1.84	805	6.6	--	5.0
MAR								
05...	0905	1028	80020	1.58	902	7.1	2.9	6.0
APR								
10...	0925	1028	80020	1.96	--	6.8	3.3	8.0
MAY								
09...	0820	1028	80020	--	804	7.0	3.1	10.5
JUN								
09...	0915	1028	80020	--	823	6.7	5.0	13.5
JUL								
09...	0920	1028	80020	2.54	752	6.8	1.2	17.5
AUG								
08...	0950	1028	80020	3.18	830	7.0	1.6	18.5
SEP								
17...	1230	1028	80020	3.59	744	7.6	4.6	18.5

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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)
OCT								
16...	150	284	0.030	11.0	0.040	0.20	<0.010	0.020
NOV								
05...	92	274	--	15.0	--	--	--	--
DEC								
12...	--	287	--	12.0	--	--	--	--
JAN								
08...	110	272	0.010	13.0	0.020	0.20	<0.010	0.010
FEB								
11...	--	263	--	12.0	--	--	--	--
MAR								
05...	40	295	--	12.0	--	--	--	--
APR								
10...	K12	264	0.020	12.0	<0.015	0.30	<0.010	0.010
MAY								
09...	120	263	--	13.1	--	--	--	--
JUN								
09...	800	284	--	9.82	--	--	--	--
JUL								
09...	1400	280	0.020	10.4	0.023	0.27	<0.010	0.015
AUG								
08...	1500	273	--	9.64	--	--	--	--
SEP								
17...	1600	286	--	10.2	--	--	--	--

LANCASTER COUNTY

395957076155201. Local number, LN 2041.

LOCATION.--Lat 39°59'57", long 76°15'52", Hydrologic Unit 02050306, 40 ft upstream from bridge at intersection of Gypsy Hill Road and Long Rifle Road, and 1.5 mi north of Willow Street.

Owner: U.S. Geological Survey.

AQUIFER.--Quaternary age alluvium.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 6 ft, cased to 6 ft, closed end, screened from 3.5 to 4.5 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 294.78 ft above sea level. Measuring point: Top of casing, 1.7 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--November 1993 to current year.

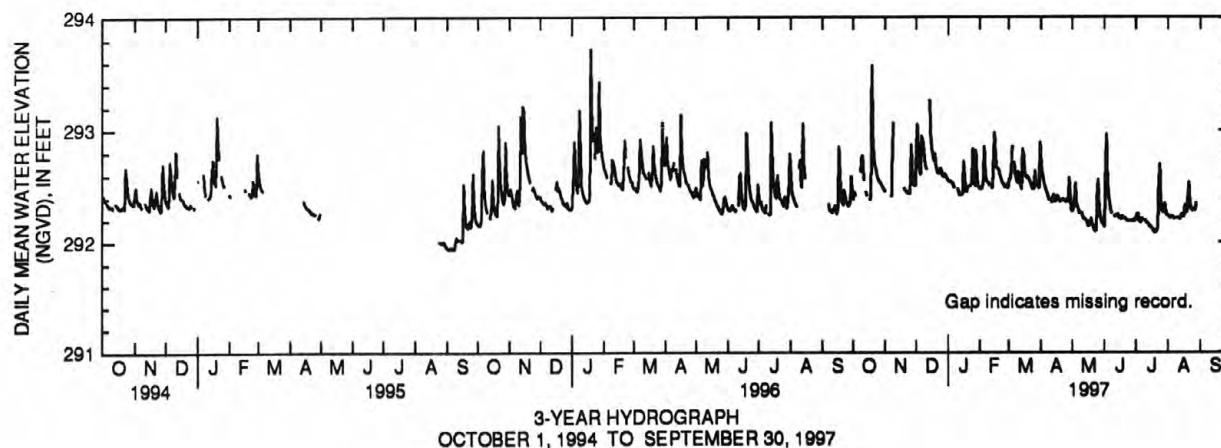
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 293.72 ft, Jan. 19, 1996; lowest water level, 291.94 ft, Sept. 2,3,4,6,7,8, 1995.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292.39	292.46	292.86	292.55	292.48	292.56	292.71	292.28	292.14	292.21	292.24	---
2	292.45	---	293.05	292.55	292.48	292.57	292.62	292.32	292.62	292.25	292.23	---
3	292.42	---	292.75	292.55	292.49	292.64	292.57	292.39	292.96	292.26	292.22	---
4	---	---	292.66	292.54	292.55	292.86	292.53	292.53	292.56	292.20	292.23	---
5	---	---	292.61	292.54	292.85	---	292.49	292.36	292.43	292.18	292.23	---
6	---	292.42	292.95	292.52	292.63	292.72	292.46	292.32	292.36	292.18	292.22	---
7	---	292.42	292.92	292.49	292.56	292.61	292.44	292.29	292.29	292.21	292.21	---
8	292.63	292.88	292.87	---	292.54	292.57	292.40	292.26	292.26	292.20	---	---
9	292.77	293.07	292.74	---	292.54	292.54	292.38	---	---	---	292.22	---
10	292.77	---	292.68	292.49	292.51	292.63	---	292.27	292.24	292.20	292.22	---
11	292.56	---	292.65	292.46	---	292.58	292.36	292.23	292.23	292.18	292.22	---
12	---	---	---	292.43	292.50	292.52	292.40	292.21	292.24	292.17	292.21	---
13	292.46	---	293.27	292.43	292.49	292.48	292.43	292.21	292.24	292.16	292.23	---
14	292.42	---	293.26	292.43	292.76	292.83	292.37	292.20	292.25	292.15	292.25	---
15	---	---	292.95	292.44	292.98	292.78	292.38	292.19	292.22	292.14	292.24	---
16	---	---	292.83	292.72	292.76	292.65	292.42	292.15	292.22	292.13	292.23	---
17	292.38	---	292.78	292.60	292.67	292.60	292.42	292.15	292.21	292.12	292.33	---
18	292.42	---	292.73	292.47	292.66	292.58	292.39	292.17	292.23	292.10	292.30	---
19	293.57	292.49	292.79	292.46	292.65	292.59	292.37	292.21	292.22	292.09	292.27	---
20	292.91	292.47	292.69	292.50	292.61	292.57	292.38	292.17	292.22	292.09	292.41	---
21	292.76	292.46	292.64	292.50	292.58	292.55	292.38	292.14	292.21	292.10	292.54	---
22	292.69	292.45	292.62	292.51	292.55	292.53	292.39	292.11	292.20	292.13	292.35	---
23	292.65	292.45	292.62	292.51	292.53	292.49	292.38	292.10	292.19	292.48	292.30	---
24	292.60	292.44	292.66	292.57	292.52	292.48	292.37	292.11	292.19	292.70	292.29	---
25	292.57	292.45	292.66	292.83	292.50	292.49	292.37	292.50	292.19	292.38	292.29	---
26	292.55	292.87	292.61	292.56	292.50	292.64	292.39	292.56	292.19	292.30	292.30	---
27	292.54	292.63	292.59	292.51	292.52	292.53	292.37	292.31	292.19	292.27	292.29	---
28	292.53	292.54	292.59	292.82	292.49	292.51	292.58	292.23	292.19	292.30	292.36	---
29	292.50	292.51	292.61	292.57	---	292.50	292.39	292.19	292.20	292.35	---	---
30	292.49	292.51	292.59	292.51	---	292.49	292.29	292.17	292.19	292.26	---	---
31	292.47	---	292.57	292.49	---	292.89	---	292.16	---	292.24	---	---
MEAN	292.60	292.56	292.76	292.54	292.59	292.60	292.43	292.25	292.28	292.22	292.28	---
MAX	293.57	293.07	293.27	292.83	292.98	292.89	292.71	292.56	292.96	292.70	292.54	---
MIN	292.38	292.42	292.57	292.43	292.48	292.48	292.29	292.10	292.14	292.09	292.21	---

WTR YR 1997: HIGHEST 293.57, OCTOBER 19; LOWEST 292.09, JULY 19, 20.



LANCASTER COUNTY

395957076155201. Local number, LN 2041--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well pumped dry.
 PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	TEMPER-ATURE WATER (DEG C) (00010)	
OCT 16...	0735	1028	80020	2.39	894	7.1	5.3	13.0	
NOV 05...	0740	1028	80020	2.36	793	6.7	4.9	12.0	
DEC 12...	0800	1028	80020	2.13	775	--	6.0	8.0	
JAN 08...	0755	1028	80020	2.31	691	6.7	5.6	7.0	
FEB 11...	0730	1028	80020	2.28	656	7.0	--	5.0	
MAR 05...	0740	1028	80020	2.01	717	7.3	--	7.0	
APR 10...	0745	1028	80020	2.37	--	6.2	4.7	8.5	
MAY 09...	0650	1028	80020	2.46	641	7.7	5.0	11.5	
JUN 09...	0800	1028	80020	2.48	897	7.0	9.6	14.0	
JUL 09...	0745	1028	80020	2.58	657	7.1	5.0	18.5	
AUG 08...	0810	1028	80020	2.55	730	7.1	5.2	18.5	
SEP 17...	1050	1028	80020	2.51	790	7.4	7.9	18.0	
DATE		STREP-TOCOCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY, CARBON-ATE IT-LAB (MG/L - CAC03) (90430)	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. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 16...	9000	342	0.030	0.530	0.260	0.90	0.330	0.320	
NOV 05...	1400	324	--	0.370	--	--	--	--	
DEC 12...	--	310	--	1.30	--	--	--	--	
JAN 08...	K1900	272	<0.010	4.50	0.140	0.30	0.110	0.110	
FEB 11...	3000	204	--	7.40	--	--	--	--	
MAR 05...	3200	212	--	6.10	--	--	--	--	
APR 10...	K500	204	0.020	6.70	<0.015	0.20	0.490	0.430	
MAY 09...	370	214	--	6.83	--	--	--	--	
JUN 09...	K20000	284	--	1.52	--	--	--	--	
JUL 09...	K150	294	<0.010	0.171	0.501	0.92	0.338	0.303	
AUG 08...	20	304	--	0.058	--	--	--	--	
SEP 17...	K2000	336	--	0.053	--	--	--	--	

LANCASTER COUNTY

395957076155202. Local number, LN 2042.

LOCATION.--Lat 39°59'57", long 76°15'52", Hydrologic Unit 02050306, 40 ft upstream from bridge at intersection of Gypsy Hill Road and Long Rifle Road, and 1.5 mi north of Willow Street.

Owner: U.S. Geological Survey.

AQUIFER.--Limestone of the Cambro-Ordovician age Conestoga Formation.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 12 ft, cased to 12 ft, closed end, screened from 9 to 10 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 294.75 ft above sea level. Measuring point: Top of casing, 1.85 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--November 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

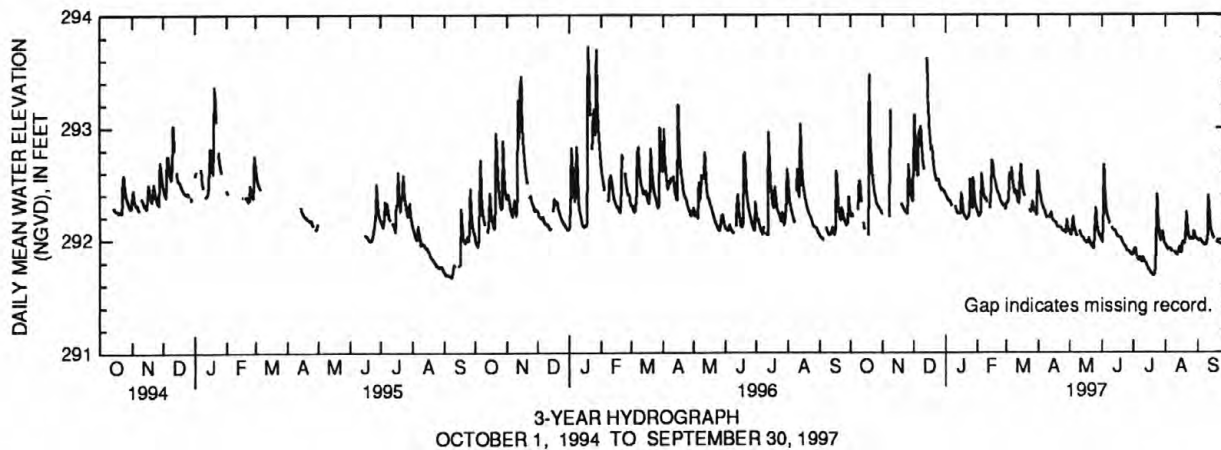
Highest water level, 293.72 ft, Jan. 19, 1996; lowest water level, 291.67 ft, Sept. 7, 8, 1995.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292.20	292.23	292.68	292.40	292.24	292.32	292.56	292.06	291.98	291.88	291.95	291.99
2	292.23	---	293.11	292.38	292.21	292.33	292.44	292.04	292.21	291.92	291.93	291.99
3	292.20	---	292.80	292.36	292.21	292.36	292.38	292.11	292.67	291.92	291.91	292.00
4	---	---	292.65	292.34	292.24	292.60	292.33	292.20	292.40	291.86	291.92	291.99
5	---	---	292.57	292.35	292.59	---	292.29	292.11	292.27	291.83	291.92	291.97
6	---	---	292.96	292.32	292.49	292.65	292.27	292.08	292.21	291.82	291.91	291.96
7	---	292.20	292.98	292.30	292.40	292.53	292.25	292.04	292.18	291.84	291.89	291.95
8	292.26	292.64	293.01	---	292.36	292.47	292.21	292.03	292.14	291.82	---	291.95
9	292.52	293.16	292.81	---	292.37	292.41	292.19	---	---	291.80	291.89	291.96
10	292.52	---	292.70	292.30	292.33	292.44	---	292.08	292.11	291.84	291.88	292.03
11	292.33	---	292.63	292.27	---	292.39	292.19	292.05	292.09	291.82	291.87	292.39
12	---	---	---	292.24	---	292.34	292.22	292.03	292.08	291.80	291.86	292.24
13	292.15	---	---	292.23	292.28	292.32	292.24	292.02	292.08	291.79	291.89	292.10
14	292.09	---	293.62	292.23	292.44	292.55	292.18	292.01	292.07	291.77	291.93	292.06
15	---	---	293.22	292.23	292.71	292.67	292.17	291.99	292.04	291.75	291.91	292.03
16	---	---	293.02	292.41	292.68	292.52	292.16	291.98	292.03	291.73	291.88	292.01
17	---	---	292.91	292.36	292.56	292.45	292.15	291.97	292.02	291.72	291.98	---
18	292.04	---	292.80	292.26	292.53	292.40	292.14	291.98	292.02	291.70	291.98	291.98
19	293.47	292.32	292.83	292.21	292.49	292.39	292.11	292.01	292.01	291.69	291.96	291.98
20	292.91	292.30	292.71	292.20	292.44	---	292.11	291.98	291.99	291.68	292.08	291.98
21	292.71	292.28	292.62	292.18	292.42	---	292.11	291.96	291.97	291.69	292.24	291.97
22	292.58	292.26	292.57	292.19	292.39	---	292.11	291.94	291.95	291.73	292.08	291.96
23	292.50	292.25	292.53	292.20	292.35	292.27	292.09	291.93	291.94	292.09	292.03	291.96
24	292.42	292.23	292.54	292.24	292.33	292.25	292.08	291.92	291.92	292.40	292.00	291.96
25	292.37	292.23	292.54	292.54	292.31	292.25	292.07	292.15	291.90	292.14	292.00	291.95
26	292.32	292.67	292.49	292.34	292.30	292.34	292.07	292.28	291.90	292.04	292.01	291.93
27	292.30	292.54	292.47	292.28	292.31	292.28	292.06	292.13	291.89	291.99	292.00	291.92
28	292.29	292.43	292.44	292.55	292.27	292.25	292.17	292.07	291.88	292.01	292.07	291.93
29	292.27	292.37	292.45	292.38	---	292.24	292.10	292.04	291.87	292.07	292.03	291.98
30	292.26	292.34	292.44	292.31	---	292.22	292.07	292.02	291.86	291.99	292.01	291.94
31	292.23	---	292.42	292.27	---	292.61	---	292.00	---	291.96	292.00	---
MEAN	292.40	292.40	292.74	292.31	292.39	292.40	292.19	292.04	292.06	291.87	291.97	292.00
MAX	293.47	293.16	293.62	292.55	292.71	292.67	292.56	292.28	292.67	292.40	292.24	292.39
MIN	292.04	292.20	292.42	292.18	292.21	292.22	292.06	291.92	291.86	291.68	291.86	291.92

WTR YR 1997: HIGHEST 293.62, DECEMBER 14; LOWEST 291.68, JULY 20.



LANCASTER COUNTY

395957076155202. Local number, LN 2042--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well pumped dry.
 PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TEMPER- ATURE WATER (DEG C) (00010)
OCT								
16...	0750	1028	80020	2.51	669	7.1	1.5	15.0
NOV								
05...	0750	1028	80020	2.53	654	6.7	2.9	14.0
DEC								
12...	0815	1028	80020	2.15	636	--	0.2	11.5
JAN								
08...	0810	1028	80020	2.47	641	6.7	4.1	10.0
FEB								
11...	0755	1028	80020	2.46	624	6.9	--	8.0
MAR								
05...	0750	1028	80020	2.09	660	7.3	--	8.0
05...	0751	1028	80020	2.09	660	7.3	2.5	8.0
APR								
10...	0755	1028	80020	2.58	--	6.6	5.0	8.5
MAY								
09...	0655	1028	80020	2.65	616	7.3	6.0	10.5
JUN								
09...	0810	1028	80020	2.63	651	7.1	4.0	12.0
JUL								
09...	0755	1028	80020	2.92	603	7.2	2.9	14.5
AUG								
08...	0815	1028	80020	2.84	657	7.2	0.5	15.0
SEP								
17...	1100	1028	80020	2.74	587	7.5	4.4	16.5

DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT									
16...	26	268	0.010	0.070	0.440	0.50	<0.010	<0.010	
NOV									
05...	K11	258	--	0.170	--	--	--	--	--
DEC									
12...	26	262	--	0.190	--	--	--	--	--
JAN									
08...	K6	254	<0.010	0.280	0.330	0.40	<0.010	<0.010	
FEB									
11...	K1	246	--	0.330	--	--	--	--	--
MAR									
05...	K3	236	--	0.260	--	--	--	--	--
05...	K3	236	--	0.260	--	--	--	--	--
APR									
10...	K0	242	<0.010	0.300	0.320	0.50	<0.010	<0.010	
MAY									
09...	K0	232	--	0.200	--	--	--	--	--
JUN									
09...	K0	210	--	0.210	--	--	--	--	--
JUL									
09...	K6	258	0.013	<0.050	0.300	0.45	<0.010	<0.010	
AUG									
08...	K6	270	--	<0.050	--	--	--	--	--
SEP									
17...	K37	240	--	<0.050	--	--	--	--	--

LANCASTER COUNTY

395957076155203. Local number, LN 2043.

LOCATION.--Lat 39°59'57", long 76°15'52", Hydrologic Unit 02050306, 40 ft upstream from bridge at intersection of Gypsy Hill Road and Long Rifle Road, and 1.5 mi north of Willow Street.
Owner: U.S. Geological Survey.

AQUIFER.--Limestone of the Cambro-Ordovician age Conestoga Formation.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in. steel, depth 100 ft, cased to 17 ft, open hole.
INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 295.59 ft above sea level. Measuring point: Top of casing, 2.95 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--November 1993 to current year.

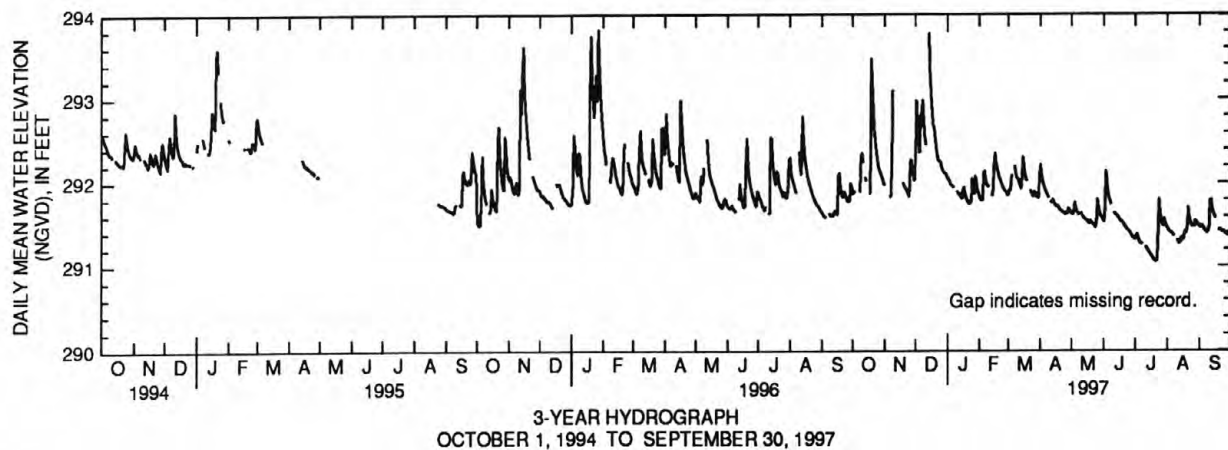
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 293.82 ft, Jan. 27, 1996; lowest water level, 291.05 ft, July 21, 1997.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	291.87	291.97	292.28	292.05	291.83	291.87	292.21	291.63	291.53	291.32	291.45	291.47
2	291.88	---	292.97	292.04	291.80	291.91	292.11	291.62	291.65	291.36	291.43	291.46
3	291.90	---	292.67	292.02	291.79	291.91	292.03	291.65	292.13	291.38	291.41	291.48
4	---	---	292.48	291.98	291.79	292.09	291.98	291.76	292.03	291.33	291.40	291.47
5	---	---	292.36	291.97	292.10	---	291.93	291.70	291.90	291.29	291.40	291.44
6	---	291.83	292.78	291.96	292.13	---	291.90	291.66	291.82	291.27	291.38	291.42
7	---	291.84	292.85	291.94	292.04	292.20	291.87	291.63	291.78	291.27	291.36	291.41
8	291.89	292.16	292.98	---	291.98	292.12	291.85	291.61	291.74	291.26	---	291.40
9	292.30	293.10	292.72	---	291.96	292.05	291.82	---	---	---	---	291.41
10	292.35	---	292.56	291.90	291.95	292.05	---	291.64	---	---	291.31	291.46
11	292.24	---	292.45	291.88	---	292.01	291.76	291.61	291.64	291.23	291.30	291.78
12	---	---	---	291.86	---	291.97	291.77	291.59	291.62	291.21	291.27	291.79
13	292.06	---	---	291.85	291.84	291.93	291.80	291.57	291.61	291.19	291.28	291.68
14	292.02	---	293.78	291.83	291.91	292.05	291.76	291.56	291.60	291.17	291.33	291.64
15	---	---	293.30	291.81	292.20	292.30	291.74	291.55	291.58	291.15	291.33	291.60
16	---	---	293.03	291.92	292.35	292.19	291.72	291.54	291.56	291.13	291.31	291.57
17	291.88	---	292.86	291.94	292.23	292.11	291.72	291.52	291.54	291.11	291.38	---
18	291.88	---	292.68	291.87	292.17	292.04	291.72	291.51	291.53	291.09	291.41	---
19	293.47	292.00	292.66	291.82	292.12	292.02	291.69	291.54	291.52	291.07	291.40	291.44
20	293.12	291.96	292.55	291.79	292.06	---	291.67	291.52	291.50	291.06	291.47	291.43
21	292.84	291.94	292.42	291.76	292.04	---	291.66	291.51	291.48	291.05	291.70	291.43
22	292.62	291.92	292.34	291.75	292.00	291.91	291.65	291.49	291.46	291.08	291.58	291.41
23	292.48	291.89	292.27	291.76	291.96	291.88	291.64	291.48	291.44	291.38	291.53	291.41
24	292.37	291.85	292.25	291.77	291.93	291.86	291.63	291.46	291.43	291.80	291.49	291.41
25	292.26	291.84	292.25	292.04	291.91	291.84	291.62	291.57	291.42	291.65	291.47	291.40
26	292.18	292.25	292.20	291.94	291.89	291.89	291.64	291.80	291.40	291.55	291.48	291.38
27	292.14	292.27	292.16	291.87	291.88	291.87	291.63	291.70	291.38	291.50	291.47	291.37
28	292.11	292.15	292.13	292.07	291.85	291.83	291.69	291.64	291.36	291.48	291.54	291.37
29	292.07	292.07	292.11	292.01	---	291.83	291.67	291.60	291.34	291.56	291.52	291.41
30	292.04	292.03	292.11	291.92	---	291.82	291.64	291.58	291.33	291.50	291.50	291.41
31	291.99	---	292.09	291.87	---	292.11	---	291.56	---	291.47	291.48	---
MEAN	292.25	292.06	292.56	291.90	291.99	291.99	291.78	291.59	291.58	291.31	291.43	291.48
MAX	293.47	293.10	293.78	292.07	292.35	292.30	292.21	291.80	292.13	291.80	291.70	291.79
MIN	291.87	291.83	292.09	291.75	291.79	291.82	291.62	291.46	291.33	291.05	291.27	291.37

WTR YR 1997: HIGHEST 293.78, DECEMBER 14; LOWEST 291.05, JULY 21.



LANCASTER COUNTY

395957076155203. Local number, LN 2043--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with submersible pump from recovery water after well pumped dry.
 PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (μ S/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	TEMPER- ATURE WATER (DEG C) (00010)
OCT								
16...	0810	1028	80020	3.65	1000	7.0	3.2	14.0
NOV								
05...	0815	1028	80020	3.71	990	7.0	9.4	14.0
DEC								
12...	0840	1028	80020	3.19	998	--	--	13.0
JAN								
08...	0845	1028	80020	3.67	1010	7.0	11.5	13.0
FEB								
11...	0815	1028	80020	3.67	956	7.0	--	11.5
MAR								
05...	0815	1028	80020	3.33	990	7.3	--	12.5
APR								
10...	0815	1028	80020	3.80	--	6.5	3.0	12.0
JUN								
09...	0830	1028	80020	3.87	1060	6.8	7.5	13.5
JUL								
09...	0815	1028	80020	4.34	936	7.1	3.3	13.0
AUG								
08...	0840	1028	80020	4.23	927	6.9	1.8	13.0
SEP								
17...	1125	1028	80020	4.05	853	7.7	4.7	13.5

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT								
16...	K11	324	<0.010	2.30	0.110	0.30	<0.010	<0.010
NOV								
05...	K0	308	--	3.50	--	--	--	--
DEC								
12...	K11	346	--	5.20	--	--	--	--
JAN								
08...	K0	348	<0.010	5.60	0.030	0.20	<0.010	<0.010
FEB								
11...	K3500	338	--	4.20	--	--	--	--
MAR								
05...	K0	354	--	6.40	--	--	--	--
APR								
10...	K1	344	<0.010	11.0	0.040	0.20	0.010	<0.010
JUN								
09...	K18	340	--	5.90	--	--	--	--
JUL								
09...	510	336	<0.010	6.65	<0.015	0.22	<0.010	<0.010
AUG								
08...	K14	346	--	4.42	--	--	--	--
SEP								
17...	K22	335	--	1.72	--	--	--	--

LANCASTER COUNTY

395957076155204. Local number, LN 2044.

LOCATION.--Lat 39°59'57", long 76°15'52", Hydrologic Unit 02050306, 40 ft upstream from bridge at intersection of Gypsy Hill Road and Long Rifle Road, and 1.5 mi north of Willow Street.
Owner: U.S. Geological Survey.
AQUIFER.--Quaternary age alluvium.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in. PVC, depth 8 ft, cased to 8 ft, closed end, screened from 5 to 6 ft.

INSTRUMENTATION.--Pressure transducer and data logger with 60-minute recording interval.

DATUM.--Land-surface datum is 296.84 ft above sea level. Measuring point: Top of casing, 1.95 ft above land-surface datum.

REMARKS.--In addition to the daily mean water levels shown below, daily maximum and minimum water levels are also available from the District Office.

PERIOD OF RECORD.--November 1993 to current year.

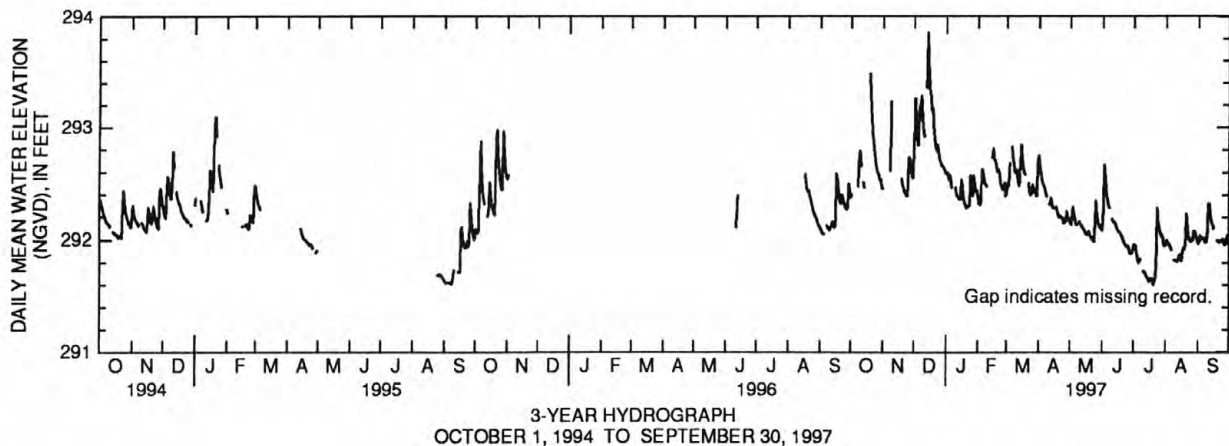
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily mean water level elevation for the period of record indicated above.

Highest water level, 293.85 ft, Dec. 14, 1996; lowest water level, 291.60 ft, July 20, 1997.

ELEVATION (FEET ABOVE SEA LEVEL), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292.38	292.45	292.79	292.59	292.39	292.43	292.75	292.17	292.09	291.95	291.96	291.97
2	292.40	---	293.26	292.60	292.32	292.49	292.66	292.14	292.23	291.96	292.00	291.99
3	292.40	---	293.06	292.59	292.31	292.48	292.60	292.20	292.67	291.95	291.97	292.04
4	---	---	292.91	292.53	292.33	292.69	292.54	292.29	292.56	291.89	291.97	292.01
5	---	---	292.84	292.58	292.63	---	292.50	292.22	292.44	291.83	291.95	292.02
6	---	---	293.16	292.50	292.62	292.83	292.48	292.19	292.36	291.80	291.92	292.02
7	---	---	293.21	292.46	292.55	292.73	292.45	292.14	292.32	291.82	291.91	292.01
8	292.47	292.61	293.28	---	292.50	292.68	292.41	292.13	292.28	291.84	---	291.98
9	292.76	293.24	293.08	---	292.49	292.60	292.38	---	---	---	291.83	291.99
10	292.79	---	292.98	292.47	292.47	292.63	---	292.17	292.19	291.73	291.82	292.07
11	292.65	---	292.91	292.42	---	292.59	292.31	292.14	292.18	291.72	291.82	292.32
12	---	---	---	292.39	---	292.52	292.33	292.13	292.16	291.71	291.81	292.32
13	292.52	---	293.35	292.38	---	292.48	292.37	292.11	292.16	291.69	291.84	292.21
14	292.46	---	293.85	292.36	---	292.66	292.30	292.10	292.14	291.67	291.87	292.16
15	---	---	293.54	292.36	292.73	292.84	292.28	292.09	292.11	291.66	291.86	292.14
16	---	---	293.34	292.53	292.81	292.72	292.28	292.06	292.09	291.63	291.82	292.10
17	---	---	293.28	292.49	292.72	292.65	292.28	292.05	292.07	291.65	291.90	---
18	---	---	293.15	292.39	292.70	292.60	292.29	292.05	292.07	291.66	291.93	---
19	293.49	292.55	293.17	292.33	292.67	292.58	292.25	292.08	292.05	291.65	291.92	291.99
20	293.24	292.49	292.99	292.31	292.61	---	292.21	292.05	292.03	291.60	292.02	292.00
21	293.07	292.46	292.89	292.28	292.63	---	292.20	292.03	292.01	291.64	292.23	291.98
22	292.94	292.43	292.83	292.30	292.60	292.51	292.21	292.01	291.98	291.67	292.09	291.99
23	292.86	292.41	292.79	292.30	292.50	292.43	292.20	292.00	291.96	291.87	292.03	292.00
24	292.77	292.39	292.84	292.31	292.48	292.40	292.19	291.99	291.95	292.28	292.00	291.99
25	292.69	292.39	292.76	292.57	292.45	292.42	292.15	292.13	291.94	292.15	291.99	292.01
26	292.63	292.73	292.71	292.44	292.45	292.49	292.16	292.35	291.95	292.10	292.00	291.96
27	292.60	292.73	292.69	292.39	292.51	292.45	292.16	292.22	291.90	292.07	292.00	291.96
28	292.58	292.65	292.66	292.57	292.39	292.42	292.25	292.17	291.88	292.03	292.08	291.98
29	292.53	292.58	292.66	292.49	---	292.43	292.20	292.13	291.88	292.04	292.08	292.04
30	292.54	292.55	292.64	292.43	---	292.39	292.18	292.11	291.90	291.96	292.04	291.99
31	292.47	---	292.62	292.44	---	292.69	---	292.10	---	291.95	292.01	---
MEAN	292.69	292.58	293.01	292.44	292.54	292.57	292.33	292.13	292.12	291.84	291.96	292.04
MAX	293.49	293.24	293.85	292.60	292.81	292.84	292.75	292.35	292.67	292.28	292.23	292.32
MIN	292.38	292.39	292.62	292.28	292.31	292.39	292.15	291.99	291.88	291.60	291.81	291.96

WTR YR 1997: HIGHEST 293.85, DECEMBER 14; LOWEST 291.60, JULY 20.



LANCASTER COUNTY

395957076155204. Local number, LN 2044--Continued

WATER-QUALITY RECORDS

REMARKS.--Samples collected with peristaltic pump from recovery water after well pumped dry.
 PERIOD OF RECORD.--November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY	AGENCY	DEPTH	SPE-	PH	OXYGEN,	TEMPER-	
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	CIFIC CON- DUCT- ANCE (μS/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)			DIS- SOLVED (MG/L) (00300)
OCT									
16...	0755	1028	80020	4.44	779	7.1	4.6	16.0	
NOV									
05...	0755	1028	80020	4.48	763	6.8	4.4	14.5	
DEC									
12...	0825	1028	80020	3.97	756	--	7.3	10.0	
JAN									
08...	0825	1028	80020	4.40	765	6.7	6.4	8.5	
FEB									
11...	0805	1028	80020	4.38	750	6.8	--	6.5	
MAR									
05...	0802	1028	80020	4.04	802	7.1	5.3	7.0	
APR									
10...	0805	1028	80020	4.50	--	6.5	6.6	8.0	
MAY									
09...	0705	1028	80020	4.66	720	7.0	5.0	10.0	
JUN									
09...	0815	1028	80020	4.59	728	6.9	8.9	12.5	
JUL									
09...	0805	1028	80020	5.02	653	7.1	1.8	15.0	
AUG									
08...	0820	1028	80020	4.92	685	7.2	2.6	17.0	
SEP									
17...	1105	1028	80020	4.73	613	7.5	5.8	17.5	
DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY, CARBON- ATE IT-LAB (MG/L - CAC03) (90430)	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)
OCT									
16...	28	294	0.010	0.120	0.380	0.50	<0.010	<0.010	
NOV									
05...	K0	300	--	0.270	--	--	--	--	--
DEC									
12...	K1	308	--	1.00	--	--	--	--	--
JAN									
08...	K2	298	<0.010	0.680	0.210	0.40	<0.010	<0.010	
FEB									
11...	K0	296	--	0.630	--	--	--	--	--
MAR									
05...	K0	280	--	0.690	--	--	--	--	--
APR									
10...	K8	284	<0.010	0.660	0.250	0.40	<0.010	<0.010	
MAY									
09...	K0	276	--	<0.050	--	--	--	--	--
JUN									
09...	K0	276	--	0.107	--	--	--	--	--
JUL									
09...	K2	280	<0.010	<0.050	0.393	0.51	<0.010	<0.010	
AUG									
08...	K2	278	--	<0.050	--	--	--	--	--
SEP									
17...	K7	276	--	<0.050	--	--	--	--	--

LUZERNE COUNTY

411756076162701. Local number, LU 294.

LOCATION.--Lat 41°17'56", long 76°16'27", Hydrologic Unit 02050107, at Ricketts Glen Park, and near Red Rock.

Owner: Commonwealth of Pennsylvania.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 167 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land surface is 1,245 ft above sea level. Measuring point: Top of casing, 2.7 ft above land-surface datum.

REMARKS.--Well levels effected by nearby intermittent pumpage.

PERIOD OF RECORD.--November 1994 to current year.

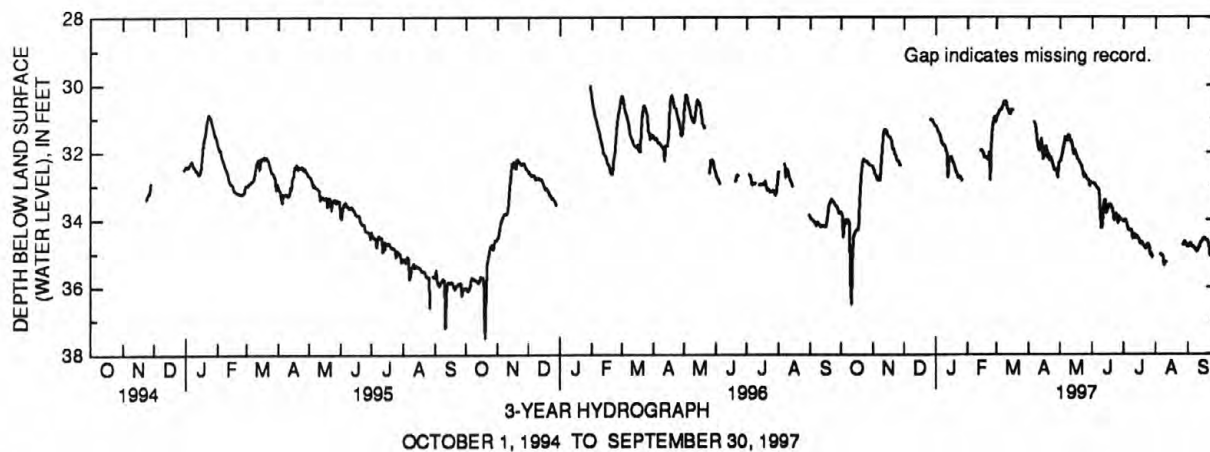
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are the extremes of the daily maximum depth below land-surface for the period of record indicated above.

Highest water level, 29.98 ft below land-surface datum, Jan. 30, 1996; lowest, 37.51 ft below land-surface datum, Oct. 20, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.78	32.45	---	31.23	---	30.94	---	32.27	---	34.05	---	34.80
2	33.85	32.51	---	31.26	---	30.87	---	32.25	32.91	34.04	---	34.76
3	34.50	32.65	---	31.36	---	30.80	---	32.07	32.94	34.00	---	34.70
4	34.15	32.69	---	31.43	---	30.73	---	31.91	32.96	34.07	---	34.73
5	34.01	32.78	---	31.47	---	30.75	31.10	31.75	33.00	34.20	35.00	34.79
6	34.00	32.83	---	31.62	---	30.65	31.10	31.55	33.05	34.30	35.03	34.79
7	34.10	32.82	---	31.71	---	30.60	31.17	31.60	33.09	34.29	35.06	34.85
8	34.00	32.82	---	31.79	---	30.48	31.35	31.65	33.13	34.32	35.08	34.86
9	34.08	32.34	---	31.77	---	30.50	31.65	31.48	33.84	34.30	35.35	34.93
10	35.85	31.82	---	31.83	---	30.48	31.80	31.52	34.24	34.55	35.25	34.94
11	36.50	31.41	---	31.96	---	30.68	31.95	31.67	34.16	34.42	35.26	34.86
12	35.10	31.33	---	32.02	---	30.75	31.90	31.66	33.64	34.45	35.26	34.80
13	34.51	31.33	---	32.74	31.97	30.85	31.60	31.80	33.43	34.54	---	34.68
14	34.42	31.38	---	32.19	31.94	30.85	31.92	32.05	33.43	34.47	---	34.67
15	34.35	31.50	---	32.18	31.95	30.73	32.20	31.92	33.80	34.53	---	34.60
16	34.30	31.53	---	32.14	32.01	30.74	31.84	32.02	33.71	34.57	---	34.56
17	34.30	31.54	---	32.24	32.14	30.75	31.85	32.10	33.56	34.70	---	34.56
18	34.24	31.57	---	32.31	32.15	---	31.83	32.20	33.58	34.70	---	34.61
19	33.55	31.68	---	32.37	32.15	---	32.17	32.23	33.57	34.66	---	34.60
20	32.95	31.90	---	32.49	32.20	---	32.04	32.30	33.63	34.76	---	34.61
21	32.51	31.91	---	32.60	32.15	---	32.25	32.36	33.70	34.78	---	34.75
22	32.30	32.04	---	32.64	32.00	---	32.14	32.43	34.01	34.85	---	35.07
23	32.20	32.10	---	32.76	32.81	---	32.25	32.57	33.89	34.85	---	34.85
24	32.26	32.22	---	32.76	31.50	---	32.35	32.73	33.82	34.73	---	34.85
25	32.27	32.26	---	32.73	31.20	---	32.45	32.64	33.87	34.72	---	34.79
26	32.27	32.27	31.04	32.82	31.01	---	32.55	32.70	34.10	34.81	---	34.91
27	32.33	32.38	31.03	32.84	30.93	---	32.55	32.78	33.90	35.05	34.76	34.96
28	32.34	32.36	31.03	---	31.10	---	32.50	32.82	34.00	35.00	34.70	35.00
29	32.38	---	31.08	---	---	---	32.75	32.81	34.00	35.12	34.65	34.94
30	---	---	31.14	---	---	---	32.33	33.00	34.02	---	34.71	34.99
31	32.39	---	31.21	---	---	---	---	32.87	---	---	34.78	---
MEAN	33.66	32.09	31.09	32.12	31.83	30.71	31.98	32.18	33.62	34.55	34.99	34.79
MAX	36.50	32.83	31.21	32.84	32.81	30.94	32.75	33.00	34.24	35.12	35.35	35.07
MIN	32.20	31.33	31.03	31.23	30.93	30.48	31.10	31.48	32.91	34.00	34.65	34.56

WTR YR 1997: HIGHEST RECORDED 30.48, MARCH 8, 10; LOWEST 36.50, OCTOBER 11.



412427076594401. Local number, LY 112.

LOCATION.--Lat 41°24'27", long 76°59'44", Hydrologic Unit 02050206, at State Game Land No. 133, and near Trout Run.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 23 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,400 ft above sea level, from topographic map. Measuring point: Top of recorder shelf, 3.0 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since September 1995, are also available from the District Office.

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

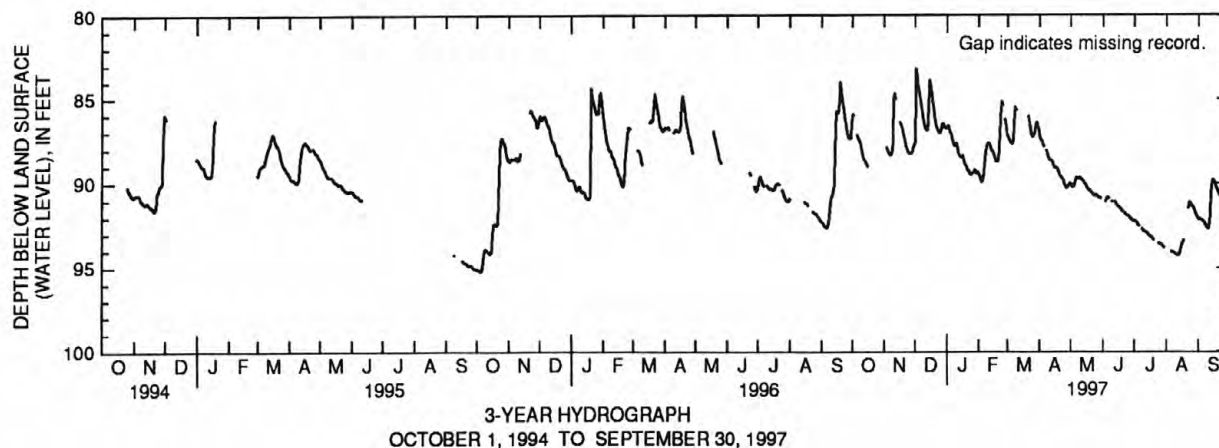
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum water level elevation for the period of record indicated above.

Highest water level, 76.10 ft below land-surface datum, June 23, 1972; lowest, 95.63 ft below land-surface datum, Nov. 20, 1991 (may have been affected by pumping during well test).

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85.94	---	87.57	86.75	89.48	87.21	87.27	90.01	---	92.19	---	92.10
2	86.03	---	83.19	86.59	89.68	87.38	87.43	90.21	---	92.22	---	92.11
3	---	87.84	83.65	86.75	89.88	87.52	87.50	90.21	91.08	92.24	---	92.09
4	---	88.03	84.28	87.01	89.88	87.61	87.69	90.10	90.96	92.35	---	92.14
5	87.11	88.17	84.59	87.09	89.61	87.63	87.82	89.88	90.81	92.45	94.01	92.19
6	87.27	88.29	85.05	87.41	89.03	87.48	---	89.64	90.84	92.53	94.03	92.25
7	87.42	88.29	85.46	87.62	88.30	86.22	88.02	89.69	90.90	---	94.06	92.35
8	87.53	88.27	85.84	87.77	87.86	85.50	88.19	89.72	---	92.65	94.07	92.46
9	87.79	87.80	86.35	87.77	87.63	85.70	88.39	89.63	91.02	92.68	94.11	92.58
10	88.14	84.96	86.58	87.62	87.60	---	88.55	89.68	91.07	92.78	94.15	92.65
11	88.45	84.70	86.78	87.95	87.66	---	88.65	89.77	---	92.83	94.20	92.65
12	88.60	85.06	86.86	88.20	87.81	---	88.64	89.79	91.05	92.86	94.25	91.94
13	88.67	---	86.86	88.35	88.07	---	88.67	89.88	91.08	92.89	94.23	90.49
14	88.81	85.75	85.42	88.43	88.06	---	88.95	89.98	91.24	92.95	94.08	89.85
15	88.95	---	83.88	88.45	88.23	---	89.06	90.05	91.32	93.03	93.81	89.77
16	88.98	86.37	84.20	88.35	88.41	---	89.08	90.19	91.37	93.10	93.58	89.92
17	---	86.52	84.62	88.58	88.67	---	89.07	90.28	91.44	93.14	93.48	90.05
18	---	86.64	85.17	88.83	88.69	85.73	89.12	90.37	91.48	93.19	93.32	90.27
19	---	86.91	85.55	88.93	88.68	---	89.32	90.38	91.57	93.28	---	90.35
20	---	87.22	86.16	89.04	88.44	---	89.49	90.48	91.64	93.35	---	90.50
21	---	87.49	86.52	89.26	87.03	86.01	89.58	90.53	91.68	---	---	90.69
22	---	87.80	86.73	89.26	85.85	86.45	89.66	90.60	91.74	---	91.48	90.73
23	---	87.97	86.90	89.43	85.17	86.86	89.74	90.69	91.84	---	91.12	90.81
24	---	88.16	86.99	89.47	85.42	87.17	89.89	90.73	91.87	93.52	91.13	90.91
25	---	88.22	87.00	89.40	---	87.22	90.09	90.68	91.88	93.54	91.23	90.89
26	---	88.22	86.86	89.37	86.16	87.15	90.22	90.71	91.93	93.56	91.33	91.10
27	---	88.21	86.56	89.32	86.58	86.99	90.26	90.77	92.02	93.59	91.41	91.20
28	---	88.14	86.46	89.19	87.10	86.55	90.17	90.82	92.08	93.65	91.53	91.24
29	---	87.86	86.58	89.38	---	86.38	90.07	90.84	92.14	93.73	91.71	91.09
30	---	87.71	86.72	89.40	---	86.63	89.99	90.88	92.19	93.80	91.86	90.11
31	---	---	86.74	89.35	---	86.86	---	---	---	---	91.98	---
MEAN	87.83	87.33	85.87	88.40	87.96	86.77	88.99	90.24	91.47	93.00	92.92	91.25
MAX	88.98	88.29	87.57	89.47	89.88	87.63	90.26	90.88	92.19	93.80	94.25	92.65
MIN	85.94	84.70	83.19	86.59	85.17	85.50	87.27	89.63	90.81	92.19	91.12	89.77

WTR YR 1997: HIGHEST 83.19, DECEMBER 2; LOWEST 94.25, AUGUST 12.



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.

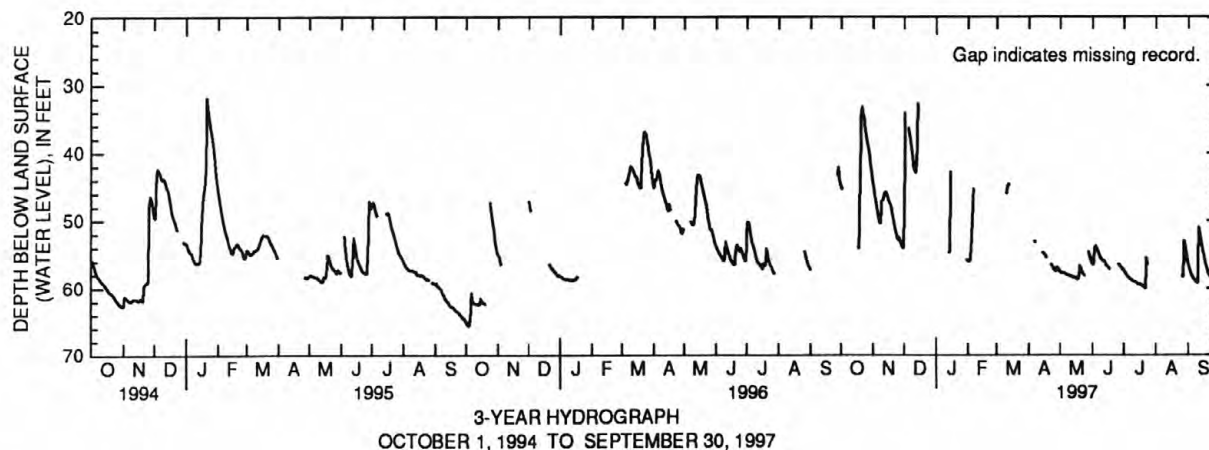
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.11	44.82	49.80	---	55.95	---	---	57.60	56.48	57.35	---	56.41
2	45.36	45.76	34.01	---	55.95	---	---	57.75	56.34	57.58	---	56.95
3	---	46.99	---	---	55.70	---	---	57.73	54.02	57.80	---	57.57
4	---	47.73	---	---	53.34	---	---	57.69	53.82	58.09	---	57.99
5	---	48.80	36.22	---	49.52	---	---	57.75	54.05	58.30	---	58.30
6	---	49.58	37.30	---	45.23	---	53.00	57.86	54.46	58.45	---	58.56
7	---	50.25	38.34	---	---	---	53.28	57.99	54.81	58.60	---	58.82
8	---	50.37	39.38	---	---	---	---	58.01	55.25	58.68	---	58.98
9	---	47.15	40.73	---	---	---	---	58.00	55.56	58.83	---	59.15
10	---	46.95	42.07	---	---	46.09	---	58.12	55.78	58.95	---	59.20
11	---	46.38	42.60	---	---	44.92	---	58.18	55.88	59.01	---	51.00
12	---	45.93	42.88	---	---	44.63	---	58.23	55.91	59.06	---	51.92
13	---	45.82	41.42	54.60	---	44.62	---	58.37	56.16	59.13	---	52.91
14	---	46.12	32.73	54.70	---	---	54.66	58.43	56.53	59.30	---	53.72
15	---	46.61	33.72	42.70	---	---	54.85	58.34	56.72	59.38	---	54.56
16	---	47.11	---	---	---	---	54.99	58.48	56.88	59.39	---	55.10
17	53.86	47.45	---	---	---	---	55.21	58.60	57.07	59.47	---	55.94
18	54.07	47.78	---	---	---	---	55.51	58.68	57.14	59.54	---	56.64
19	44.51	48.68	---	---	---	---	---	58.05	---	59.73	---	57.11
20	34.49	49.43	---	---	---	---	---	56.69	---	59.82	---	57.65
21	33.27	50.31	---	---	---	---	---	57.16	---	59.90	---	58.09
22	34.23	51.20	---	---	---	---	56.40	57.60	---	60.00	---	58.23
23	34.82	51.83	---	---	---	---	56.60	57.88	---	55.55	---	58.52
24	36.53	52.53	---	---	---	---	56.89	58.05	---	56.55	---	58.64
25	37.57	52.84	---	---	---	---	57.19	58.04	---	---	---	58.84
26	38.45	52.49	---	---	---	---	57.38	---	56.39	---	58.05	59.12
27	39.26	53.05	---	---	---	---	57.43	---	56.62	---	58.30	59.28
28	40.04	53.47	---	---	---	---	56.85	54.51	56.80	---	53.00	59.31
29	41.58	53.87	---	---	---	---	57.12	55.09	56.98	---	53.72	48.77
30	42.54	54.05	---	55.73	---	---	57.27	55.60	57.18	---	54.70	49.53
31	43.79	---	---	55.80	---	---	---	56.07	---	---	55.70	---
MEAN	41.15	49.18	39.32	52.71	52.62	45.06	55.91	57.61	55.95	58.69	55.58	56.56
MAX	54.07	54.05	49.80	55.80	55.95	46.09	57.43	58.68	57.18	60.00	58.30	59.31
MIN	33.27	44.82	32.73	42.70	45.23	44.62	53.00	54.51	53.82	55.55	53.00	48.77

WTR YR 1997: HIGHEST 32.73, DECEMBER 14; LOWEST 60.00, JULY 22.



POTTER COUNTY

414640077493801. Local number, PO 72.

LOCATION.--Lat 41°46'40", long 77°49'38", Hydrologic Unit 02050205, at Denton Hill State Park, and near Walton.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 110 ft, cased to 21 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,810 ft above sea level, from topographic map. Measuring point: Top of plywood cover, 1.8 ft above land-surface datum. Well casing extended June 26, 1996. New measuring point: Top of metal shelf, 3.7 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

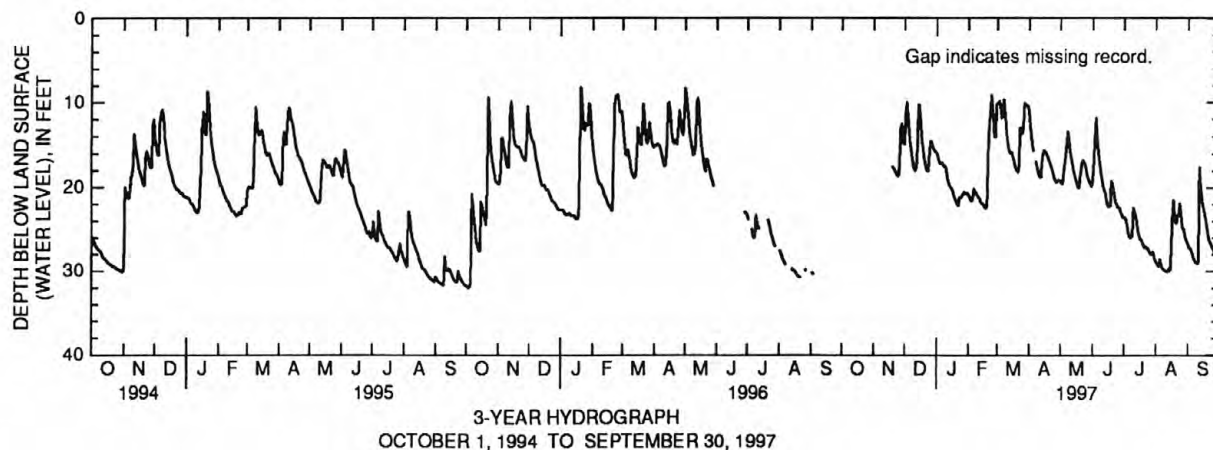
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	14.82	15.87	20.88	10.06	11.64	19.14	19.08	23.58	28.87	26.79
2	---	---	11.05	16.12	21.18	10.11	12.90	19.48	17.27	23.55	29.07	27.18
3	---	---	9.95	16.64	21.47	9.80	14.06	19.48	14.24	23.83	29.31	27.19
4	---	---	11.46	17.10	21.56	10.84	15.02	18.18	11.87	24.48	29.36	27.46
5	---	---	12.90	17.13	21.22	11.84	15.67	17.21	13.61	25.29	28.55	27.81
6	---	---	14.35	17.06	20.12	11.34	---	16.35	15.10	25.75	29.14	28.27
7	---	---	15.35	17.16	20.36	9.64	16.78	14.70	16.16	25.97	29.57	28.60
8	---	---	16.16	17.40	20.57	10.69	17.30	13.39	17.26	25.80	29.71	28.88
9	---	---	17.18	17.42	20.82	12.34	17.86	14.31	18.22	25.86	29.83	29.02
10	---	---	17.66	17.64	21.04	13.76	18.33	15.32	18.97	22.37	29.91	29.09
11	---	---	17.94	18.41	21.20	14.69	18.64	16.14	19.68	22.75	29.96	28.78
12	---	---	17.67	19.03	21.40	15.33	18.75	16.83	20.20	23.23	30.03	17.59
13	---	---	16.67	19.50	21.80	15.84	17.17	17.56	20.49	23.80	30.04	19.47
14	---	---	10.28	19.83	21.81	15.89	16.00	18.15	21.27	24.67	29.60	20.85
15	---	---	10.33	19.96	21.99	15.78	15.58	18.60	21.91	25.40	29.75	21.83
16	---	---	11.86	20.12	22.16	16.28	15.72	19.13	22.23	25.90	26.39	22.59
17	---	---	13.35	20.60	22.40	16.71	15.83	19.56	22.22	26.17	22.87	23.06
18	---	---	14.69	21.07	22.43	17.30	16.11	19.96	22.12	26.29	21.49	23.74
19	---	17.45	15.52	21.34	21.26	17.63	16.40	19.97	19.18	26.57	23.48	24.67
20	---	17.64	16.50	21.67	16.04	17.96	16.81	18.55	19.50	26.93	24.23	25.34
21	---	17.81	17.21	22.02	12.28	18.12	17.11	17.65	20.23	27.15	24.14	26.15
22	---	18.13	17.66	22.06	11.03	17.48	17.46	16.80	21.03	27.06	23.22	26.49
23	---	18.30	17.96	21.20	9.17	12.92	17.85	16.74	21.73	27.22	23.27	26.74
24	---	18.59	17.96	21.19	10.58	13.03	18.32	17.08	21.88	27.22	21.84	27.05
25	---	18.59	16.01	21.12	12.37	13.61	18.75	17.27	22.33	27.45	22.82	27.25
26	---	17.49	14.56	20.77	13.97	12.97	19.15	18.01	22.29	27.84	24.16	27.58
27	---	13.06	14.55	20.74	13.99	10.02	19.30	18.55	22.46	27.91	24.97	28.02
28	---	12.51	15.09	20.50	10.25	10.26	19.22	18.95	22.92	27.92	24.92	28.22
29	---	13.79	15.35	20.71	---	10.46	19.06	19.29	23.24	27.68	25.73	27.87
30	---	14.75	15.64	20.71	---	10.33	19.12	19.57	23.52	28.21	26.18	19.66
31	---	---	15.77	20.64	---	10.57	---	19.80	---	28.63	26.51	---
MEAN	---	16.51	14.95	19.44	18.41	13.34	16.96	17.80	19.74	25.89	26.74	25.77
MAX	---	18.59	17.96	22.06	22.43	18.12	19.30	19.97	23.52	28.63	30.04	29.09
MIN	---	12.51	9.95	15.87	9.17	9.64	11.64	13.39	11.87	22.37	21.49	17.59

WTR YR 1997: HIGHEST 9.17, FEBRUARY 23; LOWEST 30.04, AUGUST 13.



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.

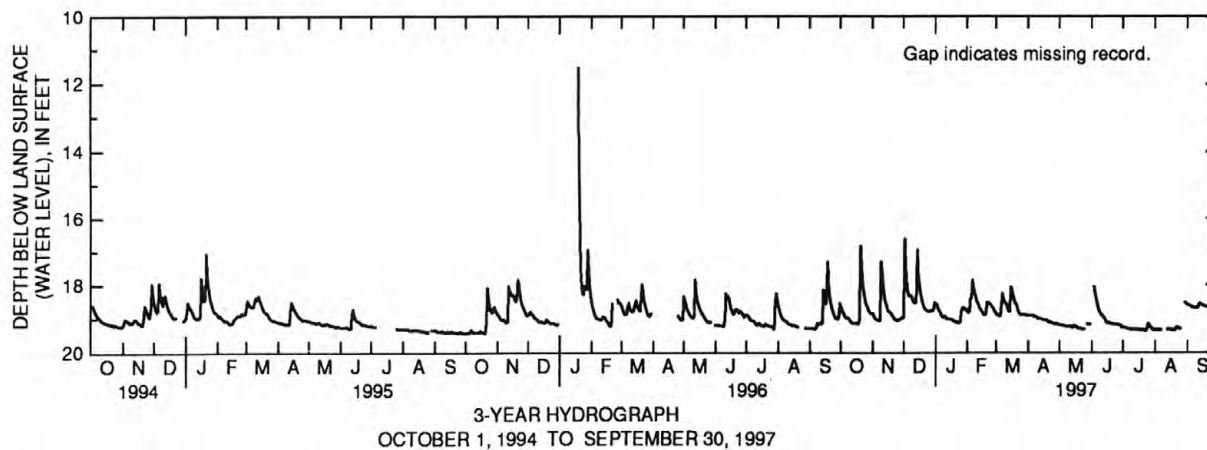
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 11.51 ft below land-surface datum, Jan. 19, 1996 (may have been higher during period of no record, Jan. 1-18.); lowest, 19.57 ft below land-surface datum, Nov. 23, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.65	18.86	18.96	18.57	18.81	18.87	18.91	19.20	---	19.28	19.34	18.60
2	18.72	18.92	16.62	18.59	18.83	18.89	18.91	19.20	---	19.27	19.34	18.61
3	18.82	19.00	17.56	18.67	18.78	18.91	18.91	19.20	18.04	19.28	19.34	18.62
4	18.88	19.02	18.00	18.75	18.44	18.93	18.91	19.19	18.22	19.28	19.34	18.63
5	18.94	19.04	18.22	18.79	18.37	18.93	18.91	19.22	18.36	19.30	19.34	18.66
6	18.98	19.06	18.34	18.87	17.86	18.58	18.94	19.23	18.52	19.31	19.34	18.67
7	18.98	19.06	18.34	18.93	18.11	18.27	18.94	19.23	18.66	19.32	19.32	18.68
8	18.99	19.06	18.32	18.96	18.24	18.42	18.95	19.24	18.77	19.32	---	18.68
9	19.02	17.31	18.40	18.96	18.35	18.50	18.95	19.23	18.84	19.32	---	18.68
10	19.08	17.68	18.48	18.93	18.48	18.54	19.01	19.24	18.89	19.32	---	18.68
11	19.12	18.08	18.53	18.99	18.55	18.59	19.01	19.24	18.91	19.32	---	18.68
12	19.14	18.31	18.53	19.01	18.60	18.71	19.01	19.25	18.94	19.32	19.32	18.57
13	19.14	18.49	18.52	19.02	18.71	18.79	19.01	19.27	18.98	19.32	19.32	18.56
14	19.14	18.59	16.96	19.03	18.72	18.79	19.03	19.27	19.05	19.32	19.32	18.58
15	19.14	18.70	17.69	19.03	18.81	18.08	19.04	19.22	19.09	19.33	19.32	18.60
16	19.14	18.78	17.97	19.02	18.83	18.13	19.04	19.23	19.13	19.34	19.34	18.62
17	19.15	18.80	18.20	19.04	18.89	18.27	19.04	19.24	19.13	19.34	19.33	18.62
18	19.16	18.83	18.34	19.07	18.89	18.41	19.04	19.29	19.13	19.34	19.34	18.64
19	19.02	18.88	18.50	19.08	18.85	18.53	19.08	19.29	19.16	19.34	19.34	18.64
20	16.84	18.92	18.60	19.10	18.54	18.57	19.09	19.30	19.16	19.34	19.34	18.67
21	17.48	18.96	18.69	19.11	18.53	18.63	19.10	19.29	19.16	19.34	19.28	18.68
22	17.92	19.02	18.72	19.11	18.53	18.77	19.12	19.32	19.18	19.36	19.26	18.69
23	18.20	19.03	18.76	19.13	18.59	18.85	19.12	19.31	19.18	19.36	19.28	18.69
24	18.36	19.06	18.78	19.13	18.61	18.89	19.14	19.32	19.18	19.32	19.30	18.72
25	18.54	19.06	18.79	19.11	18.67	18.89	19.14	19.30	19.18	19.16	19.30	18.72
26	18.62	19.05	18.79	18.79	18.69	18.89	19.18	---	19.18	19.18	19.31	18.72
27	18.68	19.02	18.78	18.69	18.77	18.89	19.18	19.16	19.20	19.24	---	18.74
28	18.77	19.02	18.77	18.68	18.83	18.89	19.16	19.17	19.20	19.28	---	18.74
29	18.82	18.98	18.78	18.72	---	18.89	19.17	19.18	19.20	19.32	18.51	18.71
30	18.85	18.98	18.71	18.73	---	18.90	19.18	19.18	19.28	19.32	18.54	18.72
31	18.86	---	18.54	18.73	---	18.91	---	19.16	---	19.34	18.57	---
MEAN	18.75	18.79	18.36	18.91	18.60	18.68	19.04	19.24	18.96	19.31	19.23	18.66
MAX	19.16	19.06	18.96	19.13	18.89	18.93	19.18	19.32	19.28	19.36	19.34	18.74
MIN	16.84	17.31	16.62	18.57	17.86	18.08	18.91	19.16	18.04	19.16	18.51	18.56

WTR YR 1997: HIGHEST 16.62, DECEMBER 2; LOWEST 19.36, JULY 22, 23.



SULLIVAN COUNTY

413026076352901. Local number, SU 34.

LOCATION.--Lat 41°30'26", long 76°35'29", Hydrologic Unit 02050206, near Forksville.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 50 ft, cased to 34 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,060 ft above sea level, from topographic map. Measuring point: Top of casing, 1.7 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--April 1965 to current year.

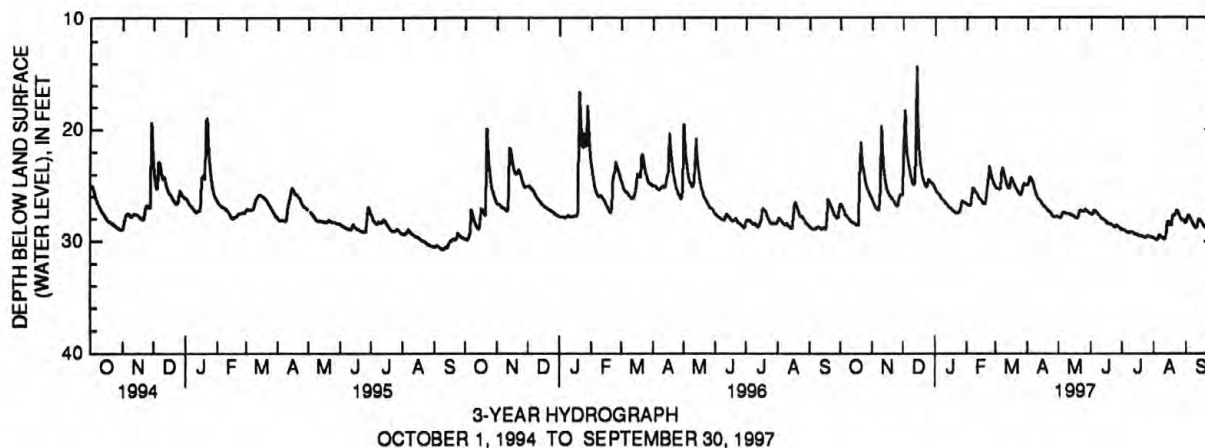
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.66	26.19	25.80	25.19	26.66	25.11	24.97	27.84	27.55	28.94	29.72	28.35
2	26.74	26.37	20.86	25.39	26.75	25.23	24.81	27.89	27.59	28.98	29.78	27.98
3	26.90	26.65	18.33	25.57	26.79	25.26	24.27	27.89	27.59	28.98	29.82	27.69
4	27.10	26.85	20.89	25.68	26.79	25.32	24.23	27.78	27.26	29.06	29.86	27.73
5	27.34	27.01	22.17	25.75	26.76	25.34	24.41	27.48	27.25	29.12	29.85	27.91
6	27.70	27.13	22.73	25.87	25.97	25.24	24.59	27.42	27.35	29.18	29.51	28.07
7	27.70	27.19	23.27	26.05	25.25	23.82	24.93	27.44	27.45	29.22	29.50	28.29
8	27.82	27.21	23.79	26.20	25.27	23.44	25.27	27.50	27.55	29.22	29.58	28.49
9	27.94	25.77	24.25	26.28	25.43	23.74	25.59	27.53	27.67	29.22	29.66	28.65
10	28.06	19.79	24.59	26.36	25.57	24.06	25.88	27.53	27.77	29.20	29.74	28.77
11	28.18	21.79	24.87	26.52	25.73	24.47	26.10	27.53	27.89	29.20	29.80	28.79
12	28.26	22.97	24.87	26.58	25.93	24.83	26.22	27.59	27.97	29.26	29.76	28.55
13	28.34	23.84	24.75	26.70	26.13	25.15	26.26	27.64	28.05	29.32	29.20	28.07
14	28.38	24.56	14.34	26.82	26.21	25.25	26.44	27.67	28.07	29.36	28.26	28.03
15	28.42	25.08	18.68	26.96	26.33	25.18	26.60	27.72	28.17	29.40	28.24	28.15
16	28.48	25.43	20.86	27.00	26.43	24.42	26.76	27.78	28.27	29.44	28.54	28.29
17	28.54	25.67	22.04	27.08	26.61	24.31	26.88	27.87	28.37	29.46	28.58	28.45
18	28.56	25.86	22.93	27.16	26.67	24.59	26.94	27.92	28.43	29.50	28.58	28.57
19	28.56	25.98	23.51	27.30	26.65	24.81	27.04	27.94	28.43	29.52	27.70	28.71
20	23.85	26.12	24.08	27.32	26.22	25.03	27.15	27.86	28.45	29.54	27.70	28.79
21	21.21	26.22	24.44	27.46	25.25	25.22	27.25	27.41	28.51	29.58	27.70	28.83
22	22.35	26.36	24.74	27.46	24.49	25.38	27.33	27.23	28.59	29.60	27.48	28.93
23	23.23	26.54	25.02	27.46	23.23	25.54	27.43	27.27	28.68	29.62	27.26	29.01
24	23.63	26.74	25.12	27.45	23.66	25.70	27.49	27.31	28.73	29.63	27.26	29.07
25	24.23	26.84	24.99	27.43	24.09	25.80	27.67	27.35	28.71	29.59	27.54	29.11
26	24.77	26.84	24.44	27.08	24.44	25.80	27.77	27.31	28.59	29.52	27.76	29.15
27	25.13	26.36	24.51	26.52	24.72	25.42	27.83	27.13	28.63	29.56	28.00	29.21
28	25.37	25.96	24.67	26.41	24.94	24.94	27.84	27.25	28.73	29.60	28.08	29.23
29	25.57	25.82	24.79	26.47	---	24.80	27.77	27.35	28.84	29.62	28.07	29.23
30	25.77	25.80	24.82	26.55	---	24.92	27.78	27.43	28.90	29.62	28.11	28.77
31	26.01	---	25.01	26.57	---	24.97	---	27.47	---	29.66	28.35	---
MEAN	26.48	25.70	23.23	26.60	25.68	24.94	26.38	27.56	28.13	29.38	28.68	28.56
MAX	28.56	27.21	25.80	27.46	26.79	25.80	27.84	27.94	28.90	29.66	29.86	29.23
MIN	21.21	19.79	14.34	25.19	23.23	23.44	24.23	27.13	27.25	28.94	27.26	27.69

WTR YR 1997: HIGHEST 14.34, DECEMBER 14; LOWEST 29.86, AUGUST 4.



SUSQUEHANNA COUNTY

415323077451301. Local number, SQ 61.

LOCATION.--Lat 41°53'23", long 75°45'13", Hydrologic Unit 02050101, at State Game Land No. 175, and at New Milford.

Owner: U.S. Geological Survey.

AQUIFER.--Catskill Formation, Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 175 ft, cased to 80 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,270 ft above sea level, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--July 1972 to current year.

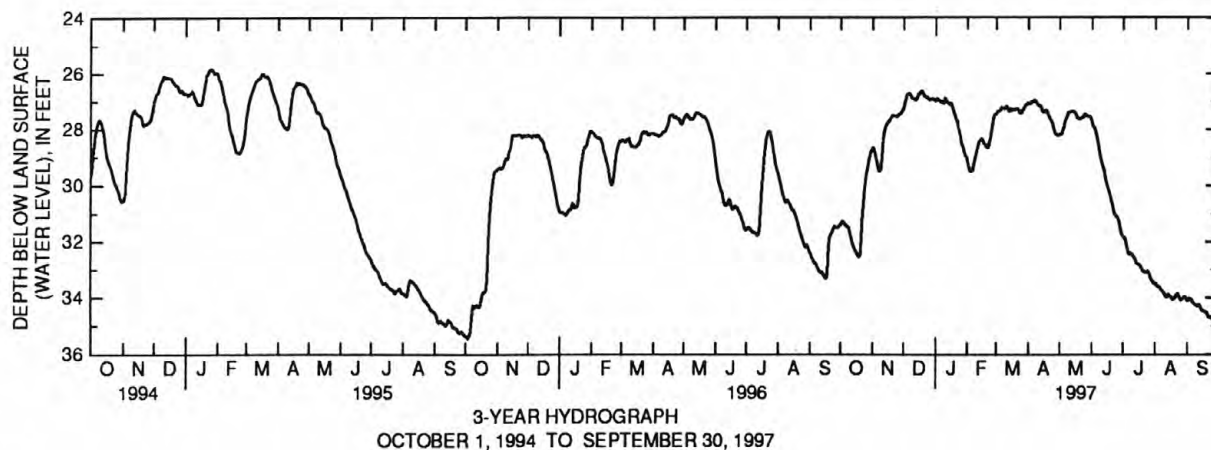
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.39	28.66	27.24	26.98	29.13	27.45	27.07	28.19	27.70	31.79	33.50	34.09
2	31.32	28.68	27.05	26.90	29.33	27.36	27.08	28.19	27.86	31.85	33.49	34.07
3	31.28	28.85	26.94	26.91	29.48	27.35	27.07	28.18	27.92	31.85	33.58	34.02
4	31.33	29.01	26.75	26.96	29.51	27.33	27.02	28.02	27.98	31.96	33.61	34.03
5	31.38	29.17	26.74	26.95	29.51	27.31	27.02	27.93	28.12	32.17	33.60	34.05
6	31.42	29.37	26.70	27.02	29.44	27.22	26.97	27.74	28.27	32.33	33.65	34.12
7	31.46	29.48	26.73	27.03	29.26	27.24	26.95	27.63	28.47	32.45	33.72	34.17
8	31.46	29.48	26.78	27.05	29.07	27.24	27.00	27.55	28.73	32.44	33.74	34.21
9	31.52	29.38	26.88	27.06	28.91	27.25	27.05	27.42	28.96	32.41	33.79	34.24
10	31.66	28.92	26.88	26.88	28.74	27.19	27.12	27.38	29.11	32.47	33.85	34.25
11	31.86	28.39	26.91	26.95	28.59	27.18	27.16	27.39	29.25	32.51	33.93	34.28
12	32.01	28.11	26.93	27.01	28.46	27.27	27.15	27.36	29.37	32.56	33.96	34.25
13	32.10	27.95	26.95	27.05	28.42	27.36	27.18	27.35	29.48	32.63	33.94	34.25
14	32.22	27.84	26.85	27.10	28.37	27.31	27.33	27.37	29.70	32.73	33.88	34.36
15	32.30	27.78	26.75	27.11	28.34	27.27	27.37	27.36	29.89	32.79	33.92	34.43
16	32.36	27.75	26.72	27.07	28.42	27.32	27.37	27.42	30.01	32.81	33.94	34.43
17	32.45	27.70	26.66	27.18	28.53	27.30	27.34	27.49	30.13	32.82	34.01	34.46
18	32.52	27.64	26.63	27.30	28.54	27.30	27.32	27.60	30.25	32.86	34.05	34.48
19	32.55	27.56	26.62	27.42	28.63	27.30	27.39	27.62	30.39	32.93	34.03	34.49
20	32.46	27.51	26.72	27.54	28.66	27.26	27.47	27.63	30.54	33.01	34.00	34.50
21	31.89	27.50	26.79	27.68	28.66	27.26	27.56	27.62	30.63	33.07	33.93	34.63
22	31.18	27.52	26.83	27.71	28.49	27.28	27.63	27.60	30.82	33.08	33.88	34.70
23	30.60	27.52	26.84	27.97	28.34	27.36	27.70	27.58	31.01	33.09	33.85	34.67
24	30.12	27.53	26.84	28.08	28.09	27.43	27.78	27.54	31.05	33.08	33.94	34.71
25	29.79	27.53	26.92	28.26	27.84	27.43	27.94	27.46	31.10	33.06	34.03	34.66
26	29.52	27.47	26.94	28.51	27.63	27.32	28.06	27.46	31.14	33.10	34.07	34.72
27	29.32	27.44	26.92	28.58	27.47	27.27	28.17	27.51	31.22	33.18	34.04	34.83
28	29.10	27.44	26.91	28.68	27.47	27.21	28.18	27.54	31.34	33.31	34.00	34.88
29	28.94	27.36	26.89	28.86	---	27.12	28.23	27.54	31.57	33.37	33.97	34.84
30	28.83	27.31	26.94	28.96	---	27.11	28.21	27.54	31.72	33.43	33.97	34.78
31	28.75	---	26.95	28.99	---	27.06	---	27.58	---	33.47	34.03	---
MEAN	31.13	28.13	26.85	27.54	28.62	27.28	27.43	27.61	29.79	32.73	33.87	34.42
MAX	32.55	29.48	27.24	28.99	29.51	27.45	28.23	28.19	31.72	33.47	34.07	34.88
MIN	28.75	27.31	26.62	26.88	27.47	27.06	26.95	27.35	27.70	31.79	33.49	34.02

WTR YR 1997: HIGHEST 26.62, DECEMBER 19; LOWEST 34.88, SEPTEMBER 28.



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.

PERIOD OF RECORD.--July 1972 to current year.

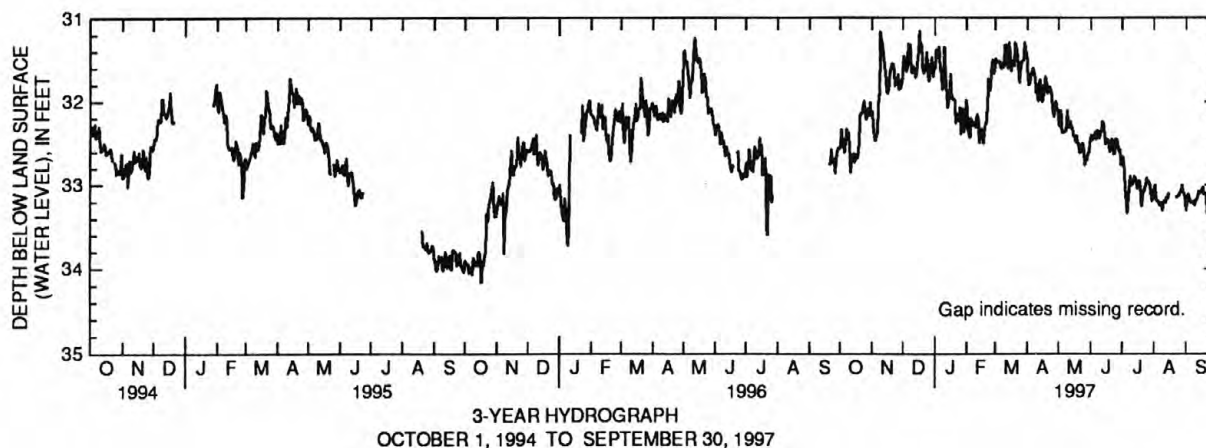
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.54	32.13	31.53	31.60	32.06	31.49	31.69	32.28	32.40	32.75	33.07	33.30
2	32.34	32.30	31.46	31.39	32.35	31.53	31.80	32.30	32.46	32.67	33.00	33.14
3	32.50	32.42	31.56	31.38	32.40	31.52	31.77	32.11	32.45	32.79	33.17	33.11
4	32.50	32.47	31.64	31.47	32.43	31.53	31.69	32.37	32.41	33.03	33.19	33.15
5	32.61	32.40	31.59	31.35	32.20	31.52	31.64	32.37	32.37	33.18	33.19	33.20
6	32.50	32.38	31.31	31.61	32.29	31.60	31.60	32.36	32.45	33.33	33.24	33.21
7	32.33	32.00	31.37	31.66	32.25	31.60	31.65	32.36	32.35	33.17	33.22	33.20
8	32.39	31.88	31.32	31.85	32.26	31.54	31.72	32.33	32.35	33.02	33.21	33.20
9	32.38	31.17	31.65	31.78	32.31	31.58	31.89	32.11	32.44	32.90	33.30	33.24
10	32.56	31.28	31.65	31.35	32.20	31.33	31.90	32.31	32.37	33.00	33.21	33.18
11	32.85	31.32	31.58	31.70	32.16	31.32	31.99	32.31	32.35	32.99	33.19	33.18
12	32.70	31.47	31.62	31.86	32.23	31.51	31.78	32.24	32.24	32.96	33.21	33.13
13	32.66	31.56	31.71	32.07	32.49	31.60	31.74	32.32	32.27	32.90	33.15	33.08
14	32.62	31.73	31.64	31.99	32.34	31.30	31.94	32.32	32.39	32.91	33.16	33.09
15	32.73	31.89	31.52	31.92	32.33	31.41	32.00	32.41	32.51	32.96	33.10	33.09
16	32.64	31.90	31.37	31.68	32.35	31.63	31.90	32.41	32.45	33.04	---	33.06
17	32.68	31.82	31.16	31.96	32.50	31.51	31.80	32.48	32.47	32.97	---	33.03
18	32.65	31.66	31.39	31.97	32.37	31.56	31.70	32.41	32.46	32.95	---	33.11
19	32.52	31.60	31.32	31.97	32.25	31.57	31.78	32.50	32.60	33.05	---	33.10
20	32.17	31.55	31.60	31.98	32.27	31.30	31.90	32.50	32.53	33.25	---	33.10
21	32.14	31.55	31.66	32.26	32.06	31.33	31.86	32.61	32.45	33.11	---	33.33
22	32.14	31.61	31.56	32.15	31.73	31.44	31.82	32.61	32.47	33.08	33.14	33.30
23	32.05	31.81	31.57	32.21	31.87	31.60	31.86	32.52	32.63	33.05	33.14	33.18
24	32.00	31.76	31.41	32.23	31.82	31.77	31.92	32.50	32.61	33.00	33.13	33.21
25	32.12	31.76	31.67	32.07	31.61	31.61	32.09	32.58	32.45	32.92	33.12	33.12
26	32.22	31.68	31.75	32.39	31.50	31.52	32.18	32.76	32.46	32.97	33.09	33.31
27	32.15	31.85	31.63	32.29	31.66	31.51	32.10	32.71	32.54	32.96	33.07	33.32
28	32.09	31.84	31.55	32.09	31.62	31.51	32.00	32.70	32.59	33.01	33.00	33.29
29	32.17	31.81	31.47	32.36	---	31.30	32.09	32.62	32.58	33.10	33.09	33.06
30	32.01	31.73	31.70	32.25	---	31.40	32.10	32.61	32.76	33.19	33.10	33.11
31	32.15	---	31.59	31.98	---	31.42	---	32.49	---	33.15	33.17	---
MEAN	32.39	31.81	31.53	31.90	32.14	31.50	31.86	32.44	32.46	33.01	33.15	33.17
MAX	32.85	32.47	31.75	32.39	32.50	31.77	32.18	32.76	32.76	33.33	33.30	33.33
MIN	32.00	31.17	31.16	31.35	31.50	31.30	31.60	32.11	32.24	32.67	33.00	33.03

WTR YR 1997: HIGHEST 31.16, DECEMBER 17; LOWEST 33.33, JULY 6, SEPTEMBER 21.



UNION COUNTY

405928077115501. Local number, UN 51.

LOCATION.--Lat 40°59'28", long 77°11'55", Hydrologic Unit 02050206, at Raymond B. Winter Park, and 5.5 mi east of Livonia.

Owner: U.S. Geological Survey.

AQUIFER.--Reedsville Formation, Late Ordovician age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 115 ft, cased to 91 ft, open hole.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land surface is 1,550 ft above sea level, from topographic map. Measuring point: Top of recorder shelf, 3.5 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

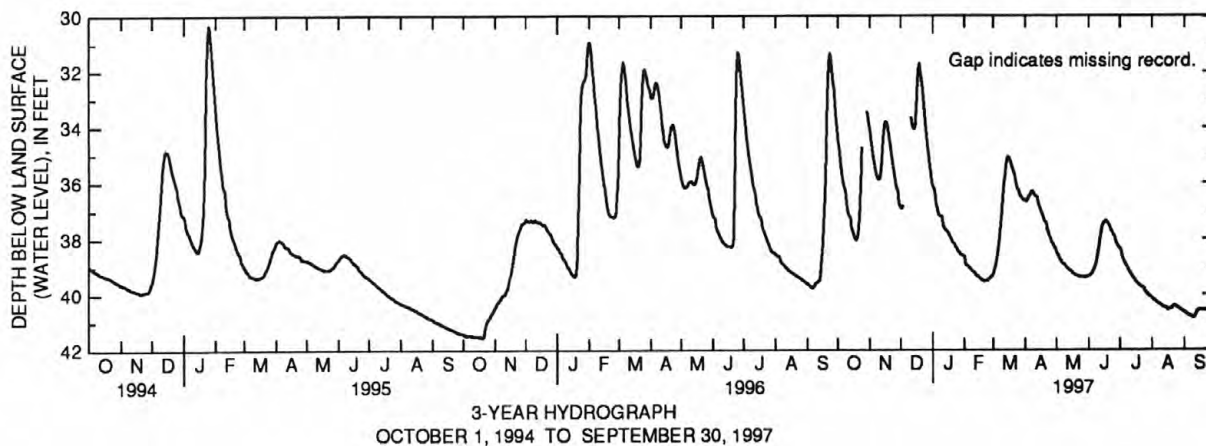
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 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 1996 TO SEPTEMBER 1997
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.50	34.15	36.89	36.12	38.63	39.25	36.66	38.51	39.33	38.35	40.13	40.65
2	34.81	34.48	36.91	36.22	38.88	39.09	36.66	38.57	39.33	38.38	40.17	40.67
3	35.22	34.79	36.80	36.27	38.95	38.96	36.59	38.63	39.29	38.59	40.20	40.70
4	35.55	35.04	---	36.72	38.96	38.73	36.48	38.73	39.25	38.71	40.22	40.73
5	35.83	35.30	---	36.87	39.00	38.52	36.44	38.76	39.16	38.80	40.26	40.75
6	36.04	35.53	---	37.04	39.04	38.22	36.35	38.84	39.10	38.87	40.30	40.77
7	36.20	35.71	---	37.15	39.09	37.89	36.30	38.89	38.99	38.95	40.32	40.80
8	36.25	35.80	---	37.19	39.12	37.48	36.32	38.91	38.87	39.00	40.35	40.81
9	36.68	35.87	---	37.19	39.16	37.07	36.39	38.95	38.67	39.09	40.38	40.84
10	36.94	35.87	---	37.23	39.19	36.44	36.46	39.01	38.43	39.16	40.41	40.84
11	37.13	35.73	33.64	37.51	39.23	35.97	36.50	39.03	38.20	39.22	40.44	40.82
12	37.21	35.34	33.90	37.59	39.30	35.76	36.51	39.07	37.98	39.28	40.46	40.73
13	37.25	34.77	34.05	37.65	39.32	35.35	36.69	39.11	37.70	39.34	40.47	40.62
14	37.60	34.23	34.07	37.72	39.32	35.14	36.85	39.14	37.52	39.40	40.49	40.58
15	37.70	33.95	33.93	37.73	39.39	35.07	36.93	39.17	37.46	39.44	40.52	40.56
16	37.83	33.81	33.26	37.81	39.41	35.14	37.03	39.21	37.38	39.51	40.56	40.56
17	37.95	33.82	32.40	37.86	39.45	35.20	37.13	39.26	37.36	39.56	40.55	40.55
18	38.04	33.94	31.89	37.96	39.46	35.35	37.22	39.27	37.36	39.59	40.53	40.56
19	38.04	34.20	31.69	37.99	39.50	35.45	37.35	39.30	37.43	39.64	40.53	40.56
20	37.91	34.46	32.03	38.10	39.53	35.59	37.39	39.32	37.48	39.67	40.50	40.57
21	37.60	34.74	32.30	38.15	39.51	35.66	37.42	39.33	37.54	39.71	40.45	40.57
22	37.05	35.06	32.60	38.19	39.51	35.90	37.68	39.34	37.63	39.72	40.42	40.57
23	35.94	35.31	33.05	38.29	39.51	36.09	37.78	39.36	37.73	39.74	40.41	40.57
24	34.73	35.57	33.53	38.32	39.46	36.23	37.91	39.36	37.80	39.75	40.43	40.57
25	---	35.79	34.02	38.41	39.43	36.26	37.97	39.36	37.88	39.88	40.46	40.56
26	---	36.06	34.38	38.48	39.39	36.40	38.12	39.37	37.93	39.91	40.49	40.57
27	---	36.22	34.75	38.49	39.35	36.48	38.16	39.38	38.09	39.96	40.52	40.57
28	---	36.26	35.09	38.56	39.32	36.51	38.24	39.39	38.18	40.00	40.55	40.57
29	33.44	36.68	35.42	38.58	---	36.59	38.32	39.37	38.26	40.04	40.57	40.53
30	33.64	36.83	35.70	38.59	---	36.62	38.35	39.36	38.31	40.07	40.59	40.50
31	33.91	---	36.00	38.60	---	36.62	---	39.35	---	40.10	40.63	---
MEAN	36.33	35.18	34.10	37.70	39.26	36.61	37.14	39.12	38.19	39.40	40.43	40.64
MAX	38.04	36.83	36.91	38.60	39.53	39.25	38.35	39.39	39.33	40.10	40.63	40.84
MIN	33.44	33.81	31.69	36.12	38.63	35.07	36.30	38.51	37.36	38.35	40.13	40.50

WTR YR 1997: HIGHEST 31.69, DECEMBER 19; LOWEST 40.84, SEPTEMBER 9, 10.



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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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